MERIDIAN®

OPERATOR'S MANUAL

FUEL TRAILER

MODEL 990

LIMITED MATERIALS AND WORKMANSHIP WARRANTY
FOR FUEL TRAILERS

Meridian Manufacturing Inc. (hereinafter referred to as the Manufacturer) hereby warrants the Fuel Trailer(s) sold by it to be free from any defect in material or workmanship under normal use and service for a period of one (1) year from the date of shipment. The Manufacturer's obligation under this warranty shall be limited to the repair or replacement only, FOB the original point of shipment, of any defective parts or portions of the fuel trailer or accessories manufactured by Meridian. Any warranty claim must be reported to the Manufacturer within one (1) year from the date of shipment.

THIS WARRANTY IS SUBJECT TO THE FOLLOWING LIMITATIONS, PROVISIONS AND CONDITIONS:

1. This warranty does not apply:
   a. To any product sold by the Manufacturer where it is used in areas exposed to corrosive or aggressive conditions including salt water, acids, alkaloid, ash, cement dust, animal waste or other corrosive chemicals from either inside or outside the bin.
   b. For failures or defects arising out of damage during shipment or during storage on site.
   c. To materials replaced or repaired under this warranty except to the extent of the remainder of the applicable warranty.
   d. To damage resulting from misuse, negligence, accident or improper site preparation by others.
   e. If the product has been altered or modified by others.
   f. If in the case of coating failures the failure is the result of damage, lack of proper maintenance or failure to remove road salt or other contaminants that may have come in contact with the bin surface.
   g. To loss of time, inconvenience, loss of material, down time or any other consequential damage.
   h. For a function that is different than original designed intent.

2. The obligation of the Manufacturer under this warranty shall not arise unless the Manufacturer is notified and this warranty is presented together with a written statement specifying the claim or defect within thirty (30) days after the failure is first detected or made known to the owner and within one (1) year from the shipment date. The Manufacturer in its sole discretion shall determine if the claim is valid and whether correction of the defect or failure shall be made by repair or replacement of the materials.

3. The coating warranty is based on the manufacturer's performance specification for Polyester Powder finishes and does not include repair of minor blemishes or rusting that is normally part of the general maintenance of the fuel trailer. This warranty does not cover excessive wear on interior coatings. See attachment for full Performance Specification details on Polyester Powder Finishes.

4. The obligation of the Manufacturer hereunder extends only to the original owner and to the Meridian dealer to whom the materials may have been initially sold. This warranty shall not be subject to any assignment or transfer without the written consent of the Manufacturer.

5. The customer shall acknowledge that it has made its own independent decision to approve the use of the supplied materials and also the specific fabrication and construction procedures utilized to complete the fuel trailer, and has satisfied itself as to the suitability of these products for this particular application.

6. The foregoing sets forth the only warranties applicable to said materials and said warranties are given expressly and in lieu of all other warranties, expressed or implied, statutory or otherwise, of merchantability or fitness for a particular purpose and all warranties which exceed or differ from said warranties herein are disclaimed by the Manufacturer.

7. The owners sole and exclusive remedy against the Manufacturer shall be limited to the applicable warranty set forth herein and the endorsements, if any, issued together with this document and no other remedy (including but not limited to the recovery of assembly or disassembly costs, shipping costs, direct, incidental, special, indirect or consequential damages for lost profits, lost sales, injury to person or property or any other loss, whether arising from breach of contract, breach of warranty, tort, including negligence, strict liability or otherwise) shall be available to the owner or Meridian Dealer or any other person or entitles whether by direct action or for contribution or indemnity or otherwise.

8. The financial obligation of the Manufacturer under this warranty shall be limited to the repair or replacement of the product as originally supplied and in no event shall exceed the original cost of the product supplied.

9. The Manufacturer shall not have any obligation under any warranty herein until all accounts for materials, installation and erection of the said product thereof and for labor and other work performed by the Manufacturer or its dealers have been paid in full by the owner.

Warranty Claim Procedure:

1. Registering product with Meridian Manufacturing.

2. Contact the dealer unit was purchased from upon discovery of any defects.

3. A completed warranty claim form submitted by dealer to Meridian warranty representative for review and course of action.

4. Warranty repair work will only be performed by Meridian, the dealer or an approved representative. No warranty work completed prior to approval. Failure to follow procedure may affect any or all reimbursement.

5. Claims will be adjudicated at the sole discretion of the manufacturer and in accordance with the terms and conditions of the applicable limited warranty.

6. A complete list of warranty procedures can be procured from the Warranty Department or found in your operator's manual.

Effective July 1, 2009

WARRANTY REGISTRATION FORM

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

The Dealer must fill out this form, and be signed by both the Dealer and Buyer at the time of delivery. Scan/photograph the completed form (must be legible), email to: iowa_warranty@ meridianmfg.com. A copy of this form may also be mailed to Meridian Manufacturing Inc, at the above address.

Buyer's Name _____

Address _____

City _____

Province/State _____

Postal Code/Zip Code _____

Country _____

Phone Number _____

Dealer's Name _____

Address _____

City _____

Province/State _____

Postal Code/Zip Code _____

Country _____

Phone Number _____

Unit's Model Number _____

Unit's Serial Number _____

Delivery Date _____

General Purpose: ☐ Private ☐ Commercial

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

Date _____ Dealer's Signature _____

The above equipment and Operator's 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

- [ ] If equipped, check gasoline engine fuel level
- [ ] If equipped, check gasoline engine oil level
- [ ] If equipped, start gasoline engine
- [ ] Inspect brake and lighting wiring harness connection
- [ ] Check air pressure in tires
- [ ] Make sure electric brakes are in working condition
- [ ] Make sure all guards/shields are installed correctly
- [ ] Make sure all safety signs are installed and legible
- [ ] Make sure all four 1993 Diesel Fuel Placards are installed
- [ ] Reectors and lights must be clean and working
- [ ] Inspect customer's hitch for 2 -5/16" ball
- [ ] Verify receipt of all options ordered
- [ ] Make sure hitch-to-tongue bolts are tight
- [ ] Make sure safety chains are properly attached and are in good working condition
- [ ] Wheel nuts/bolts must be tightened to proper torque on all wheels
- [ ] Wiring harness plug must be in working condition and fits into tow vehicle's receptacle
- [ ] Make sure breakaway cable and pin is supplied with trailer
- [ ] Make sure battery is fully charged and in good working order
- [ ] Make sure license plate light is operating
- [ ] Make sure turn signal lights are operating
- [ ] Make sure brake lights are operating
- [ ] Verify that tow vehicle is large enough to safely tow the trailer
- [ ] Make sure owner is instructed to check wheel bolt/nut torque at 5, 10, 25, and 50 miles; then check annually
- [ ] Review safety and operating instructions with owner

CERTIFICATE OF ORIGIN

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

LICENSING INFORMATION

Delivery Date _____

DEALER _____

Address _____

City _____

State _____

Zip Code _____

Phone Number _____

SOLD TO _____

Address _____

City _____

State _____

Zip Code _____

Phone Number _____

Unit's Model Number _____

Unit's Serial Number _____

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TABLE OF CONTENTS

continued on next page

TABLE OF CONTENTS

Note:
In the electronic version of this manual,
the drawings and schematics are contained in a separate parts book.

Section 1: INTRODUCTION

Congratulations on your choice of a Meridian Manufacturing Inc. Fuel Trailer to complement your farming operation. This equipment has been designed and manufactured to meet the exacting standards for such equipment in the agricultural industry and will keep your operation running at optimum efficiency. The Fuel Trailer is designed to transport diesel fuel and diesel exhaust fluid (DEF) to your machinery.

Safe, efficient, and trouble-free operation of your Fuel Trailer requires that you, and anyone else who will be operating or maintaining the equipment, read and understand the Safety, Operation, Maintenance, and Troubleshooting information contained within this Operator's Manual.

Keep this manual handy for frequent reference. Pass it on to new owners. Call your Meridian Manufacturing Inc. dealer or distributor if you need assistance, information or additional/replacement copies, or a digital copy of this document.

Information provided herein is of a descriptive nature. Meridian® reserves the right to modify the equipment design and specifications provided herein without any preliminary notice.

1.1 OPERATOR ORIENTATION

The directions; left, right, front, and rear, as mentioned throughout this manual, are as seen from the truck drivers' seat and facing in the direction of travel.

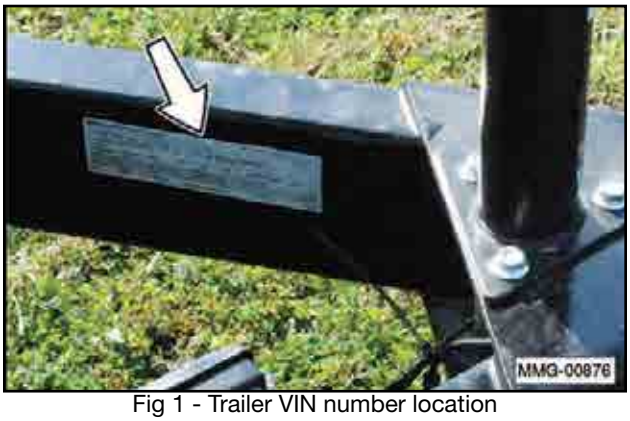


Fig 1 - Trailer VIN number location

1.2 VIN 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:

Trailer Serial No: _____

Engine Serial No: _____


Fig 2 - Engine serial number location

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

Fig 3 - Meridian patent logo

1.4 DISPOSAL OF EQUIPMENT AT END OF USEFUL LIFE

The Fuel Trailer has been designed for the specific purpose of transporting diesel fuel and diesel exhaust fluid (DEF) to your machinery using country roads, local highways, and on agricultural farm land. When this unit is no longer capable of performing its designed purpose, it should be dismantled and scrapped. Do not use any materials or components from this unit for any other purpose.

Fig 4 - Trailer serial number location

1.5 BEFORE STARTING GAS ENGINE

Before starting the gasoline engine for the first time, check the engine oil level. Add oil as necessary. Operating the engine without oil will damage the engine and void the warranty.

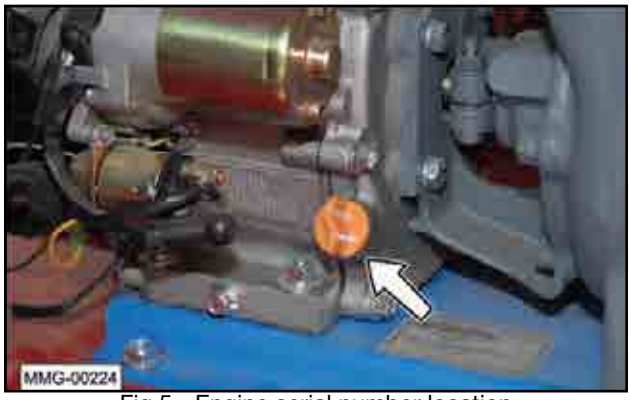


Fig 5 - Engine serial number location

NOTICE

Check the engine oil level and add as needed.

Section 2: SAFETY

The Safety Alert Symbol means:

ATTENTION!
BECOME ALERT!
YOUR SAFETY IS INVOLVED!

3 Big Reasons why safety is important to you:

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

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

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

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

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

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

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

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

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

2.1 SAFETY ORIENTATION

YOU are responsible for the SAFE usage and maintenance of your Meridian® Fuel Trailer. Be sure that everyone who will maintain or work around it, is familiar with the safety, 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 using the trailer.

It has been said, "The best safety feature is an informed, careful worker" 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.

- Trailer owners must give instructions to employees before allowing them to use it.

  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 worker. It is their responsibility to understand all safety and usage instructions in this document, and to follow them.

- An untrained worker 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, filling, towing or maintaining the trailer.

  This trailer was designed for a specific application; transporting diesel fuel and diesel exhaust fluid (DEF). DO NOT modify or use this trailer for any application other than which it was designed.

  Trailers that are filled or operated improperly or by untrained personnel can be dangerous, exposing themselves and/or bystanders to possible serious injury or death.

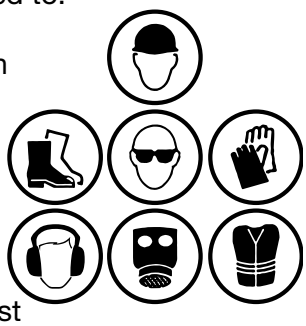
- Have a first-aid kit available for use should the need arise.

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

- Wear appropriate protective gear. 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 trailer.

  Consult your doctor about operating machine while taking prescription medications.

- Review safety related items annually with all personnel who will be using or maintaining the trailer.

2.3 EQUIPMENT SAFETY GUIDELINES

- Safety of the workers and bystanders is one of the main concerns when designing and developing this trailer. 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 use this trailer until they have read this manual. They should have a thorough understanding of the safety precautions.

  Review the safety instructions with all users annually.

- In order to provide a better view, certain photographs or illustrations 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 usage.

  Personnel must be responsible, properly trained and physically able. You should be familiar with farm equipment 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 trailer includes safety decals and equipment. They need to be clean, readable and in good condition.

2.4 SAFETY DECALS

- Keep safety decals clean/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 How to Install Safety Decals:

1. Be sure the application area is clean and dry. Ensure the surrounding temperature is above 10°C (50°F).
   - Remove all dirt, grease, wax from the surface.
   - Clean with a non-ammonia based cleaner.
   - 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 types of safety signs and locations on the equipment are shown in the following pages. Good SAFETY AWARENESS requires that you familiarize yourself with the various safety signs, the type of warning and the area, or a particular function related to that area.

Fig 6 - Fuel Trailer

Fig 7 - Serial number decal

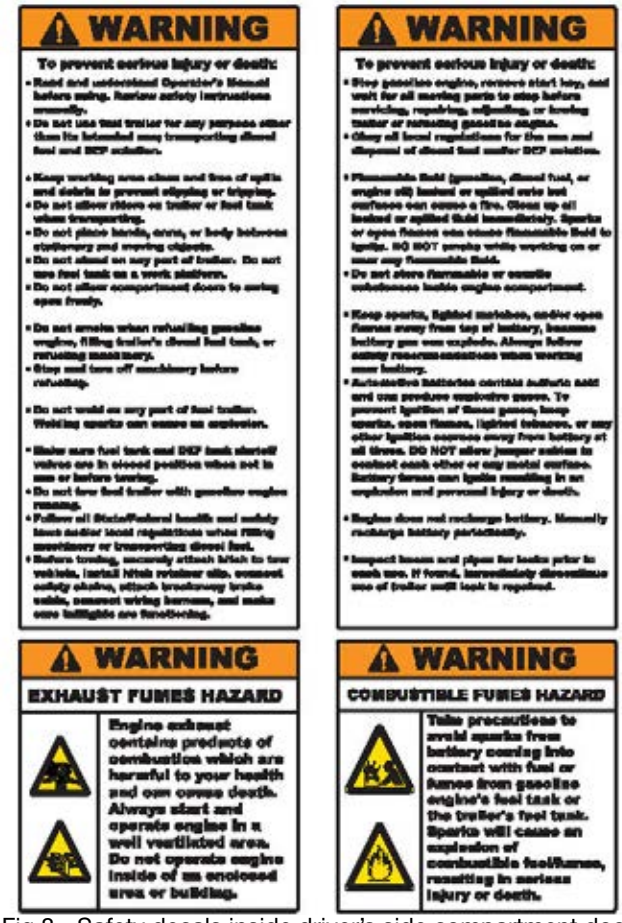


Fig 8 - Safety decals inside driver's side compartment door

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 INSTALLING 1993 DIESEL FUEL PLACARDS

⚠ WARNING

FUEL PLACARD INSTALLATION

Before transporting fuel, diesel fuel placards must be displayed on all four sides of the trailer.

Fuel trailers are shipped with four diesel fuel placards that are not installed. Federal regulations require that the placards be installed before filling the tank with diesel fuel.

Install one placard on each of the four sides.

SAFETY INSTRUCTIONS

Install placards prior to filling the fuel tank with diesel fuel.
Trailers that have never been filled with fuel do not require the placards in order to be towed.

2.7 WORK PREPARATION

- Never use the trailer until you have read all equipment manuals, and understand the information.

  Also, read the engine operator's manual.

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

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

- Work only in daylight or good artificial light.

- Be sure all machinery 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 all equipment for any loose bolts, worn parts, cracks, leaks or frayed belts. Make the necessary repairs.

  Always follow the maintenance instructions.

2.8 OPERATING SAFETY

- Make sure that anyone who will be using the trailer or working on or around it reads and understands all the operating, maintenance and safety information in the operator's manual.

- Keep all bystanders, especially children, away from the trailer when filling or refueling is being done, or when authorized personnel are carrying out maintenance work.
- Keep working area clean and free of debris to prevent slipping or tripping.
- Keep hands, feet, hair, and clothing away from rotating parts on the machinery being refueled.
- Do not place hands, fingers, or arms between moving parts.
- Stay away from overhead power lines. Electrocution can occur without direct contact.
- Use care when climbing on machinery to prevent slipping or falling.

- Know and follow applicable national, state, and local safety codes concerning safe handling of petroleum fuels.
- Gasoline is a highly flammable fuel. The improper use, handling, or storage of gasoline can be dangerous. Never fill a hot engine. DO NOT fill the engine's fuel tank near an open flame while smoking or while engine is running. DO NOT fill tank in an enclosed area with poor ventilation. Clean up any gasoline spills immediately.

- Before filling the trailer, make sure the engine of the tow vehicle is stopped, the transmission is placed in park, the key is removed, and the parking brake is set.
- Only store gasoline in containers with approved labels, as required by federal or state authorities.

  Never store gasoline in the front compartment of the trailer.
- The muffler becomes very hot during operation and remains hot for a while after stopping the engine. Be careful not to touch the muffler while it is hot. Let the engine cool before storing it indoors.
- Exhaust gas contains poisonous carbon monoxide. Avoid inhalation of exhaust gas. Never run the engine in a closed garage or confined area.

- Manually control the nozzle valve throughout the filling process. Keep your face away from the nozzle or fuel tank opening.
- Keep fuel away from your eyes and skin, it may cause irritation.

- Use fuel only in open areas that get plenty of fresh air. Never use fuel to wash your hands.

  Remove fuel-soaked clothing immediately.
- Fill fuel tanks no more than 95 percent full to allow for expansion.
- Replace and tighten the machine's fuel cap.

2.9 MAINTENANCE SAFETY

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

- 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.

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

- Before working on this equipment, shut off the engine and remove the ignition keys.

- Never work under equipment unless it is securely blocked.

- 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.

- A fire extinguisher and first aid kit should be readily accessible while performing maintenance on this equipment.

- Periodically tighten all bolts, nuts, and screws and ensure all cotter pins are properly installed to ensure the unit is in safe condition.

- Never dispose of fuel by pouring it onto the ground or into a sewer, street drain, stream or other body of water, or putting it into the trash. These actions are environmentally harmful and may result in a fire, explosion, or soil, surface or groundwater contamination. Fines and criminal penalties may be associated with improper disposal.

- DO NOT operate the engine with the fuel tank cap loose or missing.

- DO NOT clean engine air filter with gasoline or other types of low flash point solvents.

- Keep area around exhaust free of debris to reduce the chance of an accidental fire.

- Do not operate the gas engine if any of the following conditions exist during operation:
  - Noticeable change in engine speed.
  - Sparking occurs.
  - Engine misfires or there is excessive engine vibration.

- 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 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 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.
- Do not operate engine with grass, leaves, dirt or other combustible materials in muffler area.
- Do not operate engine without muffler.

⚠ 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 cover removed.

NOTICE

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

2.12 DIESEL FUEL SAFETY

⚠ WARNING

INHALATION HAZARD
Always avoid breathing or fuel vapors or mists.

- Fuel vapors or mists may cause dizziness, drowsiness, moderate eye irritation, and/or skin irritation (rash). Excessive exposure may cause irritations to the nose, throat, lungs, and respiratory tract. Central nervous system (brain) effects may include headache, dizziness, loss of balance and coordination, unconsciousness, coma, respiratory failure, and death. In case of inhalation, remove person to fresh air. If person is not breathing, provide artificial respiration.

  If necessary, provide additional oxygen once breathing is restored if trained to do so. Seek medical attention immediately.

⚠ WARNING

INGESTION HAZARD
Always avoid ingesting fuel vapors or mists.

- The major health threat of ingestion occurs from the danger of aspiration (breathing) of liquid drops into the lungs, particularly from vomiting. Aspiration may result in chemical pneumonia (fluid in the lungs), severe lung damage, respiratory failure, and even death. Ingestion will cause gastrointestinal disturbances, including irritation, nausea, vomiting and diarrhea, and central nervous system (brain) effects similar to alcohol intoxication. In severe cases, tremors, convulsions, loss of consciousness, coma, respiratory arrest, and death may occur.

IMPORTANT:
In case of ingestion
DO NOT INDUCE VOMITING.

Do not give liquids. Obtain immediate medical attention. If spontaneous vomiting occurs, lean victim forward to reduce the risk of aspiration. Monitor for breathing difficulties. Small amounts of material which enter the mouth should be rinsed out until the taste is dissipated.

- Diesel fuel presents a moderate fire hazard. Vapors may be ignited rapidly when exposed to heat, spark, open flame, or other source of ignition. When mixed with air and exposed to an ignition source, flammable vapors can burn in the open or explode in confined spaces. Being heavier than air, vapors may travel long distances to an ignition source and flash back. Runoff to sewer may cause fire or explosion hazard.

- Safety glasses or goggles are recommended where there is a possibility of splashing or spraying. Contact with liquid or vapor may cause mild irritation.

  In case of contact with eyes, immediately flush with clean, low-pressure water for at least 15 minutes. Hold eyelids open to ensure adequate flushing. Seek medical attention.

2.13 TRANSPORT SAFETY

- Comply with local, state, and federal laws governing safety and conveyance of farm related equipment on public roads

- Ensure the trailer is equipped with brakes that are in good working order.
- Make sure the diesel fuel tank is securely fastened to the trailer before transporting.
- Ensure all lights, reflectors, other lighting requirements are installed and in good condition.

- Be sure the trailer is securely hitched to the tow vehicle and a retainer clip is inserted through the hitch. Always attach safety chains between the hitch and the tow vehicle.
- Never allow riders on the fuel trailer.
- Do not exceed a safe travel speed. Slow down for rough terrain and when cornering.
- Stay away from overhead power lines. Electrocution can occur without direct contact.

- Be sure the trailer is securely hitched to the tow vehicle and a retainer clip is inserted through the hitch. Always attach safety chains between the hitch and the tow vehicle.
- Connect and crisscross the chains under the hitch to support the hitch should an unplanned separation occur.
- If equipped, attach the breakaway cable to the rear of the towing vehicle. Do not attach the cable to the trailer hitch.
- 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 driving near or crossing roadways.

2.14 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 conveyor 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.

2.15 STORAGE SAFETY

- Store the conveyor on a firm, level surface.
- Store in an area away from human activity.
- If required, make sure the unit is solidly blocked up.
- Remove the battery and store in dry location. Do not sit battery 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 machinery.

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Section 3: OPERATION

Operating Safety

- Read and understand the Operator's Manual.
- Before filling, refueling or servicing, place controls in neutral, stop engine, remove ignition key and wait for moving parts to stop.
- Clear the area of bystanders, especially children, before starting.
- Be familiar with the hazard area. If anyone unauthorized enters, shut down the machine immediately. Clear area before restarting.
- Keep hands, feet, hair and clothing away from all moving and/or rotating parts.
- Do not allow riders on the trailer when transporting.
- Stay away from overhead obstructions and power lines during operation. Electrocution can occur without direct contact.
- Do not operate machine when any guards are removed.
- Keep working area clean and free of debris to prevent slipping or tripping.
- Manually control the nozzle valve throughout the filling process. Keep your face away from the nozzle or fuel tank opening.
- Keep fuel away from your eyes and skin.
- Use fuel only in open areas that get plenty of fresh air. Never use fuel to wash your hands.

The Meridian® Fuel Trailer is designed to transport diesel fuel and diesel exhaust fluid (DEF) to your machinery. A optional gas engine or electric motor can provide power to the diesel fuel pump. Be familiar with the trailer and engine before starting.

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 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 trailer 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. Read this manual carefully for instructions on how to set it, to provide maximum efficiency.

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

3.1 MACHINE COMPONENTS

Components may vary, and their positions may change depending on the options contained on the trailer.

The main components are listed below:

1. Adjustable height hitch for 2-5/16" ball
2. Safety towing chains
3. Jack
4. Gasoline or electric diesel fuel pump and DEF solution pump
5. 7000 lb axles with standard or aluminium wheels.
6. Fuel tank fill opening with vented and lockable cap.
7. Fill level indicator
8. Tank vent

Fig 9 - Trailer

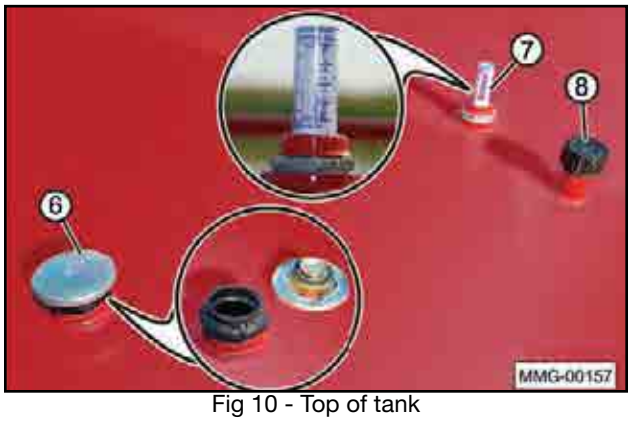

Fig 10 - Top of tank

9. DOT compatible taillights and turn signals
10. License plate holder and light

Fig 11 - Rear of trailer

11. Optional gasoline engine and diesel fuel pump shown. (electric pump is optional.)
12. DEF solution hose and retractable reel with auto shut-off nozzle.
13. Diesel fuel hose and retractable reel with auto shut-off nozzle.
14. DEF solution tank (55 or 110 gallons)
15. DEF solution pump

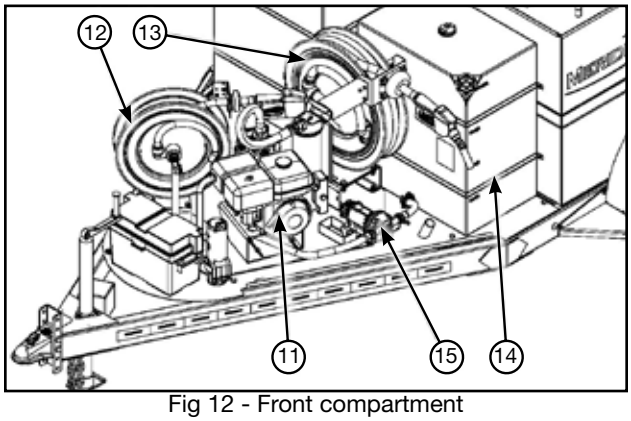

Fig 12 - Front compartment

16. Breakaway Brake System

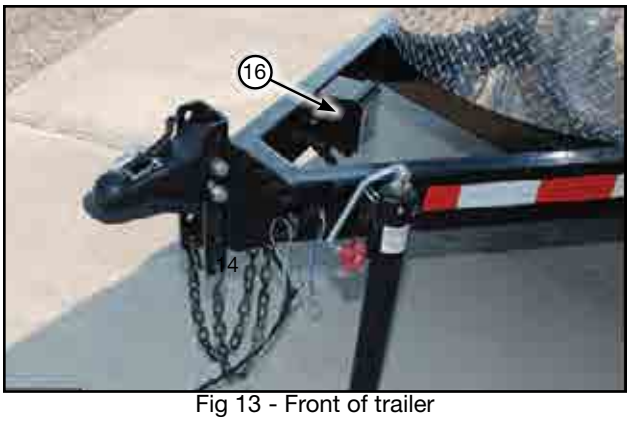

Fig 13 - Front of trailer

17. 12 Volt battery and battery box
18. Diesel fuel filter
19. Gasoline engine and diesel fuel pump

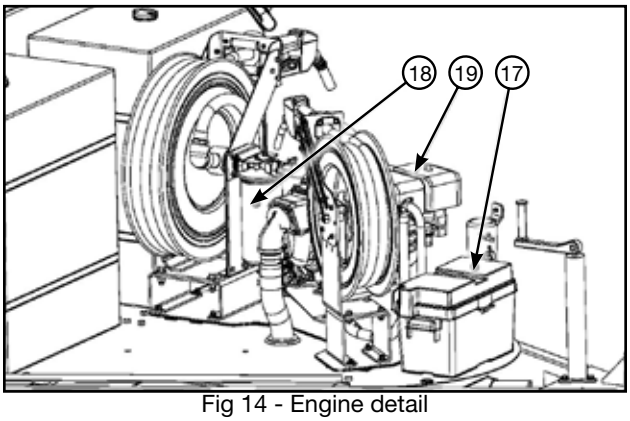

Fig 14 - Engine detail

20. Fuel tank shut-off valve

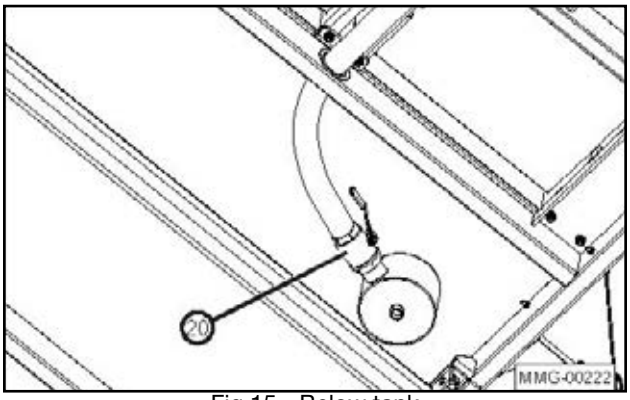

Fig 15 - Below tank

3.2 COMPONENTS AND CONTROLS

Before starting to work, all operators must familiarize themselves with the location and function of the components and controls of their specific unit.

Options and locations may change without notice.

Refer to the engine manufacturer's manual for more detailed information.

Engine controls may vary depending on model.

12 volt Electric Pump:
The standard fuel trailer is equipped with a 12 Volt electric fuel pump. The fuel pump is powered by a 12 Volt battery located in the front compartment of the fuel trailer.

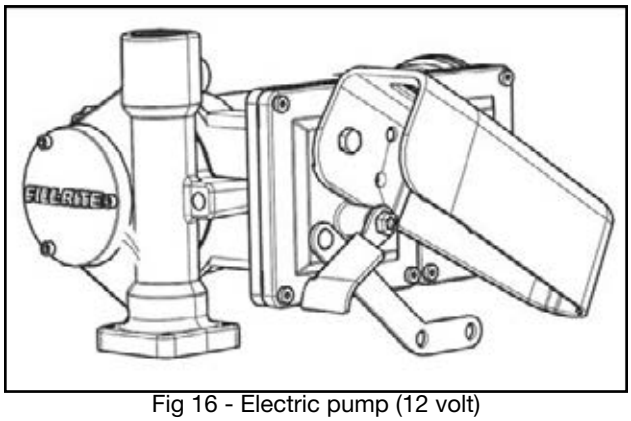

Fig 16 - Electric pump (12 volt)

Gas Engine:
An optional gasoline engine may be used with this unit. Always read the OEM engine Operator's Manual supplied with the fuel trailer for the detailed engine operating procedures.

Fig 17 - Gas engine

1. Engine Key Switch
   Turn the key switch to the START position to start the engine. When the engine starts, then release the key and allow it to return to the ON position.

2. Starting Rope
   This retracting rope and T-bar is an optional method used to start the engine. Grasp the T-bar firmly and pull the rope sharply to start the engine. The key on the master control must be ON for the engine to start.

3. Fuel Shut-Off Lever
   Each engine is equipped with a fuel valve between the fuel tank and the carburetor. The fuel valve lever must be in the ON position (to the right) for the engine to run. Slide the fuel valve toward the engine to turn ON and away for OFF (to the left).

   Before transporting or when the engine is not in use, move the fuel valve lever to the OFF position to prevent carburetor flooding and to reduce the possibility of fuel leakage.

4. Choke Lever
   The choke lever controls the fuel/air mixture to the engine. Close the choke when starting if the engine is cold. Open the choke as the engine warms. Always open the choke fully during operation.

5. Throttle Lever
   This lever controls the engine RPM. Move the lever to increase or decrease the RPM. Always run at maximum throttle while operating the auger.

6. Engine Circuit Protection
   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.

7. Battery (12 Volt)
   A 12 Volt battery supplies the power to start the gasoline engine or operate the 12 Volt electric diesel pump. If the tow vehicle is properly wired, the battery receives a trickle charge during whenever the vehicle is running. Depending on the amount of use, the battery may still need to be periodically recharged from an external source to keep it fully charged.

8. Fuse
   A 7.5 amp fuse protects the electrical system of the trailer.

Fig 18 - Gas engine

Fig 19 - Engine detail

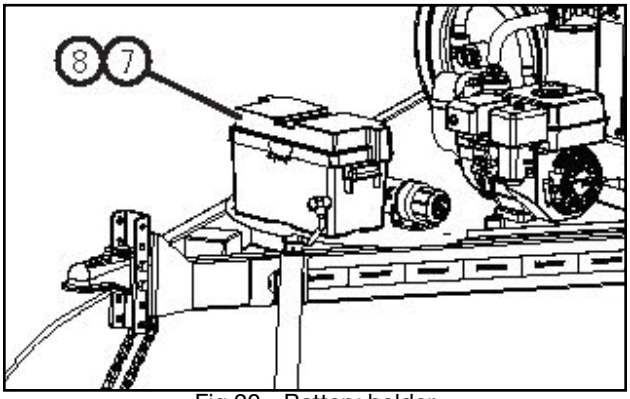

Fig 20 - Battery holder

Gasoline Engine Safety Signs:

Maintain Air Cleaner:
Contact OEM manufacturer for replacement of this decal

Fig 21 - Air cleaner notice

NOTICE

Fill With Oil Before Operating
Contact OEM manufacturer for replacement of this decal.

Fig 22 - Front compartment

⚠ WARNING

CARBON MONOXIDE HAZARD
Contact OEM manufacturer for replacement of this decal.

Fig 23 - Engine exhaust warning

SAFETY INSTRUCTIONS

Read Operating Manual Before Using Engine.
Contact OEM manufacturer for replacement of this decal.

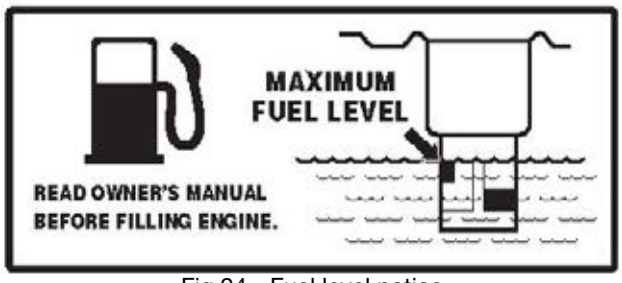

Fig 24 - Fuel level notice

3.3 MACHINE BREAK-IN

A special break-in procedure has been developed to ensure the integrity of the fuel trailer when first put into service. Follow the 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 engine manual.

1. Read and follow the instructions in the OEM engine, DEF pump, and the Meridian Operator's Manuals.

2. Before starting the gasoline engine for the first time, check the engine oil level. Add oil as necessary. Operating the engine without oil will damage the engine and void the warranty.

SAFETY INSTRUCTIONS

Check the engine oil level and add as needed.

3. Make sure the fuel pump is primed.

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

5. Review and follow the Daily Pre-Operation Checklist before starting the equipment.

6. Initially, check the wheel bolt torque and then again at 10, 25, and 50 miles. Refer to the Wheel Bolt Torque Requirements section in this manual for tightening instructions.

Inspections for 1/2, 5, and 10 Hours

1. On gasoline engine/pump combinations, recheck the engine to pump shaft connection after 1/2 hour and again after 4 hours.

2. Recheck all hardware and fasteners after 4 hours of operation. Tighten to specified torque.

3. At 10 hours, change the engine oil with the specified oil. Remove plug (2) to drain the oil and check the level with fill cap/gauge (1). See Figure 26

Fig 25 - Hardware detail

Fig 26 - Engine oil detail

3.4 PRE-OPERATION CHECKLIST

Efficient and safe operation of the Fuel Trailer requires that each operator reads and follows the operating procedures and all related safety precautions outlined in this section.

A pre-operational checklist is provided for the operator. It is important for both personal safety and maintaining the efficient operation of the delivery system that this checklist be followed.

Before operating and each time thereafter, the following areas should be checked:

1. Use only a truck or tractor of adequate power and weight to pull the trailer.

2. Make sure the trailer is positively hitched to the tow vehicle.

3. Attach safety chains from the trailer to the tow vehicle. Crisscross chains under the hitch to support it should an unplanned separation occur.

4. Inspect wiring harness and plug for damage. Do not use trailer if damage is found.

5. Check the engine oil and fuel levels. Add, as required.

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

6. Make sure the fuel level in the tank is sufficient enough to prime the fuel pump and provide a steady flow of fuel. Do not run the pump dry.

7. Visually check all hardware and fasteners for missing parts and make sure the fasteners are properly tightened.

8. Make sure the wheel bolt lug nuts are properly tightened.

9. Check the tires and ensure they are inflated to their specified pressure. Correct underinflation or over-inflation pressures. The specified inflation pressure is on the tires.

10. Remove any entangled crop material from under the trailer.

11. Test the breakaway brake unit and the trailer brakes:
    a. Make sure the trailer brakes are operating properly.
    b. Make sure the trip wire to the breakaway switch is connected to the tow vehicle.
    c. Make sure the key is correctly installed in the breakaway switch.
    d. Press the Test button. The indicator should illuminate green. If the red light illuminates, the battery charge is low.

    Refer to the Trailer Breakaway System in the Maintenance section for instructions on charging the battery.

Note:
The breakaway brake system is standard equipment. This system applies the brakes automatically and immediately whenever the breakaway cable is properly connected and the trailer separates from the tow vehicle.

12. Make sure lights, reflectors, Diesel Fuel Placards, and SMV/SIS emblem required by local highway authorities are installed.

13. Clean and make sure taillights, signal lights, and side running lights are working properly.

3.5 ATTACHING TO TOW VEHICLE

1. On a flat surface, use the trailer jack to level the trailer.

⚠ WARNING

UPENDING HAZARD

Towing the fuel trailer with diesel fuel, when it is not in a level position, could cause an upward force on the tongue, separating the trailer from the tow vehicle.

Make sure the trailer is set up with downward pressure on the tongue assembly.

2. Adjust the height of the receiver to align with the tow ball or be lower than the tow ball. Once aligned, tighten both bolts to 70 ft-lb (95 N·m).

⚠ WARNING

SEPARATION HAZARD

The receiver must be bolted to the frame with two bolts. The use of only one bolt could cause the receiver assembly to separate from the trailer, resulting in injury or death to bystanders. Do not use the trailer if only one bolt is installed.

3. Remove retainer clip (1). Release or open the receiver by lifting locking lever (2) into the open position. See Figure 28

4. Using the jack, raise the hitch above the ball on the tow vehicle.

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

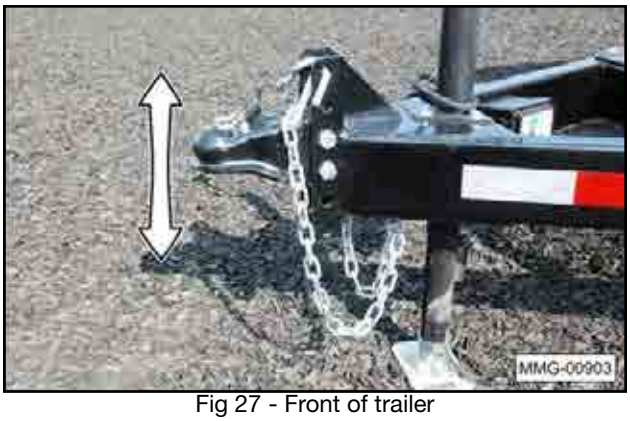

Fig 27 - Front of trailer

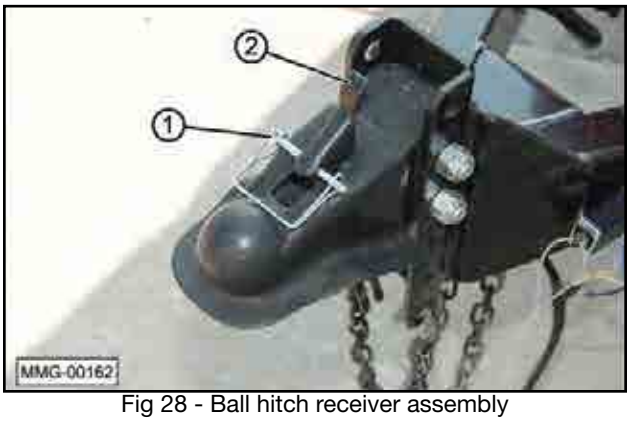

Fig 28 - Ball hitch receiver assembly

Fig 29 - Ball hitch receiver

6. Lower the hitch onto the ball.

7. Raise the jack and place it in its stowed position.

8. Close the receiver lock lever and install the retainer clip to prevent unwanted opening of the receiver.

⚠ WARNING

SAFETY CHAIN DAMAGE
If safety chains are damaged in any way, do not use the trailer until proper chains are installed.

9. Attach safety chains (1) securely to the tow vehicle to prevent unexpected separation. Cross the chains when attaching. See figure 33

10. Connect wiring harness (2) with the seven-pin connector for the lights and brakes.

11. Connect breakaway system cable (3) to the tow vehicle. Make sure key (4) on the end of the cable is properly plugged into the receiving unit.

IMPORTANT:
The Break-Away key must be completely plugged into the socket for the system to operate properly.

12. Route the wiring harness and breakaway brake cable in a manner that will prevent them from dragging. Be sure to provide enough slack for turning.

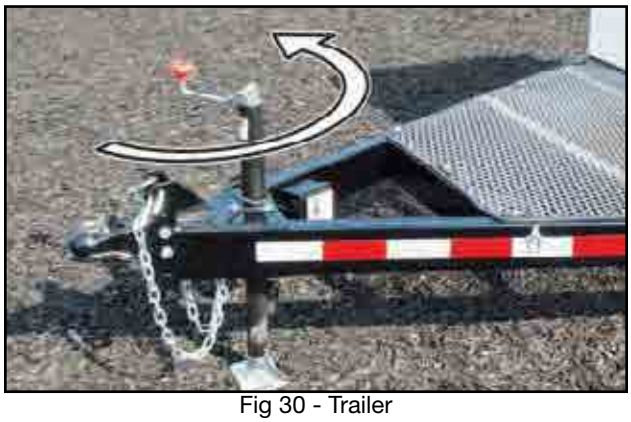

Fig 30 - Trailer

Fig 31 - Trailer

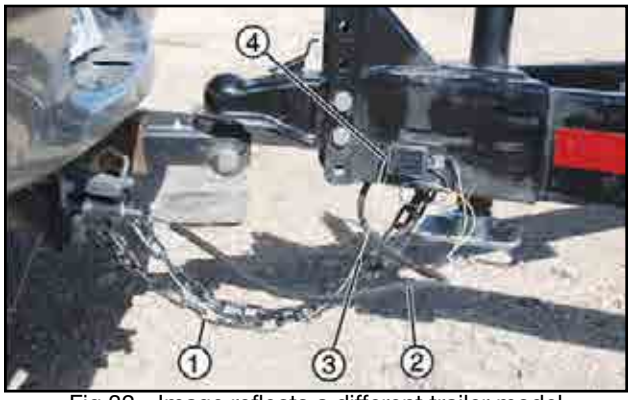

Fig 32 - Image reflects a different trailer model

Fig 33 - Break-away system

3.6 DAILY PRE-OPERATION CHECKS

1. The gasoline engine may not be shipped with oil. Please add oil to the gasoline engine prior to starting for the first time.

2. Make sure the diesel fuel pump is properly primed before attempting to refuel any machinery.

3. Review the OEM instructions provided with all equipment used on the fuel trailer for operating and safety precautions.

4. When towing the trailer with a truck, the 12 Volt electrical system is designed so the vehicle's charging system will charge the trailer's battery. Charging will only occur when the tow vehicle's engine/alternator is running and the wiring harness is properly configured. This system will not recharge a depleted or dead battery; only help to maintain its current charge state. Use the following to make sure the tow vehicle is compatible with the fuel trailer:
   a. Make sure the tow vehicle is equipped with a standard 7-way automotive wiring harness socket. If the tow vehicle is not equipped with a 7-way connector which is properly configured, the trailer battery will not be charged without custom wiring from the tow vehicle's alternator/ charging system.
   b. If equipped, check the 7-way socket on the tow vehicle, using a Volt meter, to make sure Pin 4 and 7 are supplying 12 Volts of power. If any other pin has the 12 Volt supply the battery will not be recharged.

Note:
To properly charge the battery, the tow vehicle's socket must be configured with Pin 4 (black) along with center Pin 7 (red/ orange) connected to the 12 Volt supply.

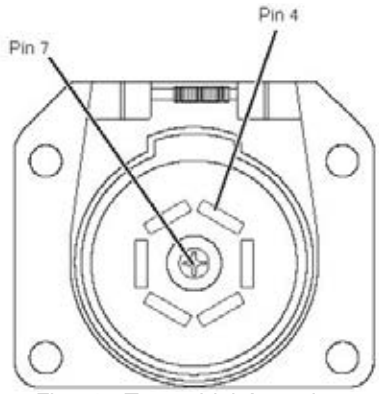

Fig 34 - Tow vehicle's socket

   c. If there is no voltage on any of the pins, check the fuse in the truck's fuse panel. The fuse for the charge line may not be installed or is blown.

Note:
If the tow vehicle's wiring connections do not correspond to the fuel trailers wiring harness, the breakaway brake system battery will also not be charged during normal operation.

5. Always make sure the trailer lights and brakes are working properly before towing the trailer. Do not tow a trailer that is not operating properly.

6. The fuel trailer can be towed with a tractor, however it is electrically wired for a 7-way automotive wiring harness application. An ag tractor will not properly operate the trailer's brake, battery charging system, or lights without special wiring modification. Do not tow the fuel trailer on public roads without proper brakes and lighting.

3.7 DEF AND DIESEL FUEL TANKS

⚠ WARNING

TRAILER USE HAZARD
DO NOT use fuel tank as work platform.
DO NOT stand on fenders.
DO NOT ride on trailer.

3.7.1 FILLING THE FUEL TRAILER WITH DIESEL FUEL

1. Before filling the fuel tank, follow all the safety recommendation, such as attaching the fuel trailer to the tow vehicle, placing the fuel trailer on a level surface, blocking both sides of the wheels to prevent unexpected movement, etc.

2. If not already closed, close the fuel valve located under the front of the trailer.

3. Fill the trailer with diesel fuel using fill spout (1). Use sight gauge (2) on top of the tank to prevent overfilling. Never obstruct breather (3) at any time. See Figure 36

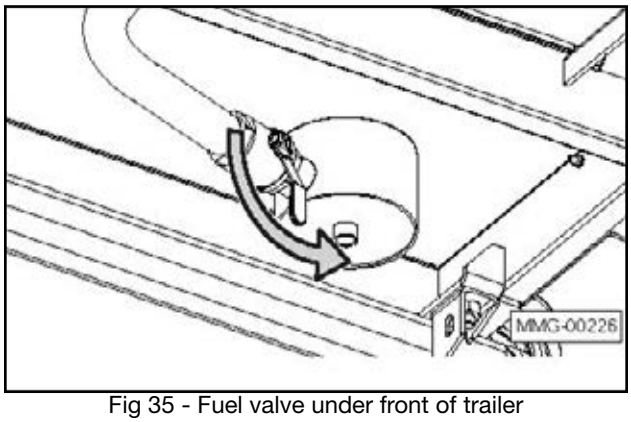

Fig 35 - Fuel valve under front of trailer

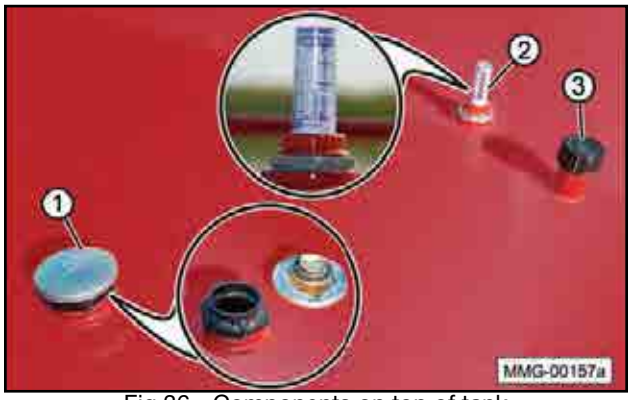

Fig 36 - Components on top of tank

3.7.2 FILLING MACHINERY USING 12 VOLT ELECTRIC DIESEL FUEL PUMP

1. Position the fuel trailer near the machinery being refueled.

2. Open the shutoff valve on the underside of the fuel tank. See Figure 37

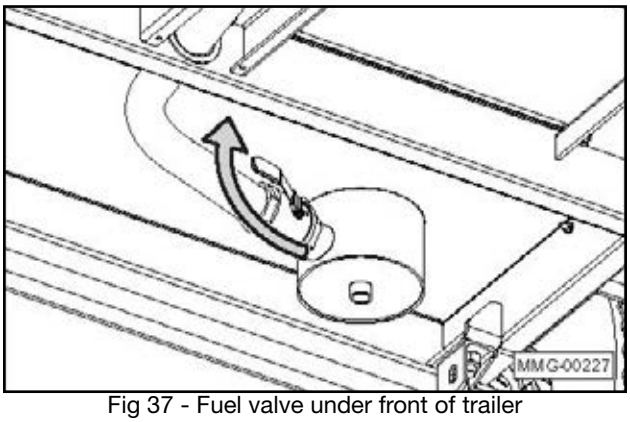

Fig 37 - Fuel valve under front of trailer

3. Extend the hose to easily reach the fill spout of the machinery being refueled.

Fig 38 - Extend hose for fueling

⚠ CAUTION

FUEL PRESSURE HAZARD

Once the pump is turned ON, the fuel hose is pressurized and will pump fuel. Do not squeeze the handle on the fuel nozzle until it is inside the fuel tank of the machinery being refueled.

4. Move the ON/OFF lever upward to the "ON" position to apply power to the pump.

5. Refuel the machinery. Release the nozzle when the desired amount of fuel has been dispensed.

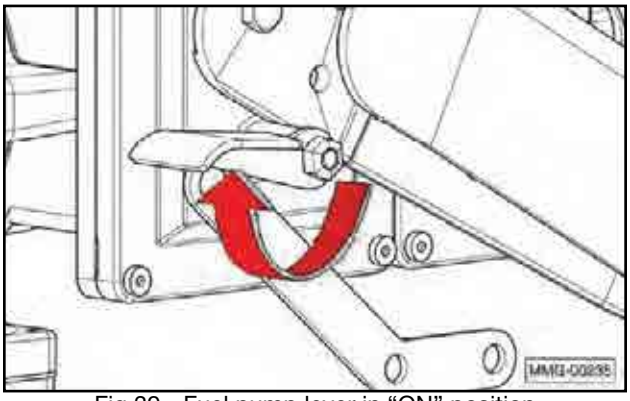
Fig 39 - Fuel pump lever in "ON" position

6. Move the ON/OFF lever downward to the "OFF" position to turn off the pump.

7. Remove the dispensing nozzle from the machinery being refueled and retract the hose onto the hose reel.

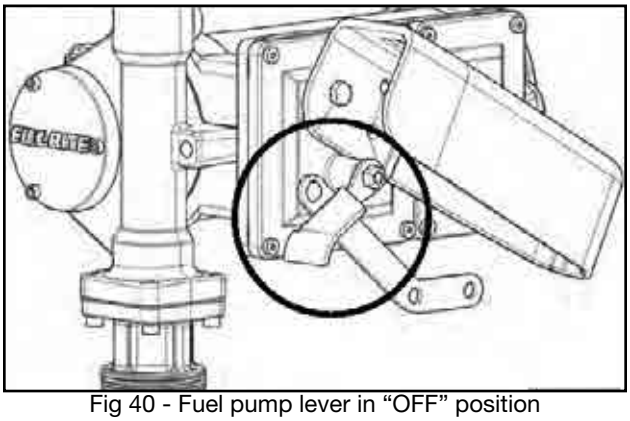
Fig 40 - Fuel pump lever in "OFF" position

3.7.3 FILLING MACHINERY USING GASOLINE DIESEL FUEL PUMP

This petroleum pump is a self-priming centrifugal pump and only requires priming prior to its initial start. The pump will retain sufficient liquid for selfpriming thereafter.

To Prime the Pump:

1. Remove the fill plug on top of the pump housing.

2. Fill the pump housing with the fluid to be pumped.

3. Replace the plug.

To Fill the Machinery:

4. Position the fuel trailer near the machinery being refueled.

5. Open the shutoff valve on the underside of the fuel tank, as shown.

6. Extend the hose to easily reach the fill spout of the machinery being refueled.

   If using the optional gasoline engine, start the engine.

   a. Turn engine fuel lever (3) to the ON position.

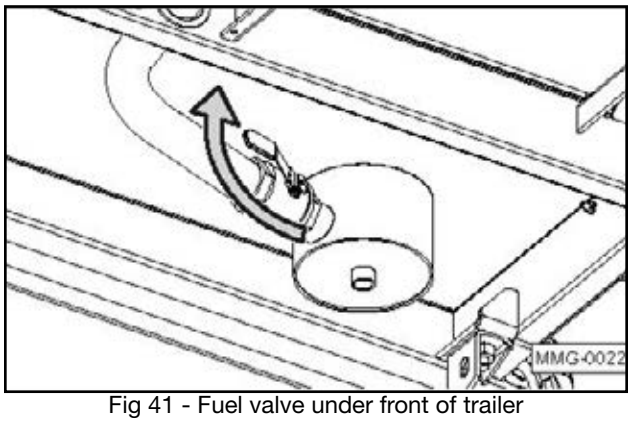

Fig 41 - Fuel valve under front of trailer

Fig 42 - Gas engine

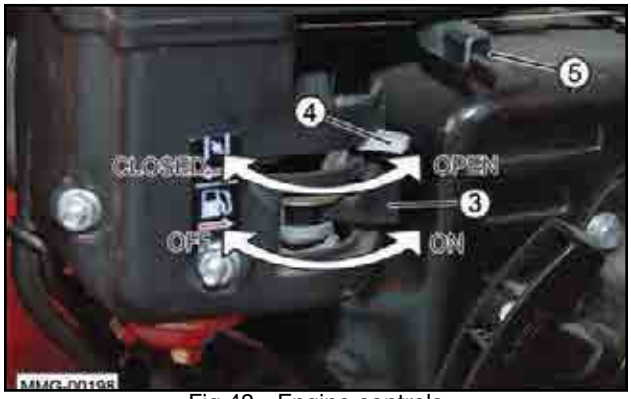

Fig 43 - Engine controls

Fig 44 - Engine fuel lever

b. To start a cold engine, move choke lever (3) to the left (closed). In warm weather, start the engine with the choke in the middle position. To restart a hot engine, move the choke lever to the closed position.

Fig 45 - Chock lever

c. Move throttle lever (5) away from the SLOW position to the FAST position.

Fig 46 - Throttle lever

d. Use engine pull cord (2) or electric start (1) and start the engine.

Fig 47 - Engine start

e. If the choke lever is in the CHOKE position, gradually move it to the right (OPEN) position as the engine starts to run.

⚠ CAUTION

Pressure Hazard

Once the pump is started, the fuel hose is pressurized and will pump fuel. Do not squeeze the handle on the fuel nozzle until it is inside the fuel tank of the machinery being refueled.

Fig 48 - Chock lever

7. Place the fuel nozzle into the receiving tank and squeeze the handle to start fuel flow. When the tank is full, the nozzle will automatically shut off the flow.

Note:
If an electronic fuel meter is attached to the hose, a specific amount of fuel can be added.

NOTICE

When filling machinery from the fuel trailer, never allow the pump to run dry. Operating pump without fuel can cause damage to pump and/or engine.


Fig 49 - Fuel valve under front of trailer

8. When fueling is complete, turn engine off.

9. Rewind the fuel hose onto the fuel reel and place the nozzle back into the nozzle holder.

IMPORTANT:
Shut off fuel when not in use.

10. Place the engine's fuel lever in OFF position before towing the fuel trailer on open road.

11. Allow the engine to cool for at least 15 minutes, with both compartment doors open, before towing.

⚠ WARNING

FIRE HAZARD
To prevent fire, allow engine to cool before closing front compartment.

A hot engine and exhaust system could ignite various materials within the front compartment.

12. Before towing, close the shutoff valve on the fuel tank.

3.7.4 FILLING THE TRAILER'S DEF TANK

Review the section on DEF Solution in this manual before filling the DEF tank or servicing the machinery.

Because of our continuous improvement process, some images may be different than the actual product.

1. Make sure the DEF tank shutoff nozzle is closed.

2. Fill the DEF tank using filler spout (1). Use the fluid level indicator markings (2) to determine when the tank is full.

Note:
To prevent contamination of the DEF fluid, keep the DEF nozzle and the fill port on the tank clean and free of dust and dirt.

NOTICE

OVERFILL HAZARD
Use the fluid level indicator markings located on the sides of the tank.

Do not overfill the tank.

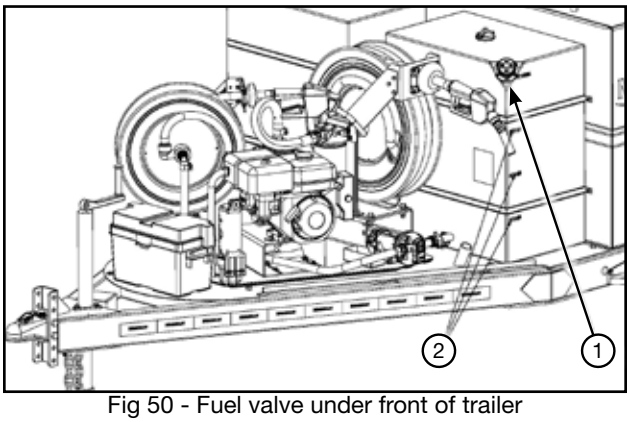

Fig 50 - Fuel valve under front of trailer

3.7.5 FILLING THE DEF TANK ON MACHINERY

The DEF transfer pump is a 12 Volt DC, self-priming, positive-displacement diaphragm pump.

Note:
If the pump does not operate, make sure the in-line fuse is working.

SAFETY INSTRUCTIONS

This pump should only be used to pump DEF solution from the fuel trailer to the machinery being serviced.

Do not pump any other type of fluid.

1. Ensure the power switch on the DEF pump is in the OFF position.

⚠ WARNING

BATTERY HAZARD

12 Volt batteries can present a hazardous, explosive environment. Before making any battery connections, ensure the pump's ON/OFF switch is in the OFF position.

Also make sure the pump's battery connections are tight before operating the pump.

2. Connect the clamps of the electrical cables for the DEF pump to a 12 Volt power source; either the fuel trailer battery or the tow vehicle.
   a. Connect the end of the RED jumper cable to the POSITIVE (+) post on the battery (power source). Make sure the NEGATIVE (–) cable is not touching a grounded surface.

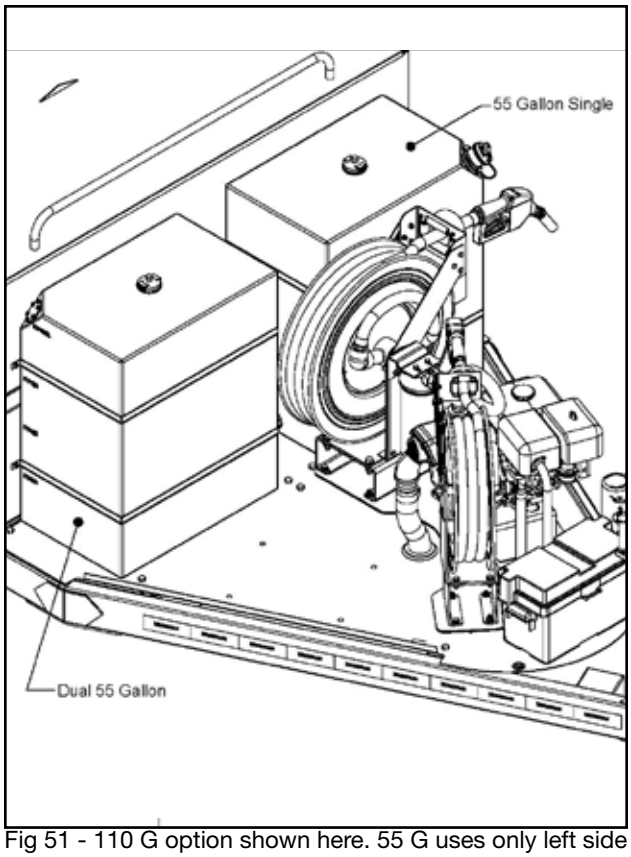

Fig 51 - 110 G option shown here. 55 G uses only left side

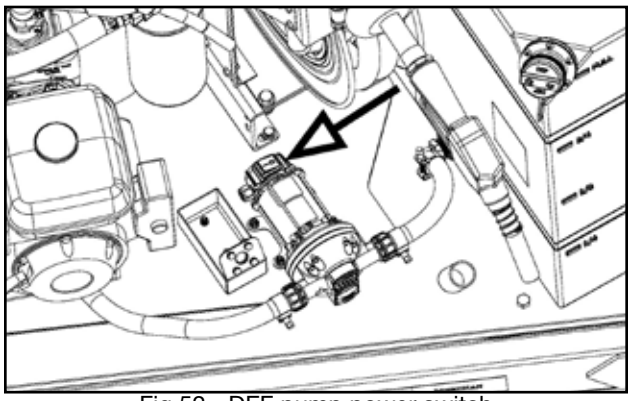
Fig 52 - DEF pump power switch

Note:
In many cases the POSITIVE battery post is slightly larger than the NEGATIVE post and will be marked with a PLUS (+) sign. There may also be a RED plastic protective cover over the positive battery post.

b. Connect the end of the BLACK jumper cable NEGATIVE (-) to a heavy metal ground on the frame of the trailer or tow vehicle.

SAFETY INSTRUCTIONS

If the cable must be connected to the NEGATIVE (-) post on the battery itself, be extremely careful to prevent any sparks that can ignite hydrogen fumes around or on top of the dead battery, causing it to explode.

NOTICE

CONTAMINATION HAZARD

To avoid contaminating the DEF solution and possible nozzle malfunction, keep the nozzle clean. Always store the nozzle in the nozzle holder when not in use.

3. Extend the DEF hose to easily reach the fill opening of the machinery being serviced.

4. Open the DEF tank shutoff nozzle by depressing the nozzle lever.

⚠ CAUTION

PRESSURE HAZARD

Once the pump is turned ON, the DEF hose is pressurized and will pump DEF solution. Do not squeeze the handle on the nozzle until it is inside the DEF tank of the machinery being serviced.

Fig 53 - Extend hose

5. Turn the power switch to the ON position to start the DEF pump.

6. Fill the DEF tank on the machine.

SAFETY INSTRUCTIONS

Even though the nozzle is equipped with an automatic shutoff, do not leave the nozzle unattended during filling. Be prepared to manually shut off flow at the nozzle, if necessary.

7. Fill the machine's DEF tank. Once the DEF tank is filled, turn the pump OFF. Do not run the pump any longer than necessary.

8. Replace the nozzle in its holder.

9. Place the shut off valve for the DEF tank in the closed position.

10. Remove the battery cables.
    a. Remove the BLACK cable NEGATIVE (–) from the metal ground on the frame of the tow vehicle.
    b. Remove the RED jumper cable from the POSITIVE (+) post on the battery (power source). Make sure the NEGATIVE (–) cable is not touching a grounded surface.

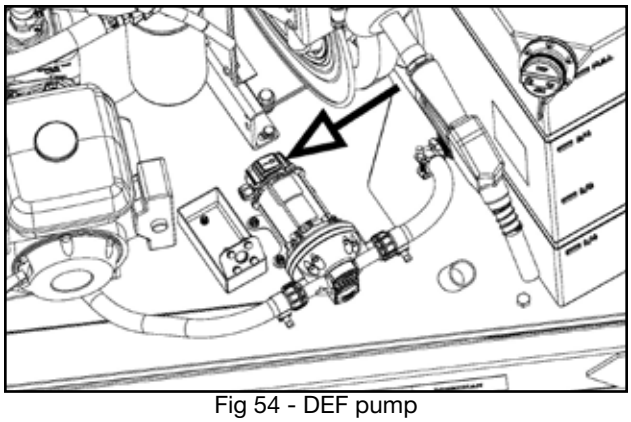

Fig 54 - DEF pump

3.8 DEF SOLUTION

The information concerning DEF provided in this manual has been obtained from sources considered technically accurate and reliable.

Review the safety information concerning potential product hazards. Since the actual product use is beyond our control, it is assumed that the user has been fully trained to meet any local, state, or federal regulations.

SAFETY INSTRUCTIONS

- Respiratory protection is not usually required. If significant spray or mist occurs, wear a NIOSH approved or equivalent dust respirator.
- The use of gloves, impermeable to the specific material handled, is advised to prevent skin contact, possible irritation, or absorption.
- Approved eye protection to safeguard against potential eye contact, irritation, or injury is recommended. Depending on the conditions of use, a face shield may be necessary.
- A source of clean water should be available in the work area for flushing eyes and skin. Impervious clothing should be worn, as needed.
- DO NOT operate the pump at voltages which exceed the 12 Volt rating indicated on the name plate. Operating the pump with more than 12 Volts will cause the motor to overheat.

3.8.1 FIRST AID MEASURES:

Eye:
If irritation or redness develops, move away from exposure and into fresh air. Flush eyes with clean water immediately for at least 15 minutes. If symptoms persist, seek medical attention.

Skin:
Remove contaminated shoes and clothing and cleanse affected area(s) thoroughly by washing with mild soap and water. If irritation or redness develops and persists, seek medical attention.

Inhalation (Breathing):
If respiratory conditions develop, move away from source of exposure and into fresh air. If symptoms persist, seek medical attention. If victim is not breathing, clear airway and immediately begin artificial respiration. If breathing difficulties develop, oxygen should be administered by qualified personnel. Seek immediate medical attention.

Ingestion (Swallowing):
First aid is not normally required; however, if swallowed and symptoms develop, seek medical attention.

3.8.2 GENERAL INFORMATION:

1. DEF has not been shown to be harmful to humans or animals.
2. DEF is not explosive, does not burn, and will not aid in combustion.
3. DEF is non-toxic. If you get it on your skin or clothes, rinse with plenty of water.
4. DEF is a colorless liquid. However, it is best to avoid spilling on clothing or vehicle upholstery as it may leave a stain.

NOTICE

DEF is very corrosive to certain types of material. Care should be taken when filling the trailer or the machinery.

3.8.3 STORAGE

1. Keep DEF containers tightly closed.

2. To avoid solidification, do not store DEF at temperatures below 23°F (-5°C). Solidified DEF, which has been warmed up carefully at temperatures not exceeding 86°F (30°C), will not be impaired in quality and can be used as soon as the warmed up solution is free from solids. Frozen DEF can be thawed and used without concerns of product degradation; however, damage to the container or equipment will likely occur.

3. Store only in approved containers.

4. Protect containers against physical damage.

5. In order to prevent decomposition of the area, as well as the evaporation of water in the case of vented containers, prolonged transportation or storing above 77°F should be avoided. (See Table Below).

Constant Ambient Storage Temperature (°F)	Minimum Shelf Life (Months)
≤50°F	36
≤77°F*	18
≤86°F	12
≤95°F	6
>95°F	**

* To prevent decomposition of the DEF solution, prolonged transportation or storage above 77°F should be avoided.
** Significant loss of shelf life. Check every batch before use.
Source: ISO 22241-3:2008(E)

Table 1 - DEF storage

3.8.4 USING DEF

1. Only fill the DEF tank with ISO certified DEF that has been delivered in dedicated, sealed DEF packages.

2. Wear appropriate protective clothing and equipment, such as safety glasses, gloves, etc. while pumping DEF.

3. Wash thoroughly after handling DEF.

4. Never add DEF into the diesel fuel tank.

5. Never add diesel fuel into the DEF tank.

6. Avoid contact with DEF on eyes, skin, and clothing.

7. If spilled, rinse the area with water.

8. Do not use DEF that has been diluted with water or other substances.

3.8.5 DEF DISPOSAl

For proper disposal of waste DEF, as a nonhazardous liquid waste, it should be solidified with stabilizing agents such as sand, fly ash, or clay absorbent, so that no free liquid remains before disposal in an industrial waste landfill.

3.9 STORAGE

When the fuel trailer will not be used for an extended period of time, perform a complete inspection. Replace or repair any worn or damaged components to prevent unnecessary downtime at the beginning of the next season.

3.9.1 PLACING IN STORAGE

⚠ CAUTION

Store the trailer in an area away from human activity. To prevent the possibility of serious injury, do not permit children to play on or around the stored equipment.

1. Remove all fuel from the fuel trailer.
2. Place the gasoline engine fuel valve in the OFF position.
3. Drain the gasoline engine fuel tank and carburetor for seasonal or long term storage. If this is not possible, add a fuel additive to the gas tank.
4. Thoroughly wash the equipment with a pressure washer or water hose to remove all dirt, mud, or debris.
5. Remove any entangled material from the underside of the trailer.
6. Check the condition of the fuel pump and DEF pump. Replace or adjust, as required.
7. Touch up paint nicks and scratches to prevent rusting.
8. If the engine has been running, allow it to cool for at least half an hour before closing the compartment doors.
9. Remove the engine's ignition key and store in a secure place.
10. Remove the battery and store it in a cool, dry area on wooden blocks or a wooden pallet. Charge it monthly to maintain an adequate charge. This will help to extend the service life of the battery
11. It is best to store the equipment inside. If possible, avoid any area with high humidity. Humidity promotes rust and corrosion.

3.9.2 REMOVING FROM STORAGE

When removing the equipment from storage, follow this procedure:

1. Install and connect the battery.
2. Add new fuel to the gasoline engine's fuel tank.
3. Review and follow the Daily Pre-Operation Checklist.
4. Review and follow the service checks in the Services section.

IMPORTANT:

If the equipment has been stored for more than 12 months, warm the engine by running it for two to three minutes and then drain the oil. Change the oil while the oil is warm to remove any condensation. Refer to the Change Engine Oil section in the Maintenance section.

3.9.3 WINTERIZING THE DEF SYSTEM

Since the majority of the DEF solution is water, freezing of this solution can cause damage to the components of the DEF system. It is recommended that the solution be removed from the DEF tank and stored in a DEF compatible container.

NOTICE

Do not allow DEF fluid to freeze in the tank. Since DEF solution is mostly water, freezing and expansion of the solution will cause damage to the tank and the pump. The warranty is void if freezing occurs.

Note:
In colder climates,
a 110 Volt DEF solution heater
(part number 68712)
can be installed.

Section 4: SERVICE AND MAINTENANCE

Servicing Safety

- Review the Operator's Manual and all safety items before maintaining the conveyor.
- Clear the area of bystanders, especially children, before repairing or adjusting.
- 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.
- Before working on equipment, shut off engin and remove ignition keys.
- Keep hands, feet, hair and clothing away from all moving and/or rotating parts.
- Keep area around exhaust free of debris to reduce the chance of an accidental fire.
- Place stands or blocks under frame before working beneath the unit.
- Keep decals clean, replace if not readable.
- Make sure there is plenty of ventilation. Never operate the engine in a closed building. The exhaust fumes may cause asphyxiation.
- DO NOT operate the engine with the fuel tank cap loose or missing.
- DO NOT clean engine air filter with gasoline or other types of low flash point solvents.
- DO NOT operate the gas engine if any of the following conditions exist during operation:
  1. Noticeable change in engine speed.
  2. Sparking occurs.
  3. Engine misfires or there is excessive engine vibration.
- When maintenance is complete, before resuming work, install and secure all guards.
- Always use genuine factory replacement parts. The manufacturer will not be responsible for injury or damage caused by the use of unapproved parts and/or accessories.

SAFETY INSTRUCTIONS

The following safety instructions are provided to help prevent injury or limit equipment damage.

4.1 SERVICING INTERVALS

⚠ WARNING

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 the engine's 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.

4.1.1 AFTER 8 HOURS OR DAILY

1. Check engine oil and fuel levels and fill, as needed.

2. Test the trailer breakaway brake system.

3. Inspect the tires for wear or damage and check wheel bolt torque.

4. Inspect the taillights and running lights to make sure they are working properly.

5. Inspect the 7-pin wiring harness connector for damage.

Fig 55 - Check engine oil

4.1.2 AFTER 50 HOURS OR WEEKLY

5. Clean or replace the foam filter element. Replace the paper air filter, as required.

6. Check the tire pressure. Inflate the tires to the recommended pressure stated on the tire.

7. Check and/or replace diesel fuel filter.

4.1.3 AFTER 200 HOURS OR SEMIANNUAL

8. Adjust the brakes.

9. Inspect the brake magnets.

10. Make sure the battery box is securely holding battery onto frame, check electrolyte levels in the cells, clean terminals to remove any dirt or corrosion.

11. Check and/or replace the diesel fuel filter.

4.1.4 AFTER 400 HOURS OR ANNUALLY

12. Check the wheel bolt torque.

13. Repack the wheel bearings and check for excessive end play in the bearings.\

14. Check the frame and tank hold-down bolts.

15. Check the trailer hitch tongue bolts.

16. Thoroughly clean the fuel trailer.

17. Check the tires for wear, and replace if needed.

18. Check the red taillights to make sure they are working properly.

Fig 56 - Trailer wheels

Fig 57 - Trailer wheels

4.2 AXLE MAINTENANCE

4.2.1 FIRST 200 MILES

1. Adjust brakes. Refer to OEM manual for procedure.

4.2.2 3,000 MILES OR 3 MONTHS

2. Adjust brakes.
   Refer to OEM manual for procedure.

3. Check torque on wheel nuts.
   Refer to the section in this manual.

4. Inspect tires for wear.
   Refer to OEM manual for procedure.

4.2.3 6,000 MILES OR 6 MONTHS

5. Inspect brake magnets for wear.
   Refer to OEM manual for procedure.

6. Inspect suspension parts for wear.
   Refer to OEM manual for procedure.

4.2.4 12,000 MILES OR 12 MONTHS

7. Inspect brake lining wear, check brake cylinder for leaks, and inspect brake wiring for damage.
   Refer to OEM manual for procedure.

8. Grease the wheel bearings and check the hub for wear.
   Refer to OEM manual for procedure.

9. Inspect grease seal for leakage.
   Refer to OEM manual for procedure.

4.3 MAINTENANCE PROCEDURES

4.3.1 TIRE

Check the tires for normal and/or abnormal tire wear. Replace tires that are damaged or worn beyond normal tread life.
Refer to the axle OEM manual for a Tire Wear Diagnostic Chart.

Replace the tires with Meridian part number 18131 or an equivalent tire:

3T235/80R16
TR643
Load Range E
For Trailer Service Only

4.3.2 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 fuel trailer, contact Meridian for approval.

⚠ WARNING

PERSONAL INJURY HAZARD
Repairs or modifications to the trailer, it's tongue, or trailer hitch can result in serious injury or death should these repairs fail.

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

4.3.3 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.

Fig 58 - Trailer wheels

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

4.3.4 BATTERY

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

4.3.4.1 BATTERY SAFETY

1. Keep all sparks and flames away from batteries, as gas given off by electrolyte is explosive.

2. Avoid contact with battery electrolyte: wash off any spilled electrolyte immediately because battery acid can cause severe chemical burns.

3. Wear safety glasses when working near batteries.

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

5. To avoid injury from spark or short circuit, disconnect the battery ground cable before servicing any part of the electrical system. Never short circuit the battery; it may explode.

6. Protect battery terminals, batterycharger terminals, and cables against accidental contact which can cause sparks, explosions, or component damage.

7. Never attempt to jump-start a frozen battery.

4.3.4.2 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 12 Volt automotive type battery.

- 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 fuel trailer 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.

4.3.4.3 BATTERY MAINTENANCE

1. Make sure the top of the battery box is installed and in good condition (not cracked, cut, or damaged).

2. 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.

4.3.5 GASOLINE ENGINE (OPTIONAL)

Gasoline engines are not typically shipped with oil. Check and add oil to engine prior to operating, as needed.

For any questions concerning the gasoline engine not provided in this manual, refer to the OEM manual that was provided with the fuel trailer.

For contact information on the manufacturer, refer to the OEM Literature section in this manual.

4.3.5.1 APPROVED FUEL

Use a regular unleaded automotive gasoline for all operating conditions. The fuel tank capacity is approximately 1.0 gallons.

The fuel trailer engines are designed for good performance and efficient operation using gasoline containing from 0 to 10% ethanol.

NOTICE

E85 is an alternative fuel and Meridian's equipment is not designed for this type of fuel. E85 is not gasoline. It is made by combining 85% ethanol with 15% gasoline. The fuel trailer engine is not currently certified or designed to run on E85 or any other alternative fuel.

Always refer to the OEM Owner's manual for a list of recommended fuel and the current approved additives.

4.3.5.2 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 1.1 liters (1.16 US qt.).

4.3.5.3 CHANGE ENGINE OIL

1. Review the Operator's Manual for the engine.
2. Allow the engine to cool before changing the oil. Draining works best when the oil is warm.

⚠ CAUTION

BURN HAZARD
Hot engine oil can burn skin.

3. Be sure the engine key switch is in the OFF position and the fuel valve is turned OFF.
4. 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 case (less than 1 quart) with SAE 10W-30 oil for general usage. If the engine is operated in more extreme conditions, refer to the OEM manual for oil recommendations.
8. Run the engine for one minute and recheck both oil levels. Add oil, as needed.

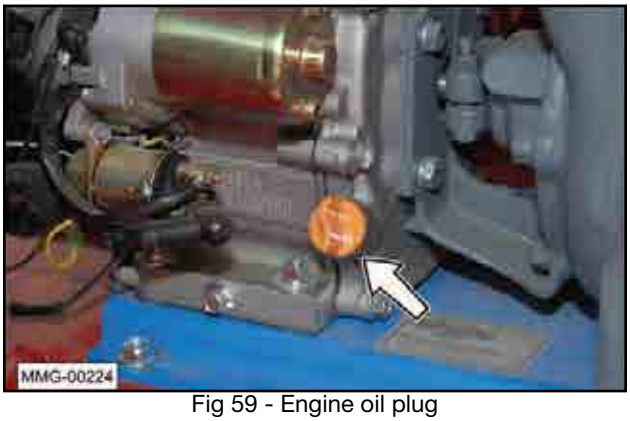

Fig 59 - Engine oil plug

4.3.6 Air Filter Inspection

A dirty air filter will restrict air flow to the carburetor, reducing engine performance. If you operate the engine in very dusty areas, clean the air filter more often than specified in the maintenance schedule.

1. Remove the air cleaner cover and inspect the filter and foam cover weekly.

2. Remove any debris from the foam cover. Thoroughly clean or replace the foam cover every three months or 50 hours of operation (clean it more frequently when used in dusty conditions).

3. Clean or replace dirty filter elements. Always replace damaged filter elements.

NOTICE

Operating the engine without an air filter, or with a damaged air filter, will allow dirt to enter the engine, causing rapid engine wear. This type of damage is not covered by any warranty.

4. Replace the cover.

Fig 60 - Air filter cover

Fig 61 - Air filter

Fig 62 - Replace cover

4.3.7 ENGINE CIRCUIT PROTECTION

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.

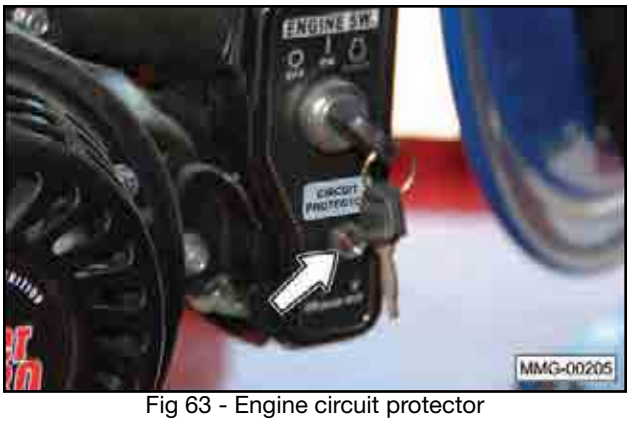

Fig 63 - Engine circuit protector

Fig 64 - Engine circuit protector

4.3.8 ENGINE TO PUMP CONNECTION (GASOLINE ENGINE OPTION ONLY)

Check the coupling between the pump and engine annually.

4.3.9 TRAILER BREAKAWAY SYSTEM

Fig 65 - Trailer Break-Away System

4.3.9.1 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 should 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.


Fig 66 - Break-Away switch and pin

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 breakaway switch. The battery will activate the brakes. (Note: Do not use this kit as a parking brake). The battery should be charged and tested prior to each trailer outing.


Fig 67 - Break-Away Battery

4.3.9.2 CHANGING BATTERY

The battery in the breakaway system is rechargeable. If the battery will not hold a charge, replace the battery.

4.3.9.3 REPLACING BATTERY

The battery in the breakaway system is replaceable. If the battery will not hold a charge, replace the battery. Contact the OEM supplier for a replacement battery.

4.3.10 WHEEL BOLT TORQUE REQUIREMENTS

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

   Refer to the Wheel Bolt Torque Requirements section in this manual for tightening instructions.

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

⚠ CAUTION

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 maintained wheel nuts prevent loose wheels and broken studs.

Fig 68 - Trailer wheels

2. 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.

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

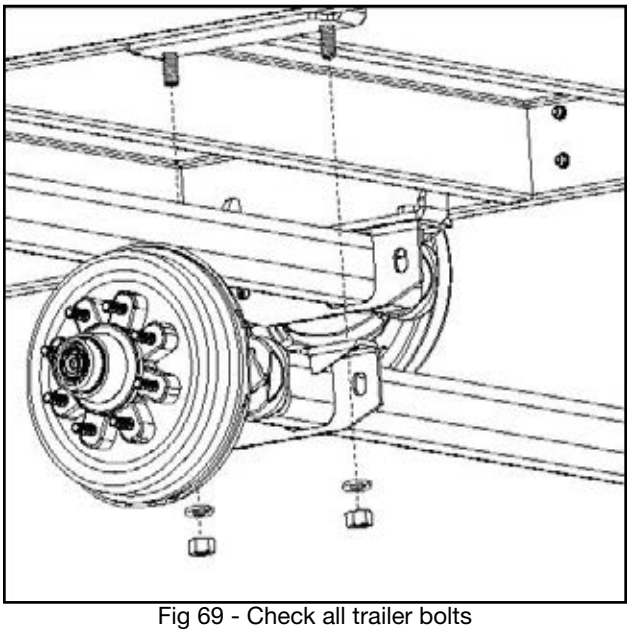
Fig 69 - Check all trailer bolts

4.3.11 AXLE BOLTS, TRAILER HITCH BOLTS, AND TANK HOLD-DOWN BOLTS

Check the torque on the axle to frame bolts, tank hold-down bolts, and trailer hitch bolts at least once per year.

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4.4 SERVICE RECORD

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

For more detailed schedule pertaining to the specific engine model, consult its Operator Manual.

Copy this page to continue record.

Hours / Maintenance — Serviced By														
8 Hours or Daily														
Check Engine Fluid Levels														
Test Breakaway Brake System														
Inspect Tires and Check Wheel Bolt Torque														
Inspect Taillights and Running Lights														
Inspect 7-pin Connector Plug														
50 Hours or Weekly														
Clean Engine Air Intake Filter														
Check Tire Pressure														
200 Hours or Semiannually														
Adjust Brakes														
Inspect Brake Magnets														
Make sure the battery box is securely holding battery onto frame, check electrolyte levels in the cells, clean terminals to remove any dirt or corrosion.														
Check and/or Replace Diesel Fuel Filter														
400 hours or Annually														
Change Engine Oil														
Check Wheel Bolt Torque														
Check Frame Hold-Downs														
Check Bolt-On Hitch Tongue Bolts														
Inspect Brake Lining Wear, Brake Cylinder, and Brake Wiring														
Repack Wheel Bearings and Check Hub for Wear Inspect														
Inspect Axle Grease Seal														
Inspect Diesel Fuel Pump														
Inspect DEF Solution Pump														
Inspect all electrical wiring connections for looseness or corrosion. Tighten and/or seal, as necessary.														
Thoroughly Clean Equipment														

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: SIGN-OFF FORM

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

Do not operate, or allow anyone else to operate, this equipment until this document has been read. Review this information annually, before the season start-up.

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

The following Sign-Off Form is provided for your record keeping. Use it to show that all personnel who will be working with the equipment have read and understand the provided information. They also have been instructed in the operation of the equipment. Copy this page to continue the record.

DATE	EMPLOYEE'S SIGNATURE	EMPLOYER'S SIGNATURE

Section 6: TROUBLESHOOTING

This section contains a list of common problems, causes and offers quick solutions to those issues.

If problems are confronted which are difficult to solve, even after having read through this section, please contact your authorized dealer, distributor or Meridian Manufacturing Inc. Before you call, please have this Operator's Manual and the unit's serial number ready.

PROBLEM

CAUSE	SOLUTION
Gasoline 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
Wrong fuel type	Do not use gasoline containing more than 10% ethanol
Poor fuel quality	Store gasoline in a clean, plastic, sealed container approved for fuel storage. Close vent cap (if equipped) when not in use and store container away from direct sunlight. If fuel is stored longer than three months, adding a fuel stabilizer is recommended.
Dirty air filter	Clean or replace the filter
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

continued on next page

PROBLEM

CAUSE	SOLUTION

DEF pump is not working properly

Pump is not working	The DEF pump is for intermittent duty only. Once the maximum thermal limit is reached, the motor must be allowed to return to ambient temperature before resuming operation.
Pump will not start	Check in-line fuse
	Check for correct Voltage (±10%) and electrical connections
	Check motor for open or grounded circuit
	Check for locked drive assembly
Pump will not prime (no discharge but motor runs)	DEF tank is empty
	Inlet or outlet pipes and/or hose are blocked with debris.
	Check for severe vacuum leak
	Check for proper Voltage with the pump operating (±10%)
	Check pump for damage

DEF pump is not working properly, continued

Pump leaks	Diaphragm may be ruptured, pinched, or punctured. Contact OEM for repair options.
	Check for loose pump head or drive screws.

Electric diesel fuel pump will not prime

Suction line is damaged	Check for leaks in suction line
Fuel level in tank is below the pump inlet	Maintain the fuel level above the height of the fuel pump inlet
Bypass valve open	Valve problems; must move freely and be free of debris. Contact OEM for cleaning and/or repair options
Vanes sticking	Vanes and slots may have nicks, burrs or wear. Contact OEM for repair options
Excessive rotor or vane wear	Rotor and vane wear or damage. Contact OEM for repair options
Outlet blocked	Check pump outlet, hose, nozzle, and filter for blockage
Vapor lock	Check breather on top of tank for obstruction

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PROBLEM

CAUSE	SOLUTION
Electric diesel fuel pump low capacity	
Excessive dirt in screen	Remove and clean screen
Suction line problem	Check suction line for leaks or restrictions or air leaks (not airtight)
Bypass valve sticking	Valve problems; must move freely and be free of debris. Contact OEM for cleaning and/or repair options
Vanes sticking	Vanes and slots may have nicks, burrs or wear. Contact OEM for repair options
Excessive rotor or vane wear	Rotor and vane wear or damage. ContactOEM for repair options
Hose or nozzle damage	Replace hose or nozzle
Plugged filter	Replace filter
Low fluid level	Fill tank
Electric diesel fuel pump runs slowly	
Incorrect voltage	Check incoming line voltage while pump is running. Must be 12 Volts
Vanes sticking	Vanes and slots may have nicks, burrs or wear. Contact OEM for repair options.
Wiring problem	Check for loose connections
Motor problem	Contact OEM for replacement options
Electric diesel fuel pump stalls, fuse blows, or circuit breaker trips repeatedly	
Bypass valve sticking	Valve problems; must move freely and be free of debris. Contact OEM for cleaning and/or repair options.
Low voltage	Check incoming line voltage while pump is running. Must be 12 Volts.
Excessive rotor or vane wear	Rotor and vane wear or damage. Contact OEM for repair options.
Debris in pump cavity	Clean debris from pump cavity

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PROBLEM

CAUSE	SOLUTION
Electric diesel fuel pump overheats	
Diesel fuel may be too viscose (too thick)	Viscous fluids can only be pumped for short periods of time (less than 30 minutes).
Clogged screen	Remove and clean screen
Restricted suction pipe	Remove restriction
Motor failure	Contact OEM for replacement options
Pump rotor lock-up	Contact OEM for cleaning and/or repair options
Electric diesel fuel pump does not operate	
No power	Check incoming 12 Volt power source
Switch failure	Replace switch with OEM parts
Motor failure	Contact OEM for replacement options
Thermal protector failure	Contact OEM for replacement options
Incorrect or loose wiring	Repair wiring
Electric diesel fuel pump leaks	
Bad O-ring gasket	Replace all O-ring gaskets
Dirty shaft seal	Clean seal and seal cavity
Bad shaft seal	Replace seal
Incompatible fluid	Do not pump any fluid other than diesel fuel
Loose fasteners	Tighten fasteners
Electric diesel fuel pump hums but will not operate	
Motor failure	Contact OEM for replacement options
Broken key	Remove all debris and replace key

Notes: Notes:

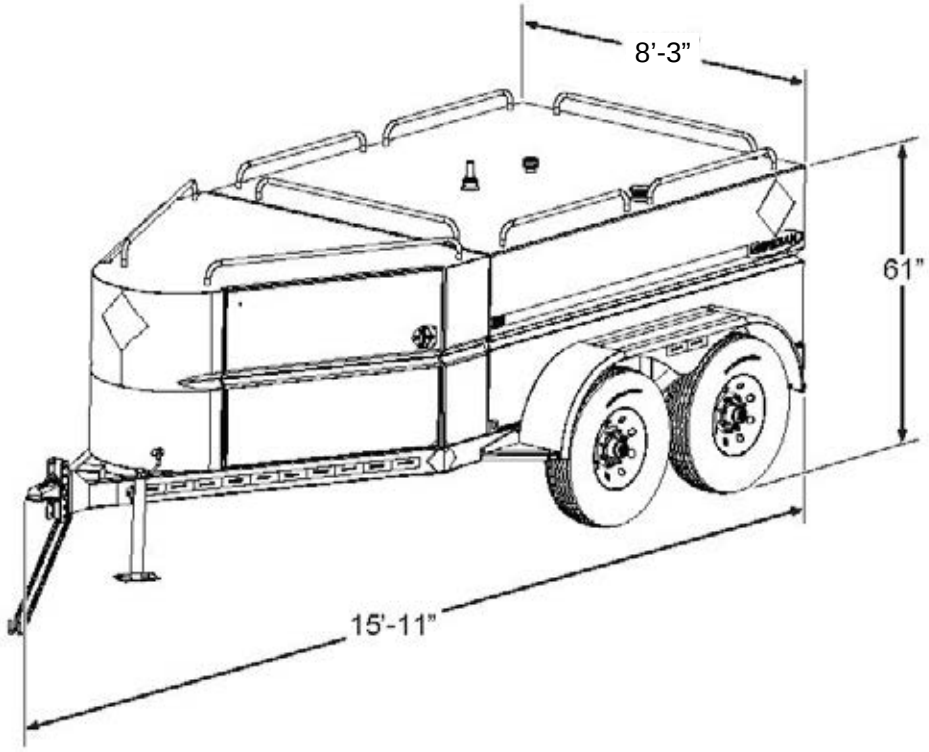
Section 7: REFERENCE

For information not included here, or for a digital copy of this manual, please call your dealer, or Meridian Manufacturing Inc. directly for assistance (1-800-830-2467).

Specifications and measurements are subject to change without notice.

Note:
In the electronic version of this manual,
the drawings and schematics are contained in a separate parts book.

7.1 SPECIFICATIONS



DESCRIPTION	SPECIFICATION
Gasoline Engine Option	6.5 horsepower, electric start, low-oil sensor, one-year manufacturers warranty from OEM
Diesel Fuel Pump	Rated for diesel fuel only Flow - 25 gpm standard Flow, 40 gpm optional
Diesel Fuel Hose Length	35' long hose on retracting reel
Filter (diesel fuel)	10 Micron
Diesel Fuel Tank Capacity	990 gallons
Shut-off Valve	2" ball type (located under tank)
Fill Opening	2" with vented and lockable fill cap
Electric (12 Volt) Pump Option	Power - DC 12 volt, Size - 1/2 horsepower, duty cycle – 30 minutes, thermal protection switch, circuit protection fuse, flow - 25 gpm
DEF Solution Pump	Power - 12 Volt, flow - 12 gpm
DEF Hose Length	25' long hose on retracting reel
DEF Solution Tank Capacity	55 or 110 gallons
Electrical System	Battery (12 Volt) for engine's electric start and DEF pump
Breakaway Brake System	Standard
Wiring Harness	Standard, 7-pin automotive connector
Axles and Tires	7000 lb axle with electric drum brakes (each axle), 16" x 10-ply tires

Table 2 - Specifications

7.2 BOLT TORQUE

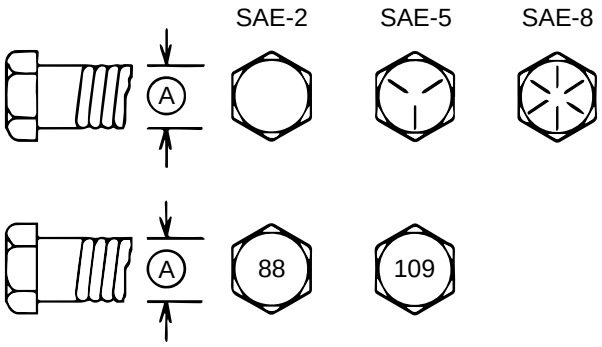
The tables shown below give correct torque values for various bolts and capscrews. Tighten all bolts to the torques specified in chart unless otherwise noted. Check tightness of bolts periodically, using bolt torque chart as a guide. Replace hardware with the same strength bolt.

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

Table 3 - English Torque

METRIC TORQUE SPECIFICATIONS				
Bolt Diameter "A"	Bolt Torque*			
	8.8 (N.m)	(lb-ft)	10.9 (N.m)	(lb-ft)
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

Table 4 - 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.

7.3 OEM LITERATURE

OEM literature can be stored on the fuel trailer using the document storage tube, situated at the front of the trailer.

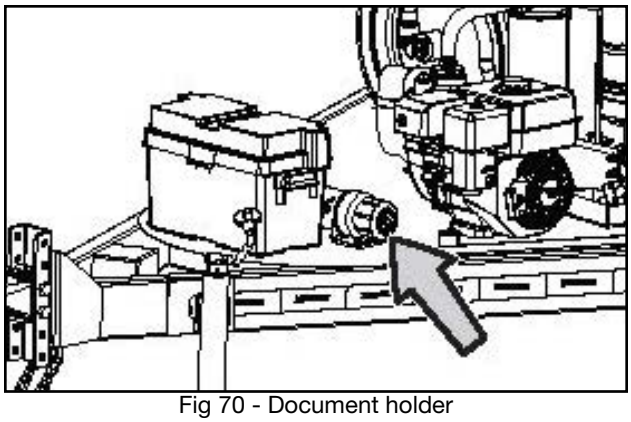


Fig 70 - Document holder

7.3.1 ENGINE AND DEF PUMP

For any questions concerning the engine, diesel fuel pump, or DEF solution pump, refer to the OEM manual that was provided with the fuel trailer.

Additional information can be obtained from:
Piusi USA
3901 Anglers Ave.
Fort Lauderdale, FL 33312

Phone: (954) 584-1552
Fax: 954-584-1554

piusiusa@piusiusa.com

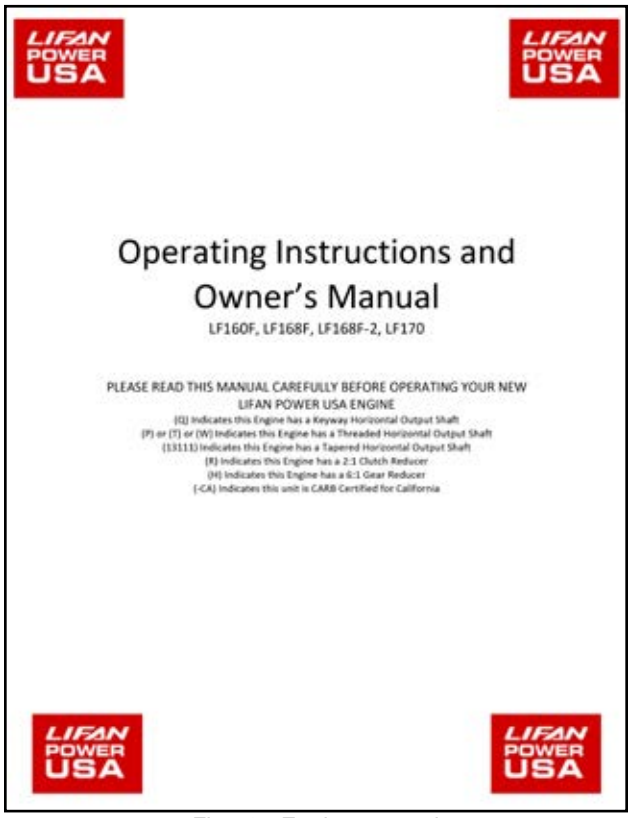


Fig 71 - Engine manual

7.3.2 AXLE

For any questions concerning the Axis Products axle, refer to the OEM manual that was provided with the fuel trailer. An Owner's Manual and parts listing is provided with the fuel trailer.

Additional information can be obtained from:
Dexter Axle Co, Inc.
2900 Industrial Parkway East
Elkhart, IN 46516

Phone: (574) 295-7888

7.3.3 DIESEL FUEL PUMP

7.3.3.1 ELECTRIC DIESEL FUEL PUMP
Fill-Rite Electric Fuel Pumps
Tuthill Corporation
8825 Aviation Drive
Ft. Wayne, IN 46809

Toll Free: 800-634-2695

7.3.3.2 GASOLINE DIESEL FUEL PUMP
Flow Max Diesel Fuel Pumps
MP Pumps, Inc.
34800 Bennett
Fraser, MI, 48026-1686

Phone: 586-293-8240
Toll Free: 800-563-8006
Fax: 586-293-8469

Fig 72 - Hypro manual

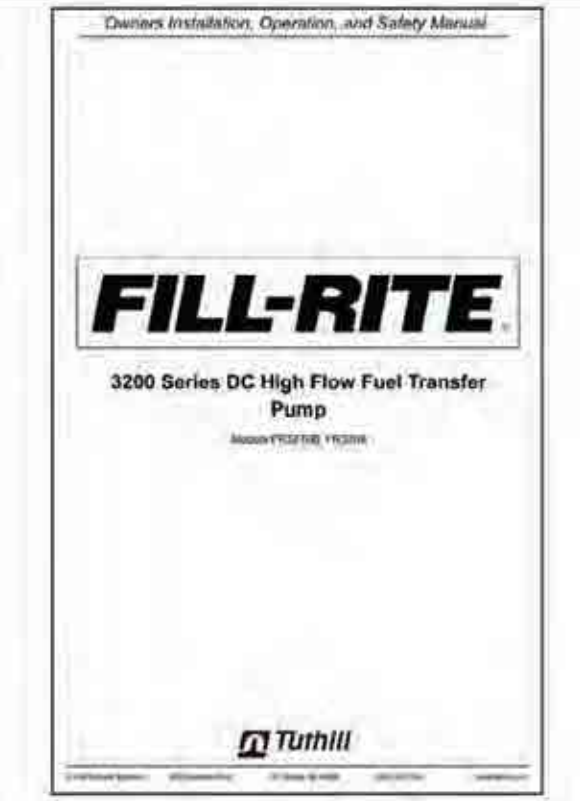


Fig 73 - Electric fuel pump manual

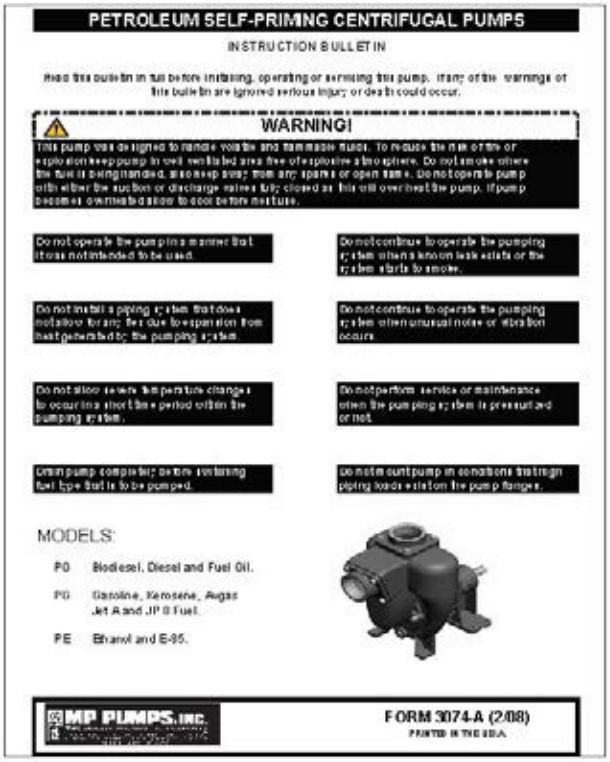


Fig 74 - Gas fuel pump manual

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

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