MERIDIAN®

OPERATOR'S MANUAL

PATENT PROTECTED

This product is covered by one or more U.S., Canadian, Foreign patents and/or pending patent applications. For details, see:

meridianmfg.com/patents

BULK SEED TENDER®

405 SLD SEED EXPRESS™

SIGN-OFF FORM

Meridian Manufacturing Inc. follows the general Safety Standards specified by the American Society of Agricultural Engineers (ASAE), and the Occupational Safety and Health Administration (OSHA). Anyone who will be using or maintaining the bin must read and clearly understand ALL Safety and Maintenance information presented in this manual.

Review this information annually, before the season start-up.

Make these periodic reviews of SAFETY and USAGE a standard practice for all of your equipment.

This form 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 this manual. Copy this page to continue record.

Date	Employee's Signature	Employer's Signature

PRODUCT REGISTRATION FORM

Attention Dealers:
You can register products online through the Dealer Login: http://dealers.meridianmfg.com/login/

It is mandatory to register your product in order to qualify for future warranty claims that may arise. Knowingly falsifying information on this form will result in the voiding of the product warranty.

You may scan/photograph this completed form (must be legible), email it to: register@meridianmfg.com
A copy of this form may be mailed to Meridian Manufacturing Inc. 2902 Expansion Blvd. Storm Lake, IA 50588

Buyer's Name _____ Dealer's Name _____

Address _____ Address _____

City, State/Prov _____ City, State/Prov _____

Zip/Postal Code _____ Zip/Postal Code _____

Phone Number _____ Phone Number _____

Note: Registering a product in multiple entry format is only allowed when the product has the same model number and the same dealer, however each serial number must be legibly listed for each unit. Delivery dates for a multiple entry must be within a one month time frame.

Product Information _____

Model # _____ Serial # _____

Invoice Date _____

Important: Please send this form to the Meridian Manufacturing Inc. location which built this product being registered. If you require further assistance call you're dealer or the Meridian outlet nearest to your location.

We want to thank you for purchasing a Meridian manufactured product. Whether this is your first Meridian purchase or you have been a customer for years, you are now part of the Meridian community of customers and we appreciate your business.

It is important that you now complete the product registration information and this form indicating you have received delivery. This registration and information is necessary to ensure you have access to warranty and product updates in the event it be required in the future.

Registration can be completed by using this form or visiting your dealer who will complete the form online. You will be given access to the Meridian Community and become eligible for updates, special offers and prizes.

Again, thank you for choosing Meridian.

I have thoroughly instructed the buyer on the above described equipment. The review included the content of this manual, equipment care, adjustments, safe operation and warranty policy.

Date _____ Dealer's Signature _____

The above equipment and this manual have been received by me. I have been thoroughly instructed as to care, adjustments, safe operation and applicable warranty policy.

Date _____ Buyer's Signature _____

DEALER INSPECTION REPORT

MERIDIAN MANUFACTURING INC.
2902 EXPANSION BLVD. STORM LAKE, IA 50588
T: (800) 437-2334 P: (712) 732-1780 F: (712) 732-1028
www.meridianmfg.com iowa_warranty@meridianmfg.com

Unit's Model Number _____ Unit's Serial Number _____

- [ ] Review safety and operating instructions with owner
- [ ] Verify receipt of all options ordered
- [ ] Verify that tow vehicle is large enough to safely tow seed tender
- [ ] Check engine fuel level. Add as needed
- [ ] Check engine oil level. Add as needed
- [ ] Start engine and make sure it operates properly
- [ ] Check oil level in hydraulic tank. Add as needed
- [ ] Check air pressure in tires. Add as needed
- [ ] Wheel nuts/bolts are tightened to proper torque on all wheels
- [ ] Hitch-to-tongue and hitch-to-frame bolts are tightened to proper torque
- [ ] Conveyor tube rotates 180 degrees and locks into towing position
- [ ] Weighing system is working properly
- [ ] Remote control system is working properly
- [ ] All guards/shields are installed correctly
- [ ] All safety decals are installed and legible
- [ ] Wiring harness plug is in working condition and fit into tow vehicle's receptacle
- [ ] Reflectors, plate light, signal lights, and brake lights must be clean and working properly
- [ ] Tender's battery is fully charged and in good working order
- [ ] Break-away brake system battery is fully charged and in good working order
- [ ] Break-away brake cable and pin is supplied with trailer
- [ ] Electric brakes are in working condition
- [ ] Inspect customer's hitch for 2-5/16" ball or fifth wheel
- [ ] Safety chains are properly attached and are in good working condition
- [ ] Owner is instructed to check wheel bolt/nut torque at 5, 10, 25, and 50 miles; then check annually

CERTIFICATE OF ORIGIN

MERIDIAN MANUFACTURING INC.
2902 EXPANSION BLVD. STORM LAKE, IA 50588
T: (800) 437-2334 P: (712) 732-1780 F: (712) 732-1028
www.meridianmfg.com iowa_warranty@meridianmfg.com

LICENSING INFORMATION

Delivery Date _____

DEALER _____

Address _____

City _____

State _____

Zip Code _____

Phone Number _____

SOLD TO _____

Address _____

City _____

State _____

Zip Code _____

Phone Number _____

Unit's Model Number _____

Unit's Serial Number _____

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Section 1: INTRODUCTION

Thank you for choosing a Meridian® Bulk Seed Tender®. The equipment we design and manufacture to meet the exacting standards of the agricultural industry.

Keep this manual for future reference. Call your dealer, distributor or Meridian if you need assistance, information, additional/replacement copies or a digital copy of this document.

The information provided herein is of a descriptive nature. Meridian Manufacturing Inc. reserves the right to modify the machinery design and specifications provided herein without and preliminary notice.

Performance quality may depend on the material being handled, weather conditions and other factors.

1.1 OPERATOR ORIENTATION

The directions left, right, front, and rear, as mentioned throughout this manual, are as seen from the tow vehicle driver's seat, facing in the direction of travel.

1.2 SERIAL NUMBER

Always give your dealer the serial number when ordering parts, requesting service or asking for other information.

Use the space provided for easy reference.

Tender Model No: _____

Tender Serial No: _____

Engine Model No: _____

Engine Serial No: _____

Fig 1 - Serial number located at rear of tender

1.3 PATENT INFORMATION

Meridian® continuously enhances its product offering through product improvements and new product innovations. Marketplace feedback, technological innovation, new materials and manufacturing methods, and a philosophy of continuous improvement constantly challenge the company to develop new and better ways of addressing market needs. Meridian® is committed to innovation and reinvestment and as a result, the company maintains a portfolio of patents and intellectual property. For more information on our patents please see our website:

www.meridianmfg.com/patents

Section 2: SAFETY

The Safety Alert Symbol means:

ATTENTION!
BECOME ALERT!
YOUR SAFETY IS INVOLVED!

3 Big Reasons why safety is important to you:

- Accidents Disable and Kill
- Accidents Cost
- Accidents Can Be Avoided

The Safety Alert Symbol identifies important safety messages on the seed tender and in this manual.

The following signal words are used in this manual to express the degree of hazard for areas of personal safety.

When you see the symbol and/or the signal words described below, obey the accompanying message to avoid possible injury or death.

⚠ DANGER — Indicates a hazardous situation that, if not avoided, will result in death or serious injury. This signal word is limited to the most extreme situations. Typically for machine components which, for functional purposes, cannot be guarded.

⚠ WARNING — Indicates a hazardous situation, if not avoided, could result in death or serious injury. This word identifies hazards that are exposed when guards are removed. It may be used to alert against unsafe practices.

⚠ CAUTION — Indicates a hazardous situation, if not avoided, could result in minor or moderate injury. It may be used to alert against unsafe practices.

NOTICE — Indicates practices or situations which may result in the malfunction of, or damage to equipment.

SAFETY INSTRUCTIONS — Safety instructions (or equivalent) signs indicate specific safety-related instructions or procedures.

2.1 SAFETY ORIENTATION

YOU are responsible for the SAFE operation and maintenance of your Meridian® Seed Tender. Be sure that everyone who will operate, maintain or work around it, is familiar with the safety, operating and maintenance procedures.

This manual will take you step-by-step through your working day. It will alert you to all the safe practices that should be adhered to while operating the tender.

It has been said, "The best safety feature is an informed, careful operator." Good safety practices not only protect you but also the people around you. Make these practices a dynamic part of your workday.

Most accidents can be prevented. Do not risk injury or death by ignoring good safety practices.

- Tender owners must give operating instructions to operators or employees before allowing them to operate the machine.

  Procedures must be reviewed annually thereafter, as per OSHA (Occupational Safety and Health Administration) regulation 1928.57.

- The most important safety device on this equipment is a SAFE operator. It is the operator's responsibility to understand all safety and operating instructions in this document, and to follow them.

- An untrained operator exposes himself and bystanders to possible serious injury or death.

- Think SAFETY! Work SAFELY!

2.2 GENERAL SAFETY

- Read and understand the Operator's Manual and all safety decals before operating, maintaining, adjusting or unplugging the auger.

- Only trained competent persons shall operate the tender. An untrained operator is not qualified to operate the machine.

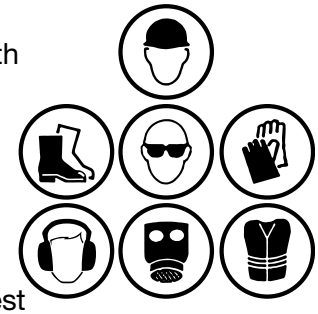
- Have a first-aid kit available for use should the need arise.

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

- Do not allow riders.

- Do not allow children, spectators or bystanders within hazard area around the machine.

- Wear appropriate protective equipment (PPE). This list may include but is not limited to:
  - Hard hat
  - Protective shoes with slip resistant soles
  - Eye protection
  - Work gloves
  - Hearing protection
  - Respirator or filter mask
  - Hi-Visibility safety vest



- 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.

- If the elderly are assisting with farm work, their physical limitations need to be recognized and accommodated.

- Do not allow long hair, loose fitting clothing or jewelry to be around equipment.

2.3 EQUIPMENT SAFETY GUIDELINES

- Safety of the operator and bystanders is one of the main concerns when designing and developing this tender. 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.

- Do not allow personnel to operate this unit until they have read this manual. They should have a thorough understanding of the safety precautions.

- In order to provide a better view, some images in this manual may show an assembly with safety guards removed.

  Equipment should never be operated in this condition. All guards must be in place. If removal becomes necessary for repairs, replace the guard prior to use.

- This equipment is dangerous to children and persons unfamiliar with its operation.

  The operator must be responsible, properly trained and physically able. You should be familiar with farm machinery in general.

- Never exceed the limits of a piece of machinery. If its ability to do a job, or to do so safely, is in question - DO NOT TRY IT.

- 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.

- The design and configuration of this tender includes safety decals and equipment. They need to be clean, readable and in good condition.

2.4 SAFETY DECALS

- Keep safety decals clean and legible at all times.

- Replace safety decals that are missing or have become illegible.

- Replaced parts must display the same decal(s) as the original parts.

- All safety decals have a part number in the lower right hand corner. Use this part number when ordering replacements.

- Safety decals are available from your authorized distributor, dealer's parts department or from Meridian Manufacturing Inc.

2.4.1 Applying Decals:

1. Be sure the application area is clean and dry. Ensure the surrounding temperature is above 50°F (10°C).
   a. Remove all dirt, grease, wax from surface.
   b. Clean the area with a non-ammonia based cleaner.
   c. Wipe the clean surface with isopropyl alcohol on paper towel, and allow to dry.

2. Determine the exact position before you remove the backing paper.

3. Peel a small portion of the split backing paper.

4. Align the decal over the specified area. Use a squeegee to carefully press the small portion, with the exposed adhesive backing, into place.

5. Slowly peel back the remaining paper and carefully smooth the rest of the decal into place.

6. Small air pockets can be pierced with a pin and smoothed out using the squeegee, or a piece of sign backing paper.

2.5 DECAL LOCATION

The following illustrations show the general location of decals on this tender. The position of decals may vary depending on the machine's options. Decals are not shown at actual size.

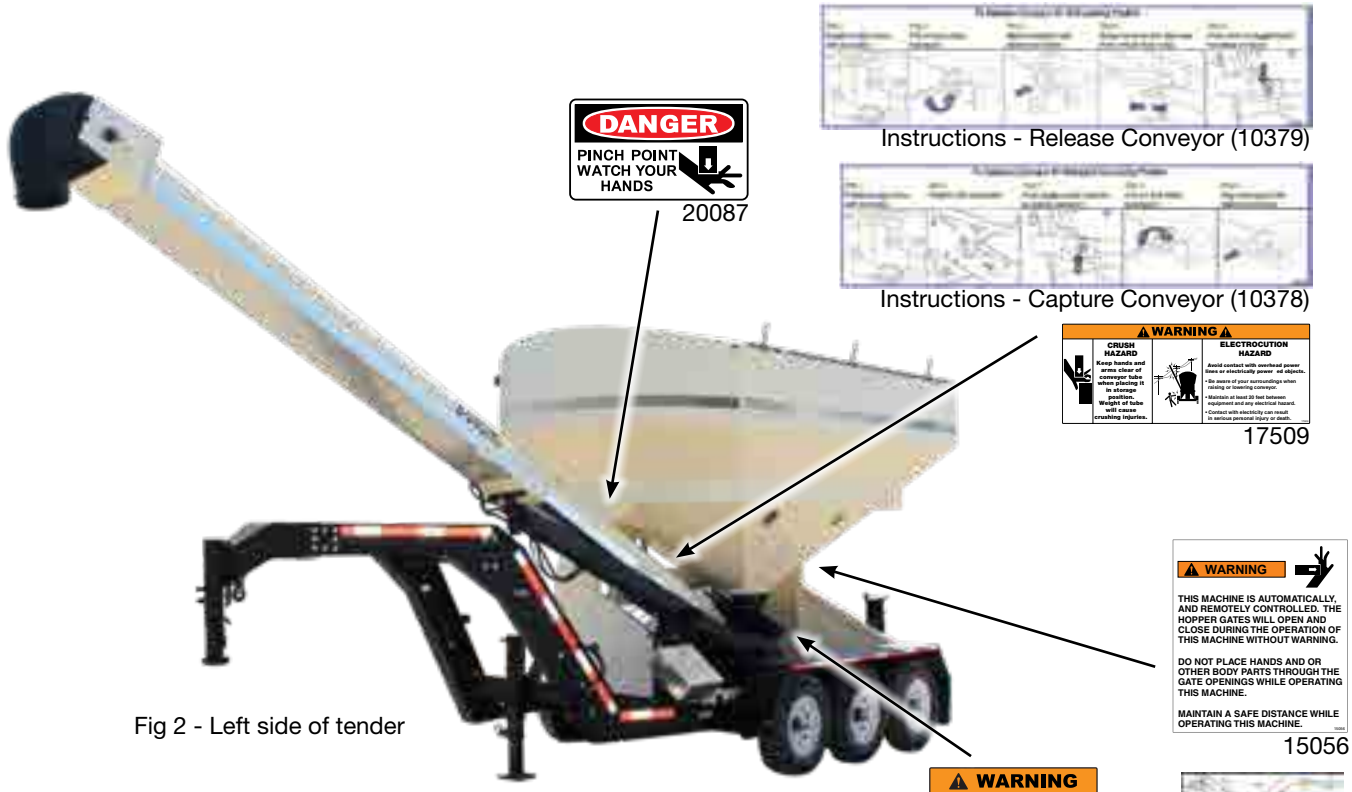


Fig 2 - Left side of tender

Fig 3 - Right side of tender

2.6 WORK PREPARATION

- Never operate the tender and its engine until you have read this manual, and understand the information.

  Also, read the engine operator's manual.

- Be familiar with the safety messages found on the decals around this unit.

- Personal protective equipment (PPE) include:
  - Hard hat
  - Eye protection
  - Protective shoes
  - Work gloves

  They are recommended during installation, placement, operation, maintenance and removal of the equipment.

- Do not allow long hair, loose fitting clothing or jewelry to be around equipment.

- PROLONGED EXPOSURE TO LOUD NOISE MAY CAUSE PERMANENT HEARING LOSS!

  Agricultural equipment 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 80 db.

  Noise over 85 db on a long-term basis can cause severe hearing loss.

  Noise over 90 db adjacent to the operator over a long-term basis may cause permanent, total hearing loss.

Note:
Hearing loss from loud noise
(tractors, chain saws, radios, etc.)
is cumulative over a lifetime
without hope of natural recovery.

- Clear working area of stones, branches or hidden obstacles that might be hooked or snagged, causing injury or damage.

- Operate only in daylight or good artificial light.

- Be sure machine is in a stable position, is adjusted and in good operating condition.

- Ensure that all safety guards and safety decals are properly installed and in good condition.

- Before starting, inspect the unit for any loose bolts, worn parts, cracks, leaks or frayed belts. Make the necessary repairs.

  Always follow the maintenance instructions.

2.7 PLACEMENT SAFETY

- Never move by hand.

- Locate tender providing enough space for trucks to load or unload.

- Operate tender on level ground, free of debris.

2.8 LOCK-OUT TAG-OUT SAFETY

- Establish a formal Lock-Out Tag-Out program for your operation.

- Train all operators and service personnel before allowing them to work around the area.

- Provide tags on the machine and a sign-up sheet to record tag out details.

2.9 MAINTENANCE SAFETY

- Review Section 4: Service and Maintenance, before maintaining or operating the tender.

- 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.

- Place all controls in neutral or off. Stop engine, and remove ignition key. Wait for all moving parts to stop before servicing, adjusting, repairing.

- Keep hands, feet, hair, and clothing away from all moving/rotating parts.

- Replace parts with genuine factory replacements parts to restore your equipment to original specifications.

  Meridian Manufacturing Inc. will not be responsible for injuries or damages caused by using unapproved parts and/or accessories.

- Make sure there is plenty of ventilation. Never operate the engine in a closed building. The exhaust fumes may cause asphyxiation.

- Clear the area of bystanders, especially children, when carrying out any maintenance and repairs or making any adjustments.

- Place stands or blocks under the frame before working beneath the machine.

- Before resuming work, install and secure all guards when maintenance work is completed.

- Replace damaged or not clearly visible decals.

2.10 TIRE SAFETY

- Failure to follow procedure when mounting a tire on a wheel or rim can produce an explosion and may result in serious injury or death.

- Do not attempt to mount a tire unless you have proper equipment and training to do the job.

- Have a qualified tire dealer or repair service perform required tire maintenance.

- When replacing worn tires, make sure they meet original tire specifications. Never undersize.

- Reference the tire side wall for information on the maximum cold tire pressure (PSI). Keep the tires inflated to this setting.

2.11 BATTERY SAFETY

- Keep all sparks and flames away from battery, as the gas given off by electrolyte is explosive.

- Avoid contact with battery electrolyte. Wash off any spilled electrolyte immediately.

- Wear safety glasses when working near batteries.

- Do not tip batteries more than 45 degrees, to avoid electrolyte loss.

- To avoid injury from spark or short circuit, disconnect battery ground cable before servicing any part of electrical system.

- When storing tender for an extended period:
  - Remove the battery.
  - Be sure it is fully charged.
  - Store it inside.
  - Do not sit battery on a cold, concrete floor.

- Before using battery, after storage, check charge.

- Never attempt to jump start a frozen battery.

2.12 ENGINE SAFETY

- Read and understand the operating manual provided with the engine.
- Use proper tools to service engine.
- Do not run engine in an enclosed area. Exhaust gases contain carbon monoxide, an odorless and deadly poison.
- Store fuel in approved safety containers.

- Do not store fuel near open flame.

  Appliances such as a stove, furnace, or water heater use a pilot light which can create a spark.

- No smoking when filling fuel tank.
- Do not remove fuel cap while engine is running.
- Do not refuel indoors where area is not well ventilated. Outdoor refueling is preferred.
- Do not refuel while engine is running. Allow engine to cool for 5 minutes before proceeding.
- Use fresh fuel. Stale fuel can gum carburetor and cause leakage.
- Check fuel lines and fittings frequently for cracks or leaks. Replace if necessary.
- Do not operate engine if fuel has spilled. Move machine away. Avoid creating any ignition until the fuel has evaporated.
- Do not run engine above rated speeds. This may result in damage and injury.
- Do not tamper with the engine speed selected by the original equipment manufacturer.
- Do not operate engine with grass, leaves, dirt or other combustible materials in muffler area.
- Do not operate engine without muffler.
- Do not tamper with governor springs, governor links or other parts which may increase the governed engine speed.
- Do not strike flywheel with hard object or metal tool. This may cause it to shatter in operation.
- Keep cylinder fins/governor parts free of grass and other debris which can affect engine speed.

⚠ WARNING

HOT EQUIPMENT HAZARD
Do not touch muffler, cylinder or fins while engine is running. Contact will cause burns.

- Do not use this engine on any forest covered, brush covered, or grass covered unimproved land, unless a spark arrester is installed on muffler. The arrester must be maintained in effective working order by operator.

  In the State of California the above is required by law (Section 4442 of the California Public Resources Code). Other states may have similar laws. Federal laws apply on federal lands.

- Inspect the muffler periodically. Replace it when necessary.

  If engine is equipped with a muffler deflector, inspect periodically. Replace with correct part.

- Do not check for spark, or crank engine with spark plug or spark plug wire removed.
- Do not run engine with air filter or its cover removed.

NOTICE

POSSIBLE ENGINE DAMAGE
Decelerate engine slowly to stop. Avoid choking the carburetor to stop engine. Choke only for an emergency stop.

2.13 OPERATING SAFETY

- Anyone who will be operating this tender, or working around it, must read this manual. They must know operating, maintenance, safety info.

  Review the manual annually.

- Clean or replace all safety decals if they cannot be clearly read and understood.

- Place all controls in neutral, and stop the engine. Remove the ignition key. Wait for all moving parts to stop before adjusting, repairing or unplugging.

- Keep all bystanders, especially children, away from the machine when running.

  Also, when authorized personnel are carrying out maintenance work.

- 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 equipment.

- Be familiar with machine hazard area. If anyone enters hazard areas, shut down machine immediately. Clear the area before restarting.

- Keep hands, feet, hair and clothing away from all moving/rotating parts.

- Do not allow riders on the tender when moving or transporting it.

- Keep working area clean and free of debris to prevent slipping/tripping.

- Stay away from overhead obstructions and power lines during operation and transporting. Electrocution can occur without direct contact.

- Do not operate the tender when any guards are removed.

2.14 REFUELLING SAFETY

- Handle fuel with care. It is highly flammable.

- Allow engine to cool for five minutes before refuelling. Clean up spilled fuel before restarting engine.

- Do not refuel the machine while smoking or when near open flame or sparks.

- Fill fuel tank outdoors.

- Prevent fires by keeping machine clean of accumulated trash, straw, grease, and debris.

2.15 HYDRAULIC SAFETY

- Always place hydraulic controls in neutral. Then relieve pressure in hydraulic system before maintaining or working on machine.

- Be sure that all components in the hydraulic system are kept in good condition and are clean.

- Replace any worn, cut, abraded, flattened or crimped hoses.

- Do not attempt any makeshift repairs to the hydraulic fittings or hoses by using tape, clamps or cements. The hydraulic system operates under extremely high-pressure. Such repairs will fail suddenly and create a hazardous and unsafe condition.

- Wear proper hand and eye protection when searching for a high-pressure hydraulic leak. Use a piece of wood or cardboard as backstop instead of hand to isolate/identify a leak.

- 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.

2.16 TRANSPORT SAFETY

- Lock the conveyor tube in transport position.
- Ensure that the trailer brakes are in good working order. Be familiar with their operation.
- Check that all the lights, reflectors and other lighting requirements are installed and in good working condition.

- Never allow riders on the tender.
- Be sure the trailer is securely hitched to the towing vehicle and a retainer is used through the hitch jaws. Always attach a safety chain between the hitch and the towing vehicle.
- Stay away from overhead power lines. Electrocution can occur without direct contact.

- Comply with all local laws governing safety and transporting of equipment on public roads.
- Do not exceed a safe travel speed. Slow down for rough terrain and when cornering.
- Plan your route to avoid heavy traffic.
- Do not drink and drive.
- Be a safe and courteous driver. Always yield to oncoming traffic in all situations, including narrow bridges, intersections, etc. Watch for traffic when operating near or crossing roadways.

2.17 STORAGE SAFETY

- Store in an area away from human activity.
- If required, make sure the unit is solidly blocked up.
- Remove the battery and store a in dry location. Do not sit it on a cold concrete floor.
- Make certain all mechanical locks are safely and positively connected before storing.
- Do not permit children to play on or around the stored machine.

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Section 3: OPERATION

⚠ WARNING

- Read and understand the Operator's Manual.
- Before servicing, repairing or unplugging; stop engine, remove ignition key and wait for moving parts to stop.
- Clear the area of bystanders, especially children, before starting.
- Do not allow riders on the tender.
- Keep hands, feet, hair and clothing away from all moving and/or rotating parts.
- Be familiar with the hazard area. If anyone unauthorized enters, shut down the machine immediately. Clear area before restarting.
- Do not operate machine with guards removed.
- Keep working area clean and free of debris to prevent slipping or tripping.
- Establish Lock-Out, Tag Out policy for work site. Ensure personnel follow all these procedures. Lock-out tag-out all power sources before servicing or working around equipment.

The Meridian® 405 SLD Seed Express™ Bulk Seed Tender® has many features incorporated into it as a result of suggestions made by customers like you.

Hazard controls and accident prevention are dependent upon the personnel operating and maintaining it. Their awareness, concern, prudence and proper training are crucial.

It is the responsibility of the owner and operators to read this manual and to train all personnel before they start working with the machine. By following recommended procedure, a safe working environment is provided for the operator, co-workers and bystanders in the area around the work site.

By following the operating instructions, in conjunction with a good maintenance program, your conveyor will provide many years of trouble free service.

3.1 MACHINE COMPONENTS

Seed can be loaded into the seed tender's compartments using two methods.

- The seed can be loaded into one of two compartments from a seed box or other means.
- The seed tender can also load itself using its conveyor.

A gas engine, mounted on the frame, powers the hydraulic pump. The pump operates the hydraulic motor for the conveyor and the control cylinders (raise, lower, and rotate the conveyor; open and close the slide gates).

The center-mounted conveyor transfers seed from the compartments into a planter or drill. Slide gates on the compartments control the flow of seed into the conveyor.

The main components are listed:

a. Compartment 1 (front of tender)
b. Compartment 2 (rear of tender)
c. Roll Tarp and Open/Close Bar
d. Control Panel inside box
e. Trailer (Bumper Hitch or Gooseneck)
f. Conveyor Tube (Transport Position)
g. Delivery Spout
h. Gas Engine and Hydraulic Pump
i. Hydraulic Reservoir
j. Hopper and Cover
k. Conveyor Tube Transport Lock
l. Pivot Platform
m. Compartment Slide Gates

Fig 4 - Tender components

3.2 COMPONENTS AND CONTROLS

Before starting to work, all operators should familiarize themselves with the location and function of the components and controls.

Options and their locations may vary.

Fig 6 - Control panel inside box

Fig 5 - Gas engine

Control Panel:
Start the engine, operate the conveyor, open the gates, and work the weigh scale, from the control panel.

a. Electrical System Key Switch:
   Turn the key clockwise to turn the electrical system ON. The key must be in the ON position for the engine to start. Turn the key counterclockwise to stop the engine and turn OFF the electrical system.

b. Engine Start Button (located in Control Box):
   Press and hold this button until the engine starts.
   - Set the choke lever on the engine when starting the engine.
   - Turn the key switch counterclockwise to turn OFF the engine.

Gas Engine:
Read the engine manufacturer's manual for more detailed instructions.

c. Choke Lever:
   Choke the valve for starting when the engine is cold. Open the choke as the engine warms.

d. Fuel Shut-Off Valve:
   Slide the fuel valve toward engine to turn ON.
   - ALWAYS close the valve OFF when not in use or before transporting.

e. Throttle Lever:
   Move the lever laterally to increase or decrease the RPM.

IMPORTANT:
Always run at maximum engine speed.

Starting Rope:
Grasp the T-handle firmly and pull the rope sharply to start the engine. Key on master control must be ON to pull-start.

Battery (12 Volt):
A 12 Volt battery supplies the power to start the engine. When the engine is operating a trickle charge is sent to the battery to keep it fully charged.

Hydraulic Oil Reservoir and Filter:
The oil reservoir and filter are positioned in the corner behind the engine.

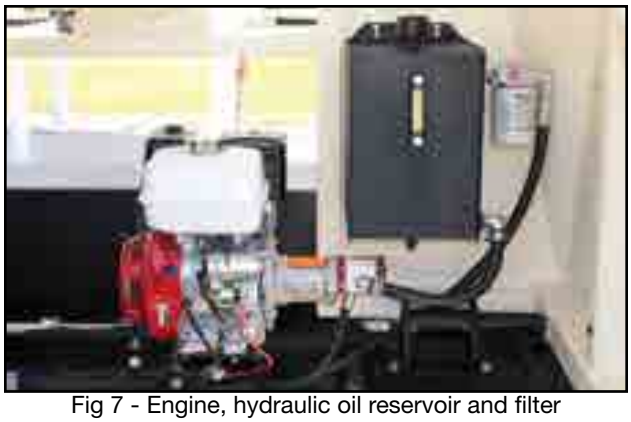
Fig 7 - Engine, hydraulic oil reservoir and filter

Conveyor Tube Rotation System:

Fig 8 - Conveyor tube rotating system

Conveyor Tube Transport Lock:
To move the conveyor tube, release the lock.

IMPORTANT:
Always lock the conveyor tube in transport position when not in use.

Fig 9 - Conveyor tube transport lock

Compartment Slide Gates:
Hydraulics are used to open and close the compartment gates.

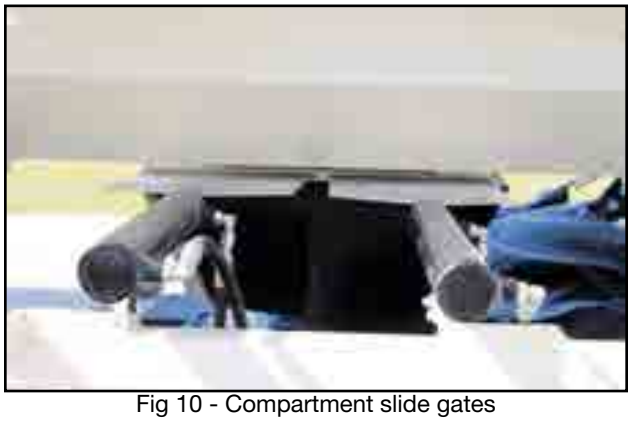
Fig 10 - Compartment slide gates

Delivery Spout:
The hydraulic drive for the conveyor belt is located at the discharge.

Fig 11 - Conveyor delivery spout

Roll Tarp:
Store the handle rod in the bracket at the rear of the tender. Always keep the compartments covered when not being filled.

Fig 12 - Roll tarp handle and ladder

Compartment Ladder:
The ladder in located on the right-side of the tender. Keep the ladder rungs clean to prevent a slipping hazard.

Tender Trailer:
The tender is available with a bumper hitch or gooseneck hitch trailer. Both trailers are equipped with a jack at the nose. It is important to lower the jack when using the tender to give stability.

All trailers are equipped with a Break-Away brake system. It is located near the nose.
See page 3-6 for more information.

Fig 13 - Gooseneck trailer

Fig 14 - Tongue on a bumper hitch trailer

Break-Away System:
A Break-Away Switch is installed on all trailers.

The control box contains LEDs to show the condition of enclosed battery. There is a Test button to check the battery level.

IMPORTANT:
Test the Break-Away Switch periodically. Removing the pin, then pull the trailer to feel if the brakes have engaged.

The cable attached to the Break-Away Switch pin, must go around the ball before coupling the trailer to the tow vehicle.

During transportation, if the trailer should detach from the transport vehicle, the pin will be pulled out engaging the trailer's brakes.

NOTICE

TRANSPORT HAZARD
Always secure the safety chains to the tow vehicle, in addition to the Break-Away Switch.

Fig 15 - Break-Away system control box

Fig 16 - Break-Away cable on hitch tongue

3.3 CONTROL PANEL FUNCTIONS

The MEGA REMOTE system is a state-of-the-art microprocessor based Radio Frequency (RF) control system. It provides the operator the ability to operate the seed tender from the remote control handset or the control panel.

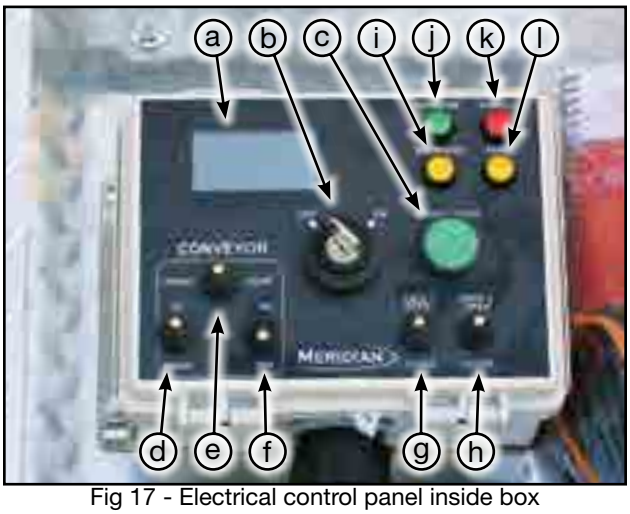

Fig 17 - Electrical control panel inside box

Note:
The controls on this panel are intended to be used only as a backup resource. All of the functions of the seed tender can more easily be controlled using the handset.

a. LCD Display:
Turning key switch (b) to the ON position will turn the LCD backlight ON. It will stay on until the key is turned to the OFF position.

b. On/Off Key Switch:
This key switch controls the power to the electrical system. Turn the key clockwise to turn the electrical system ON. The key must be in the ON position for the engine to start or the handset to function. Turn the key counterclockwise to turn OFF the electrical system.

c. Starting the Engine:
Press and hold this button until the engine starts. Also set the choke lever on the engine when starting the engine. Turn the key counterclockwise to turn OFF the engine.

d. Conveyor Up and Down:
This switch raises and lowers the conveyor. Press the switch UP to raise the conveyor. Press the switch DOWN to lower the conveyor.

e. Conveyor Swing Front and Swing Rear:
This switch positions the conveyor to the right or left. Press the switch to the LEFT to position the conveyor towards the front of the unit. Press the switch to the RIGHT to position the conveyor towards the rear of the unit.

f. Conveyor Start and Stop:
This toggle switch starts and stops the conveyor belt. Press the toggle switch UP to start the conveyor. Press the toggle switch DOWN to stop the conveyor.

g. Slide Gate 1:
This switch opens and closes the slide gate at the bottom of the compartment 1. Press and hold the switch UP to open the slide gate; press and hold the switch DOWN to close the slide gate. The opening can be varied to provide the desired flow rate of seed onto the conveyor belt.

h. Slide Gate 2:
This switch opens and closes the slide gate at the bottom of compartment 2. Press and hold the switch UP to open the slide gate; press and hold the switch DOWN to close the slide gate. The opening can be varied to provide the desired flow rate of seed onto the conveyor belt.

i. Decrease:
Decreases the weight when setting the Weight to Dispense function.

From the Main Display screen, to darken the LCD display contrast press the Increase button.

Press and hold both the Increase and Decrease buttons simultaneously for ten seconds to enable or disable the display screen.

j. Increase:
Increases the weight when setting the Weight to Dispense function.

From the Main Display screen, to lighten the LCD display contrast press the Increase button.

Press and hold both the Increase and Decrease buttons simultaneously for ten seconds to enable or disable the display screen.

k. Scroll:
Press the scroll button to scroll between the various display pages.
- Main Display screen (shows weight)
- Weight To Dispense screen (shows amount of seed that will be delivered to planter)
- Active Slide Gate screen
- Auto Reset screen

l. Tare:
To "Tare" or zero the scale when the control panel receiver display is on the main display page showing the weight, press and hold the Tare push button on either the handset or the control panel for three seconds. The display will then show the weight as zero.

ENABLE/DISABLE DISPLAY:
Hold both INCREASE and DECREASE push buttons on the control box simultaneously for 10 seconds to enable or disable the display.

BAR PAGE:
On the BAR PAGE where all weights are shown separately, holding down the TARE button on the control box for 10 seconds will zero the reading for all the bars.

3.3.1 Setting Weight to Dispense:

1. Select the Weight To Dispense screen using scroll button (k).

2. Press and hold Tare button (l) for five seconds.

3. The first character of the weight will start blinking.

4. Use the Increase (j) or Decrease (i) buttons to select the appropriate number.

5. Use the Scroll button to move to the next digit. Use the Increase (j) or Decrease (i) buttons to select the appropriate number. Repeat this until the desired weight has been entered.

6. Finally, holding the Tare button (l) for another five seconds to save the new weight.

Note:

The weight of the seed is calculated when it is inside the compartments and as it flows through the slide gates. Any seed in the seed pan or the conveyor has already been weighed and does not affect the total weight.

3.3.2 Setting Active Slide Gate:

1. Select the Active Slide Gate screen using scroll button (k).

2. Use the Increase/Decrease buttons to set the slide gate to either #1 or #2.

3. When the Auto Reset button is pressed on the handset, the slide gate selected will open automatically.

3.3.3 Auto Reset Function:

1. Using the Weight To Dispense screen, select the desired weight of seed to be delivered to the planter.

2. Using the Active Slide Gate screen, select either compartment 1 (Slide Gate 1) or compartment 2 (Slide Gate 2).

3. Press the Auto Reset button on the handset. The unit monitors the weight of seed being dispensed. As the weight approaches the desired Weight To Dispense, the slide gate will begin to close. If the weight stops changing too soon, the unit will open the slide gate slowly in order to get the desired amount.

3.3.4 Control System Compliance Information:

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference. This equipment generates radio frequency energy and if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to the reception of other electronics, which can be determined by turning the equipment off and on, DO NOT operate this equipment around those devices.

This equipment has been certified to comply with the limits for a Class B computing device, pursuant to FCC Rules. In order to maintain compliance with FCC regulations, shielded cables must be used with this equipment. Operation with non-approved equipment or unshielded cables is likely to result in interference to electronic device reception. The user is cautioned that changes and modifications made to the equipment without the approval of the manufacturer could void.

3.4 REMOTE CONTROL SYSTEM

Each radio remote control handset transmitter is designed to operate with a unique radio ID code and RF channel sequence. Each control panel receiver is programmed to respond only to the handset transmitter with the correct ID code/ RF channel sequence for which it is set. This feature allows multiple systems to work in close proximity to one another without interference.

If the handset goes out of range for more than two seconds, all outputs except CONVEYOR will turn off as a safety feature.

In the event that the handset becomes damaged and a new one is needed, the control panel receiver can be reprogrammed to respond to the new control. Refer to Section 4.3.9 (Page 4-11)

All of the normal functions of the seed tender can be controlled by the remote control handset.

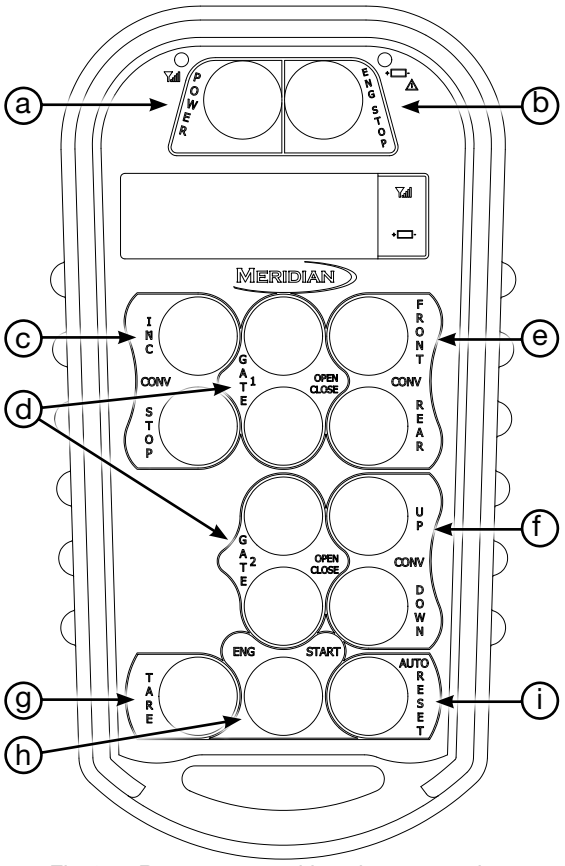

Fig 18 - Remote control handset transmitter

3.4.1 Functions of Handset Buttons:

Use the buttons on the control to operate the functions of the seed tender.

a. POWER:
Press Power button (a) to turn ON the handset. Press and hold the button to turn it OFF.

To save battery life, the handset will automatically turn off when it is idle (no functions are used) for a period greater than the sleep time (default is 15 minutes). Refer to Section 4.3.10 (Page 4-11) to change the sleep time.

Note:
The remote control handset will NOT automatically shut off as long as the control panel receiver has power applied to it.

b. ENG STOP:
Stop the engine with this button.

c. CONV - INC/STOP:
These Conveyor buttons start and stop the conveyor belt.

The conveyor has 3 speeds. Press the INC button once to start the conveyor at low speed. Press the button again for medium speed, and a third time for high speed. The fourth time will return to low speed.
Note: The conveyor will start at the last speed used once stopped, always return conveyor belt speed to low before stopping.

d. GATE 1 and GATE 2:
The Slide Gate buttons open and close the slide gates at the bottom of compartment 1 and 2. Hold either button to fully open or fully close. Release the button when the desired amount of product flow is achieved.

e. CONV - FRONT/REAR:
These Conveyor buttons swings the conveyor tube around the driver side. Press the FRONT button to move the conveyor towards the hitch. Press the REAR button to move the conveyor rearward.

f. CONV - UP/DOWN:
These Conveyor buttons raise and lower the conveyor tube. Press the UP button to raise and the DOWN button to lower the conveyor.

g. TARE:
The Tare button will reset the scale to zero in order to measure only the content being added to one compartment without measuring the weight of the seed tender itself. This allows an exact measurement of the seed to be placed in the compartment.

h. ENG START:
Start the engine with this button.
Note: If the engine has not been started recently set the choke to ON.

i. AUTO RESET:
Pressing the AUTO RESET button on the handset will dispense the Weight To Dispense out the selected gate. The gate that was selected in the Active Gate screen will open in #s. The unit will monitor the weight being dispensed. As the weight approaches the desired Weight To Dispense, the gate will begin to close. If the weight stops changing too soon, the unit will open the gate slowly in order to get the desired amount.
   i. The auto reset mode does not turn the conveyor ON. The desired speed for the conveyor should be set manually.
   ii. If the remote control is in the middle of auto dispense mode and the handset goes out of range, the unit will close all open gates regardless the status of dispensing.
   iii. If the remote goes into the sleep mode during the auto dispense mode, the unit will abort the auto dispense mode and close the active gate.
   iv. Pressing any of the gate function buttons on the handset will close the active gate and stop the auto dispense mode.
   v. If, during the auto dispense mode, the POWER button is pressed, the active gate will close.

3.4.2 Handset Display Panel:

(1) Weight Displayed in Pounds.
(2) Signal Strength.
(3) Percentage of Battery Life.

3.4.3 Handset Display Messages:

Pressing the POWER button turns the remote control handset transmitter ON and displays the message "Meridian Mega Remote".

If the "NO LINK" message appears, the remote control handset is not communicating with the control panel on the seed tender. Make sure the ON/OFF key switch is in the ON position.

The handset will display the WEIGHT of the seed in the seed compartments in pounds. It also displays the battery life of the two AA batteries in a percentage of remaining life.

When the POWER button is pressed and held, the message "Transmitter is turning OFF" will be displayed.

3.5 MACHINE BREAK-IN

A special break-in procedure has been developed to ensure the integrity of the seed tender when first put into service. Follow the Before Starting instructions and then follow the Inspections for 1/2, 5, and 10 hour instructions at the appropriate interval.

After completing these instructions, follow the normal service schedule in the Maintenance and Service sections and the engine manual.

Before Starting Work:

1. Read and follow the instructions in this manual, and the engine manual.
   - Read the Pre-Operation Checklist.

2. Check wheel bolt torque and then again at 10, 25, and 50 miles.
   - Refer to Section 6.2 Bolt Torque.

3. If needed, adjust the height of the gooseneck hitch assembly. Refer to Section 3.7.2

4. Start the engine and check the controls. Be sure that they function properly.

After Operating for 1/2, 5, and 10 Hours:

5. Check the machine fluid levels.
   - Refill as necessary.

6. Check the tension and alignment of the conveyor belt.

7. Check hardware and fasteners; frame to trailer tie-downs, all fasteners, and wheel bolts. Tighten to their specified torque.

8. At 10 hours, change the engine oil.
   - Check engine manual for the specified oil.

3.6 PRE-OPERATION CHECKLIST

Efficient and safe operation of this Meridian® Bulk Seed Tender® requires that each operator reads and follows the operating instructions and all related safety precautions identified in this manual.

This pre-operational checklist is provided for both personal safety and to maintain the efficient operation of the tender. Check the following areas, each time, before you operate this tender:

1. Lubricate the machine.
   - Refer to Service and Maintenance section.

2. Check the engine oil and fuel levels.
   - Add, if required.

IMPORTANT:
The engine warranty is void
if the engine is run without oil.

3. Check hardware and fasteners; seed tender frame to trailer tie-downs, hitch bolts, trailer hitch to trailer bolts, and all other fasteners. Tighten to their specified torque.

4. Make sure the wheel bolt lug nuts are tight.

5. Check the tires to be sure that they are inflated to their specified pressure.

6. Remove all entangled material.

7. Visually inspect the conveyor tube, conveyor belt, and delivery spout for damage.

8. Test the Break-Away brake unit and the trailer brakes.
   a. Make sure the trailer brakes are operating properly.
   b. Be sure the trip wire to the break-away switch is connected to the tow vehicle.
   c. Make sure the pin is correctly installed in the break-away switch.
   d. Press the Test button to see if the indicator illuminates green.
      - If the red light illuminates, the battery charge is low.
      - Recharge the battery.

9. Check the fluid level in the hydraulic tank.
   - Add fluid as needed.

10. Check the tension of the conveyor belt.
    - Follow the instructions in the manual to adjust the tension.

11. When the conveyor belt is rotating, check its alignment.
    - Adjust as necessary.

3.7 ATTACHING TO TOW VEHICLE

⚠ WARNING

UPENDING HAZARD
Do not stand over hitch when unhooking the trailer from the tow vehicle.
Load compartment 1 (closest to hitch) first to keep weight on the hitch.
Unload compartment 2 first to keep weight on the hitch.

⚠ WARNING

CRUSHING HAZARD
Ensure that all bystanders, especially small children, are clear of work area.
Ensure there is enough room and clearance to safely back up to the machine.

IMPORTANT:
Conveyor tube must be locked in transport position at all times while towing.

1. Complete the Pre-Operation Checklist.

3.7.1 Bumper Hitch Trailer:

2. Use the trailer jack to lift the hitch above the height of the receiver on the tow vehicle.
3. Slowly back the tow vehicle until the hitch and ball are aligned.
4. Lower the hitch onto the ball.
5. Raise the jack and place it in its stowed position.
6. Release the latch to lock the hitch around the ball
   - Install retainer clip to secure connection.

Compartment 1 (closest to hitch) Compartment 2 (rear of tender)

Fig 19 - Compartment position identification

Fig 20 - Conveyor tube transport lock

Fig 21 - Trailer hitch with safety chains

7. Attach the safety chain securely to the tow vehicle to prevent unexpected separation.
   - Cross the chains when attaching.

8. Connect the wiring harness for the lights and brakes.

9. Connect the break-away system cable to the tow vehicle.
   - Plug the key on the end of the cable into the receiving unit.

10. Route all the cables in a manner that will prevent snagging.
    - Be sure to provide slack for turning.

Fig 22 - Break-Away cable

3.7.2 Gooseneck Hitch Trailer:

⚠ WARNING

CRUSHING HAZARD

The adjustable height tube in Figure 25 is very heavy and can cause severe injury if it falls free. Once the lock bolt is loosened and the hitch pin is removed, the tube is free to fall to the ground if not properly supported.

1. Adjust the trailer jack to set the trailer in a level position.

2. Loosen lock bolt (a) on the adjustable height tube. Remove the keeper pin (b) and remove the tube lock pin (c). See Figure 25

3. Adjust the tube height for the tow vehicle which would keep the trailer in a level position.

4. Reinstall the pin and keeper.
   - Tighten the tube lock bolt.

5. Raise the gooseneck ball hitch to go over the lowered tailgate of the tow vehicle and to clear the height of the gooseneck ball.

Fig 23 - Gooseneck hitch

Fig 24 - Gooseneck trailer jack

Fig 25 - Gooseneck hitch components

6. Open the clamp latch on the gooseneck coupler.

7. Position the trailer's coupler directly over the ball in the bed of the tow vehicle.

8. Lower the gooseneck trailer into position and latch the clamp.

9. Attach the safety chains.

10. Connect the trailer light wiring to your vehicle's connector and check all of your lights, including your brake lights.

11. Completely raise the trailer jack to the storage/transport position.

Fig 26 - Gooseneck trailer coupler

3.8 ROLL-UP TARP

1. Remove the retaining pin from the crank holder. Using both hands, carefully remove the crank from the holder.

2. Extend the crank handle assembly to a comfortable operating position.

3. Roll the tarp to the fully opened position.

4. Place the crank back in the holder and reinsert the pin.

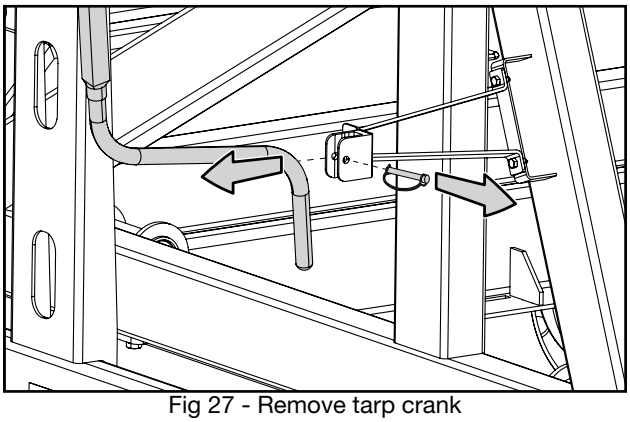

Fig 27 - Remove tarp crank

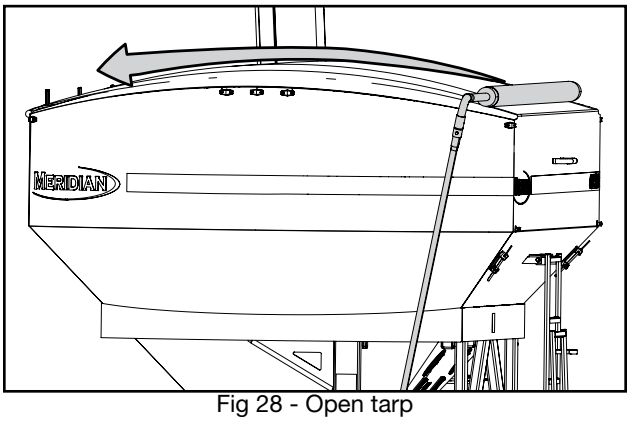

Fig 28 - Open tarp

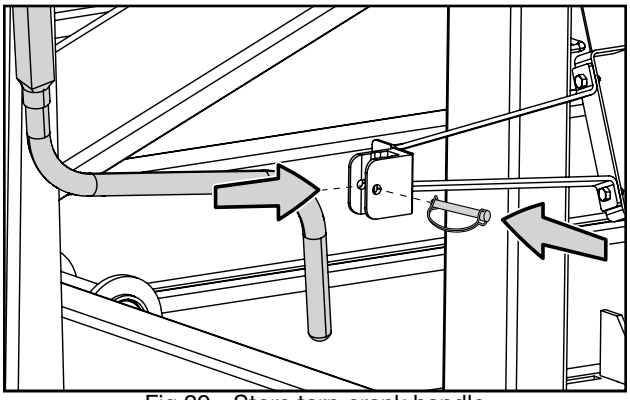

Fig 29 - Store tarp crank handle

3.9 CONVENTIONAL LOADING

NOTICE

UPENDING HAZARD
Tender must be connected to tow vehicle at all times during operation to avoid tipping backwards.

⚠ WARNING

UPENDING HAZARD
Always load the front seed box first to maintain a positive tongue weight. Negative tongue weight can cause the hitch to rapidly swing upward if not securely fastened to the tow vehicle, which can result in personal injury.

1. Connect the seed tender to a tow vehicle of sufficient size to safely transport it.

2. Before loading the seed tender:
   - Make sure the two slide gates are fully closed.
   - Be sure the sample slide gate are closed.

3. Open the roll tarp.

4. Fill the front seed compartment first to maintain a positive tongue weight.

Note:
A sample slide gate, is in each compartment, to retrieve samples.

5. Close the roll-up tarp and secure the handle in the storage position.

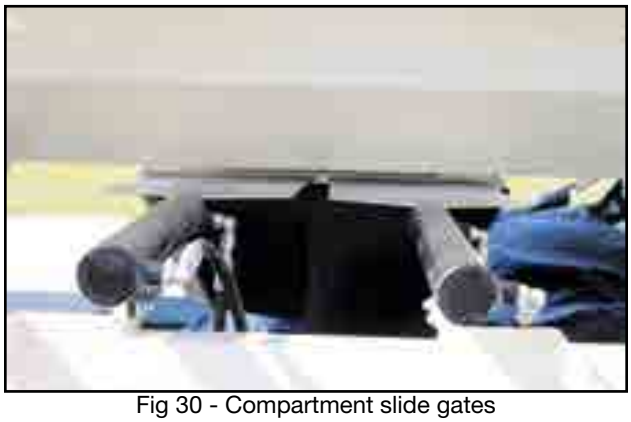

Fig 30 - Compartment slide gates

Fig 31 - Use remote control handset

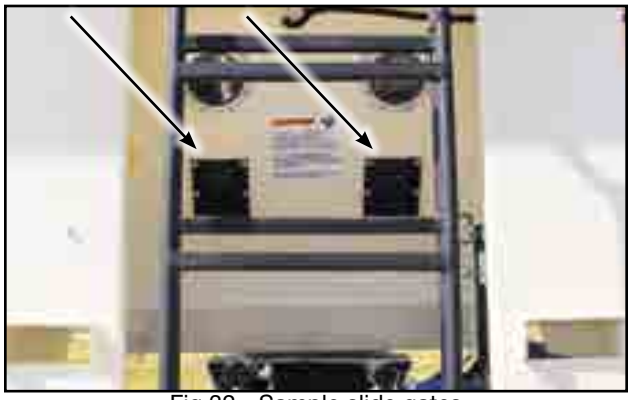

Fig 32 - Sample slide gates

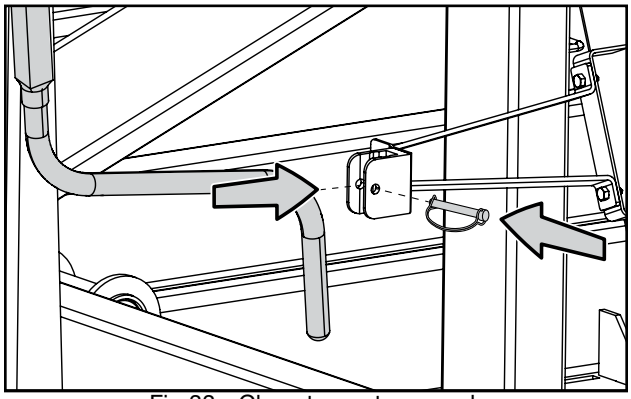

Fig 33 - Close tarp, store crank

3.10 SELF-FILL LOADING

Using the self-filling feature, the compartments can be loaded with the seed tender's conveyor from a storage box, storage bin, grain truck, or other means.

1. Unlatch the conveyor arm from the transport position.

Fig 34 - Unlatch the conveyor arm

2. Remove the protective cover from the seed pan and hopper.
   - It may be necessary to lower the hopper in order to remove the cover.

Fig 35 - Protective cover

3. Turn ON the control system.

4. Start the engine.
   - Once warm, move throttle lever to run the engine at full speed.

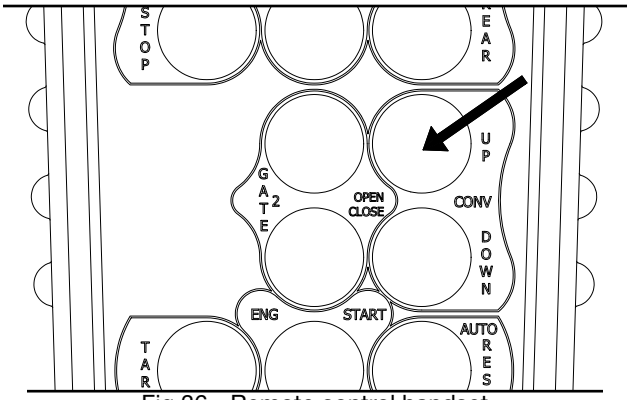

Fig 36 - Remote control handset

5. Slightly raise the conveyor from the transport position.
   - Use the handset or control panel.

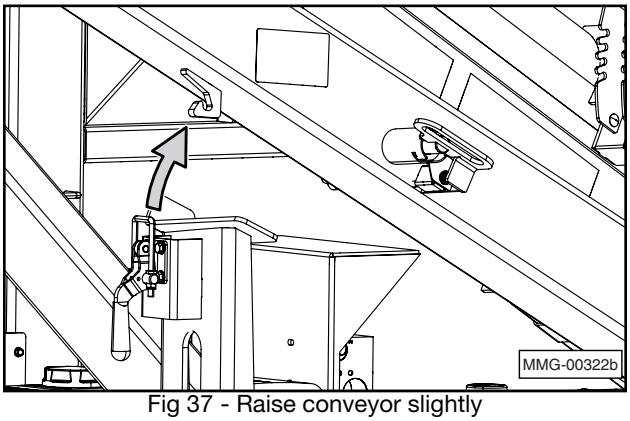

Fig 37 - Raise conveyor slightly

NOTICE

The indicator mark and the alignment plate must be aligned for the conveyor arm locking pin to engage.

- This pin locks the inner and outer tubes of the conveyor arm together.
- These two tubes must be locked together before releasing the conveyor hitch receiver (ball coupling).
- If tubes are not locked together, the inner tube will slide down inside the outer tube and will not come out of the ball catch.

⚠ DANGER

ELECTROCUTION HAZARD
Keep away from power lines.

- Be aware of your surroundings when raising or lowering the auger tube.
- Maintain at least 20 feet between the equipment and any electrical hazard.
- Contact with electricity can result in serious personal injury or death.

6. Swing the conveyor.

7. Align the triangular indicator on the conveyor pivot plate with the alignment plate on the frame, as shown.

8. To lock the conveyor arm tubes together, pull the handle of the lock pin outward slightly and rotate it 90° counterclockwise.

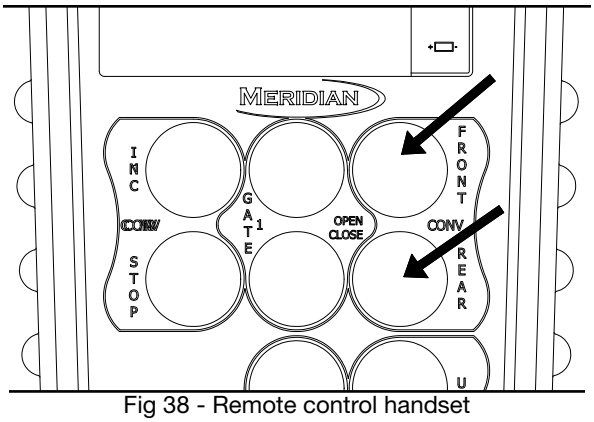

Fig 38 - Remote control handset

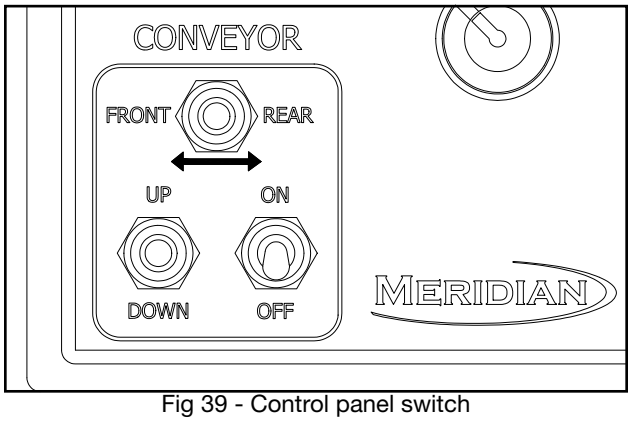

Fig 39 - Control panel switch

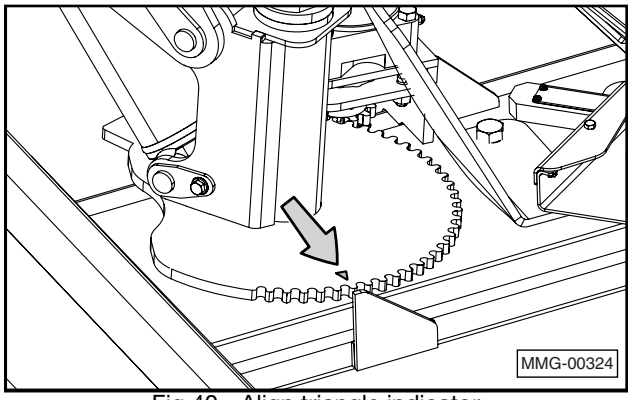

Fig 40 - Align triangle indicator

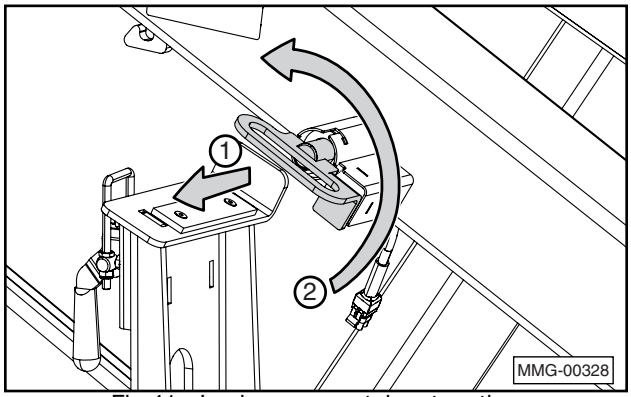

Fig 41 - Lock conveyor tubes together

9. Release and push the lock pin inward to lock the inner and outer tubes of the conveyor arm together.
   - Make sure the pin is fully engaged.

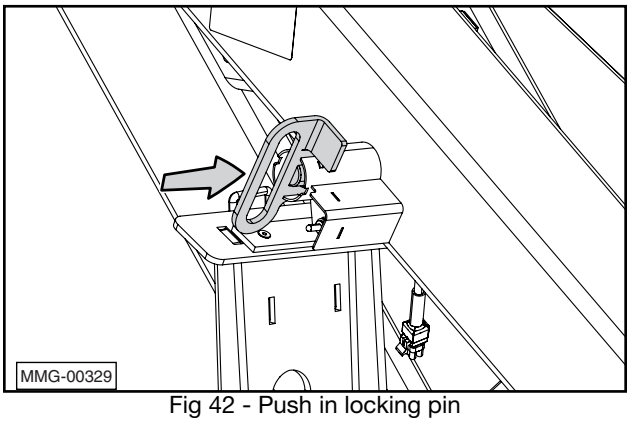

Fig 42 - Push in locking pin

10. Once the tubes are locked together, rotate hopper guide handle 90°.
    - See illustration for the correct position.

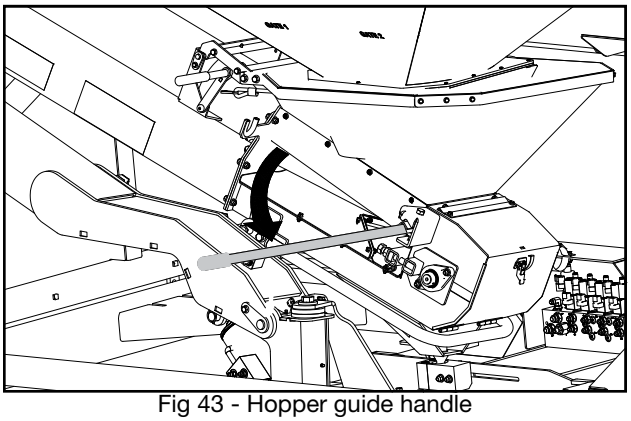
Fig 43 - Hopper guide handle

11. Use the toggle switch on the handle to operate the actuator that opens and closes the hitch receiver.
    - Press and hold the toggle switch downward to open.
    - Refer to decal #10379 for instructions.

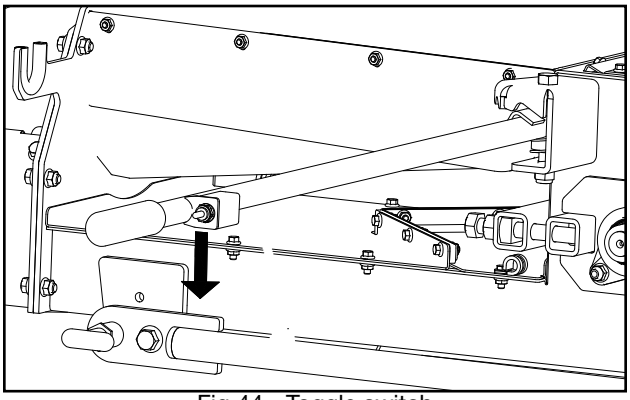
Fig 44 - Toggle switch

12. Slide the ball coupling out of the conveyor hitch receiver.

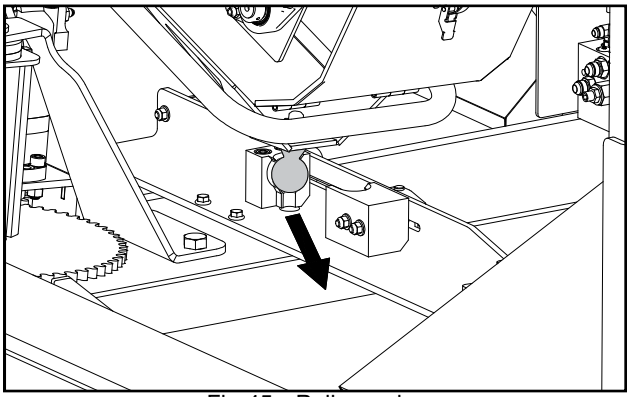
Fig 45 - Ball coupler

⚠ WARNING

CRUSHING HAZARD

If two people are positioning the conveyor arm; one at the controls, the other holding the arm, be extremely careful to prevent a crush hazard. DO NOT place any part of your body between stationary and moving parts.

13. When the ball coupling is free of the conveyor hitch receiver:
    - Lift the bottom of the conveyor arm over the fender
    - Hold it off the ground until it is in its final position.

14. Use the conveyor FRONT or the conveyor REAR buttons (switches) to position conveyor arm into the desired position.

Fig 46 - Moving conveyor tube

Fig 47 - Rotate conveyor tube

15. If desired, release the stand lock pin and rotate the stand downward. Engage the lock pin when the stand is fully extended.

16. Raise the hopper canvas by pushing the handlebar forward. The canvas frame will lock into place when the handle has reached the end of the rail.

Fig 48 - Raise hopper canvas

⚠ CAUTION

PERSONAL INJURY HAZARD
Do not use the conveyor
if the guard has been removed.

⚠ WARNING

UPENDING HAZARD
Always load the front seed box first to maintain a positive tongue weight. Negative tongue weight can cause the hitch to rapidly swing upward if not securely fastened to the tow vehicle, which can result in personal injury.

17. Start the conveyor belt.
    - Run the belt at the desired speed by using the INC button on remote control handset.

IMPORTANT:
Do not open the slide gates when the conveyor is in the self-filling position.

18. Begin filling the conveyor hopper to fill the seed tender.

19. When the seed tender is full, stop the conveyor belt

20. Lower the hopper canvas frame.

21. Raise the stand.

22. Return the conveyor arm to the storage position:
    - Rotate the arm to align the triangular indicator on the conveyor pivot plate with the alignment plate on the frame.

23. Guide the ball coupling into conveyor hitch receiver.
    IMPORTANT: Be sure ball coupling is free of dirt and debris before placing it into the receiver.

Fig 49 - Hopper guard

Fig 50 - Tender in self-filling position

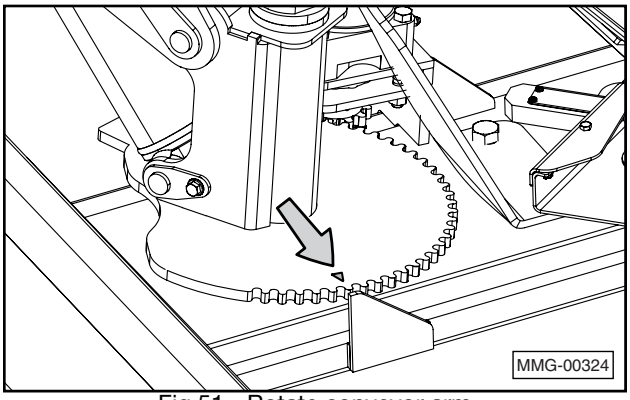

Fig 51 - Rotate conveyor arm

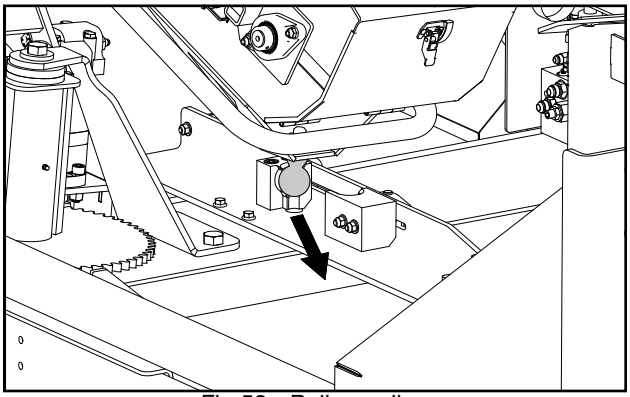

Fig 52 - Ball coupling

24. Press and hold the toggle switch upward to lock the ball coupling into the conveyor hitch receiver.

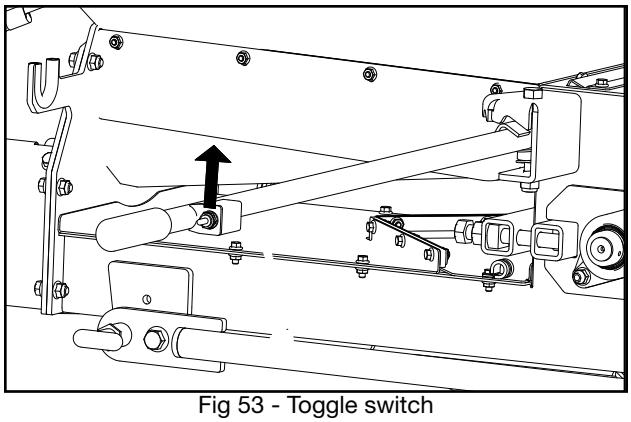

Fig 53 - Toggle switch

25. Pull out the locking pin and rotate 90° clockwise.
    - Release the locking pin and make sure it is firmly seated in the open position.

26. Rotate conveyor to the transport position.

27. Lower the conveyor arm onto transport support and lock into place with latch.

28. Close the roll-up tarp.
    - Secure the handle in the storage position.

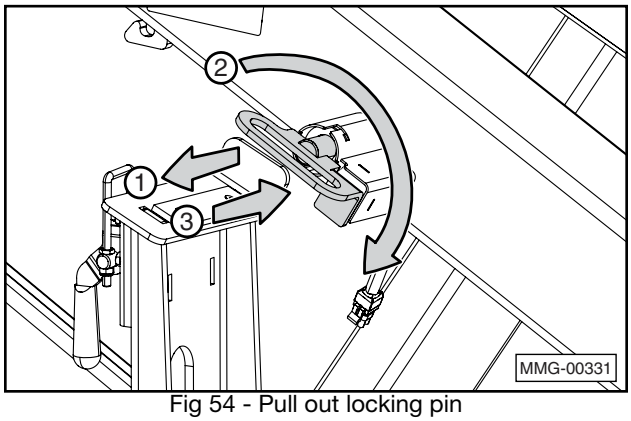

Fig 54 - Pull out locking pin

IMPORTANT:
Do not move the tender unless conveyor is locked in the transport position.

⚠ DANGER

ELECTROCUTION HAZARD
Be observant of overhead power lines and other electrical hazards.

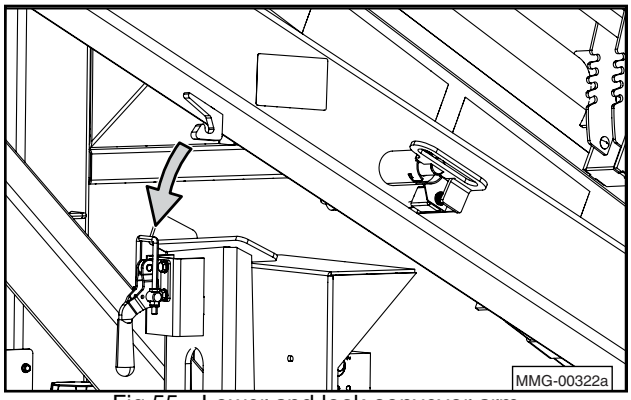

Fig 55 - Lower and lock conveyor arm

29. Drive the tender to the planting equipment following all safe towing practices.

Note:
Use sample slide gates to retrieve samples of the seed from the compartment.

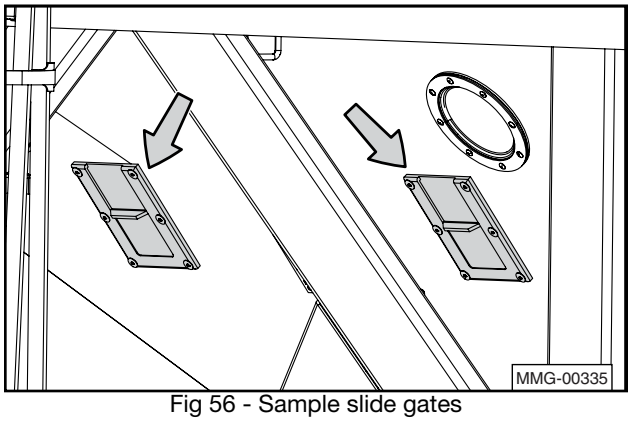

Fig 56 - Sample slide gates

3.11 DELIVERING SEED TO PLANTER

⚠ DANGER

ELECTROCUTION HAZARD

Keep away from power lines.

- Be aware of your surroundings when raising or lowering the auger tube.
- Maintain at least 20 feet between the equipment and any electrical hazard.
- Contact with electricity can result in serious personal injury or death.

⚠ WARNING

UPENDING HAZARD

Always unload compartment 2 first to maintain a positive tongue weight. Negative tongue weight can cause the hitch to rapidly swing upward if not securely fastened to the tow vehicle, which can result in personal injury.

1. Before unloading, shut off engine on the tow vehicle, set the parking brake, and remove the ignition key.

2. Remove the protective cover from the hopper.

3. Turn the control panel key switch to ON.

4. Start the engine:
   a. Move the fuel valve lever to the ON position.
   b. To start a cold engine, move the choke lever to the CLOSED position.
   c. Turn the key switch to the START position. Release the key when the engine ignites.

5. Allow the engine to warm up for two to three minutes.
   - Gradually open the choke as engine warms.

6. Move the throttle lever to run the engine at full speed.

Fig 57 - Protective cover on hopper

Fig 58 - Unlatch the conveyor arm

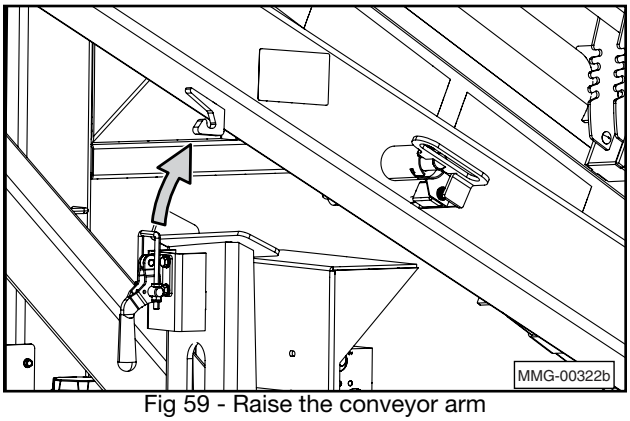

Fig 59 - Raise the conveyor arm

7. Unlatch the conveyor arm.

8. Raise the conveyor out of the transport position.

9. Position the conveyor spout over the planter's seed box.

10. Position the canvas hopper to prevent seed from spilling.
    - Make sure the handle is locked into the desired position before opening the seed compartment slide gate.

11. Manually start the conveyor, or use the Auto Reset feature to automatically dispense a preselected amount of seed.
    - Refer to Section 3.3.3 Auto Reset Function.

12. Open the slide gate on either compartment.

Note:
The button and/or switch is only activated while pressed and held. The flow of seed can be controlled by the amount the slide gate is opened.

13. When the planter is filled, close the slide gate and then stop the conveyor belt.

14. Return the conveyor to the transport position and latch before moving the seed tender.

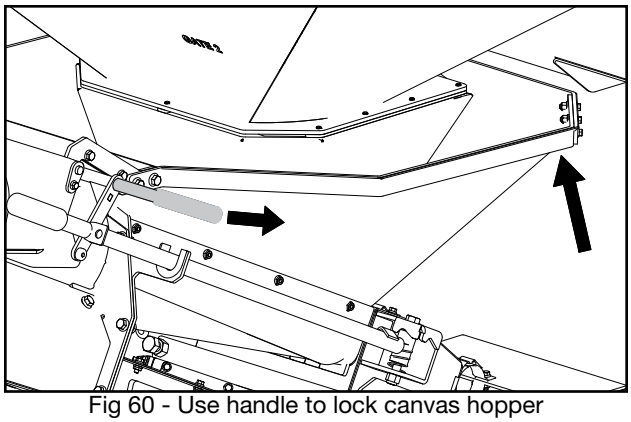

Fig 60 - Use handle to lock canvas hopper

Fig 61 - Fill Seeder

Fig 62 - Open/close gates

Fig 63 - Control box gate buttons

3.12 UNPLUGGING

⚠ WARNING

ENTANGLEMENT HAZARD

- Do not operate with access door open.
- Do not place hands or fingers near rotating or moving parts.
- Do not operate without guard.
- Stop engine and remove key, before working on the machine.

NOTICE

Do not operate the conveyor when:

- It is plugged with excess seed
- Hindered from moving by a foreign object.

Continued operation can cause damage to conveyor or result in a broken conveyor belt.

Fig 64 - Conveyor tube access door

If the conveyor tube becomes plugged:

1. Position the conveyor for easy access to both ends.
2. Stop the engine and remove the ignition key.
3. Lock-Out, Tag-Out the tender control panel inside the box.
4. Open the lower access door at the base of the conveyor.
5. Remove the spout to gain access if needed.
6. Clean out seed and remove any obstruction.
7. Close and secure the access door.
   - Reattach the spout.

Note:
In some extreme case it may be necessary to remove the galvanized belt guards and/or the belt itself.

3.13 STORAGE

SAFETY INSTRUCTIONS

PERSONAL INJURY HAZARD

- Store the tender in an area away from human activity.
- Do not permit children to play on or around the stored machine.
- Store the unit in a dry, level area. Support the frame with planks, if required.

After the season's use or when it will not be used for an extended period of time, the tender should be inspected and prepared for storage.

Repair or replace any worn or damaged components to prevent unnecessary downtime at the beginning of the next season.

To have a long, trouble-free life, follow these instructions:

1. Remove all product from the compartments and inside the conveyor tube.

2. Inspect all moving or rotating parts and remove any entangled material.

3. Close the engine Fuel Shut-Off valve.

4. Remove the ignition key and store in a secure place.

5. Remove the battery.
   - Be sure it is fully charge, check monthly.
   - Store it inside.
   - Do not sit battery on a cold, concrete floor.

6. Thoroughly wash the tender to remove all dirt, mud, debris and residue.
   - Wash around the tender and inside the compartments.
   - Clean inside the conveyor tube, and belt.

7. Lubricate all grease fittings and conveyor belt roller bearings.

   Make sure that all grease cavities have been filled with grease to remove any water residue from the washing. This also protects the bearing seals.

8. Touch up paint nicks and scratches to prevent rusting.

9. Close the roll tarp to protect the compartments.

10. Store the tender inside if possible.
    - If it must be outside, cover with a waterproof tarp and tie down securely.

11. If the tender is not attached to a trailer, support the frame with planks to raise the unit off the ground.

Removing From Storage:

When removing the tender from storage, in preparation for work:

12. Remove the tarp, if covered.

13. Install and connect the battery.

14. Review and follow the Pre-Operation Checklist.

15. Review and follow the Service Intervals in the Maintenance section.

IMPORTANT:

If the machine has been stored for more than twelve months, warm the engine by running it for two to three minutes. Then drain the oil. Change the oil while the oil is warm to remove any condensation.

Section 4: SERVICE AND MAINTENANCE

⚠ WARNING

- Review the Operator's Manual and all safety items before maintaining the tender.
- 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.
- Lock-Out, Tag-Out tender operation.
- Clear the area of bystanders, especially children, before repairing or adjusting.
- Keep hands, feet, hair and clothing away from all moving and/or rotating parts.
- Before servicing, repairing or unplugging; stop engine, remove ignition key and wait for moving parts to stop.
- Ensure there is plenty of ventilation. Never operate the engine in a closed building. The exhaust fumes may cause asphyxiation.
- Place stands or blocks under frame before working beneath the unit.
- When maintenance is complete, before resuming work, install and secure all guards.
- Keep safety decals clean. Replace any decal that is damaged or not readable.

By following the operating instructions, in conjunction with a good maintenance program, your tender will provide many years of trouble free service.

Original Equipment Manufacturer (OEM) literature, for components of this tender, are stored in the document holder, attached to the tender frame. For more specific information contact the manufacturer directly.

4.1 FLUIDS AND LUBRICANTS

Fuel and Engine Oil:
Refer to the engine manual for specific information:
- Fuel tank capacity: 6.4 US quarts (6.1 liters)
- Crankcase: 1.16 US quarts (1.1 liters)

Grease:
Use an SAE multipurpose high temperature grease with extreme pressure (EP) performance. Also acceptable, SAE multipurpose lithium based grease.

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.

4.1.1 Greasing:

NOTICE

GREASING HAZARD
Too much grease causes excessive overheating.
Under-greasing accelerates equipment wear.

No grease should be seen around bearings.
If there is, too much grease was applied
and the seal has ruptured!

IMPORTANT:
Grease bearings only one pump per month under normal usage conditions.

Bearing greasing frequency should be determined by usage and conditions.

1. Use a hand-held grease gun for all greasing.

2. Wipe grease fitting with a clean cloth before greasing, to avoid injecting dirt and grit.

3. All bearings are greasable, but require only minimal grease.
   - Recommended greasing is one small stroke every month. Be careful not to over-grease as this may push the seal out.

4. Replace and repair broken fittings immediately.

5. If fittings will not take grease, remove and clean thoroughly. Also clean lubricant passageway. Replace fitting if necessary.

4.2 SERVICING INTERVALS

The following recommended periods are based on normal operating conditions. Severe or unusual conditions may require more frequent lubrication and oil changes.

Schedules may vary depending on options and engine model contained in your equipment.

⚠ WARNING

FIRE HAZARD
Gasoline is a highly combustible fuel.
Improper use, handling, or storage of gasoline can be dangerous.
Never touch or fill a hot engine.

- DO NOT fill fuel tank near an open flame, while smoking or while engine is running.
- DO NOT fill tank in an enclosed area with poor ventilation.
- Wipe up spills immediately.

IMPORTANT:
Refer to the engine manual for complete servicing and maintenance details.

The axle is built by Dexter Axle Company. Refer to their online maintenance information.

Fig 65 - Engine air filter

4.2.1 Every 10 Hours or Daily:

1. Check engine oil level
   - Fill as needed.
2. Check engine fuel level.
   - Add as needed.
3. Check hydraulic oil level.
   - Add as needed.
4. Test trailer break-away system.
5. Inspect tires.
6. Check wheel bolt torque at 10, 25, and 50 miles.
7. Check conveyor belt tension and alignment.
8. Inspect all conveyor belt rollers and bearings for play and wear.
9. Check remote control handset battery life.

4.2.2 Every 50 Hours or Weekly:

10. Clean or replace the engine air filter element.
    - Clean or replace the foam filter.
    - Replace the paper air filter, as required.
11. Check the tire pressure. Inflate tires to the recommended pressure stated on the tire.
12. Clean handset with a damp cloth and mild detergent.
13. Inspect the hydraulic drive coupler.
14. Change engine oil.

4.2.3 Every 100 Hours or Monthly:

15. Grease conveyor belt roller bearings.

16. Grease the hydraulic cylinders.

17. Grease the conveyor arm gears and movement locations.

18. Check wheel nuts.
    - Torque to 90-120 ft-lb

19. Adjust the trailer brakes.

20. Inspect tires for wear.

21. Grease the axles.

22. Inspect brake magnets for wear.

23. Inspect suspension parts for wear.

24. Check battery electrolyte levels, and clean terminals to remove dirt and corrosion.

4.2.4 Every 200 Hours or Annually:

25. Change the engine oil.

26. Check hydraulic oil for contaminants.

27. Check hydraulic motor to engine shaft coupling and spider.

28. Check that battery retains maximum charge.

29. Inspect brake lining wear:
    - Check brake cylinder for leaks.
    - Inspect brake wiring for damage.
    -

30. Repack the wheel bearings:
    - Check for excessive play in the bearings.
    - Grease the wheel bearings.

31. Check the wheel hub for wear.

32. Inspect axle grease seal for leakage.

33. Inspect springs for any wear or loss of arch.

34. Inspect all electrical wiring connections for looseness or corrosion.
    - Tighten and/or seal, as necessary.

35. Check trailer axle, frame, hitch and tender hold-down bolts.
    - Refer to Section 6.2 Bolt Torque.

36. Check conveyor tube and bearing bolts.

37. Thoroughly clean the tender.
    - Wash to remove all dirt, mud, debris and residue.
    - Wash around and inside the intake hopper and chutes.
    - Clean inside the conveyor tube, and belt.

Fig 66 - Trailer wheels

Fig 67 - Discharge roller bearing

Note Greasing Locations:

- Each wheel hub is equipped with a grease zerk under the center dust cap.
- See the following illustrations for tender grease locations.

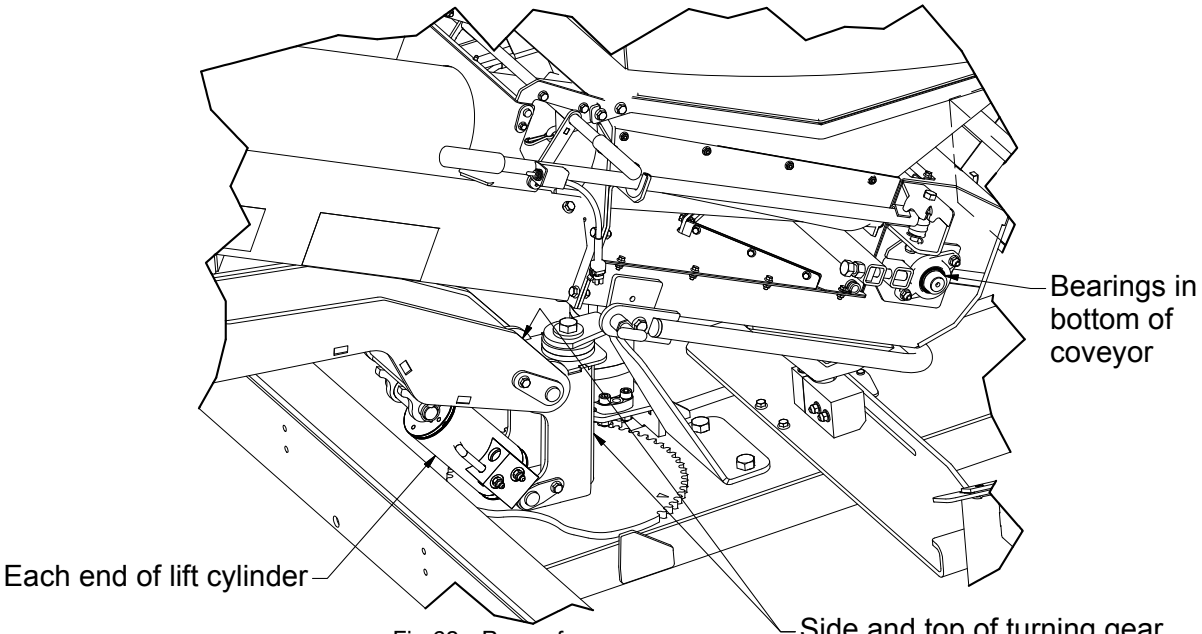

Fig 68 - Base of conveyor

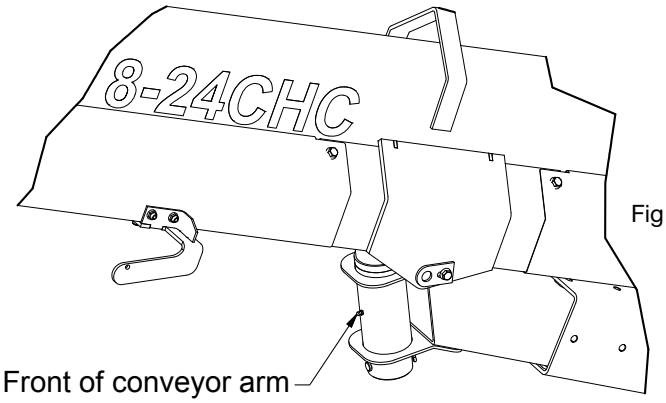

Fig 69 - Conveyor arm grease zerk

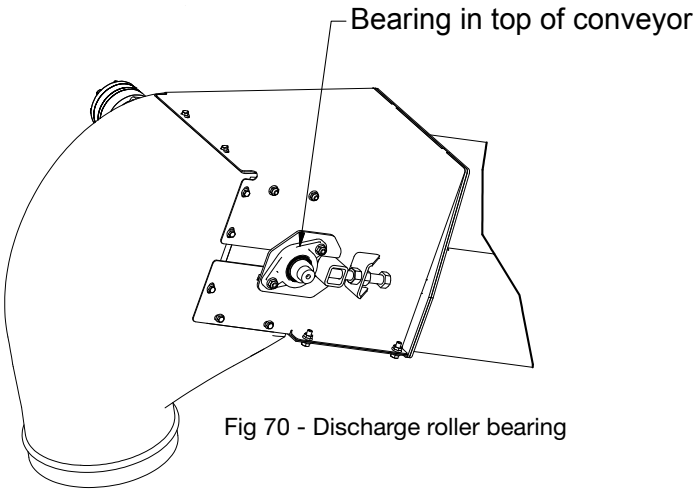

Fig 70 - Discharge roller bearing

4.3 MAINTENANCE PROCEDURES

4.3.1 Engine Maintenance:

Refer to the engine manual for complete details.

SAFETY INSTRUCTIONS

REFUELLING HAZARD

- Handle fuel with care. It is highly flammable.
- Allow engine to cool for five minutes before refuelling. Clean up spilled fuel before restarting engine.
- Do not refuel the machine while smoking or when near open flame or sparks.
- Fill fuel tank outdoors.
- Prevent fires by keeping machine clean of accumulated trash, straw, grease, and debris.

Approved Fuel:

Use unleaded automotive gasoline for all operating conditions. The fuel tank capacity is 6.4 US quarts (6.1 liters).

Engine Oil:

Use a typical SAE 10W-30 or 10W-40 multiviscosity motor oil for normal operating conditions. Consult your engine manual for the recommended oil in cold temperatures. The crankcase capacity is 1.16 US quarts (1.1 liters).

Engine Circuit Protection (if equipped):

The circuit protector protects the battery charging circuit. A short circuit, or a battery connected with reverse polarity, will trip the circuit breaker.

The green indicator inside the circuit protector will pop out to show that the circuit protector has switched off. If this occurs, determine the cause of the problem, and correct it before resetting the circuit protector.

Push the circuit protector button to reset.

Change Engine Oil:

⚠ CAUTION

BURN HAZARD

Hot engine oil can burn skin.

1. Review the engine manual.
2. Allow the engine to cool before changing oil. Draining works best when the oil is warm.
3. Be sure the engine key switch is in the OFF position and the fuel valve is turned OFF.
4. Place a pan under the drain plug. Remove the drain plug and allow the oil to drain for ten minutes.
5. Reinstall the drain plug and tighten.
6. Dispose of the oil in an approved container.
   - Follow industrial disposal regulations.
7. Fill the engine with SAE 10W-30 oil for general usage. If the engine is operated in more extreme conditions, refer to the engine manual for oil recommendations.
8. Run the engine for one minute and recheck the oil level. Add oil, as needed.

Air Cleaner and Filter:

Check and remove any debris from the foam cover of the air cleaner daily before each use. Thoroughly wash or replace the foam cover every three months or 50 hours of operation (clean it more frequently when used in dusty conditions).

4.3.2 Hydraulic System:

Hydraulic oil and filter change is recommended annually or every 400 hours of operation using an AW HVI Hydraulic ISO 32 oil.

IMPORTANT:
Never run the hydraulic pump unless the hydraulic oil tank is full.

Fig 71 - Hydraulic oil reservoir and filter

1. Place a large waste oil container under the tank drain port.
2. Drain the hydraulic tank by removing the drain plug from the tank.
   - Allow the tank to drain completely.
3. Remove and replace the oil filter.
4. Apply a thin coat of oil to the rubber seal of the new oil filter. Hand-tighten only.
5. Re-install the drain plug.
6. Fill the tank to the fill line at the top of the gauge with AW HVI Hydraulic ISO 32 oil.
7. Replace the cap.
8. Start the engine and cycle all the cylinders several times.
9. Recheck the oil level in the tank and add as needed.

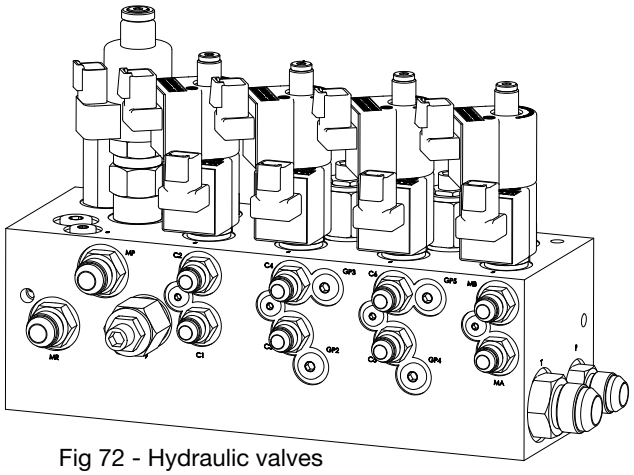

Fig 72 - Hydraulic valves

4.3.3 Hydraulic Manual Override:

The hydraulic manifold is equipped with a manual override feature.

The top valves have a push/pull mechanism that will allow you to move the hydraulic components on the tender.

4.3.4 Conveyor Belt Tension:

1. Loosen the locknut on each side of the belt tension mechanism.

2. Tighten the two tension bolts equally.
   - While holding the tension bolt in place, retighten both locking nuts.

3. Start the conveyor and make sure the belt is tracking in the center of the drive drum.
   - If the belt is not tracking properly, use the Belt Tracking Adjustment procedure to correct the problem.

Fig 73 - Drive drum tension bolts at the bottom of belt

4.3.5 Belt Tracking Adjustment:

IMPORTANT:
The drive drum at the bottom of the conveyor must be square (drive shaft must be equal distance from end of unit) for the belt to track properly.

Note:
If belt is not tracking correctly,
it will move to the loose side.
Tighten loose side or loosen tight side.

Fig 74 - Adjustment bolt

1. Adjust one side at a time.
   - Loosen the locking nuts on the adjusting bolt.

2. Tighten or loosen the bolt on one side, to correct the tracking problem.

3. Using a wrench, hold the adjusting bolt in place while tightening the locking nut against the housing.

4. Slowly, test run the conveyor belt.
   - Check if the belt is tracking centered.
   - Re-adjust, if needed.

4.3.6 Conveyor Belt Replacement:

1. Position tube for easy access to both ends.

2. Open the access door.

3. Loosen the lower drive drum adjusting bolts.

4. If the old belt can be used to thread the new belt, continue with this step; if not, continue to Step 5.
   a. Remove belt guard to access belt lacing.
   b. Disconnect the lacing.
   c. Attach the replacement belt to the end of the old conveyor belt.
   d. Slowly pull the old belt out of the spout, threading the new one into position.
   e. Disconnect the old belt and connect the lacing of the new belt together.

5. If the old belt cannot be used:
   a. Remove the delivery spout.
   a. Remove the galvanized belt guards.
   b. Thread the new belt through the tube.
   c. Connect the two ends of the belt lacing.

6. Thread the cable through the lacing.
   - Cut off excess cable.
   - Crimp the lacing the to lock the cable.
   - Cut and taper the belt corners so they don't catch.

7. Tighten the two drive drum tension bolts.
   - Refer to Section 4.3.4

8. Start the engine. slowly run the conveyor to make sure the belt tracks properly.
   - If the belt does not track properly, refer to Section 4.3.5.

9. Recheck the tension and alignment of the belt frequently during the first ten hours of operation and adjust, as needed.

Note:
The belt normally seats itself during the first 10 hours of operation and can be checked weekly

Fig 75 - Access door

Fig 76 - Conveyor belt lacing

4.3.7 Trailer Break-Away System:

Testing the Battery:

1. Disconnect the trailer plug from the tow vehicle; otherwise, you are testing the tow vehicle's battery.

2. Press the green TEST button on the control box located inside the frame of the trailer.
   - The green indicator light will illuminate if the battery is fully charged.
   - If the yellow or red indicator lights illuminate, the unit's battery should be charged before towing the trailer.

IMPORTANT:
If the battery is weak or dead (red indicator, even after charging), as indicated by the indicator light, the battery must be replaced.

3. Plug the trailer into the tow vehicle. The yellow "Charging" light should be ON.

4. Test the system by pulling the pin out of the break-away switch. The battery will activate the brakes. (**Note:** Do not use this kit as a parking brake). The battery should be charged and tested prior to each trailer outing.

Fig 77 - Break-Away system control box

Fig 78 - Break-Away cable on hitch tongue

Charging Battery:
The battery in the break-away system is rechargeable. If the battery will not hold a charge, replace the battery.

Replacing Battery:
The battery in the break-away system is replaceable. If the battery will not hold a charge, replace the battery. Contact the OEM supplier for a replacement battery.

4.3.8 Remote Control Handset:

The handset is powered by two AA batteries. The handset display window indicates the remaining battery life. When batteries are new, the display indicates 100% power. As the control is used, the power decreases. When red indicator light turns ON, the batteries should be replaced immediately, or discontinue the using it.

Battery Replacement Tips:

- Check the batteries at least every six months (for low Voltage, leakage, etc.).
- Always use the correct size and type of battery. Replace old batteries with new 1.5 Volt AA, alkaline batteries.
- Always replace both batteries at the same time.
- Do not mix types, brands, or ages of replacement batteries.
- Do not install the batteries backwards. Make sure you insert the batteries with the + (plus) and – (minus) terminals aligned correctly.
- Remove the batteries from the controller if not expected to be in use for several months.
- Do not attempt to recharge a battery unless it is specifically marked "rechargeable."
- Dispose of old batteries properly.

Battery Replacement:

1. Remove the two Phillips head screws from the cover on the back of the unit.

2. Replace the batteries, making sure they are correctly positioned.

4.3.9 Remote Control Handset to Control Panel Receiver Synchronization:

To reprogram the ID code to the receiver:

Note:
Do not interrupt this procedure before it has completed or the system may not operate correctly.

1. Turn the handset and control panel OFF.

2. Press and hold the POWER button on the handset for more than ten seconds.
   - The handset LCD display will indicate when to apply power to the control panel.

3. When directed, apply power to the receiver.
   - Green LED stays on constantly when reprogramming is in progress.

4. When the process is completed, the green LED will blink on and off.
   - Test the handset transmitter to make sure it functions properly.

4.3.10 Changing Handset Sleep Time:

To change the sleep time on the handset:

1. With the handset off, press and hold ENGINE STOP, CONVEYOR STOP and POWER buttons.

2. Wait for a few seconds, then release the buttons.

3. The green and red LEDs will start blinking together.

4. Use CONVEYOR INC and CONVEYOR STOP to increase/decrease the sleep time.

5. Select the desired sleep time.

6. Press POWER button to save and exit.

4.3.11 Control Panel Error Codes:

Fig 79 - Control panel

Error Code Outputs:
The receiver module can identify problems with the system in the form of an error code. Check red indicator light (a) on the receiver to diagnose system problems.

Each of the outputs from the receiver module is designed with built-in short circuit and overload protection. The outputs can also detect a no--load or broken wire condition.

These error conditions are indicated by the red LED indicator on the receiver module or the HISTOGRAM page on the optional Palm Pilot™. Refer to the Error Code Chart for explanation of the error codes. Green LED indicator light (b) will blink on the receiver during normal communication.

The ON/OFF outputs will indicate an error under no load or broken wire status if NOT activated, and will detect a short if activated.

Table 1 - Control Panel Display Error Codes

ERROR CODE	CAUSE	SOLUTION
1	RF Communication	Transmitter is OFF. Transmitter went into sleep mode. Interference in RF communication link.
2	Wrong ID	Transmitter and receiver are not synchronized.
3	Scale Bar Fault	RS-232 communication cable between scale unit and receiver is damaged, disconnected, or the scale unit is OFF.
4	Low Battery	System voltage is below 10.5 Volts.
5	Conveyor Speed Fault	Check for short or open circuit.
6	Engine Start Fault	Check for short or open circuit.
7	Engine Stop Fault	Check for short or open circuit.
8	Conveyor Lift Fault	Check for short or open circuit.
9	Conveyor Lower Fault	Check for short or open circuit.
10	Conveyor Left Fault	Check for short or open circuit.
11	Conveyor Right Fault	Check for short or open circuit.
12	Slide Gate 1 Open Fault	Check for short or open circuit.
13	Slide Gate 1 Close Fault	Check for short or open circuit.
14	Slide Gate 2 Open Fault	Check for short or open circuit.
15	Slide Gate 2 Close Fault	Check for short or open circuit.

Note:
Error codes are invalid during manual operation.

Table 2 - Control System Wiring Locations

PIN	DESCRIPTION
A	Conveyor Speed CR Proportional Output - Orange/Black
B	Engine Start Output
C	Engine Stop Output
D	Conveyor Lift Output - Red
E	Conveyor Lower Output - Blue
F	NC
G	NC
H	Power
J	NC
K	NC
L	Conveyor Left Output - White
M	Conveyor Right Output - Green
N	Ground
O	Slide Gate One Open Output – Red/Black
P	Slide Gate One Close Output – Blue/Black
Q	Slide Gate Two Open Output – Green/Black
R	Slide Gate Two Close Output- Black/White
S	NC
T	NC
U	NC
V	NC
W	NC
X	NC

4.3.12 Axle, Trailer, Frame Bolts:
Check the axle, frame, trailer and tender hold-down bolt torque at least once per year.

4.3.13 Trailer Hitch Bolts:
The front hitch section of the seed tender is bolted to the trailer frame. This design allows the same trailer to use either a bumper hitch assembly or a gooseneck hitch. These hitch assemblies are interchangeable, if needed.

Check the trailer hitch bolt torque at least once per year.

4.3.14 Wheel Bolt Torque Requirements:

⚠ WARNING

EXPLOSIVE FORCE HAZARD
To prevent injury due to possible dangerous separation of wheels from the axle, the wheel nuts must be maintained at the proper torque levels. Properly tightened wheel nuts prevent loose wheels and broken studs.

Initially check the wheel bolt torque at 10, 25, and 50 miles, as well as after each wheel removal.

Note:
Torque wrenches are the best method to ensure the proper amount of torque is being applied to a wheel nut.

1. Tighten the wheel nuts in three stages:
   - First stage: 20 to 25 foot pounds.
   - Second stage: 50 to 60 foot pounds.
   - Third stage: 90 to 120 foot pounds.

2. Tighten the wheel nuts in a clockwise, cross-axle alternating pattern.

Also, check conveyor tube and bearing bolts.

4.3.15 Tires:
Check the tires for normal and/or abnormal tire wear. Replace tires that are damaged or worn beyond normal tread life.

Replace the tires with Meridian® part number 18131 or an equivalent tire:
3T235/80R16
TR643
Load Range E
For Trailer Service Only

4.3.16 Wheel Bearings:
Each axle is equipped with a grease zerk under the center dust cap of the wheel. Add grease sparingly to the wheel bearings, using only wheel bearing grease. The wheel bearings should be repacked annually. Check for excessive end play and tighten, if necessary.

IMPORTANT:
Over greasing wheel bearings can cause them to overheat, resulting in damage and/or failure.

4.3.17 Welding Repairs:
Repair welding must be done with care and with procedures that may be beyond the capabilities of the ordinary welder.

Before performing any type of welding repair to the seed tender, contact Meridian® for approval.

IMPORTANT:
Anyone performing a welding repair should be certified in accordance to the American Welding Society (AWS) standards.

4.4 SERVICE RECORD

See Section 4.1 for service intervals. This section is only a general guide under good conditions. Under extreme, or unusual circumstances adjust service timing accordingly.

For more detailed schedule pertaining to the specific engine model, consult its Operator Manual. Copy this page to continue record.

Maintenance / Hours														
Maintenance / Serviced By														
10 Hours or Daily														
Check Engine Fluid Levels														
Check Hydraulic Oil Level														
Test Break-Away System														
Check Tires and Wheel Bolt Torque														
Check Belt Tension and Alignment														
Inspect Rollers and Bearings														
Check RC Handset Battery Life														
50 Hours or Weekly														
Clean/Replace Engine Air Filter														
Check Tire Pressure														
Clean Remote Control Handset														
Inspect Hydraulic Drive Coupler														
Change Engine Oil														
100 Hours or Monthly														
Grease Bearings, Cylinders, Gears														
Torque Wheel Nuts														
Adjust the Trailer Brakes														
Inspect Tires for Wear														
Grease Axles														
Inspect Brake Magnets and Suspension														
Check Battery Electrolyte Levels														
200 Hours or Annually														
Change Engine Oil														
Check Hydraulic Oil and Coupler														
Test Battery Charge														
Inspect Tires and Brake Lining														
Repack Wheel Bearings														
Inspect Wheel Hubs														
Inspect Axle Grease Seals and Springs														
Inspect Wiring														
Check Frame/Trailer Hold-Down Bolts														
Check Trailer Hitch/Axle Frame Bolts														
Thoroughly Clean Tender														

4.5 ORDERING PARTS

Always give the Model Number and Serial Number when ordering parts.

To get your parts promptly the following information will be required:
- The part name and number
- Your Name, Address, Town, State/Province, Country
- Complete information for shipping

Confirm all phoned in orders in writing. If Purchase Orders are required please note the number on the written order.

Unless claims for shortages or errors are made immediately upon receipt of goods, they will not be considered.

Inspect all goods received immediately upon receipt. When damaged goods are received, insist that a full description of the damage is made with the carrier against the freight bill. If this is insisted upon, full damage can be collected from the transport company.

No responsibility is assumed for delay or damage to merchandise while in transit. Dealers responsibility ceases upon delivery or pickup of shipment from or to the transportation company. Any freight damage claims must be made with the transportation company, not with the dealer.

Section 5: TROUBLESHOOTING

In the following trouble shooting section, we have listed many of the problems, causes and solutions to the problems which 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 authorized dealer, distributor or the factory. Before you call, please have this Operator's Manual and the serial number from your machine ready.

Problem

Possible Cause	Possible Solution
Engine will not start	
No fuel	Fill the fuel tank
Low engine oil	Fill the crankcase with oil
Cold engine	Open choke
Ignition key switch off	Turn ignition key switch on
Battery dead	Recharge or replace battery
Engine problem	Refer to engine manual
Conveyor will not start	
Not rotating	Start engine and increase speed above 1400 RPM
Drive pulley connection or conveyor coupling	Repair or replace
Drive belt slipping	Increase belt tension
No hydraulic oil in reservoir	Check oil level
Electrical or hydraulic are not working properly	
RC handset transmitter power is OFF	Turn power ON
Control panel power is OFF	Turn power ON
Battery cable or battery	Check battery cable and make sure battery is fully charged
Error in the control system	Check LED Error Code light
Improper ground	Check for proper grounding electrical circuit
Hydraulic valve or motor	Ensure hydraulic pump is working properly and hydraulic tank is filled with oil
Intermittent function	Check receiver antenna for damage and proper connection. Loose connector at the valve coil

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Section 6: REFERENCE

For information not included here, or for a digital copy of this manual, please call your dealer, or Meridian Manufacturing Inc. directly for assistance. Visit our website at: www.meridianmfg.com.

Note:
The drawings and schematics are contained in a separate parts book.

6.1 SPECIFICATIONS

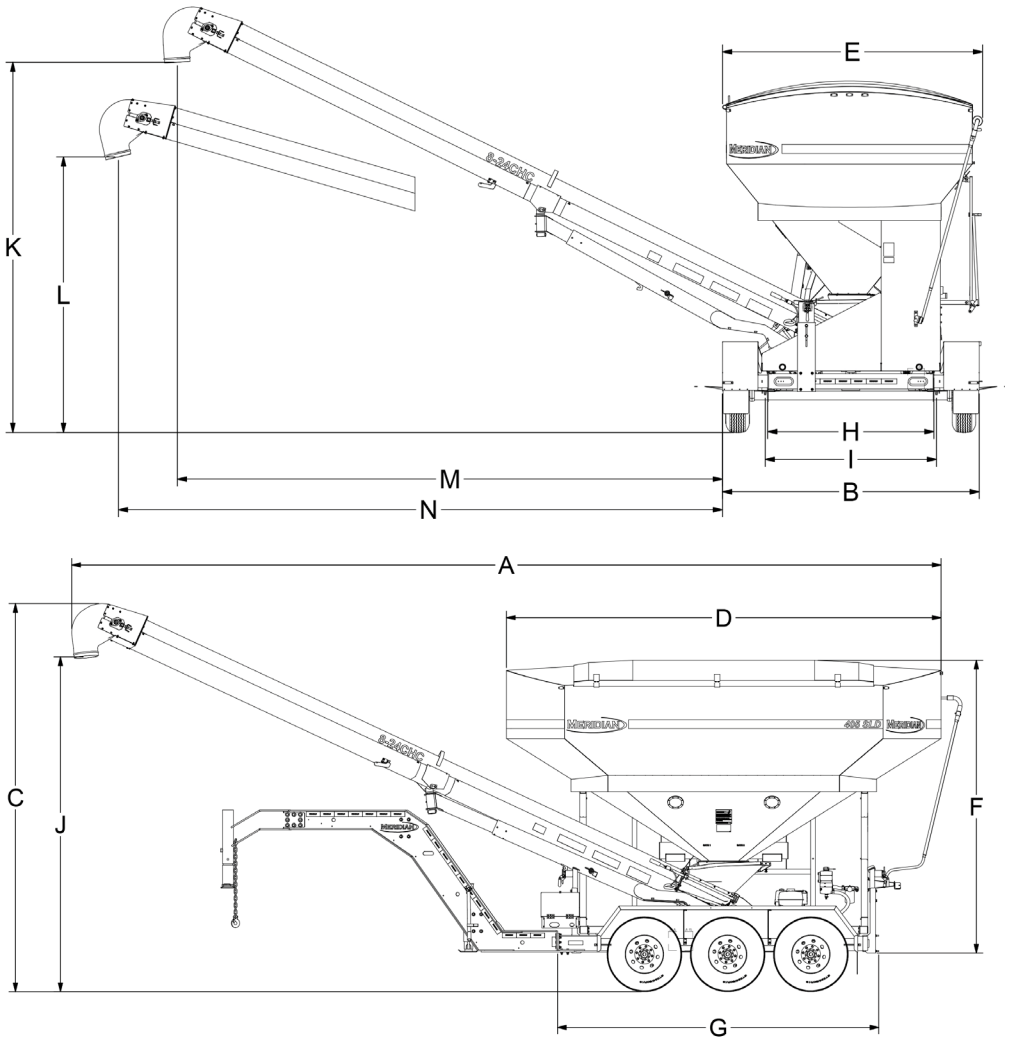


Fig 80 - Measurements of 405 SLD on triple axle

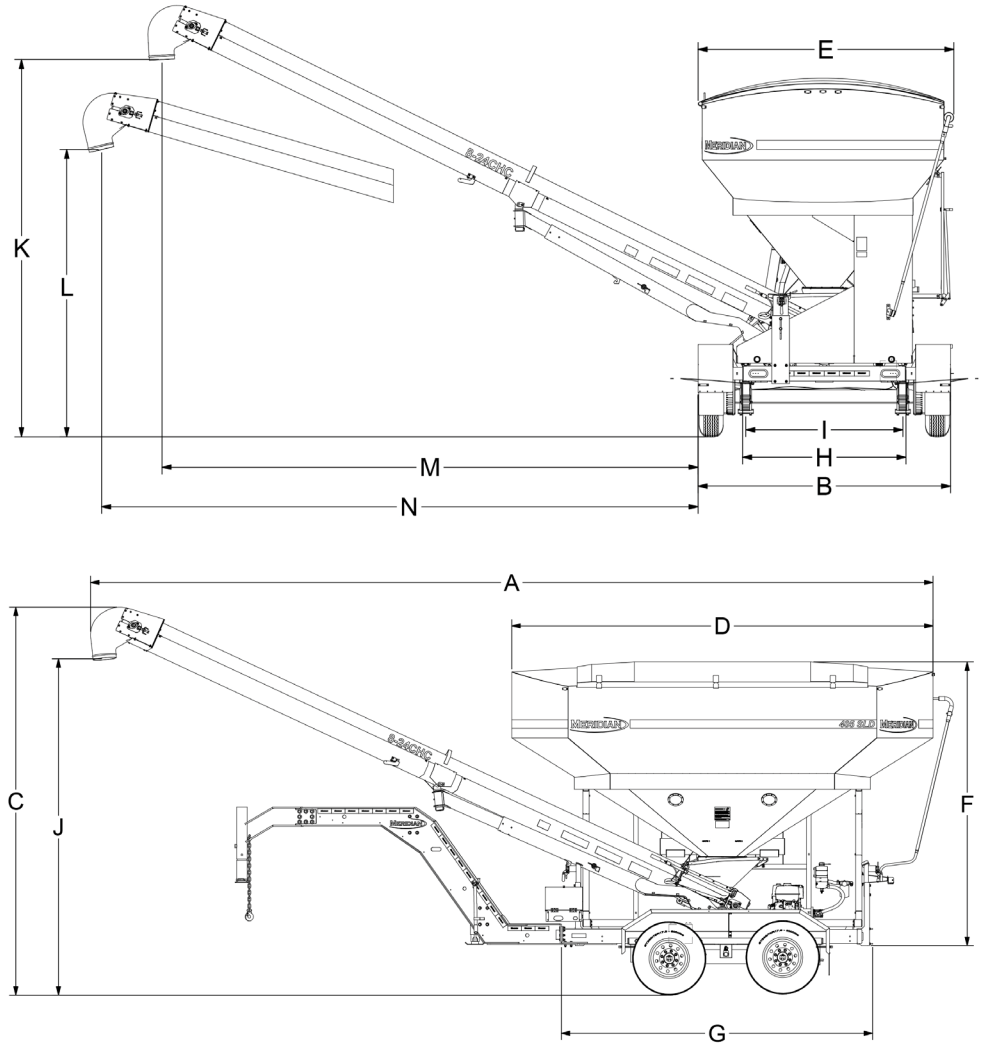


Fig 81 - Measurements of 405 SLD on tandem axle

Table 3 - Triple Axle Specifications

		With Axle Pkg	Without Axle Pkg
A	Overall Length	30’ 7/16”	--
B	Overall Width	8’ 4-1/2”	8’
C	Overall Height	13’ 4-3/4”	12’ 5/16”
D	Main Body Length	15’ 1/8”	--
E	Main Body Width	8’	--
F	Main Body Height	10’ 1-5/16”	--
G	Base Length	11’ 1-3/16”	--
H	Base Width	5’ 5”	--
I	Base Mount Width	5’ 7”	--
J	Conveyor Height in Transport	9’ 5-13/16”	8’ 1-3/8”
K	Conveyor Height at Maximum Unload	14’ 6-13/16”	13’ 2-3/8”
L	Conveyor Height at Minimum Unload	10’ 9-13/16”	9’ 5-3/8”
M	Conveyor Reach at Maximum Unload	16’ 6”	--
N	Conveyor Reach at Minimum Unload	18’	--

Table 4 - Tandem Axle Specifications

		With Axle Pkg	Without Axle Pkg
A	Overall Length	30’ 7/16”	--
B	Overall Width	8’ -4-1/2”	8’
C	Overall Height	13’ 10”	12’ 5/16”
D	Main Body Length	15’ 1/8”	--
E	Main Body Width	8’	--
F	Main Body Height	10’ -1-5/16”	--
G	Base Length	11’ -1-3/16”	--
H	Base Width	5’ 5”	--
I	Base Mount Width	5’ -2-1/2”	--
J	Conveyor Height in Transport	9’ 11”	8’ 1-3/8”
K	Conveyor Height at Maximum Unload	15’	13’ 2-3/8”
L	Conveyor Height at Minimum Unload	11’ 2”	9’ 5-3/8”
M	Conveyor Reach at Maximum Unload	16’ 6”	--
N	Conveyor Reach at Minimum Unload	18’	--

6.2 BOLT TORQUE

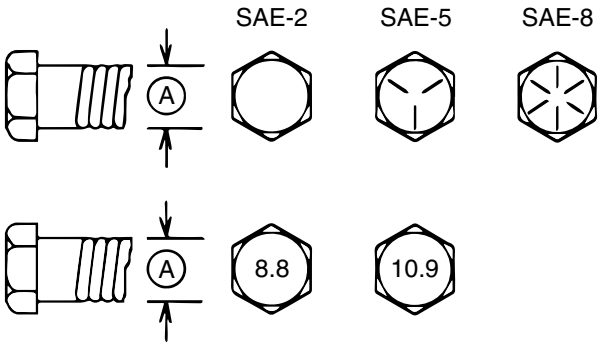
The tables shown below give correct torque values for various bolts and capscrews. Tighten all bolts to the torques specified in chart unless otherwise noted. Check tightness of bolts periodically, using bolt torque chart as a guide. Replace hardware with the same strength bolt.

Table 5 - English Torque Specifications

BOLT DIA. "A"	BOLT TORQUE*					
	SAE 2 (Nm)	(ft-lb)	SAE 5 (Nm)	(ft-lb)	SAE 8 (Nm)	(ft-lb)
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

Table 6 - Metric Torque Specifications

BOLT DIA. "A"	BOLT TORQUE*			
	8.8 (Nm)	(ft-lb)	10.9 (Nm)	(ft-lb)
M3	0.5	0.4	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.

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LIMITED WARRANTY STATEMENT

Meridian Manufacturing Inc. (hereinafter referred to as Meridian) warrants all products sold hereunder to be free from defects in manufacturing and workmanship, under normal and proper storage, service, and use, for a period of 2 (TWO) years: the first year - full warranty on Parts and Labor, the second year - Parts Only; when used in accordance with the manufacturer's guidelines, from the first date of use. Our liability extends only to the repair or replacement of the defective parts. No labor charge for the correction of the defect, by repair or replacement, will be paid by Meridian, unless prior written authorization has been granted by Meridian. Units that have been in service, then sold will carry the remainder of the 2 year warranty from Meridian.

This warranty is not applicable to, and Meridian makes no warranty with respect to, any parts not installed by Meridian or its representatives.

No implied warranty shall apply beyond the aforementioned warranty period. The foregoing warranty is exclusive of all other statutory, written or oral warranties, and no other warranties of any kind, statutory or otherwise, are given or herein expressed.

Meridian will not, under any circumstance; whether as a result of breach of contract, breach of warranty, tort, strict liability or otherwise; be liable for consequential, incidental, special or exemplary damages. This includes, but not limited to: loss of profits, loss of use or damage to any property or equipment, cost of capital, cost of substitute product, facilities or services, down time costs or claim of claimant's customers. Meridian liability for all claims of any kind or for any loss or damage arising out of, resulting from or concerning any aspect of this warranty, or from the products or services furnished hereunder; shall not exceed the purchase price allocable to the specific product which gives rise to the claim. Any or all such liability shall terminate upon the expiration of the warranty set forth above.

Certain chemicals may exist in the end user's locations, which may release airborne contaminants that can directly impact the integrity of essential paint and components. Exposure of these chemicals, to components with different chemical combinations may result in significant damage to paint, decals and mechanical failure. Meridian warranty does not cover these conditions unless otherwise noted.

All Meridian products that fall under warranty and needs service must be brought back to the dealer or point of purchase, unless otherwise agreed upon by the Meridian Warranty Department.

Register your product at: www.meridianmfg.com
For warranty information, email: warrantyusa@meridianmfg.com | phone: (800) 437-2334

WARRANTY REQUEST PROCEDURE

1. The product must be registered with Meridian Manufacturing Inc.

2. The purchaser must contact the dealer, from where the unit was purchased, immediately upon discovery of any defects.

3. A completed Warranty Request (Claim) Form must be submitted by the dealer to the Meridian's warranty representative for review and any subsequent course of action.
   - Warranty requests must be completed with ALL required information in order it to be considered for approval.
   - Send photographs of the entire piece of equipment, and of the specific area of concern.

4. Warranty repair work will only be performed by Meridian or an approved representative of Meridian. Warranty work completed prior to Meridian's approval will NOT be honoured. Failure to follow this procedure may affect any or all of this warranty.

5. All warranty requests will be adjudicated at the sole discretion of Meridian and in accordance with the terms and conditions of the warranty.

(800) 437-2334 | www.meridianmfg.com | tenders@meridianmfg.com

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