

# USER MANUAL

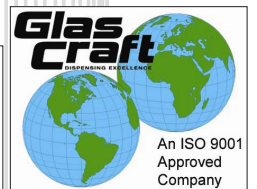
## GUARDIAN *A6-6000 Dispensing System*

For use with non-flammable foam and polyurea.  
Not for use in explosive atmospheres.



**Important Safety Instructions**

Read all warnings and instructions in this manual. Save these instructions.



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N/A = Non Applicable






# Warnings

The following warnings are for the setup, use, grounding, maintenance, and repair of this equipment. The exclamation point symbol alerts you to a general warning and the hazard symbol refers to procedure-specific risk. Refer back to these warnings. Additional, product-specific warnings may be found throughout the body of this manual where applicable.

|  <b>WARNING</b> |   |
|--|---|
|                 | <p><b>ELECTRIC SHOCK HAZARD</b><br/>Improper grounding, setup, or usage of the system can cause electric shock.</p> <ul style="list-style-type: none"> <li>• Turn off and disconnect power cord before servicing equipment.</li> <li>• Use only grounded electrical outlets.</li> <li>• Use only 3-wire extension cords.</li> <li>• Ensure ground prongs are intact on sprayer and extension cords.</li> <li>• Do not expose to rain. Store indoors.</li> </ul>   |
|                 | <p><b>TOXIC FLUID OR FUMES HAZARD</b><br/>Toxic fluids or fumes can cause serious injury or death if splashed in the eyes or on skin, inhaled, or swallowed.</p> <ul style="list-style-type: none"> <li>• Read MSDS's to know the specific hazards of the fluids you are using.</li> <li>• Store hazardous fluid in approved containers, and dispose of it according to applicable guidelines.</li> <li>• Always wear impervious gloves when spraying or cleaning equipment.</li> </ul>   |
|                | <p><b>PERSONAL PROTECTIVE EQUIPMENT</b><br/>You must wear appropriate protective equipment when operating, servicing, or when in the operating area of the equipment to help protect you from serious injury, including eye injury, inhalation of toxic fumes, burns, and hearing loss. This equipment includes but is not limited to:</p> <ul style="list-style-type: none"> <li>• Protective eyewear</li> <li>• Clothing and respirator as recommended by the fluid and solvent manufacturer</li> <li>• Gloves</li> <li>• Hearing protection</li> </ul>   |
|               | <p><b>SKIN INJECTION HAZARD</b><br/>High-pressure fluid from gun, hose leaks, or ruptured components will pierce skin. This may look like just a cut, but it is a serious injury that can result in amputation. <b>Get immediate surgical treatment.</b></p> <ul style="list-style-type: none"> <li>• Do not point gun at anyone or at any part of the body.</li> <li>• Do not put your hand over the spray tip.</li> <li>• Do not stop or deflect leaks with your hand, body, glove, or rag.</li> <li>• Close material shutoff valves when not spraying.</li> <li>• Follow <b>Pressure Relief Procedure</b> in this manual, when you stop spraying and before cleaning, checking, or servicing equipment.</li> </ul> |

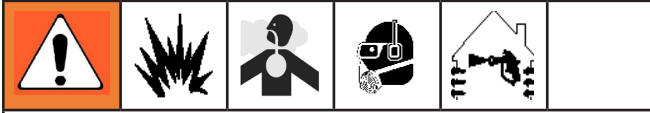
## Warnings

### ! WARNING

|   |   |
|---|---|
|    | <p><b>FIRE AND EXPLOSION HAZARD</b></p> <p>Flammable fumes, such as solvent and paint fumes, in work area can ignite or explode. To help prevent fire and explosion:</p> <ul style="list-style-type: none"> <li>• Use equipment only in well ventilated area.</li> <li>• Eliminate all ignition sources; such as pilot lights, cigarettes, portable electric lamps, and plastic drop cloths (potential static arc).</li> <li>• Keep work area free of debris, including solvent, rags and gasoline.</li> <li>• Do not plug or unplug power cords, or turn power or light switches on or off when flammable fumes are present.</li> <li>• Ground all equipment in the work area.</li> <li>• Use only grounded hoses.</li> <li>• Hold gun firmly to side of grounded pail when triggering into pail.</li> <li>• If there is static sparking or you feel a shock, <b>stop operation immediately</b>. Do not use equipment until you identify and correct the problem.</li> <li>• Keep a working fire extinguisher in the work area.</li> </ul>   |
|    | <p><b>PRESSURIZED ALUMINUM PARTS HAZARD</b></p> <p>Do not use 1,1,1-trichloroethane, methylene chloride, other halogenated hydrocarbon solvents or fluids containing such solvents in pressurized aluminum equipment. Such use can cause serious chemical reaction and equipment rupture, and result in death, serious injury, and property damage.</p>   |
|   | <p><b>EQUIPMENT MISUSE HAZARD</b></p> <p>Misuse can cause death or serious injury.</p> <ul style="list-style-type: none"> <li>• Do not operate the unit when fatigued or under the influence of drugs or alcohol.</li> <li>• Do not exceed the maximum working pressure or temperature rating of the lowest rated system component. See <b>Technical Data</b> in all equipment manuals.</li> <li>• Use fluids and solvents that are compatible with equipment wetted parts. See <b>Technical Data</b> in all equipment manuals. Read fluid and solvent manufacturer's warnings. For complete information about your material, request MSDS forms from distributor or retailer.</li> <li>• Check equipment daily. Repair or replace worn or damaged parts immediately with genuine manufacturer's replacement parts only.</li> <li>• Do not alter or modify equipment.</li> <li>• Use equipment only for its intended purpose. Call your distributor for information.</li> <li>• Route hoses and cables away from traffic areas, sharp edges, moving parts, and hot surfaces.</li> <li>• Do not kink or over bend hoses or use hoses to pull equipment.</li> <li>• Keep children and animals away from work area.</li> <li>• Comply with all applicable safety regulations.</li> </ul> |
|  | <p><b>MOVING PARTS HAZARD</b></p> <p>Moving parts can pinch or amputate fingers and other body parts.</p> <ul style="list-style-type: none"> <li>• Keep clear of moving parts.</li> <li>• Do not operate equipment with protective guards or covers removed.</li> <li>• Pressurized equipment can start without warning. Before checking, moving, or servicing equipment, follow the <b>Pressure Relief Procedure</b> in this manual. Disconnect power or air supply.</li> </ul>  |
|  | <p><b>BURN HAZARD</b></p> <p>Equipment surfaces and fluid that's heated can become very hot during operation. To avoid severe burns, do not touch hot fluid or equipment. Wait until equipment/fluid has cooled completely.</p>   |

## Warnings

### Isocyanate Hazard



Spraying materials containing isocyanates creates potentially harmful mists, vapors, and atomized particulates.

Read material manufacturer's warnings and material MSDS to know specific hazards and precautions related to isocyanates.

Prevent inhalation of isocyanate mists, vapors, and atomized particulates by providing sufficient ventilation in the work area. If sufficient ventilation is not available, a supplied-air respirator is required for everyone in the work area.

To prevent contact with isocyanates, appropriate personal protective equipment, including chemically impermeable gloves, boots, aprons, and goggles, is also required for everyone in the work area.

To prevent exposing ISO to moisture:

- Always use a sealed container with a desiccant dryer in the vent, or a nitrogen atmosphere. **Never** store ISO in an open container.
- Keep the ISO lube pump reservoir filled with Graco Throat Seal Liquid (TSL), Part 206995. The lubricant creates a barrier between the ISO and the atmosphere.
- Use moisture-proof hoses specifically designed for ISO, such as those supplied with your system.
- Never use reclaimed solvents, which may contain moisture. Always keep solvent containers closed when not in use.
- Never use solvent on one side if it has been contaminated from the other side.
- Always park pumps when you shutdown.
- Always lubricate threaded parts with Part 217374 ISO pump oil or grease when reassembling.

### Moisture Sensitivity of Isocyanates

Isocyanates (ISO) are catalysts used in two component foam and polyurea coatings. ISO will react with moisture (such as humidity) to form small, hard, abrasive crystals, which become suspended in the fluid. Eventually a film will form on the surface and the ISO will begin to gel, increasing in viscosity. If used, this partially cured ISO will reduce performance and the life of all wetted parts.



The amount of film formation and rate of crystallization varies depending on the blend of ISO, the humidity, and the temperature.

## Warnings

### Keep Components A and B Separate

#### CAUTION

To prevent cross-contamination of the equipment's wetted parts, never interchange component A (isocyanate) and component B (resin) parts. The gun is shipped with the A side on the left. The fluid manifold, fluid housing, side seal assembly, check valve cartridge, and mix chamber are marked on the A side.

### Foam Resins with 245 fa Blowing Agents

New foam blowing agents will froth at temperatures above 90°F (33 °C) when not under pressure, especially if agitated. To reduce frothing, minimize preheating in a circulation system.

### Changing Materials

- When changing materials, flush the equipment multiple times to ensure it is thoroughly clean.
- Always clean the fluid inlet strainers after flushing.
- Check with your material manufacturer for chemical compatibility.
- Most materials use ISO on the A side, but some use ISO on the B side.
- Epoxies often have amines on the B (hardener) side. Polyureas often have amines on the B (resin) side.

# Section 1 - Installation: Introduction

## Introduction

Before operating, maintaining or servicing any **GlasCraft** system, read and understand all of the technical and safety literature provided with **GlasCraft** products. If you do not have the proper or related manuals and safety literature for your **GlasCraft** system, contact your **GlasCraft** distributor or **GlasCraft, Inc.**

In this **GlasCraft** technical and safety publication, the following advisories will be provided where appropriate:



Information about the procedure in progress.



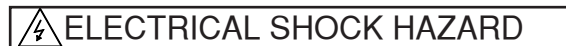
*Is imperative information about equipment protection.*



*Indicates a hazardous situation that can result in minor or moderate injury.*



*Indicates a hazardous situation that can result in death or serious injury.*



*Indicates a hazardous situation that can result in electrical shock or serious injury.*

The information in this document is intended only to indicate the components and their normal working relationship typical use. Each assembly should be directed by a **GlasCraft** distributor or made from the **GlasCraft** Assembly instructions provided.

This manual provides information for the assembly, operation, maintenance and service of this **GlasCraft** product as used in a typical configuration. While it lists standard specifications and procedures, some deviations may be found.

In order to provide our users with the most up-to-date technology possible, we are constantly seeking to improve products. If a technological change occurs after a product is on the market, we will implement that technology in future production and, if practical, make it available to current users as a retrofit, update or supplement. If you find a discrepancy between your unit and the available documentation, contact your **GlasCraft** distributor to resolve the difference. **GlasCraft, Inc.** reserves the right to change or modify this product as it deems necessary.

Careful study and continued use of this manual will provide a better understanding of the equipment and process, resulting in more efficient operation, longer trouble-free service and faster, easier troubleshooting.

## Section 1 - Installation: Standard Equipment


### Model - A6-6000

| <b>Part Number</b> | <b>Description</b>                                |
|--------------------|---|
| 23675-             | A6-6000 UNIT                                      |
| 23950-02           | PROBLER P2 GUN                                    |
| 249588             | HIGH PRESSURE HOSE ASSEMBLY                       |
| 256626             | WHIP HOSE ASSEMBLY                                |
| 23473-00           | HEATER REPAIR KIT                                 |
| GC-1398            | USER MANUAL                                       |
| 59934-04           | DIOCTYL PHTHALATE, 1 QT.                          |
| 261821             | REQUIRED TO COMPLETE THE HOSE ELECTRICAL CIRCUIT. |



## Section 1 - Installation: Equipment Assembly

### Guardian Line Installation Guide

 *GlasCraft Systems are factory assembled. If any questions arise concerning air or electrical connections, please refer to illustrations located in the forward portion of this User Manual or contact your GlasCraft distributor.*

#### 1. Advanced preparation

- a. Before beginning any installation, ensure that the applicator has the desired power supply available, (i.e. 220V single phase / 380V three phase), within 10 ft. of where the machine is to be placed. If the machine needs to be further than 10 ft. from the power supply, additional lengths of properly sized electrical cable will be required.




**Never use a smaller gauge size than supplied by the factory!**

- b. Depending on the electrical setup, it may be necessary to install an appropriate plug on the end of the cable. GlasCraft will not supply this plug, as we are unaware of which style will be needed.
- c. Consult the data sheet for the specific unit being installed to determine the proper breaker size needed.
- d. You will need to run an air line to the area where the machine will be placed. consult the data sheet the specific unit being installed to determine much clean, dry air will be needed to supply the machine. If the air line is **under** 25 ft. use a minimum of 1/2 in. I.D. pipe or hose. If the air line is **longer** than 25 ft., use a minimum of 3/4 in. pipe or hose. Anything smaller than these diameters will severely affect the machine's performance!



**Do not use any quick disconnect fittings on the main air line going to the machine!**

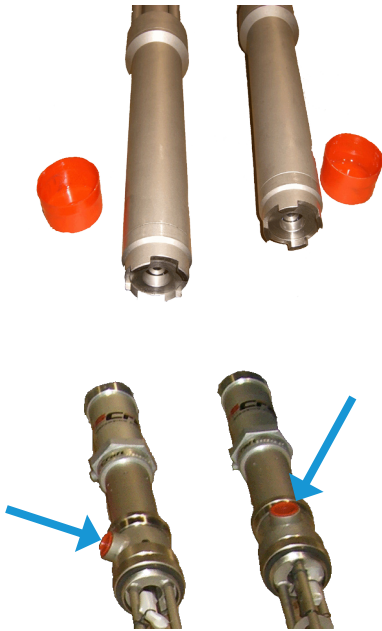
 *Check your air-compressor to make sure it is capable of supplying the maximum amount of air that the machine requires. All GlasCraft equipment is rated at 25 CFM (cubic foot per minute) @ 90-100 (708 liters @ 6.3 - 7.7 BAR) do not exceed 125 PSI (14 BAR).*

2. Move material drums to the area that the equipment will be placed, ensuring that they are not sitting directly on the floor. Simply place the drums on top of a pallet or similar device, so the drum bottoms will not be in contact with any cold surfaces.
3. Open all boxes that came with the machine and verify that all items are accounted for.
4. Lay out the 17666-05 Transfer Kit (this will come in a large bag inside the main box).

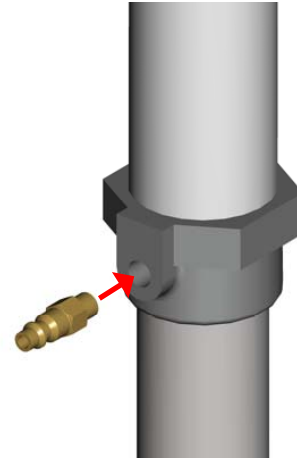


## Section 1 - Installation: Equipment Assembly

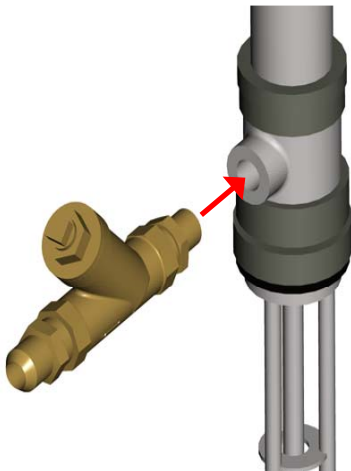
5. Remove the “red” plastic caps that cover the material inlets on the bottom of the pumps, and the air inlets on the air motor portion of the pumps.



7. Install a male quick disconnect fitting to air inlet of both pumps. *Besure to use teflon tape on the threads.*

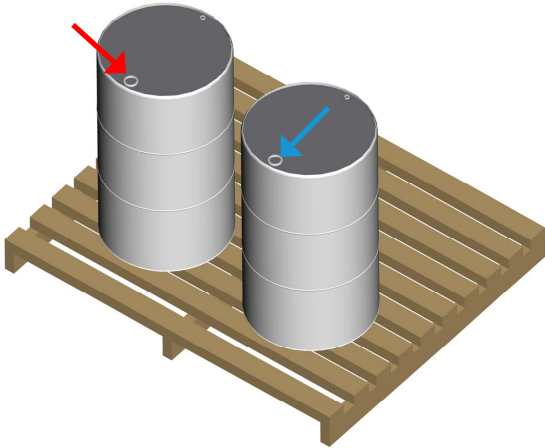


6. Install a “y” filter to the outlet of both pumps. *Besure to use teflon tape on the threads.*

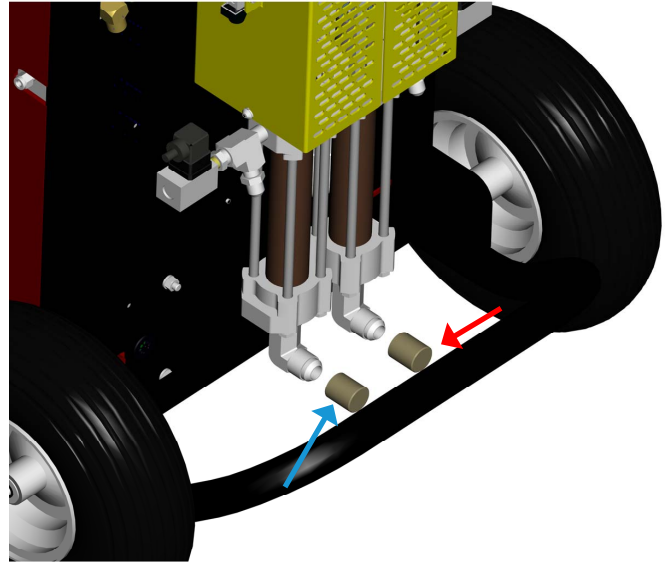


## Section 1 - Installation: Equipment Assembly

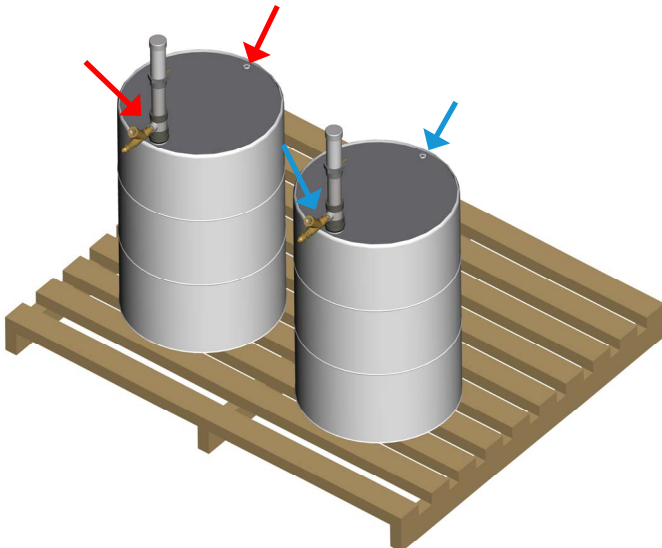
8. Remove the 2 inch bung caps on both the A and B side drums. Install the transfer pump collars into the bung holes, making sure to lubricate the threads with vaseline or grease, thus enabling easy removal when needed.



10. Remove the metal caps from the material pumps.

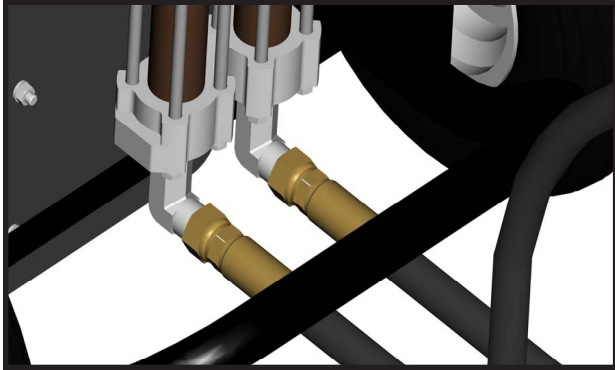


9. Make sure that the red caps have been removed from the bottom of the pumps and then slide the transfer pumps into the collars. Tighten the wing nuts on the collars, securing the transfer pumps in place. Loosen the 3/8 in vent plugs on both drums allowing for ventilation. If using a desiccant dryer on the A side, install it now.

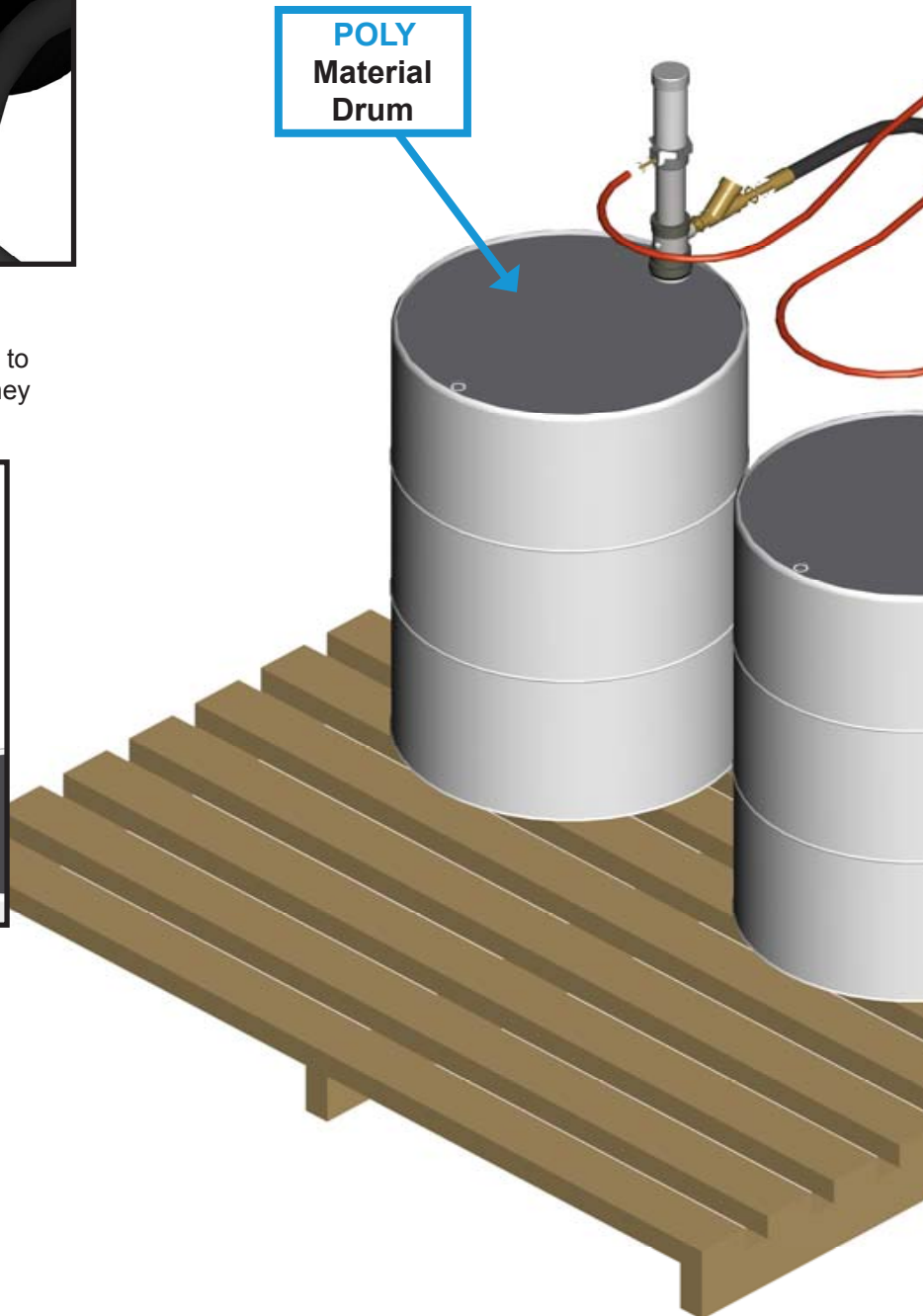
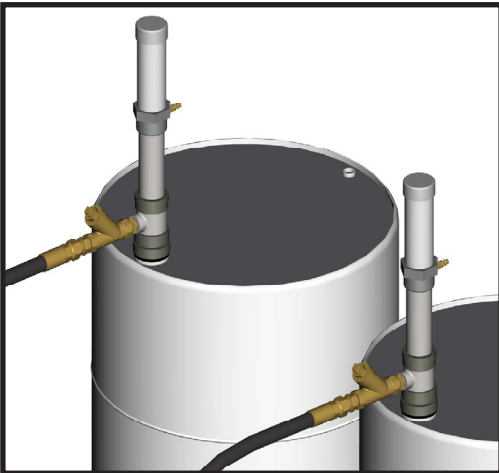


## Section 1 - Installation: Equipment Assembly

11. Connect one end of each material hose to the inlet fittings located on the back of the machine. *It is highly recommended that you label the (POLY) hose with BLUE tape and the (ISO) hose with RED tape to ensure that you don't put the wrong transfer pump in the opposite material drum.*

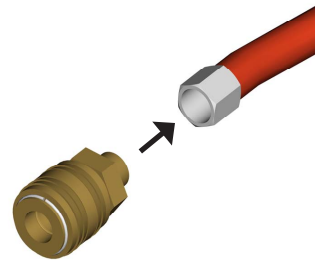
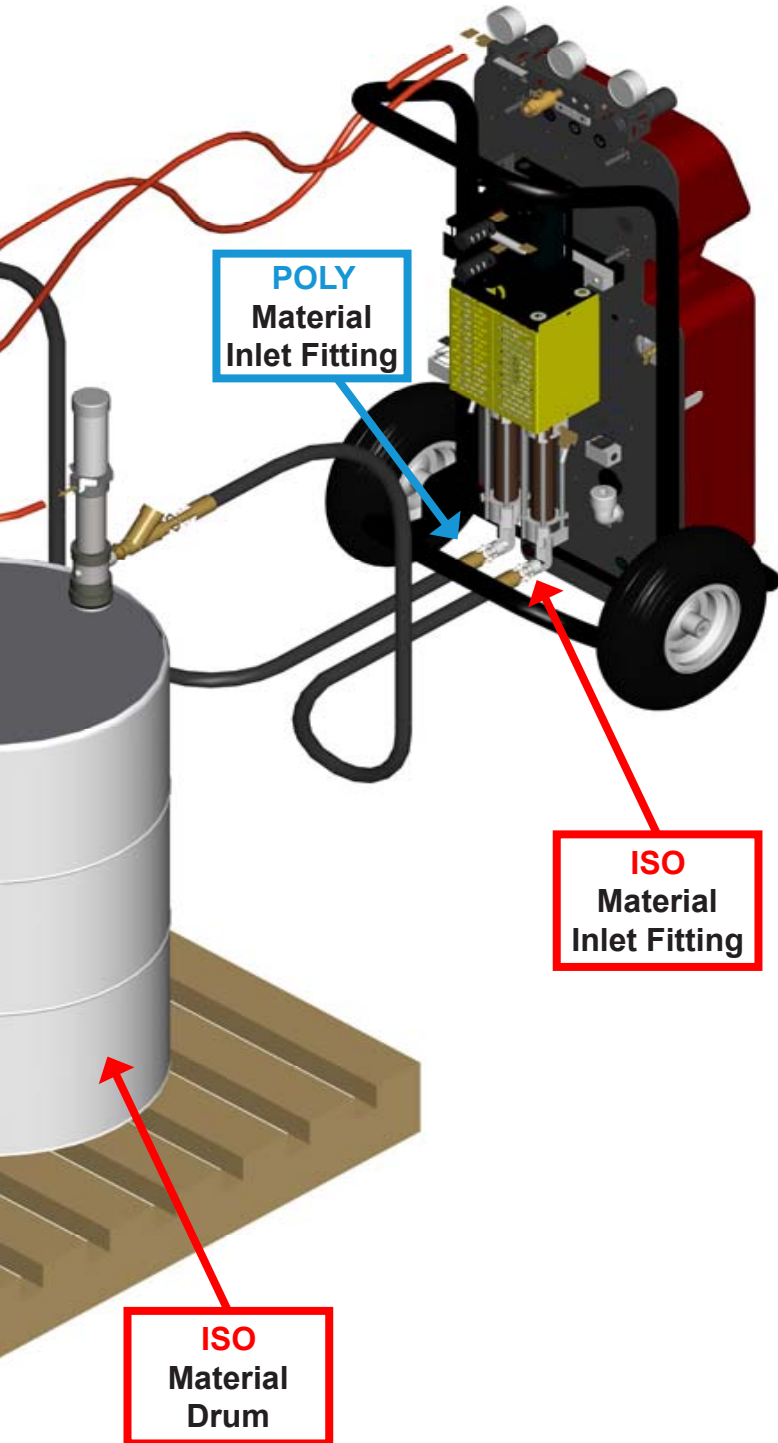


12. Connect the other end of the material hoses to their correct transfer pumps. Ensure that they are not reversed and tighten securely.

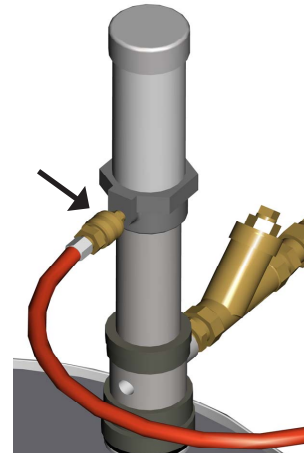


## Section 1 - Installation: Equipment Assembly

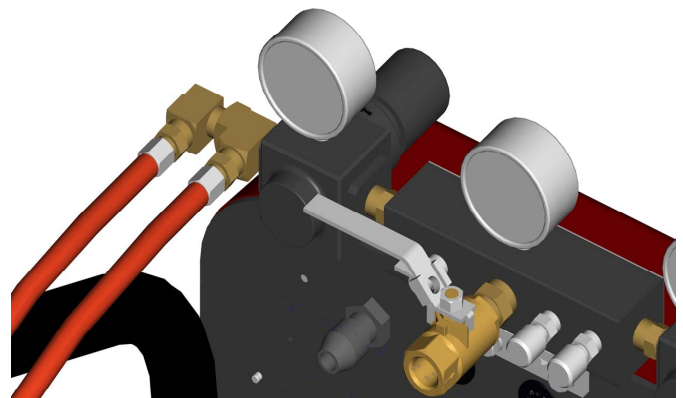
13. a. Install the female quick-disconnect fittings p/n 22642-01 on to the ¼ in. air lines p/n 17798-10 that came in the transfer kit. *Be sure to use teflon tape on the threads.*



- b. Attach the quick-disconnect fittings to the male receivers on the transfer pumps.



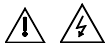
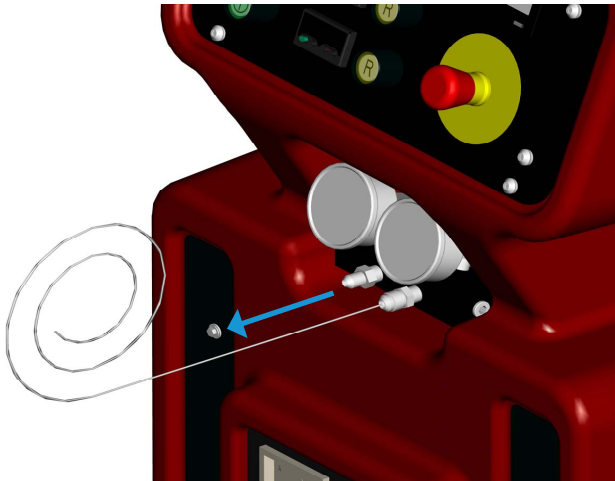
14. Attach the other end of the airlines to the far right regulator on the machines air manifold.





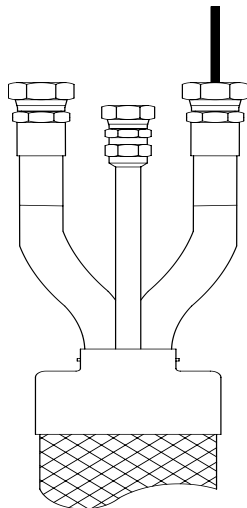
## Section 1 - Installation: Equipment Assembly

- 15.** If the optional scuff-jacket p/n FM-494 is being used (highly recommended, sold separately) install it over each individual section of hose before proceeding any further. Securely tape both ends of scuff jacket to the hose assembly.
- 16.** Locate the thermal couple wire protruding from the B side fitting on the front of the machine. Un-coil the wire and lay it out straight.

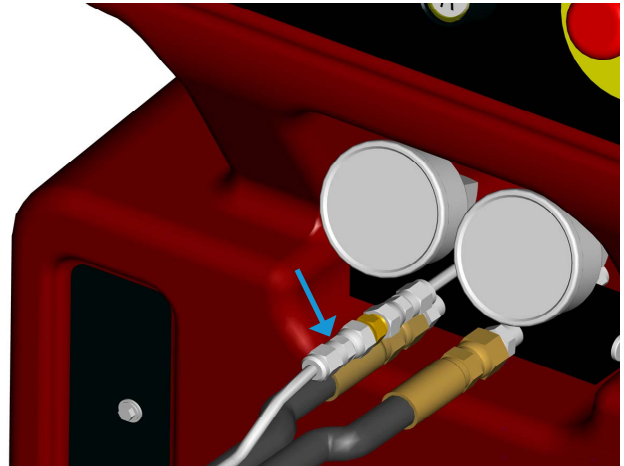


*Main power from power source should be disconnected or turned off to console before making hose connections.*

- 17.** Feed the the thermal couple wire into the B side portion of the hose and pull the rest of the hose up until you can connect the hose to the front of the machine. Tighten the hose securely, being careful not to twist the hose in an “un-natural” bend. Refer to the last page in this installation guide for instructions on how to secure hoses properly.



- 18.** Connect the 1/4 in. air line on the hose assembly to the air line whip hose one the front of the machine.





- 19.** Connect the electrical wires.

- Ensure the wire ends are 5/8 in. (.625 mm) long. If they are not, use a sharp pair of scissors to strip all four wire ends to the correct length.

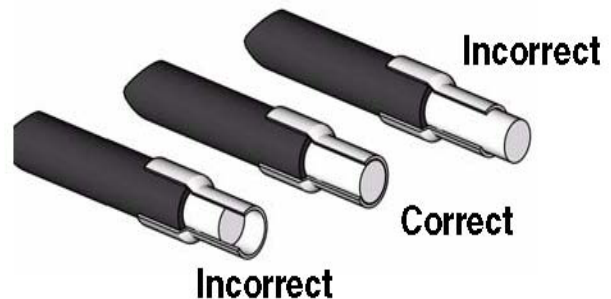
### Strip Length




 *Be careful, do not cut or nick any copper strands. If more than five strands are cut or nicked, trim and re-strip the wires.*


 *New hoses are pre-stripped to the correct length; remove the insulation to expose the bare wire.*

- 20.** Ensure the strip length is correct by fitting the ferrule over the exposed wire. The ferrule should be flush with the end of the wire.



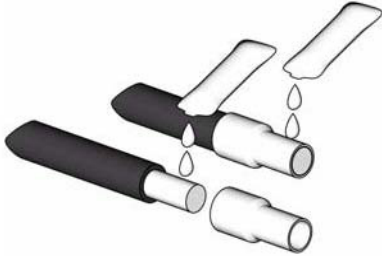
## Section 1 - Installation: Equipment Assembly

 If the wire is short of the ferrule end, adjust the strip length accordingly. If bare is protruding from the ferrule, trim it flush to the end of the ferrule.

 To reach approximately 60 in.-lbs. (6.78 N•m), complete 4.5 revolutions with the hex wrench after the set screw contacts the ferrule.


**21.** Remove the ferrule and apply oxide inhibitor to the bare wire.

**22.** Reinsert the wire in the ferrule and apply more oxide inhibitor to the ferrule and wire end.

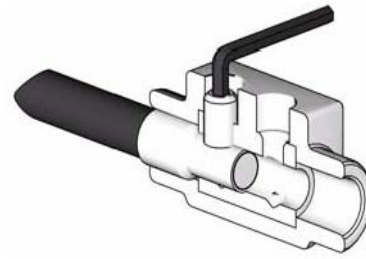
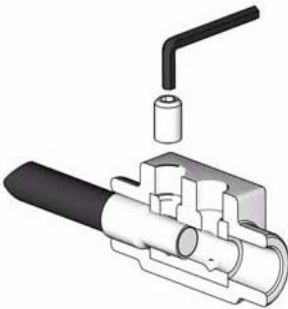


**23.** Pair the electrical wires as follows:


A-Hose to A-Hose  
B-Hose to B-Hose

 When connecting the first hose to the proportioner, wire painting does not make a difference.

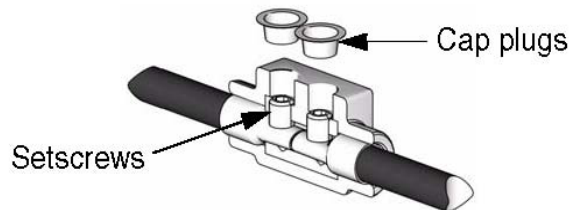
**24.** Insert one wire from the heated hose into the connector. Ensure that the ferrule is mating with the connector insert and attach the set screw. Torque the set screw to 60 in.-lbs. (6.78 N•m).



**25.** Repeat steps 21 through 24 for remaining.

 Re-torque all four set screws to 60 in.-lbs. (6.78 N•m). The set screws will be approximately flush with the connector.

**26.** Insert the cap plugs over the set screws.



**27.** Repeat steps 21 through 26 for additional hoses.

## Section 1 - Installation: Equipment Assembly

28. Add extra hose lengths if necessary.

### Required Tools:

Opened - end wrenches - 3/4 in.

a. Lay hoses out straight.

b. Couple hoses together with supplied union fittings and tighten finger-tight.

c. • Hold crimp fitting hex (3/4 in.), and union fitting together, allowing the hose to hold its natural line.

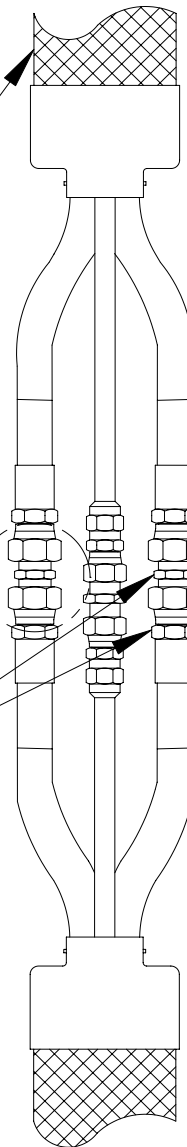
- Using 3/4 in. wrenches to tighten swivel fitting to union, not allowing crimp fitting or union to turn. Repeat on opposite side of union.

**This practice is required on all connection points.**

**1) Hose and machine**

**2) Hose and gun**

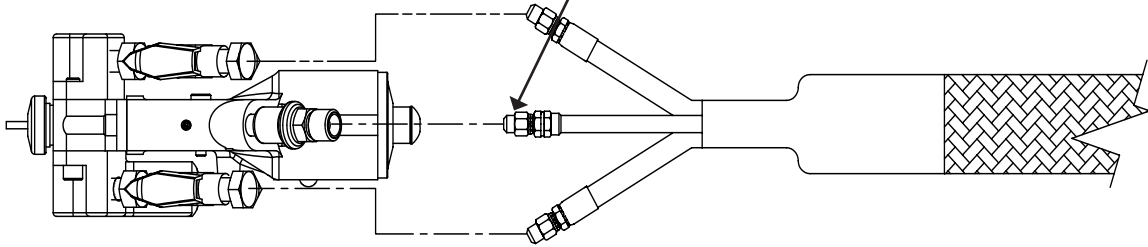
**3) Adding additional hose sections**



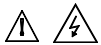


## Section 1 - Installation: Equipment Assembly

29. Connect the supplied swivel fitting p/n 23825-00 to the trigger air line **before** attaching the hose assembly to the gun.
30. Connect hose assembly and the gun as shown. The fittings on the hose assembly are sized differently and will attach only one way.
31. Fluid and air connections between the system and gun should now be complete and **tight**.



When Main Power to system console is on, the white and black wires in the console are **always live!** Disconnect or turn **off** Main Power source before opening console to make any repairs or before making any electrical repair of any type to the system.



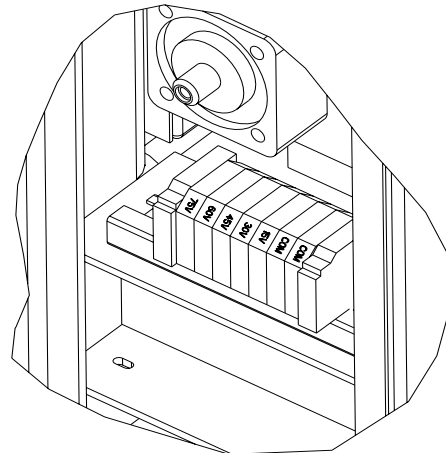
If you do not understand the electrical hook-up described above, consult your local GlasCraft distributor OR a qualified electrician.



Electrical connections must be checked on a periodic basis.

- 208/240 volt single phase
- L1 L2 GROUND
- 208/240 volt three phase
- L1 L2 L3 GROUND
- 380 volt three phase
- L1 (black)
- L2 (brown)
- L3 (black)
- L4 (blue)
- GROUND (green)

32. If more than 50 ft. of hose is used the transformer tap setting will need to be set for proper hose length. The sticker on the front cover will say which tap to move the wire to. **DO NOT MOVE THE COMMON LEG!**



| CONNECTIONS   |     | HOSE LENGTH |
|---------------|-----|-------------|
| 15V           |     | 50 FT       |
| 30V           |     | 100 FT      |
| COM           |     | 150 FT      |
| (DO NOT MOVE) | 60V | 200 FT      |
|               | 60V | 250 FT      |
|               | 75V | 300 FT      |

## Section 2 - Operation: Start-Up Instructions



Never leave machine unattended while system power is on or system is running.  
System running is defined as: preheat cycle of the hose heat, primary heaters, or any pump operation.  
Machine operators must be familiar with the component functions and operation of the machine.

### Pre-Operation Check List

- A. Check that all fittings are securely tight.
- B. Check electrical hook-up (qualified electrician recommended).
- C. Main power switch on Control Box should be switched to **OFF** position.
- D. Air Regulator turned (counter clock-wise) to **OFF** position.
- E. Hose Control and Primary Heater Control to **OFF** position.



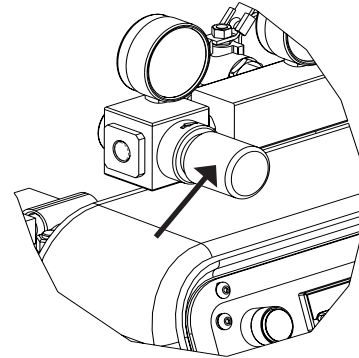
Do not place any part of the body in the path of the material spray.  
Do not point the gun at or near other personnel.  
Do not look into the Mixing Chamber orifice at any time.  
Because of the hazardous materials used in this equipment, it is recommended that the operator use an air mask, goggles, protective clothing, and other safety equipment as prescribed by current regulations, recommendations of the chemical suppliers, and the laws in the area where the equipment is being used.

### Initial Start-Up Procedure

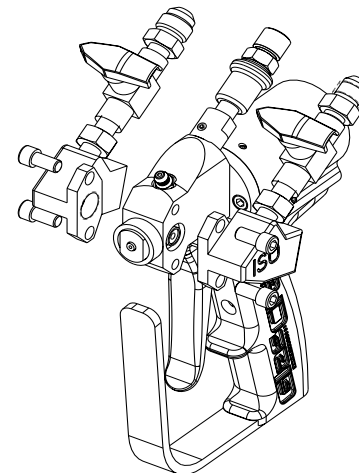
With all material and air lines connected and power cable attached, the system is now ready for start-up.

### Filling The System

1. Adjust Air Regulator to 20 PSI to fill system. Air Motor will cycle slowly to fill Pumps, Heaters and Hoses and stop.



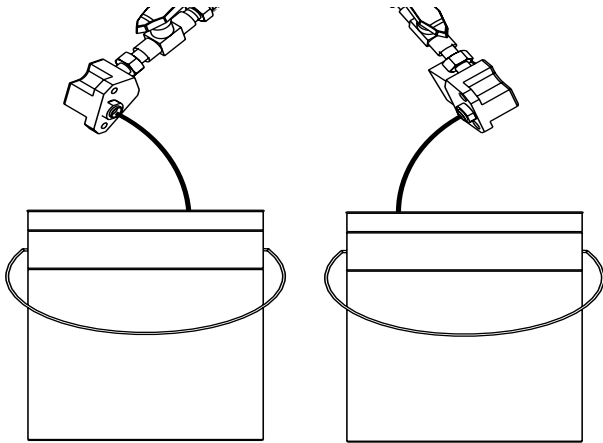
2. Remove ISO & POLY side blocks from gun.



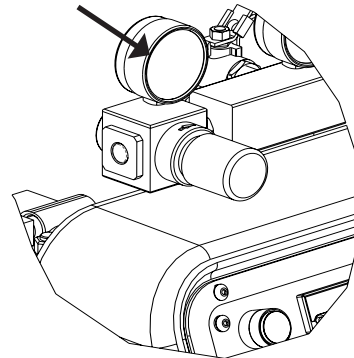
**PROBLER P2  
MAKE SURE VALVES ARE OFF**

## Section 2 - Operation: Start-Up Instructions

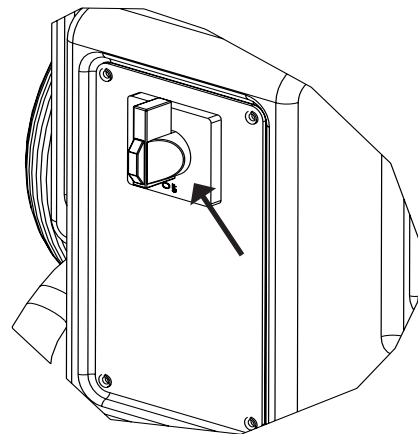
- Place separate clean containers under each individual side block. **Slowly** open material valves (black arrow forward) on each side block to allow trapped air to escape the hose and material to flow into the containers until all air is purged from the material system.




- Clean and lubricate Side Blocks and Seals thoroughly and re-assemble on Gun. Make certain that the side block screws are tighten securely.
- Refer to material manufacturers operating instructions for proper preparation of material, i.e, mixers, etc.
- Leave Air Regulator at 20 PSI




- Turn main power Switch to **ON** position.

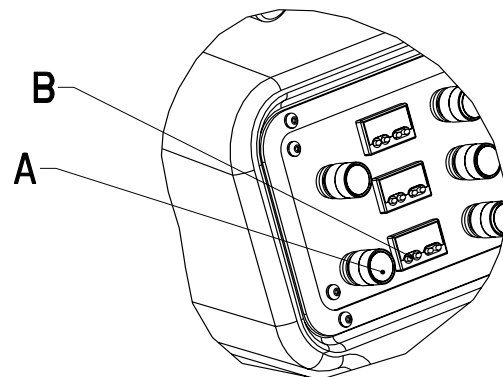


 Remember to dispense one to two gallons of material to clear the system of grease and plasticizer that was used during factory testing.

- Close manual material valves. Material pressure gauges should now register approximately equal pressure. If one side registers considerably more pressure than the other side, go to the high pressure side and bleed off some pressure by slightly opening the manual material valve on the side block over the container. Bleed pressure until both sides are approximately the same pressure.
- Dispose of waste material properly and in accordance with chemical suppliers instructions and local, state and federal regulations.

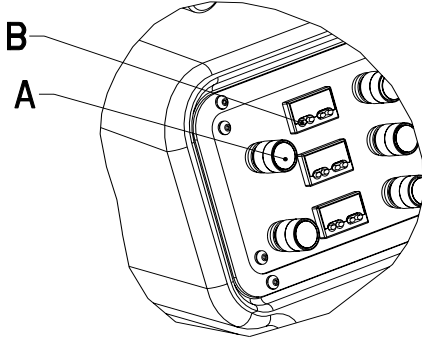
- Turn on Hose Control:
  - Push in the green power button.
  - Press up or down arrow buttons on the controller until desired temperature setting is achieved.

 Before re-assembling Side Blocks, lubrication can be applied by dabbing a white lithium grease into holes inside of Gun Front Housing and wiping grease over SideBlock Seals. Grease will purge itself when air valve is turned on at Gun and Gun is triggered.



## Section 2 - Operation: Start-Up Instructions

- 11.** Turn on the ISO & POLY Heater control:
- a. Push in green power button.
  - b. Press up or down arrow buttons on the controller until desired temperature setting is achieved.



*Straighten hose out flat, to avoid uneven heating and damage to internal wiring of the Hose Assembly.*

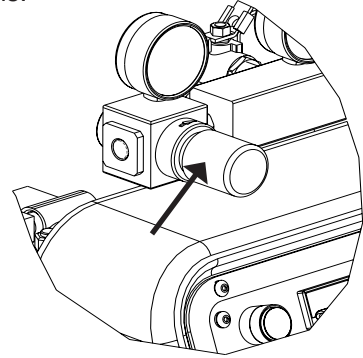


*Allow enough time for hose to warm up (approximately 15- 20 minutes). Remember that the heated hose does not have a delta rating. The heated hose's function is to maintain the heat generated by the primary heaters during system operation, and preheat material during initial start-up. The hose should be set to maintain a temperature close to the set point of the heaters.*

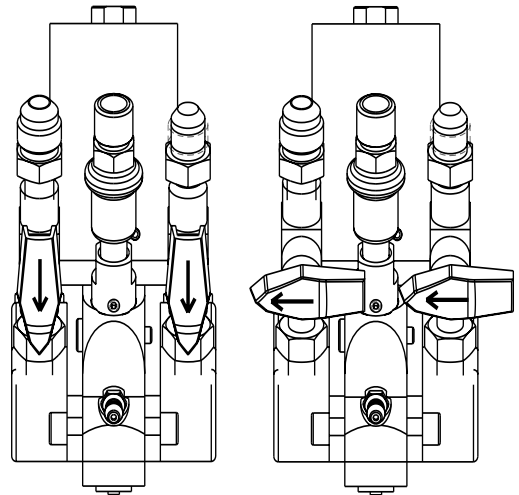


*Due to the expansion of urethanes when heated, it is imperative that on cold start-up of the system that the heaters be turned on and allowed to reach operating temperatures before the Main Pump Air Regulator is adjusted to the desired spray pressure. If you do not allow the heaters to reach operating temperature before adjusting air pressure, the material pressure will exceed the set point of the over pressure switches causing the system to shut down.*

- 12.** Adjust Main Air Regulator to material suppliers specifications.



- 13.** Turn Purge Air and Material Valves ON at Gun.



**ON**

**OFF**

- 14.** Relieve any excess pressure by triggering the gun.



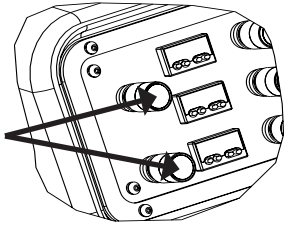
*The Emergency Stop Switch is located on the bottom right side of the control Panel, when depressed, it will shut down the power and activate the Air Dump Valve. To reset, turn handle on push button.*

- 15.** The system is now ready for operation.

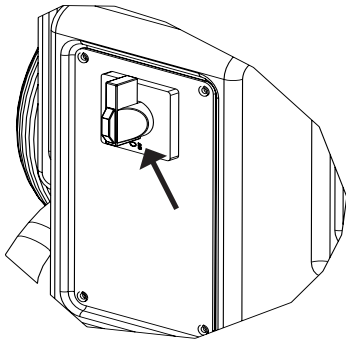
## Section 2 - Operation: Shut-Down Instructions

### Daily Shut-Down Procedure

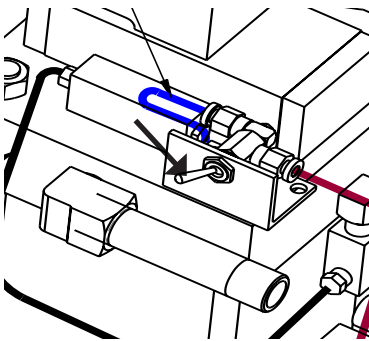
1. Turn off hose and heater controllers.



2. Turn off main power switch.

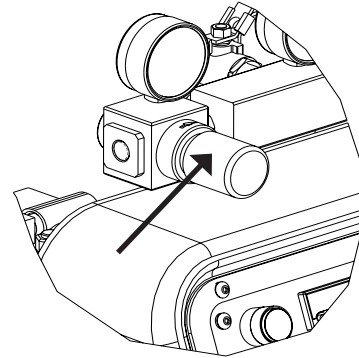


3. Flip retract switch to the “retract position” and trigger the gun until pumps are in the down position.



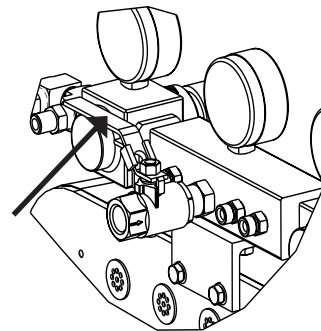
4. Perform gun maintenance. (See gun manual)

5. Reduce main air regulator pressure to zero.



6. Visually inspect the entire system for leaks.

7. Turn off main air supply and main power.

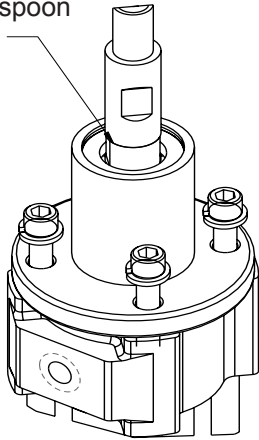


## Section 2 - Operation: Shut-Down Instructions

8. Coil heated hoses with a minimum four foot diameter to avoid kinking and subsequent damage to the internal electrical wiring.

9. Check and lube top of the fluid section.

Wipe off residual material and add a tablespoon of DOP,DBP




*Do not bleed fluid pressure from the system.*

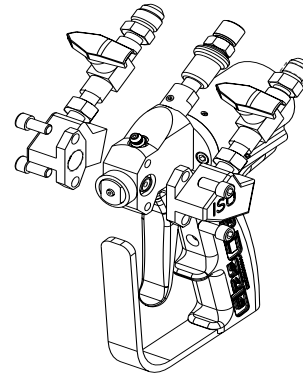
### Extended Shut-Down Procedure

There are many different procedures that are being followed for extended machine shut down. Because the system is designed to be compatible with most urethane formulations, GlasCraft recommends that the system should be stored with urethanes instead of solvents, plasticizers, etc. Certain considerations have to be adhered to when an extended shut-down is being performed.

The following procedure is for long extended shut-down periods.

 *Power should be disconnected and all air regulators turned down to zero.*

1. Remove side blocks from the gun and relieve pressure from the system.



**PROBLER P2**

2. Use a suitable solvent to flush the fluid circuits. To determine the compatibility of solvents with material being used. Always check with material supplier.

3. Increase transfer pump pressure until fluid movement occurs.



If fluid movement does *NOT* occur @ 100 psi of air on transfer pumps, increase main pump pressure until the main proportioner *SLOWLY* starts cycling.

4. Once primary material is flushed from the system, reduce the main air pressure to zero or flip the retract switch to the "**retract position**" and trigger the gun until the pumps are in the down position.

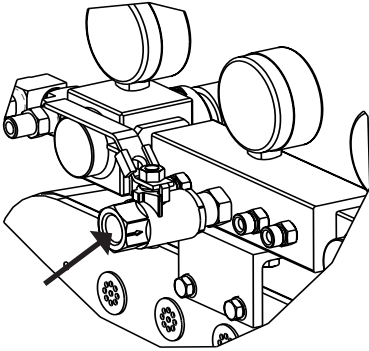
5. If the solvent used to flush the system also contains plasticizer, ensure that all primary material is flushed from the system and close the ball valves @ the gun.

6. Leave the pumps in the full down stroke position with approximately 200-500 psi. on the fluid gauges.

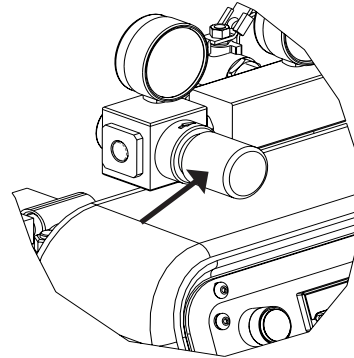
7. If plasticizer is required to chase out solvent, cycle main pumps until the system is full of plasticizer, then close valves and leave the pumps in the full down stroke position with 200-500 psi.

## Section 2 - Operation: Shut-Down Instructions

8. Turn off main air supply and disconnect air line from the system.



2. Adjust main air regulator to 20 psi.



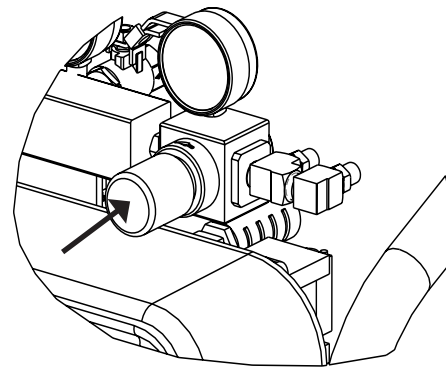
9. Generously coat the exposed transfer pump shafts with lithium grease.

10. Coil the heated hoses with a minimum four foot diameter to avoid kinking and subsequent damage to the internal electrical wiring.

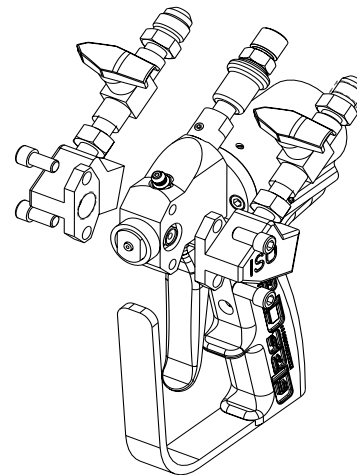
11. For gun shut down, follow the procedure from the gun manual.

12. The length of time a system is shut down, and the climate conditions it's stored in will determine how often the system should be purged and refilled. Usually every 2 - 4 weeks the following procedure should be followed.

3. Adjust transfer pump regulators to approximately 40 psi.

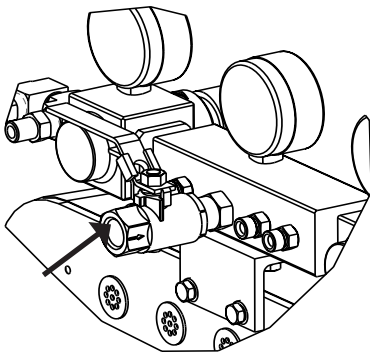


4. Remove the side blocks from the gun.



### Purge and Refill Procedure

1. Connect the main air line to the system.

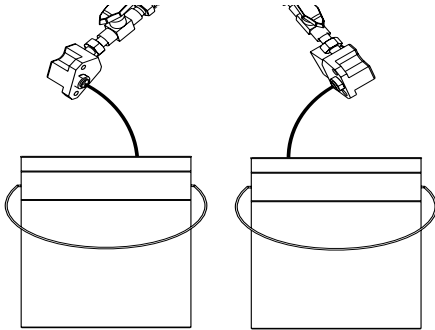


**PROBLER P2**



## Section 2 - Operation: Shut-Down Instructions

5. Open both side blocks simultaneously into separate containers and dispense approximately 1-1/2 - 2 gallons of material from each side or until all plasticizer is purged from the system. Stop the pumps in the down position.



6. Close both side blocks simultaneously and wipe off residue from the side block seals. Regrease and attach both blocks to the gun.
7. Mix and properly dispose of purge material.



*Before performing any repairs on the system,  
**ALL AIR and FLUID PRESSURES SHOULD BE  
RELIEVED TO ZERO (BLEED-OFF)!***

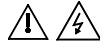
To relieve Air and Fluid pressures:

System Console:

1. Turn OFF valves that supply material to the Pumps.
2. Turn OFF Main Air Regulator on Air Motor.

Gun:

1. Open both Side Block Material Valves.
2. Turn ON Air Switch.
3. Point Gun into a clean, suitable container and trigger Gun until material flow stops.
4. Fluid pressure gauges must read zero (0), if not, trigger Gun until the fluid pressure gauges do read zero (0) pressure.
5. Turn OFF Side Block Material Valves.
6. Trigger Gun several more times to purge any material remaining in Gun. Turn OFF air Switch.
7. Unless system is to be returned to service at once, follow DAILY SHUT-DOWN PROCEDURE



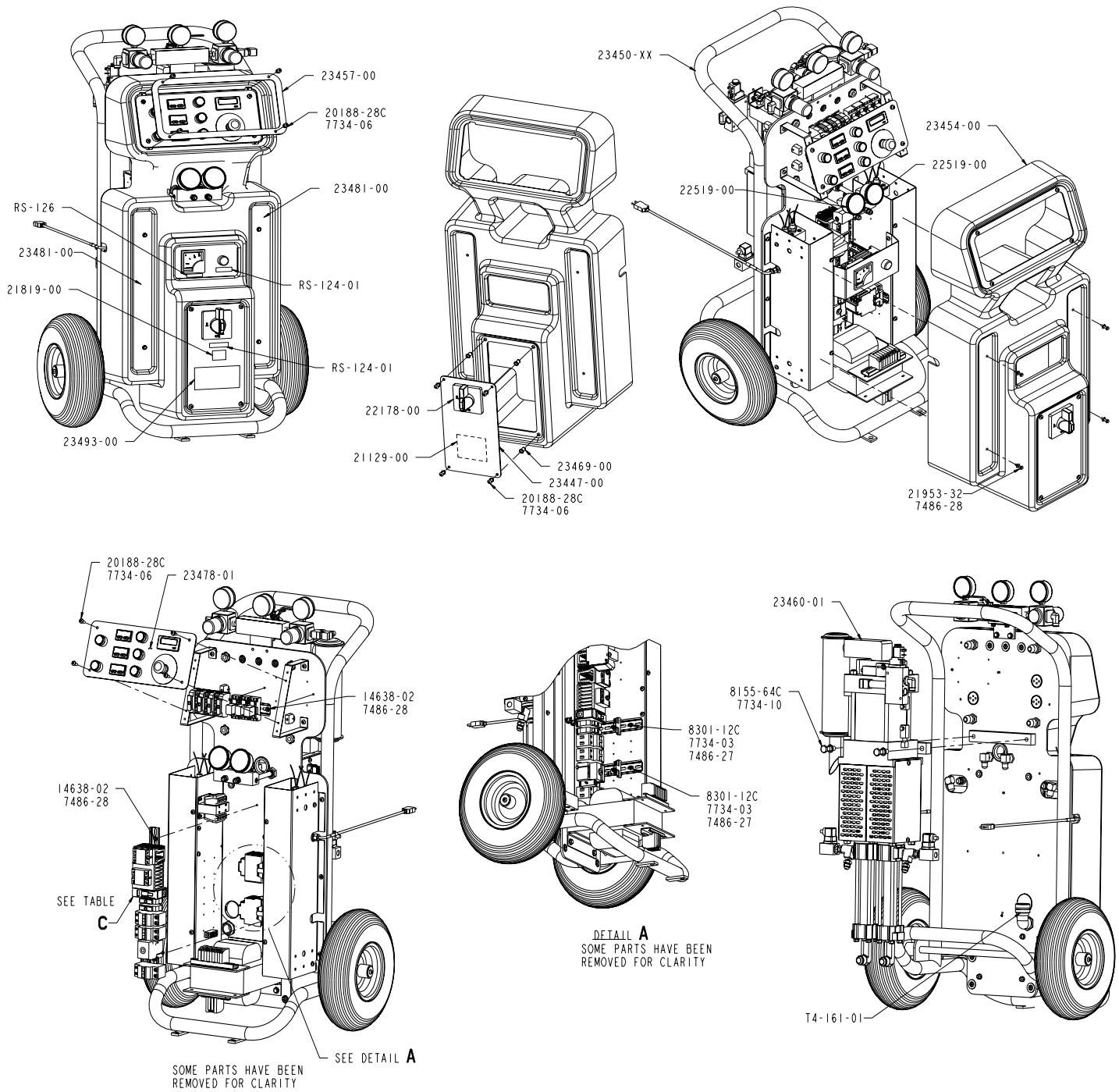
*Before performing any repairs on any part of the system,*

***PLACE ALL CONTROLS ON THE MACHINE AND THE  
MAIN POWER SOURCE IN THE OFF  
POSITION AND DISCONNECT THE ELECTRICAL  
POWER CABLE FROM THE MAIN POWER SOURCE!***



# Section 3 - General Information: Assembly Drawings

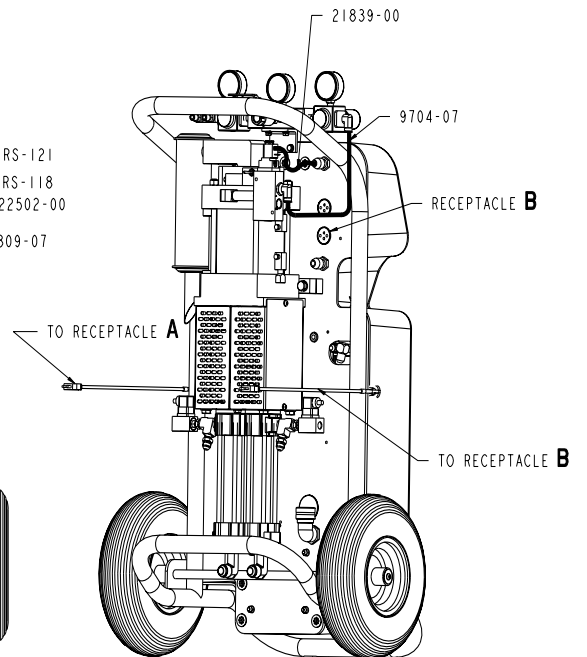
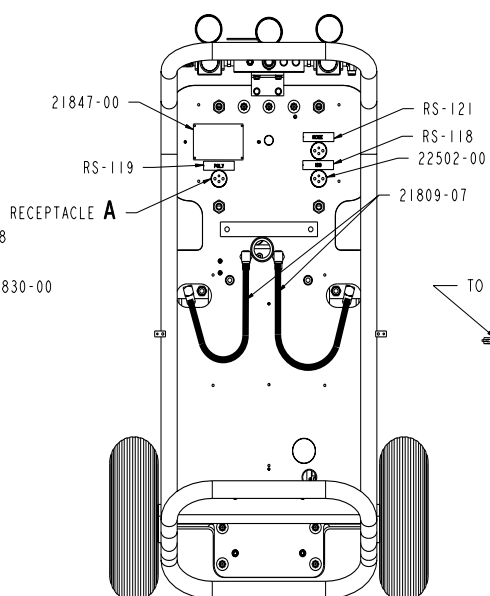
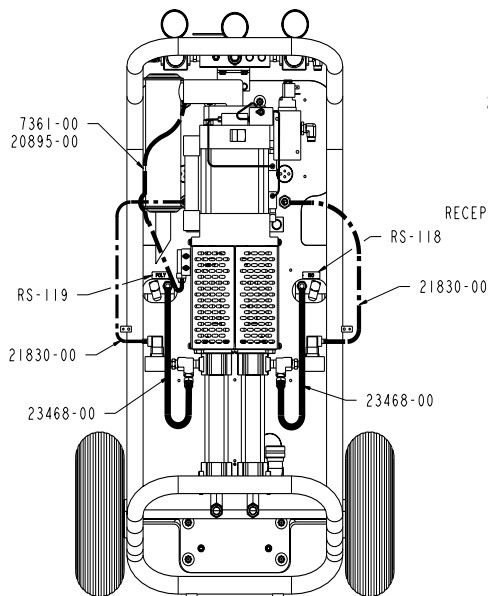
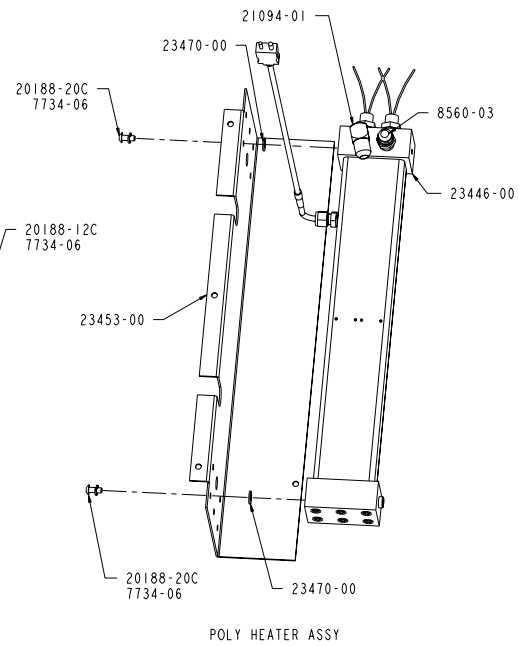
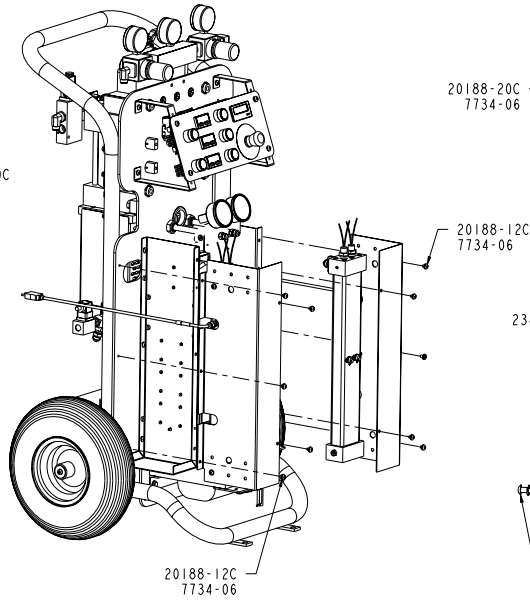
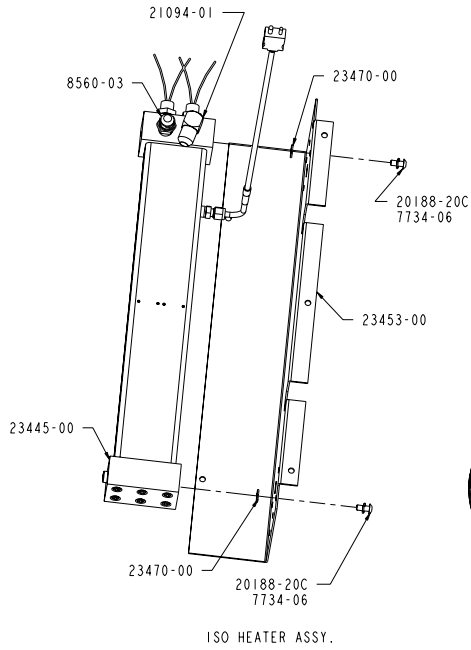
## 23675-XX Unit Assembly



| GLAS CRAFT P/N | <b>C</b> | # PHASES | VOLTAGE | POWER CABLE P/N |
|----------------|----------|----------|---------|-----------------|
| 23675-01       | 23479-01 | 1        | 220     | 22509-00        |
| 23675-02       | 23479-01 | 3        | 220     | T4-163-04       |
| 23675-03       | 23479-03 | 3        | 380     | 22718-01        |

# Section 3 - General Information: Assembly Drawings

## 23675-XX Unit Assembly



## Section 3 - General Information: Assembly Drawings

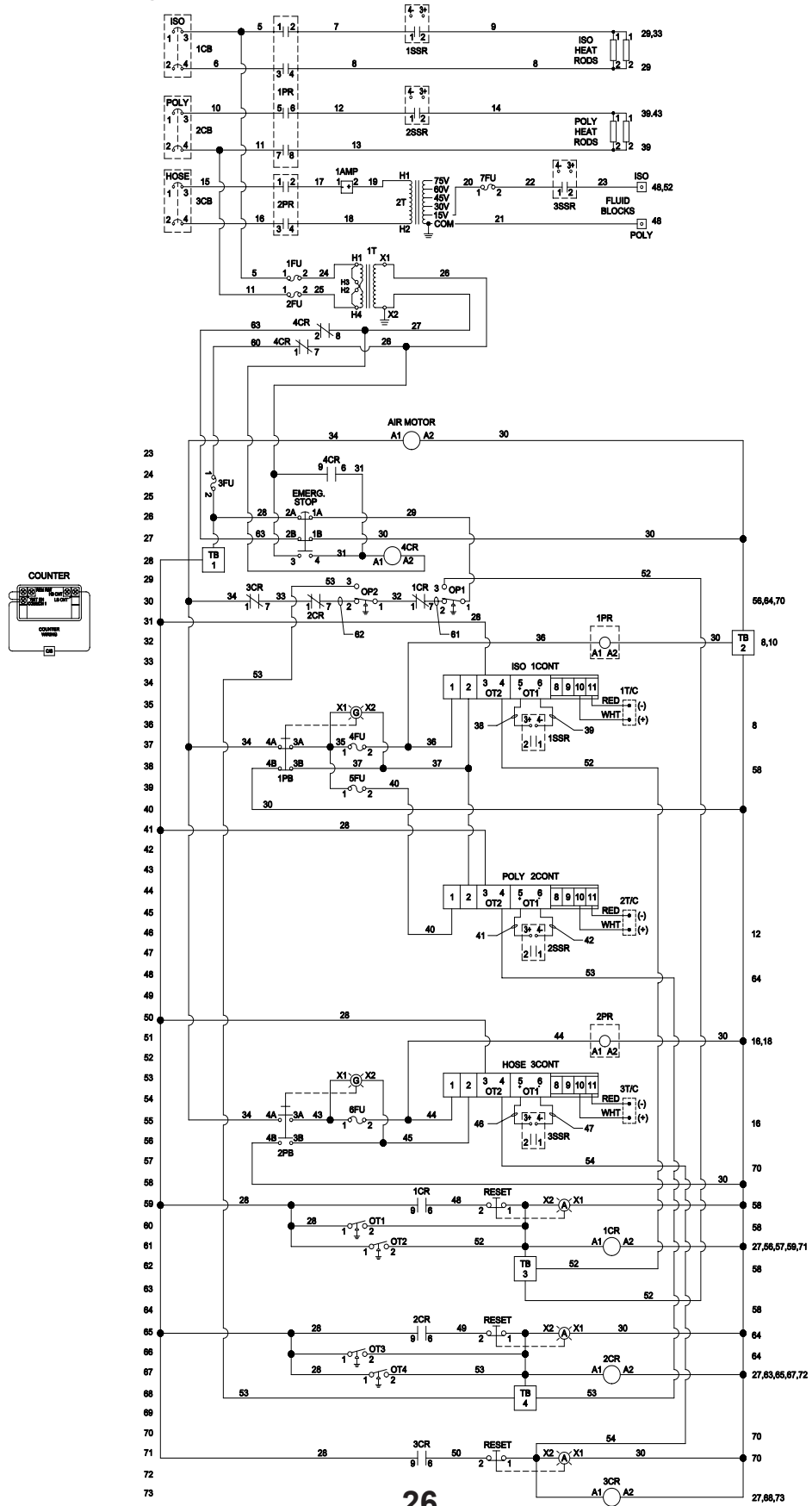
### 23675-XX Parts List

| Part Number | Description              |
|-------------|--------------------------|
| RS-118      | ISO DECAL                |
| RS-119      | POLY DECAL               |
| RS-121      | HOSE DECAL               |
| RS-124-01   | MAIN DECAL               |
| RS-126      | HOSE CURRENT DECAL       |
| 14638-02    | RIVET                    |
| 19818-02    | TERMINAL LUG             |
| 20188-12C   | SCREW                    |
| 20188-20C   | SCREW                    |
| 20188-28C   | SCREW                    |
| 20655-06    | ELBOW FITTING            |
| 20895-00    | CABLE                    |
| 21094-01    | ELBOW FITTING            |
| 21110-00    | #6 WIRE                  |
| 21129-00    | TRANSFORMER DECAL        |
| 21150-00    | TERMINAL LUG             |
| 21819-00    | LIVE WIRE DECAL          |
| 21839-00    | DIN CONNECTOR            |
| 21847-00    | CE PLATE                 |
| 21874-00    | THERMOCOUPLE             |
| 21953-32    | SCREW                    |
| 22178-00    | ON/OFF POWER SWITCH      |
| 22502-00    | CIRCULAR PANEL JACK      |
| 22509-00    | CONTROL CABLE            |
| 23445-00    | HEATER ASSEMBLY          |
| 23446-00    | HEATER ASSEMBLY          |
| 23447-00    | BOTTOM PLATE             |
| 23450-XX    | GUARDIAN HYBRID ASSEMBLY |
| 23453-00    | HEATER COVER             |
| 23454-00    | FIBERGLASS SHELL         |
| 23457-00    | CONTROL PANEL RING       |
| 23460-01    | GUARDIAN PUMP ASSEMBLY   |
| 23468-00    | HOSE                     |
| 23469-00    | RIVET NUT                |
| 23470-00    | FIBER WASHER             |
| 23478-01    | CONTROL PANEL ASSEMBLY   |
| 23479-      | ELECTRICAL ASSEMBLY      |
| 23481-00    | BLACK DECAL              |
| 23493-00    | GUARDIAN DECAL           |
| 3201        | LUG RING                 |
| 3795-00     | TERMINAL LUG RING        |

| Part Number | Description       |
|-------------|-------------------|
| 3800-03     | WIRE              |
| 3800-08     | WIRE              |
| 7208-02     | WIRE NUT          |
| 7361-00     | TERMINAL LUG RING |
| 7486-05     | WASHER            |
| 7486-28     | WASHER            |
| 7734-06     | LOCK WASHER       |
| 7734-10     | LOCK WASHER       |
| 8155-64C    | SCREW             |
| 8560-03     | FITTING           |
| 8846-03     | WIRE              |
| 8847-08     | WIRE              |
| 9704-07     | TUBING            |

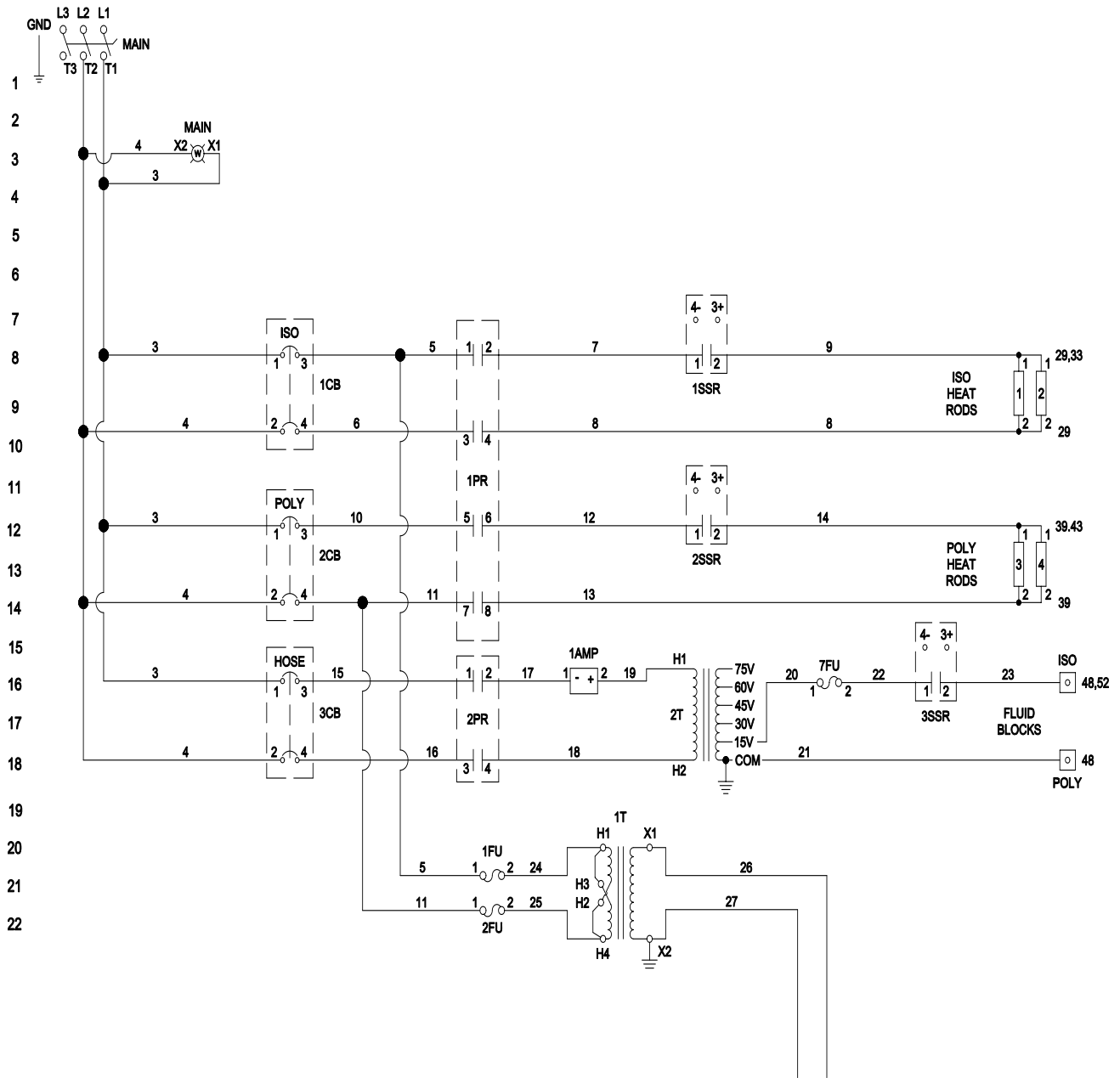
# Section 3 - General Information: Assembly Drawings

## 23675-XX Generic System Schematic



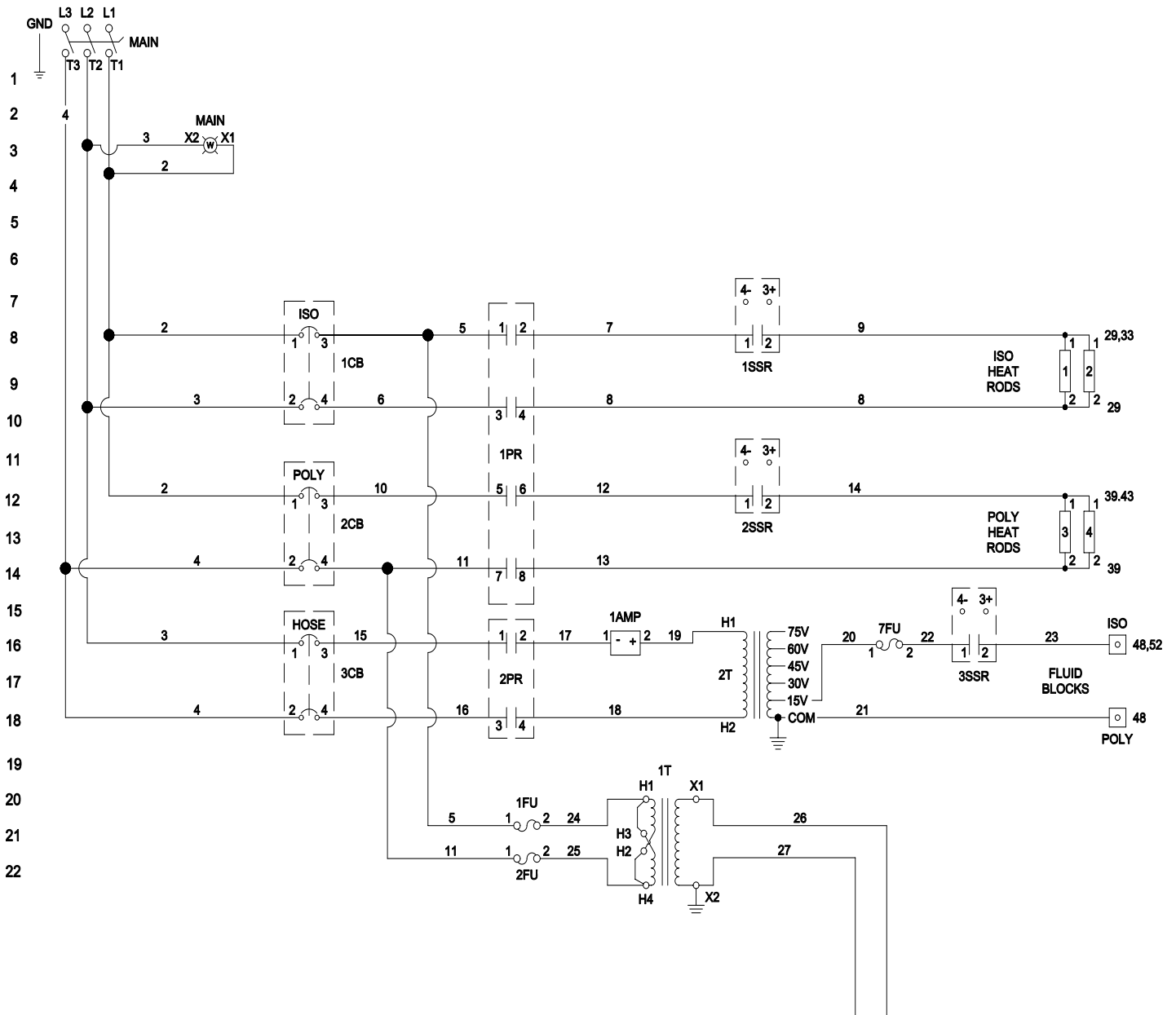
# Section 3 - General Information: Assembly Drawings

## 23675-XX System Schematic 220V Single Phase



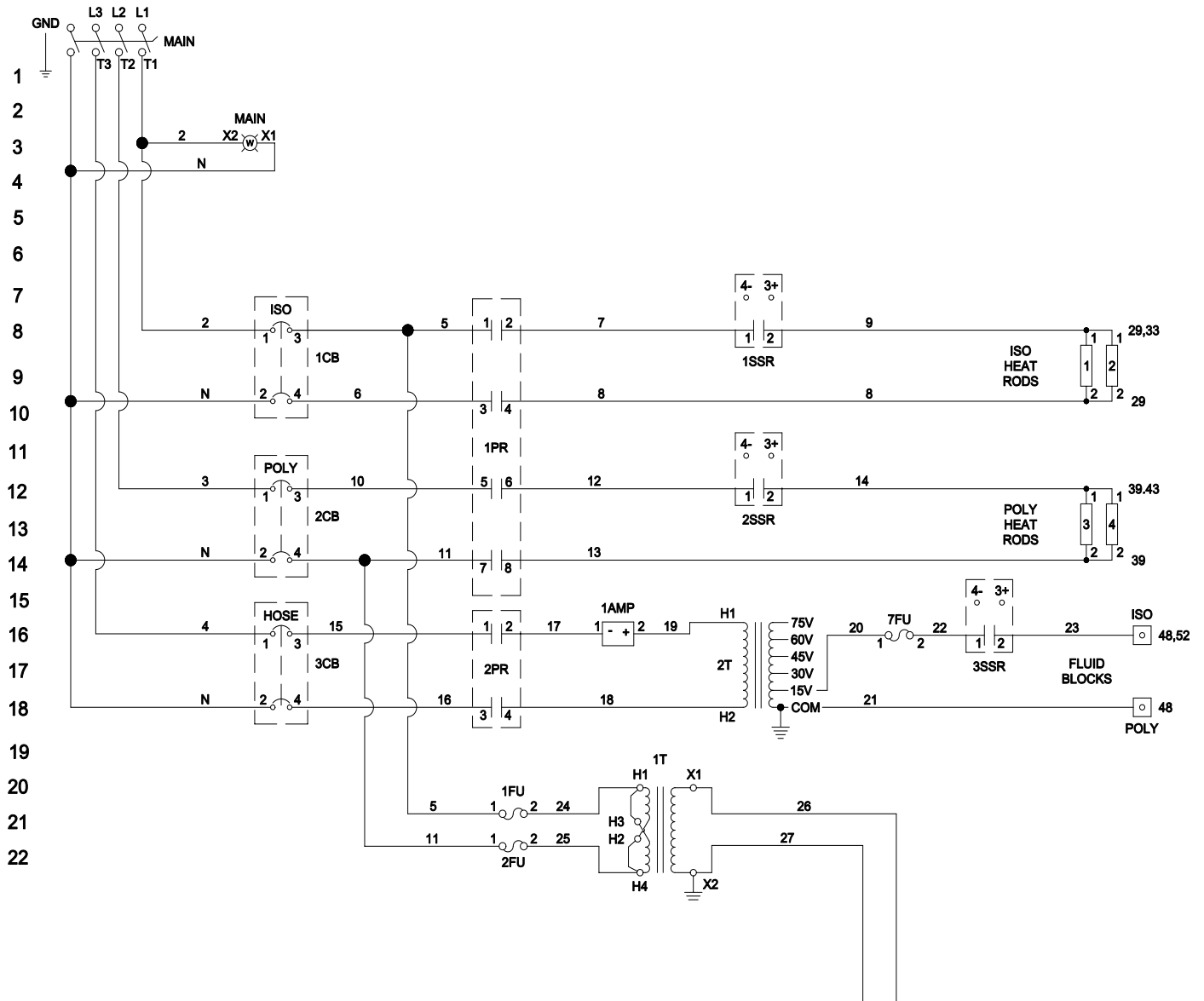
# Section 3 - General Information: Assembly Drawings

## 23675-XX System Schematic 220V Three Phase



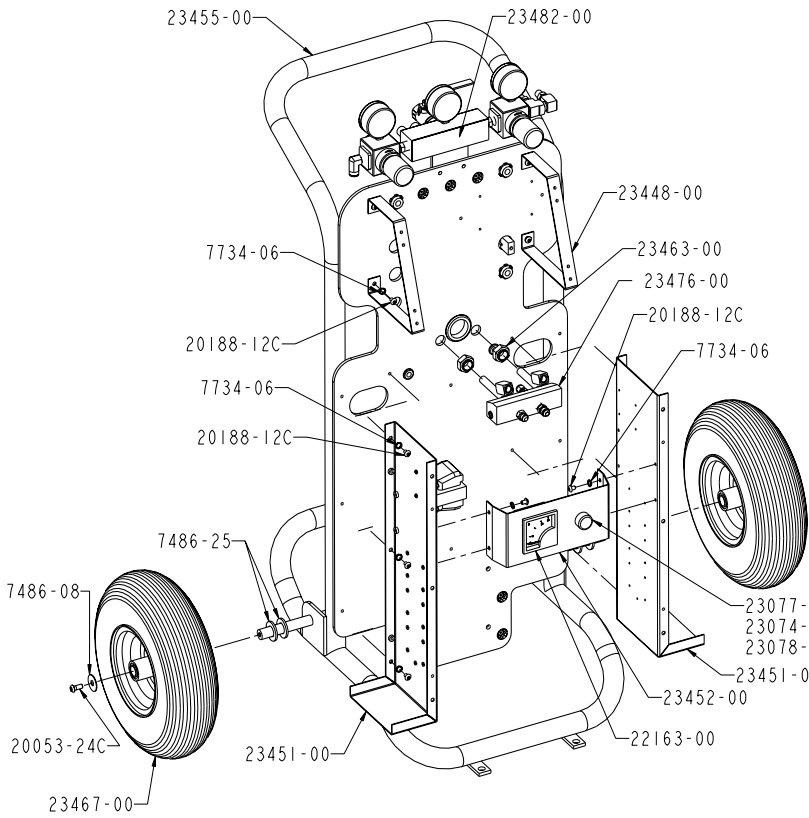
# Section 3 - General Information: Assembly Drawings

## 23675-XX System Schematic 380V Three Phase

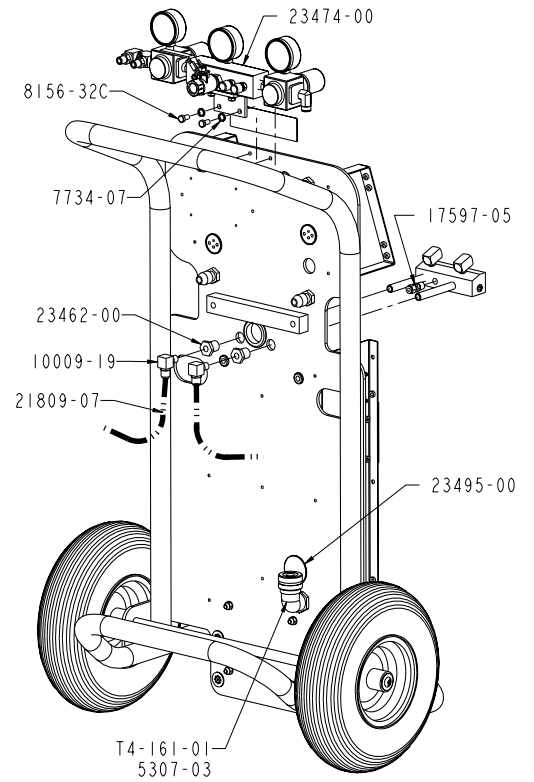


# Section 3 - General Information: Sub Assembly Drawings

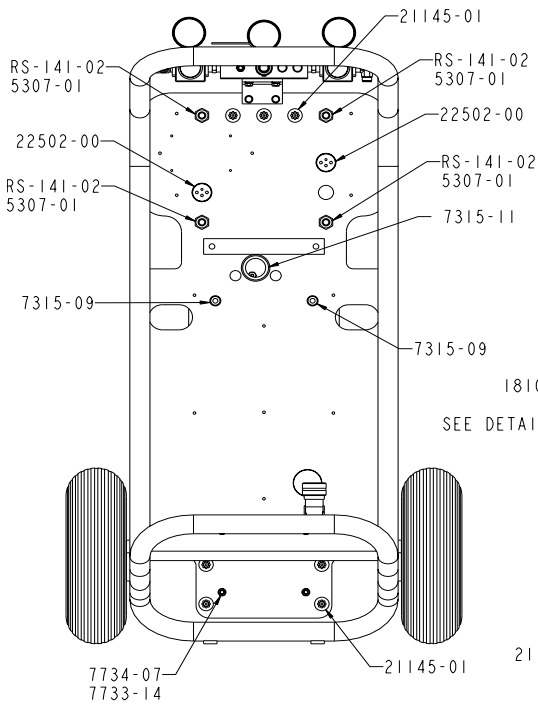
## 23450-XX Hybrid Assembly



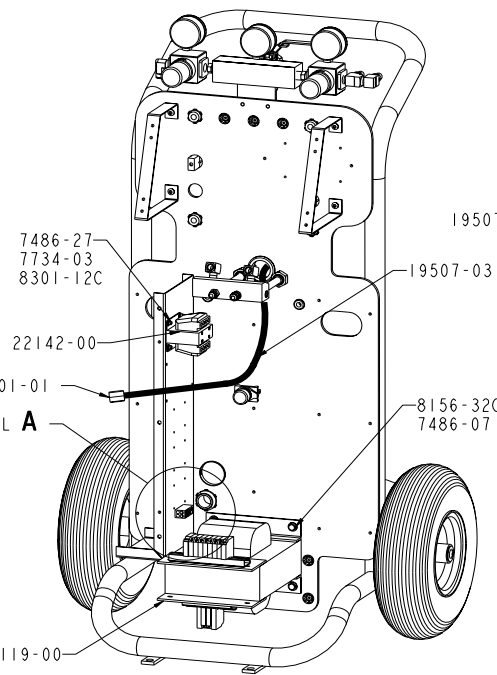
SOME PARTS REMOVED FOR CLARITY



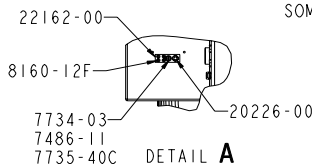
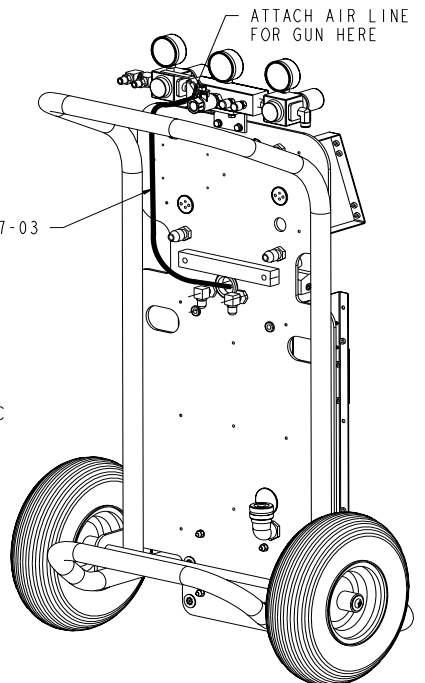
SOME PARTS REMOVED FOR CLARITY



SOME PARTS REMOVED FOR CLARITY



SOME PARTS REMOVED FOR CLARITY



DETAIL A



## Section 3 - General Information: Sub Assembly Drawings

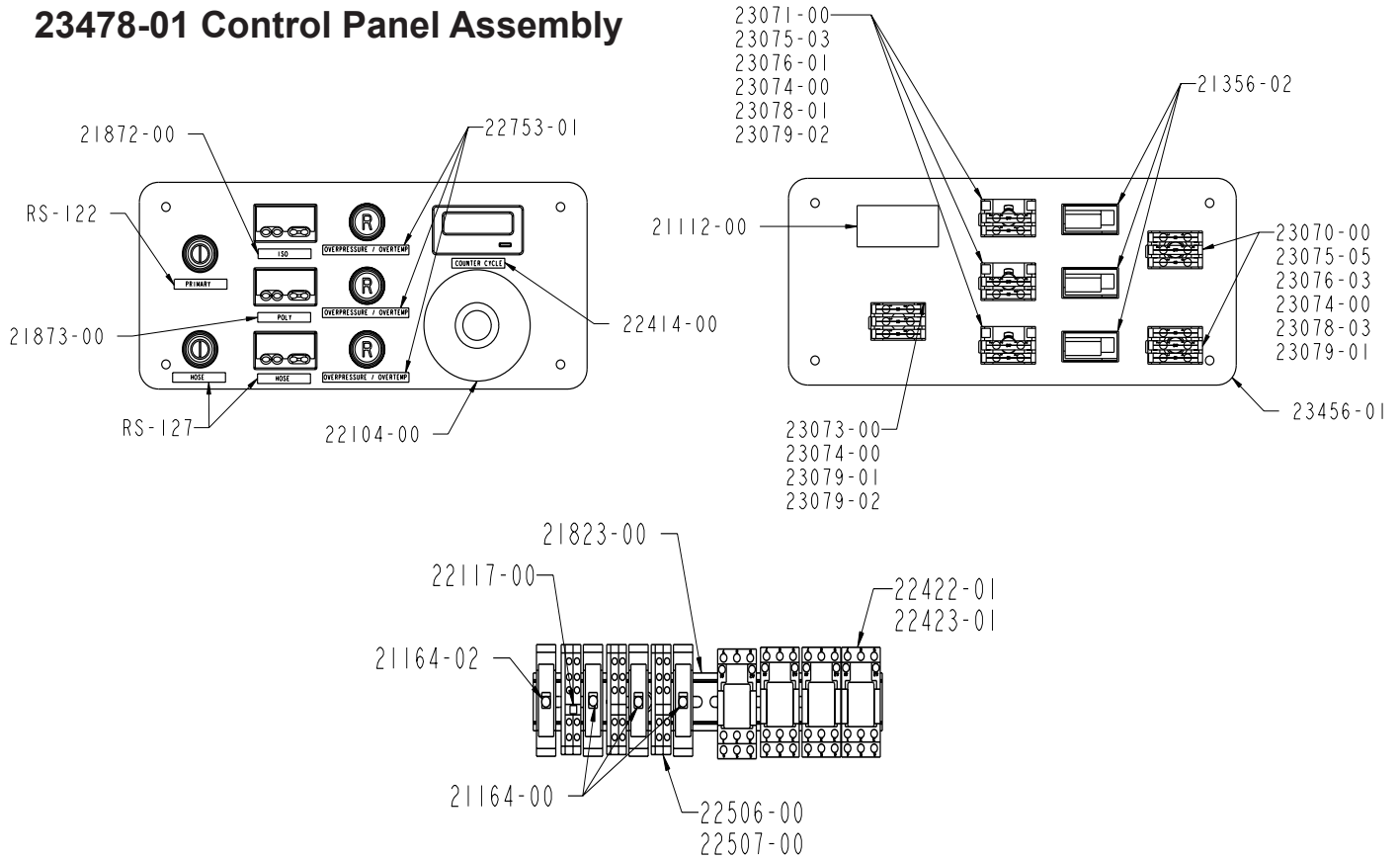
### 23450-XX Hybrid Assembly

| Part Number | Description         | Qty. |
|-------------|---------------------|------|
| RS-141-02   | CORD GRIP           | 4    |
| T4-161-01   | CONNECTOR           | 1    |
| 10009-19    | ELBOW FITTING       | 2    |
| 17702-00    | PILOT LAMP          | 1    |
| 18101-01    | FITTING             | 1    |
| 19507-03    | AIR HOSE            | 1    |
| 20188-12C   | SCREW               | 14   |
| 20226-00    | SET SCREW           | 1    |
| 21119-00    | TRANSFORMER         | 1    |
| 21145-01    | VENT PLUG           | 7    |
| 21809-07    | MATERIAL HOSE       | 2    |
| 21866-00    | COUPLING PLATE      | 1    |
| 21886-00    | LAMP MOUNTING BLOCK | 1    |
| 22142-00    | TRANSFORMER         | 1    |
| 22150-02    | PILOT LIGHT         | 1    |
| 22162-00    | CONNECTOR           | 1    |
| 22163-00    | AMMETER             | 1    |
| 22502-00    | PANEL JACK          | 2    |
| 23448-00    | HANGER              | 2    |
| 23451-00    | HEATER COVER        | 2    |
| 23452-00    | AMMETER BRACKET     | 1    |
| 23455-00    | 2 WHEEL CART        | 1    |
| 23462-00    | FITTING             | 2    |
| 23463-00    | BULKHEAD NUT        | 2    |
| 23467-00    | WHEEL               | 2    |
| 23474-00    | AIR MANIFOLD        | 1    |
| 23476-00    | FLUID MANIFOLD      | 1    |
| 23482-00    | MANIFOLD DECAL      | 1    |
| 5307-01     | CONDUIT NUT         | 4    |
| 5307-03     | CONDUIT NUT         | 1    |
| 5363-01     | COTTER PIN          | 2    |
| 7315-09     | RUBBER GROMMET      | 2    |
| 7315-11     | RUBBER GROMMET      | 1    |
| 7486-07     | WASHER              | 4    |
| 7486-11     | WASHER              | 1    |
| 7486-27     | WASHER              | 5    |
| 7733-14     | HEX NUT             | 4    |
| 7734-03     | LOCK WASHER         | 5    |
| 7734-06     | LOCK WASHER         | 14   |
| 7734-07     | LOCK WASHER         | 6    |
| 7735-40C    | SCREW               | 1    |
| 8156-32C    | SCREW               | 6    |
| 8160-12F    | SET SCREW           | 4    |
| 8301-12C    | SCREW               | 4    |

| Part Number | Description      | Qty. |
|-------------|------------------|------|
| 1017-00     | FITTING          | 3    |
| 18199-02    | AIR REGULATOR    | 2    |
| 18318-02    | AIR GAUGE        | 2    |
| 18318-04    | AIR GAUGE        | 1    |
| 20655-04    | ELBOW FITTING    | 1    |
| 21666-01    | BALL VALVE       | 1    |
| 23449-00    | "L" BRACKET      | 1    |
| 23459-00    | AIR MANIFOLD     | 1    |
| 398         | OILER CAP        | 2    |
| 399         | OILER CAP GASKET | 4    |
| 4342-04     | ELBOW FITTING    | 1    |
| 6782-03     | TEE FITTING      | 1    |
| 7734-07     | LOCK WASHER      | 2    |
| 8115-03     | FITTING          | 2    |
| 8115-06     | FITTING          | 2    |
| 8115-07     | FITTING          | 1    |
| 8156-24C    | SCREW            | 2    |

## Section 3 - General Information: Sub Assembly Drawings

### 23478-01 Control Panel Assembly



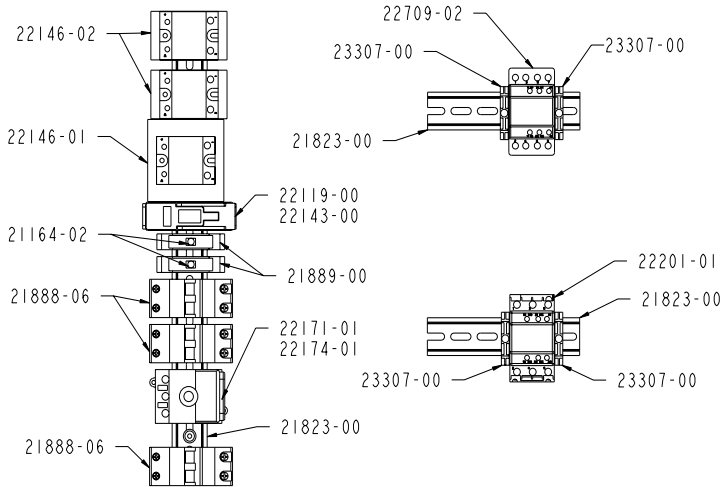
| Part Number | Description           | Qty. |
|-------------|-----------------------|------|
| 21112-00    | COUNTER               | 1    |
| 21164-00    | 1/2 AMP FUSE          | 3    |
| 21164-02    | 2 AMP FUSE            | 1    |
| 21356-02    | CONTROL               | 3    |
| 21823-00    | DIN RAIL              | .875 |
| 21872-00    | ISO DECAL             | 1    |
| 21873-00    | POLY DECAL            | 1    |
| 21889-00    | FUSEHOLDER            | 4    |
| 22104-00    | EMERGENCY STOP DECAL  | 1    |
| 22117-00    | TERMINAL BLOCK JUMPER | 2    |
| 22414-00    | CYCLE COUNTER DECAL   | 1    |
| 22422-01    | RELAY                 | 4    |
| 22423-01    | RELAY SOCKET          | 4    |
| 22506-00    | TERMINAL              | 6    |
| 22507-00    | END COVER             | 3    |
| 22753-01    | OVERPRESSURE DECAL    | 3    |
| 23456-01    | CONTROL PANEL         | 1    |

| Part Number | Description         | Qty. |
|-------------|---------------------|------|
| 23486-02    | FEMALE PLUG         | 2    |
| 23486-03    | FEMALE PLUG         | 1    |
| 23487-02    | MALE PLUG           | 2    |
| 23487-03    | MALE MALE           | 1    |
| RS-122      | PRIMARY DECAL       | 1    |
| RS-127      | HOSE CONTROL DECAL  | 2    |
| 23070-00    | PUSH BUTTON         | 2    |
| 23071-00    | PUSH BUTTON         | 3    |
| 23073-00    | EMERGENCY STOP      | 1    |
| 23079-01    | OPEN CONTACT BLOCK  | 5    |
| 23079-02    | CLOSE CONTACT BLOCK | 5    |
| 23074-00    | COUPLING PLATE      | 6    |
| 23075-03    | "R" CAP             | 3    |
| 23075-05    | "I/O" CAP           | 2    |
| 23078-01    | YELLOW LED          | 3    |
| 23078-03    | GREEN LED           | 2    |
| 23076-01    | YELLOW CAP          | 3    |
| 23076-03    | GREEN CAP           | 2    |

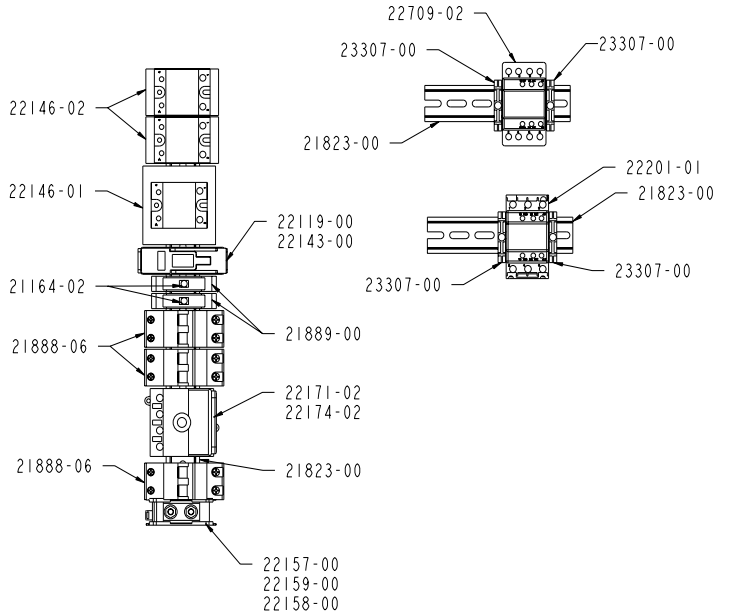
## Section 3 - General Information: Sub Assembly Drawings

### 23479- Electrical Assembly

#### 23479-01 220 V Single Phase



#### 23479-03 380 V Three Phase

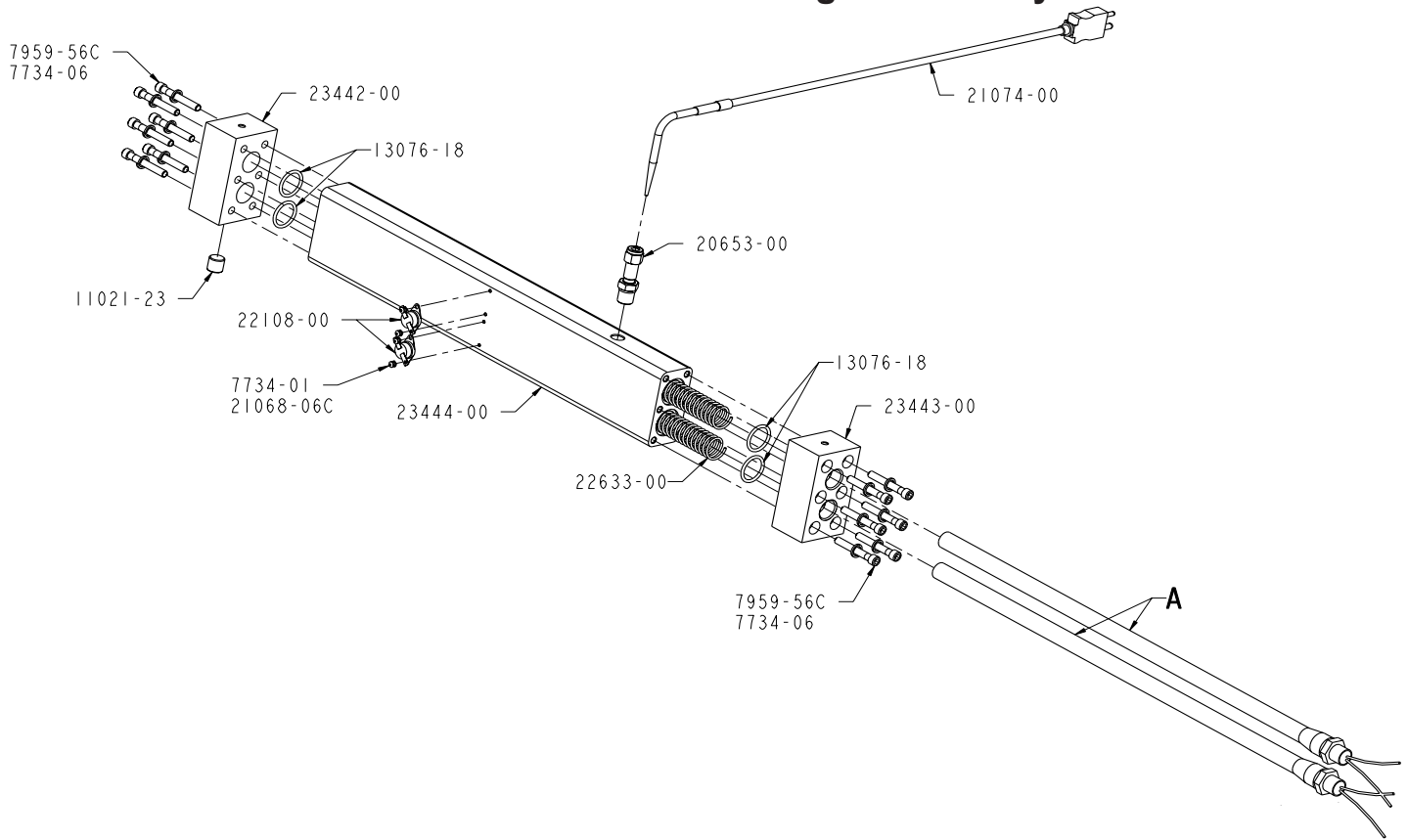


| <b>23479-01</b> |                           |     |
|-----------------|---------------------------|-----|
| Part Number     | Description               | Qty |
| 21164-02        | 2 AMP FUSE                | 2   |
| 21823-00        | DIN RAIL                  | 2.4 |
| 21888-06        | CIRCUIT BREAKER           | 3   |
| 21889-00        | FUSEHOLDER                | 2   |
| 22119-00        | FUSE BLOCK                | 1   |
| 22143-00        | 63 AMP FUSE               | 1   |
| 22146-01        | SOLID STATE RELAY         | 1   |
| 22146-02        | SOLID STATE RELAY         | 2   |
| 22171-01        | ON/OFF SWITCH BLOCK       | 1   |
| 22174-01        | ON/OFF SWITCH BLOCK COVER | 1   |
| 22201-01        | MECHANICAL CONTACTOR      | 1   |
| 22709-02        | MECHANICAL CONTACTOR      | 1   |
| 23307-00        | TERMINAL END CLAMP        | 4   |

| <b>23479-03</b> |                           |     |
|-----------------|---------------------------|-----|
| Part Number     | Description               | Qty |
| 21164-02        | 2 AMP FUSE                | 2   |
| 21823-00        | DIN RAIL                  | 2.4 |
| 21888-06        | CIRCUIT BREAKER           | 3   |
| 21889-00        | FUSEHOLDER                | 2   |
| 22119-00        | FUSE BLOCK                | 1   |
| 22143-00        | 63 AMP FUSE               | 1   |
| 22146-01        | SOLID STATE RELAY         | 1   |
| 22146-02        | SOLID STATE RELAY         | 2   |
| 22157-00        | TERMINAL BLOCK            | 1   |
| 22158-00        | TERMINAL BLOCK SPACER     | 2   |
| 22159-00        | TERMINAL BLOCK COVER      | 1   |
| 22171-02        | ON/OFF SWITCH BLOCK       | 1   |
| 22174-02        | ON/OFF SWITCH BLOCK COVER | 1   |
| 22201-01        | MECHANICAL CONTACTOR      | 1   |
| 22709-02        | MECHANICAL CONTACTOR      | 1   |
| 23307-00        | TERMINAL END CLAMP        | 4   |

## Section 3 - General Information: Sub Assembly Drawings

### 23445-XX ISO / 23446-XX POLY Heat Exchanger Assembly



| 23445-00 ISO / 23446-00 POLY |                    |      |
|------------------------------|--------------------|------|
| Part Number                  | Description        | Qty. |
| 11021-23                     | PLUG               | 1    |
| 13076-18                     | O-RING             | 4    |
| 20653-00                     | FITTING            | 1    |
| 21068-06C                    | SCREW              | 4    |
| 21074-00                     | THERMOCOUPLE       | 1    |
| 22019-00                     | FIRE ROD           | 2    |
| 22108-00                     | OVERTEMP SWITCH    | 2    |
| 22633-00                     | COMPRESSION SPRING | 2    |
| 23442-00                     | HEATER FRONT CAP   | 1    |
| 23443-00                     | HEATER REAR CAP    | 1    |
| 23444-00                     | HEATER BODY        | 1    |
| 23483-01                     | ELECTRIC PLUG      | 2    |
| 23484-01                     | ELECTRIC PLUG      | 2    |
| 23486-01                     | ELECTRIC PLUG      | 2    |
| 23487-01                     | ELECTRIC PLUG      | 2    |
| 7734-01                      | LOCK WASHER        | 4    |
| 7734-06                      | LOCK WASHER        | 12   |
| 7959-56C                     | SCREW              | 12   |

| GLASCRAFT P/N | A        | WATTS | QTY. |
|---------------|----------|-------|------|
| 23445-00      | 22019-00 | 1500  | 2    |
| 23445-02      | 22019-02 | 750   | 2    |

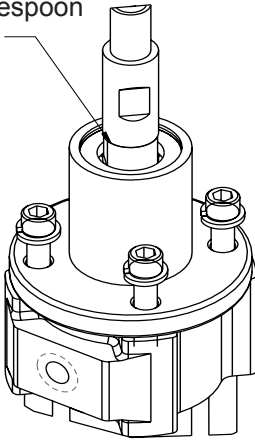
| GLASCRAFT P/N | A        | WATTS | QTY. |
|---------------|----------|-------|------|
| 23446-00      | 22019-00 | 1500  | 2    |
| 23446-02      | 22019-02 | 750   | 2    |

## Section 3 - General Information: Maintenance

### Daily Routine Maintenance

1. Visually inspect the system for leaks.
2. Check desiccant dryer beads to insure they are still purple and have not changed to pink.
3. Check and lube top of the fluid section.

Wipe off residual material  
and add a tablespoon  
of DOP,DBP



### Weekly Maintenance

1. Place a small amount of grease on the air motor shaft.
2. See related manuals.

## Section 3 - General Information: Troubleshooting



*Do not place any part of the body in the path of the material spray.*

*Do not point the gun at or near other personnel.*

*Do not look into the Mixing Chamber orifice at any time.*

*Because of the hazardous materials used in this equipment, it is recommended that the operator use an air mask, goggles, protective clothing, and other safety equipment as prescribed by current regulations, recommendations of the chemical suppliers, and the laws in the area where the equipment is being used.*

The system will dispense liquid at high pressure when Gun Trigger is activated. Read and note WARNINGS contained in this User Manual and the Probler P2 Gun User Manual, GC-1386.



*The Polyol will expand in the Hose if any normal operating pressures are bled off whenever the material is above approximately 75 degrees F. Hot Polyol hoses should never be bled, by any method, to zero pressure for two reasons.*

*1. The seals in the Gun rely on high pressure to make their seal. The high pressure cannot be maintained if the pumps are attempting to apply this pressure through a hose full of expanded froth; therefore, the Gun seal may leak.*

*2. Re-starting immediately after hot Polyol has expanded in the system may result in spraying substantial amounts of "bad" foam. This will continue until the expanded Polyol in the primary Heater and the Hose has been completely purged.*

### Over Pressure System Protection

The system incorporates monitors for high pressure monitoring. These monitoring devices will prevent the system from continued operation if high pressure situations develop.

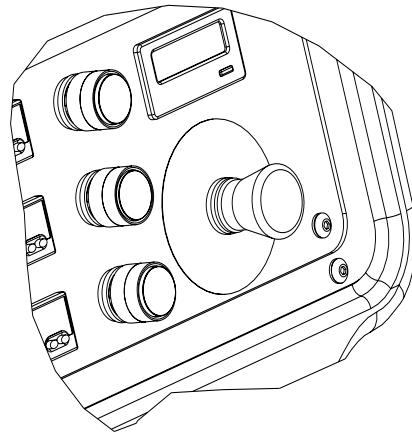
There are pressure sensors located on each proportioning pump. The high pressure sensor is located at the outbound of the fluid section.

The high pressure monitoring sensor will engage if fluid pressure increases above 2200 psi.

If a high pressure situation develops, the sensor will detect this and immediately engage the hold-in circuit.

This will disengage power to the air motor and will also turn the heaters off.

On the control box panel, there are three yellow lighted push buttons marked over pressure. One of these push buttons will be illuminated after the monitoring sensor engages, indicating where the problem is located (ISO, Poly, or Hose).



In the over pressure situation, the system will remain shut-down until it is manually reset.

At this point, it is necessary to determine if the problem is an over pressure situation.

When the sensor engages, the system will be frozen, giving you the pressure readings at the time the problem was detected.

Inspect the fluid pressure gauges, in an over pressure situation, one of the fluid pressure gauges will be significantly higher than the other gauge.



*When main power to unit is on, the console will have wires that are live. Disconnect or turn off main power source before opening console to make any repairs.*




*Before performing any repairs on the system, ALL AIR and FLUID PRESSURES SHOULD BE RELIEVED TO ZERO (BLEED-OFF)!*

## Section 3 - General Information: Troubleshooting

### Over Pressure Problem Correction

1. Determine if the problem is high pressure related.
2. Relieve system material pressure.
3. Turn off main power.
4. Fix the problem area:
  - a. Potential high pressure causes:
    - Restriction
    - Overheating material in static position
    - ISO filter at gun
5. Re-start system for operation

 Once the power has been turned off and problem solved, and the main power is turned on again, the over pressure lighted buttons will automatically be reset.



If you do not understand the electrical hook-up described above, consult your local GlasCraft distributor OR a qualified electrician.

It is recommended that a qualified, licensed electrician should install power to the supply disconnect.

You should always follow all local or national electrical codes.



Disconnect power source BEFORE attempting any repairs or opening the Control Boxes. Access to internal parts is limited to qualified personnel ONLY! Place Main Power Switch in OFF position BEFORE disconnecting power cables. This equipment is not approved for use in hazardous locations as set forth in the National Electrical Code Article 500 and Sub-Part "S" of the OSHA Standards.

### Material Or Mechanical Problem

#### Troubleshooting Procedure

By following this procedure, you should be able to locate and cure problems easily. Remember, however, that a successful operator must know:

- WHAT GOOD MATERIAL LOOKS LIKE.
- HOW THE EQUIPMENT NORMALLY OPERATES.
- WHAT PATH THE MATERIALS FOLLOW THROUGH THE EQUIPMENT.
- KNOWLEDGE OF THESE TROUBLESHOOTING PROCEDURES.



Always start with step one, never skip any portion of these procedures. The material pressure gauges are to be used for troubleshooting purposes only. The pressures registered on one gauge will not necessarily match the other. This difference can be caused by variance in materials, temperatures, viscosities, etc.

1. Identify the missing material.
2. Check the material pressure gauge on the missing material side.
  - a. If the missing material gauge reads HIGHER than normal, there is a RESTRICTION problem between the gauge and the Mixing Chamber tip in the Gun.
  - b. If the missing material gauge reads LOWER than normal, there is a STARVATION problem between the gauge and the material supply system.



Problems may be cyclic in that they will appear first on only one stroke of the Proportioning Pump. Check the pressure gauges during one of these bursts of missing materials and always stop spraying while you are getting a burst of good material.

3. Concern yourself only with the material pressure on the missing material side. In troubleshooting a STARVATION problem where the pressure gauge on the missing material side is LOWER than normal, start at the point farthest from the unit and work forward. Check the obvious and easy things first.



## Section 3 - General Information: Troubleshooting

### A. MATERIAL DRUMS

1. Material in drums?
2. Material temperature?
  - a. If the material is too cold, especially at the bottom of the drum, it will raise the viscosity of the material and stall Transfer Pumps.

### B. OPTIONAL TRANSFER PUMP(S)


1. Is it operating?
2. Is air turned on to Transfer Pump?
3. Regulated pressure where it should be?
4. Severe contamination of pump shaft on isocyanate side. This indicates that the pump shaft is not being lubricated.
5. Check Filter of Transfer Pump.
6. Before diagnosing a faulty Transfer Pump, be sure and check all items just listed under Transfer Pump.

### C. FILTER ASSEMBLY

1. Check fluid filter at inlet to Proportioning Pumps if applicable.

### D. PROPORTIONING PUMPS

1. Determine whether the burst appears on the Pump's up or down stroke.
  - a. If burst appears on UP stroke, check UPPER Ball Seat and Cups.
  - b. If burst appears on DOWN stroke, check LOWER Ball Seat

 Follow the procedures in the order given. Remember that repairs should be made as soon as possible. Don't leave the unit open to air any longer than necessary, as this will lead to further problems, such as moisture entering the system and causing the isocyanate to crystallize.

After the unit has been exposed to the atmosphere, it should be run long enough to displace the material that was in the unit when it was opened up.

**NEVER inspect filter assemblies at time of shut-down!**

4. In troubleshooting, a restriction problem where the material pressure gauge on the missing material side is higher than normal, start at the point farthest from the unit and work backward. Check obvious and easy things first.



Before performing any repairs on the Gun, ALL AIR and FLUID PRESSURES SHOULD BE RELIEVED TO ZERO (BLEED-OFF)!

### A. GUN

1. Side Block Material Valve turned on?
2. Bore hole of Mixing Chamber clean?
3. Filter Strainer Screen clean?
4. Side hole in Mixing Chamber clean?


### B. MATERIAL TEMPERATURE

1. Too high a temperature on resin side can cause a blowing agent to pre-expand in either the Hose or the Primary Heater.

### C. HOSES

1. Make sure that the Hoses are not plugged.

### TROUBLESHOOTING A POOR SPRAY PATTERN

 To troubleshoot a poor spray pattern, you must understand the factors that affect the spray pattern.

### A. TEMPERATURE

1. Too warm a material temperature will cause a separation (fingering) in the pattern.
2. Too cold a material temperature will cause a stream effect.

### B. PRESSURE

1. Too high a pressure will cause excessive overspray and/or separation (fingering).
2. Too low a pressure will cause a stream effect.

### C. CONTAMINATION IN THE MIXING CHAMBER

1. A foreign object in the Mixing Chamber will cause a poor pattern.

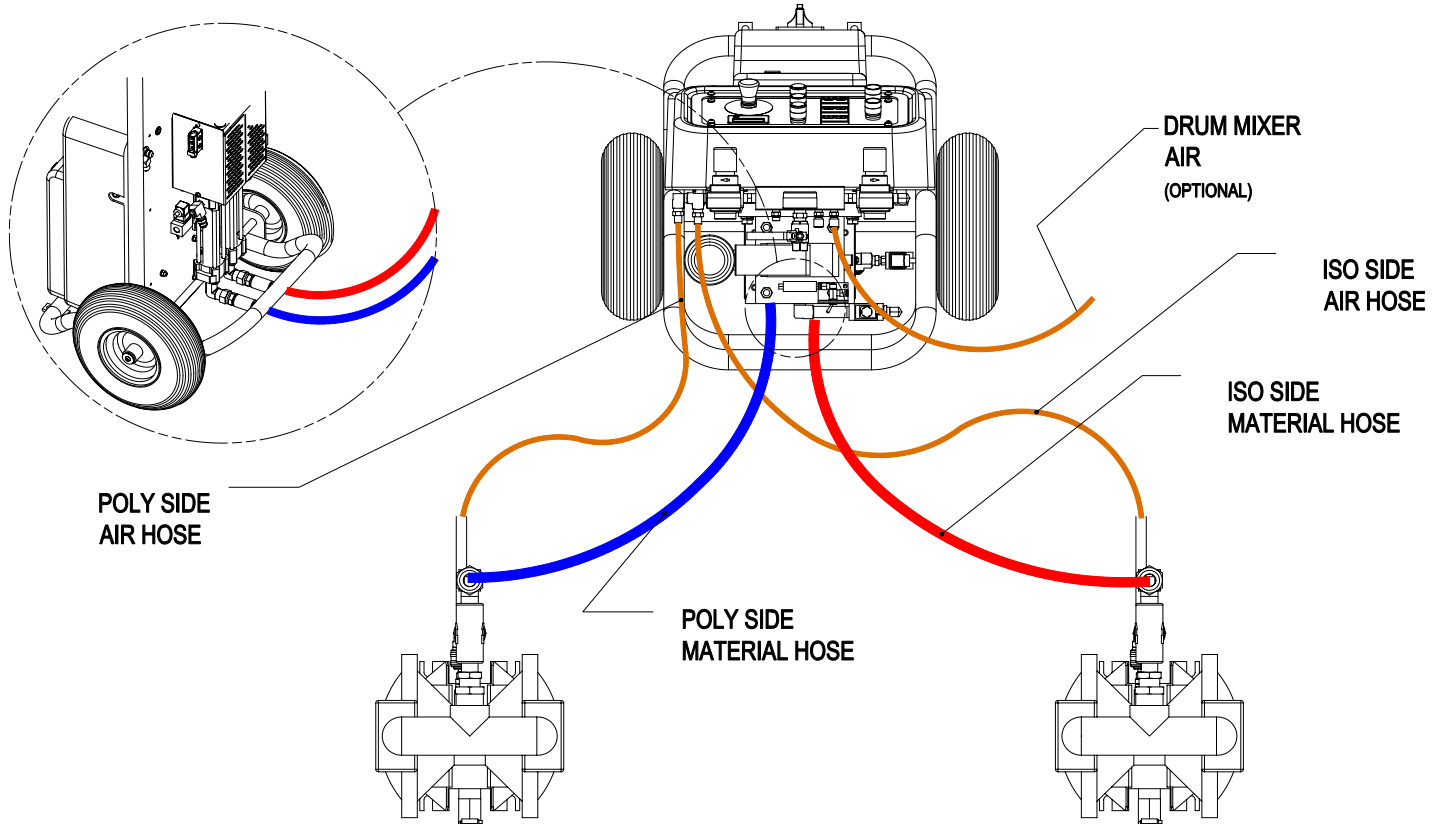
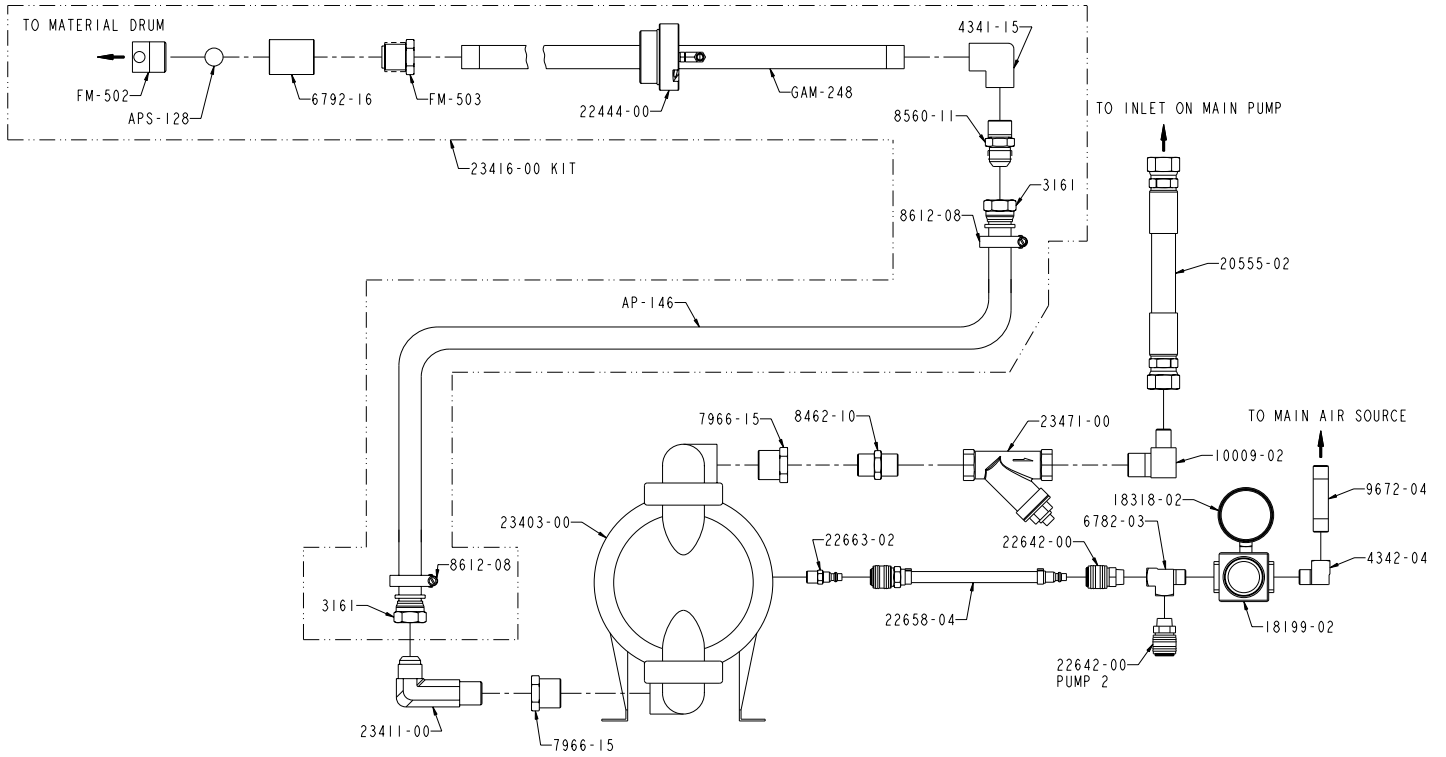



Correct problem(s) immediately!



## Section 3 - General Information: Options

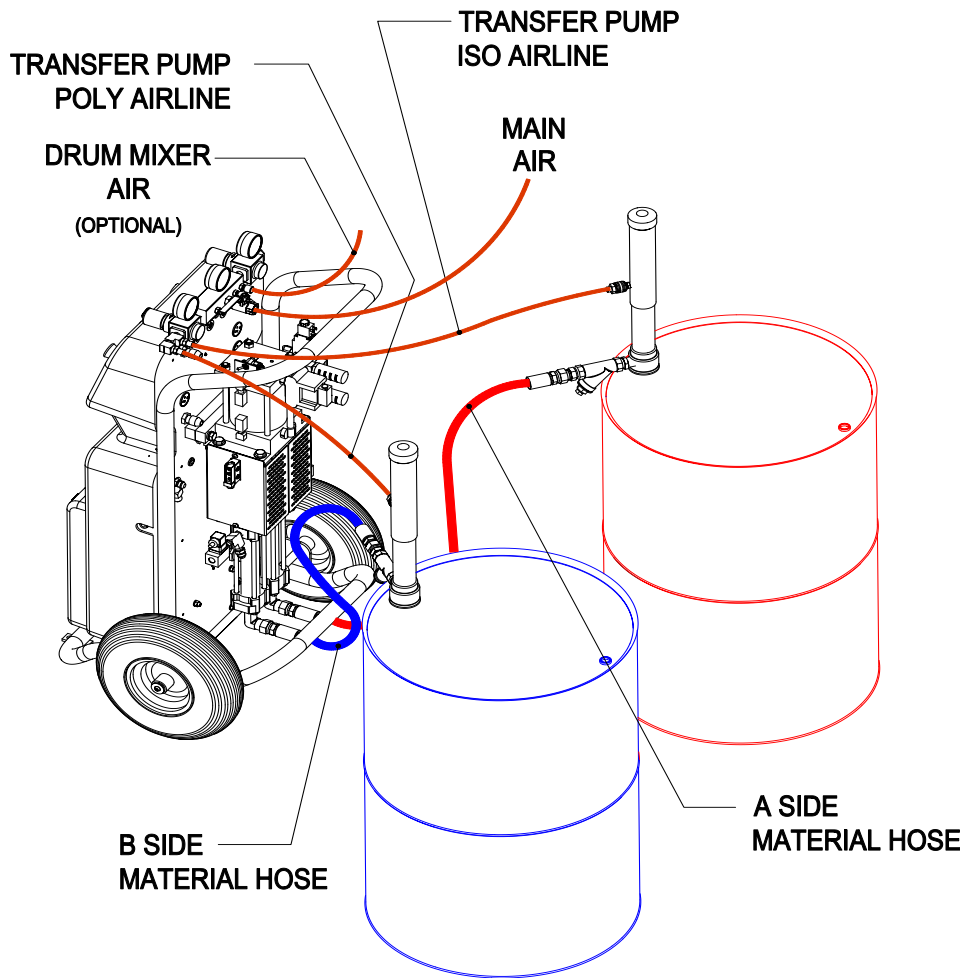
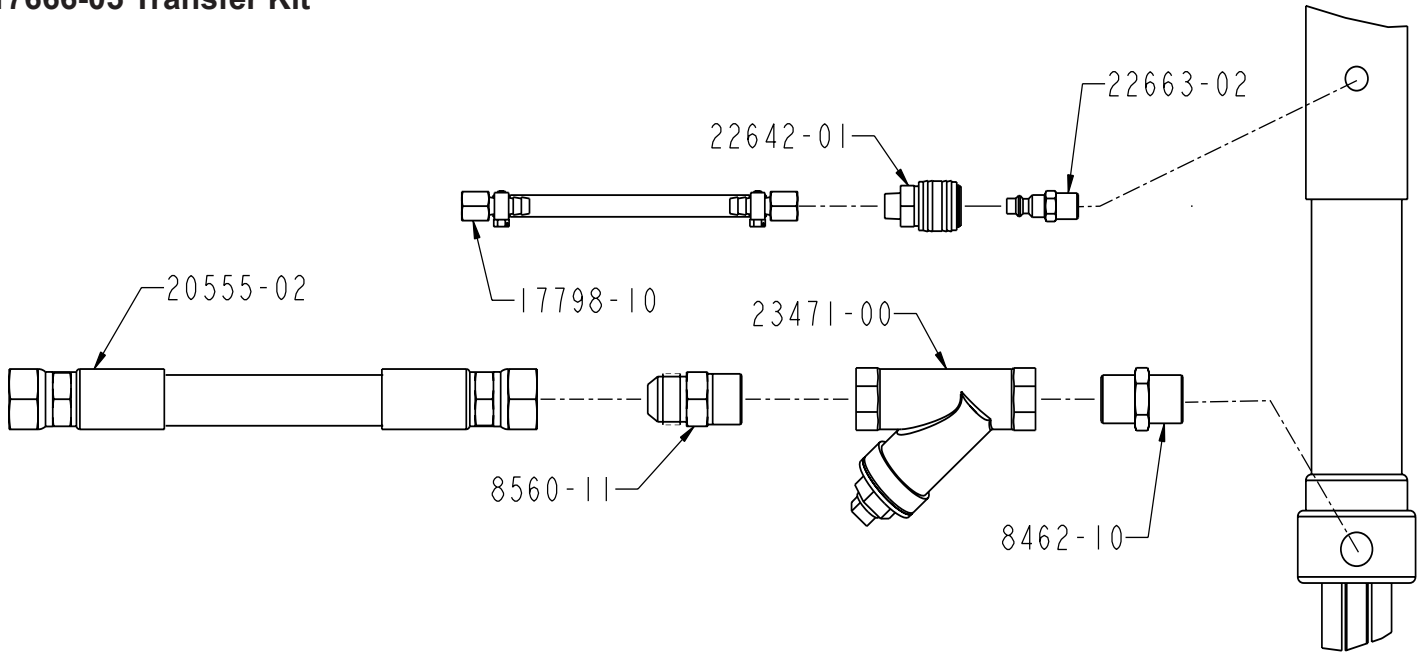
### 17666-04 Diaphragm Transfer Pump Kit




 The transfer kit attaches the same way for both ISO & POLY side. Use teflon tape on NPT threads.

## Section 3 - General Information: Options

### 17666-05 Transfer Kit



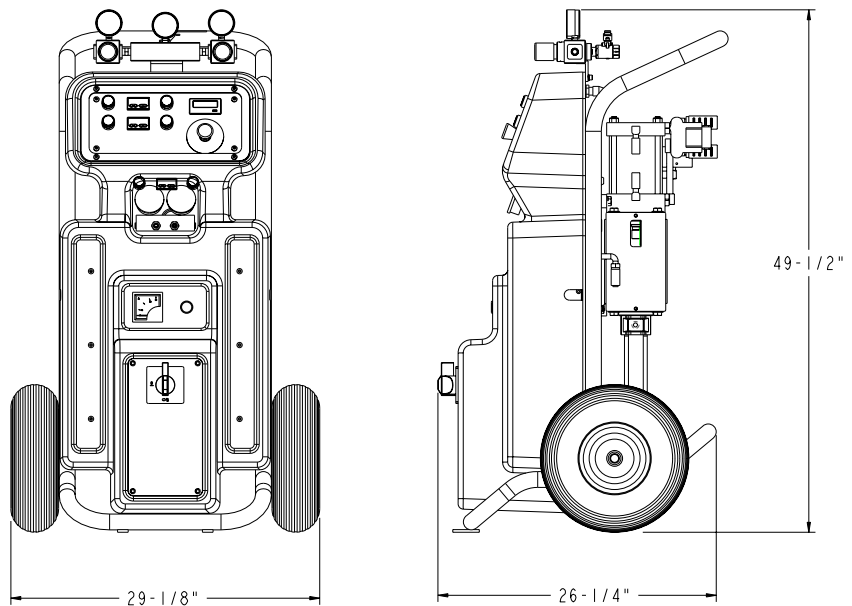
 The transfer kit attaches the same way for both ISO & POLY side. Use teflon tape on NPT threads.



## Section 4 - Warranty and Reference Information: Technical Data

|                              |  |
|------------------------------|--|
| Material Ratio:              | 1:1 (Fixed)  |
| Material Viscosity:          | 200- 2000 Centipoise (Cps) @ AMBIENT   |
| Output:                      | Pumps Rated:<br>.042 Gallons Per Cycle<br>.159 Liters Per Cycle  |
| Operating Temperatures:      | 32° F ( 0° C ) - 180° ( 82 ° C )   |
| Operating Psi:               | 22:1 RATIO 2200 PSI @ 100 PSI Air<br>Max Working PSI 2420 PSI<br><b>Note: Overpressure switches are factory set at 2200 PSI.</b>   |
| Purging:<br>Constant         | Automatic Pneumatic, Solvent-free, Constant  |
| Electrical Requirements:     | 50 A @ 208/240 VAC, 50/60 hz, Single Phase<br>20 A @ 208/240 VAC, 50/60 hz. Three Phase<br>20 A @ 380 VAC, 50 hz. Three Phase  |
| Compressed Air Requirements: | Base Unit:<br>1.0 GAL PER MINUTE – 17 CFM @ 100 PSI.<br>1.5 GAL PER MINUTE – 24 CFM @ 100 PSI.<br>2.0 GAL PER MINUTE – 33 CFM @ 100 PSI.<br><b>NOTE:</b> As output is increased, (achieved w/ chamber size on gun or spray tip), pressure drop will be greater. Heating capability will also drop. |
| Heaters:                     | 6000 WATT HEATER   |
| Maximum Hose Length:         | 300'<br>(Each Section 50' x 3/8" I.D.)   |
| Shipping Weight:             | 440 Lbs.   |

Overall Dimensions:



## Section 4 - Warranty and Reference Information: Limited Warranty Policy

GLASCRAFT, INC. (“GlasCraft”) warrants to the original Purchaser of GlasCraft manufactured equipment and parts, that all GlasCraft manufactured equipment and parts will conform to their published written specifications and be free of defects in workmanship and material for a period of one (1) year from the original date of installation. GlasCraft makes no warranty to anyone other than the original Purchaser.

If any GlasCraft manufactured part or equipment is found to be defective in workmanship or material within the one-year period from the date of installation, as determined solely by GlasCraft, GlasCraft, in its sole discretion, will either repair or replace the defective part or equipment at GlasCraft’s cost, including freight charges both ways, or credit or refund the purchase price for the defective equipment or part.

A warranty claim will be honored only when:

1. GlasCraft has been informed, in writing, of any such defect in workmanship or material within ten (10) days after discovery by the original Purchaser;
2. An official of GlasCraft has issued a return authorization number; and
3. The claimed defective equipment or part has been returned to GlasCraft by the original Purchaser, freight prepaid (with proper return authorization number(s) attached), to: GlasCraft, Inc., 5845 West 82nd Street, Suite 102, Indianapolis, IN 46278, U.S.A.

This warranty shall not apply to any equipment or parts that have been altered or repaired by anyone other than GlasCraft or to defects or damage resulting from improper installation, misuse, negligence, accident, or use not specified by GlasCraft. This warranty shall not apply to any equipment where any parts or components were replaced by any parts or components not manufactured or supplied by GlasCraft. The decision by GlasCraft shall be conclusive and binding on Purchaser.

GlasCraft does not warrant that any equipment or parts sold to Purchaser meet or comply with any local, state, federal, or other jurisdiction’s regulations or codes. GlasCraft does not warrant that any equipment or part sold to Purchaser, when used individually or in concert with any other part, equipment, device, component or process, does not infringe on any patent rights of any third party. GlasCraft only warrants that it has no specific knowledge of any such infringement.

GlasCraft makes no warranty as to any parts or equipment manufactured by others. Purchaser shall look solely and only to the manufacturer of such parts or equipment with respect to any warranty claims. GlasCraft hereby assigns to Purchaser the original manufacturer’s warranties to all such equipment and parts, to the full extent permitted.

**THE AFORESAID WARRANTY IS IN LIEU OF ALL OTHER WARRANTIES, EXPRESS OR IMPLIED. SPECIFICALLY THERE ARE NO WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE, WHICH WARRANTIES ARE SPECIFICALLY DISCLAIMED.**

GlasCraft shall not be liable for any loss or expense resulting from damage or accidents caused by improper use or application of materials manufactured or sold by GlasCraft or its distributors or agents.

**UNDER NO CIRCUMSTANCES SHALL GLASCRAFT’S LIABILITY EXCEED THE AMOUNT PURCHASER PAID FOR THE CLAIMED DEFECTIVE EQUIPMENT OR PART. UNDER NO CIRCUMSTANCES SHALL GLASCRAFT BE LIABLE FOR INCIDENTAL OR CONSEQUENTIAL DAMAGES OR FOR LOST PROFITS.**

No action arising from or relating to any goods manufactured by or purchased from GlasCraft may be brought more than one (1) year after the cause of action accrues.

**Section 4 - Warranty and Reference Information: Technical Assistance.....**

***Thank You for selecting GlasCraft spray equipment***

*Should you have any questions or need technical assistance, contact your factory authorized GlasCraft distributor.*

*Distributor:* \_\_\_\_\_

*Phone:* \_\_\_\_\_

*Contact:* \_\_\_\_\_

For any issues your distributor cannot address, the GlasCraft technical service department is always available to assist you with the operation of your spray equipment. To help our technical representatives expedite your call and better address your questions, please have the following information ready and available when you phone GlasCraft.

**\* If your questions are not urgent, You can e-mail all correspondence to [service@glascraft.com](mailto:service@glascraft.com)**

Model: \_\_\_\_\_

Serial number: \_\_\_\_\_

Type of spray gun: \_\_\_\_\_

Serial number: \_\_\_\_\_

Is your equipment:

Single phase: \_\_\_\_\_ Three phase \_\_\_\_\_

What is the inbound voltage  
to your equipment: \_\_\_\_\_

Temperature setting ISO: \_\_\_\_\_

Temperature setting POLY: \_\_\_\_\_

Temperature setting HOSE: \_\_\_\_\_

**For Air Powered Systems:**

Air compressor size: \_\_\_\_\_

CFM generated: \_\_\_\_\_

Pressure at the system:

Hydraulic \_\_\_\_\_ Pneumatic \_\_\_\_\_

Dynamic fluid pressure:

ISO \_\_\_\_\_ POLY \_\_\_\_\_

Spray gun chamber size: \_\_\_\_\_

Material being sprayed: \_\_\_\_\_

Viscosity: ISO \_\_\_\_\_ POLY \_\_\_\_\_

Approximate material temperature: \_\_\_\_\_

For Your Reference



**Date Purchased** \_\_\_\_\_  
**Distributor** \_\_\_\_\_  
\_\_\_\_\_  
**Contact** \_\_\_\_\_  
**Phone** \_\_\_\_\_  
**E-mail** \_\_\_\_\_

GlasCraft manufactures a complete line of polyurethane foam and polyurea coating spray systems. If your application is in-plant or a field contractor - GlasCraft has a system package to meet your requirements.

***GUARDIAN - AIR POWERED / A5 & A6 SERIES EQUIPMENT***

- . 6000 OR 12000 WATTS OF HEAT
- . 1600, 2200, OR 3000 PRESSURE SET-UPS AVAILABLE

***MH, MH II, & MH III HYDRAULIC POWERED SYSTEMS***

- . UP TO 45 LBS / MINUTE OUTPUT
- . EXCELLENT PERFORMANCE AND RELIABILITY

***GUARDIAN MMH - MOBILE MODULAR HYDRAULIC SYSTEMS***

- . SPECIFICALLY DESIGNED FOR ANY TYPE OF SPRAY RIG
- . GIVE COMPLETE UTILIZATION OF FLOOR SPACE IN MOBILE RIG

***PROBLER P2 SPRAY GUN***

- . IMPINGEMENT MIX / AIR PURGE
- . OPTIONAL NOZZLE FOR SPRAYING STUD WALLS, POURING & STREAM JET

For more information concerning any of these GlasCraft products,  
contact your local authorized GlasCraft distributor or visit [www.glascraft.com](http://www.glascraft.com)



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