

MERIDIAN[®]

OPERATOR'S MANUAL



BOX SEED TENDER

SEED TITAN™ 2XT

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 _____

- Tender frame secured to trailer
- Check fuel level and gas shut-off
- Check engine oil level
- Check reduction case oil level
- Start Honda engine
- Brake and lighting harness connection
- Remote throttle control functions
- Lubricate unit where necessary
- Check air pressure in tires
- Electric brakes in working condition
- All guards/shields installed correctly
- All safety signs installed and intact
- Reflectors and lights clean and working
- Review safety and operating instructions
- Inspect customer's hitch for 2-5/16" ball/gooseneck hitch
- Verify receipt of all options ordered

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 _____	SOLD TO _____
Address _____	Address _____
City _____	City _____
State _____	State _____
Zip Code _____	Zip Code _____
Phone Number _____	Phone Number _____
Unit's Model Number _____	Unit's Serial Number _____

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Section 1: INTRODUCTION

Thank you for choosing a Meridian® Box 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 of your tender when ordering parts or requesting service or 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 inside front driver-side corner

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

3 Big Reasons why safety is important to you:

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

The Safety Alert Symbol means:



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.



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.



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.



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



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



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.

Remember, you are the key to safety. Good safety practices not only protect you but also the people around you. Make these practices a regular part of your safety program. Be certain that everyone who will work with this equipment follows these procedures.

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. 

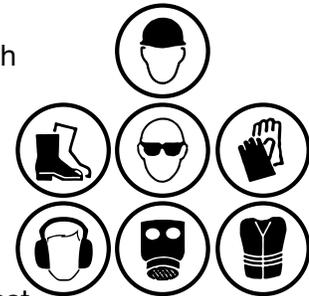
- Provide a fire extinguisher for use in case of an accident. Store in a highly visible place. 

- 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, certain 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

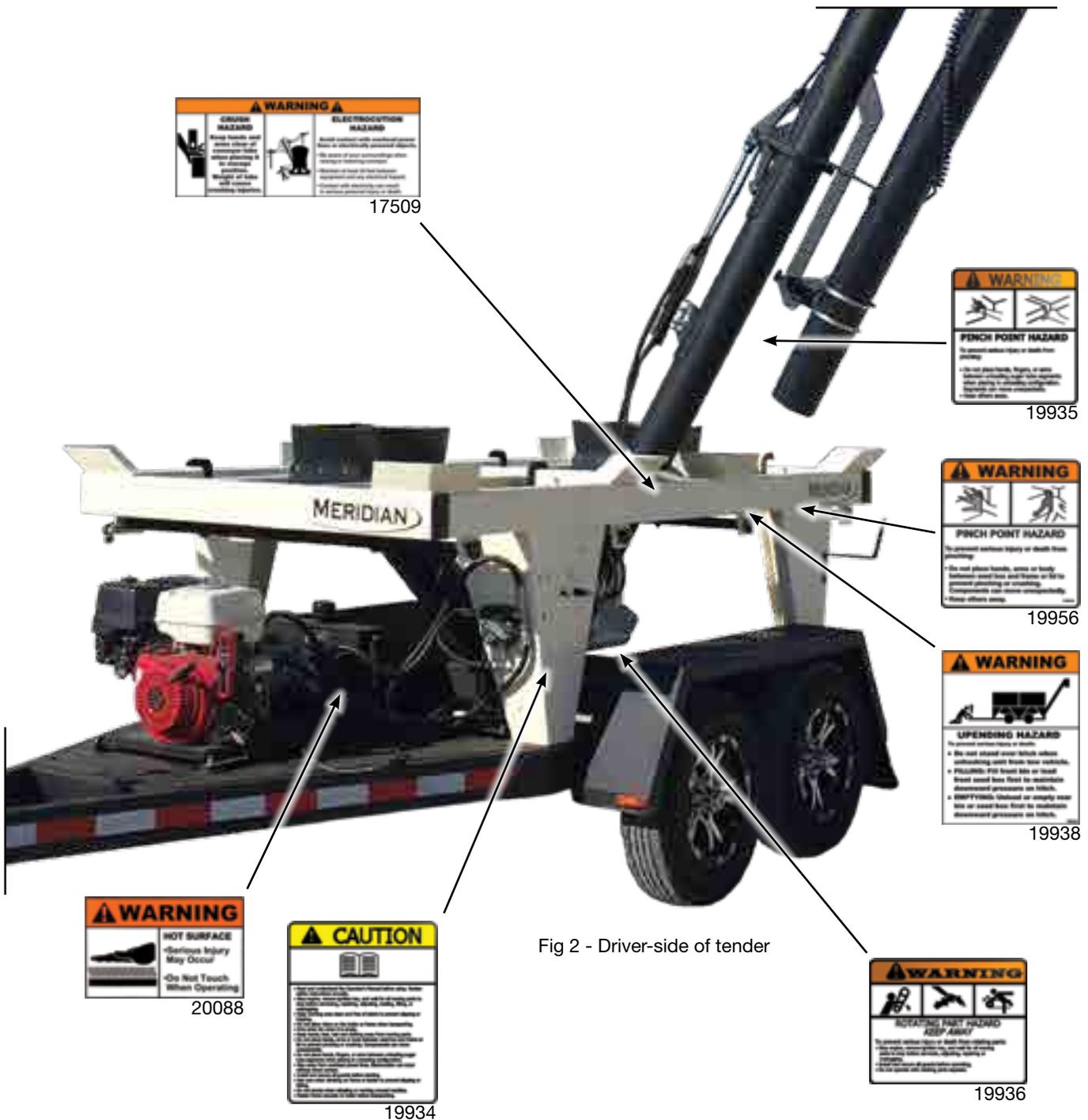
- Keep safety decals clean and legible at all times.
- Replace safety decals that are missing or have become illegible.
- Replaced parts must display the same decal(s) as the original parts.
- All safety decals have a part number in the lower right hand corner. Use this part number when ordering replacements.
- 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 10°C (50°F).
 - a. Remove all dirt, grease, wax from surface.
 - b. Clean 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 SAFETY 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.



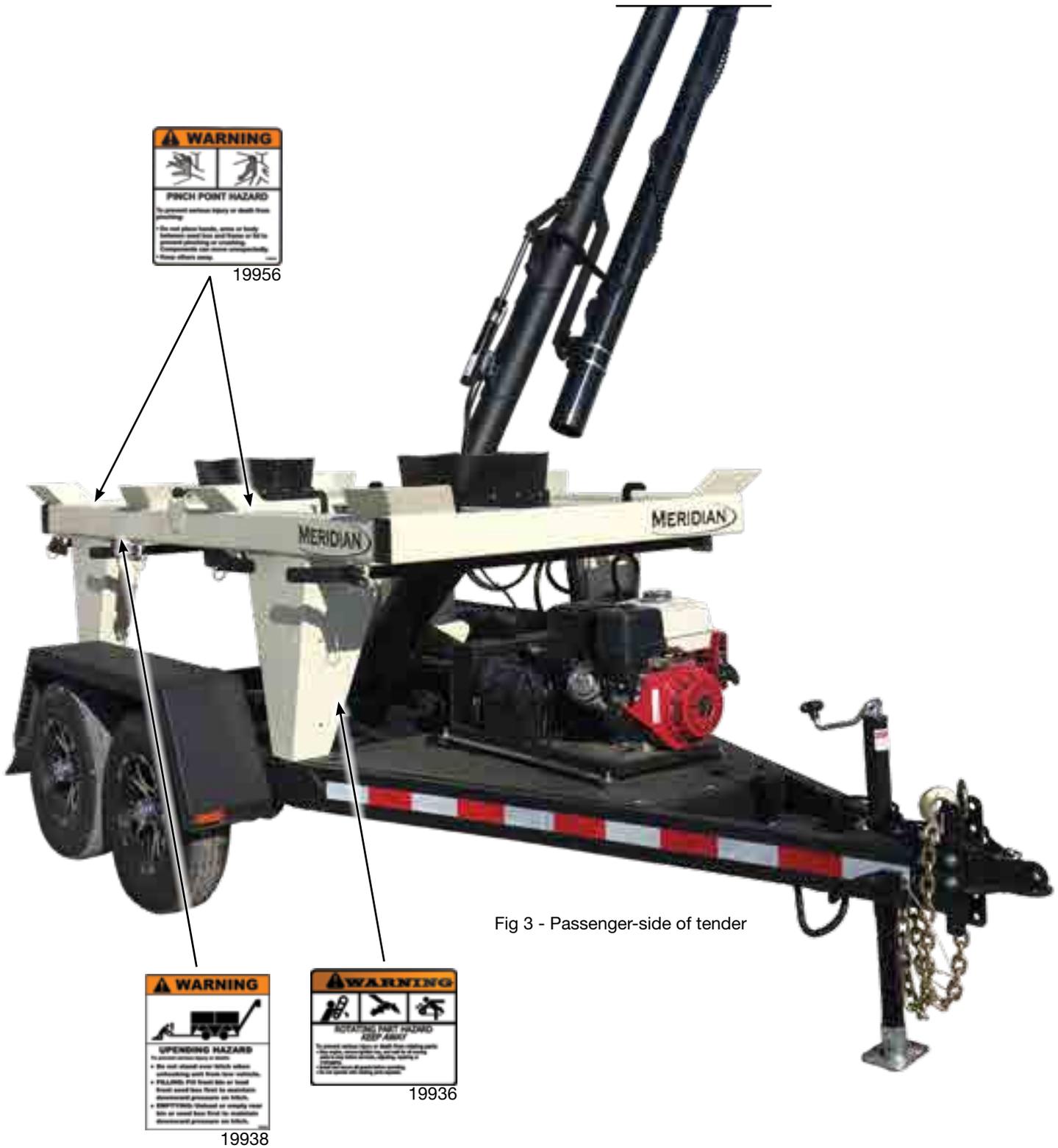


Fig 3 - Passenger-side of tender

REMEMBER - If safety decals have been damaged, removed, become illegible, or parts were replaced without signage, new ones must be applied. New decals are available from your authorized dealer.

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 the battery, after it has been in storage, be sure it is charged.



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. Electrocutation can occur without direct contact.

- Do not operate the tender when any guards are removed.
- Chock wheels of tender before starting.
- Be sure that auger tube is empty before raising or lowering.

2.14 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.



2.15 TRANSPORT SAFETY

- If transporting on a trailer, be sure that it is equipped with brakes that 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. A black triangle warning symbol inside a circle, indicating a hazard or caution.
- Never allow riders on the tender.
- 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.

2.16 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 it in a 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.

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® Seed Titan™ 2XT Seed Tender is designed to transport large amounts of seed to a planter or drill.

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. Follow all safety instructions exactly - it is everyone's business. By following the recommended procedure, a safe working environment is provided for the operator, co-workers and bystanders in the area around the work site.

The design and configuration of this tender includes safety decals and equipment. Hazard controls and accident prevention are dependent upon the personnel operating and maintaining it. Their awareness, concern, prudence and proper training are crucial.

Many features incorporated into this machine are the result of suggestions made by customers like you.

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

3.1 MACHINE COMPONENTS

Large bulk seed boxes are loaded onto the seed tender frame. Slide gates control the flow of seed into the center-mounted auger hopper, which transfers it from the seed boxes into a planter or drill.

A gas engine mounted on the front of the trailer powers the hydraulic pump. The pump powers the auger drive motor and tube lift cylinder.

The auger unloads to the left side. A telescoping delivery spout on the end of the auger tube allows for convenient distribution.

Refer to the engine manual for specific information on it.

The main components, and their general location are listed below:

- a. Trailer Jack
- b. Safety Chains
- c. Break-Away Trailer Brake System
- d. Gas Engine
- e. 12 Volt Battery
- f. Hydraulic Oil Reservoir
- g. Auger On/Off Switch
- h. Hydraulic Valve
- i. Hydraulic Oil Flow Control Valve
- j. Hopper (1 of 2)
- k. Box Lock-Down Bar with Handle (1 of 4)
- l. Lower Auger Tube
- m. Tube Locking Clamp
- n. Upper Auger Tube
- o. Delivery Spout
- p. Document Holder (inside frame)

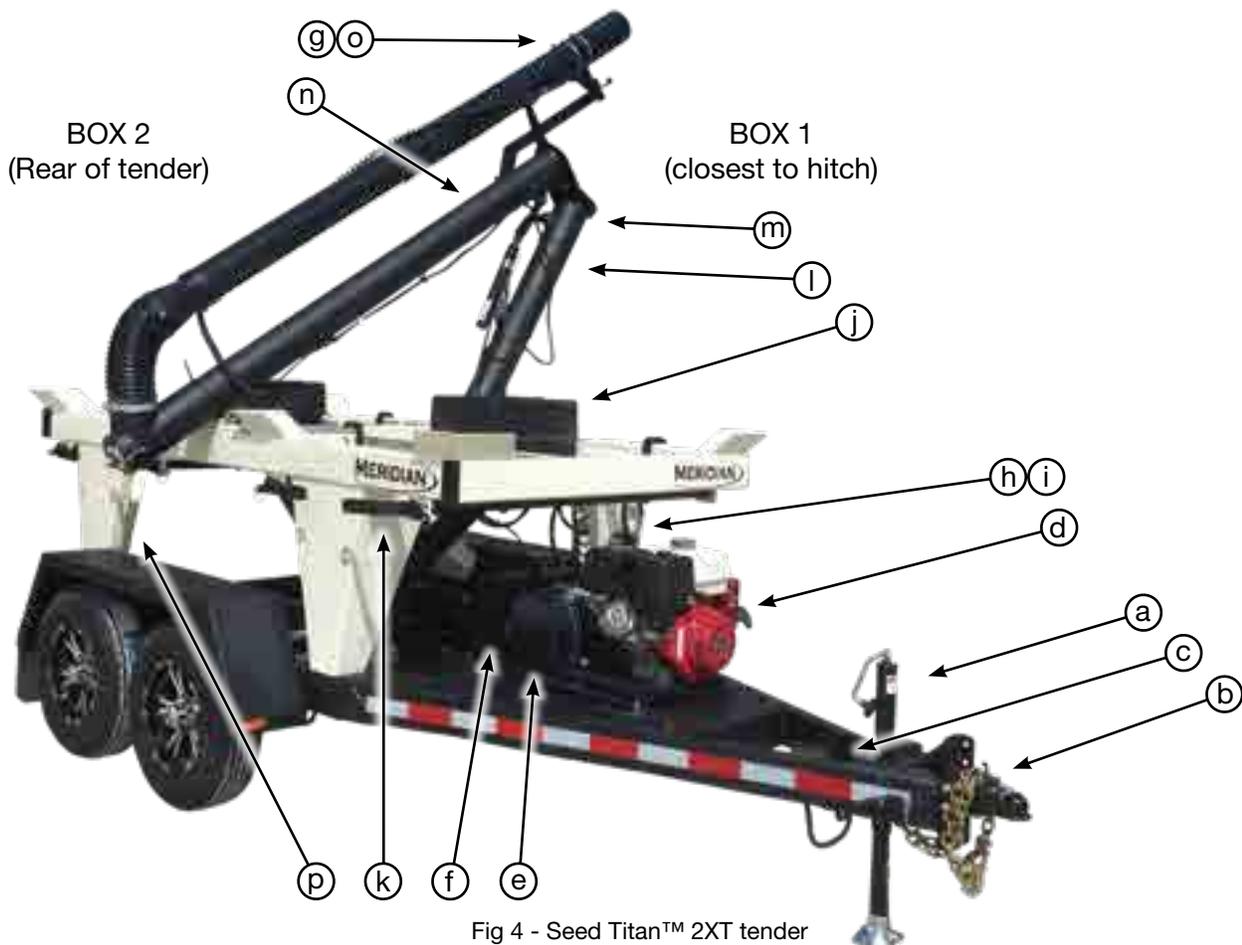


Fig 4 - Seed Titan™ 2XT tender

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.

Gas Engine:

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

- a. Ignition Switch:
Insert the key to operate.
- b. Starting Rope:
The retracting rope with T-bar is a manual method of starting the engine.
- c. Choke Lever:
Choke the valve for starting when the engine is cold. Open the choke as the engine warms.



Fig 5 - Gas engine

IMPORTANT:

Always run at maximum engine speed.

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



Fig 6 - Gas engine

Hydraulic Pump:

The engine powers the hydraulic pump which generates flow to run all the hydraulic functions.

Hydraulic Oil Reservoir:

The capacity of the reservoir is 3 US gallons (11.4 Liters).



Fig 7 - Hydraulic pump and oil reservoir

Hydraulic Oil Flow Control Valve:

This valve regulates the flow of hydraulic oil to the motor. It can be used to control the speed of the auger.

To adjust the speed, loosen the knob, then move the lever in the desired direction.

- Move lever toward zero (0) for a slower speed.
 - Move toward ten (10) for a higher speed.
- Tighten the knob to hold the lever in place.

IMPORTANT:

This is the speed settings for best performance, further adjustment may be necessary depending on product type and condition:

- Set flow control valve to 6-7.
- Engine at full throttle.

Hydraulic Valve:

This valve controls the hydraulic cylinder which folds the auger tube.

Hydraulic Motor for Auger:

The hydraulic motor is at the base of the auger, between the hopper chutes.

⚠ WARNING
ENTANGLEMENT HAZARD
 Do not place hands or fingers near rotating or moving parts.

There are access doors at the top and bottom, between the chutes, for efficient clean-out. **DO NOT USE WHILE AUGER IS RUNNING.**



Fig 8 - Flow control valve

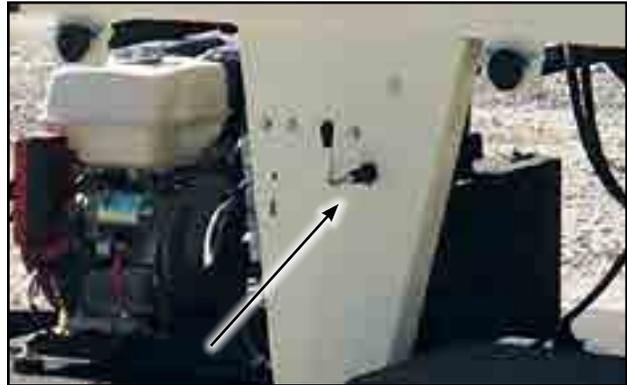


Fig 9 - Hydraulic valve



Fig 10 - Hydraulic auger motor and auger clean-out access



Fig 11 - Bottom clean-out access

Battery (12 Volt):

A 12 Volt battery supplies power to start the gasoline engine. The battery must be periodically recharged from an external source to keep it fully charged.

Note:

Engine does not recharge battery;
manually recharge battery periodically.



Fig 12 - Battery

Auger Tube:

The auger unloads to the left side. A hydraulic cylinder folds the upper tube into place.

⚠ DANGER
ELECTROCUTION HAZARD
Avoid contact with overhead power lines
or electrically powered objects

The telescoping delivery spout on the end of the auger tube enables a wide reach for convenient distribution.

The Auger On/Off Switch is fastened to the end of the spout, to control the auger when unloading.

Tube Locking Clamp:

Once the upper tube is unfolded and sitting in place, use the manual clamp to lock the upper and lower sections together.



Fig 13 - Auger tube folded for transport and storage



Fig 14 - Auger tube in place, ready for operation

Auger On/Off Switch:

This toggle switch controls the auger motor.

Note:

The switch and wiring harness can be moved to more convenient location.



Fig 15 - Throttle switch

Tender Hoppers:

There are two hoppers, fitted with rubber boots. In this manual we identify their positions as:

- Seed box 1 sits closest to the hitch.
- Seed box 2 sits at the rear.

Box Lock Latches:

There are manual handles on the right-side of the tender which pivot to turn the latches, locking the box in place.

Insert the snap pins to lock the handles.

Hopper Lids:

These lids cover the hoppers when the tender is not in use. When the lids are not needed, store them upsidedown along the center of the tender.

Use the snap pins to keep them secure.



Fig 16 - Tender hopper and latches



Fig 17 - Hopper lid, shown in storage

Trailer:

The tender is mounted on a custom built trailer, which comes with a jack, safety chains and a Break-Away braking system.



Fig 18 - Trailer

Break-Away Switch:

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.



Fig 19 - Front of trailer

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.



Fig 20 - Break-Away system

NOTICE

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

3.3 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.

3.3.1 Before Starting:

1. Read and follow the instructions in this manual, and the engine manual.
2. Review and follow the Pre-Operation Checklist before starting machine.
3. Initially check wheel bolt torque and then again at 10, 25, and 50 miles.
Refer to Section 7.4 Bolt Torque.
4. Start the engine and check the controls. Be sure that they function properly.

3.3.2 Inspections at 1/2, 5, and 10 Hours:

1. Check the engine.
 - Fill fluids as required.
2. Check the bolted connection between the hydraulic motor and auger.
3. Check hardware and fasteners; frame to trailer tie-downs, all fasteners, and wheel bolts. Tighten to their specified torque.
4. At 10 hours, change the engine oil.
 - Check engine manual for the specified oil.

3.4 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, as outlined in the Service and Maintenance section.
2. Check the engine oil and fuel levels.
 - Add, if required.
3. Check the hydraulic oil level in the reservoir.
 - Add, if required.
4. Check the hydraulic motor coupler for wear.
5. 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.
6. Make sure the wheel bolt lug nuts are tight.

IMPORTANT:

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

7. Check the tires and ensure that they are inflated to their specified pressure.
8. Remove all entangled material.
9. Visually inspect the auger, auger tube, and delivery spout for damage.
10. Test the Break-Away brake unit and the trailer brakes.
 - d. Make sure the trailer brakes are operating properly.
 - e. Be sure the trip wire to the break-away switch is connected to the tow vehicle.
 - f. Make sure the pin is correctly installed in the break-away switch.
 - g. Press the Test button to see if the indicator illuminates green. If the red light illuminates, the battery charge is low. Refer to the Break-Away System in the Maintenance section for instructions on charging the battery.

3.5 ATTACHING TO TOW VEHICLE

⚠ WARNING

UPENDING HAZARD

Do not stand over hitch when unhooking the trailer from the tow vehicle.

Load seed box 1 (closest to hitch) first to keep weight on the hitch.

Unload seed box 2 first to keep weight on the hitch.

⚠ WARNING

CRUSH 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 tender.

1. Complete the Pre-operation Checklist.
2. Use the trailer jack to lift the hitch above the height of the receiver on the tow vehicle (standard hitch assembly shown).
3. Remove the retainer pin. Release or open the receiver by pulling the locking cover back, as shown.
4. Slowly back the tow vehicle until the hitch and ball are aligned.
5. Lower the hitch onto the ball.
6. Raise the jack and place it in its stowed position.

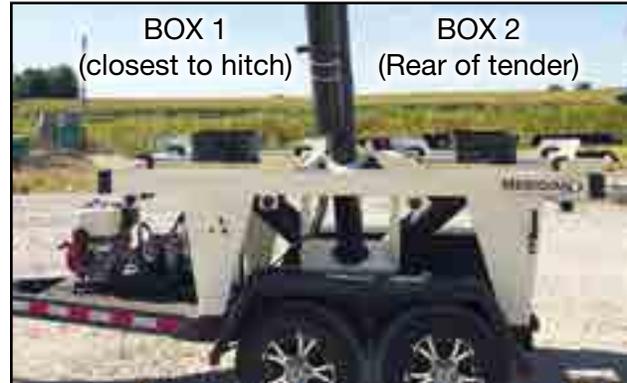


Fig 21 - Box position identification



Fig 22 - Trailer jack



Fig 23 - Hitch receiver

7. Close the receiver by pulling the spring loaded locking collar back to release the hitch mechanism.
 - Install the retainer clip to prevent unwanted opening of the receiver.
8. Attach the safety chain securely to the tow vehicle to prevent unexpected separation.
 - Cross the chains when attaching.
9. Connect the wiring harness for the lights and brakes.
10. Connect the break-away system cable to the tow vehicle.
 - Plug the key on the end of the cable into the receiving unit.
11. Route all the cables in a manner that will prevent snagging.
 - Be sure to provide slack for turning.



Fig 24 - Break-Away cable

IMPORTANT:

Auger tube must be folded down in transport position at all times while towing.
Must not be towed with auger tube extended in operating position.

NOTICE**UPENDING HAZARD**

Seed tender must be connected to tow vehicle at all times during operation to avoid unit from tipping backwards.

3.6 LOADING SEED BOXES

The images in this section identify the correct method for loading and unloading seed boxes from the unit. The tenders shown may not be the exact model described in this manual.

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.

⚠ WARNING

CRUSH HAZARD

Use caution when lifting seed boxes. A typical seed box weighs 330 lb (150 kg) when empty. Seed boxes have the capacity of holding up to 2500 lb (1135 kg) of seed. Keep bystanders away from loading area and at least 15 ft (4.5 m) from the seed box. Use a lifting device with a rated lift capacity capable of safely moving the seed boxes.

1. Remove the two hairpin retainer clips and remove the hopper covers.
 - Place the clips back into the retainer studs.
 - Store the cover in between the two hoppers.
2. Make sure there are no foreign objects or impacted seed blocking the hopper chute leading to the auger.

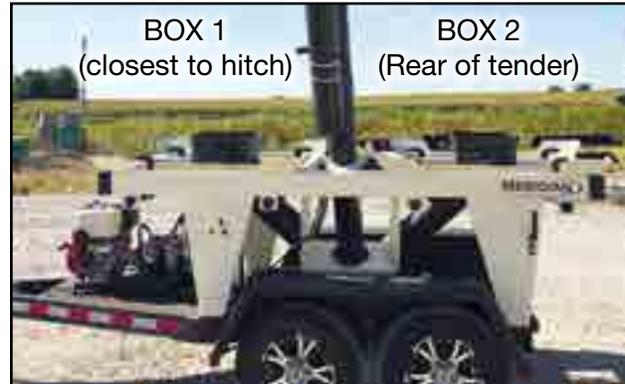


Fig 25 - Box position identification



Fig 26 - Hopper cover



Fig 27 - Hopper cover in storage

3. Clean the frame of debris and stand clear.
4. Rotate the lock-down handles to open the latches, before loading the seed box.

⚠ CAUTION

PINCH POINT

Keep body parts away from between seed box and frame when loading.

5. Use a suitable lifting device, to carefully place the seed box onto the tender.
6. Make sure the seed box is seated properly over the hopper and rubber boot.
7. Make sure the rubber boot contacts the bottom of the seed box.
8. Rotate the lock-down handles to secure the latches in place to hold down the seed box.

IMPORTANT:

Rubber hopper boots must be checked after loading seed boxes to ensure they are sealed all around prior to opening seed box gates.

IMPORTANT:

Seed boxes must be locked down at all times while loaded on the unit, empty or full.

9. To remove seed boxes:
 - Work slowly to identify any shifting weight quickly.
 - Start by unloading Box 2 from the rear.
 - Unload Box 1 second.



Fig 28 - Seed box lock-down handles and latches

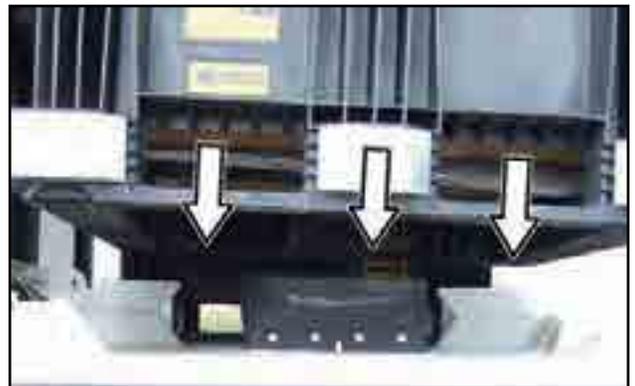


Fig 29 - Lower seed box onto hopper

3.7 DELIVERING SEED TO PLANTER

1. Position the seed tender near the planter.
2. Shut off the engine of the tow vehicle, set the parking brake, and remove the ignition key before leaving the cab.

IMPORTANT:

Seed tender must be connected to tow vehicle at all times during operation to avoid unit from tipping backwards.

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

CRUSH HAZARD

Do not move the upper auger tube while the seed box(s) are unlatched.

3. Start the gas engine.
 - a. Move fuel valve lever to the ON position.
 - b. To start a cold engine, move choke lever to the CLOSED position.
 - c. Turn the key switch to the START position. Release the key switch when the engine ignites.
4. Allow the engine to warm up for two or three minutes. If the choke was closed to start the engine, gradually open it as the engine warms up.



Fig 30 - Auger tube in transport position



Fig 31 - Gas engine

NOTICE

AUGER DAMAGE HAZARD

Be sure the auger cable is threaded into the hole in the end of the upper auger.

Damage to the auger can occur if the cable is not properly inserted.

Watch out that the cable is not bent while unfolding the tube. If the cable becomes bent or damaged, the auger cannot engage the two halves.

5. Use the hydraulic valve on the side of the tender to operate the tube unfolding cylinder.
 - Unfold tube to sit directly on lower tube.



Fig 34 - Hydraulic valve



Fig 35 - Auger drive coupling

6. Lock the tube together with the clamp.



Fig 32 - Locking clamp

7. Unhook the delivery spout.
 - Remove the hairpin retainer clip which locks the hook in place.
8. **IMPORTANT:** For best performance, set the hydraulic flow control valve to 6-7.
 - Further adjustment may be necessary depending on product type and condition.
9. Increasing the engine speed to maximum.



Fig 33 - Unhook delivery spout

⚠ WARNING

UPENDING HAZARD

Always unload seed box 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.

10. Open the seed box slide gate.
11. Fill the planting equipment.
 - a. Move the delivery spout to the bin and start the auger.
 - b. When the bin is full, stop the auger and move to the next one.
 - c. Repeat this process until the planter is full.
12. When the job is done, close the seed box slide gate.
13. Then, switch off the auger.

IMPORTANT:

If the tender will not be used again for an extended period of time, the auger tube should be cleared of all seed. This will help prevent the tube from being clogged with seed.

14. Turn off the gas engine.
 - Switch off the Fuel Shut-Off valve.

IMPORTANT:

Switch off the engine fuel before towing the seed tender on the open road.

⚠ DANGER

ELECTROCUTION HAZARD

Keep away from power lines.

- Auger tube must be folded down in transport position while towing.
- DO NOT tow tender with auger tube upright in operating position.



Fig 36 - Remote throttle switch



Fig 37 - Auger tube in transport position

15. Hook the delivery spout to the tube for storage.
16. Use the hydraulic valve to fold the auger tube into transport position, if the tender is going to be moved.

3.8 UNPLUGGING

⚠ WARNING

ENTANGLEMENT HAZARD
Do not place hands or fingers near rotating or moving parts.

IMPORTANT:

Do not operate the auger when it is plugged with excess seed or is hindered from moving by a foreign object. Continued operation can cause damage.

If the auger tube plugs, follow these instructions:

1. Stop the engine and remove the ignition key.
- Lock-Out, Tag-Out the tender system.
2. Open the top and/or bottom access door(s) between hopper chutes.
3. Clean out seed and remove any obstruction.
4. Close and secure the access door(s).

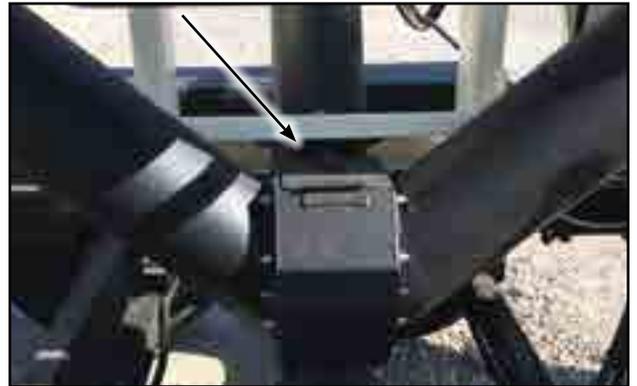


Fig 38 - Top clean-out access door



Fig 39 - Bottom clean-out access door

3.9 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.

3.9.1 Placing into Storage:

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 seed from the hopper chutes and inside the auger tube.
2. Inspect all moving or rotating parts and remove any entangled material.
3. Thoroughly wash the tender to remove all dirt, mud, debris and residue.
 - Wash around and inside the hoppers and their chutes.
 - Clean inside the auger tube.
4. Lubricate all grease fittings and bearings. Refer to Section 4.2

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.

5. Inspect, clean, and lubricate the auger tube hinge.

6. Inspect the condition of the auger flighting and delivery spout. Replace or adjust, as required.
7. Touch up paint nicks and scratches to prevent rusting.
8. Remove the ignition key and store in a secure place.
9. Remove the battery.
 - Be sure it is fully charge, check monthly.
 - Store it inside.
 - Do not sit battery on a cold, concrete floor.
10. Store the machine inside if possible.
 - If it must be outside, cover with a waterproof tarp and tie down securely.

3.9.2 Removing From Storage:

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

11. Remove the tarp, if covered.
12. Install and connect the battery.
13. Review and follow the Pre-Operation Checklist.
14. 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:

- Crankcase capacity
- Type of fuel to use, and quantity

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:

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

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.



Fig 40 - Tender

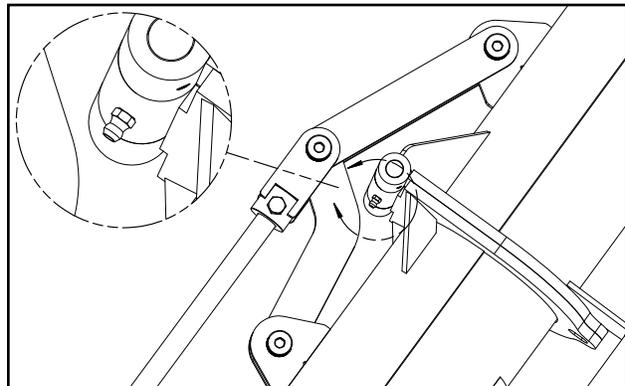


Fig 41 - Grease zerk on tube folder-over hinge

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:

For engine servicing and maintenance, refer to its manual for complete details.

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

4.2.1 After 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 in reservoir.
 - Add as required.
4. Test trailer break-away system.
5. Check wheel bolt torque at 10, 25, and 50 miles.

4.2.2 After 50 Hours or Weekly:

6. Clean or replace the engine air filter element.
 - Clean or replace the foam filter.
 - Replace the paper air filter, as required.
7. Check the tire pressure. Inflate tires to the recommended pressure stated on the tire.
8. Inspect the coupler in the hydraulic motor for wear.
9. Oil hydraulic drive coupler or chain.

4.2.3 After 100 Hours or Monthly:

10. Grease the tube fold-over hinge.
11. Check torque on wheel nuts.
12. Adjust the trailer brakes.
13. Inspect tires for wear.
14. Grease the axles.
15. Inspect brake magnets for wear.
16. Inspect suspension parts for wear.

4.2.4 After 200 Hours or Annually:

17. Change the hydraulic filter.
18. Check the hydraulic oil.
 - Change the oil if necessary.
19. Check that the battery retains its maximum charge.
20. Check wheel bolt torque.
21. Inspect brake lining wear,
 - Check brake cylinder for leaks
 - Inspect brake wiring for damage.
22. Repack the wheel bearings
 - Check for excessive play in the bearings.
 - Grease the wheel bearings
23. Check the hub for wear.
24. Inspect grease seal for leakage.
25. Inspect springs for any wear or loss of arch.
26. Inspect all electrical wiring connections for looseness or corrosion.
 - Tighten and/or seal, as necessary.
27. Check frame and trailer hold-down bolts.
28. Check the tires for wear. Replace if needed.
29. Thoroughly clean the tender.



Fig 42 - Tender wheels

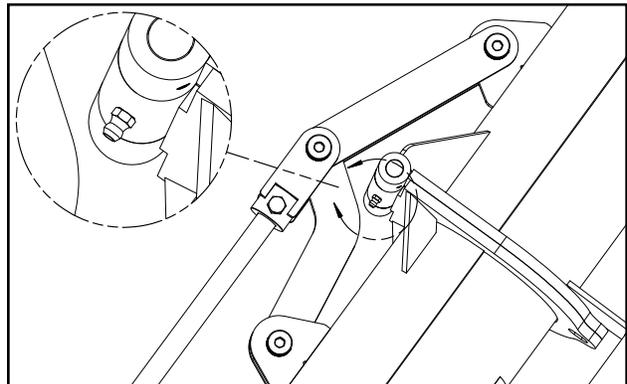


Fig 43 - Grease zerk on tube folder-over hinge

4.3 MAINTENANCE PROCEDURES

4.3.1 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 14209 or an equivalent tire:

ST205/75 R14

TR643

Load Range C

For Trailer Service Only

4.3.2 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.

4.3.3 Tube Fold-Over Hinge:

Add grease to the pivot shaft hinge until it is forced out of the joints annually or as needed.

4.3.4 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.

4.3.5 Battery:

SAFETY INSTRUCTIONS

BATTERY HAZARD

- Keep all sparks and flames away from batteries, as the gas given off by electrolyte is explosive.
- Avoid contact with battery electrolyte. Wash off any spilled electrolyte immediately to avoid severe chemical burns.
- 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 the battery ground cable before servicing any part of the electrical system. Never short circuit battery. It may explode.
- Protect battery terminals, battery charger terminals, and cables against accidental contact which can cause sparks, explosions, or component damage.
- Never attempt to jump start a frozen battery.

Inspect the battery at least once every six months and before using the seed tender at the beginning of the season. Always follow the safety instructions when servicing a battery.

Battery Replacement and Maintenance 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 a new SP-30 Lawn and Garden battery with 230 CCA and 290 CA ratings.
- Do not install the battery cable to the wrong terminal. Make sure the RED cable is connected to the + (plus) terminal and the BLACK cable is connected to the – (minus) terminal.
- Remove the batteries from the seed tender if not expected to be in use for several months.
- Use recommended practices when recharging a dead battery.
- Remove any corrosion from the battery post using a wire brush terminal cleaner. Corrosion can also be removed using a baking soda paste and water to neutralize and remove the acid from the battery terminals.
- Dispose of old batteries properly.
- Make sure the tie-down strap is connected to the frame of the battery box and in good condition (not cracked, cut, or damaged).
- The battery is not charged when the engine is operating. If the battery is not charging using an external charger, check the fuse. Replace the fuse if necessary.

4.3.6 Engine:

Refer to the engine manual for complete details on your particular model.

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).

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).

4.3.7 Engine Speed Setting:

WARNING

ROTATING PART HAZARD
The engine speed must be adjusted with the engine running. Use extreme caution when working near rotating parts.

Every engine is set with a high idle of 3000 RPM. Before using the seed tender, check the RPM.

1. Start the engine. Set the engine to high idle (full throttle).
2. Use a screwdriver to reset the high idle stop screw if required to obtain the desired speed



Fig 44 - Engine speed setscrew

4.3.8 Change Hydraulic Oil:

1. Stop engine and remove ignition key before maintaining.

WARNING

HOT LIQUID HAZARD

Engine and hydraulics must cool before changing the oil. Hot oil can cause burns if it contacts exposed skin.

IMPORTANT:

Annually, have an oil sample tested for particle count.

Change oil only if necessary.

2. Allow the hydraulics to cool slightly before changing oil.

Note:

It is best to change oil while the engine is warm (not hot) to keep contaminants in suspension.

3. Place a large pan or pail under the drain plug.
- Reservoir capacity is 3 US Gal (11.4 Liters).
4. Remove drain plug and allow to drain for ten minutes.
5. Install and tighten the drain plug.
6. Dispose of the used oil in an approved container and manner.
7. Fill the reservoir with specified oil.

4.3.9 Change Hydraulic Oil Filter:

1. Place a pan under filter to catch any spilled oil.
2. Remove hydraulic oil filter, and dispose of it.
3. Fill the new filter with hydraulic oil.
4. Apply a light coat of oil to the O-ring and install the new filter. Snug up by hand and then tighten another 1/2 turn.
5. Run the engine for 1-2 minutes and check for oil leaks.
6. If leaks are found around the drain plug or filter, tighten slightly.
7. Check oil level. Top up as required.



Fig 45 - Hydraulic oil filter

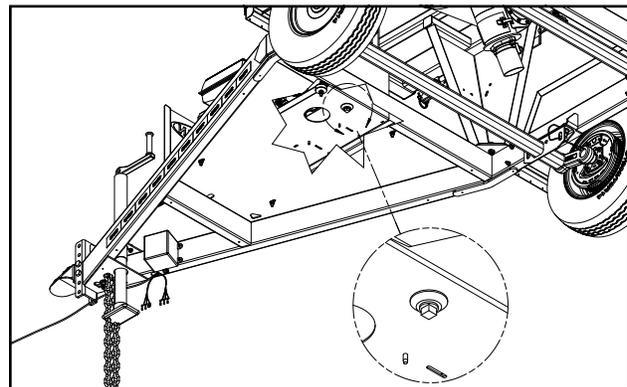


Fig 46 - Hydraulic oil filter

4.3.10 Unplugging Auger Tube:

IMPORTANT:

Do not operate auger when it is plugged with excess seed or is hindered from moving by a foreign object. Continued operation can cause damage.

If the auger becomes plugged, follow these instructions:

1. Stop the engine and remove the ignition key. Lock-Out, Tag-Out the engine to prevent accidental starting of the tender.
2. Open the top and/or bottom access door(s) and remove any excess seed or obstruction.
3. Close and secure the lower access door.

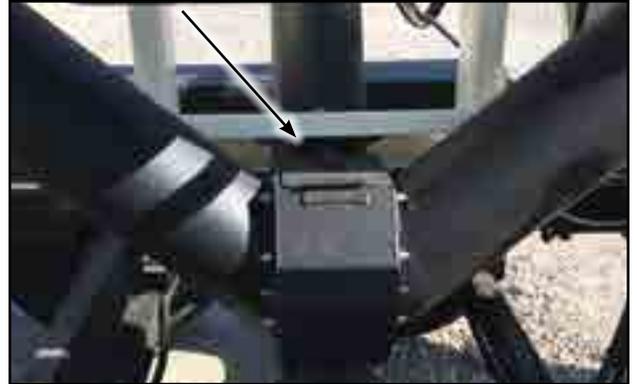


Fig 47 - Top clean-out access door



Fig 48 - Bottom clean-out access door

4.3.11 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.

Changing 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.



Fig 49 - Front of trailer



Fig 50 - Break-Away system

4.3.12 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.

4.3.13 Axle Bolts and Frame Hold-Down Bolts:

Check the torque on the axle/frame bolts at least once per year.

Check the torque on the frame hold-down bolts at least once per year.
Refer to Section 7.4 Bolt Torque.



Fig 51 - Tender wheels

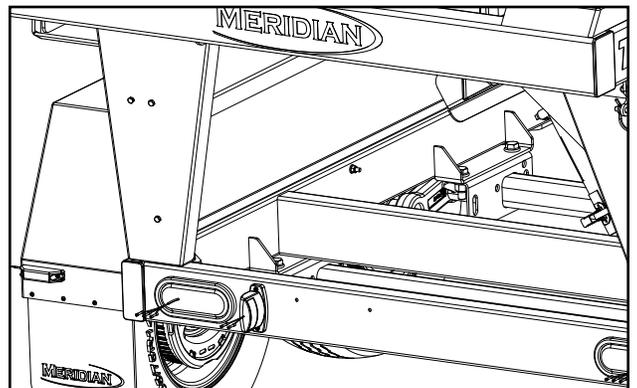


Fig 52 - Axle bolts

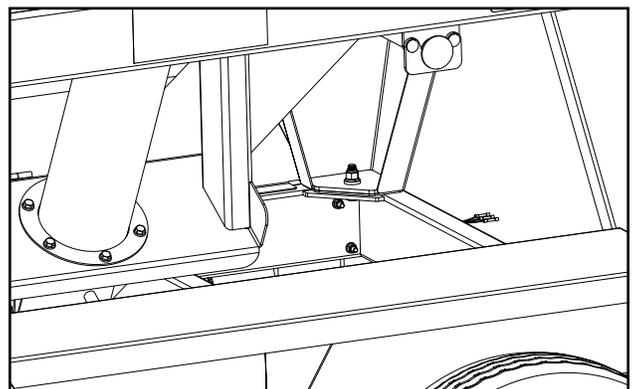


Fig 53 - Frame hold-down bolts

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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, Province/State, 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

Cause	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

Auger will not start

Not rotating	Start engine and increase speed above 1400 RPM
Hydraulic pump couplings or auger motor connection	Repair or replace
Flow control valve	Check flow settings
No hydraulic oil	Check oil level
Hydraulic valve or motor	Ensure hydraulic pump is working properly and hydraulic reservoir is filled with oil.

Electrical functions are not working properly

Battery cable or battery	Check battery cable and make sure battery is fully charged
Improper ground	Check for proper grounding of electrical circuit

Remote throttle doesn't work

No input power	Check charge of battery. Recharge or replace, as required
	Check connections in the remote throttle harness. Be sure connectors are clean and terminals are firmly pushed together.

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Section 6: REFERENCE

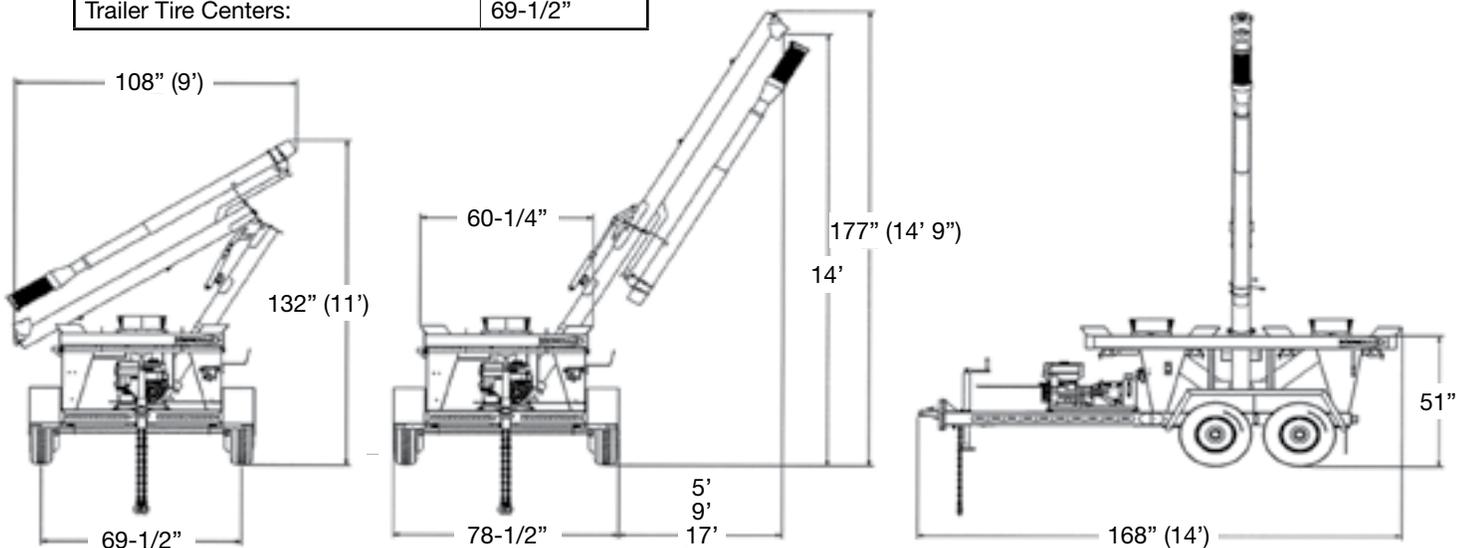
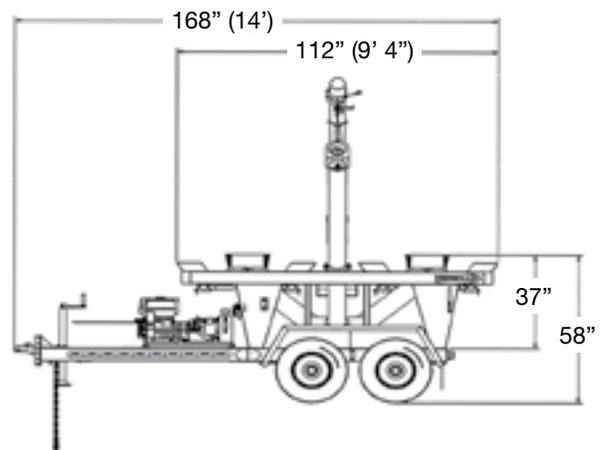
For information not included here, or for a digital copy of this manual, please call your dealer, or Meridian Manufacturing Inc. directly for assistance. Visit our website at: www.meridianmfg.com.

Note:

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

6.1 SPECIFICATIONS

Total Tender Length:	168" (14')
Tender Length:	112" (9' 4")
Tender Height:	37"
Tender Width:	60-1/4"
Tender with Trailer Length:	168" (14')
Tender with Trailer Height:	58"
Tender with Trailer Width:	78-1/2"
Auger Height:	177" (14' 9")
Delivery Height:	168" (14')
Delivery Reach w/o Spout:	60" (5')
Delivery Reach w/Spout Collapsed:	108" (9')
Delivery Reach w/Spout Extended:	204" (17')
Tender Transport Height:	132" (11')
Tender Transport Width:	108" (9')
Tender Deck Height:	51"
Trailer Tire Centers:	69-1/2"



6.2 BOLT TORQUE

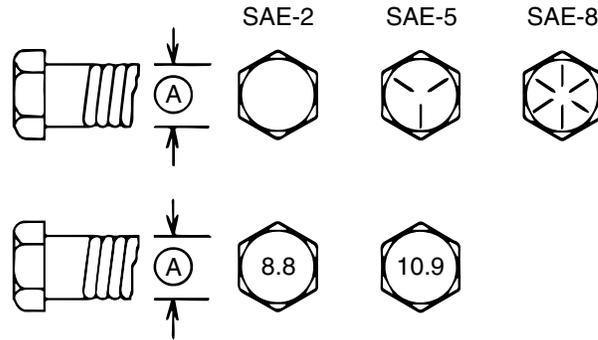
The tables shown below give correct torque values for various bolts and capscrews. Tighten all bolts to the torques specified in chart unless otherwise noted. Check tightness of bolts periodically, using bolt torque chart as a guide. Replace hardware with the same strength bolt.

IMPERIAL TORQUE SPECIFICATIONS						
Bolt Diameter "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
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 1 - Imperial Torque

METRIC TORQUE SPECIFICATIONS				
Bolt Diameter "A"	Bolt Torque*			
	8.8 (Nm) (ft-lb)		10.9 (Nm) (ft-lb)	
	M3	0.5	0.4	1.8
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

Table 2 - Metric Torque



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.

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