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HANDIFUELER™

TECHNICAL MANUAL

TR-SERIES

Trailer Mounted
Applicable to:

TR2000SDA Serial Number

Spokane Industries, Inc.

Spokane, Washington

2000 GALLON HandiFueler™ on Triple axle trailer

ONE YEAR LIMITED WARRANTY

Seller warrants its 2000 Gallon HandiFueler™ tank to be free from defects in material and workmanship under the normal use and service for which the unit is intended if, but only if the unit has been properly operated, maintained and stored in accordance with printed directions contained in the product manual. Our obligation under this Warranty shall be limited to the repair or exchange of SI manufactured equipment and parts which may prove defective within one year of the date the unit is put into service but shall in no event extend beyond a date three years from the date the unit is shipped from our plant. All transportation charges on parts returned to us for replacement under this warranty must be returned prepaid.

Other manufacturers' components warranties apply as their warranty reads.

This warranty does not extend to damage caused be environmental factors varying from normal design conditions, whether natural or man-made, or to units subjected to misuse, negligence or accident. This warranty likewise does not extend to the unit or any parts thereof which have been repaired or altered improperly or in any way so as to effect adversely its stability or reliability. This warranty does not cover parts or labor required to repair or replace parts whose usefulness is exhausted due to normal operation of the unit.

THIS WARRANTY IS EXPRESSLY IN LIEU OF ALL OTHER WARRANTIES, EXPRESSED OR IMPLIED, INCLUDING ANY IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE NOT SET FORTH IN WRITING SIGNED BY AN AUTHORIZED REPRESENTATIVE OR SELLER. SELLER SHALL IN NO EVENT BE LIABLE FOR ANY CONSEQUENTIAL LOSS OR DAMAGE RESULTING FROM THE USE OR LOSS OF USE OF THE UNIT.

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Table 1.1

Leading Particulars:	**TR2000SDA**
Length	**245-1/2 in.**
Width	**96 in.**
Height	**72-3/4 in.**
Double Wall Construction	
Weight Full	**11,721 LB.**
Weight Empty	**5,211 LB.**
Environmental Conditions	
Operating temperatures	**-20 F to +110 F**
Tank capacity	**2000 Gallons**
Tank Certification	**49CFR 178.346 DOT-406**
Unit standards	**NFPA-407**
High level jet sensor setting	**92% tank capacity**
2" Pump flow	**38 GPM**
Diesel Pump HP	**4.7 HP**
Fuel Filter	**Micron solids, 5PPM water 60GPM**
3 Axle Trailer rating	**21,000 GVW**
Brakes	**12volt Eletrically activated hydraulic drum type**
Hitch	**Pintle Style**

Section 1.0 Introduction

1.1 The instructions in this manual cover the operation, maintenance and specifications for the Spokane Industies HandiFueler™

1.2 Purpose

a. The HandiFueler™ is designed to provide a portable, clean, safe, self contained and efficient fueling system for the aviation industry.

1.3 Description

a. Refer to Figure 1 for location and identification of major components. The HandiFueler™ consists of a tank assembly, a trailer chassis, and a pumping module.

Section 2.0 Safety

2.1 Summary

a. This manual contains suggested safety procedures, in addition the end user must comply with all International, Federal, state, local, and company safety and environmental regulation.

b. **NOTE, CAUTION** and **WARNING** statements have been inserted throughout this publication and are essential for the protection of personnel, equipment and property. Prior to operating this equipment all **NOTE, CAUTION** and **WARNING** statements must be reviewed and understood.

2.2 **Definitions**

A. **NOTE:** Actions which are intended to facilitate or enhance the procedure to which it is directed.

B. **CAUTION:** An operation or maintenance procedure that if not observed could result in damage or destruction to equipment or property.

C. **WARNING:** An operation or maintenance procedure that if not observed could result in injury or death to personnel.

2.3 General Safety Precautions

a. This section covers general safety precautions that may or may not be related to any other specific procedures located elsewhere in this manual.

b. **Cleaners/ Chemicals**

(1) Some cleaners, chemicals, solvents, fuels, paints, etc. may have adverse effects on eyes, skin and respiration. Observe all manufacturers warnings and read the material safety data sheets (MSDS) to ensure proper handling, storage, and disposal, and safety directives.

c. **Confined Space**

WARNING: Maintain proper ventilation at all times to ensure safe Lower Explosive Limits (LEL)

(1) Personnel that work in a confined space (limited openings for entry and exit) or unfavorable ventilation or space not intended for humans or contains any recognized safety hazards shall comply with all International, Federal, state, local, and company safety and environmental regulations. (Confined space entry permit may be required). Never service or adjust equipment alone. Do not attempt internal service or adjustment of equipment unless another capable person is present to provide rescue in the event of injury.

d. **Lifting and Handling**

(1) To ensure safety, only qualified personnel and appropriate lifting devices will be used when lifting or handling equipment.

e. **Lockout/Tagout**

(1) Personnel shall be aware of the hazards associated with equipment, Lockout/Tagout any energy source prior to performing any repairs, adjustments or any procedures that could bypass safety devices. Comply with all International, Federal, state, local, and company safety and environmental regulations.

f.. **Finger rings/jewelry**

(1) Prior to operating, repairing, or maintaining equipment remove watches rings and jewelry, unless specifically allowed by local procedures.

g. **Spring loaded mechanisms/cables**

(1) Spring loaded mechanisms and cables can cause injury if released or activated in an uncontrolled manner. Always be careful when adjusting or maintaining these devices.

h. **Personal Protective Equipment (PPE)**

(1) Always ensure personnel are equipped and trained on the proper use of PPE prior to operating, adjusting or maintaining equipment.

(2) Comply with all International, Federal, state, local and company safety and environmental regulations.

i. **Weather Conditions**

(1) Use extreme caution operating the HandiFueler™ during adverse weather conditions (ie... ice, snow, rain, strong and gusting winds).

Section 3.0 Special Tools & Test Equipment

3.1 No special tools or test equipment are required to operate the HandiFueler™ . Refer to the owners manual, if availble, for specific items if testing or repairs are to be accomplished. Not all items will have literature supplied by the manufacturer.

Section 4.0 Preparation for Use

4.1 To obtain optimum benefit from your equipment, all personnel operating the unit should receive proper training and understand the contents of the manual prior to operation. Pay special attention to the **NOTES**, **CAUTIONS**, **WARNINGS** in this manual.

.2 Upon receipt of the unit, make a visual inspection to determine that it is complete and has not sustained any damage during transportation.

Section 5.0 Safety Check

The safety check must be perfomed before every use to ensure that the equipment is in serviceable condition and ready for operation.

5.1 Inspect tires, brakes, undercarriage, trailer hitch, valves, hoses, pumps, diesel engine and main containment tank.

WARNING: Defects identified shall be corrected before attempting operation .

5.2 Pre-Towing Safety Checks

a) Tires properly inflated, as per tire manufacturers specifications on tire sidewall.
b) Visually check tank mounting hardware.
c) Visually check trailer
d) Visually check for any leaks from tank, pumps or plumbing.
e) All hoses, nozzles and static ground wires are properly stowed.
f) All valves and switches in the off position.
g) Manway on tank closed and latched.
h) Equipment storage boxes are closed and latched, if applicable.
i) Pump platform cabinet doors are closed and latched.
j) Parking brake released, chocks if used, are removed and stowed.

CAUTION: Ensure "BRAKE" lever on 4 lever operator, at pump platform, is in the full forward position (released).

Section 6.0 Operation

6.1 Introduction

a. The instructions contained in this manual provide step by step procedures for operating this equipment. Personnel using this equipment should familiarize themselves with this manual prior to equipment operation. Improper operation presents extreme hazards to personnel and equipment.

6.2 General Precautions

a. **WARNING**

(1) Always apply parking brake prior to any fuel servicing operations, maintenance repairs or when the unit is left unattended.

(2) Always connect static discharge ground cables to an approved ground prior to performing any fuel servicing.

(3) Do not carry or smoke lighted cigars, cigarettes, pipes or any other device capable of lighting fuel vapors on or near the HandiFueler.

(4) Never leave the pump unit running when left unattended. Always turn pump motor off after fueling takes place.

(5) Do not allow smoking, sparks, or flames within 50 feet of unit.

(6) Never operate the Handi-Fueler TM in an enclosed area. Proper ventilation must be maintained at all times.

Table 6.1: Controls and Indicators

Name	Function
12V electrically activated hydraulic brakes for towing (includes break away switch)	Used while towing vehicle, includes In-cab controller which allows driver to electronically control braking force. **Read owners manual before attempting use.**
Mechanical Parking Brake	Sets parking brakes on front axle, trailer tongue side mounted handle.
4 lever operator	These 4 handles set center axle operational brake, locks & unlocks fuel nozzle, opens bottom tank loading valve and rotates the swing gate allowing access to the tank fill connection. **See Fig 6.1, pg.17**
Liquid level gauge	Determines the amount of liquid in the tank, located front side center of main tank
Emergency shutoff levers (forward located)	Used to shut off fuel supply from main tank to fuel servicing hose during refuel operations. Levers are connected to the valve handle of the 4 lever operator on the aft side of the pump platform. 2 levers, one each located at the lower front of the main tank, outboard side of the lower tank support rails.
Moisture drain valves (Low Point Drain)	Drains moisture condensate that collects on the tank bottom. 2 valves - Main valve to drain into sample reservoir, Service valve opens 1" DOT approved, spring loaded closed low point tank valve Location - Main tank aft, left side, bottom**. See Fig 6.2, pg. 18**
High level jet sensor	Turns off 3" internal valve at 92% tank capacity when bottom filling to prevent overfilling tank. Internally located.
High level jet sensor Pre check handle	Pull type cable, maunually activated at rear of pump platform. Usd to simulated FULL condition of main tank to test High level jet sensor shutoff capability. **See FIG 6.3, pg.18**
3" Internal Valve	This is a DOT approved internal spring loaded valve operated by the outer "valve" lever of the 4-lever operator. This valve has a built in shear joint so the internal part of the valve stays inside the tank in case of an accident. It is equipped with a fusible frangible connector that in the event of a fire the valve closes.

Table 6.1 Controls and Indicators *(continued from previous page).*

Name	Function
Pump pressure bypass valve	Relieves excess pump pressure when pump is running but refueling hand nozzle is closed, prevents pump from cavitating and overheating. **See Fig 6.3, pg.19**
Fuel Filter bypass indicator	Differential pressure will extend red button when filter is clogged. **See Fig 6.4, pg. 19**
Main Tank Fuel Filter	Removes contaminants from fuel entering main tank if bottom fill is used.
Service Hose Fuel Filter	Removes contaminants from fuel used to service aircraft coming from the main tank through the refueling hose and nozzle. **SEE Fig 6.4, pg. 19**
Fuel meter	Reads gallons of fuel discharged from main tank through main refuel hose, manually reset. **See FIG 6.5, pg.20**
Differential pressure indicator	Monitors condition of aircraft refueling filter to provide user with a real time indication of the filter condition. Allows user to replace filter before filter is completely clogged. **See Fig.6.5, pg. 20**
Service Hose Hand Nozzle	1 1/4" dia. fuel servicing hand nozzle. Used to service aircraft, allows user ON-OFF capabilit y at service end of hose. **See Fig. 6.5, pg. 20**
Hannay 900 Series Hose Reel	Contains 50' of servicing hose. Spring loaded return action. **See Fig. 6.5, pg. 20**

6.3 HandiFueler™ Fueling Checklist:

NOTE: These are general instructions that are recommended for proper operation of the HandiFueler™ and in no way over-rides local policies and directives.

CAUTION: Before any operation of the HandiFueler™ ensure you are familiar with its operation and features. Review the operator's manual to familiarize yourself with sections 5, 6, and 8. Operate within applicable guidelines according to manufacturer's recommendations and local directives and policies

WARNING: Never leave the unit unattended during any operation. You must stay vigilant for possible malfunctions, overfill and other emergency situations.

6.4 To **refuel** the HandiFueler™ accomplish the following:
Note: The word "Source" is used to refer to any container that will be used to put fuel *into* the HandiFueler™, (i.e. fuel truck, fuel storage tank)

1. Park HandiFueler™ on level ground, set forward mounted park brake.
2. Place wheel chocks in front of and behind trailer tires of one axle.

CAUTION: Ensure all doors are open and latched on the pump box prior to any fuel operations.

3. At pump platform area apply HandiFueler™ operating brake by pulling the "Brake" lever on the 4 lever operator rearward.
4. Set safety cones around the HandiFueler™ to cordon off re-fuel area.
5. Connect the static ground cables to approved grounding points.
6. Pull "GATE" handle, exposing 2" cam lock fill inlet.
7. Connect the fuel source fill line to the 2" cam-lock bottom fill (inlet) line. **See Fig 6.6, pg. 20**
8. Open bottom fill valve in line with 2" cam-lock.
9. Position 3 way valve to the "Fill Tank" position. (handle points down) **See Fig. 6.7, pg. 20**
10. Begin refueling the HandiFueler™

CAUTION: Perform High Level Jet Sensor test by pulling handle **See Fig6.3, pg. 18** hold until Jet Level sensor closes the 3" internal valve (spring loaded closed), this will simulate a "Full" tank. A closed 3" valve will stop the flow of fuel from source, indicated at source fuel flow meter. When source fuel flow meter stops, release handle, fuel will resume flowing soon after, continue to fill HandiFueler™.

CAUTION: During "Fill Tank" operations for the HandiFueler™ the "Valve" handle on the 4-lever operator must remain in the closed (full forward) position ensuring the 3" internal valve remains closed to provide over-fill protection. Failure to follow this procedure will cause a fuel spill.

11. When tank is full, fuel flow will automatically be stopped by 3" internal valve, turn fuel source pump off at this time.

continued next page

12. Close fill inlet valve, next to 2" cam-lock **See Fig 6.9, pg. 22**

Warning: Residual fuel pressure may remain in fuel line, use extreme caution when disconnecting.

13. Disconnect fill line from the 2" cam-lock
14. Move "Gate" lever forward.
15. Move 3-way valve to "Refuel" position, (handle horizontal towards pump). **See Fig 6.3, pg. 18**
16. Disconnect static ground clamps and walk cables back to the reels
17. Stow safety cones.
18. Release HandiFueler™ brake by pushing the "Brake" lever on the 4-lever operator to its full forward position.

CAUTION: All 4 levers should be in the full forward position, if not then place in proper position. .

19. Remove, stow wheel chocks

6.4 Optional Aviation Fuel Sampling Port (All Models)

a. Your HandiFueler™ may be equipped with the optional Aviation Fuel sampling port. It accommodates the ASTM Aviation Fuel particulate contamination test D 2276, Part A2.3 requires a sample point; Part 2.3.2 requires a sample valve connection. The sampling port provided on the HandiFueler allows leak tight sampling. There is a return line back into the tank provided so that the fluid can be circulating while a sample is being drawn from the HandiFueler.

NOTE: These are general instructions that are recommended for proper operation of the HandiFueler™ and in no way over-rides local policies and directives.

CAUTION: Before any operation of this unit ensure you are familiar with its operation and features. Review the operator's manual to familiarize yourself with sections 5, 6, and 8. Operate within applicable guidelines according to manufacturer's recommendations and local directives and policies

WARNING: Never leave the unit unattended during any operation. You must stay vigilant for possible malfunctions and possible overfill and other emergency situations

b. Operation of HandiFueler™ when taking Fuel Samples (Optional)

1. Place wheel chocks in front of and behind trailer tires of one axle.
2. Connect static ground cables to approved ground points
3. Ensure all doors are open and latched on the pump box
4. Apply HandiFueler™ brake by pulling the "Brake" lever to the full rearward position on the 4way lever operator.
5. Check to ensure the 2" Bottom fill valve is in the closed position. **SEE Fig. 6.9, pg. 22**

continued next page

6. Open the 3" internal valve by pulling the outer most lever to the full rearward position on the 4way lever operator.
7. Check to ensure the 2" pump inlet suction valve is in the open position.
8. Start pump motor (refer to manufacturers information)
9. Locate sample port between the fuel filter and the hose reel inlet side inside the pump compartment
10. Remove the sample port cap by sliding the raised edge on the port toward the valve portion of the device **See Fig 6.13**
11. Connect the particle detection unit line to the sample port by inserting it in place of the cap
12. Open sample port valve by turning arrow pointed lever toward the cap end of the sample port.
13. Locate the spring loaded ball valve on the bottom rear head of the tank and hold down to the open position. **See Fig 6.14**
14. After sampling is completed let go of the spring loaded ball valve
15. Close sample port valve by turning arrow pointed lever perpendicular to the end of the port
16. Remove the particle detection unit line from the sample port
17. Reinstall the sample port cap
18. Turn off pump motor (refer to manufacturers information)
19. Close and lock pump box
20. Close the 3" internal valve by pushing the Valve lever to the full forward position on the 4 way lever operator. **See Fig 6.1**

6.5 Operation of HandiFueler™ during **Aircraft Refueling**:

NOTE: These are general instructions that are recommended for proper operation of the HandiFueler™ and in no way over-rides local policies and directives.

CAUTION: Before any operation of this unit ensure you are familiar with its operation and features. Review the operator's manual to familiarize yourself with sections 5, 6, and 8. Operate within applicable guidelines according to manufacturer's recommendations and local directives and policies

WARNING: Never leave the unit unattended during any operation. You must stay vigilant for possible malfunctions and possible overfill and other emergency situations

1. Park HandiFueler™, set parking brake, chock if necessary.
2. Ensure fire bottles are serviceable.
3. Connect static ground cables to approved grounding points.
4. Drain moisture points before each use or as required. **See Fig.6.2, pg. 18**
5. Apply HandiFueler™ brake (at pump platform), unlock fuel nozzle and open 3" internal valve by pulling "Nozzle" and "VALVE" levers on the 4-lever operator to the full rearward position. "GATE" handle should be closed in the forward position.

continued next page

6. Move 3-way valve to the "REFUEL" position, (handle is horizontal towards pump) **See Fig. 6.3, pg. 18**
7. Start pump motor (See manufacturers instructions)

WARNING: Nozzle ground clip must be connected prior to placing nozzle into aircraft fuel port.

8. Remove nozzle and pull hose to the aircraft fuel servicing port
9. Connect the nozzle ground clip to the aircraft
10. Place nozzle into the open aircraft fuel port.
11. Begin fueling by pulling nozzle trigger.
12. Achieve desired fuel tank level, release trigger, remove nozzle.
13. Disconnect the nozzle ground clip from the aircraft.
14. Walk hose back to reel and stow nozzle into the holster.
15. Turn off the pump motor
16. Release HandiFueler™ brake, lock fuel nozzle and close tank 3" outlet valve by pushing each of the levers on the 4-lever operator to the full forward position.
17. Disconnect and walk the static ground cables back to the reels.
18. Remove and stow the wheel chocks

6.6 Basic Operations

a. Parking Brake: The unit is equipped with a mechanically operated parking brake. The brake must be applied prior to disengaging tow hitch and when filling, or draining tank, or whenever the trailer is left unattended. To activate parking brake pull upward on tongue mounted brake handle. To release parking brake push down.

b. Tires: Tire inflation should be checked and maintained as directed by the manufacturer.

c. Before Towing: Follow checklist **Sect. 5.2 , pg. 8.** Make sure the trailer is securely attached to the towing vehicle. Check to see the parking brake is disengaged, grounding reel and hoses are disconnected and properly stowed, rear pump module cabinet is closed and locked, valves are closed, and all manways and covers are closed and latched tight.

d. Grounding Reels: The unit is supplied with two (2) grounding reels. Always ground unit unless towing operations are in progress.

e. DOT Certification: This tank is designed, constructed, and tested per 49CFR d. 178.346 (DOT-406) TM and will require yearly inspections per 49CFR 180.407

f. NFPA Standards: This tank was designed and built to meet the NFPA 407 standards. Safeguards must be in operational condition if not discontinue use immediately. No work around of emergency mechanism/safeguards are authorized.

g. Emergency shutoff: There are two emergency shut off levers located on both sides of the unit. Located at the front, lower, outboard side of the each tank support rail. In case of an emergency where fuel flow needs to stop, pull one of the two Levers to close the bottom tank drain valve.

h. Empty low point drains daily, or before each use. To use, attain approved container and place under spout, open Main valve, then pull Service valve handle. Release Service handle (spring loaded closed) after verifying moisture build-up has been removed. Close Main valve. **See Fig. 6.2, pg. 18**

6.7 Priming the Pump (All Models)

NOTE: Pump is Self-Priming; however, there could be times where you might have to prime the pump. Follow these instructions for priming.

CAUTION: Make sure the 2" bottom fill inlet valve is closed (Fig 6.9, pg.22), and 3-way valve is in the "Fill Tank" position before opening the tank valve. **See Fig 6.7,pg. 21**

1 Set Brake handle on 4-way lever operator by pulling "Brake" lever rearward

1) Open tank 3" bottom drain valve by pulling the "Valve" lever on the 4-way actuator rearward.

2) Turn 3-way valve to the "Refuel" position **See Fig. 6.3, pg. 18**

3) Open air vent in the top of the Refuel filter housing until all the air exits. **See Fig 6.4, pg. 19**

4) Your pump cavity should now be fully primed. Pump should not have to be primed except when pump is dry.

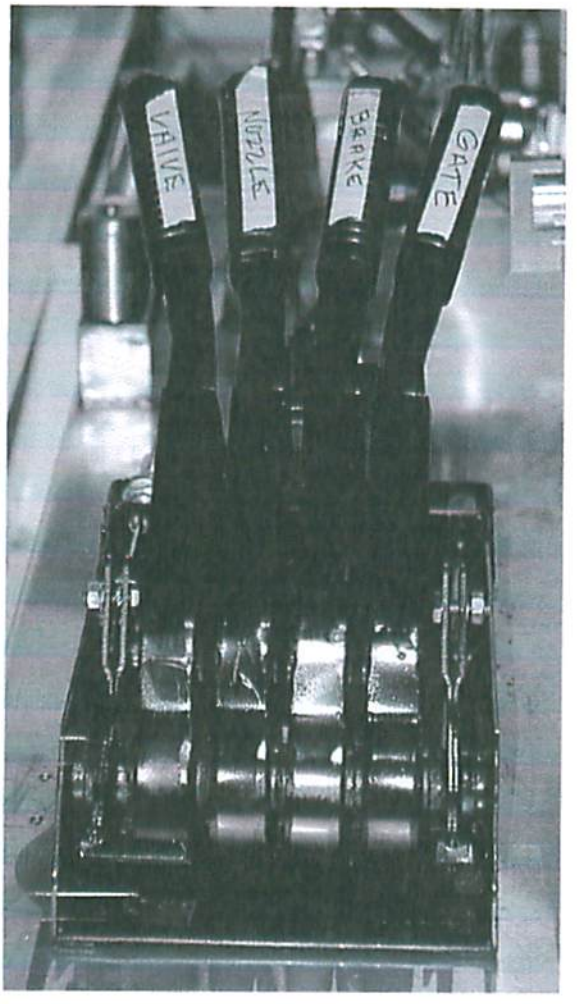


FIGURE 6.1

All levers shown in the forward position

1. Valve Lever - Opens the Main Tank 3" internal valve when pulled.

2. Nozzle Lever - Locks / Unlocks Refueling nozzle in stowed condition. Automatically sets "Brake" lever when pulled.

3. Brake Lever - Sets Operating brake on rear axle.

4. Gate Lever - Moves gate shield, allowing access to 2" cam lock fill inlet. Automatically sets "Brake" lever when pulled.

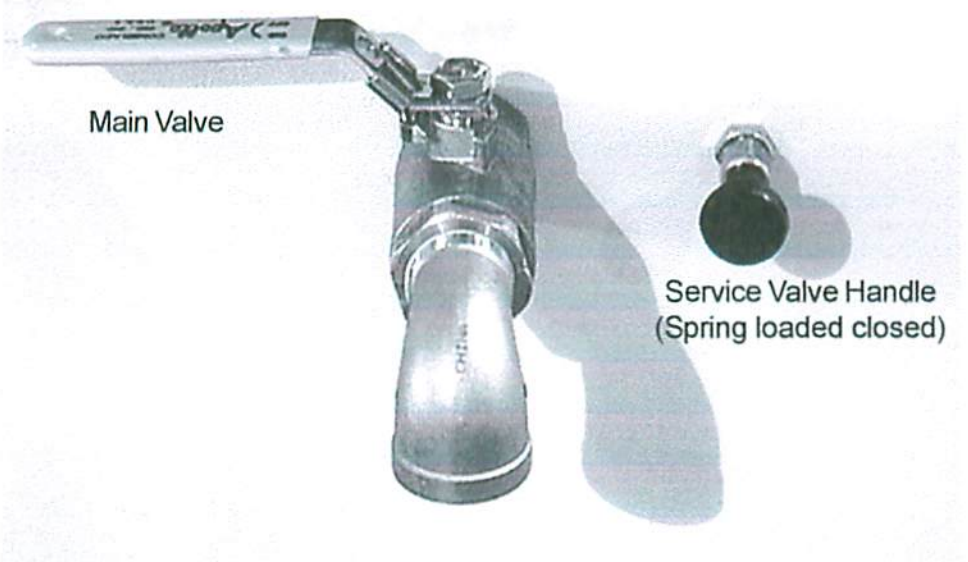


Fig 6.2
Low Point Drain, valves are in closed position

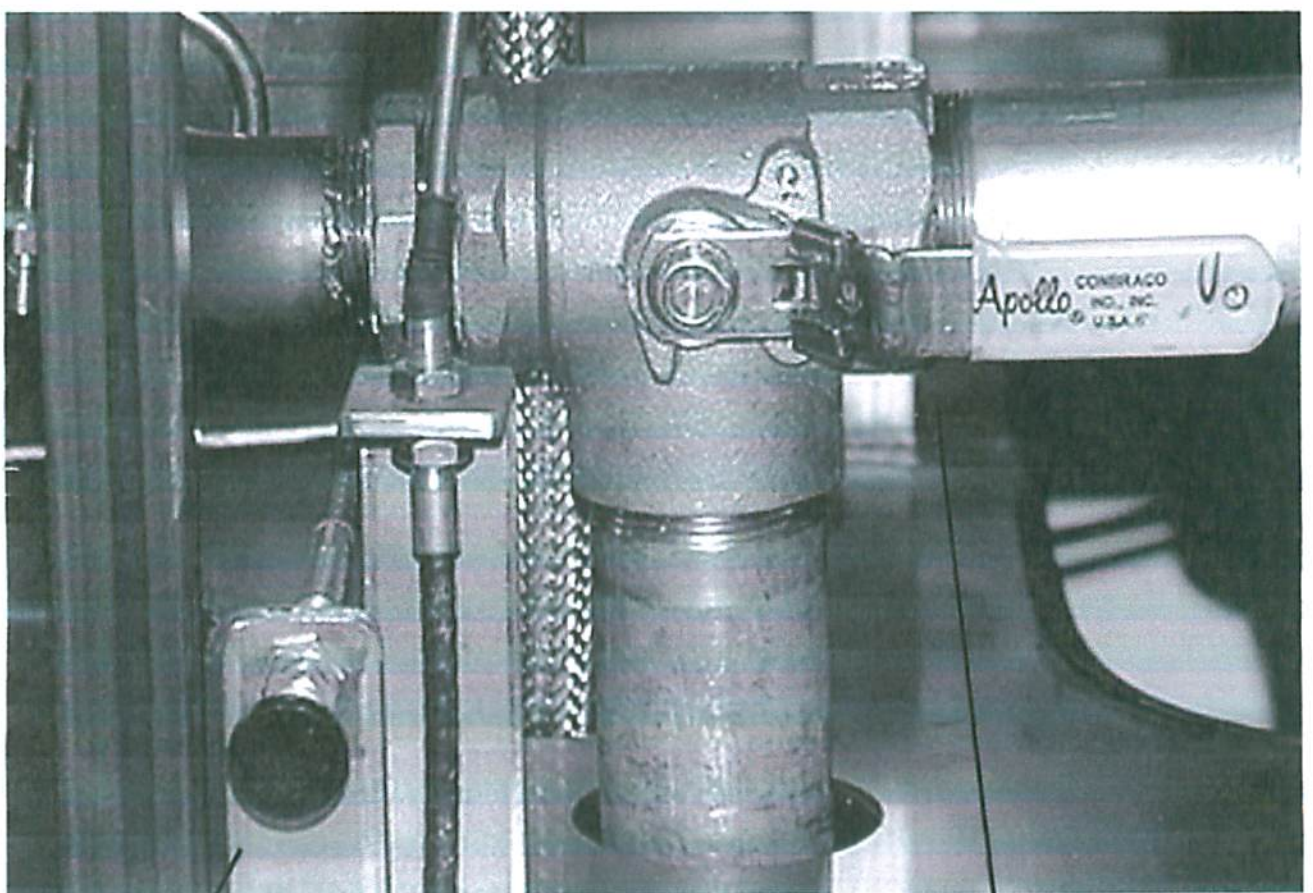
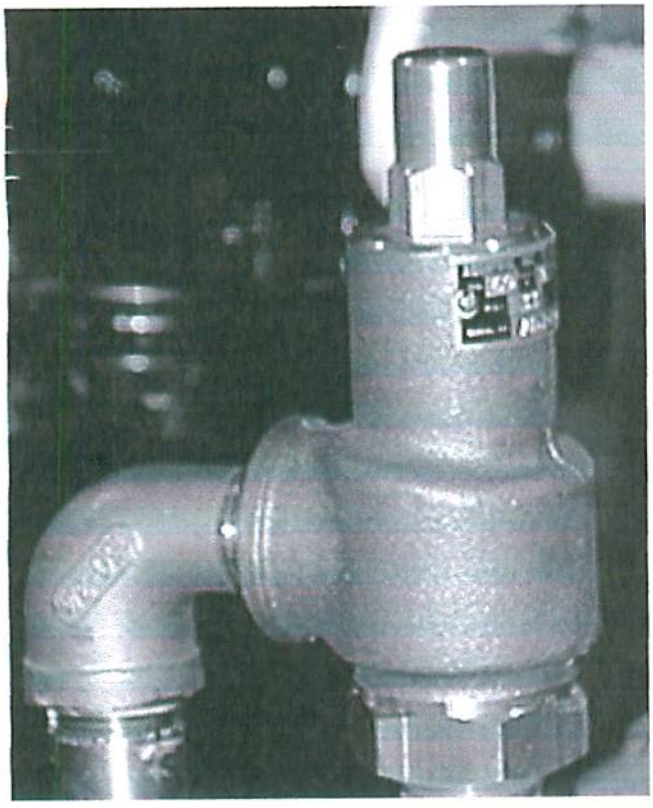


Fig 6.3

High Jet Level Sensor Pre-check Handle
(spring loaded closed)

3-way valve, shown in "Refuel" position

Fig 6.4



Pump Pressure Bypass Valve

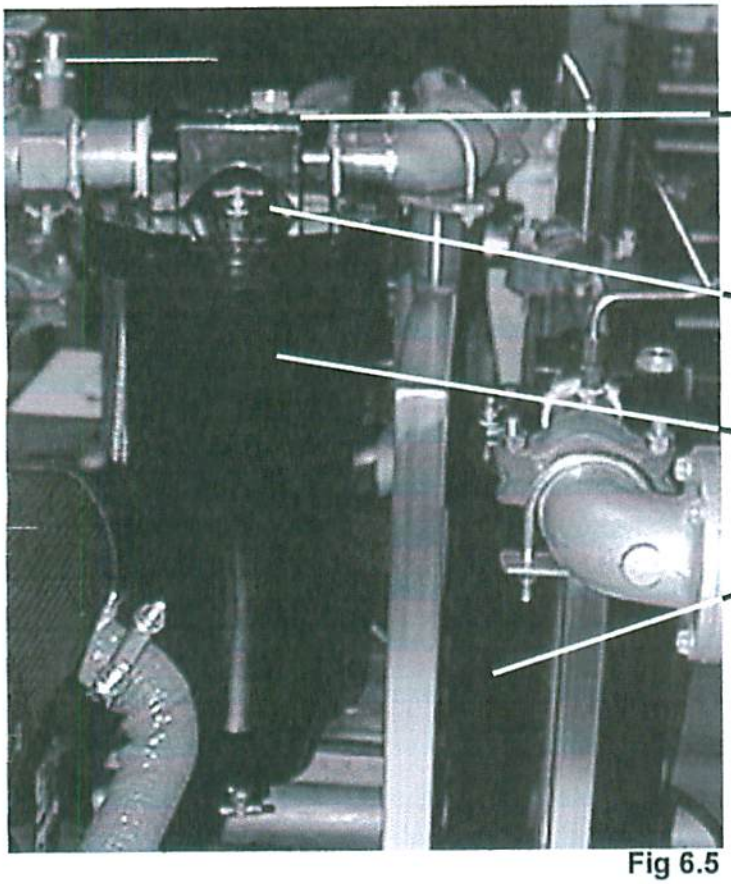


Fig 6.5

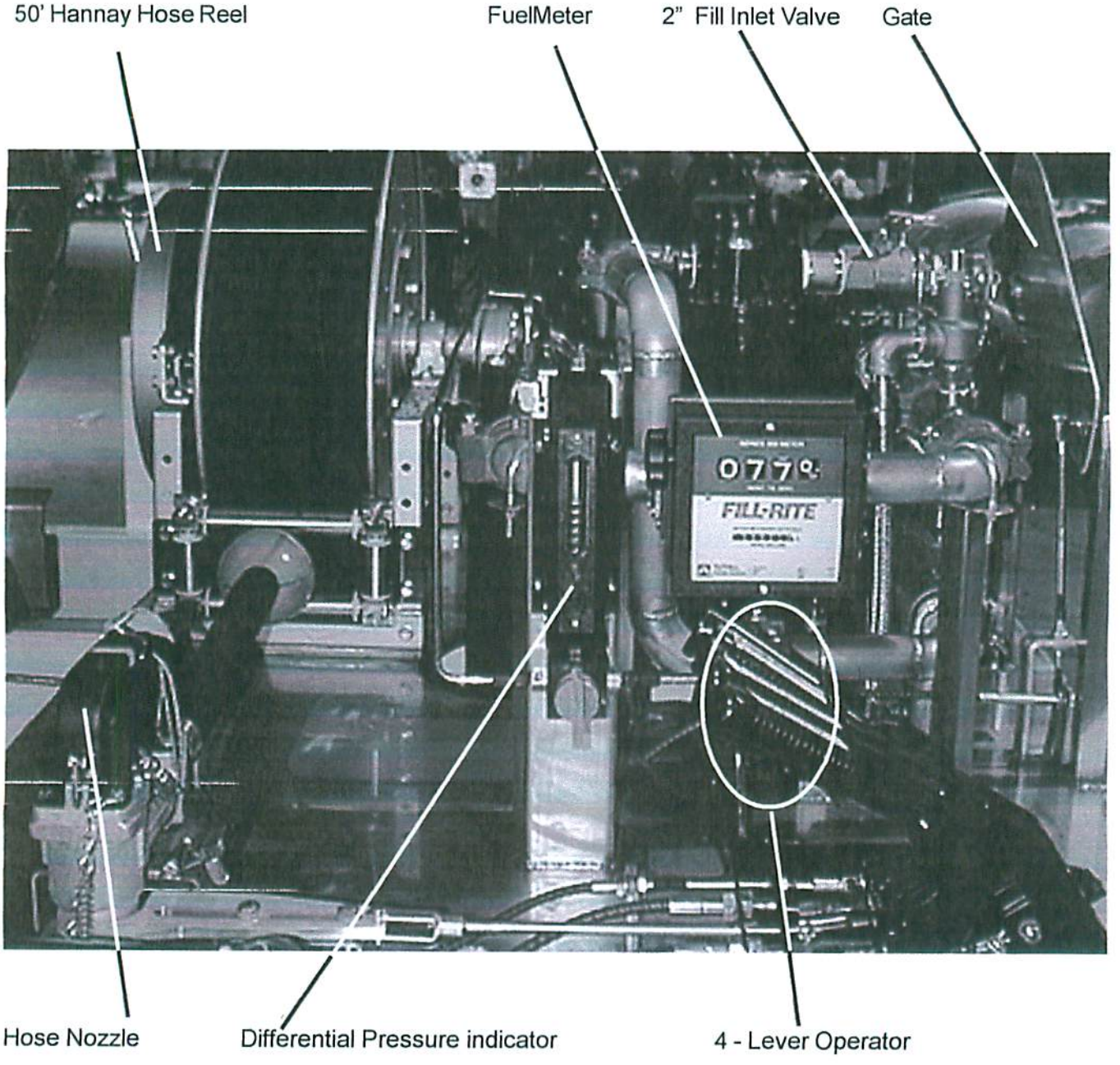
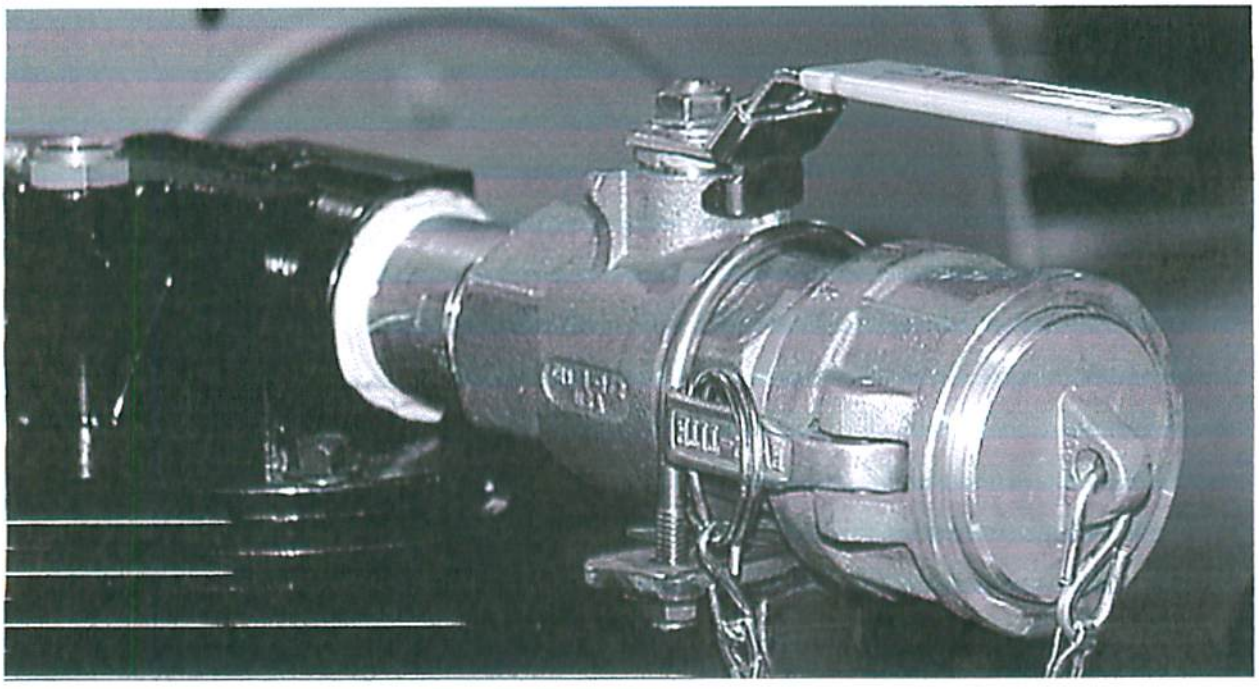

50' Hannay Hose Reel
FuelMeter
2" Fill Inlet Valve
Gate
077
FILL-RITE
Hose Nozzle
Differential Pressure indicator
4 - Lever Operator

Fig 6.6

Fig 6.7
2"Cam Lock Bottom Fill Inlet Valve, shown in the "OPEN" position.



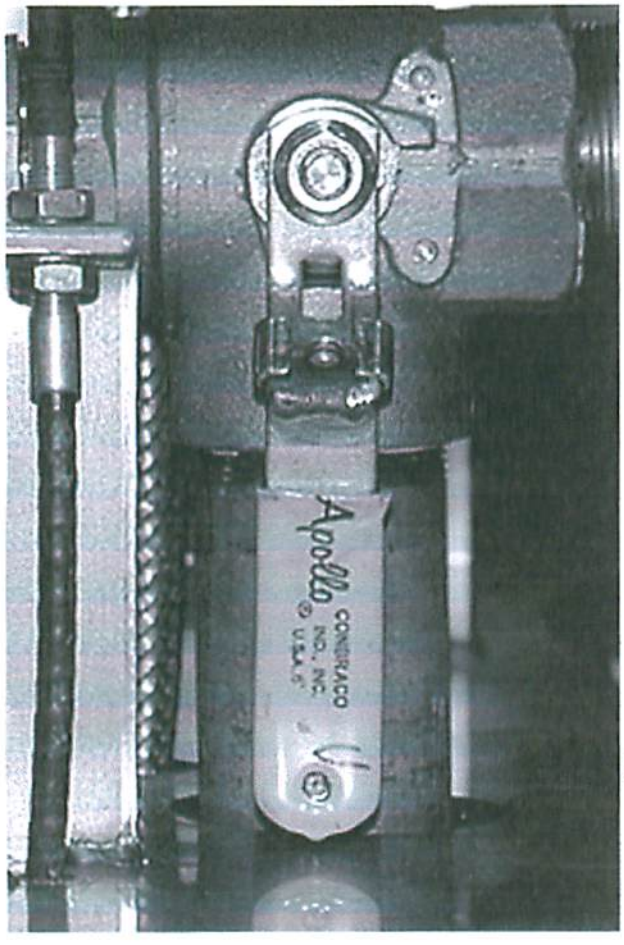
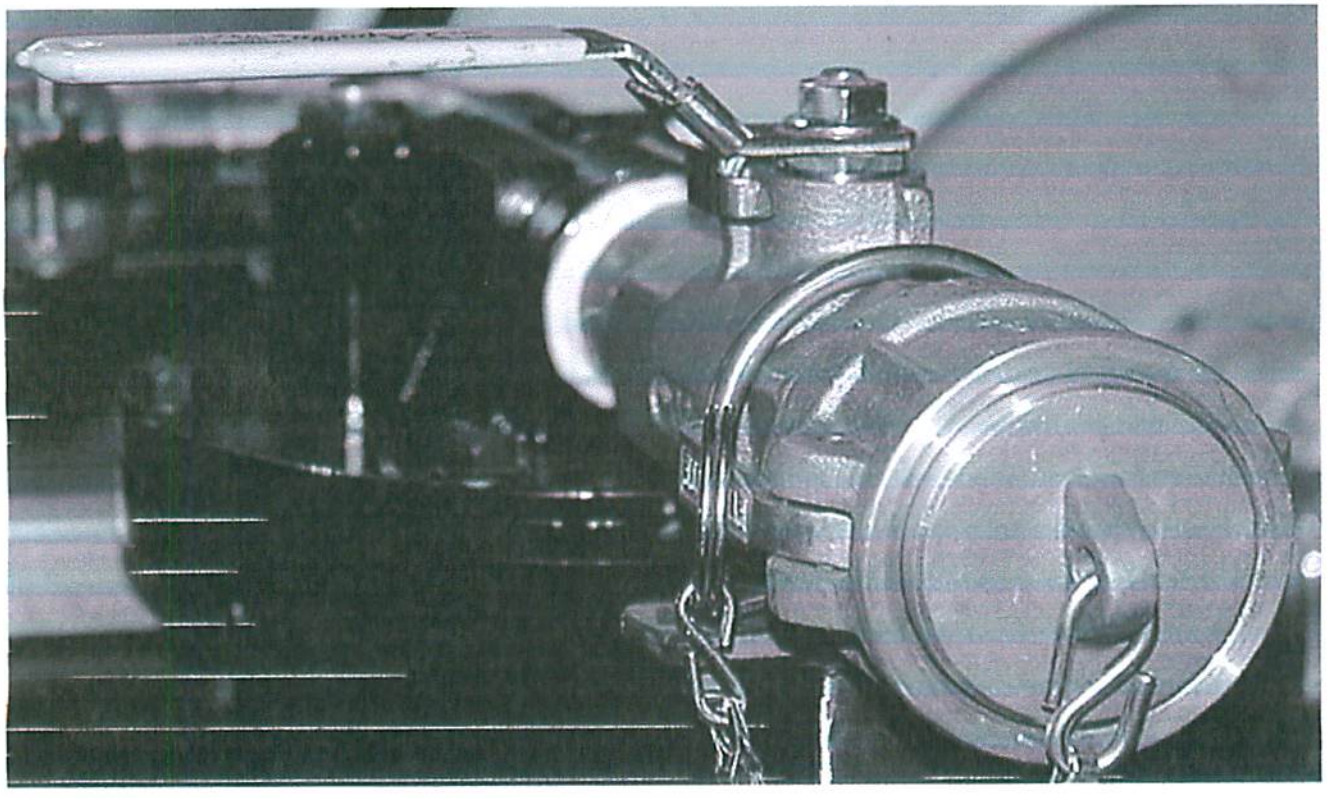


Fig 6.8 3 - Way Valve shown in the "Fill Tank" position

Fig 6.9 Bottom Fill inlet valve shown in closed position



Section 7.0 Maintenance

7.1 Tank

a. The tank is constructed from ASTM-A-240 T-304 Stainless steel, with a little care it will last for many years. Never use harsh chemicals such as chlorine, bromine, or acids for cleaning the Tank.

b. Yearly DOT tank inspections are required per 49CFR 180.407

7.2 Tandem Axle Trailer

a. The exterior of the trailer is coated with an automotive polyurethane finish that has excellent resistance to weather and fuels. This finish should be treated like any automotive finish, cleaned regularly with mild soap and water.

b. Salt Water Environment - Due to the corrosive nature of salt water it is recommended to perform a wash at least once a month with mild soap and water followed by a fresh water rinse.

c. For proper maintenance please refer to the Dexter Axle operation and service manual included within this manual.

7.3 Parking Brake

a. The trailer unit is equipped with a parking brake assembly consisting of drum brakes with a cable brake actuator. See the Dexter Axle manual included within this manual for more instructions.

b. Check the 4 lever operator and the cables weekly for signs of wear. Replace as required.

7.4 Delivery Hose

a. The Fueling hose should be inspected monthly for cracks. Any sudden loss of flow may indicate a crack in the hose. Replace as required.

7.5 Grounding Reels

a. Grounding reel cables should be pulled out, cleaned and inspected monthly. Cable clamps and ends should be inspected for loose connections monthly.

7.6 Other Maintenance

a. See Section 9.0 for manufacturers' operation and maintenance procedures on all purchased out components.

b. Internal inspection will be necessary to insure structural integrity and cleanliness. It is recommended that interval inspections be performed at least every (6) six months.

WARNING: When entering confined spaces such as the interior of the tank, provide proper breathing equipment and a second person dedicated solely to safetywatch the person inside. Comply with all International, Federal, state, local and company safety and environmental standards.

Section 8.0 Replacement Parts

This section provides information for identification of parts for reordering. To order, it is important to have the Model Number, Subassembly Number, Part Number and Description. Parts may be ordered by calling or writing to:

Spokane Industries, Inc.
Aviation Division
PO Box 3303
Spokane, WA 99220-3303
Telephone: 509.921.8865
Fax: 509.927.0826
E-Mail: info@siaviation.com

Please visit our website at: **www.siaviation.com**

Symptom	Probable Cause	Possible Correction
Parking brake does not work	Cable or operator tension too loose	Adjust cable tension as required
	Bad brake shoes	Replace as required
3" Internal valve will not open	Cable or operator tension too loose	Adjust cable tension as required
	Fuseable/ frangible link broken	Replace link
3" Internal valve will not close	A foreign object stuck in valve Cable or operator tension too tight	Remove object Adjust cable tension as required
	Bad valve spring or seal	replace as required (see section 9.0)
No fluid flow through fueling nozzle	Tank empty	Refuel HandiFueler as described in section 6.3
	3" Internal valve closed	Open valve
	2" Pump suction valve closed	Open valve
	Pump lost prime	Re-prime pump as described in section 6.7
	Clogged filter element	Replace element