

MERIDIAN[®]

112 BST • 225 RST BULK SEED TENDER[®]



meridian.com/seed-express



OPERATOR'S MANUAL

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 Number _____ Serial Number _____

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 _____	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® 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.

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.

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 driver-side rear leg

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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:

**ATTENTION!
BECOME ALERT!
YOUR SAFETY IS INVOLVED!**

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.

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 - 112 BST tender

- 19939: FALLING HAZARD (top left)
- 19936: ROTATING PART HAZARD (middle left)
- 19937: MISSING SHIELD HAZARD (bottom left)
- 18435: DANGER ENTANGLEMENT HAZARD (bottom left)
- 19939: FALLING HAZARD (middle left)
- 18435: DANGER ENTANGLEMENT HAZARD (bottom left)
- 19935: POWER POINT HAZARD (top right)
- 19934: CAUTION (top right)
- 10479: American flag (top right)
- 17509: WARNING (top right)
- 19935: POWER POINT HAZARD (middle right)
- 17509: WARNING (middle right)
- 19935: POWER POINT HAZARD (bottom right)
- 19934: CAUTION (bottom right)
- 10479: American flag (bottom right)
- 17509: WARNING (bottom right)
- 19934: CAUTION (bottom right)
- 10479: American flag (bottom right)
- 19936: ROTATING PART HAZARD (bottom right)
- 19937: MISSING SHIELD HAZARD (bottom right)

Fig 3 - 225 RST tender

- 19939: FALLING HAZARD (top left)
- 18435: DANGER ENTANGLEMENT HAZARD (middle left)
- 19939: FALLING HAZARD (middle left)
- 18435: DANGER ENTANGLEMENT HAZARD (bottom left)
- 19935: POWER POINT HAZARD (top right)
- 19934: CAUTION (top right)
- 10479: American flag (top right)
- 17509: WARNING (middle right)
- 19935: POWER POINT HAZARD (middle right)
- 19934: CAUTION (bottom right)
- 10479: American flag (bottom right)
- 17509: WARNING (bottom right)
- 19934: CAUTION (bottom right)
- 10479: American flag (bottom right)
- 19936: ROTATING PART HAZARD (bottom right)
- 19937: MISSING SHIELD HAZARD (bottom right)

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

- Stay away from overhead obstructions and power lines. Electrocution can occur without direct contact. 
- Locate the tender providing enough space to load or unload.
- Position 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. Electrocutation 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 TRANSPORT SAFETY

- Never transport with auger tube and delivery spout extended. Always lower auger tube. Secure tube and spout before transport.
- 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.

2.16 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.



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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® Bulk Seed Tenders® have many features incorporated into them 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 tender will provide many years of trouble free service.

3.1 MACHINE COMPONENTS

A gas engine, mounted on the frame, powers the auger using a drive belt. A reduction case centrifugal clutch on the engine engages when the engine speed reaches 1400 RPM.

Use the actuator switch (on the delivery spout) to increase or decrease the speed of the auger.

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

The main components are:

- a. Compartment Cover (112 BST)
- b. Compartment 1 (225 RST, front of tender)
- c. Compartment 2 (225 RST, rear of tender)
- d. Roll Tarp and Crank Handle
- e. Trailer
- f. Gas Engine with Centrifugal Clutch and a Battery
- g. Auger Tube
- h. Auger Tube Clamp
- i. Telescoping Delivery Spout
- j. Engine Speed Actuator Toggle Switch
- k. Ladder
- l. Break-Away Trailer Brake System
- m. Compartment Slide Gate Lever(s)
- n. Document Holder (inside frame)



Fig 4 - 112 BST tender components



Fig 5 - 225 RST 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.

Gas Engine:

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

- a. Engine Ignition Key Switch:
Insert the key to operate.
- b. Throttle Lever:
Move the lever laterally to increase or decrease the RPM.
- c. Choke Lever:
Choke the valve for starting when the engine is cold. Open the choke as the engine warms.

IMPORTANT:

Always run at maximum engine speed.

- d. Fuel Shut-Off Valve:
Slide the lever toward engine to open.
- ALWAYS close the valve when not in use or before transporting.
- e. Starting Rope:
Grasp the T-handle firmly and pull the rope sharply to start the engine.
- The ignition key on must be ON to pull-start.

Reduction Case Centrifugal Clutch:

The clutch is attached to the engine output shaft. When the engine reaches 1400 RPM, the clutch engages, turning the drive belt, to rotate the auger.

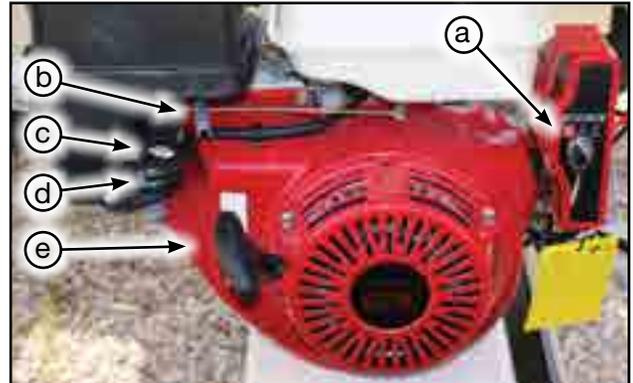


Fig 6 - Gas engine



Fig 7 - Centrifugal clutch and auger drive belt



Fig 8 - Battery in corner of frame

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.

Auger Tube:

The auger unloads to the left side. Always fold and store tube (and delivery spout) when not in use.

- The 112 BST uses lift support struts to assist in raising the auger tube into place.
- The 225 RST includes a fold-over actuator as a standard feature. It will help to raise and lower the auger tube.
 - Toggle switch is on the driver-side, rear leg.

⚠ 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.

Tube Locking Clamp:

Once the tube is raised and sitting in place, use the manual clamp to lock the two sections together.

Telescoping Delivery Spout:

The delivery spout, that hangs off the auger discharge, can extend to enable a wide reach for convenient distribution of product.

Engine Speed Actuator Toggle Switch:

An actuator toggle switch is fastened to the end of the delivery spout. Use it to control the auger when unloading.

Note:

The switch and wiring harness can be moved to another location if desired.



Fig 9 - Auger tube folded and in storage position



Fig 10 - Auger tube unfolded into working position



Fig 11 - Actuator toggle switch on delivery spout

Compartment Slide Gate(s):

Each gate has a push/pull lever located on the left-side. Use them to open and close the compartment gates.

- Each lever has a locking tab, to keep it secure.

Compartment Ladder:

Keep the ladder rungs clean to prevent a slipping hazard.

- The 112 BST's ladder is located on the front of the tender.
- The 225 RST's ladder is on the right-side.

Compartment Lid (112 BST):

A rubber latch is used to keep the lid closed.

Roll Tarp (225 RST):

Always keep the compartments covered when not being filled.

- The crank handle is extendable.
- Store the crank handle in the bracket at the rear of the tender.

Tender Trailer:

The bumper hitch trailer is 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.

Weigh Scale (Optional):

If the tender is equipped with a weigh scale system, load cells will be mounted inside the tender frame at each corner.

The display is located at the rear, left corner. Refer to the scale manual for instructions.



Fig 12 - Slide gate levers on the 225 RST



Fig 13 - 112 BST Compartment lid



Fig 14 - 225 RST Roll tarp and crank handle



Fig 15 - Tongue on the 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.



Fig 16 - Break-Away system control box



Fig 17 - Break-Away cable on hitch tongue

NOTICE

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

Weigh Scale (Optional):

If the tender is equipped with a weigh scale system, the display will be located on the driver-side, rear leg.

Load cells will be fastened at each corner, between the tender and trailer frames.

See the manufacturer's manual for detailed operational information.



Fig 18 - Weigh scale system



Fig 19 - Load cells between tender and trailer frame

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.

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

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

4. Check the engine and centrifugal clutch reduction case fluid levels.
 - Refill as necessary.
5. Check the tension and alignment of the auger drive belt.
6. Check hardware and fasteners; frame to trailer tie-downs, all fasteners, and wheel bolts. Tighten to their specified torque.
7. 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.
 - Refer to Service and Maintenance section.
2. Check the engine fuel and oil levels.
 - Add, if required.

IMPORTANT:

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

3. Check the centrifugal clutch reduction case fluid level.
 - Add, if required.
4. 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.

5. Make sure the wheel bolt lug nuts are tight.
6. Check the tires to be sure that they are inflated to their specified pressure.
7. Remove all entangled material.
8. Visually inspect the auger, tube and delivery spout for damage.
9. 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.
10. Check the tension of the auger drive belt.
 - Follow the instructions in the manual to adjust the tension.

3.5 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.

Compartment 1
(closest to hitch)

Compartment 2
(rear of tender)



Fig 20 - Compartment position identification

1. **IMPORTANT:** Lower and lock the auger tube in transport position at all times while towing.
2. Complete the Pre-Operation Checklist.
3. Use the trailer jack to lift the hitch above the height of the receiver on the tow vehicle.



Fig 21 - Trailer hitch with safety chains

Note:

The hitch height can be adjusted to ensure the trailer is level when attached.

4. Slowly back the tow vehicle until the hitch and ball are aligned.
5. Lower the hitch onto the ball.

6. Release the latch to lock the hitch around the ball
 - Insert a retainer clip, or pad lock to ensure the handle stays in the locked position.
7. Raise the jack and place it in its stowed position.
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 22 - Break-Away cable

3.6 COMPARTMENT LID (112 BST)

1. Carefully climb the ladder.
2. Release the rubber latch on the cover.
3. Raise the cover and push it forward.
4. Continue to push the cover forward until it is fully opened.
5. When the bin is filled, close the cover and lock it in place with the rubber latch.

IMPORTANT:

Close the lid completely and lock the rubber latch in place before towing the seed tender. Failure to lock the rubber latch could allow the cover to blow open, resulting in damage to the unit.



Fig 23 - 112 BST ladder



Fig 24 - Lid latch



Fig 25 - Lift lid



Fig 26 - Push lid to the left

3.7 ROLL-UP TARP (225 RST)

1. Using both hands, carefully unclip the holder and remove the crank handle.
2. Extend the crank rod to a comfortable operating position.



Fig 27 - Remove tarp crank handle

3. Roll the tarp to the fully opened position.
4. Return the crank handle back into the holder and close to secure.

IMPORTANT:

Always keep the compartments covered when not being filled.

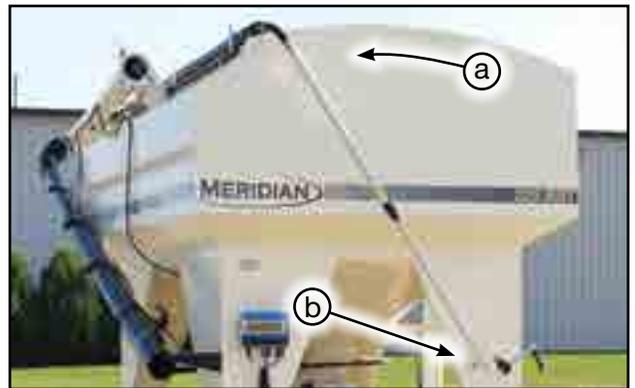


Fig 28 - (a) Open tarp. (b) Store crank handle

5. Cover the compartments with the tarp when finished filling the tender.
6. Tighten the tarp by using the ratchet straps, before traveling a long distance.

IMPORTANT:

Provide proper tarp tension by using the ratchet straps provided. There is a cable at both ends of the tarp. Insert these cables, into the straps and tighten. Failure to do so, may result in damage to the tarp if blown open, while towing.

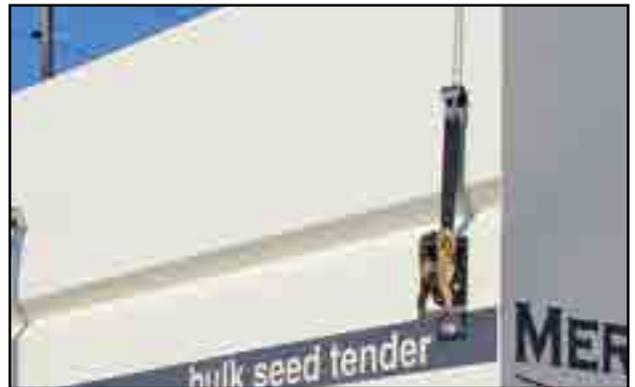


Fig 29 - Store tarp crank handle

3.8 LOADING THE TENDER

NOTICE

UPENDING HAZARD

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

⚠ WARNING

225 RST UPENDING HAZARD

Load compartment 1 (closest to hitch) first to keep weight on the hitch.
Unload compartment 2 first to keep weight on the hitch.

1. Connect the seed tender to a tow vehicle of sufficient size to safely transport it.
2. Before loading the tender, shut off the engine on the tow vehicle, set the parking brake, and remove the ignition key.
3. Open the compartment lid or roll tarp.
4. Fill the front compartment first to maintain a positive tongue weight.
 - Fill the second compartment, if using the 225 RST.
5. Close the compartment lid and secure the rubber latch.
 - or -
 - Close the tarp and store the crank handle in the holder.



Fig 30 - Open the compartment

3.9 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

22 RST 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. Position the seed tender near the planter.
2. Before unloading, shut off engine on the tow vehicle, set the parking brake, and remove the ignition key.
3. Unhook the tie-down strap which is holding the delivery spout.
4. Lower the delivery spout to the ground.



Fig 31 - Stored spout on 112 BST



Fig 32 - Stored spout on 225 RST

NOTICE

AUGER DAMAGE HAZARD

Be sure the auger cable has been fed into the hole in the end of the auger flighting. 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.



Fig 33 - Auger cable

IMPORTANT:

Before raising the 112 BST auger tube, make sure the electrical cable is not wrapped around the auger support post. If the cable is not able to move freely, it can be damaged when the auger tube is lifted into place.



Fig 34 - Beware of trapped cable

5. Raise the auger tube by pushing it upward, using the delivery spout.
 - Two lift support struts assist in raising the auger tube.

⚠ WARNING

FALLING HAZARD

Locking the auger tube requires the operator to stand on the fender.

Use caution, do not slip or fall while climbing on or off the tender.

6. Lock the auger tube to the base using the over-center clamp.
7. Place the delivery spout onto the delivery spout storage bracket.
8. Press and hold the actuator switch to move the throttle lever 1/3 the distance of the full open position.
 - An electronic actuator is connected to the throttle lever to increase and decrease the engine speed.



Fig 35 - Auger tube in working position

9. Start the engine:
 - a. Open the Fuel Shut-Off valve.
 - b. To start a cold engine, CLOSE the choke.
 - c. Turn the key to the START position.

Note:

- When engine speed exceeds 1400 RPM, the centrifugal clutch will engage, rotating auger.
- Increasing engine speed will increase unloading rate.
- If necessary, decrease engine speed below 1400 RPM using the remote throttle control switch (on the delivery spout) to stop the auger.



Fig 36 - Gas engine

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

11. Open the compartment gate.

12. Move the Throttle lever to run the engine at full speed.

13. Fill the planting equipment.
 - a. Move the delivery spout to the seed box or bin and increase engine speed to 1400 RPM. The centrifugal clutch will start the auger.
 - b. When the seed box or bin is full, reduce the engine RPM to stop the auger.
 - c. Move the delivery spout to the next box and increase engine RPM to fill the next one.
 - d. Repeat this procedure until the remaining boxes or bins are filled.

14. When the transfer of product is complete, close the compartment gate.

15. Reduce the engine RPM to stop the auger.

IMPORTANT:

If the unit will not be used for an extended period of time, the auger tube should be cleared of product. This will help prevent the seed from being clogged inside.



Fig 37 - Actuator toggle switch on delivery spout

16. Turn the engine off.
 - Close the fuel shut-off valve.
17. Before towing the tender:
 - Fold the auger tube.
 - Return the delivery spout to its storage position.
 - Latch the tie-down strap over the delivery spout.

IMPORTANT:

To prevent damage, do not wrap the tie-down strap over the actuator switch.

3.10 UNPLUGGING

WARNING

ENTANGLEMENT HAZARD

- Do not operate without guards in place.
- Do not place hands or fingers near rotating or moving parts.
- Stop engine and remove key, before working on the machine.

If the auger tube becomes plugged:

1. Place the delivery spout on its storage bracket.
2. Stop the engine and remove the ignition key.
3. Lock-Out, Tag-Out the engine.
4. Open the access door at the bottom of the unloading auger tube.
5. Remove the obstruction.
6. Close and secure the access door.



Fig 38 - Auger tube access door

3.11 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.

1. Remove all product from the compartments and inside the auger tube.
2. Inspect all moving or rotating parts and remove any entangled material.
3. Check condition of auger and deliver spout.
 - Repair or replace, as required.
4. Check the condition of the centrifugal clutch reduction case, pulleys, idlers, and drive belt.
 - Adjust or replace, as required.
5. Close the engine Fuel Shut-Off valve.
6. Remove the ignition key and store securely.
7. Remove the battery.
 - Be sure it is fully charge, check monthly.
 - Store it inside.
 - Do not sit battery on a cold, concrete floor.
8. Thoroughly wash the tender to remove all dirt, mud, debris and residue.
 - Wash around the tender and inside the compartments.
 - Clean inside the auger tube.

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

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

10. Touch up paint nicks and scratches to prevent rusting.
11. Close the roll tarp to protect the compartments.
12. Store the tender inside if possible.
 - If it must be outside, cover with a waterproof tarp and tie down securely.
13. 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:

14. Remove the tarp, if covered.
15. Install and connect the battery.
16. Review and follow the Pre-Operation Checklist.
17. 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.



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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.

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 centrifugal clutch reduction case fluid 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 the drive belt tension and alignment.

4.2.2 Every 50 Hours or Weekly:

8. Clean or replace the engine air filter element.
 - Clean or replace the foam filter.
 - Replace the paper air filter, as required.
9. Check the tire pressure. Inflate tires to the recommended pressure stated on the tire.



Fig 39 - Engine air filter

4.2.3 Every 100 Hours or Monthly:

1. Grease the auger tube fold-over hinge.
2. Check wheel bolt torque.
 - Torque to 90-120 ft-lb
3. Adjust the trailer brakes.
4. Inspect tires for wear.
5. Grease the axles.
6. Inspect brake magnets for wear.
7. Inspect suspension parts for wear.
8. Check battery electrolyte levels, and clean terminals to remove dirt and corrosion.

4.2.4 Every 200 Hours or Annually:

1. Change the engine oil.
2. Check that battery retains maximum charge.
3. Inspect brake lining wear:
 - Check brake cylinder for leaks.
 - Inspect brake wiring for damage.
4. Repack the wheel bearings:
 - Check for excessive play in the bearings.
 - Grease the wheel bearings.
5. Check the wheel hub for wear.
6. Inspect axle grease seal for leakage.
7. Inspect springs for any wear or loss of arch.
8. Inspect all electrical wiring connections for looseness or corrosion.
 - Tighten and/or seal, as necessary.
9. Check trailer axle, frame, hitch and tender hold-down bolts.
 - Refer to Section 6.2 Bolt Torque.
10. 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 40 - Trailer wheels



Fig 41 - Auger tube hinge

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 and Reduction Case 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 closed.
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 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 tender, check the RPM of the auger drive pulley.

1. Start the engine.
 - Use the actuator toggle switch on the delivery spout to set the engine to high idle (full throttle).
2. Use a tachometer to check the large drive pulley speed. The pulley should turn 200 RPM at high engine speed.
3. Use a screwdriver to reset the high idle stop screw if required to obtain the desired speed.



Fig 42 - Engine speed setscrew

4.3.3 Linear Actuator Replacement:

Removal:

1. Disconnect the actuator from the engine wiring harness (a).
2. Remove both bolts (b) from the linear actuator.
3. Loosen screw on wire holder (c), and loosen screw on cable holder (d).
- Then remove the actuator cable from the holders.

Installation:

4. Connect the cable of the new actuator to engine harness connector (a).
5. Line up the cable end (e) with the cable/wire holders.
- Tighten screw on cable holder (d).
6. Use actuator toggle switch on the delivery spout to position the wire.
- Once wire is positioned, tighten wire holder screw (c).
7. Fasten the actuator to the engine base (b).
8. Ensure all personnel are clear of unit. Start the engine and test the actuator by pressing actuator switch to ensure the engine speed increases and decreases as designed.



Fig 43 - Actuator to engine wiring harness



Fig 44 - Actuator bolts

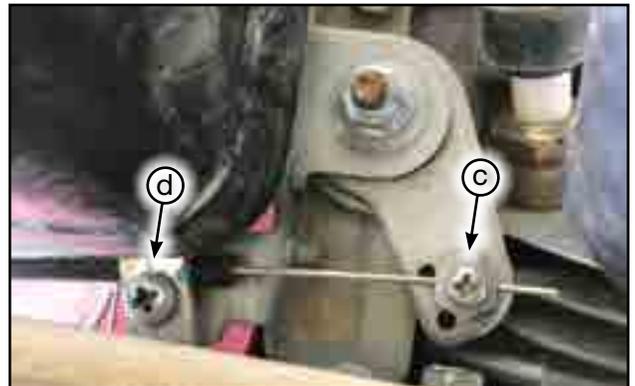


Fig 45 - Wire holder arm



Fig 46 - Cable end

4.3.4 Drive Belt Tension:

The auger is driven by a belt from the motor. The belt is tightened by using the adjusting bolt to move the engine base

Loosen the engine base adjusting bolt lock nut and move the engine base to set the desired belt tension.

Calculate the tension See Figure 56:

- Measure the length of span between pulleys.
- Allow 1/64" of deflection per inch of span.



Fig 47 - Engine base adjustment bolt

4.3.5 Drive Pulley Alignment:

1. Lay a straight edge across both drive and driven pulleys to check alignment.
2. Use the tapered lock hub in the center of the pulley to adjust the position of a pulley if required.
3. Move a pulley to align if there is more than a 1/32 inch gap between the edge of the pulley and the straight edge.

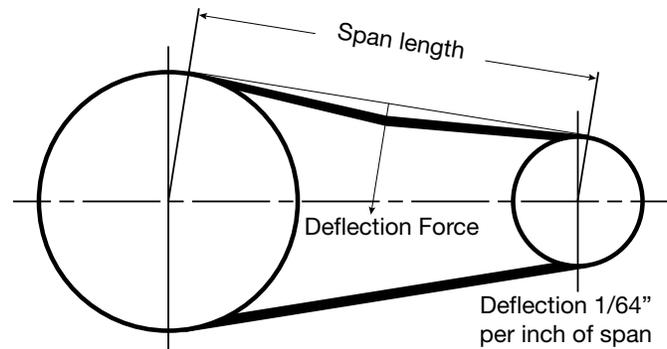


Fig 48 - Tension calculation

4.3.6 Drive Belt Installation:

Release the base when replacing the belt.

IMPORTANT:

Always install and secure the guard before resuming work.

1. Loosen the four engine mounting bolts.
2. Loosen the engine base stabilizing bolt.
3. See Figure 59 for the correct routing of the drive belt.
4. Set the belt tension. Refer to Section 4.3.5
5. Check the pulley alignment. Refer to Section 4.3.6
6. Tighten the adjustment bolt lock nut.
7. Tighten the four engine mounting bolts.
8. Tighten the engine base stabilizing bolt.



Fig 49 - Engine mounting bolts



Fig 50 - Engine base stabilizing bolt



Fig 51 - Drive belt routing

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 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.

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.



Fig 52 - Break-Away system control box



Fig 53 - Break-Away cable on hitch tongue

4.3.8 Axle, Trailer, Frame Bolts:

Check the axle, frame, trailer and tender hold-down bolt torque at least once per year.

4.3.9 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.

4.3.10 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.

4.3.11 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

4.3.12 Wheel Bearings:

Each axle is equipped with a grease zerker 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.

4.3.13 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.



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4.4 SERVICE RECORD

See Section 4.2 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												
	Serviced By												
10 Hours or Daily													
Check Engine Fluid Levels													
Check Reduction Case Fluid Level													
Test Break-Away System													
Check Tires and Wheel Bolt Torque													
Check Drive Belt Tension and Alignment													
50 Hours or Weekly													
Clean/Replace Engine Air Filter													
Check Tire Pressure													
100 Hours or Monthly													
Grease Auger Tube Fold-Over Hinge													
Check Turntable Platform Chain Drive													
Check Wheel Bolts Torque													
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 Battery Charge													
Inspect Brake Lining													
Repack Wheel Bearings													
Inspect Wheel Hubs													
Inspect Axle Grease Seals and Springs													
Inspect Electrical Wiring													
Check Trailer Axle, Frame, Hitch 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

Auger will not start

Not rotating	Start engine and increase speed above 1400 RPM
Drive pulley connection or auger coupling	Repair or replace
Drive belt slipping	Increase belt tension
No oil in reduction case	Check oil level, add if required
Failed centrifugal clutch	Replace clutch

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 electrical circuit

Actuator toggle switch doesn't work

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

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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 54 - Measurements of 112 BST tender

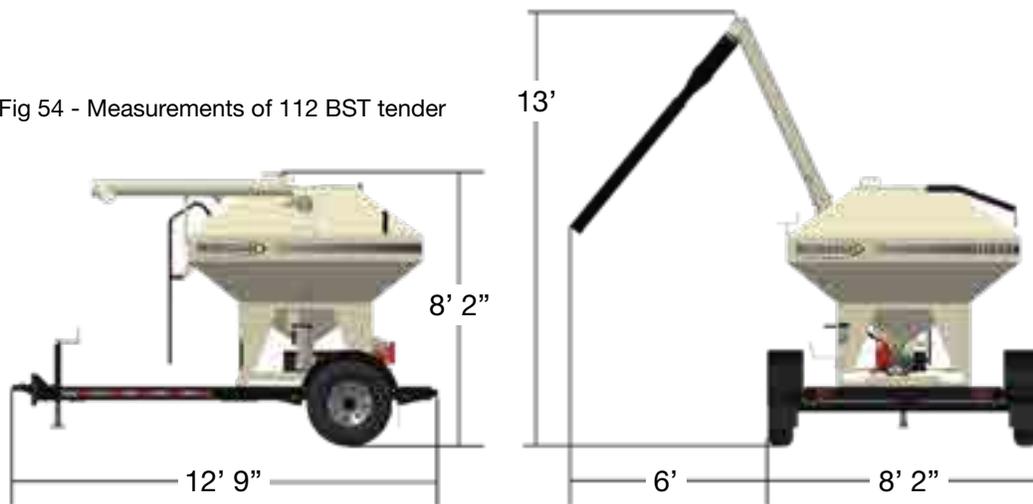
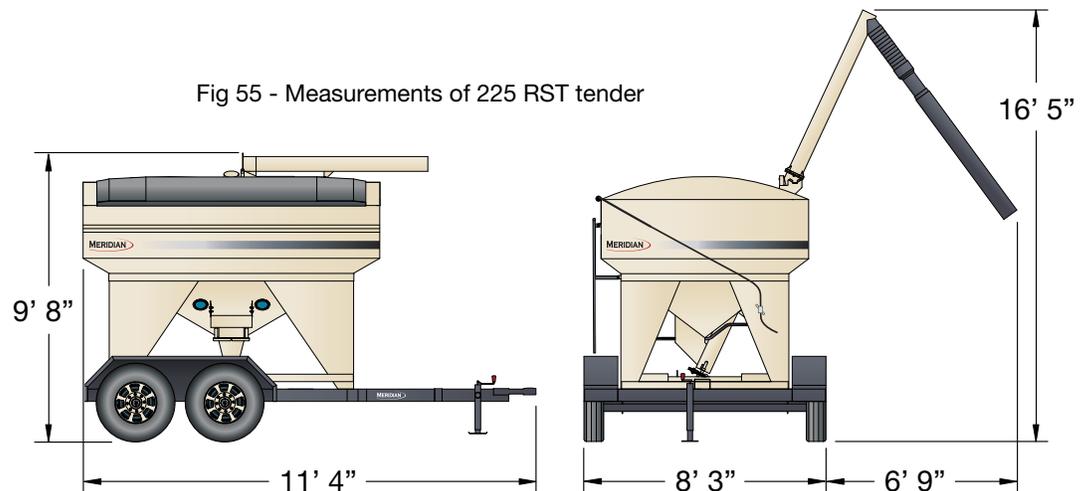


Fig 55 - Measurements of 225 RST tender



6.2 BOLT TORQUE

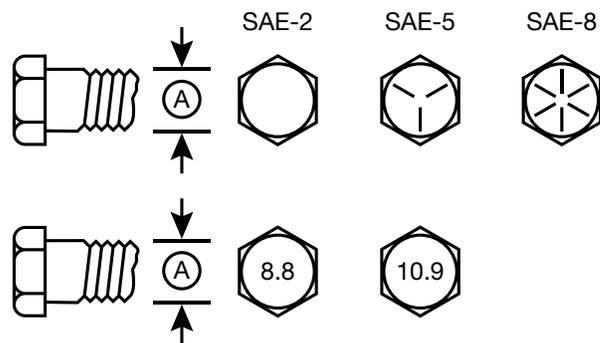
The tables shown below give correct torque values for various bolts and capscrews. Tighten all bolts to the torques specified in chart unless otherwise noted. Check tightness of bolts periodically, using bolt torque chart as a guide. Replace hardware with the same strength bolt.

Table 1 - 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 2 - 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.

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

- The product must be registered with Meridian Manufacturing Inc.
- The purchaser must contact the dealer, from where the unit was purchased, immediately upon discovery of any defects.
- A completed Warranty Request (Claim) Form must be submitted by the dealer to 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.
- 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.
- All warranty requests will be adjudicated at the sole discretion of Meridian and in accordance with the terms and conditions of the warranty.



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