SiteStar ® Lubrication Body

OPERATION AND MAINTENANCE

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MANUAL PART NO: 99905718
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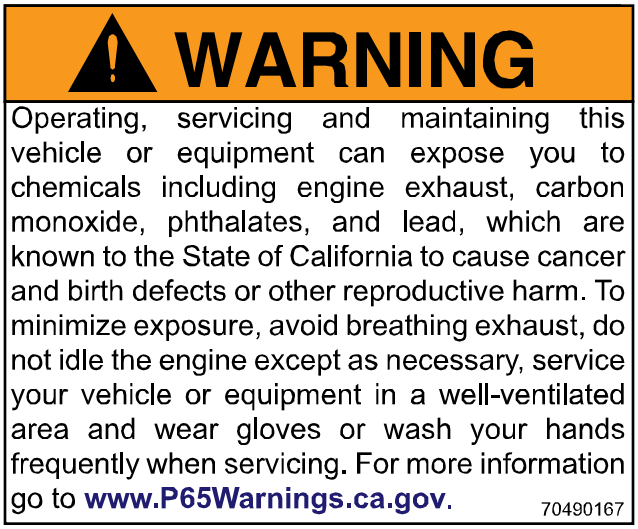
Iowa Mold Tooling Co., Inc. is an Oshkosh Truck Corporation company.


WARNING
Operating, servicing and maintaining this vehicle or equipment can expose you to chemicals including engine exhaust, carbon monoxide, phthalates, and lead, which are known to the State of California to cause cancer and birth defects or other reproductive harm. To minimize exposure, avoid breathing exhaust, do not idle the engine except as necessary, service your vehicle or equipment in a well-ventilated area and wear gloves or wash your hands frequently when servicing. For more information go to www.P65Warnings.ca.gov.
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REVISIONS LIST

DATE	LOCATION	DESCRIPTION OF CHANGE

INTRODUCTION

Congratulations on your purchase of an IMT SiteStar lubrication vehicle! With proper operation and maintenance, your truck will serve your mechanic and lubrication needs for many years. This manual, Lube Operation, is designed to acquaint you with safe and effective operation techniques for your lube truck. Specific parts and systems information on your vehicle body are included in the parts and service manual.

To draw attention to lube truck safety issues, NOTEs, CAUTIONs, and WARNINGs are included throughout this manual. They are defined as follows:

NOTE

A NOTE IS USED TO EITHER CONVEY ADDITIONAL INFORMATION OR TO PROVIDE FURTHER EMPHASIS FOR A PREVIOUS POINT.

CAUTION

A CAUTION IS USED WHEN THERE IS THE STRONG POSSIBILITY OF DAMAGE TO THE EQUIPMENT OR PREMATURE EQUIPMENT FAILURE.

WARNING

A WARNING IS USED WHEN THERE IS THE POTENTIAL FOR PERSONAL INJURY OR DEATH.

GENERAL OVERVIEW

Your IMT SiteStar lubrication vehicle includes a structural body mounted on a truck chassis. Your SiteStar may be used to transport and pump a variety of products including oil, antifreeze, oil salvage, grease, air, water, and other fluids. It can be modified to include only the systems you require to meet your specific needs.

The body may include an optional underbody package which includes toolboxes and a filter drain box. Electrical power is supplied to the lube body via 12V DC electrical service. Lights are individually located to provide lighting on all sides of the body and rear reel section. The lights are wired to the truck electrical system, which is controlled via a weather-resistant electrical control box which also controls all vehicle systems.

All hose reels are heavy-duty, spring retractable, with a heavy gauge steel frame and dual support arms.

Rectangular product tanks may be:

- Rotomolded polyethylene, in sizes from 75 to 350 gallons, for oils, antifreeze, and water. These are contained within a fence, mounted to the floor of the body.

- Steel, from 50 to 800 gallons, for oils and diesel fuel. These are spring mounted to rails on the floor of the body.

- Stainless steel, from 50 to 275 gallons, for water and/or antifreeze. These are spring mounted to rails on the floor of the body.

Steel oval diesel tanks are available from 1000 to 4000 gallons. These are spring mounted to the chassis frame directly.

See operation section for more detailed information on the various available product systems.

The air system includes an IMT hydraulically driven compressor. See individual product manuals for specifications.

Main Hydraulic System: The hydraulic system includes a PTO, pump - integrally mounted on the PTO, filters, hydraulic reservoir, and mounting kit. The PTO assembly is mounted directly to the chassis transmission and is engaged by means of a control located in the cab. The main system is protected by a filtering system on both the suction and return side of the pump and reservoir. The suction strainer has a 100-mesh element and a vacuum gauge. The return filter has a 25-micron element. A hydraulic system reservoir features a lockable 2" vented filler cap and sufficient openings for the pump and filter connections.

SECTION 1: OPERATION

Table of Contents

1. WARNINGS!!

INSTRUCTIONS

EQUIPMENT MISUSE HAZARD

Equipment misuse can cause the equipment to rupture or malfunction and can result in serious injury. Follow the safety precautions listed below to prevent accidents!

- This equipment is for professional use only.
- Read all instruction manuals, tags, and decals prior to operating the unit.
- Use the equipment for its intended purpose only, and make no modifications or alternations.
- Check equipment daily and repair or replace worn or damaged parts immediately.
- Do not exceed the maximum working pressure of any component.
- Do not use hoses to pull equipment.
- Route hoses away from traffic areas, sharp edges, moving parts, and hot surfaces.
- Do not lift pressurized equipment.
- Comply with all applicable local, state, and national fire, electrical, and safety regulations.
- Do not put fuel in any system not specifically designed for fuel. Fuel may damage the pump or other components.

INJECTION HAZARD

Fluid from the dispensing valve, leaks, or ruptured components can inject fluid into your body and cause extremely serious injury, including the need for amputation. Fluid splashed in the eyes or on the skin can also cause serious injury.

- Fluid injected into the skin may look like just a cut, but it is a serious injury. Get immediate medical attention.
- Do not point the dispensing valve at anyone or at any part of the body.
- Do not put your hand or fingers over the end of the dispensing valve.
- Do not stop or deflect leaks with your hand, body, glove or rag.
- Use only extensions and nozzles designed for use with your dispensing valve.
- Tighten all fluid connections before you operate the equipment.
- Check the hoses, tubes, and couplings daily. Replace worn or damaged parts immediately. Do not repair high pressure couplings; you must replace the entire hose.

2. LUBE TRUCK START-UP

A Power Take-Off (PTO) is used to transfer power from the truck engine to the hydraulic system which powers the lube operations. Prior to using any lube truck features, the PTO must be engaged. The PTO lever or switch is generally located on the truck dash board to the right of the driver's seat, and it may be located on the truck floor.

Engaging the PTO with a Manual Transmission:

1) Set the vehicle parking brake.
2) Place transmission in "Neutral"
3) Make certain the PTO lever, switch, or air valve is in the "OFF" position.
4) Start the vehicle engine.
5) Fully depress the clutch.
6) Engage the PTO. With a lever-activated PTO, move the lever to the "ON" position. With an electrical "Hot Switch" PTO, press the switch to the "ON" position. With an air valve, move the valve to the "ON" position.
7) Release the clutch gradually.
8) Warm the engine to operating temperature.
9) Commence equipment operation.

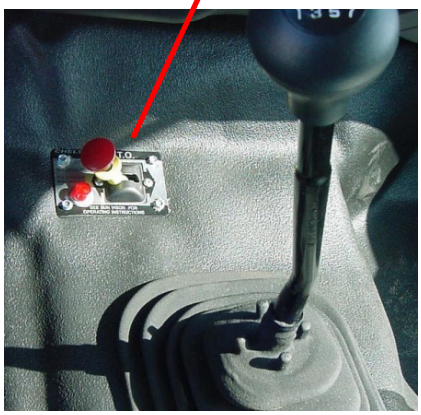
Engaging the PTO with an automatic transmission is the same as with a manual transmission, except you do not need to depress and release the vehicle clutch.

CAUTION

THE POWER TAKE-OFF (PTO) MUST BE DISENGAGED PRIOR TO MOVING THE CARRIER VEHICLE. FAILURE TO DO SO MAY CAUSE PUMP AND PTO DAMAGE.

Dashboard PTO Switch

PTO Switch on Truck Floor



3. FUEL EMERGENCY SHUT-OFF

The fuel emergency shut-off is a safety system for the lube equipment. The fuel emergency shut-off is located at the front of the lube body, directly behind the driver's door on the truck. Your truck may have one of two different styles.

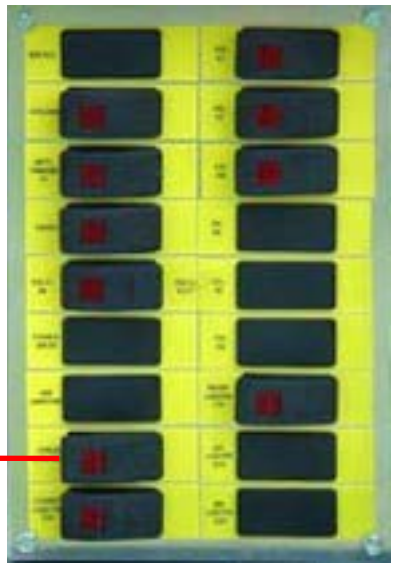
One is a gold-colored valve which resembles a handle. In an emergency, this "handle" can be broken off by hand. This will stop the flow of fuel, preventing further damage. In case of fire, this valve will melt, also shutting off the flow of fuel.

The second is a pushbutton valve. Simply push the valve knob in to stop the flow of fuel. Pull the knob back out to resume use of the system.

With either style, the plastic tubing connecting the components will also melt, shutting off the flow of fuel.

4. SPEED CONTROL SYSTEM

Prior to using any systems in the lube equipment, the speed control system must be turned on. When the vehicle is idling and the PTO is engaged, turn on the speed control system using the switch in the electrical control box, located at the rear of the body. The speed control accelerates the truck engine to a pre-set RPM, and all systems are set to operate at this RPM.



ELECTRICAL CONTROL PANEL

5. CHEMICAL SAFETY

Chemicals are an integral part of the IMT SiteStar lubrication vehicle. The SiteStar vehicles are commonly used to store, transport, and pump chemicals, and safe chemical handling is critical for the SiteStar operator.

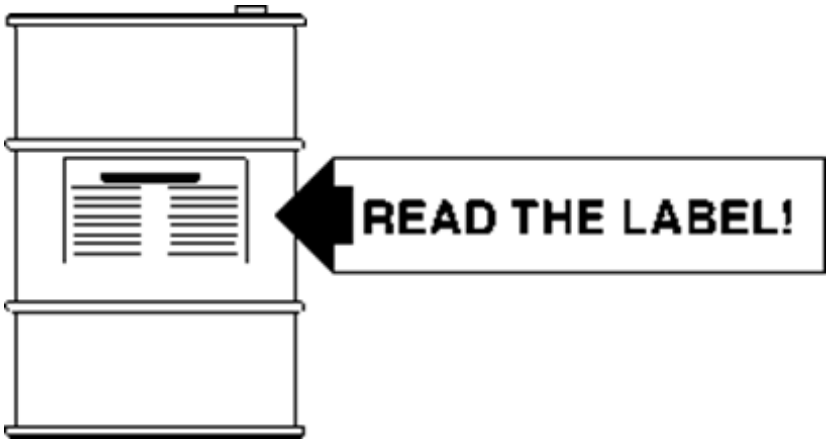
In advance of filling any SiteStar tanks with chemicals, or using chemicals to clean or lubricate the SiteStar. READ THE LABEL.

Labels on chemical containers list important information on health, safety and the product itself. This information can save you from serious injury or even DEATH. Some of this information may be the chemical's scientific name and/or common name which is useful when describing poisoning conditions to a poison control center or a doctor. Also described on the label will be notices of whether the chemical is flammable, combustible, explosive or corrosive. This information can save your life.

The label will also provide advisories in the way the product is to be used, such as, “Use only in a well-ventilated area”, or “Keep away from heat” or “Avoid contact with skin”. Never ignore these and other warnings and always follow the instructions. Also, refer to the container for any first aid instructions.

Many times these warnings and advisories will also be posted in areas where chemicals are stored or used.

Chemicals require specific methods of handling, storage and disposal. If these are not noted on the container, acquire this information from your chemical distributor or responsible governmental agency for the use, storage and disposal of chemicals.



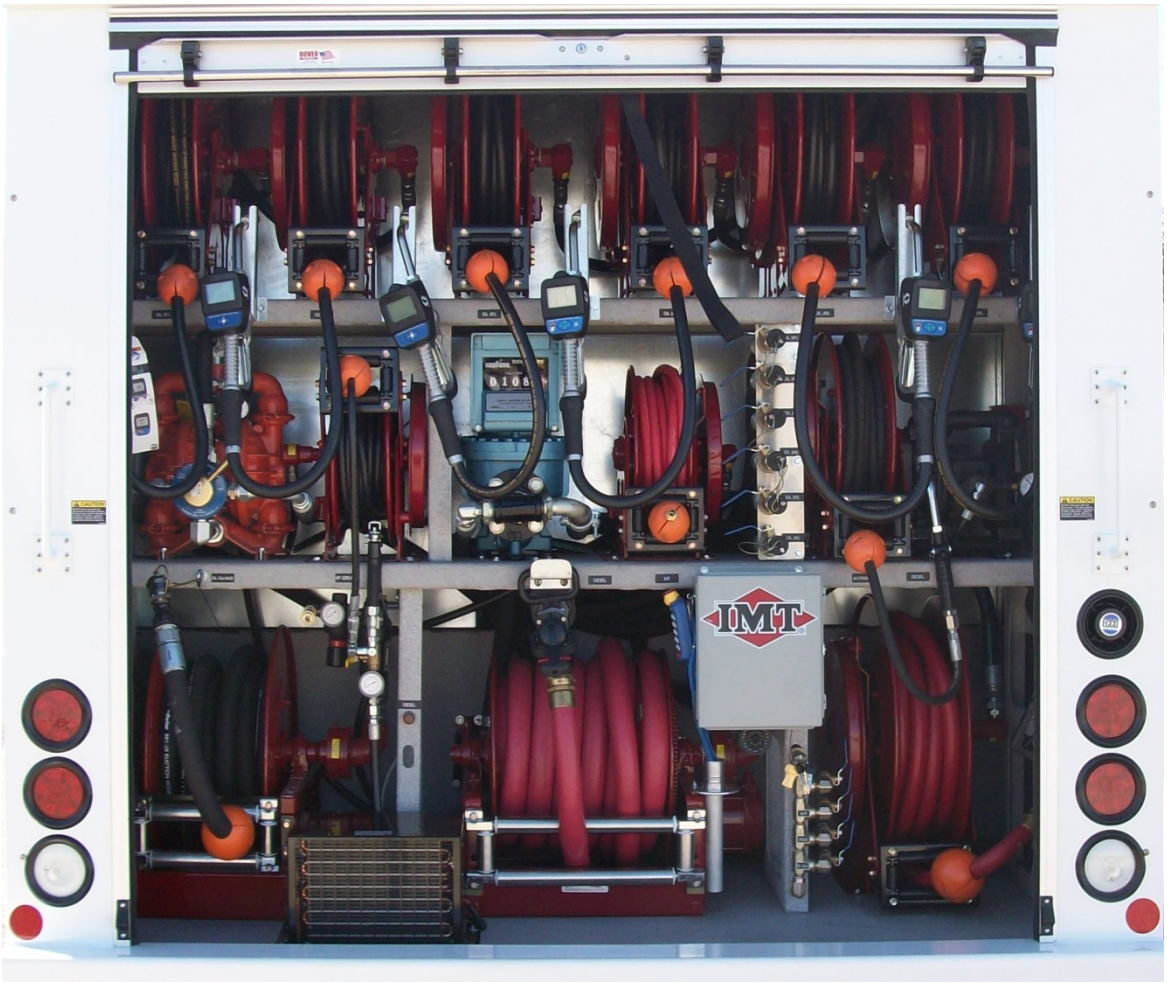
6. SYSTEM OPERATING FEATURES

All fluid systems are pumped using hose reels which are located in the rear of the unit.
Two types of pumps are used: hydraulic, powered by the PTO-driven hydraulic system, and air, powered by the onboard compressor.

For any system that is air operated, the air compressor will need to be turned on before opening the control valve for that system. These include: antifreeze, salvage, and hi-pressure grease.
Each air operated pump has its own pressure regulator for incoming air. These can be adjusted to provide optimal performance in you environment, typically in the 45-50 PSI range.

NOTE

THE SITESTAR LUBRICATION VEHICLE IS DESIGNED TO SUPPORT A MAXIMUM OF THE AIR COMPRESSOR AND TWO OPERATING SYSTEMS AT ONE TIME.

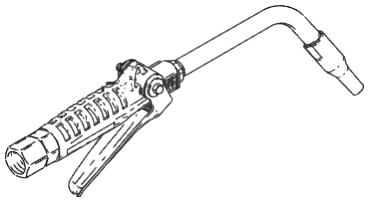


NOTE

DO NOT PUT FUEL IN ANY SYSTEM NOT SPECIFICALLY DESIGNED FOR FUEL.
FUEL MAY DAMAGE THE PUMP OR OTHER COMPONENTS.

6.1. OIL

To operate the oil systems, turn on the system control switch located in the electrical control box.
Locate the hose reel and nozzle for the appropriate system from the storage area in the unit rear.



Typical Nozzle

TO DISPENSE OIL:

1) Pull the trigger toward the valve body to open the valve and begin dispensing.
2) If equipped, lock the valve open by keeping the trigger squeezed and depressing the trigger lock button. Then release the trigger, releasing your forefinger from the trigger lock last.
3) Pull the trigger slightly toward the valve body to release the trigger lock. This will disengage the trigger lock.
4) Release the trigger to stop dispensing.
5) Turn pump off with control switch once pumping is finished.

⚠ WARNING

TURN PUMP OFF WITH CONTROL SWITCH ONCE PUMPING IS FINISHED. LEAVING PUMP ON WHEN NOT DISPENSING WILL RESULT IN PREMATURE PUMP FAILURE.

6.2. ANTIFREEZE

To operate the antifreeze systems, turn on the system control valve located in the air manifold, on the lower shelf support.
Locate the hose reel and nozzle for the appropriate system from the storage area in the unit rear.

TO DISPENSE ANTIFREEZE:

1) Pull the trigger toward the valve body to open the valve and begin dispensing.
2) If equipped, lock the valve open by keeping the trigger squeezed and depressing the trigger lock button.
3) Then release the trigger, releasing your forefinger from the trigger lock last.
4) Pull the trigger slightly toward the valve body to release the trigger lock. This will disengage the trigger lock.
5) Release the trigger to stop dispensing

AIR MANIFOLD

6.3. SALVAGE

The salvage system can be used to transfer waste oil or antifreeze both in and out of the salvage tank(s). This differs from some of the other lubrication equipment. To meet this need, the salvage system may include a straight tube connection on the hose rather than a nozzle. It may also include a quick-disconnect coupler for connection directly to the equipment being serviced. Couplers may also be found at various locations on the SiteStar itself, such as the drain underneath the rear bumper (see body features).

To activate a salvage system, open the air valve of the manifold for that specific system. The 4-way valve (typically assembled as part of the pump) controls direction of flow.

Straight Tube Adapter

WITH A STRAIGHT TUBE CONNECTION, THERE IS NOT AN ON/OFF ACTIVATION OF THE SALVAGE SYSTEM. ONCE THE SYSTEM AIR VALVE IS TURNED ON, PUMPING BEGINS IMMEDIATELY.

NOTE

DO NOT PUT FUEL IN ANY SYSTEM NOT SPECIFICALLY DESIGNED FOR FUEL. FUEL MAY DAMAGE THE PUMP OR OTHER COMPONENTS.

6.4. GREASE

The grease system may include a replaceable mini-barrel or drum or a fixed, refillable grease hopper. The pump may be an air operated (see manifold, above) high-pressure type, or an electrically switched (see control box) high-volume type, each dispensing thru a different reel. The high pressure system is dispensed in the same manner as oil or antifreeze, but the grease nozzle is designed to couple with grease zerks. The high-volume system is controlled with a ball valve on the end of the nozzle.

6.4.1 FUEL

The fuel system includes a shut-off switch and may include a meter. The fuel meter and shut-off switch are located next to the fuel hose reel in the rear of the service body.

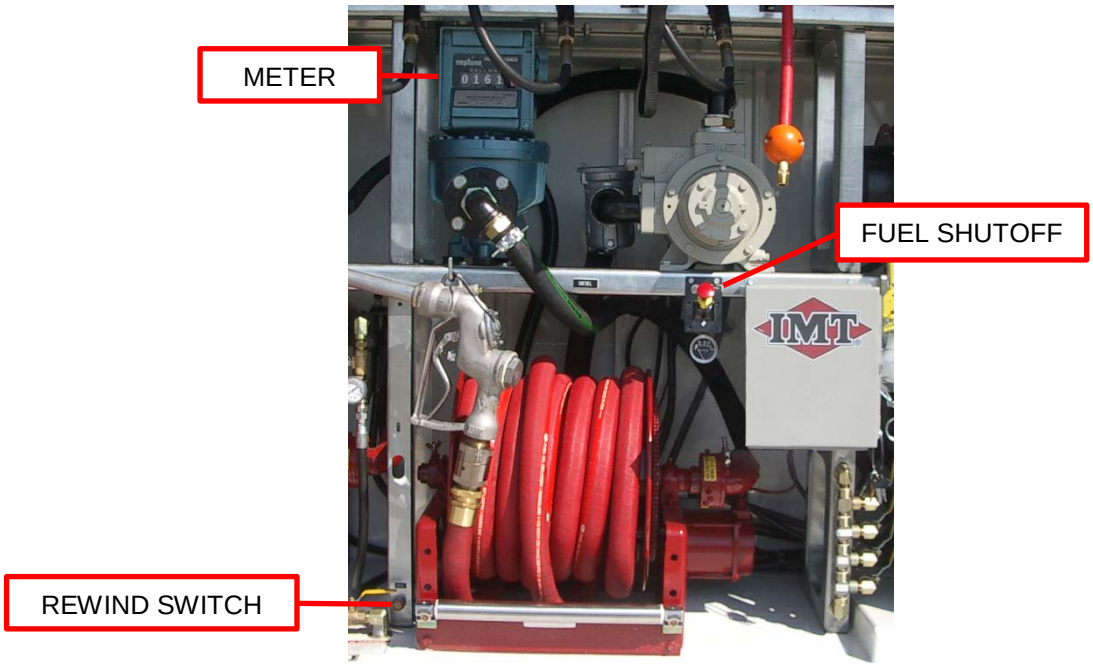
To operate the fuel system, turn on the system control switch located in the electrical control box. All emergency fuel shutoff valves must be in the “open” or “on” position. Any one of them can shut off the flow of fuel.

6.4.2 FUEL METER OPERATION

The meter shows how much fuel has been pumped from the fuel system. It includes a reset button so you can determine exactly how much fuel was pumped for a given time period or customer, and there is a cumulative readout for the total amount of fuel pumped.

CAUTION

TO BE SURE THE PROPER AMOUNT OF FLUID IS DISPENSED; ALWAYS USE THE SAME MEASUREMENT UNIT FOR A PARTICULAR FLUID. UNITS SHOULD BE CHANGED ONLY BY AUTHORIZED EMPLOYEES.



6.5. GENERATOR

An optional electrical generator can be used to power anything from a radio or lights to additional equipment which is not part of the lube truck systems. The generator is powered by a dedicated, fixed displacement pump driven by a chassis PTO. It may be enabled by the PTO, or have an electrical switch in the electrical control box to activate it. It generates 115V AC power at any electrical outlets on the body. There is a household-style circuit breaker box to control individual circuits.

6.6. PRESSURE WASHER

The pressure washer system includes a water tank and hose/nozzle assembly. To use the pressure washer, activate the electrical switch in the electrical control box in the rear of the truck.

6.7. AIR

The air system features a hydraulically-driven air compressor, and supplies both dry and lubricated air. It is switched electrically, in the control box. The air couplings are located in the rear of the body and are regulated through an air filter/lubricator/regulator assembly. Dry air is used to pump up tires or as a high-pressure blower, and is obtained through the air coupling located before the filter, lubricator and regulator (FLR) assembly. Lubricated air is used to power air tools, and can be obtained from the hose reel located after the FLR assembly.

FLR: Dry air connection is at top left.

Air Drain: position may vary, based on options.

WARNING

FEDERAL LAW PROHIBITS DRIVING THE CARRIER VEHICLE ON PUBLIC ROADS WITH THE RECEIVER FILLED WITH COMPRESSED AIR. DRAIN ALL COMPRESSED AIR BEFORE MOVING THE VEHICLE.

6.8. PRODUCT METERS

Various product systems may be equipped with meters, to indicate amount of fluid that has been dispensed. These meters can by electronic or mechanical, and display units of quarts, gallons, or liters, depending on model chosen. They may be integrated as part of the dispensing nozzle, or be remote mounted to the shelf, near the corresponding reel.

These typically include a reset button so you can determine exactly how much fuel was pumped for a given time period or customer, and there is a cumulative readout for the total amount of fuel pumped.

ELECTRONIC METER OPERATION:

1) Activate the Digital Display
   Press the RESET key pad to clear the meter before starting a new dispense cycle. This clears the meter and clears the quantities of the last dispense cycle. The digital display can also be activated by pressing the TOTAL key pad or by running fluid through the meter.

NOTE

The digital display of the meter goes blank after approximately two minutes of non-use.

2) Function of TOTAL
   When the digital display is blank, press and release the TOTAL key pad to display the quantity of the last dispense cycle.

   To see the accumulated total of fluid dispensed through the meter, press and hold the TOTAL key pad. The accumulated total is shown in gallons for the gallon/quart/pint meter, and in liters for the liter meter. The meter can accumulate a running total of up to 19,999 gallons (or liters) dispensed before returning to zero.

3) Function of RESET
   The RESET keypad clears the quantities of the last dispense cycle and returns the digital display to all zeros.

4) Changing the Measurement Units
   (Gallon / Quart / Pint Meter only)
   The meter is factory-set to dispense in quarts. To change the measurement units, press and hold the RESET key pad until the measurement unit on the right side of the digital display is flashing. Then press the TOTAL key pad until the desired measurement unit is shown. Release both key pads.

6.9. MULTI-SYSTEM USAGE

For best performance, do not use more than two systems and the air compressor simultaneously on the SiteStar vehicle. Using additional systems at one time will reduce the efficiency of all systems.

6.10. SITE CONTROL RADIO REMOTE

An optional radio transmitter can be ordered, for control of any electrically switched system (from control box). See individual operator's manual for programming and usage.

6.11. TANK HEATERS

See section 8.10 for Tank Heaters.

7. HOSE REELS

The lubrication system hose reels are heavy-duty, high volume, spring retractable with heavy gauge steel frames and dual support arms. Hose reels are available different sizes of hoses, depending on the system application. To use the hose reels, unwind them by pulling on the nozzle until you have the desired length. To rewind the hose, sharply tug on the end of the hose to release the spring in the reel.
In addition, optional fuel reels may have an electric rewind feature. Simply activate the pushbutton switch to rewind the hose, and hold in until the hose is at the desired position.

CAUTION

THE HOSE REEL REWINDS QUICKLY. DO NOT RELEASE THE HOSE DURING REWINDING TO AVOID EQUIPMENT DAMAGE OR INJURY.

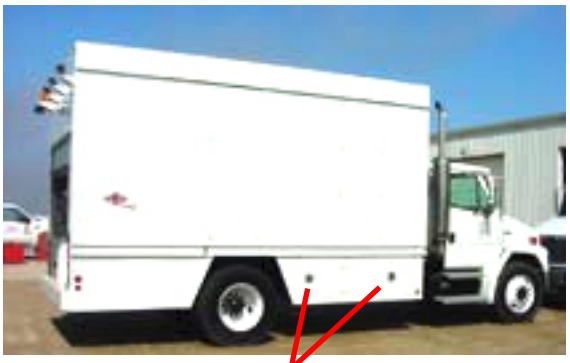
7.1. QUICK COUPLINGS

Quick-connect couplings are an option on the SiteStar hose reels. These couplings can be operated by pulling back on the ring around the front of the coupling to release the connection. Fluid won't flow through quick-connect couplings unless both halves are coupled. A single male or female coupling is automatically sealed, and this seal is broken only when the end is coupled to a wand, hose, nozzle, etc. If a pump is activated without both halves being coupled, the hose reel may pressurize, preventing connection. Your SiteStar will have pushbutton valves, to relieve pressure on the line, once the pump is turned off, allowing connection once again.

8. BODY FEATURES

8.1. UNDERBODY TOOL BOX

For tool and equipment storage, the SiteStar vehicles have toolboxes mounted to the underside of the body. These locking toolboxes with spring-loaded doors offer controlled storage with the service truck.



UNDERBODY TOOLBOXES

OPEN STORAGE COMPARTMENT IN BODY

8.2. ROLL-UP DOOR

The rear of the truck features a roll-up door which protects the hose reels, nozzles, pumps, and filters associated with the truck systems. The roll-up door locks to prevent unauthorized usage.

ROLL-UP DOOR ON SITESTAR TRUCK

8.3. BUMPER DRAIN PLUG

The rear bumper of the SiteStar truck features a fluid reservoir to catch spills and excess fluid. There is a drain plug in the bumper to drain this reservoir when required. Optionally, this drain may be equipped with a quick coupler for direct connection to the salvage reel.

8.4. LADDER

Your SiteStar lubrication vehicle may have one or more fold-down ladders or steps, which can be used to safely climb onto the vehicle. These must be stowed before transporting the vehicle. Use caution when stowing and unstowing to avoid pinching fingers or tools between the ladder and the truck.

8.5. CABINETS AND LATCHES

The SiteStar lubrication vehicle has numerous latched storage cabinets. The shelves in these cabinets are adjustable. The cabinet latches are keyed, and all cabinets are keyed the same. Lubricate cabinet latches periodically per maintenance schedule for best performance.

8.6. FILTER DRAIN BOX

The SiteStar vehicle includes a box designed to be used to store used oil filters. This may be incorporated with the toolboxes, on the underside of the body, or mounted in the reel compartment. Either box has a grate on the bottom to collect excess oil from the filters. If you store used oil filters here, drain the used oil regularly. The underbody version has a drain plug, and may be equipped with a quick-coupler for direct connection to the salvage system. The box mounted in the reel compartment may have a direct connection to the salvage pump, controlled with a ball valve. If this ball valve is open, the box will drain into the salvage tank, whenever the salvage pump is operating. Be sure to close this valve when not needed for drain purposes.

8.7. LIGHTING

Your SiteStar may be equipped with various lighting, based on your specifications.
Exterior 12V floodlights are typically installed at the rear of the body, aimed rearward, and left and right. These are switched in the control box.

If equipped with an AC generator, you may have 110V floodlights, also typically installed at the rear. These are switched using the breaker box in the rear compartment.

For enclosed models, there are 12V lights along the ceiling. These are switched with a push-pull switch, near the entrance to the enclosed area.

Optional rotating beacon or strobe lights can be mounted in various positions. These are typically controlled by a switch in the cab.

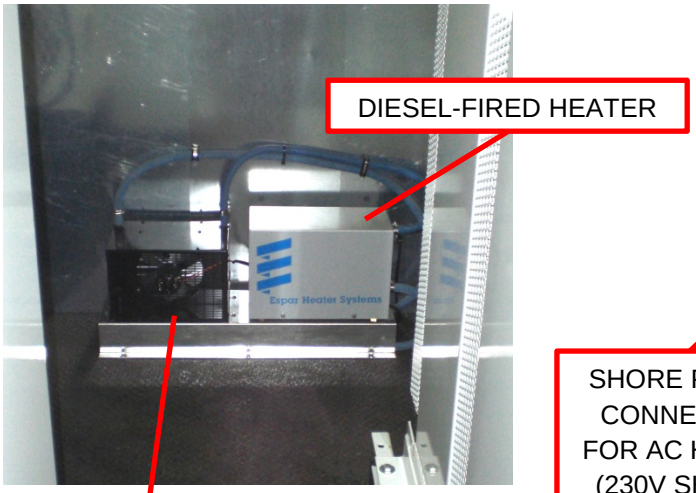
8.8. BODY HEATERS

Your SiteStar may be equipped with various types of heaters, for the enclosed area, as well as the hose reel compartment.

Radiant heater with 12V fan: these are plumbed into the coolant lines of the chassis, and use a fan to blow air thru a radiator. There are valves in the coolant lines, near the heater core, to block these lines off in warmer months. The fan is controlled by a switch in the control box.

A diesel-fired coolant heater is optionally plumbed in line with these radiant heaters, to aid in heating, as well as pre-heating the engine's coolant, acting as a block heater in cold environments. The push/pull switch for this is found near the heater, or near the entrance to the enclosure.

Electric space heater: these are available in 115V AC and 230V AC. These are typically installed with a "shore power" receptacle at the rear corner of the body, accessed externally, for plugging in to an external power source. If your SiteStar is equipped with an AC generator, these heaters may be powered by it, as well. A switching system disconnects the AC outlets when the generator is in use.



8.9. TANK HEATERS

Similar to the body heaters, there are various types of heaters for the product tanks.

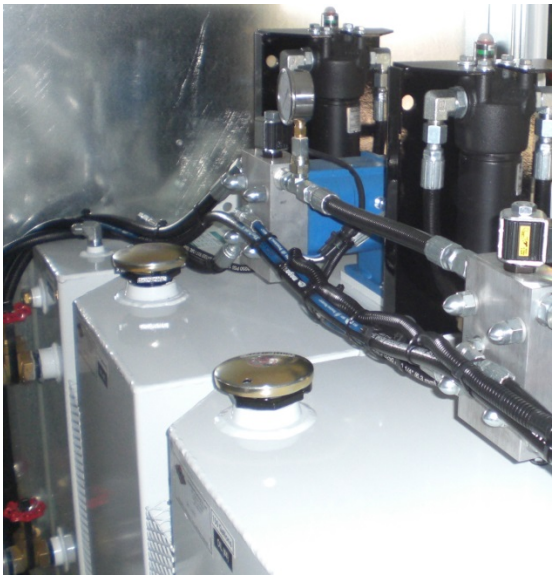
Coolant circulating heaters can be installed into a tank, using an NPT port. The vehicle's coolant lines are tapped for this, using ball valves, as above.

Electric tank heaters are available as a system that includes level sensors and temperature probes. The level of each tank is displayed on the control box. The control module will not allow the heater to operate if the tank is empty, and there is also a circuit for over-temp shutdown. Like the electrical heaters above, these heaters can be powered by an onboard generator, or be wired to shore power plug-ins, for heating while parked.

9. FILLING TANKS

The tanks on the SiteStar vehicle can be filled using the cap located on the top of the tank. Remove the cap to gain access to the tank. Each product tank is labeled on the top with the appropriate fluid and capacity.

Each steel tank has a sight gauge, and the polyethylene tanks are translucent, so fluid level is visible, and overfilling and spills can be avoided.



9.1. REMOTE FILL COUPLERS

The tanks on the SiteStar vehicle can also be filled by a remote source, using optional quick couplers. These are available for fuel, oil, and antifreeze. These are filled by connecting to another pumping system, which powers the transfer from a stationary tank, or a mobile tender unit. This remote coupler system does not have automatic shutoff built-in, unless the pumping equipment has that feature.

9.2. OVERFILL TANK ALARMS

Standard on salvage tanks, and optional on others, is a tank mounted level sensor with an overfill alarm. There is a switch in the control box to enable the alarm, powered by the SiteStar system.

9.3. FILTER - REMOTE FILL INLET

Also called “low-pressure filters”, these 10 micron filters are mounted in the line between the remote fill coupler and the product tank, for cleaning of incoming oil.

9.4. FILTER - DISPENSING

Also called "high-pressure filters", these 10 micron filters are mounted inline between the pump and reel, for final cleaning of the product being dispensed. They feature a resettable visual indicator for filter cleanliness.

SECTION 2: MAINTENANCE

Table of Contents

1. GUIDE TO MAINTENANCE

To obtain reliable and satisfactory service, the IMT SiteStar lubrication vehicle requires a consistent preventive maintenance schedule. Take necessary and reasonable precautions during SiteStar maintenance to avoid equipment and personal injury, and follow the maintenance schedule included with this manual for best results.

WARNING

BEFORE PERFORMING ANY MAINTENANCE FUNCTION, BE SURE ALL SYSTEMS ARE “OFF”. TURN OFF ALL SYSTEMS USING THE ELECTRICAL PANEL IN THE REAR OF THE VEHICLE.

Prior to beginning vehicle maintenance:

1) Park the SiteStar lubrication vehicle is an area where other equipment is not operating and where there is no through traffic.

2) Set the vehicle parking brake.

3) Place all controls in the “OFF” position and disable all systems.

4) Disconnect the PTO.

5) Relieve the hydraulic pressure from all circuit before disconnecting any hydraulic fittings or components.

6) Replace parts with only factory-approved replacements.

After maintenance, before putting the truck back into service:

1) Replace all shrouds, guards, and safety devices which were removed.

2) Purge all trapped air in the hydraulic system to prevent erratic operation.

3) Remove grease and oil from all controls.

2. PREVENTIVE MAINTENANCE SCHEDULE

Operation	Daily	Weekly	Hours/Months	
			250/3	500/6
Hydraulic Reservoir Oil Level - Check & Fill	X			
Check Hydraulic Fittings, Air Lines for Leaks	X			
Check Oil Level in FLR - add if necessary	X			
Safety Valves - Check Operation		X		
Grease Zerks in Hose reels & Roll-Up Door		X		
Clean Strainer in Salvage System(s)		X		
Check all Electrical Connections			X	
Change Filters in Hydraulic System			X	
Hydraulic System - Flush				X
Change Filters in FLR				X
Grease Latches in Underbody Compartments				X

3. GREASE AND LUBRICANT RECOMMENDATIONS

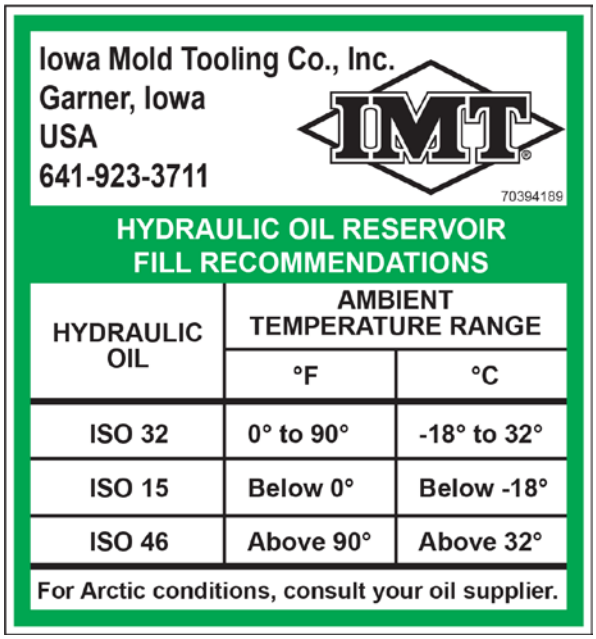
3.1. GREASE

Grease zerks are located in the rollers at the top of the roll-up door, as well as in the salvage and fuel hose reels, if applicable. Grease zerks weekly using a hand grease gun or a pneumatic pressure grease gun. Use NLGI#2 consistency grease.

3.2. HYDRAULIC LUBRICANTS

The recommended hydraulic lubricants for the SiteStar vehicle are listed on a decal posted on the side of the hydraulic reservoir.

Check the hydraulic fluid level daily per the maintenance schedule, and add hydraulic fluid to the SiteStar hydraulic tank if needed. Use the tank sightglass as a gauge. Do not overfill.



3.3. AIR COMPRESSOR LUBRICANTS

The SiteStar vehicle may have a piston air compressor or a rotary screw air compressor. Refer to the compressor manual for specific lubrication information on the air compressor that is installed on your SiteStar.

3.4. FILTER - LUBRICATOR - REGULATOR OIL

Use high quality pneumatic tool oil.

4. HYDRAULIC SYSTEM

4.1. ADDING HYDRAULIC OIL

The hydraulic oil level of the SiteStar vehicle should be checked daily. If needed, add hydraulic oil per the figure in section 3.0, Lubricant Recommendations.

The hydraulic oil level can be checked using the sightglass on the side of the tank. Oil should be added through the fill cap located on the top of the tank.

4.2. PURGING THE HYDRAULIC SYSTEM

Flush the hydraulic system and replace all oil at least every 500 hours or 6 months, or after pump or other major hydraulic component failure. Purging the system requires a new hydraulic oil supply sufficient to completely fill the reservoir, lines, cylinders, etc. To minimize oil loss during the hydraulic system purge, operate the vehicle engine at low RPM.

CAUTION

DO NOT ALLOW THE RESERVOIR OIL LEVEL TO DROP BELOW 1/3 CAPACITY DURING HYDRAULIC OIL PURGING.

1) Disengage the PTO, drain the hydraulic oil reservoir, remove the suction line filter and drain all hoses. Disconnect the pressure hose from the pump, drain, and reassemble. Replace the suction line filter element and reassemble the system.

NOTE

DISPOSE OF WASTE OIL RESPONSIBLY, FOLLOWING ALL FEDERAL, STATE, AND LOCAL REGULATIONS

2) Remove the reservoir return line and direct the flow into a sump or waste container. Plug the drain port on the reservoir and fill with new oil.

3) Start the truck engine, depress the clutch, shift the transmission into neutral, and engage the PTO.

4) Power up the systems using the “ON” switch at the rear of the truck. Keep the power on for 5 seconds to pressurize the system.

5) All system components are now purged. Replace the return line filter cartridge and reinstall the return line on the reservoir.

6) Check the oil level on the hydraulic reservoir. Add oil if necessary.

4.3. HYDRAULIC SYSTEM FILTERS

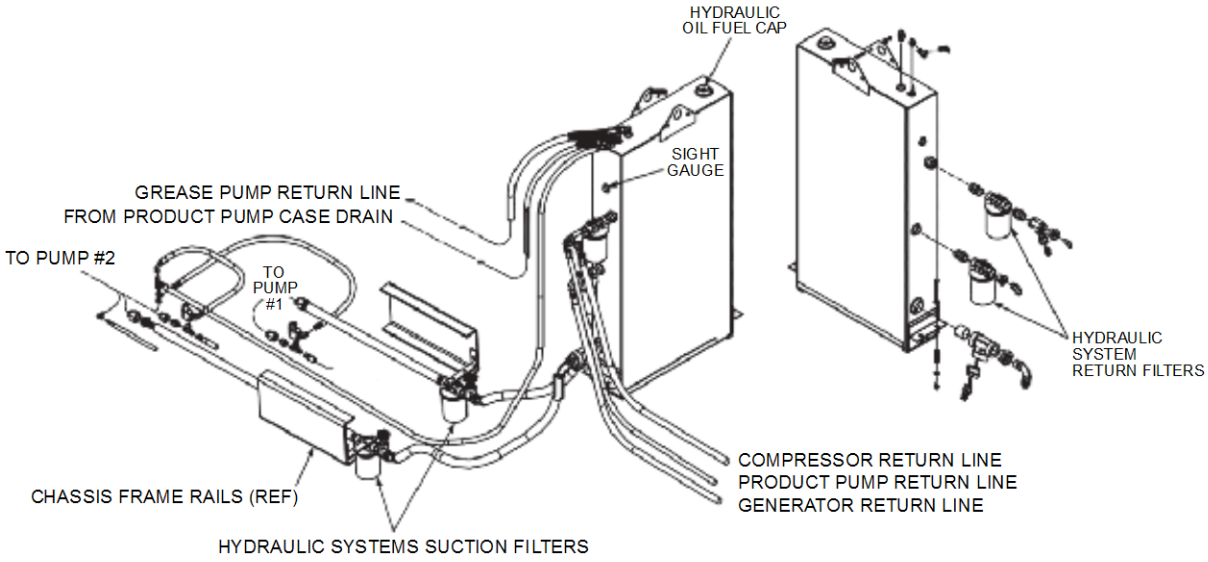
Each SiteStar vehicle has at least two hydraulic system filters for suction and return. Vehicles with generators have two additional filters. The filters are used to remove contaminating particles from the hydraulic oil. To avoid residue accumulation and to protect hydraulic system components, the filters should be changed every 3 months or 250 hours of operation. See the SiteStar Hydraulic System diagram in section 4.5 for parts locations

Prior to changing hydraulic system filters, turn off the vehicle engine.

Remove the filter housing and replace the filter cartridge with a new one. Ensure proper rubber seal seating. Tighten as much as possible with two hands. Hand tighten only.

Check the oil level on the hydraulic reservoir. Add oil if needed.

4.4. SITESTAR HYDRAULIC SYSTEM LAYOUT



5. AIR SYSTEMS

5.1. ADDING OIL TO THE FLR

Oil must be added to the oil tank on the FLR assembly located in the rear of the SiteStar vehicle. The oil in the FLR oil container must be visible from the top of the tank. Add oil if no oil is visible by unscrewing the cap on the top of the oil container. Select oil per the recommendations in section 3.3, Filter-Lubricator-Regulator oil.

5.2. FLR FILTER CHANGE

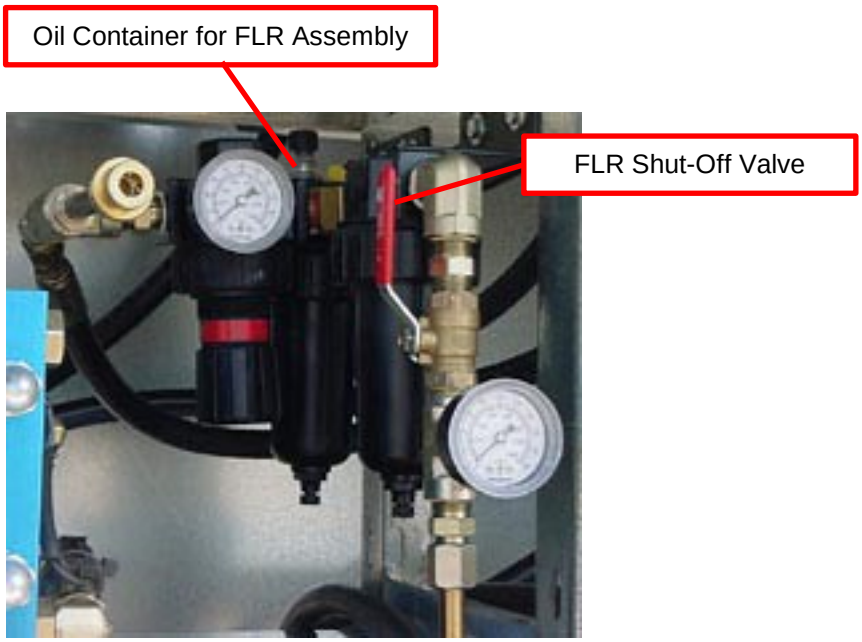
The FLR filter should be changed after 500 hours or six months of operation. To change the filter, turn off the FLR assembly using the shut-off valve shown in section 5.3, FLR Assembly Diagram.

1) Turn off the vehicle engine.

2) Remove the filter housing and replace the filter cartridge with a new one. Ensure proper rubber seal seating. Tighten as much as possible with two hands. Hand tighten only.

3) Open the gate valve, engage the PTO, and test the system for leaks.

5.3. FLR ASSEMBLY DIAGRAM



FLR ASSEMBLY

6. SALVAGE SYSTEMS

6.1. SALVAGE SYSTEM STRAINER

If your SiteStar vehicle is equipped with a salvage system, the strainer should be cleaned weekly so that the salvage system does not become blocked or plugged.

Prior to cleaning the strainer, turn off the vehicle engine. To clean the strainer, remove the screw-on cap on the salvage strainer assembly, pull out the strainer, and clean off any dirt or debris. Dispose of debris from the salvage strainer according to federal, state, and local regulations. Replace strainer in assembly. Replace cap.

7. NOZZLES

7.1. RELIEVING NOZZLE PRESSURE

Relieve the pressure before checking or repairing the dispensing valve. Be sure all other valves and controls and the pump are operating properly.

WARNING

PRESSURIZED EQUIPMENT HAZARD

THE EQUIPMENT STAYS PRESSURIZED UNTIL THE PRESSURE IS MANUALY RELIEVED. TO REDUCE THE RISK OF SERIOUS INJURY FROM PRESSURIZED FLUID, ACCIDENTAL SPRAY FROM THE DISPENSER, OR SPLASHING FLUID, FOLLOW THE PRESSURE RELIEF PROCEDURE WHEN YOU:

1) ARE INSTRUCTED TO RELIEVE PRESSURE
2) CHECK, CLEAN, OR SERVICE ANY SYSTEM EQUIPMENT
3) INSTALL OR CLEAN FLUID NOZZLES

To relieve system pressure:

1) Turn off the power supply to the pump.

2) Trigger the valve into a waste container to relieve pressure.

3) Open any bleed-type master air valves and fluid drain valves in the system.

4) Leave the drain valve open until you are ready to pressurize the system. If you suspect that the dispensing valve, extension, or nozzle is clogged or that pressure has not been fully relieved after following the steps above, very slowly loosen a fitting on the fluid line to gradually relieve the pressure. Then loosen it completely and clear the clog.

7.2. NOZZLE TROUBLESHOOTING

PROBLEM	CAUSE	SOLUTION
Slow or no fluid	Filter is clogged. Pump pressure is low. Shutoff valve is not fully open.	1) Relieve the pressure. 2) Clean or replace filter.
Oil leaks from swivel.	Swivel is loose. O-ring is worn or damaged.	Torque swivel to 15 to 20 ft-lb (20 to 27 N-m). Replace O-ring and torque swivel 15 to 20 ft-lb (20 to 27 N-m).
Oil drips from nozzle. (Some fluid leakage is possible in applications of fluid thermal expansion.)	Nozzle is damaged or obstructed.	Inspect the nozzle for damage or obstructions. Replace if damaged
Valve leaks. Worn or damaged.	O-rings or Valve seat are set.	Replace the O-rings and/or the valve

NOTE

If the SOLUTION does not resolve your problem, contact your authorized IMT distributor or IMT technical support.

WARNING

TO REDUCE THE RISK OF SERIOUS INJURY, WHEN YOU ARE INSTRUCTED TO RELIEVE PRESSURE, ALWAYS FOLLOW THE PRESSURE RELIEF PROCEDURE IN SECTION 7.1.

7.3. VALVE HANDLE REPAIR

1) Relieve the pressure.

2) If replacing O-rings, cam, or push rod, remove the swivel and internal pieces. You must remove the cam to get the push rod out of the outlet end of the valve handle.

3) Remove screws, washer, and trigger. Push the cam out of the valve handle. Replace o-rings or cam.

4) Replace any worn or broken parts.

5) Reassemble the internal pieces. The push rod must be inserted through the outlet end of the valve handle before the cam is installed.

6) Lubricate the cam. Slide it into the valve handle, making sure the notch is oriented as shown. Ensure that the large end of the pushrod is resting in the notch of the cam.

7) Replace screws and washers. Torque screws to 15 to 25 in-lb (1.7 to 2.8 N-m).

8) Replace swivel. Torque to 15 to 20 ft-lb (20 to 27 N-m).

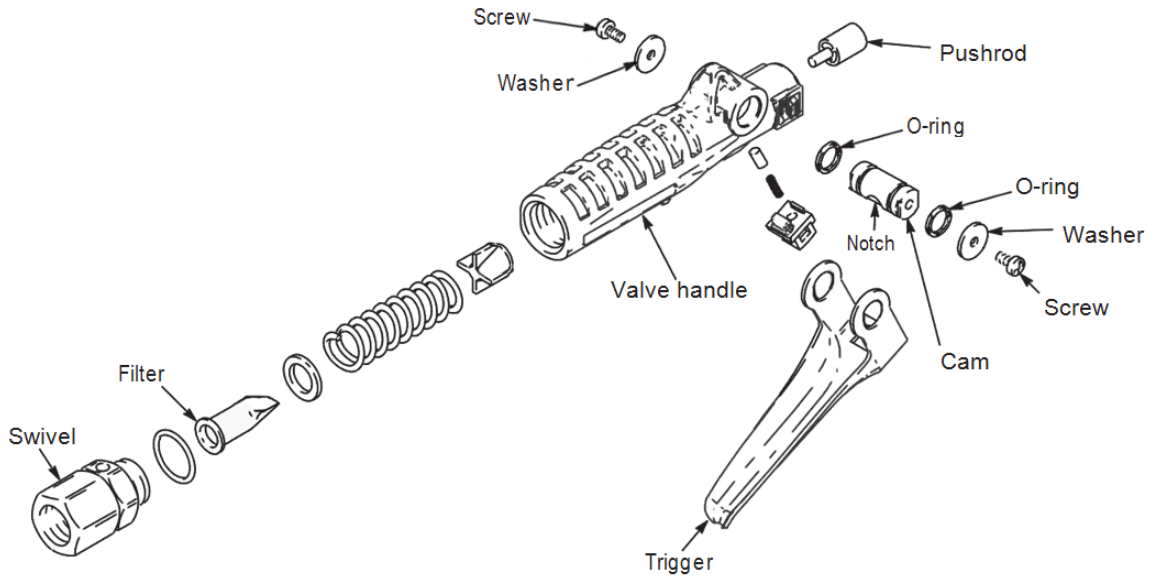
7.4. VALVE HANDLE FILTER REPLACEMENT

1) Relieve the pressure.

2) Unscrew hose fitting from swivel.

3) Remove and replace filter, which is inside the valve handle. Make sure the filter is oriented as shown.

4) Thread the hose fitting into the swivel and tighten. Torque swivel to 15 to 20 ft-lb (20 to 27 N-m).



8. ELECTRONIC METERS

8.1. PRESSURE RELIEF PROCEDURE

1) Turn off the power supply to the pump.

2) Trigger the valve into a waste container to relieve pressure.

3) Open any bleed-type master air valves and fluid drain valves in the system.

4) Leave the drain valve open until you have completed system repairs and are ready to pressurize the system.

NOTE

BEFORE CHECKING OR REPAIRING THE METER, BE SURE ALL OTHER VALVES, CONTROLS, AND THE PUMP ARE OPERATING PROPERLY.

PROBLEM	CAUSE	SOLUTION
Digital display does not activate.	Electronic control is malfunctioning.	Replace electronic control.
No fluid flow.	Strainer is clogged.	Remove and clean strainer.
Digital display is dim.	Battery in electronic control is worn out.	Replace electronic control within approximately 1 week of start of dimness.

8.2. ELECTRONIC CONTROL REPLACEMENT

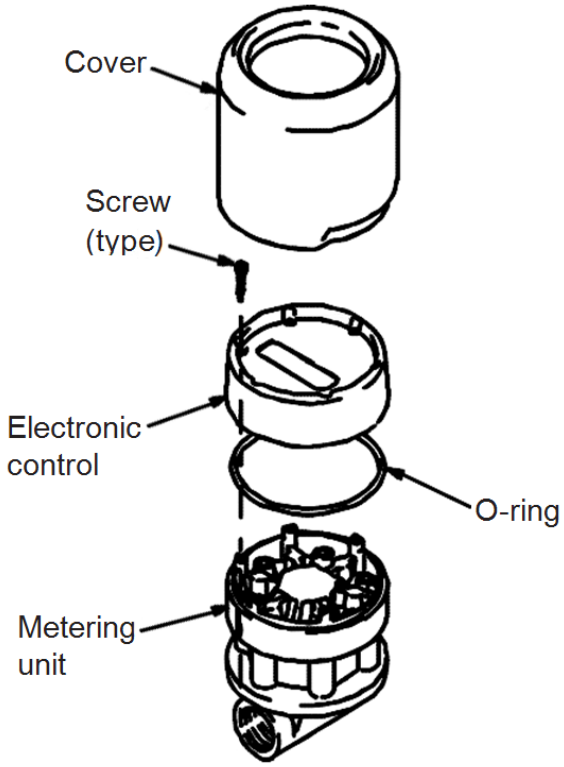
1) Relieve the pressure.

2) Attach the disposable grounding strap to your wrist. Connect the adhesive-backed copper foil at the other end to any convenient electrical ground, such as the grounding screw or metal case of a grounded electrical outlet.

3) Lift the bottom edge of the cover away from the meter. Pull the cover off. Remove and discard screws. Lift off the electronic control. Remove and discard the large O-ring.

4) Install a new electronic control. Install the large O-ring over the lip on top of the metering unit. Align the notch on the side of the electronic control with the notch on the side of the metering unit. Install new screws. Tighten the screws to 3 in-l b to 5 in-lb (0.34 N-m to 0.57 N-m), tightening screws on opposite sides, evenly, until a complete seal is obtained.

5) Install cover so rolled-in edges are parallel with the inlet fluid passage of the metering unit.



Iowa Mold Tooling Co., Inc.