

Mayo



SCOOPER HOG

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 STATUE, 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 MANUFACTURING, INC.

SCOOPER HOG MODEL 180

WARRANTY REGISTRATION FORM & INSPECTION REPORT

WARRANTY REGISTRATION

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's Name _____

Address _____

Address _____

City, State/Prov., Code _____

City, State/Prov., Code _____

Phone Number (_____) _____

Scooper Hog Model _____

Serial Number _____

Delivery Date _____

DEALER INSPECTION REPORT

- _____ Check Tire Pressure
- _____ Insure Wheel Bolts are Torqued
- _____ Inspect Electrical System
- _____ Lubricate Machine
- _____ Conveyors Tensioned and Aligned
- _____ Speed Reducer Gearboxes Oil Level Checked
- _____ Hydraulic Reservoir Oil Level Checked
- _____ Hydraulic Hoses Free and Fittings Tight

SAFETY

- _____ All Safety Signs Installed and Legible
- _____ All Guards Installed and Secured
- _____ 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 _____

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 Scooper Hog 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 Number _____

Serial Number _____

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1 INTRODUCTION

Congratulations on your choice of a Mayo Model 180 Scooper Hog or Model 170 Van Unloader 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 Scooper Hog or Van Unloader Model 170 requires that you, and anyone else who will be operating or maintaining the Scooper Hog, read, understand and practice ALL of the Safety, Operation, Maintenance and Troubleshooting recommendations contained within this Operator's Manual.



This manual applies to all Model 180 Scooper Hogs or Model 170 Van Unloaders manufactured by Mayo. Certain options may be available to specifically tailor the Scooper Hog or Van Unloader 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 discharge end of the Scooper Hog or Van Unloader is the rear. The control panel is on the left side of the frame.

2 SAFETY

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 Scooper Hog 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 Scooper Hog. **YOU** must ensure that you and anyone else who is going to operate, maintain or work around the Scooper Hog 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 Scooper Hog.

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.

- Read and understand the Operator's Manual and all safety signs before supplying power to, operating, maintaining or adjusting the Scooper Hog.
- Scooper Hog owners must give operating instructions to operators or employees before allowing them to operate the Scooper Hog, 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 to, operating, maintaining or adjusting the Scooper Hog. 
2. Only trained, competent persons shall operate the Scooper Hog. 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, place all controls in their OFF position, 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 Scooper Hog 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 Scooper Hog.
6. Lock out power by turning off master control panel, junction box or unplugging the power cord and padlocking the door shut to prevent electrocution or unauthorized start up of the Scooper Hog.

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, stingers, Scooper Hogs, 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 displayed in Section 3 each have a part number in the lower right-hand corner. Use this part number when ordering replacement parts.
5. 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 Scooper Hog 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 Scooper Hog 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 Scooper Hog 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. Have at least one extra person available to assist when elevating, moving or connecting to other equipment.
4. Make certain that sufficient amperage, at the proper voltage and frequency (60Hz) is available before connecting power. All wiring should comply with ANSI/NFPA 70 electrical requirements. If you are uncertain, have a licensed electrician provide power to the machine.
5. If using Scooper Hog as part of material handling system, anchor securely to other equipment before starting.

2.8 LOCK-OUT TAG-OUT SAFETY

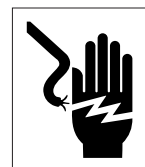
1. Establish a formal Lock-Out Tag-Out program for your operation.
2. Train all operators and service personnel before allowing them to work around the Scooper Hog.
3. Provide tags at the work site and a sign-up sheet to record tag out details.
4. Do not service or maintain the Scooper Hog unless motors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

2.9 OPERATING SAFETY

1. Make sure that anyone who will be operating the Scooper Hog or working on or around the unit reads and understands all the operating, maintenance and safety information in the operator's manual. Also read and follow the instructions in the manuals of other equipment in the system.
2. **Turn machine OFF, shut down and lock out power supply (safety lockout devices are available through your Mayo dealer parts department) 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. Replace all worn or failed components immediately.
6. Keep hands, feet, hair and clothing away from all moving parts.
7. Clear the area of bystanders, especially small children, before starting.
8. Make sure all control switches are in the off position before connecting power supply.
9. Keep all electrical components tight, dry and in good repair.
10. Before applying pressure to the hydraulic system, make sure all components are tight and that all steel lines, hoses and couplings are not damaged.
11. Do not stand between the intake and other structures when extending/retracting or swing the intake. Keep others away.
12. Before supplying electrical power to the machine, be sure that you have adequate amperage at the proper phase and voltage to run it by following ANSI/NFPA 70 Wiring Standard. If you do not know or are unsure, consult a licensed electrician.
12. Keep the working area clean and dry.
13. Contact Mayo at 218-773-1234 or 800-223-5873 if you have any questions.
14. Review safety instructions annually.

2.10 MAINTENANCE SAFETY


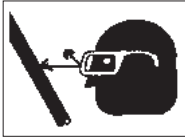
1. Read and understand all the information contained in the Operator's Manual regarding operating, servicing, adjusting, maintaining and repairing.
2. **Turn machine OFF, shut down and lock out power supply (safety lockout devices are available through your Mayo dealer parts department), relieve hydraulic pressure and wait for all moving parts to stop before servicing, adjusting, maintaining or repairing.**
3. 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. Make sure all guards and doors are in place and properly secured when operating the Scooper Hog.
6. Always use personal protection devices such as eye, hand and hearing protectors, when performing any service or maintenance.
7. Where replacement parts are necessary for periodic maintenance and servicing, genuine factory replacement parts must be used to restore your equipment to original specifications. The manufacturer will not be responsible for injuries or damages caused by use of unapproved parts and/or accessories.
8. A fire extinguisher and first aid kit should be kept readily accessible while performing maintenance on this equipment.
9. Periodically tighten all bolts, nuts and screws and check that all cotter pins are properly installed to ensure unit is in a safe condition.
10. When completing a maintenance or service function, make sure all safety shields and devices are installed before placing unit in service.
11. **Do not work on Scooper Hog 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. All wiring should comply with ANSI/NFPA 70 electrical requirements. Always follow local, state/provincial and federal electrical codes.
2. Make certain that the Scooper Hog is properly grounded at the power source.
3. Make certain that all electrical switches are in the OFF position before plugging the Scooper Hog 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 Scooper Hog electrical system unless the power cord is unplugged or the power supply is locked-out tagged-out.

2.12 HYDRAULIC SAFETY

1. Make sure that all the components in the pump system are kept in good condition and are clean.
2. Before applying pressure to the system, make sure all components are tight, and that lines, hoses and couplings are not damaged.
3. Do not attempt any makeshift repairs to the hydraulic lines, fittings or hoses by using tapes, clamps or cements. The hydraulic system operates under extremely high pressure. Such repairs will fail suddenly and create a hazardous and unsafe condition.
4. Wear proper hand and eye protection when searching for a high pressure hydraulic leak. Use a piece of wood or cardboard as a backstop instead of hands to isolate and identify a leak. 
5. If injured by a concentrated high-pressure stream of hydraulic fluid, seek medical attention immediately. Serious infection or toxic reaction can develop from hydraulic fluid piercing the skin surface. 
6. Relieve pressure on the hydraulic system before servicing, maintaining or repairing the hydraulic system.

2.13 TIRE SAFETY

1. Tires for the drive wheels on the machine may be either inflated with air or foam-filled depending on the application. Be sure to check this prior to inflating any tire to the proper pressure.
2. Inflate tires on the telescoping axles to the proper pressure on the sidewall.
3. Failure to follow proper procedures when mounting a tire on a wheel or rim can produce an explosion which may result in serious injury or death.
4. Do not attempt to mount a tire unless you have the proper equipment and experience to do the job.
5. Have a qualified tire dealer or repair service perform required tire maintenance.

2.14 TRANSPORT SAFETY

1. Make certain that you are in compliance with local, state/provincial and federal regulations regarding transporting trailers with agricultural equipment on public roadways.
2. Make certain that all wheels and tires are in good repair and that tires are inflated to proper pressure. Do not under-inflate or over-inflate.
3. Make certain that all wheel bolts/lug nuts are tightened to proper torque specifications (refer to specification chart in Section 7.2).
4. Fully retract telescoping conveyor section and connect lock chain before transporting.
5. Make certain that all mechanical locks and integral anchor chains are safely and positively connected before loading.
6. Raise jacks to their fully upright position.
7. Wrap up and tie all electrical and hydraulic ends to the frame.
8. Be sure that any necessary signs, reflectors and lights required by law are in proper place and are clearly visible to oncoming and overtaking traffic.
9. Follow local regulations regarding maximum weight, width and length.
10. Do not allow anyone to ride on the Conveyor or towing vehicle during transport.
11. Convert power wheels to driving configuration so wheels act as brakes when transporting on a trailer. Convert power wheels into free-wheeling configuration when towing with a tractor or pickup.
12. Do not exceed 15 mph for maximum towable speed for Scooper Hog.

2.15 EMPLOYEE SIGN-OFF FORM

Mayo Manufacturing, Inc. follows the general Safety Standards specified by the American Society of Agricultural Engineers (ASABE) and the Occupational Safety and Health Administration (OSHA). Anyone who will be operating and/or maintaining a Mayo built machine must read and clearly understand ALL Safety, Operating and Maintenance information presented in this manual.

Do not operate or allow anyone else to operate this equipment until such information has been reviewed. Annually review this information before the season start-up.

Make these periodic reviews of SAFETY and OPERATION a standard practice for all of your equipment. We feel that an untrained operator is unqualified to operate this machine.

A sign-off sheet is provided for your record keeping to show that all personnel who will be working with the equipment have read and understand the information in the Operator's Manual and have been instructed in the operation of the equipment.

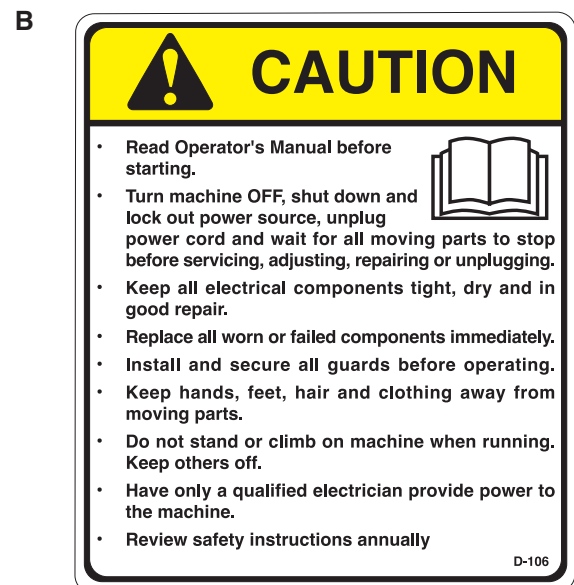
SIGN-OFF FORM

DATE	EMPLOYEE'S SIGNATURE	EMPLOYER'S SIGNATURE

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.

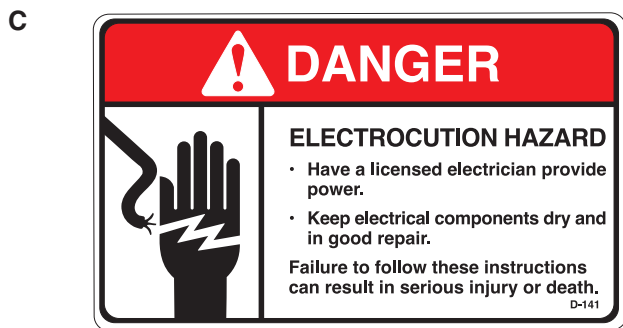
- Think SAFETY! Work SAFELY!



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.

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- Think SAFETY! Work SAFELY!



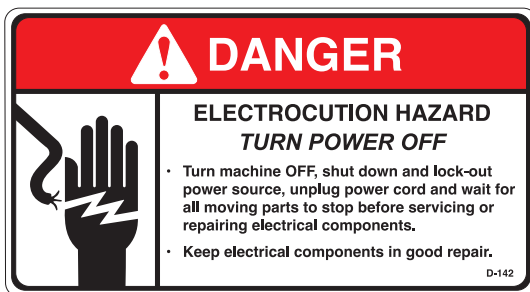
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E



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- 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

- Make sure that anyone who will be operating the Scooper Hog or working on or around the unit reads and understands all the operating, maintenance and safety information in the operator's manual. Also read and follow the instructions in the manuals of other equipment in the system.
- **Turn machine OFF, shut down and lock out power supply (safety lockout devices are available through your Mayo dealer parts department) and wait for all moving parts to stop before servicing, adjusting, maintaining or repairing.**
- 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.
- Install and properly secure all guards and shields before operating.
- Replace all worn or failed components immediately.
- 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.
- Keep all electrical components tight, dry and in good repair.
- Before applying pressure to the hydraulic system, make sure all components are tight and that all steel lines, hoses and couplings are not damaged.
- Do not stand between the intake and other structures when extending/retracting or swing the intake. Keep others away.
- Before supplying electrical power to the machine, be sure that you have adequate amperage at the proper phase and voltage to run it by following ANSI/NFPA 70 Wiring Standard. If you do not know or are unsure, consult a licensed electrician.
- Keep the working area clean and dry.
- Contact Mayo at 218-773-1234 or 800-223-5873 if you have any questions.
- Review safety instructions annually.

4.1 TO THE NEW OPERATOR OR OWNER

The Mayo Manufacturing Scooper Hog is designed to pick up potatoes from a storage facility or inside a transport truck and pass them onto another conveyor for loading into a truck. 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 personnel are not qualified to operate this 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 Scooper Hog will provide many years of trouble-free service.

4.2 MACHINE COMPONENTS

The Mayo Manufacturing Scooper Hog Conveyor is designed as a telescoping conveyor with a Scooper Hog or Van Unloader attached to the front end for loading potatoes from a storage facility or from a transport truck. Each conveyor is powered by an electric motor through a speed reducing gearbox.

The Scooper Hog or Van Unloader are designed with a seat for the operator to provide good visibility when loading. The Scooper Hog attachment can turn to the right or left to allow convenient clean-up of storage facilities.

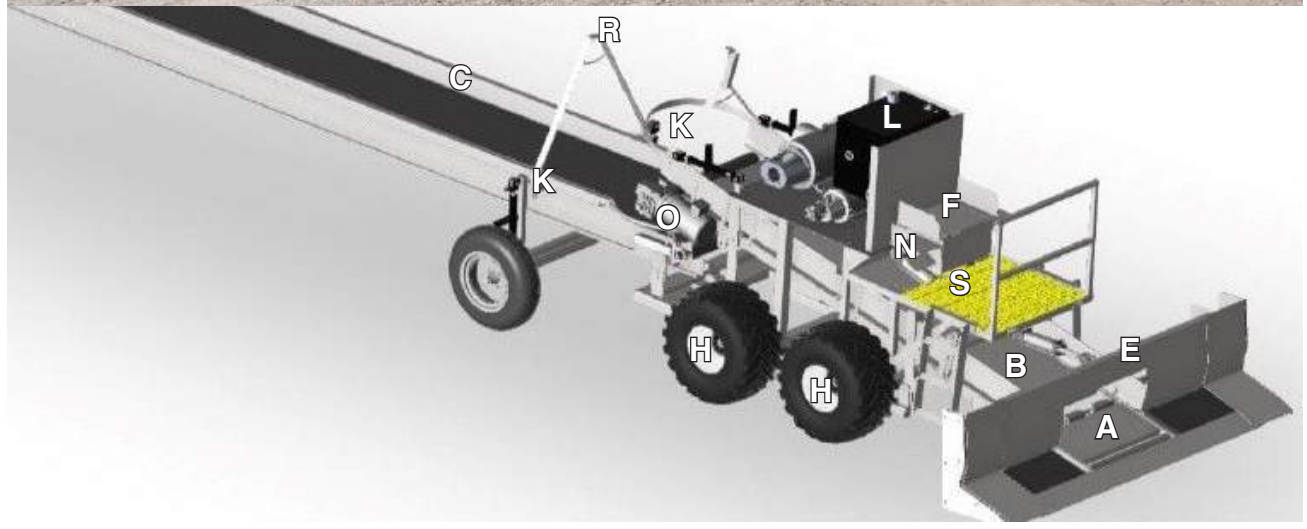
The nose of the Van Unloader is designed with an expandable nose piece that expands to fill the width of the inside of a van. Additional hydraulics are incorporated to extend and retract the sides of the nose.

Operation controls are located on each side of the seat and in the center of the conveyor. The discharge end is attached to adjacent stationary equipment during operation. Jacks on each side of the wheel frame set the height of the discharge to minimize drop height.



FIG. 1 MACHINE COMPONENTS

- | | | | |
|---|----------------------------|---|------------------------|
| A | Intake Hopper | M | Control Panel |
| B | Loading Conveyor | N | Seat Controls |
| C | Upper Conveyor | O | Loading Conveyor Drive |
| D | Lower Conveyor | P | Upper Conveyor Drive |
| E | Metering Panel | Q | Lower Conveyor Drive |
| F | Operator's Seat | R | Power Cord Support |
| G | Wheel Skirts | S | Operator Platform |
| H | Power Wheel Drives | T | Steps |
| J | Equipment Attachment Hitch | U | Hitch |
| K | Jacks | V | Nose Exptender |
| L | Hydraulic Reservoir | | |



4.3 GENERAL OPERATION THEORY

The potatoes are placed in storage facilities during the harvest season to hold until they are ready to send to market. The Scooper Hog and Van Unloader Conveyor are designed to maneuver within a storage facility or transport truck and load the potatoes into a conveying system.

The Scooper Hog drives into the storage pile and the potatoes roll on the loading conveyor. As the Scooper Hog moves within the storage facility or transport truck, the telescoping section extends and retracts to allow for easy movement and loading. Flow volume is controlled by the gate panel over the intake. Side skirts in front of the wheels push the potatoes out of the way as the machine moves into the pile.

On the Van Unloader, slide frames on the intake move out to the edge of the van and direct all the potatoes toward the intake for loading.

The machine is driven while sitting on the seat. Jacks on the discharge frame allow the operator to set the discharge height to minimize bruising.

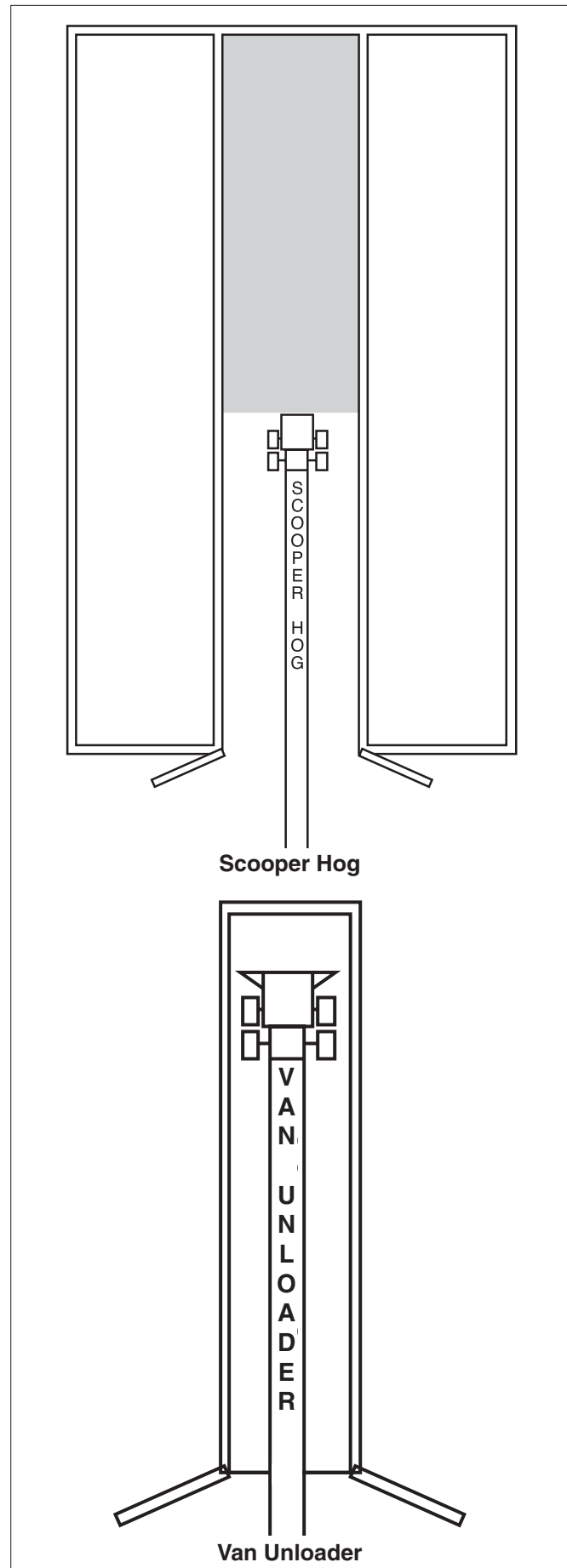


FIG. 2 POSITIONED (TYPICAL)

4.4 MACHINE BREAK-IN

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

A. Before Starting:

1. Read Scooper Hog and auxiliary equipment manuals before starting.
2. Turn gearbox breather 1/4 turn to open breather and remove tag.

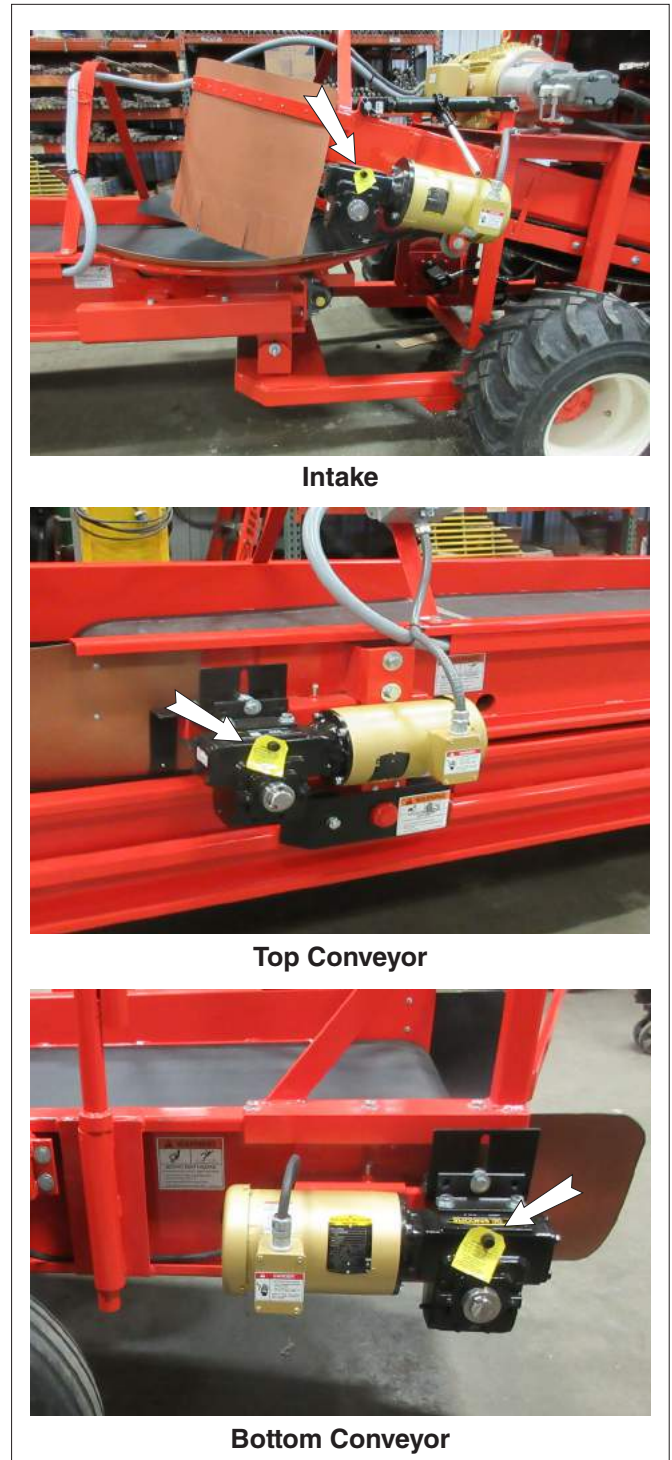


FIG. 3 BREATHERS

3. When providing power to the Scooper Hog, connect the wires in accordance with Section 4.7 Machine Preparation.
 - a. Remove the cover over the motor output shaft.
 - b. 'Bump' the pump ON switch and observe the shaft.
 - c. The shaft must rotate in the direction the arrow indicates to prevent damaging the pump.
 - d. Install shaft cover.

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 for leaks in the hydraulic system. Retorque fittings that leak.
4. Check that no hydraulic lines are being crimped or pinched. Reroute as needed.
5. Inspect conveyors, rollers and sprockets for entangled material. Remove material.
6. Check the alignment and tension of all belts and rod conveyors. Realign or tighten as required.
7. Check oil level in the speed reducing gearboxes. Top up as required.
8. Lubricate all grease fillings.

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

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

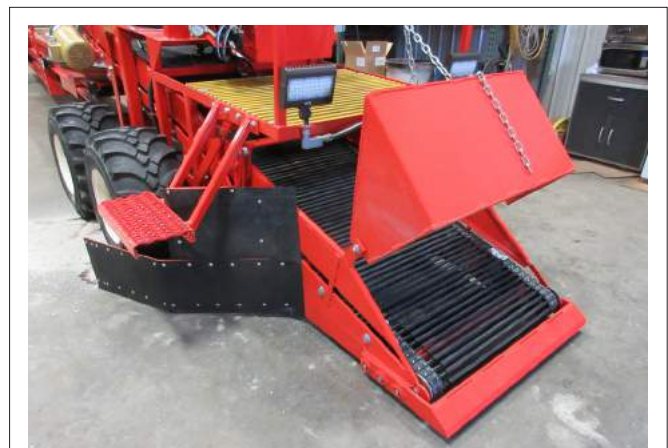


FIG. 4 PUMP ROTATION

4.5 PRE-OPERATION CHECKLIST

Safe and efficient operation of your new Scooper Hog 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 Scooper Hog. The checklist should be performed before operating the Scooper Hog 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 for hydraulic leaks. Tighten fittings or re-route hoses as required to maintain a leak-free system.
5. Inspect conveyor, power wheels and intake for entangled material. Remove entangled material.
6. Check the alignment and tension of intake and telescoping conveyors. Realign or tighten as required.
7. Check oil level in speed reduction gearboxes. Top up as required.
8. Check that the intake rod conveyor is centred on the head and tail sprockets. Adjust if necessary as outlined in the 'Maintenance Section'.
9. Make sure the electrical switches are in the OFF position before supplying power.
10. Check that all electrical connections are tight and cords are routed out of the way or protected.
11. Release emergency stop switches before starting work.



Intake (Typical)



Conveyors

FIG. 5 INSPECTION (TYPICAL)

12. Check power cord support components are free to move:
 - a. Input power cord support.
 - b. Telescoping sliding supports.
13. Be sure the working area is clean and dry to prevent tripping or slipping.



FIG. 6 POWER CORD SUPPORT

4.6 CONTROLS

It is recommended that all operators review this section of the 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.

1. Master Power Switch:

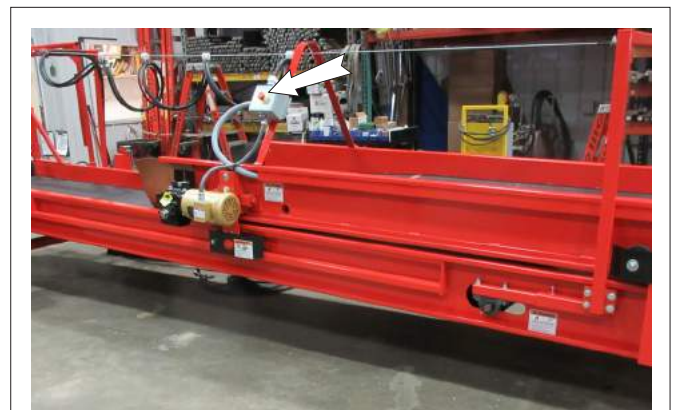
This 2 position rotary switch controls the power to the machine. Turn counter-clockwise to turn OFF and clockwise to turn ON.



FIG. 7 CONTROL PANEL

2. Emergency Stop:

Each machine is designed with 2 red emergency stop switches. Both are located close to operator locations and can stop the machine when required. Release both switches before turning power on. Depress the switch to stop the machine. Turn switch 1/4 turn clockwise (CW) and the switch will pop out.



Conveyor



Platform

FIG. 8 EMERGENCY STOP

3. **Control Box Panel (Scooper Hog):**

A box mounted on the left side of the frame and close to the operator's seat/station is equipped with switches and dials to set and operate machine.

a. **Emergency Stop:**

This red push/pull switch controls the power to the machine. Depress the switch to cut the power and all machine functions will stop. Turn the switch 1/4 turn clockwise, the switch will pop out and power will be restored. Either this switch or the switch next to the conveyor will cut power to the machine but both must be pulled out for the machine to operate.

b. **Lights:**

This 2 position rotary switch controls the power to the front, centre and rear lights. Turn the switch fully counterclockwise (CCW) to turn lights off and clockwise (CW) to turn on.

c. **Belts Start/Stop Switch:**

This 2 position rotary switch controls the power to the conveyor belts. Turn the switch fully counterclockwise (CCW) to turn the belts off and clockwise (CW) to turn on.

d. **Pump OFF/ON:**

This 2 position rotary switch controls the power to the hydraulic pumps. Turn the switch fully counterclockwise (CCW) to turn pumps off and clockwise (CW) to turn on.

NOTE

The Van Unloader will be enabled with this switch when the pumps are enabled, as these are driven by hydraulic motors.

NOTE

The switch mechanism may vary based on application.

e. **Speed Control Telebooms:**

This 270° potentiometer controls the low voltage speed input to the Variable Frequency Drive to allow variable speed of the top and bottom conveyors. Turn the dial fully counterclockwise (CCW) to its 0 position to stop the conveyors. Turn fully clockwise (CW) to its 270 degree or 100% to run the conveyor at maximum speed. Move the dial to any position in the 270 degree arc to set the conveyors at the desired speed.

f. **Speed Control Elevator:**

This 270° potentiometer controls the low voltage speed input to the Variable Frequency Drive to allow variable speed of the infeed Elevator. Turn the dial fully counterclockwise (CCW) to its 0 position to stop the conveyor. Turn fully clockwise (CW) to its 270 degree or 100% to run the conveyors at maximum speed. Move the dial to any position in the 270 degree arc to set the conveyor at the desired speed.

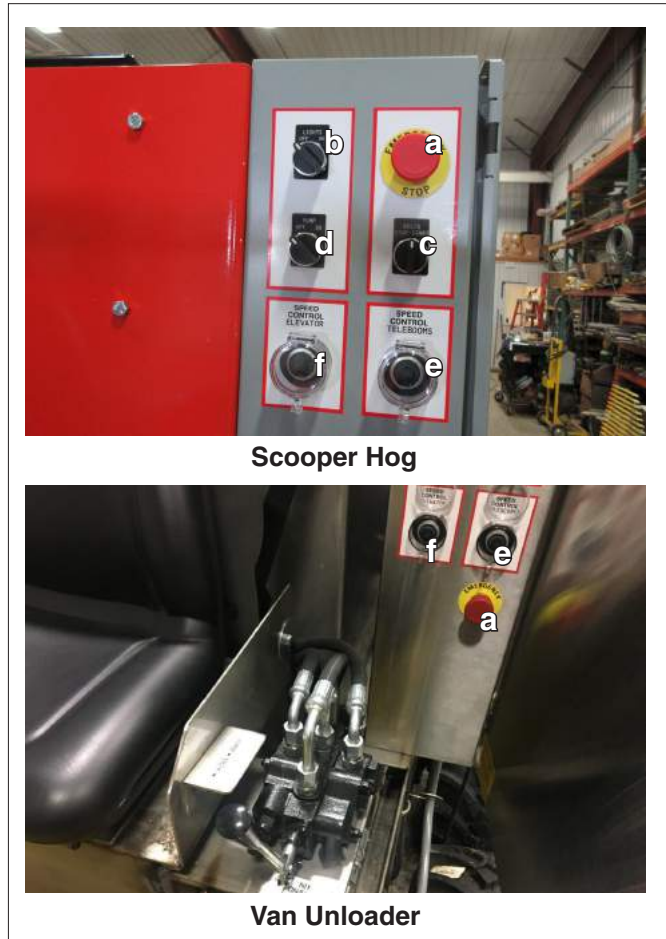


FIG. 9 CONTROL BOX PANEL

4. **Right Side - Operator Seat (Scooper Hog):**

The machine is designed with an operator platform and seat on the front of the frame to provide good visibility during operation. Operating controls are located on each side of the seat and within easy reach by the operator.

a. **Nose Up/Down:**

This 3 position spring-loaded-to neutral-centre lever controls the flow of oil to the nose height cylinder. Push and hold to lower the nose. Pull and hold to raise the nose. Release the lever and the nose will stop moving and remain in position.

b. **Right Drive Wheels:**

This 3 position spring-loaded-to neutral-centre lever controls the flow of oil to the right side drive wheels. Push and hold to drive the right side wheels forward. Pull and hold to drive the right wheels back. Release the lever and the right side wheels will stop moving and remain in position.

c. **Pressure Gage:**

This gage measures the pressure in the wheel drive circuit. It is designed with a non-adjustable relief pressure of 2,000 psi and normally operates at 1,000 to 1,200 psi.

5. **Left Side - Operator Seat (Scooper Hog):**

This 3 position spring-loaded-to neutral-centre lever controls the flow of oil to the left side drive wheels. Push and hold to drive the left side wheels forward. Pull and hold to drive the left wheels back. Release the lever and the left side wheels will stop moving and remain in position.



Seat



Right Side



Left Side

FIG. 10 OPERATOR'S SEAT

6. **Right Side - Operator's Seat (Van Unloader):**

The Van Unloader is designed with hydraulic controls to extend and retract the frame on the sides of the nose that extends to fill the truck box.

a. **Right Drive Wheels:**

This 3 position spring-loaded-to neutral-centre lever controls the flow of oil to the right side drive wheels. Push and hold to drive the right side wheels forward. Pull and hold to drive the right wheels back. Release the lever and the right side wheels will stop moving and remain in position.

b. **Nose Up/Down:**

This 3 position spring-loaded-to neutral-centre lever controls the flow of oil to the nose height cylinder. Push and hold to lower the nose. Pull and hold to raise the nose. Release the lever and the nose will stop moving and remain in position.

c. **Slide Frame Extend/Retract:**

This 3 position spring-loaded-to neutral-centre lever controls the flow of oil to the cylinder positioning the right side slide. Pull and hold to retract slide. Push and hold to extend. Release the lever and the slide will stop moving.

d. **Pressure Gage:**

This gage measures the pressure in the wheel drive circuit. It is designed with a non-adjustable relief pressure of 2,000 psi and normally operates at 1,000 to 1,200 psi.

e. **Emergency Stop:**

The Van Unloader is designed with 3 emergency stop switches. All are located close to operator locations and can stop the machine when required. Release all switches before turning power ON. Depress any of the switches to stop the machine. Turn switch 1/4 turn clockwise and the switch will pop out.

7. **Left Side - Operator Seat (Van Unloader):**

a. This 3 position spring-loaded-to neutral-centre lever controls the flow of oil to the left side drive wheels. Push and hold to drive the left side wheels forward. Pull and hold to drive the left wheels back. Release the lever and the left side wheels will stop moving and remain in position.

b. **Slide Frame Extend/Retract:**

This 3 position spring-loaded-to neutral-centre lever controls the flow of oil to the cylinder positioning the left side slide. Pull and hold to retract slide. Push and hold to extend. Release the lever and the slide will stop moving.



FIG. 11 VAN UNLOADER CONTROLS

8. **Metering Panel:**

The nose of the machine is equipped with an adjustable metering panel to control the volume of potatoes moving into the intake conveyor. Extend the links in the chain to lower the panel and slow the feed rate. Retract the chain to raise the panel and increase the rate.



Lowered



Raised

FIG. 12 METERING PANEL

9. **Wheel Skirts:**

Each side of the nose section is designed with adjustable skirts in front of the drive wheels. A link chain extending between the skirts and the frame is used to position the height of the skirt. Always lower the skirts to the ground when operating to prevent potatoes from getting under the tires.



Down



Up

FIG. 13 WHEEL SKIRTS

10. **Nose Height:**

The nose can move up and down 38 mm (1.5 inches) to allow the operator to clear small irregularities on the floor and for moving. Raise the nose to clear them and then lower back down to the floor to minimize damaging potatoes. Also raise the nose when moving within the storage facility. Use the inner lever on the right side of the seat to raise and lower the nose.

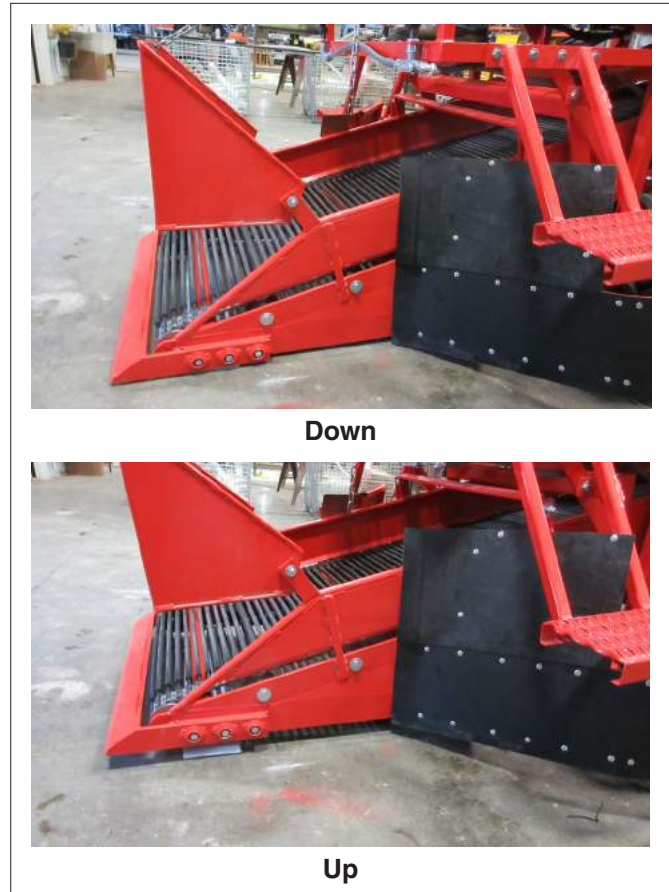


FIG. 14 NOSE HEIGHT

11. **Pump Compartment (Scooper Hog):**

a. **Flow Divider:**

This flow divider controls the amount of oil flowing through the tractive drive system. Move the pointer toward 10 to increase the speed of the wheels and toward 0 to decrease. Decrease the speed when working in confined areas.

b. **Pressure Gage:**

This gage displays the hydraulic pressure in the tractive drive system. Generally it takes 1,000 psi during normal operation.

c. **Sight Glass:**

This sight glass shows the amount of oil in the hydraulic oil reservoir. Maintain the oil level in the middle of the sight glass for best results.

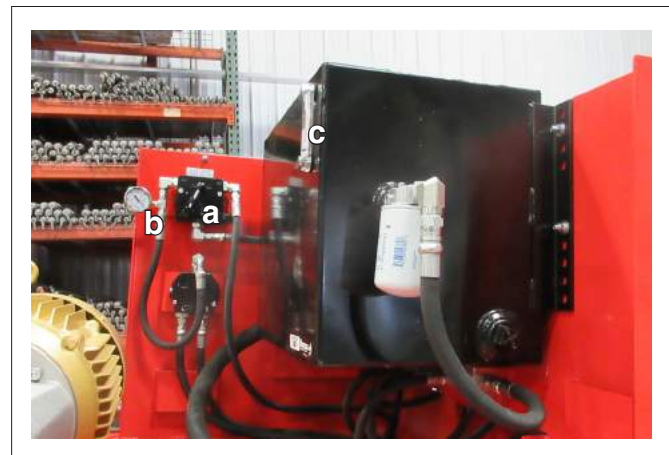


FIG. 15 PUMP COMPARTMENT

12. Pump Compartment (Van Unloader):

- a. **Flow Divider:**
This flow divider controls the amount of oil flowing through the tractive drive system. Move the pointer toward 10 to increase the speed of the wheels and toward 0 to decrease. Decrease the speed when working in confined areas.
- b. **Pressure Gauge:**
This gauge displays the hydraulic pressure in the tractive drive system. Generally it takes 1,000 psi during normal operation.
- c. **Flow Divider:**
This flow divider controls the amount of oil flowing through the tractive drive system. Move the pointer toward 10 to increase the speed of the wheels and toward 0 to decrease. Decrease the speed when working in confined areas.
- d. **Pressure Gauge:**
This gauge displays the hydraulic pressure in the tractive drive system. Generally it takes 1,000 psi during normal operation.
- e. **Sight Glass:**
This sight glass shows the amount of oil in the hydraulic oil reservoir. Maintain the oil level in the middle of the sight glass for best results.



FIG. 16 PUMP COMPARTMENT

13. Conveyor Discharge Height:

Every machine used in the potato handling industry must be capable of minimizing drop height.

a. Intake Conveyor:

Turnbuckle jacks on each side of the intake conveyor frame are used to raise or lower the discharge height to the telescoping conveyor. Keep this dimension the same on both sides to minimize uneven loading on the frame.

b. Telescoping Conveyor:

The rear wheel frames are designed with an integral jack to raise or lower the discharge as required and assist in connecting to other conveyors. Position the jack/wheels evenly to eliminate uneven loading on the frame.

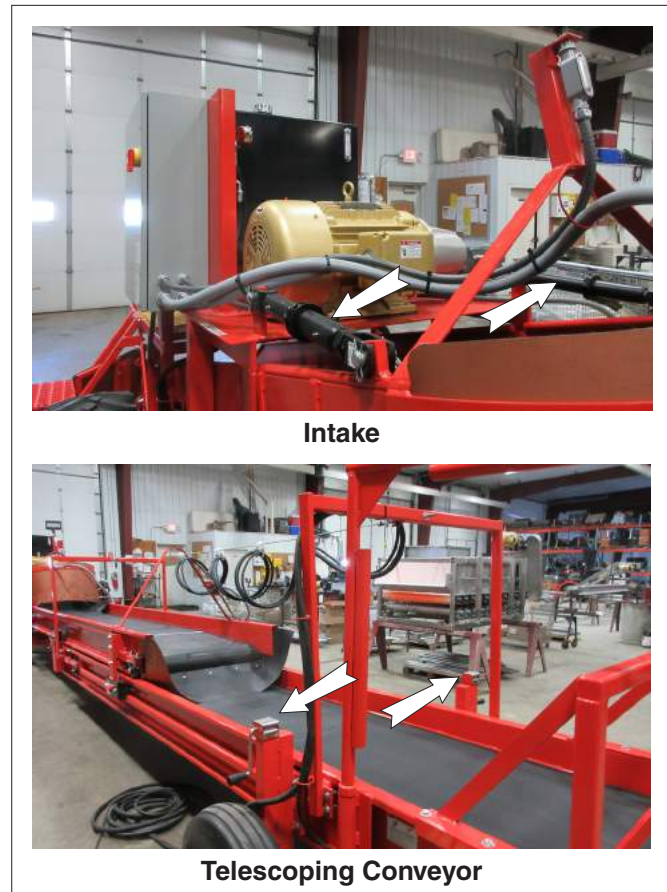


FIG. 17 DISCHARGE HEIGHT

14. Telescoping Frame Lock:

The 2 sections of the telescoping conveyors are designed to telescope freely by rollers on each side. To prevent telescoping during, storage, transporting or when not in use, connect the lock chain. Remove and stow the anchor pin and retainer prior to operating.



FIG. 18 FRAME LOCK

15. **Power Wheel Drive**

Each front wheel is equipped with a power wheel that provides tractive power as required. The power wheel can be placed in the driving or coasting configuration. The wheels are in the driving configuration when the depression in the centre cap points outward. Remove cap and reverse it so the depression pushes the driving gear back to disengage the drive. Wheel will now free-wheel or coast.

- a. Power Wheel - Driving.
- b. Cap Removed.

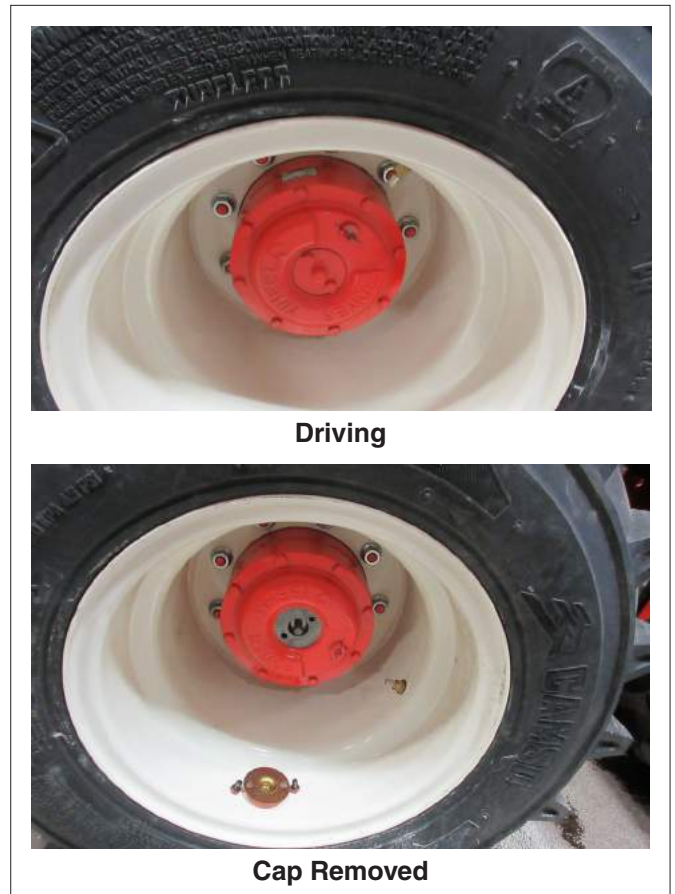


FIG. 19 POWER WHEEL

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 by following ANSI/NFPA 70 Wiring Standard. 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 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.

A mast on the discharge end of the frame is designed to support the power cord to keep it up and out of the way. Attach the power cord and be sure the mast swings freely. Be sure the power cord sliders move freely on their cable.

- a. Mast
- b. Sliders

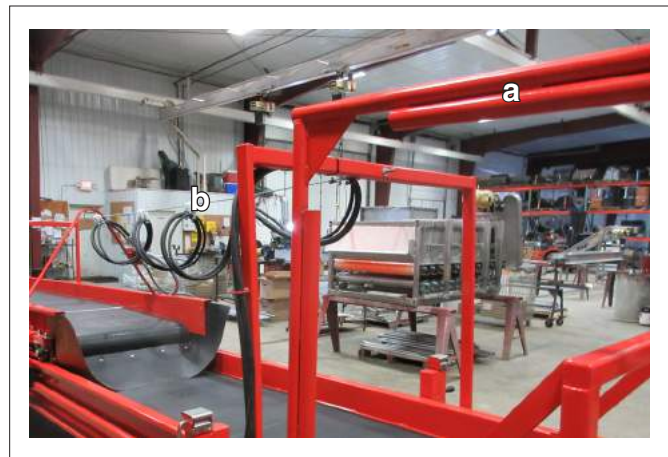


FIG. 20 POWER INPUT

2. **Expandable Nose:**

The Van Unloader Scooper Hog is designed with slides on each side of the nose that direct potatoes on each side into the centre intake conveyor. Verify that the slides move in and out freely and move to each side of the truck box when the machine is in the centre of the box.



Retracted



Operating

FIG. 21 EXPANDABLE NOSE

3. **Lower Wheel Skirts:**

Release the support chains holding the skirts in their up position so they can move down to prevent potatoes from getting under the tractive wheels.



FIG. 22 WHEEL SKIRT LOWERED (TYPICAL)

4. **Frame Lock Chain:**

The machine is designed with a lock chain to prevent the conveyor frames from telescoping. Connect the lock chain before storing, transporting or when not in use. Release the lock chain to allow the frame to telescope during operation.



FIG. 23 LOCK CHAIN

5. **Power Wheels:**

Power wheels can be configured in their drive or free-wheeling configuration. Install the centre cap so the depression is pointing outward and the wheel will drive. Reverse the depression and the wheel will free-wheel.



FIG. 24 POWER WHEEL CAP

6. **Rear Hitch:**

Each Scooper Hog is designed with a rear hitch that is used to connect to another conveyor to move the potatoes. Attach the ball hitch to the next conveyor and install a lock pin and retainer to prevent unexpected separation. Use the rear wheel jack to raise and lower the hitch when attaching to another conveyor and setting the drop height.



FIG. 25 REAR HITCH

7. **Intake Conveyor Drop Height:**

Use the turnbuckles at the top end of the intake conveyor and the wheel jacks to minimize drop height.

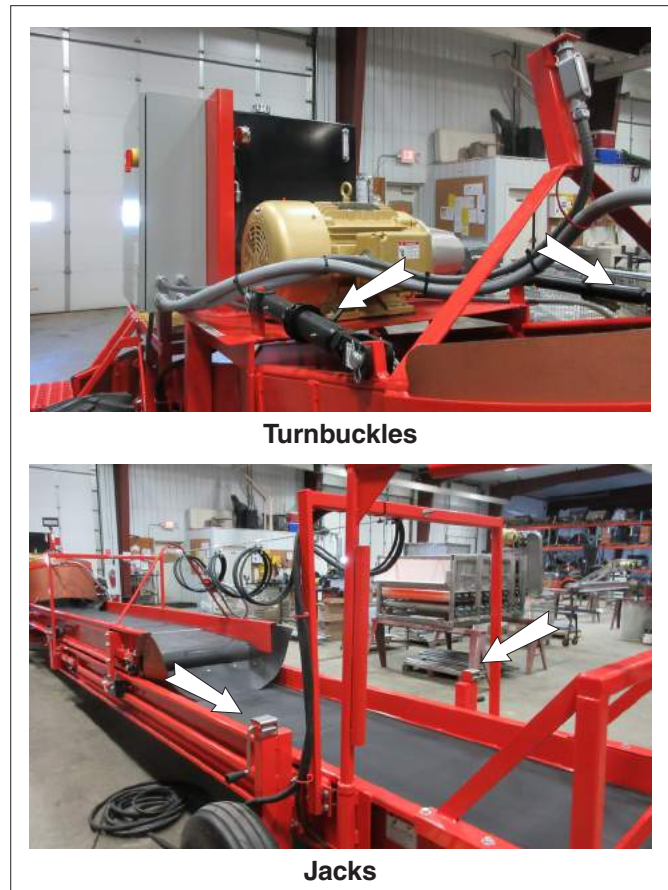


FIG. 26 DROP HEIGHT

8. **Scooper Position:**

Although the operator can position the machine at any position in the working environment, there are some general guidelines to follow:

a. **Storage Facility:**

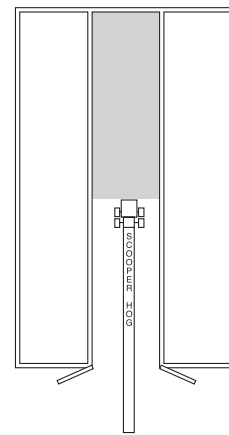
Position the machine in the centre of the facility so the intake can maneuver from side-to-side without disrupting the other conveyors.

b. **Transport Truck:**

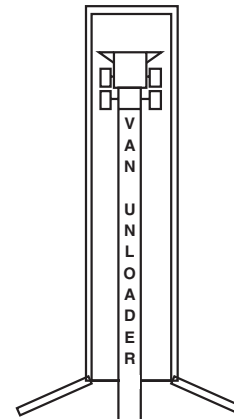
Position the Van Unloader in the centre of the truck box so the nose slides can reach each side and direct all the potatoes toward the intake.

c. **Telescoping Conveyor:**

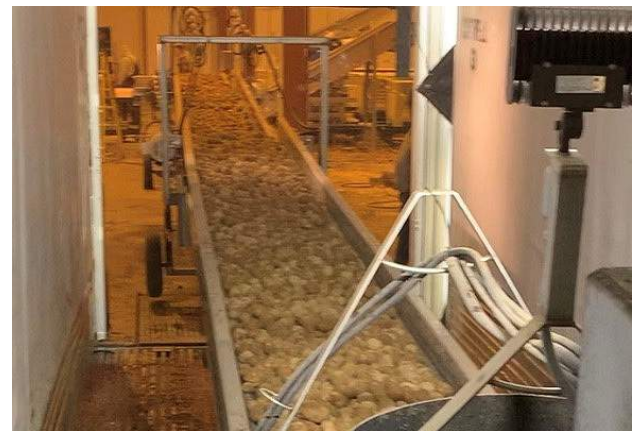
Position the machine at the entry of the storage facility or truck with the telescoping frame compressed to within 0.5 m (1.5 to 2.0 feet) of the end. Connect other conveyors to hitch and secure with a lock and retainer through hitch frame. The telescoping conveyor will extend as the Scooper Hog or Van Unloader moves into bin or truck.



Storage Facility



Truck Box



Loading (Typical)

FIG. 27 SCOOPER POSITION

4.8 OPERATING



OPERATING SAFETY

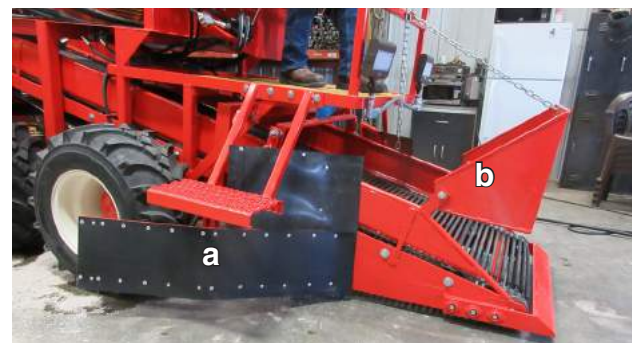
- Make sure that anyone who will be operating the Scooper Hog or working on or around the unit reads and understands all the operating, maintenance and safety information in the operator's manual. Also read and follow the instructions in the manuals of other equipment in the system.
- **Turn machine OFF, shut down and lock out power supply (safety lockout devices are available through your Mayo dealer parts department) and wait for all moving parts to stop before servicing, adjusting, maintaining or repairing.**
- 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.
- Install and properly secure all guards and shields before operating.
- Replace all worn or failed components immediately.
- 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.
- Keep all electrical components tight, dry and in good repair.
- Before applying pressure to the hydraulic system, make sure all components are tight and that all steel lines, hoses and couplings are not damaged.
- Do not stand between the intake and other structures when extending/retracting or swing the intake. Keep others away.
- Before supplying electrical power to the machine, be sure that you have adequate amperage at the proper phase and voltage to run it by following ANSI/NFPA 70 Wiring Standard. If you do not know or are unsure, consult a licensed electrician.
- Keep the working area clean and dry.
- Contact Mayo at 218-773-1234 or 800-223-5873 if you have any questions.
- Review safety instructions annually.

Follow this procedure when using the Scooper Hog:

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).
4. Set the wheel skirts to the required height.
5. Set the panel gate at the appropriate position for your application.



Operating



a. Skirt b. Panel Gate

FIG. 28 FRONT SECTION

6. Starting Machine:

- a. Clear the area of bystanders. Know where everyone is before starting.
- b. Place all controls in the OFF position.
- c. Plug in power cord.
- d. Turn the power to the machine ON by making sure both emergency stop switches are pulled out.
- e. Turn the lights ON.
- f. Turn pumps ON.
- g. Turn the conveyor ON that moves potatoes away from the machine.
- h. Move intake to the required height.
- i. Turn the conveyors ON that move the potatoes through the machine.

7. Stopping Machine:

- a. Back away from the potatoes.
- b. Wait until the potatoes have moved off the telescoping conveyor.
- c. Turn the conveyor OFF that moves potatoes away from the machine.
- d. Turn the conveyors OFF.
- e. Turn pumps OFF.
- f. Depress one of the emergency stop switches or turn the master power switch OFF.



Electric Controls



Operator Controls



Operating

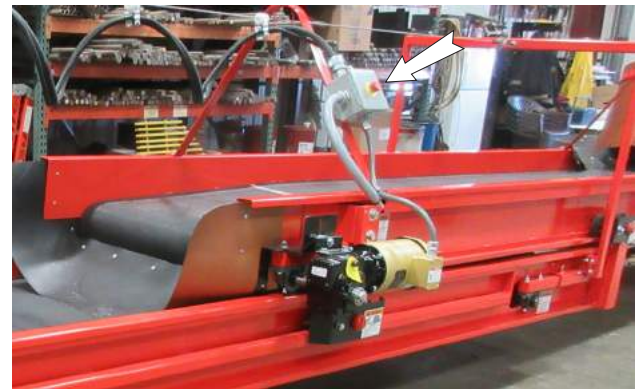
FIG. 29 STARTING/STOPPING

8. **Emergency STOP:**

Depress either of the large red STOP button on the machine. This will stop the conveyors. Correct the problem and be sure to turn all the individual controls OFF and pull out the Emergency Stop buttons before restarting the machine.



Control Box



Conveyors



Van Unloader

FIG. 30 EMERGENCY STOP

9. **Equipment Attachment:**

The Scooper Hog is equipped with a high hitch on the discharge end and that should be used when attaching to other Mayo conveyors.

- a. Use the jacks on the wheels to raise the rear hitch.
- b. Move the adjacent conveyor under the hitch.
- c. Lower jacks/frame to connect the equipment.
- d. Close jaws and secure with lock pin and retainer.
- e. Lower frame to minimize drop height.



FIG. 31 HITCH

10. **Maneuverability:**

The machine is designed with the Scooper Hog attached to a telescoping frame with a pivot. This pivot allows the operator to move the intake to the left and right to load all potatoes from a storage facility. Use the individual wheel controls to move the intake from side to side.



Straight



Right



Left

FIG. 32 STEERING

11. Intake Height:

The Scooper Hog is designed with an adjustable intake height to allow for easy movement within the storage facility or to clear irregularities on the floor. Raise the intake off the floor when not loading. Lower the intake onto the floor when moving into the pile or when loading. By sliding the intake along the ground into the pile, no potatoes will be cut, scraped or bruised.



High



Low

FIG. 33 INTAKE HEIGHT

12. Moving:

The Scooper Hog Conveyor is designed with power wheels on each front wheel for moving the machine slowly in confined areas.

The intake can be moved from side-to-side by driving the wheel(s) on one side faster than the other as required when loading potatoes. It is recommended that the machine be moved in 20 foot increments as the end of the storage facility empties. The conveyor telescopes out as the intake loads potatoes and moves further into the storage facility or truck.

NOTE

Be sure the power wheel cover depression is pointing outward so the drive wheel gears are engaged.

Always keep the gears engaged when storing so the power wheel hydraulics act as brakes to keep the unit from moving.



Power Wheels



Controls

FIG. 34 DRIVE SYSTEM

13. Intake Conveyor Drop Height:

The intake conveyor discharge frame is designed with turnbuckles on each side to raise or lower the discharge height. Extend or retract the turnbuckles to the same dimension to prevent twisting the frame. Move the discharge down to minimize the discharge height and potato bruising.



FIG. 35 TURNBUCKLES

14. Panel Gate:

A hinged panel gate is located at the intake to control the flow of potatoes into the intake conveyor. Raise the gate to increase flow and lower it to decrease.

Place the anchor chain in the appropriate slot to set the flow rate.

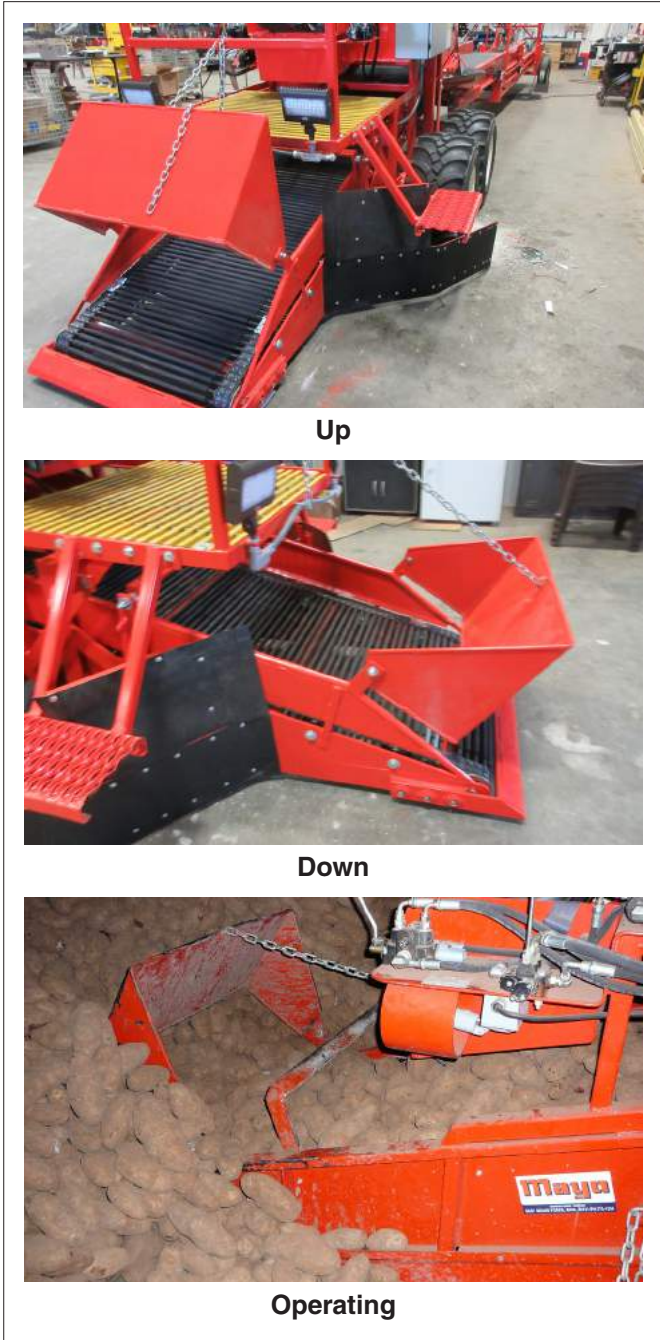


FIG. 36 PANEL GATE

15. Wheel Skirts:

The machine is designed with hinged skirts to prevent potatoes from contacting the tires during loading. Always lower the skirts before loading. Use the anchor chains to set the skirt position.



Up



Down

FIG. 37 WHEEL SKIRT

16. 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 jacks on the discharge end of the conveyor to set the height. Use 2 men (one on each jack) when setting the height of the discharge end to prevent frame twisting.



FIG. 38 JACKS

17. Towing:

An optional hitch is available to mount on the front nose of the frame for towing the machine. Use a tractor or 3/4 ton or larger truck for towing.



Two Wheel



Four Wheel

FIG. 39 TOW HITCH

18. 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 machine as full as possible to minimize bruising during the conveying process.
- f. Set the height of each end of the conveyor so the drop height to the adjacent piece of equipment is a minimum to prevent bruising.



FIG. 40 MACHINE



FIG. 41 OPERATING

4.9 TRANSPORT



TRANSPORT SAFETY

- Make certain that you are in compliance with local, state/provincial and federal regulations regarding transporting trailers with agricultural equipment on public roadways.
- Make certain that all wheels and tires are in good repair and that tires are inflated to proper pressure. Do not under-inflate or over-inflate.
- Make certain that all wheel bolts/lug nuts are tightened to proper torque specifications (refer to specification chart in Section 7.2).
- Fully retract telescoping conveyor section and connect lock chain before transporting.
- Make certain that all mechanical locks and integral anchor chains are safely and positively connected before loading.
- Raise jacks to their fully upright position.
- Wrap up and tie all electrical and hydraulic ends to the frame.
- Be sure that any necessary signs, reflectors and lights required by law are in proper place and are clearly visible to oncoming and overtaking traffic.
- Follow local regulations regarding maximum weight, width and length.
- Do not allow anyone to ride on the Conveyor or towing vehicle during transport.
- Convert power wheels to driving configuration so wheels act as brakes when transporting on a trailer. Convert power wheels into free-wheeling configuration when towing with a tractor or pickup.

Mayo Scooper Hogs are designed to be moved from location to location. The term moving is used to describe the action of moving the machine within the working area. Transporting is used to describe when the machine is loaded on a flat bed. Towing is when the machine is equipped with a nose hitch and towed with a tractor. When moving, transporting or towing, follow this procedure:

4.10 1 Moving

1. When moving, disconnect the conveyor from the rear hitch.
2. Use jacks to raise rear frame.
3. Compress telescoping section and connect frame lock chain.



FIG. 42 MOVING



FIG. 43 LOCK CHAIN

4. Raise skirts to their highest position and secure.
5. Raise nose.
6. Provide a power cord that can provide power between the starting and ending locations.



FIG. 44 NOSE/SKIRT

4.10.2 Transporting

1. When moving, disconnect the conveyor from the rear hitch.
2. Use jacks to raise rear frame.



FIG. 45 MOVING

3. Compress telescoping section and connect frame lock chain.



FIG. 46 LOCK CHAIN

4. Raise skirts to their highest position and secure.
5. Raise nose.



FIG. 47 NOSE/SKIRT

6. Move machine to an area where a forklift or loader can access it from the side.
7. Disconnect power cord, wrap cord up and hang on the frame.
8. Raise machine and load on trailer.
9. Secure to trailer.
10. Use pilot vehicles and install extra lights when transporting if required.
11. Turn the power off at the master panel and lock out.
12. Be sure all bystanders are clear of the machine.
13. Make sure all the lights and reflectors that are required by the local highway and transport authorities are in place, clean and can easily be seen clearly by all overtaking and oncoming traffic.
14. Do not allow riders on the machine.

4.10.3 Towing

1. When moving, disconnect the conveyor from the rear hitch.
2. Use jacks to raise rear frame.
3. Compress telescoping section and connect frame lock chain.
4. Raise skirts to their highest position and secure.
5. Raise nose.
6. Install tow hitch, and tighten mounting bolts to their specified torque.
7. Disconnect power cord, wrap up cord and hang on frame.
8. Convert power wheels into their free-wheeling (coasting) configuration.
9. Hook up to tractor and secure with a pin, retainer and safety chain.
10. Use pilot vehicles and install extra lights when transporting if required.
11. Turn the power off at the master panel and lock out.
12. Be sure all bystanders are clear of the machine.
13. Do not exceed 15 mph for maximum towable speed for Scooper Hog.



FIG. 48 POWER CORD



Four Wheel



Two Wheel

FIG. 49 TOW HITCH

14. Make sure all the lights and reflectors that are required by the local highway and transport authorities are in place, clean and can easily be seen clearly by all overtaking and oncoming traffic.
15. Do not allow riders on the machine.

4.10 STORAGE



STORAGE SAFETY

- Store the Scooper Hog 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 Scooper Hog.
- 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 Scooper Hog.

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. Start the hydraulic pump and run for 10 minutes to bring the oil to operating temperature. Change the hydraulic filter. Change the hydraulic oil as specified in the Maintenance Section.
2. Inspect each conveyor. Realign if the conveyor is not tracking in the center of the frame. Replace if the edges are damaged from rubbing on the frame. Properly tension each conveyor.
3. Turn the power OFF at the master electrical panel and lock out.
4. Unplug and remove power cord from machine.
5. Thoroughly wash the machine using a pressure washer to remove all dirt, mud, debris or residue.
6. Lubricate all grease fittings. Make sure all grease cavities have been filled with grease to remove any water residue from the washing.

7. Inspect all the hydraulic hoses, lines, fittings and cylinders. Tighten any loose fittings. Replace any hose that is badly cut, nicked, abraded or separating from a fitting. Replace any damaged components.
8. 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.
9. Check all rotating parts for entangled material. Remove.
10. Touch up all paint nicks and scratches to prevent rusting.
11. 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. Hydraulic tank oil level.
 - b. Hydraulic and electrical systems and components.
 - c. Conveyor belts and drive systems.
 - d. All hardware. Tighten as required.
 - e. Air pressure in tires. Add as required.
3. Replace any defective components.
4. Go through the pre-operation checklist (section 4.5) 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.
- 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.
- Make sure all guards and doors are in place and properly secured when operating the Scooper Hog.
- Do not work on Scooper Hog 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 Mobilgrease FM222 - Food Grade (details pg. 45) or equivalent.
 - a. Conveyor drive.
Capacity: 2 qt (2 liter).
3. **Power Wheel Drive Lubricant:**
Use Mobil Delvec Synthetic 75W90 per SAE GL-5 75W90.

Capacity: 1 qt (1 liter) per gearbox.

4. **Hydraulic System:**
Use Mobil DTE FM32 per ISO, Food Grade, NSF-H1.
 - a. Reservoir Capacity: 100 liters (30 US gal.).
5. **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 for recommended grease. 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.

5.1.3 SERVICING INTERVALS

8 Hours or Daily

The period recommended is based on normal operating conditions. Severe or unusual conditions may require more frequent servicing.

1. Check tension and alignment of conveyors.
Tension or align as required.

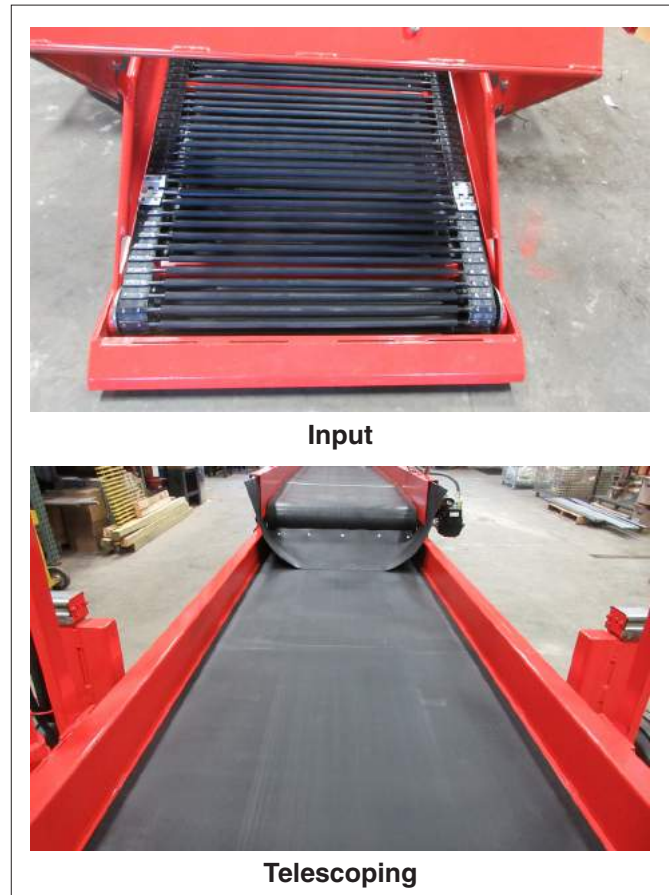


FIG. 50 CONVEYOR TENSION & ALIGNMENT

2. Inspect hydraulic system and all components.
 - a. Hydraulic pumps.
 - b. Tractive drive flow control.
 - c. Hydraulic reservoir.
 - d. Hydraulic filter.
 - e. Right side - operator controls.
 - f. Left side - operator controls.



FIG. 51 HYDRAULIC SYSTEM (TYPICAL)

3. Inspect electrical system controls. Verify that all controls function properly.



FIG. 52 CONTROL BOX

4. Check oil level in hydraulic reservoir.



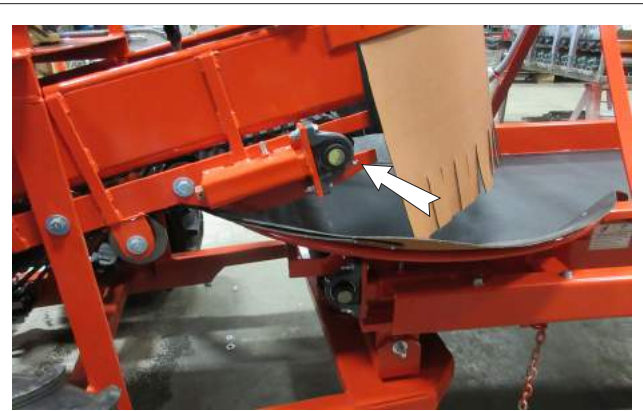
FIG. 53 SIGHT GLASS

Weekly or 50 Hours

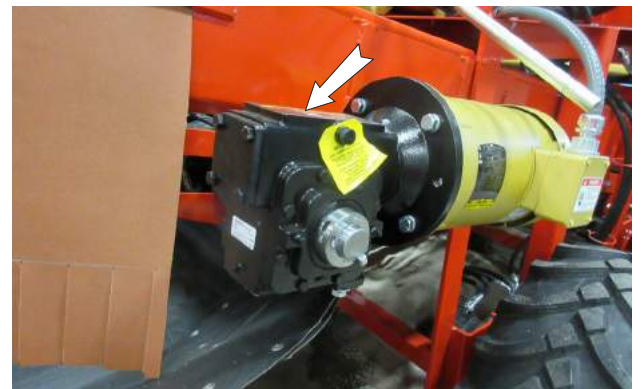
1. Grease intake conveyor drive bearings with 1 shot of grease.

IMPORTANT

Only sealed bearings are used on the machine. 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.



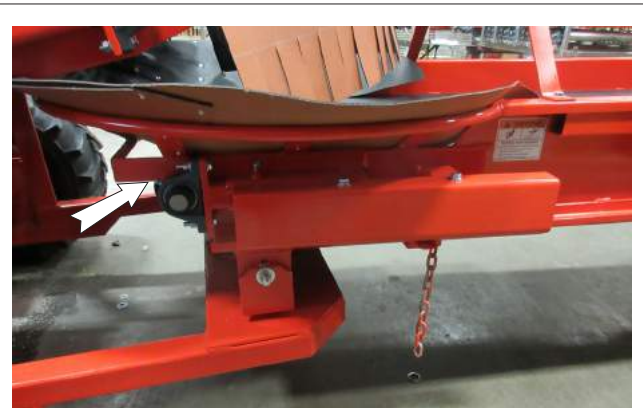
Idler



Drive

FIG. 54 INTAKE CONVEYOR

2. Grease top telescoping conveyor drive and driven shafts with one shot of grease.



Driven



Drive

FIG. 55 TOP CONVEYOR (TYPICAL)

- Grease the bottom telescoping conveyor drive and driven shafts with one shot of grease.



Driven

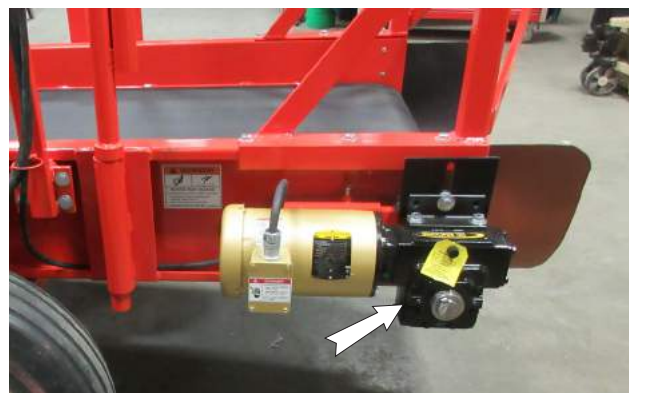


Drive

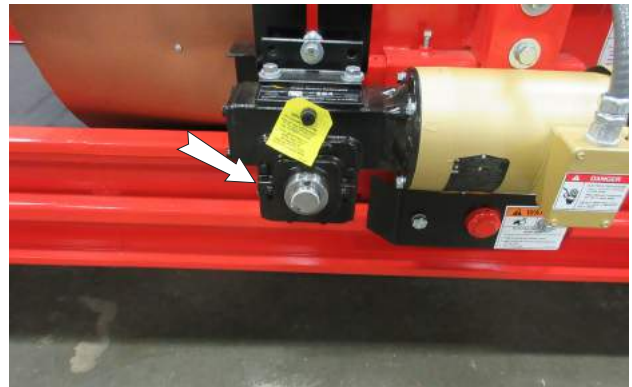
FIG. 56 BOTTOM CONVEYOR (TYPICAL)

100 Hours

1. Check oil level in the gearboxes.



Bottom Conveyor



Top Conveyor



Intake Conveyor

FIG. 57 GEARBOXES

2. Grease front frame pivot bushing.



FIG. 58 FRAME PIVOT

500 Hours or Annually

1. Change the hydraulic system filter.
2. Change the hydraulic system oil.
 - a. Drain Plug
 - b. Sight glass
 - c. Fill - cap
3. Change oil in gearboxes.
 - a. Drain
 - b. Level
 - c. Fill - Breather
4. Clean gearbox breathers.



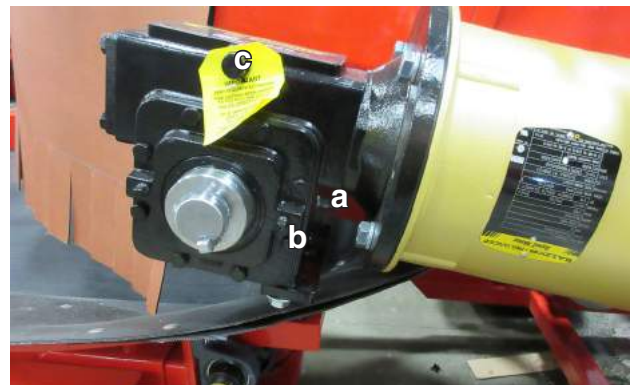
FIG. 59 HYDRAULIC SYSTEM



Intake



Top Conveyor



Bottom Conveyor

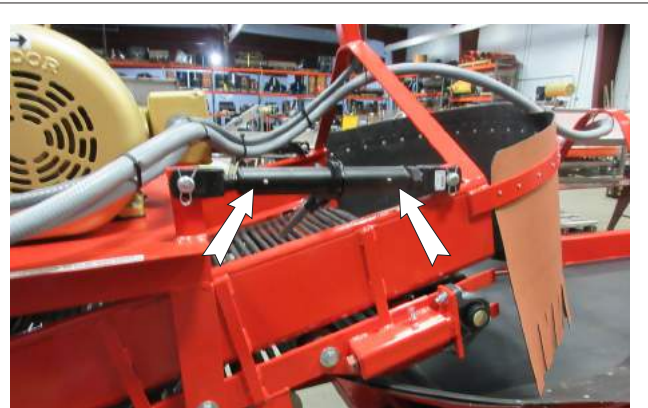
FIG. 60 GEARBOXES

5. Check the oil level in the power wheels when the level plug is in the horizontal position.

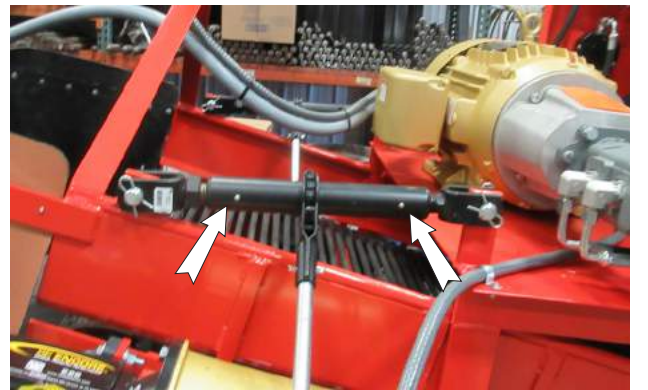


FIG. 61 POWER WHEEL

6. Grease turnbuckles with one shot of grease.



Right



Left

FIG. 62 TURNBUCKLES

7. Repack rear wheel bearings.



FIG. 63 WHEELS (TYPICAL)

8. Clean machine.



FIG. 64 MACHINE

Every 1000 Hours or 2 Years

1. Change oil in power wheels.



FIG. 65 POWER WHEELS

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
 G GREASE

Maintenance

Hours																				
Serviced by																				
8 Hours or Daily																				
CK Conveyor Tension/Alignment																				
CK Hydraulic System/Components																				
CK Electrical System Controls																				
CK Hydraulic Oil Level																				
Weekly or 50 Hours																				
G Intake Conveyor Drive Bearings																				
G Top Conveyor Bearings																				
G Bottom Conveyor Bearings																				
100 Hours																				
CK Gearbox Oil Levels																				
G Front Frame Pivot Bushing																				
500 Hours or Annually																				
CH Hydraulic System Filter																				
CH Hydraulic System Oil																				
CH Gearbox Oil																				
CL Gearbox Breathers																				
CK Power Wheel Oil Level																				
G Turnbuckles																				
RE Rear Wheel Bearings																				
CL Machine																				
Every 1000 Hours or 2 Years																				
CH Power Wheel Oil																				

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 all systems on the Scooper Hog. To maintain the integrity of each 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. Damaged 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 no 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.



Power Cord



Control Panel



Panel Open

FIG. 66 ELECTRICAL SYSTEM

5.2.2 HYDRAULIC MAINTENANCE

A hydraulic system provides power to turn the conveyor move the machine and raise the nose. The system consists of an electrically powered pump, reservoir, lines, hoses, solenoid valves, directional valves, motors and cylinders. 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 the entire system and all components are in good working condition.

When inspecting the hydraulic 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 lockout before starting the inspection.
3. Inspect all hydraulic components looking for:
 - a. Leaks.
 - b. Damaged hoses or lines.
 - c. Damaged or leaking cylinders.
 - d. Leaking motors or fittings.
 - e. Damaged or leaking solenoid and directional valves.
 - f. Leaking pump or fittings.
4. Tighten any leaking fittings and replace any damaged components.
5. Change the hydraulic oil filter every 100 hours and oil every 500 hours or annually per the Service schedule. Change more frequently if operating in harsh conditions such as extreme heat or cold, extreme dust or dirt, and/or extreme humidity.



Pump Compartment



Operator Controls



Power Wheels

FIG. 67 HYDRAULIC SYSTEM

5.2.3 SPEED REDUCER GEARBOX OIL

The intake and telescoping conveyors are driven by an electric motor that is attached to a high ratio speed reducing gearbox to give the required operating speed. The gearbox is equipped with a drain, level and fill plug. Every 100 hours, the oil level should be checked. Every 1000 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.

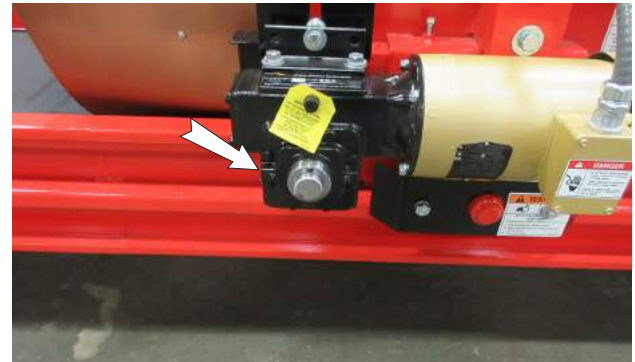
1. Run the Scooper Hog until the gearboxes are warm. Warm oil will remove more contaminants than cold stagnate oil.
2. Stop the Scooper Hog.
3. Place all controls in their OFF or neutral position.
4. Turn the power OFF at the master panel and lock-out.
5. **Checking oil level:**
 - a. When the gearbox 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 or breather as required.
 - d. Install and tighten level and fill plug or breather 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.
 - e. Remove the level and fill plugs.
 - f. Add approximately 1 qt (1 liter) of Winsmith Worm Gear Mobil Glygoyle 460 lubricant or equivalent (Details pg. 45). Use the level plug to determine the proper amount of oil.

NOTE

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



Bottom Conveyor



Top Conveyor



Intake Conveyor

FIG. 68 GEARBOXES (TYPICAL)

- g. Check that the air passage through the breather is open.
 - If plugged, soak in solvent overnight.
 - 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.
 - Install and tighten the breather plug.

IMPORTANT

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

- h. Install and tighten the fill and level plugs.
- i. Dispose of the used oil in an environmentally safe manner.

5.2.4 HYDRAULIC OIL & FILTER CHANGE

Every 500 operating hours or annually, whichever comes first, the oil and filter in the hydraulic system should be changed. To change the oil and filter, follow this procedure:

1. Run the hydraulic pump until the oil is warm. Warm freshly agitated oil removes more contaminants when drained than cold stagnate oil.
2. Stop the pump and place all controls in their OFF or neutral position.
3. Turn the power OFF at the master panel and lock-out.
4. Place a container under the drain plug. More than one container may be required since the tank holds 30 gallons.
5. Remove the drain plug and allow the system to drain for 10 minutes.
6. Use a banded filter removal tool to loosen and remove the filter.
7. Dip your finger in the oil and wet the rubber seal on the top of the new replacement filter to aid in sealing.
8. Install the replacement filter.

NOTE

Always use genuine Mayo replacement parts to insure proper oil filtration.

9. Hand tighten until the filter is seated. Then tighten the canister another 1/2 turn using the banded filter tool. Do not overtighten.
10. Install and tighten the drain plug. Use teflon tape or pipe sealant compound on the plug to prevent leaking.
11. Dispose of the used oil in an environmentally safe manner.
12. Fill with 30 gallons of Mobil DTE FM32 Hydraulic Oil or equivalent (see Section 7.4 Mayo Recommended Fluids).
13. Add to the oil level until it reaches the middle of the sight glass on the side of the tank.
14. Install the fill cap.

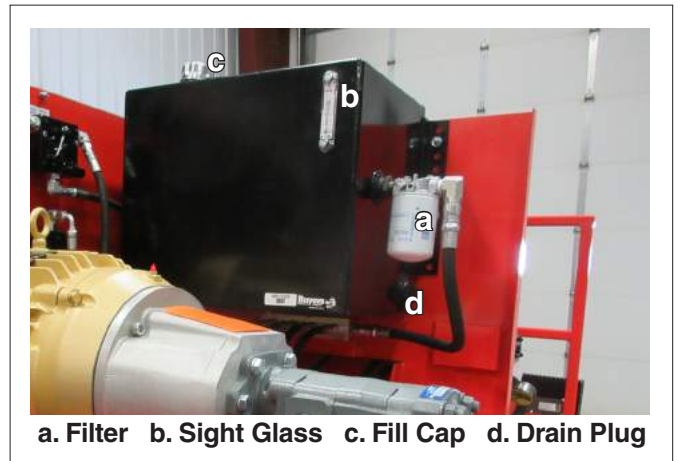


FIG. 69 HYDRAULIC SYSTEM (TYPICAL)

15. Start and run the system and check for leaks.
16. Tighten any fitting that leaks.

5.2.5 CONVEYOR BELT TENSION/ALIGNMENT OR REPLACEMENT

Potato chains are used to convey potatoes up the elevator. The tension and alignment of the conveyor should be checked daily to insure proper function. To maintain elevator conveyor, follow this procedure:

1. Place all controls in their OFF or neutral position.
2. Turn the power OFF at the master panel using the emergency stop switch and lock-out.
3. Unplug power cord.
4. **Conveyor Tension:**
It is adjusted correctly when there is a 50 - 60 mm (2.0 - 2.5 inch) sag on the intake conveyor and no conveyor sag is visible below the frame on the bottom or slack side of the conveyor during operation.



FIG. 70 CONVEYOR TENSION

5. **Conveyor Alignment:**
It is properly aligned when the conveyor centers in the frame. If the conveyor runs on the side of the frame, align the conveyor.

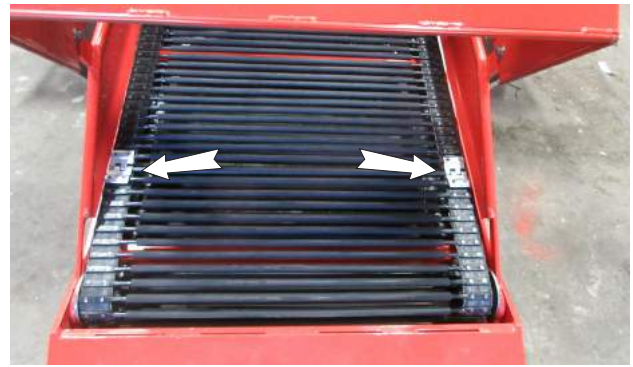
Align by loosening the shaft bearing assembly on the loose side. Move the bearing assemblies on either the drive or driven shafts but always maintain the proper tension.



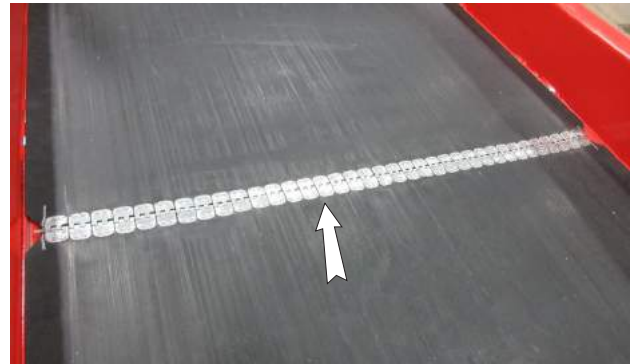
FIG. 71 ALIGNMENT

6. **Replacement:**

- a. Move one or both of the shafts into their loosest position.
- b. Open the rod conveyor by removing the connector link or rod on belt conveyor.
- c. Attach the replacement conveyor to the end of the old conveyor.
- d. Slowly pull the old conveyor out of the machine and thread the new one into position.
- e. Disconnect the old conveyor and connect the ends of the new one together.



Intake



Telescoping

FIG. 72 CONNECTOR LINKS

- f. Move the shaft into position to set the tension of the conveyor and secure the bearing assemblies.



Intake



Top Conveyor



Bottom Conveyor

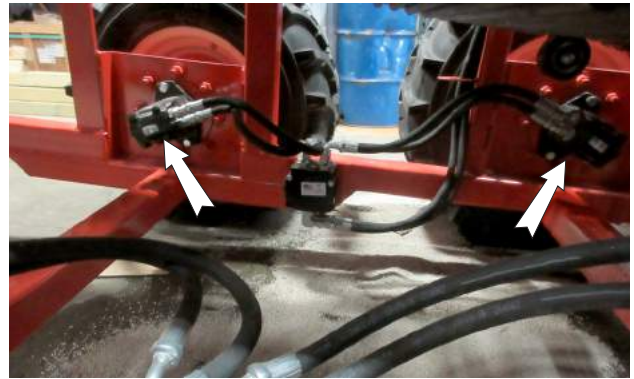
FIG. 73 BEARING ASSEMBLY (TYPICAL)

- g. Check the tension and alignment of the new conveyor chain frequently during the first 10 hours of operation and set as needed. Normally a conveyor chain will seat itself during the first 10 hours of operation and then require less adjustment.

5.2.6 TRACTION DRIVE

Scooper Hogs are equipped with a tractive power wheel drive system on each front wheel that is used to move the intake under its own power. All wheels must be placed into their operating configuration to move the machine. The cover on the power wheels engage or disengage the internal driving gears. All covers must be set the same for moving or transporting. When setting the drive system, 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 before performing any maintenance work.
3. Set the depression on all covers the same.
4. Point the depression inward to disengage drive gears.
5. Point the depression outward to allow the Scooper Hog to move under its own power.



Hydraulic Motors (Typical)



Cover



Cover Removed

FIG. 74 TRACTION DRIVE

6 TROUBLE SHOOTING

The Mayo Scooper Hog uses a pivoting intake section to pick up potatoes with an intake conveyor for moving to a telescoping section. 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 and the serial number from your machine ready.

PROBLEM	CAUSE	SOLUTION
Scooper Hog won't run.	No power.	Plug in machine. Turn power ON at master panel.
	Tripped circuit breaker.	Reset circuit breaker.
	No power.	Emergency stop switch depressed. Make sure both emergency stop switches are released.
Conveyors won't turn.	No power.	Turn power ON. Plug power cord in. Turn conveyors ON.
	Tripped motor starter.	Reset starter.
	Binding.	Align conveyor.
	Sheared key.	Replace key.
Scooper Hog won't move.	Power wheel(s) disengaged.	Engage power wheel(s).
	Flow divider set too low.	Increase setting of flow divider.
	Low oil.	Add oil to reservoir.
	Oil filter plugged.	Replace oil filter.
Front frame doesn't pivot.	No oil.	Turn pumps ON.
	Failed power wheel.	Replace power wheel.
Low capacity.	Gate panel too low.	Raise gate panel to allow more potatoes onto intake.
	Conveyor running too slow.	Use potentiometer to increase speed of conveyor.

7 SPECIFICATIONS

7.1 MECHANICAL

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

SPECIFICATIONS SUBJECT TO CHANGE WITHOUT NOTICE

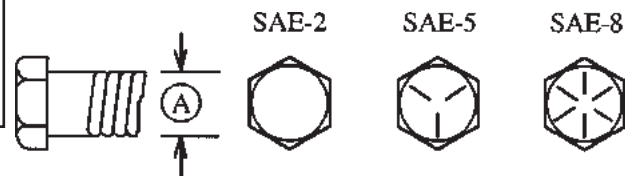
7.2 BOLT TORQUE

CHECKING BOLT TORQUE

The Scooper Hogs 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.

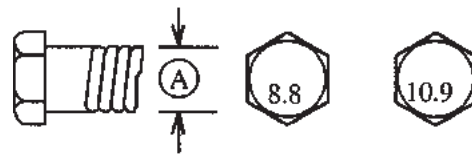
ENGLISH TORQUE SPECIFICATIONS

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.

73 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.

SPECIFICATIONS SUBJECT TO CHANGE WITHOUT NOTICE

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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**