

USER MANUAL



Probler P2

Dispense Gun

INCLUDES:

23950-00
DISPENSE GUN



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INTRODUCTION

About This Manual

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

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

NOTE

Is information about the procedure in progress.

CAUTION

Is imperative information about equipment protection.

WARNING

Is imperative information about personnel safety.

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 **Glas-Craft** distributor or made from the **Glas-Craft** assembly instructions provided.

This manual provides information for the assembly, operation, maintenance and service of this **Glas-Craft** 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 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 discrepancy between your unit and the available documentation, contact your **Glas-Craft** distributor to resolve the difference. **Glas-Craft, 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 trouble-shooting.

Related Manuals

For detailed component installation, operation and maintenance, refer to the following component manuals:

	COMPONENT	MANUAL NUMBER
Maxi II	System	GC-1324
Mini III	System	GC-1265
MX	System	GC-1230
MX II	System	GC-1266
MH	System	GC-1239
MH II	System	GC-1267

Contact your local authorized **Glas-Craft** distributor for more information about these and other manuals available from **Glas-Craft**.

PARTS & ILLUSTRATIONS

Cleaning Drill Chart

ROUND MIXING CHAMBER	MIXING CHAMBER NOZZLE CLEANING DRILL		MIXING CHAMBER SIDE HOLE CLEANING DRILL	
23960-00	14963-17	0.052	14963-21	0.029
23960-01	14963-11	0.057	14963-16	0.042
23960-02	14963-12	0.071	14963-17	0.052
23960-03	14963-15	0.086	14963-13	0.0595
23960-04	14963-19	0.094	14963-14	0.070
23960-05	14963-20	0.116	14963-15	0.086
DRILL PIN VISE 17672-00				

Flat Spray Nozzle Tip Chart

TUNGSTEN CARBIDE				
LPA2-147-1525	LPA2-147-2340	LPA2-147-3625	LPA2-147-5250	LPA2-147-7265
LPA2-147-1540	LPA2-147-2350	LPA2-147-3640	LPA2-147-5265	LPA2-147-7640
LPA2-147-1840	LPA2-147-2640	LPA2-147-3650	LPA2-147-6240	LPA2-147-7650
LPA2-147-1850	LPA2-147-2650	LPA2-147-4325	LPA2-147-6250	
LPA2-147-2125	LPA2-147-3125	LPA2-147-4340	LPA2-147-6265	
LPA2-147-2140	LPA2-147-3140	LPA2-147-4350	LPA2-147-7240	
LPA2-147-2150	LPA2-147-3150	LPA2-147-5240	LPA2-147-7250	

NOTE: Nozzle size stated by Orifice Size and Degree of Spray

Example: LPA2-147-1525 .015 Orifice 25 Degrees

STAINLESS STEEL				
19136-1150	19136-1840	19136-3140	19136-3650	19136-4350
19136-1165	19136-2625	19136-3626	19136-4325	19136-5240
19136-1825	19136-3125	19136-3640	19136-4340	

NOTE: Nozzle size stated by Orifice Size and Degree of Spray

Example: 19136-1150 .011 Orifice 50 Degrees

Service & Repair Parts Kits

23975-00 STANDARD REPAIR KIT		
7554-05	O-Ring	1
7554-06	O-Ring	1
7554-07	O-Ring	2
7554-09	O-Ring	2
7554-10	O-Ring	1
7554-29	O-Ring	1
7554-43	O-Ring	1
13867-08	O-Ring	2
13867-11	O-Ring	2
23974-07	O-Ring	2
23974-12	O-Ring	1

23976-00 FLAT SPRAY KIT		
23972-00	Flat Spray Adapter	1
PG-14	PG-14	1
13378-00	Nozzle Nut	1
23974-12	O-Ring	1
* The 23976-00 Kit does NOT Include a Spray Tip.		
* The LPA2-147-xxxx Flat Spray Nozzle (Tip) is necessary for the assembly to work.		

23978-00 SIDE SEAL KIT		
23973-00	SST Side Seal	
23974-07	O-Ring	

23979-00 HARDWARE KIT 00-03		
15845-00	3/16" Ball Driver	1
15845-01	5/32" Ball Driver	1
17672-00	Pin Vise	1
23971-00	Screen Filter	2
14693-17	Drill Bit	1
23974-07	O-Ring	2

PARTS & ILLUSTRATIONS

Service & Repair Parts Kits Continued

23980-00 HARDWARE KIT 04-05		
15845-00	3/16" Ball Driver	1
15845-01	5/32" Ball Driver	1
17672-00	Pin Vise	1
23971-00	Screen Filter	2
14693-19	Drill Bit	1
14963-20	Drill Bit	1
23974-12	O-Ring	1
23974-07	O-Ring	2

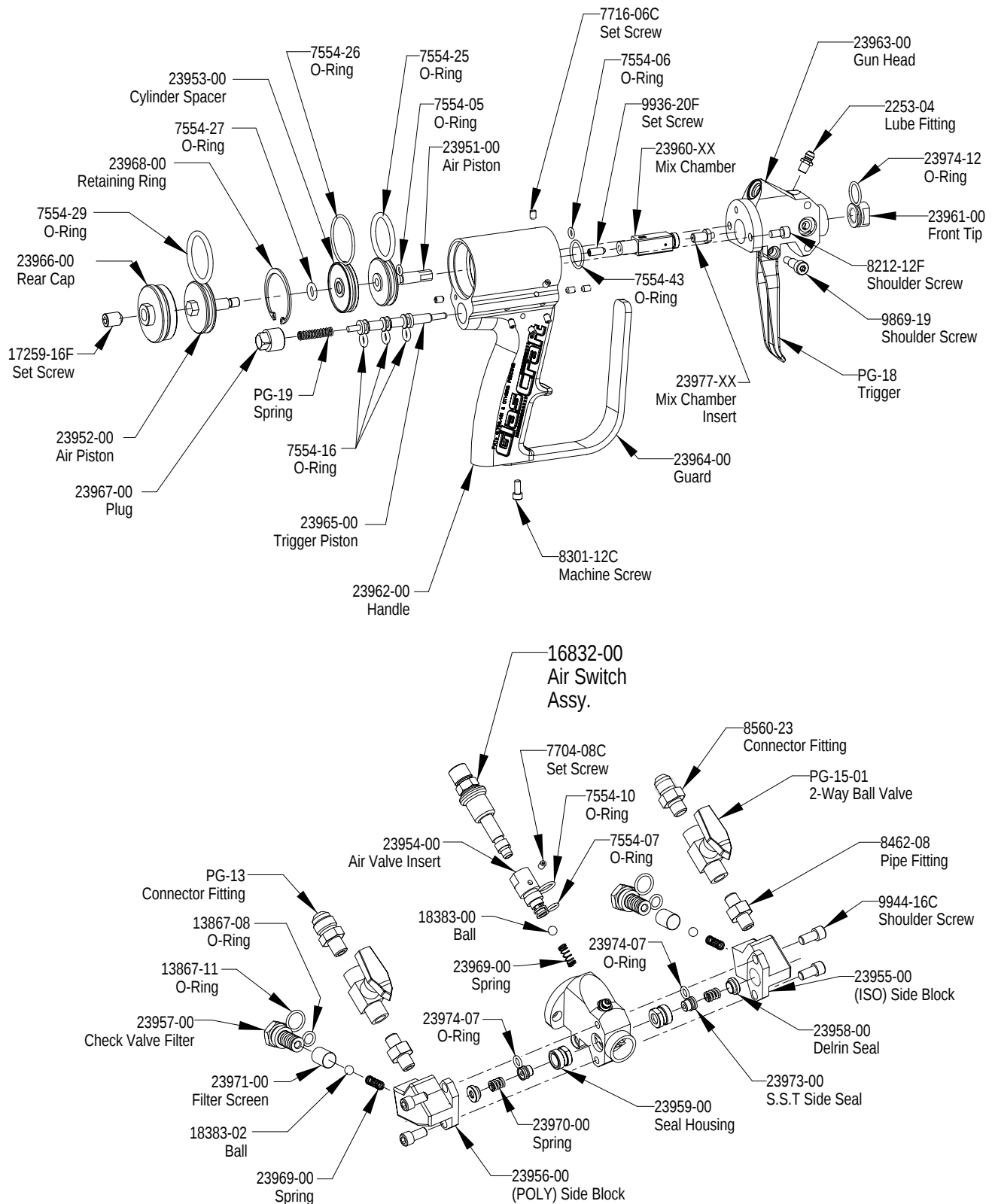
23981-00 PREMIUM REPAIR KIT		
23974-05	O-Ring	1
23974-06	O-Ring	1
23974-07	O-Ring	4
23974-08	O-Ring	2
23974-09	O-Ring	2
23974-10	O-Ring	1
23974-11	O-Ring	2
23974-12	O-Ring	1
23974-16	O-Ring	3
23974-25	O-Ring	1
23974-26	O-Ring	1
23974-27	O-Ring	1
23974-29	O-Ring	1
23974-43	O-Ring	1

Jet Stream Nozzle

23983-01

23983-02

23950- PROBLER P² SPRAY GUN



REVISION A

SAFETY

Safe Handling And Use Of Urethane Foam Equipment

Introduction

Any tool, if used improperly, can be dangerous. Safety is ultimately the responsibility of those using the tool. In like manner, safe operation of polyester processes is the responsibility of those who use such processes and those who operate the equipment. This manual outlines procedures to be followed in conducting polyester operations safely.

All personnel involved in dispensing operations should read and understand this manual. It is most important that equipment operators, maintenance, and supervisory personnel understand the requirements for safe operation.

This manual cannot answer every circumstance; each user should examine his own operation, develop his own safety program and be assured that his equipment operators follow correct procedures. Glas-Craft hopes that this manual is helpful to the user and recommends that the precautions in this manual be included in any such program.

Urethane foam systems are comprised of several different chemical compounds, some of which may be hazardous if improperly used.

CAUTION

Particular caution must be taken with respect to the vapors released during the use of urethane foam systems.

Isocyanate compounds are used in urethane foaming operations. The medical history of persons who may be exposed to such isocyanates should be examined. It is recommended that individuals with a history of chronic respiratory ailments should avoid exposure to all isocyanates.

In addition to the manual, Glas-Craft recommends that the user consult the regulations established under the Occupational Safety & Health Act (OSHA), particularly the following sections:

- 1910.94 Pertaining to ventilation.
- 1910.106 Pertaining to flammable liquids.
- 1910.107 Pertaining to spray finishing operations, particularly Paragraph (m) Organic Peroxides and Dual Component

Coatings. Local codes and authorities also have standards to be followed in the operation of your spraying equipment. Chemical manufacturer's recommendations should be obtained and considered. Your insurance carrier will be helpful in answering questions that arise in your development of safe procedures.

Personnel Safety Equipment

Glas-Craft recommends the following Personal Safety Equipment for conducting safe operations of the Polyester Systems:



Glas-Craft recommends that the user consult the state and local regulations established for all Safety equipment listed.

Operating Safely

In operating urethane foam equipment safely, user should make every effort to:

1. Handle chemicals safely.
2. Provide adequate ventilation.
3. Provide adequate safety equipment (gloves, respirators, safety glasses, protective clothing, etc.) for operators and all others working in areas where they may be exposed to the chemicals or their vapors.
4. Avoid operating equipment which has given any indication of malfunction.
5. Become fully acquainted with the equipment and chemicals used.

Handling Chemicals Safely

Storage of polyisocyanates, diamines, and organic solvents should be isolated and restricted to specially constructed storage rooms. Store chemicals in original containers and according to manufacturer's recommendations listed on the container. Maximum ambient temperatures to which such chemicals should be exposed are specified by the manufacturer and MUST NOT be exceeded either in the storage area or in the spraying or pouring area.

To avoid moisture contamination, do not open containers until ready for use. After use, the remaining

material should be re-sealed in the original container and stored in areas away from moisture.

During clean-up of spilled isocyanate component, respirators, gloves and eye protection must be worn. Isocyanates which have been spilled can be controlled by covering them with dry sawdust and/or other absorbent, inert materials. Care should be taken to avoid skin contact. The absorbent material and the absorbed isocyanate should be collected promptly, placed in an open-top container, and treated with dilute solutions of ammonium hydroxide and/or alcohol. While being treated in this manner, the material should be in an adequately ventilated area. Clothing on which any material has been spilled should be removed immediately, and cleaned before being worn again.

Clean-Up Solvents

WARNING

A hazardous situation may be present in your pressurized fluid system!

Halogenated Hydrocarbon Solvents can cause an explosion when used with aluminum or galvanized components in a closed (pressurized) fluid system (pumps, heaters, filters, valves, spray guns, tanks, etc.).

The explosion could cause serious injury, death and/or substantial property damage.

Cleaning agents, coatings, paints, etc. may contain Halogenated Hydrocarbon Solvents.

Some Glas-Craft spray equipment includes aluminum or galvanized components and will be affected by Halogenated Hydrocarbon Solvents.

There are three key elements to the Halogenated Hydrocarbon (HHC) solvent hazard.

1. **The presence of HHC solvents.** 1,1,1-Trichloroethane and Methylene Chloride are the most common of these solvents. However, other HHC solvents are suspect if used; either as part of paint or adhesives formulation, or for clean-up or flushing.
2. **Aluminum or Galvanized Parts.** Most handling equipment contains these elements. In contact with these metals, HHC solvents could generate a corrosive reaction of a catalytic nature.
3. **Equipment capable of withstanding pressure.** When HHC solvents contact aluminum or galvanized parts inside a closed container, such as a pump, spray gun, or fluid handling system,

the chemical reaction can, over time, result in a build-up of heat and pressure, which can reach explosive proportions.

When all three elements are present, the result can be an extremely violent explosion. The reaction can be sustained with very little aluminum or galvanized metal: any amount of aluminum is too much.

The reaction is unpredictable. Prior use of an HHC solvent without incident (corrosion or explosion) does NOT mean that such use is safe. These solvents can be dangerous alone (as a clean-up or flushing agent) or when used as a component of a coating material. There is no known inhibitor that is effective under all circumstances. Furthermore, the mixing of HHC solvents with other materials or solvents, such as MEK, alcohol, and toluene, may render the inhibitors ineffective.

The use of reclaimed solvents is particularly hazardous. Reclaimers may not add any inhibitors, or may add incorrect amounts of inhibitors, or may add improper types of inhibitors. Also, the possible presence of water in reclaimed solvents could feed the reaction.

Anodized or other oxide coatings cannot be relied upon to prevent the explosive reaction. Such coatings can be worn, cracked, scratched, or too thin to prevent contact. There is no known way to make oxide coatings or to employ aluminum alloys, which will safely prevent the chemical reaction under all circumstances.

Several solvent suppliers have recently begun promoting HHC solvents for use in coating systems. The increasing use of HHC solvents is increasing the risk. Because of their exemption from many State Implementation Plans as Volatile Organic Compounds (VOC's), their low flammability hazard, and their not being classified as toxic or carcinogenic substances, HHC solvents are very desirable in many respects.

WARNING

If you are now using Halogenated Hydrocarbon solvents in pressurized fluid systems having aluminum or galvanized wetted parts,

IMMEDIATELY TAKE THE FOLLOWING STEPS:

- Empty system, shut-off, completely depressurize in accordance with equipment service instructions.
- Remove equipment from service, disassemble in accordance with equipment servicing instructions.
- Inspect all parts for corrosion and/or wear. Replace any damaged parts.
- Thoroughly clean all parts of the equipment with a non-halogenated solvent and reassemble in accordance with equipment servicing instructions.
- Flush equipment with non-halogenated solvent.
- Do NOT reuse equipment with HHC solvents or with materials containing such solvents.
- Material suppliers and/or container labels should be consulted to ensure that the solvents used are compatible with your equipment.

NOTE

Glas-Craft is aware of NO stabilizers available to prevent Halogenated Hydrocarbon solvents from reaction under all conditions with aluminum components in a closed fluid system.

TAKE IMMEDIATE ACTION...

Halogenated Hydrocarbon solvents are dangerous when used with aluminum components in a closed fluid system.

Consult your material supplier to determine whether your solvent or coating contains Halogenated Hydrocarbon Solvents.

Glas-Craft recommends that you contact your solvent supplier regarding the best non-flammable clean-up solvent with the heat toxicity for your application.

If, however, you find it necessary to use flammable solvents, they must be kept in approved, electrically grounded containers.

Bulk solvent should be stored in a well-ventilated, separate building, 50 feet away from your main plant.

You should allow only enough solvent for one day's use in your laminating area.

"NO SMOKING" signs must be posted and observed in all areas of storage or where solvents and other flammable materials are used.

Adequate ventilation (as covered in OSHA Section 1910.94 and NFPA No. 91) is important wherever

solvents are stored or used, to minimize, confine and exhaust the solvent vapors.

Solvents should be handled in accordance with OSHA Section 1910.106 and 1910.107.

Toxicity of Chemicals

Glas-Craft recommends that you consult OSHA Sections 1910.94, 1910.106, 1910.107 and NFPA No. 33, Chapter 14, and NFPA No. 91.

Contact your chemical supplier(s) and determine the toxicity of the various chemicals used, as well as the best methods to prevent injury, irritation and danger to personnel.

Also determine the best methods of first aid treatment for each chemical used in your plan

First Aid

If chemicals containing isocyanates are splashed on the skin, they can produce ill effects. Steps to counteract such effects should be started immediately.

Apply Tincture of Green Soap, full strength, to the contaminated area. If Tincture of Green Soap is not immediately available, wash the exposed area repeatedly with soap and water. Soap and water is not as desirable as using Tincture of Green Soap because many isocyanate components are not easily dissolved in water. In addition, soap and water does not form a barrier to the isocyanates.

After approximately two to four minutes, wash off the Tincture of Green Soap with water. If there is still an indication of isocyanate present, repeat the application. If the isocyanate contamination is on the facial area, care must be taken to avoid getting the Tincture of Green Soap in the eyes.

If the person develops breathing difficulties, oxygen should be administered. Quite often the exposed person will experience residual effects such as coughing spells. **CONTACT PHYSICIAN IMMEDIATELY.**

WARNING

Contact a doctor immediately in the event of an injury and give him the information you have collected. If your information includes first aid instructions, administer first aid immediately while you are contacting the doctor.

If a person accidentally swallows isocyanates, large amounts of water should be swallowed immediately. Vomiting should then be induced by patient sticking his finger down his throat, or by swallowing large quantities of warm salt water or warm soapy water.

After vomiting, more water should be taken to dilute isocyanate further. CONTACT PHYSICIAN IMMEDIATELY.

Ventilation

WARNING

Hazardous concentrations of some chemical vapors exist before they can be smelled. Chemical component suppliers should be contacted to determine at what concentrations the vapors of the chemicals they supply become dangerous, and the procedures and equipment needed to detect such dangerous concentrations. Such equipment should be obtained.

Adequate ventilation must be provided in any area where foam chemicals are sprayed or poured, and wherever the material containers are opened.

In industrial applications, foaming operations should be restricted to specific areas, and proper ventilation should be provided in these areas to prevent chemical vapors from spreading. Spray foaming operations MUST be restricted to a spray booth where a minimum exhaust of 100 feet per minute at the face of the booth is provided. Special care should be taken to prevent unsuspecting personnel both inside and outside of the plant from being exposed to chemical vapors. The chemical vapors should be exhausted to atmosphere in such a manner and at a sufficiently low concentration that personnel outside the plant are not exposed to dangerous concentrations of chemical vapors. Refer to OSHA Standards, sub-part G, 1910.107 and particularly sub-section (m) for Federal standards. State and local authorities may have applicable statutes or regulations concerning ventilation.

In contractor applications (for example, at a construction site, inside building or other enclosed space), the forced ventilation normally provided is likely to be inadequate. These applications, therefore, usually REQUIRE the use of forced, fresh air respirators for all persons in the areas where foaming operations are conducted or where the chemical vapors are likely to spread.

In industrial and contractor applications, it is advisable to run frequent tests to determine the exact

concentration of isocyanate vapor in the air. Industrial equipment is available for making such determinations. Your chemical supplier can recommend such equipment and procedures.

Proper Safety Equipment

All persons spraying or working in areas where forced air ventilation is not adequate to remove isocyanate vapors from the air MUST use an approved (U.S. Bureau of Mines) fresh air supplied respirator.

Respirators should be regularly inspected, cleaned and disinfected according to good practices. Records must be kept of the inspections. The user MUST have a medical clearance indicating that he can safely use a respirator.

Respirators must fit securely; beards prevent a tight seal around the face. Eye glasses have to be given special attention and contact lenses are prohibited.

Safety goggles, gloves and other protective devices are suggested for operators of foaming equipment. Refer to OSHA Standards, sub-part 1, 1910.132, 1910.133 and 1910.134 for Federal standards.

IF YOU HAVE ANY QUESTIONS REGARDING THE ABOVE PRECAUTIONS OR ANY SERVICE OR OPERATION PROCEDURES, CALL YOUR GLAS-CRAFT DISTRIBUTOR OR GLAS-CRAFT, INC.

NOTICE

All statements, information and data given herein are believed to be accurate and reliable but are presented without guaranty, warranty or responsibility of any kind expressed or implied. The user should not assume that all safety measures are indicated or that other measures are not required.



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INSTALLATION

NOTE

Refer to specific system user manual for complete system installation.

Refer to 23950-00 Gun illustration during instructions.

Assembly Instructions

1. Connect Whip Hose, P/N 18006-00 to Hose assembly, P/N 19524-00 using Hose Union assembly, P/N 19434-00 and Air Line Fitting, P/N 18101-01. (See Fig. 1)

WARNING

After connecting, wrap Hose Union assembly and Air Line fitting with electrical tape to prevent electrical arcing or short circuiting.

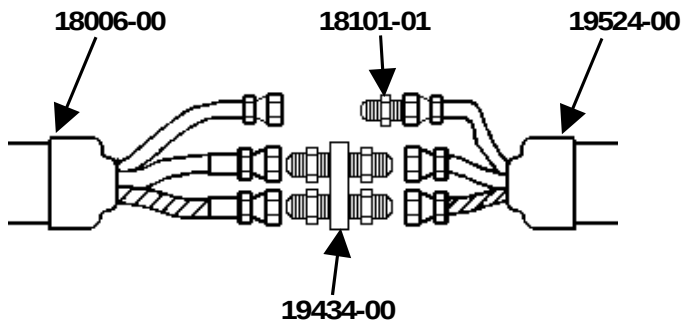


Fig. 1

2. The Whip Hose assembly should now be attached to the Gun. The swivel fittings on the Whip Hose assembly are sized differently and will attach only one way. (Match like sized fittings.) Also connect

the Air Hose assembly to the Gun at this time. (See Fig. 2)

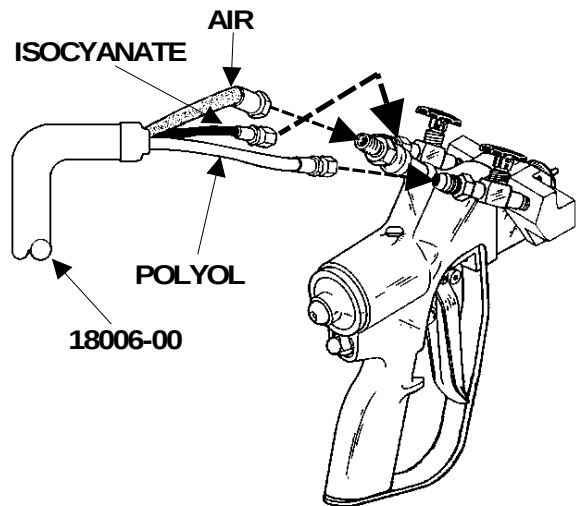


Fig. 2

3. Fluid Hose connections between Console and Gun should now be complete. Check the following before proceeding:
 - a. All fittings tight from Isolation Block to Gun.
 - b. All Union Fittings and Air Line Unions used between Hose sections wrapped individually with several layers of electrical tape to prevent short circuiting of Hose.
 - c. Air Line Union Fitting and Hose Union assembly used between last Hose section and Whip Hose wrapped individually with several layers of electrical tape to prevent short circuiting of Hose.

OPERATION

NOTE

Refer to specific system user manual for complete system installation.

Preoperation Checklist

Check that all fittings are securely tight

Air Regulator turned to OFF position.

WARNING

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.

Probler P² Gun

The Probler P² Gun is used to spray, or pour two-component, low viscosity polyurethane foam materials at outputs up to 60 pounds per minute. The Gun features an air-assisted full-finger trigger and a patented solvent-free automatic air-purge cleaning system.

Operating Requirements

- 8 - 10 CFM at 90 -110 PSI
- MAXIMUM Static Fluid Pressure - 3000 PSI

WARNING

The Glas-Craft Probler P² Gun is designed and manufactured to operate at a maximum static fluid pressure not to exceed 3000 psi. When attached to a Glas-Craft proportioning system, this pressure will not be exceeded. However, if the Glas-Craft Probler P² Gun is installed on any other manufacturer's self-designed equipment, great care must be taken to ensure that the maximum static fluid pressure not be exceeded.

Gun

The Trigger actuates a small valve in the Gun Handle that controls the flow of air into the Piston Assembly. When the Trigger is pulled, air flows through the valve to the front of the Piston. Air pressures force the Piston towards the rear of the Gun, simultaneously closing off the Purge Air and moving the Mixing Chamber to a position where the Mixing Chamber orifices are aligned with the orifices in both, the Side Block Seal and Check Valve assemblies.

NOTE

The proper alignment of the orifices is determined by the setting of the Set Screw, P/N 17259-16F, located at the rear of the Piston assembly. This Set Screw determines the length of travel of the Air Piston and has been preset at the factory and should not require adjustment.

The two fluids (isocyanate and polyol) then flow thru the Material Shut-Off Valves, Seal, and Check Valve assemblies and into the Mixing Chamber. The two fluids impinge against one another and exit the Mixing Chamber in a swirling, conical spray pattern.

When the Trigger is released, the Mixing Chamber returns to its original position and purge air flows into the Mixing Chamber Housing, P/N 23963-00. The Front Tip O-Ring, P/N 23974-00 keeps Air Purge inside the Gun Head, P/N 23963-00, forcing all of the air through the orifices in the mixing chamber, for a complete, total and constant purge.

This purge-air continues to flow thru the Mixing Chamber until the Air Switch, P/N 16832-00 is pulled up to shut-off all air to the Gun; or until the Trigger is pulled again.

NOTE

If the Gun is being used for short periods of spraying, Glas-Craft recommends that the purge air be left ON. The material shut-Off Valves, P/N PG-15-01 can be left in the OPEN position during these periods of time.

WARNING

If purge air is to be turned OFF, BOTH MATERIAL SHUT-OFF VALVES, P/N PG-15-01, MUST BE TURNED TO THEIR "OFF" POSITION BEFORE TURNING "OFF" THE PURGE AIR !

Failure to follow this procedure will possibly result in the Gun becoming encased internally in foam.

For proper purging following use, the Air Switch must be left OPEN for at least 15 SECONDS after the Trigger has been released.

The flow of material into the Mixing Chamber is controlled by the ON or OFF position of the two material Shut-Off Valves.

NOTE

Both Material Shut-Off Valves must be FULLY OPEN during dispensing and must be FULLY CLOSED during service or extended shut-down periods.

WARNING

BOTH MATERIAL SHUT-OFF VALVES, P/N PG-15-011, MUST BE TURNED TO THEIR "OFF" POSITION BEFORE REMOVING SCREWS, P/N 9944-16C!!

Failure to follow this procedure will possibly result in the Gun becoming encased internally in foam.

Initial Start-Up Procedure

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

1. Remove the Side Blocks, P/N's 23955-00 and 23956-00, on the front housing of the Gun, by removing Screws, P/N 9944-16C.
2. Place separate clean containers under each individual Side Block. Open manual Material Valves (black arrow forward, see Fig. 4 & 5) on each Side Block simultaneously to allow trapped air to escape the Hose and material to flow into the containers until all air is purged from the material system. **(See Fig. 3)**



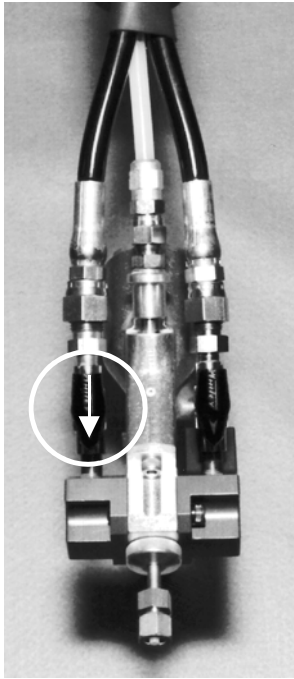
Fig. 3

3. Close manual Material Valves simultaneously. Material pressures gauges on each heater 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.
4. Dispose of waste material properly and in accordance with chemical suppliers, instructions and local, state and federal regulations.

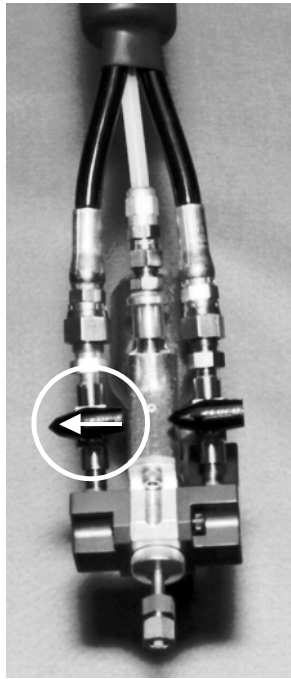
NOTE

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 Side Block Seals. Grease will purge itself when air valve is turned on at Gun and Gun is triggered.

5. Clean and lubricate Side Blocks and Seals thoroughly and reassemble onto Gun. Make certain that Side Block Screws are tightened securely.
6. Turn Purge Air and Material Valves ON at Gun. **(See Figs. 4 & 5)**



ON
Fig. 4



OFF
Fig. 5

7. The system is now ready for operation.

NOTE

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

WARNING

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.

CAUTION

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.*

Spray Technique

Always operate safely - follow safety procedures outlined.

To achieve the optimum spray pattern for each application, the appropriate Mixing Chambers are available in six round and six flat spray sizes. Hardened Mixing Chambers are also available (see Mixing Chamber Chart).

The standard Mixing Chamber supplied with your Gun will be adequate for all but the smallest and largest applications.

Foam rise and cure times will vary according to the material and substrate temperature. Higher material or substrate temperature will increase rise and cure times; lower material or substrate temperatures will decrease rise and cure times. Consult your chemical manufacturer's data specification sheets for their recommended spray temperatures. Under most circumstances, both components will be used at identical temperatures.

Higher pressures and temperatures may be used to increase material break-up, improve mixing and speed rise times. With hose lengths over 50 ft., or when material viscosities are high, higher material pump pressures may be necessary.

The Gun Air Switch assembly **MUST BE OPENED** (down position) prior to spraying to provide air for trigger operation and purge air when the Trigger is released.

When spraying, the Gun Trigger may be depressed continuously, or triggered at the end of each stroke. A smooth, even layer is best achieved by moving the

Gun back and forth in a slow, even motion, overlapping the previous pass about 50 to 75 percent. **DO NOT SPRAY OVER RISING FOAM!** The ideal gun-to-surface distance is about 18 to 24 inches. Be sure to point the Gun directly at the surface to be sprayed. Spraying at an angle to the surface will cause the foam to be rough and will generate overspray.

Daily Shut-Down Procedure

WARNING

Before attempting to perform any maintenance on this Gun, Relieve All Fluid and Air Pressures!

- To relieve fluid and air pressures:
- Turn OFF all air supplies at System except Gun Trigger Air.
- Trigger Gun until all fluid pressures have been relieved.
- Turn OFF Gun Trigger Air at System.
- Trigger Gun until all Trigger Air Pressure has been relieved.

Perform Gun maintenance as follows:

1. Check for leaking Seals, P/N 23973-00:
 - Turn OFF Gun incoming air by closing Gun Air Switch.
 - Wait approximately 10 - 20 seconds, then turn ON incoming air by opening Gun Air Switch.
 - Repeat two or three times.
 - If any material has been purged from the Gun, the Seals, P/N 23973-00 are leaking.
 - Correct leaks by replacing seals and re-checking.
2. Check for leaking Material Valve, P/N PG-15-01:
 - Turn OFF both Material Valves.
 - Trigger Gun several times.
 - Turn OFF Gun incoming air by closing Gun Air Switch.
 - Trigger Gun several times.
 - If additional material is purged, the Material Valves are leaking.
 - Correct leaks by taking off Black Knobs and turning packing 1/8" to 1/4 turns at a time until leak has stopped. Re-check.
3. Check Side Blocks
 - Turn OFF the Air Switch on Gun.

WARNING

Before removing Side Blocks make certain that both Gun Material Valves are in the fully OFF positions! Refer to Figures 4 and 5.

If Material Valves are on when Side Blocks are removed the Gun will quickly become encased in urethane!

WARNING

Point Gun Side Blocks down, away from all personnel. Existing fluid pressures could cause material to exit the Side Blocks with considerable force.

- Take off Side Blocks by removing Screws, P/N 9944-16C.
- Examine the sides of the Mixing Chamber, P/N 23960-XX for scratches and/or material build-up. Carefully, without scratching the seal surfaces (sides), remove any accumulated material. Solvent can be used to wash accumulated material off of Chamber, Side Blocks, etc. Keep Gun Chamber tilted toward the ground so that solvent does not run back into Gun. Certain solvents will attack O-Rings on Chamber Shaft causing swelling and deterioration of O-Rings.
- Place generous amounts of high quality, white lithium grease in each side of the Gun Front Housing and on the Side Block Seals.
- Use a No. 50 Drill Bit to clean out the Mixing Chamber exit passage. Use a No. 55 Drill Bit to clean the inlet side holes of the Mixing Chamber taking care not to scratch the Mixing Chamber's polished surfaces.
- Re-assemble the Side Blocks and tighten Screws securely. Grease should appear at the tip of the Mixing Chamber.

NOTE

DO NOT open Air Switch on Gun because this will purge grease from the Gun. The grease should be allowed to remain in the Gun overnight.

Extended Shut-Down Procedure

This procedure should be performed when the system is to be stored for an extended period of time (i.e. winter shut-down, etc.).

Perform DAILY SHUT-DOWN PROCEDURE steps.

SERVICE

NOTE

Refer to specific system user manual for complete system installation.

Parts Replacement Procedure

WARNING

Before attempting to perform any maintenance on this Gun OR before removing Side Blocks, make certain that both Gun Material Valves are in the fully OFF positions!

Refer to Figures 4 and 5.

If Material Valves are on when Side Blocks are removed, the Gun will quickly become encased in urethane!

1. Read each procedure entirely before beginning and refer to the illustrations as needed.
2. Flush and clean all chambers and passages as they become accessible.
3. Clean all parts before assembly.
4. Replace all O-Rings and Seals with new parts from the appropriate kit.
5. Inspect all parts for wear or damage and replace as required with new GENUINE Glas-Craft REPLACEMENT PARTS from your authorized Glas-Craft distributor.
6. Inspect all threads for wear or damage and replace as required.
7. Tighten all threaded parts securely, but not excessively, upon assembly.
8. Lightly lubricate all O-Rings and threads with lithium grease.
9. Check all springs for resilience. They should return quickly to their original (new) length.

Routine Care

WARNING

Before attempting to perform any maintenance on this Gun OR before removing Side Blocks, make certain that both Gun Material Valves are in the fully OFF positions!

Refer to Figures 4 and 5.

If Material Valves are on when Side Blocks are removed, the Gun will quickly become encased in urethane!

It is recommended that the following service be performed on a daily basis.

1. Clean the Gun using a brush and an appropriate clean solvent.
2. Inspect Side Block Seals, P/N 23973-00, making certain they are clean and free of scratches, nicks or foreign material. Clean and replace as required.
3. Remove, clean or replace Filter Screen, P/N 23971-00.
4. Maintain a reasonable stock level of "wear" items such as Seals and O-Rings. (see Service & Repair Parts Kits listed in Parts & Illustrations section.)

Replacement Procedure

WARNING

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.

WARNING

Relieve ALL system fluid and air pressures according to manufacturer's instructions.

1. Disconnect original equipment gun from fluid and air hoses.
2. Remove swivel fittings from original equipment gun.
3. Unscrew and remove two of the fittings from one side of the Hose Junction Block, P/N 19434-00. (See Fig. 6)

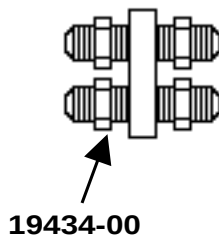


Fig. 6

4. Install Pipe Bushings, P/N 7966-31, into Hose Junction Block.
5. Install the original equipment's swivel fittings into the corresponding pipe bushing on the Hose Junction Block.
6. Attach Material Hose Fittings at one end of Whip Hose, P/N 18006-00, to corresponding fittings on Hose Junction block. (See Fig. 7)

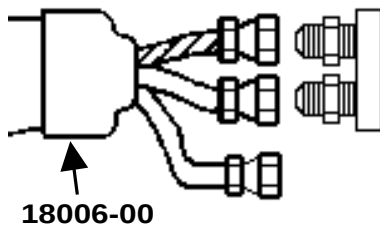


Fig. 7

7. Attach Air Connector Fitting, P/N 18101-01, to Whip Hose Air Hose. Connect a clean, dry air source to one end of the Air Connector Fitting. Tighten securely. (See Fig. 8)

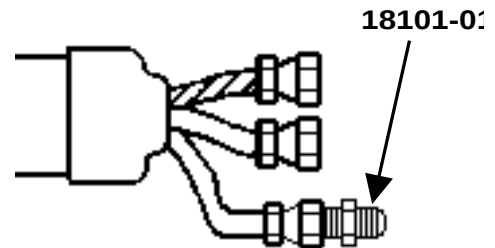


Fig. 8

8. Attach hose fittings at other end of Whip Hose to the Gun. (see Fig. 9)

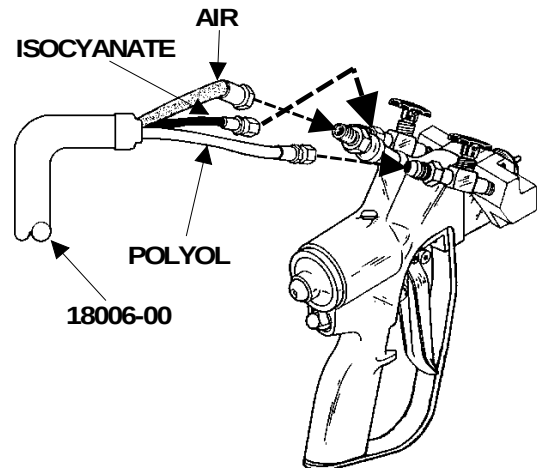


Fig. 9

9. Turn **OFF** Gun Air Switch by pulling up on Slide Valve.
10. Attach Whip Hose Air Hose to Probler P² Gun Air Switch. Tighten securely.
11. Turn OFF both Probler P² Gun Material Shut-Off Valves.

WARNING

Before attempting to perform any maintenance on this Gun OR before removing Side Blocks, make certain that both Gun Material Valves are in the fully OFF positions!

Refer to Figures 4 and 5.

If Material Valves are on when Side Blocks are removed, the Gun will quickly become encased in urethane!

12. Pressurize system according to manufacturer's instructions.
13. Refer to INITIAL START-UP PROCEDURE section of this manual for complete Gun Start-Up BEFORE spraying.

NOTES

This image shows a single sheet of white paper with horizontal ruling lines. The lines are evenly spaced and run across the width of the page. There are no margins, text, or other markings on the paper.

LIMITED WARRANTY POLICY

GLAS-CRAFT, INC. ("Glas-Craft") warrants to the original Purchaser of Glas-Craft manufactured equipment and parts, that all Glas-Craft 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. Glas-Craft makes no warranty to anyone other than the original Purchaser.

If any Glas-Craft 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 Glas-Craft, Glas-Craft, in its sole discretion, will either repair or replace the defective part or equipment at Glas-Craft'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. Glas-Craft 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 Glas-Craft has issued a return authorization number; and
3. The claimed defective equipment or part has been returned to Glas-Craft by the original Purchaser, freight prepaid (with proper return authorization number(s) attached), to: Glas-Craft, 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 Glas-Craft or to defects or damage resulting from improper installation, misuse, negligence, accident, or use not specified by Glas-Craft. 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 Glas-Craft. The decision by Glas-Craft shall be conclusive and binding on Purchaser.

Glas-Craft 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. Glas-Craft 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. Glas-Craft only warrants that it has no specific knowledge of any such infringement.

Glas-Craft 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. Glas-Craft hereby assigns to Purchaser the original manufacturer's warranties to all such equipment and parts, to the full extent permitted.

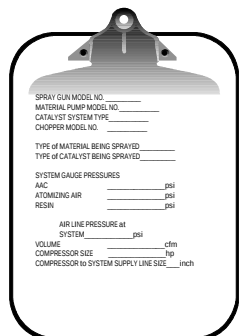
THE AFORESAID WARRANTY IS IN LIEU OF ALL OTHER WARRANTIES, EXPRESS OR IMPLIED. SPECIFICALLY THERE ARE NO WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE, WHICH WARRANTIES ARE SPECIFICALLY DISCLAIMED.

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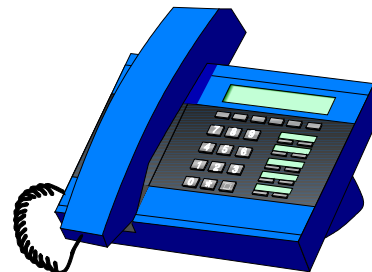
No action arising from or relating to any goods manufactured by or purchased from Glas-Craft may be brought more than one (1) year after the cause of action accrues.

IF YOU HAVE AN EQUIPMENT PROBLEM...



SPRAY GUN MODEL NO. _____
 MATERIAL PUMP MODEL NO. _____
 CATALYST SYSTEM TYPE _____
 CHIPPER MODEL NO. _____
 TYPE OF MATERIAL BEING SPRAYED _____
 TYPE OF CATALYST BEING SPRAYED _____
 SYSTEM GAUGE PRESSURES
 AAC _____ PSI
 ATOMIZING AIR _____ PSI
 RESIN _____ PSI
 AIR LINE PRESSURE at SYSTEM _____ PSI
 VOLUME _____ CFM
 COMPRESSOR SIZE _____ HP
 COMPRESSOR to SYSTEM SUPPLY LINE SIZE _____ inch

If you have a problem that requires Distributor or Glas-Craft Service Department help, gather the following information **BEFORE** you pick-up the telephone.



	Model No.	Serial No.
SPRAY GUN		
MATERIAL PUMP		
TYPE of MATERIAL BEING SPRAYED		
SYSTEM GAUGE PRESSURES		
ISO HEATER GAUGE		PSI
POLY HEATER GAUGE		PSI
MATERIAL PUMP AIR MOTOR		PSI
MAIN AIR LINE PRESSURE at SYSTEM		PSI
MAIN AIR LINE VOLUME		CFM
COMPRESSOR SIZE		HP
COMPRESSOR to SYSTEM SUPPLY LINE SIZE		INCHES

Have a general equipment or operation question?

You can contact the Glas-Craft Service Department via E-Mail at service@glascraft.com

FOR YOUR REFERENCE

DATE PURCHASED _____

DISTRIBUTOR _____

CONTACT _____

PHONE _____

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