

USER MANUAL

Glas**Craft**
DISPENSING EXCELLENCE

Probler P2 *Dispense Gun*



CE
CERTIFIED



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For Your Reference INSIDE BACK COVER

N/A = Non Applicable

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:



Is information about the procedure in progress.



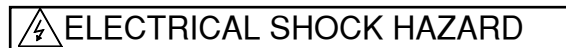
Is imperative information about equipment protection.



Indicates a hazardous situation which, if not avoided, could result in minor or moderate injury.



Indicates a hazardous situation which, if not avoided, could result in death or serious injury.



Indicates a hazardous situation which, if not avoided, could 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 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, up-date or supplement. If you find some 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


Sec. 1:2

Standard Equipment	
Part Number	Description
23950-XX	Probler P2 Dispense Gun
GC-1386	User Manual

Section 1 - Installation: Equipment Assembly

How The Gun Works

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.

 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. (SEE MAINTENANCE SECTION)

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.

GlasCraft Equipment

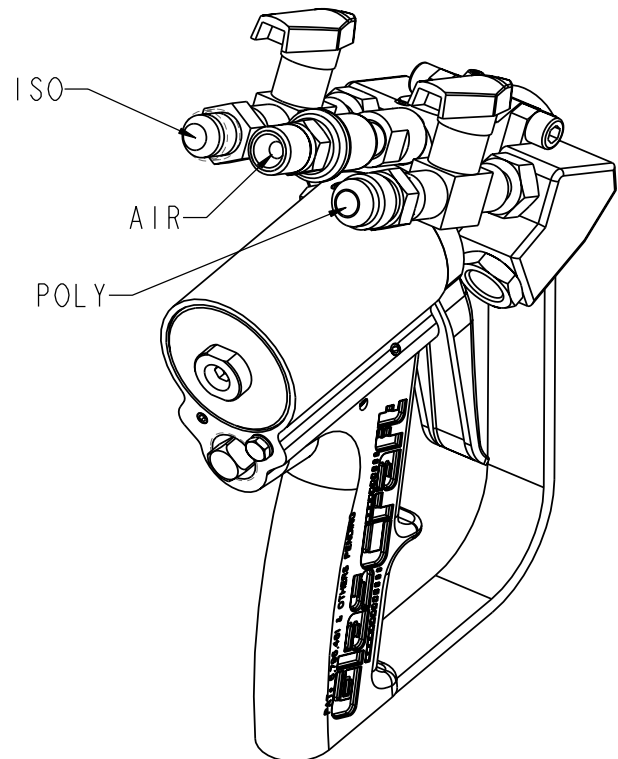
All GCI OEM fittings are as follows:

A SIDE - # 6 JIC	Hoses – Female Swivel Fitting System and Gun – Male Fitting
B SIDE - # 6 SAE	Hoses – Female Swivel Fitting System and Gun – Male Fitting

Air Hose is ¼" NPS

JIC and SAE Fittings **DO NOT** require the use of teflon tape.

Once the fittings are attached and tight, refer to system manuals for start-up instructions.



Section 1 - Installation: Equipment Assembly

Installing P2 on Equipment other than GlasCraft



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

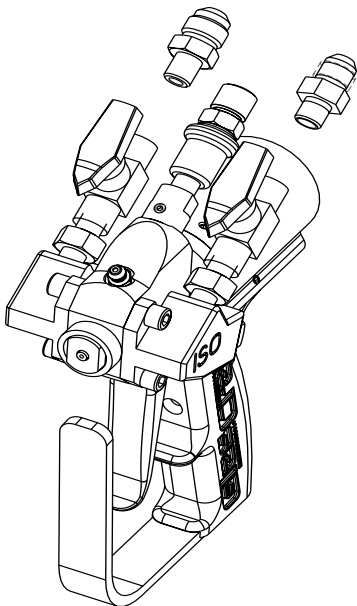
Do not point the gun at or near other personnel.

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.

If original equipment does not require the use of an unheated whip hose or isolation hose, the P2 can be directly installed on to the material hose.

1. Remove the fittings from the original gun, typically these fittings are 1/8 in. NPT male.
2. Remove GCI fittings, p/n's 8560-23, PG-13 from PG-15-01 ball valves. GCI ball valves are 1/8 in. NPT female.



3. Install the original fittings into PG-15-01 valves.




It is recommended to use a non-permanent thread lock on the 1/8 in. NPT threads to assist as a sealant and keep the fittings from twisting with gun movement.

4. Install the gun on the original Hoses.
The air slide valve, p/n 16832-00 is a 1/4 in. NPSM.



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

Section 2 - Operation: Start-Up Instructions

 Refer to specific system user manuals for complete system installation.

Pre operation Checklist

Check that all fittings are tight and air regulators are turned to “zero pressure”.



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.

Operating Requirements

- 8 - 10 CFM at 90 -110 PSI
- MAXIMUM Static Fluid Pressure - 3200 PSI



The GlasCraft Probler P2 Gun is designed and manufactured to operate at a maximum static fluid pressure not to exceed 3200 psi. When attached to a GlasCraft proportioning system, this pressure will not be exceeded. However, if the GlasCraft 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.



If the gun is being used for short periods of spraying, GlasCraft 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.



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 head becoming encased with mixed product.

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.

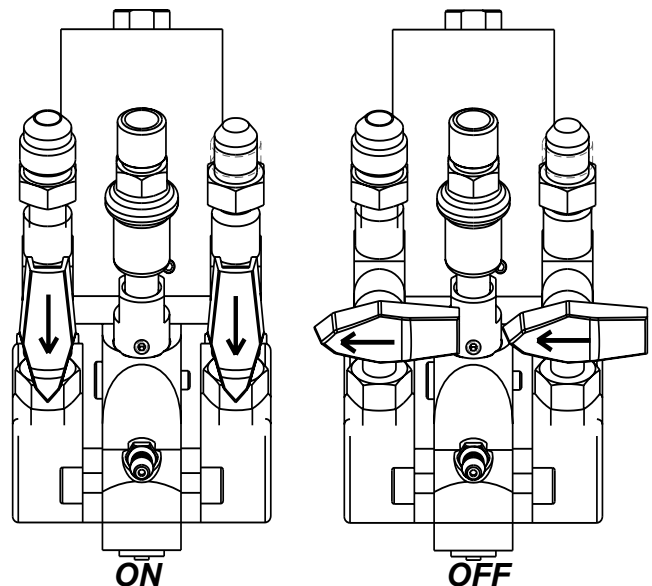


Both material shut-off valves must be FULLY OPEN during dispensing and must be FULLY CLOSED during service or extended shut-down periods.



BOTH MATERIAL SHUT-OFF VALVES, p/n PG-15-01, 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 head becoming encased with mixed product.



Refer to system manuals for start-up and shut-down procedures.

Section 2 - Operation: Start-Up Instructions

Spray Technique

Always operate safely and follow all 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.

Section 3 - General Information: 23950-XX P2 Parts List

Part Number	Description	Qty.
PG-13	FITTING	1
PG-15-01	2-WAY BALL VALVE	2
PG-18	PROBLER TRIGGER	1
PG-19	COMPRESSION SPRING	1
13867-08	O-RING	2
13867-11	O-RING	2
16832-00	AIR SWITCH ASSEMBLY	1
17259-16F	MACHINE SCREW	1
18383-02	1/4 DIA BALL	3
19881-00	PLUG FITTING	1
2253-04	LUBE FITTING	1
23951-00	1-3/8" AIR PISTON	1
23952-00	1-1/2" AIR PISTON	1
23953-00	CYLINDER SPACER	1
23954-00	VALVE INSERT	1
23955-00	ISO SIDE BLOCK	1
23956-00	POLY SIDE BLOCK	1
23957-00	CHECK VALVE FILTER	2
23958-00	SEAL	2
23959-00	SEAL HOUSING	2
23961-00	FRONT TIP	1
23962-00	HANDLE	1
23963-00	PROBLER P2 HEAD	1
23964-00	GUARD	1
23965-00	TRIGGER PISTON	1
23966-00	REAR CAP	1
23967-00	TRIGGER PLUG	1
23968-00	RETAINING RING	1
23969-00	SPRING	3
23970-00	SPRING	2
23971-00	FILTER SCREEN	2
23973-00	SEAL	2
23974-07	O-RING	2
23974-12	O-RING	1
7554-05	O-RING	1
7554-06	O-RING	1
7554-07	O-RING	1
7554-10	O-RING	1

7554-07	O-RING	1
7554-09	O-RING	2
16830-00	AIR SWITCH TUBE	1
16831-00	AIR SWITCH SPOOL	1

Part Number	Description	Qty.
7554-16	O-RING	3
7554-25	O-RING	1
7554-26	O-RING	1
7554-27	O-RING	1
7554-29	O-RING	1
7554-43	O-RING	1
7704-08C	SET SCREW	1
7716-06C	SET SCREW	11
8212-12F	MACHINE SCREW	2
8301-12C	MACHINE SCREW	1
8462-08	FITTING	2
8560-23	FITTING	1
9869-19	SHOULDER SCREW	1
9936-20F	SET SCREW	1
9944-16C	MACHINE SCREW	4

Sec. 3:1

Section 3 - General Information: Maintenance



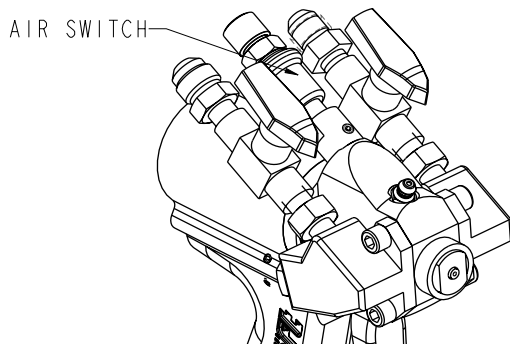
Before attempting to perform any maintenance on this gun, relieve All Fluid and Air Pressures!

- To relieve fluid and air pressures:
- Turn OFF all air supplies at system except gun trigger air.
- Trigger the gun until all fluid pressures have been relieved.
- Turn OFF the gun trigger air at the system.
- Trigger the gun until all trigger air pressure has been relieved.

Perform Gun maintenance as follows:

1. Check for leaking Seals, p/n 23973-00:

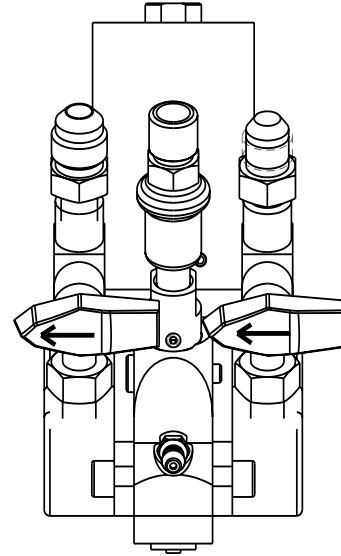
- Turn OFF the gun incoming air by closing gun air switch.



- Wait approximately 10 - 20 seconds, then turn ON the 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, or o-ring, p/n 23974-07
- Correct leaks by replacing the seals or o-rings and re-checking.

2. Check the material valves, p/n PG-15-01 for any leaks:

- Turn OFF both material valves.



- Trigger the gun several times.
- Turn OFF the gun incoming air by closing the air switch.
- Trigger the gun several times.
- If additional material is purged, the material valves are leaking.
- Correct the leaks by taking off black knobs and turning packing 1/8 in. to 1/4 in. turns at a time until the leak has stopped. Re-check.

3. Check Side Blocks

- Turn OFF the air switch on the gun.



Before removing the side blocks make certain that both material valves are in the OFF positions!

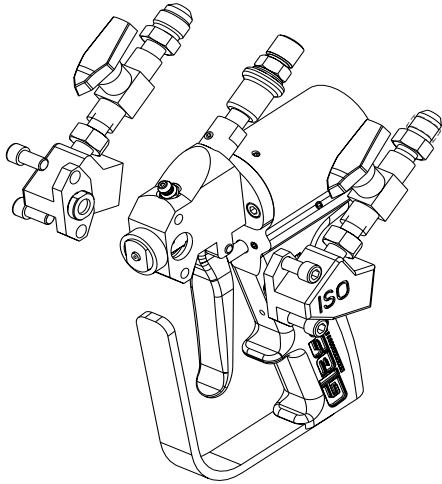
If the material valves are on when the side blocks are removed the gun will quickly become encased in urethane!



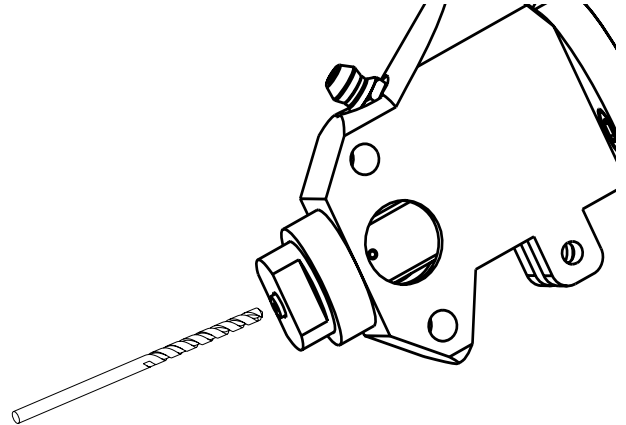
Point gun side blocks down, away from all personnel. Existing fluid pressures could cause material to exit the side blocks with considerable force.

Section 3 - General Information: Maintenance

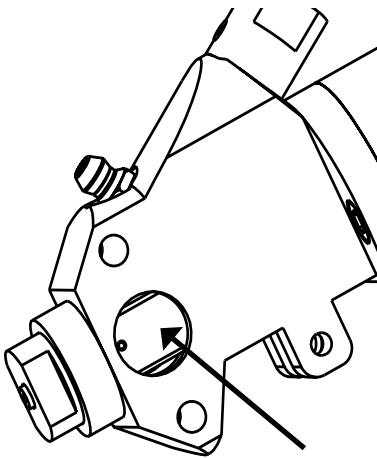
- Take the Side Blocks off by removing screws, p/n 9944-16C.



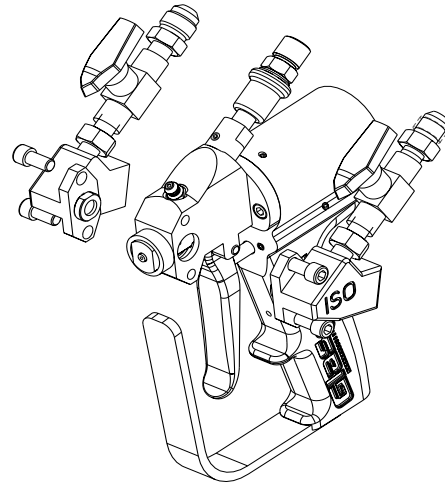
- Use correct size drill bit to clean out the mixing chamber exit passage. Use correct size drill bit to clean the inlet side holes of the mixing chamber taking care not to scratch the mixing chamber's polished surfaces. (refer to the chart at front of manual)




- Examine the sides of the mixing chamber, p/n 23960- 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 the 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.



- Re-assemble the side blocks and tighten the screws. Grease should appear at the tip of the Mixing Chamber.



- Place generous amounts of high quality, white lithium grease in each side of the gun front housing and on the side block seals.

 **DO NOT** open the air switch on the gun because this will purge grease from the Gun. The grease should be allowed to remain in the gun overnight.

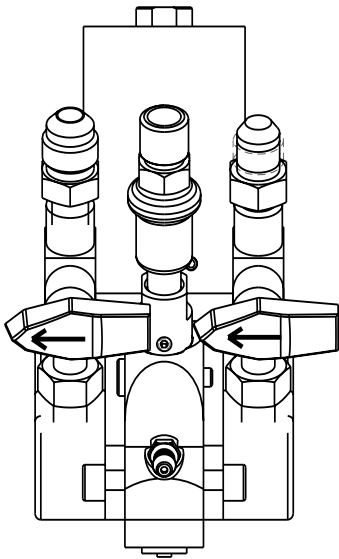
Section 3 - General Information: Maintenance

Daily Shut-Down

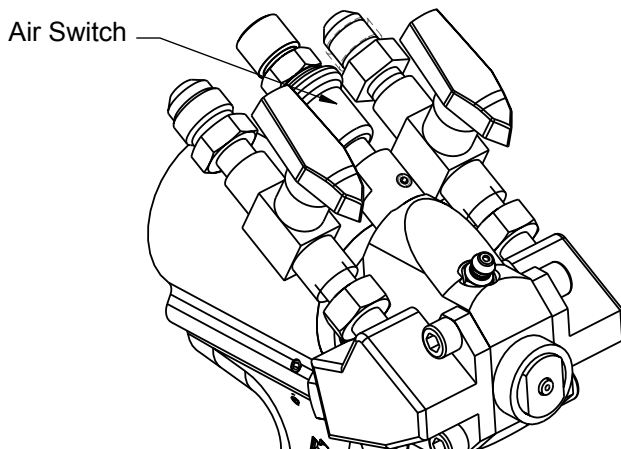
For experienced users

Once you have used the gun with a product and system, and you have become comfortable with techniques on how all the variables are affecting your operations and maintenance requirements, Daily, Weekly, and Monthly Maintenance requirements can be addressed specific to your operation.

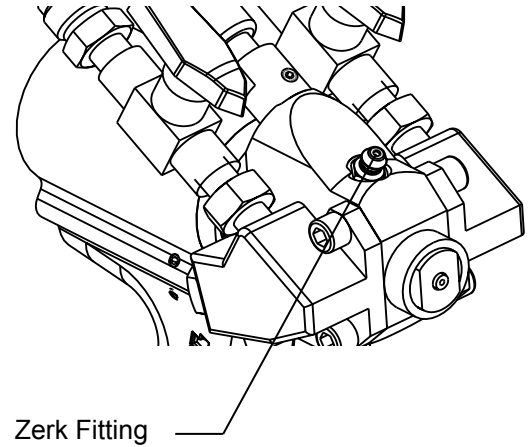
1. Turn the ball valves off, p/n PG-15-01, activate and deactivate the gun 5 - 6 times to purge residual pressure.



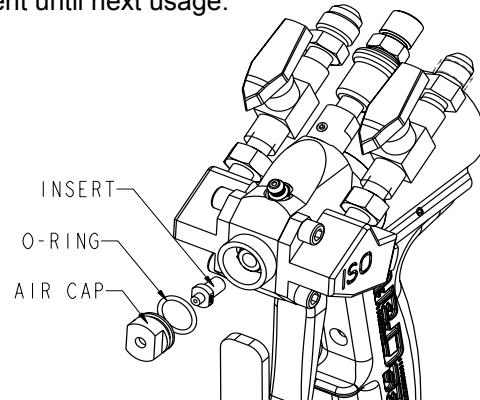
2. Drill out the chamber insert snout with correct size drill bit for insert. (see chart in front of manual)
3. Pull slide valve, p/n 16832-00 halfway back to limit the air purge.



4. Inject white lithium grease into zerk fitting until a light mist of grease is purged through the snout. Shut off the air purge.




5. Remove the air cap, p/n 23961-00 and set to side. If solvent soaking is required, remove the o-ring, p/n 23974-12 before soaking.
6. Remove the insert, p/n 23977-XX and soak in solvent until next usage.



Daily Start-Up

1. Clean the snout insert, p/n 23977-XX. Be sure both, the face and bottom flat are Clean. Drill the snout bore out with the correct size bit for Snout. (see chart in front of manual)
2. Clean the inner bore of the chamber. Drill out the chamber snout inlet bore as required.
3. Install the snout insert.
4. Install the air cap, p/n 23961-00 on to the chamber. Tighten finger tight until the cap bottoms out. Snug down with a 1/2 in. wrench. This does not require high torque. Over tightening can result in chamber damage.

Section 3 - General Information: Maintenance

 Refer to specific system user manuals for complete system installation.

Parts Replacement Procedure



Before attempting to perform any maintenance on this gun OR before removing the side blocks, make certain that both gun material valves are in the OFF positions!

If the 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 GlasCraft replacement parts from your authorized GlasCraft 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



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!

If the 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.

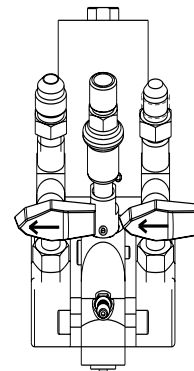
1. Clean the gun using a brush and an appropriate clean solvent.
2. Inspect the side block seals, p/n 23973-00, making certain they are clean and free of scratches, nicks or foreign material. Clean and replace as required.
3. Remove, clean or replace the filter screen, p/n 23971-00.
4. Maintain a reasonable stock level of "wear" items such as seals and o-rings. (see Service & Repair Parts Kits listed in Parts & Illustrations section.)

Piston Throw Adjustment

The P2 gun piston throw is factory set and as a rule, should not require adjustment. The piston throw refers to how far back the air piston will travel when the gun is triggered. Proper throw adjustment will align the mixing chamber side ports with the side block seal thru port. There is a set screw that determines how far the piston will travel before it stops.

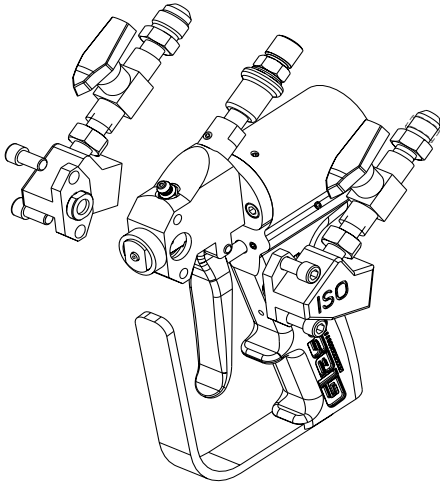
To determine if the Throw is correct:

1. Turn the material ball valves, p/n PG-15-01 to the OFF position.

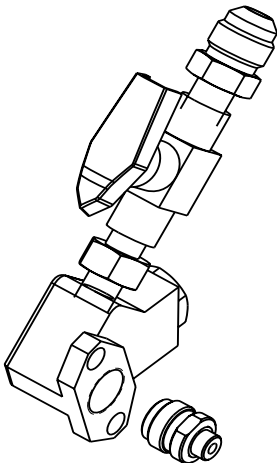


Section 3 - General Information: Maintenance

2. Trigger the gun to clear out residual pressure in Side blocks.
3. Remove the side blocks, p/n 23955-00 & 23956-00.



4. Remove one of the side block seal housings, p/n 23959-00 from side block. Leave the seal, p/n 23973-00 in housing and rinse with suitable solvent.



5. Turn the air ON to gun, pull the trigger to actuate the gun into spray position, when gun pulls back, keep in mind the purge air will not shut off. Turn air OFF at the slide valve, p/n 16832-00 before releasing trigger.

6. Place seal / seal housing assembly into gun head so the face of seal sets against the chamber. Look thru the thru port of the Seal. The side port of the Chamber should be at the center, or slightly forward of the center line. If this adjustment appears to be correct, rotate the seal housing to ensure the air cap, p/n 23961-00 is not contacting the seal housing, p/n 23959-00. There should be no contact between these two parts. Contact will result in chamber damage.

7. Adjust the set screw, p/n 17259-16F until

- a. The side port of the chamber is "on center" with or forward of center of the thru port of seal.
- b. The seal housing can be rotated and does not make contact with the air cap.

8. Turn the air ON and re trigger the gun, then shut the air OFF before releasing trigger. Re-check the throw.

9. If the set screw feels loose, Remove it from the rear cap, clean and apply non-permanent thread lock to threads and reinstall, set adjustment.

Section 3 - General Information: Options

Optional Equipment

Part Number	Description
23976-00	Flat Spray Kit
23983-01	Jet Stream Nozzle
23983-02	Jet Stream Nozzle
23984-00	Pour Adapter
23986-00	Static Mixer
23941-00	* P2 Elite Conversion Kit

23941-00

Part Number	Description	Qty.
11021-22	PIPE PLUG	3
18012-02	HEATED HOSE COVER	2
1880-00	FITTING	1
20735-01	ELBOW FITTING	1
20798-02	FITTING	1
21054-01	NYLON TUBING	3
21478-01	ELBOW FITTING	2
23776-00	BALL VALVE	1
23901-00	P2-ELITE HEAD	1
23902-00	POLY SIDE BLOCK	1
23903-00	ISO SIDE BLOCK	1
23904-00	PISTON SPACER	1
23906-00	MOUNTING PLATE	1
23907-00	SWIVEL ADAPTER	1
23908-01	WHIP HOSE	1
23908-02	WHIP HOSE	1
8560-23	FITTING	3
9936-32F	SET SCREW	1
PG-13	FITTING	3
PG-15-01	BALL VALVE	2
GC-1410	USER MANUAL	1

* The P2 Elite conversion kit is **ONLY** available for Probler P2 guns with rev B to current gun handle.

Section 3 - General Information: Options

Service & Repair Kits

23975-00 Standard Repair Kit		
Part Number	Description	Qty.
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
7554-16	O-Ring	3
7554-25	O-Ring	1
7554-26	O-Ring	1
7554-27	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

23979-00 Hardware Kit 00-03		
Part Number	Description	Qty.
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
14963-13	Drill Bit	1
14963-14	Drill Bit	1
14963-15	Drill Bit	1
23974-12	O-Ring	1
23974-07	O-Ring	2

23980-00 Hardware Kit 04-05		
Part Number	Description	Qty.
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

23979-AA Hardware Kit -AA		
Part Number	Description	Qty.
14963-28	Drill Bit	1
14963-29	Drill Bit	1
15845-00	Ball Driver	1
15845-01	Ball Driver	1
17672-00	Vise Pin	1
23971-00	Filter Screen	2
23974-07	O-Ring	2
23974-12	O-Ring	1

23978-00 Side Seal Kit		
Part Number	Description	Qty.
23973-00	SST Side Seal	2
23974-07	O-Ring	2

23981-00 Premium Repair Kit		
Part Number	Description	Qty.
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

Section 3 - General Information: Options

Cleaning Drill Chart

Round Mixing Chamber	Mixing Chamber Nozzle Cleaning Drill		Mixing Chamber Hole Cleaning Drill	
23960-AA	14963-28	0.033	14963-29	0.022
23960-00	14963-30	0.049	14963-24	0.035
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	0.059
23960-04	14963-19	0.094	14963-14	0.07
23960-05	14963-20	0.116	14963-15	0.086
DRILL PIN VISE 17672-00				

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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: The nozzle size is stated by the Orifice, Size, and Degree of Spray.
 Example: LPA2-147-1525 .015 Orifice 25 Degrees

Non Atomized Tips, For use w/23976-00	
23047-J1	. Character Designates Pattern Width . Number Designates Orifice Contact the GlasCraft Tech. Service department for help matching a tip with an application.
23047-J2	
23047-J3	
23047-M1	
23047-M2	
23047-M3	
23047-P1	
23047-P2	
23047-P3	

Section 3 - General Information: Options

Dispense Tip Reference Chart

Part Number	Orifice	
23005- TC6	0.060	*
TC7	0.070	*
TC8	0.080	*
TE7	0.070	*
TG7	0.070	*

*INDICATES THAT THESE TIPS ARE MADE WITH A2 TOOL STEEL

Part Number	Orifice
23047- J1	.012
J2	.014
J3	.022
M1	.012
M2	.014
M3	.022
N1	.012
N2	.014
N3	.022
P1	.012
P2	.014
P3	.022

Section 3 - General Information: Options

Dispense Tip Reference Chart

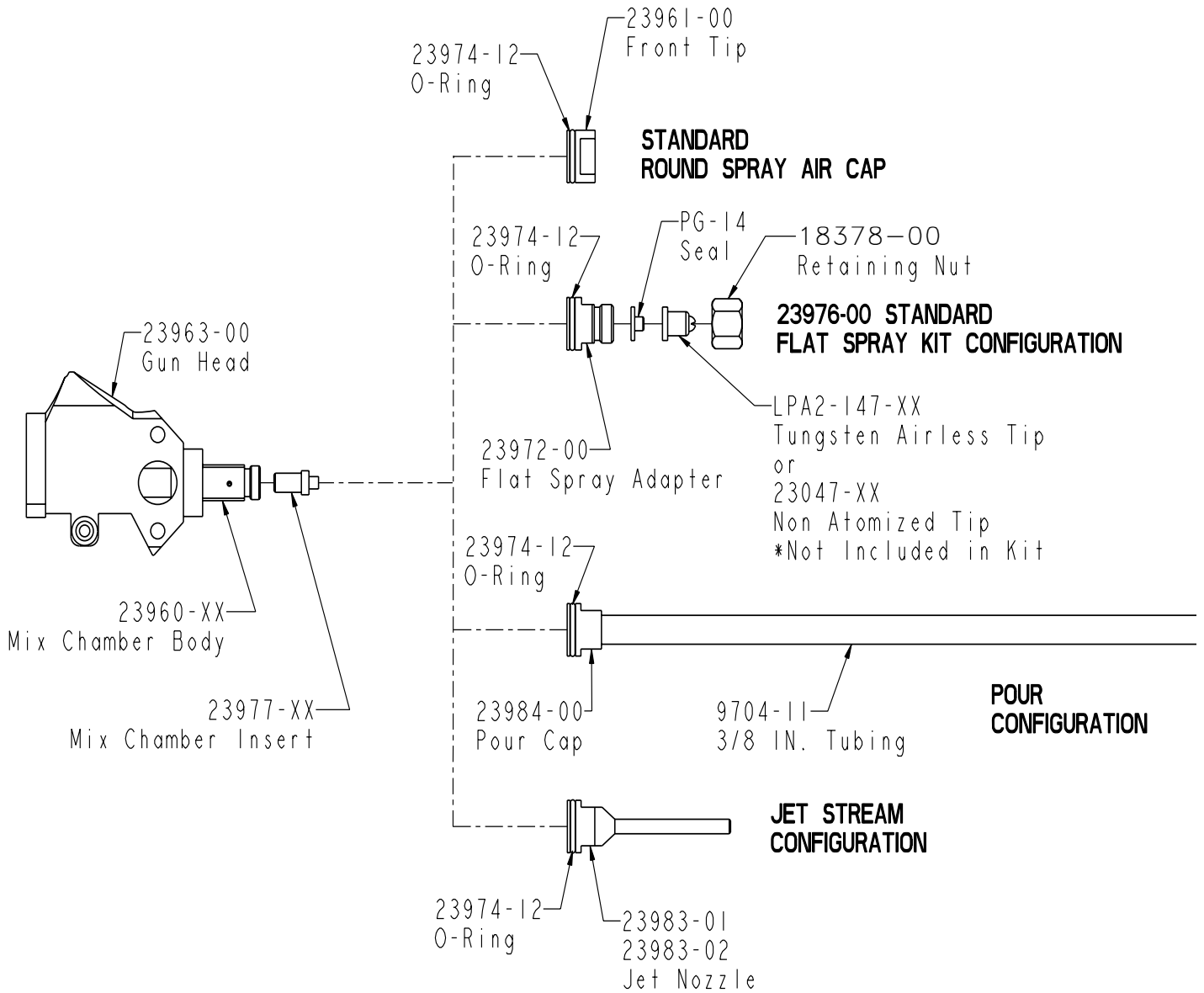
Part Number	Orifice
LPA2-147-1525	0.015
1540	0.015
1550	0.015
1565	0.015
1825	0.018
1840	0.018
1850	0.018
1865	0.018
2125	0.021
2140	0.021
2150	0.021
2165	0.021
2325	0.023
2340	0.023
2350	0.023
2365	0.023
2625	0.026
2640	0.026
2650	0.026
2665	0.026

Part Number	Orifice
3125	0.031
3140	0.031
3150	0.031
3165	0.031
3625	0.036
3640	0.036
3650	0.036
3840	0.038
3850	0.038
4325	0.043
4340	0.043
4350	0.043
4365	0.043
5225	0.052
5240	0.052
5250	0.052
5265	0.052

Part Number	Orifice
LPA2-147-6225	0.062
6240	0.062
6250	0.062
6265	0.062
7240	0.072
7250	0.072
7840	0.078

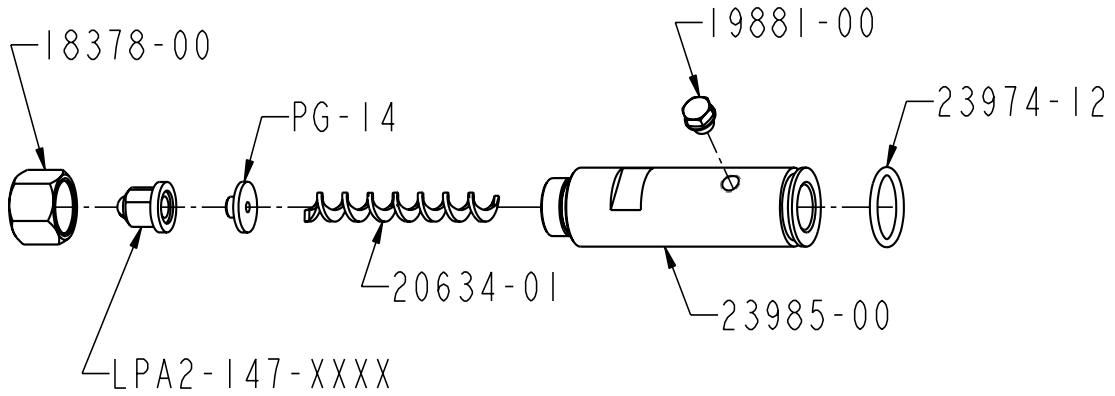
Section 3 - General Information: Options

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Section 3 - General Information: Options

Static Mixer Kit
23986-00



Part Number	Description	Qty.
PG-14	FLUID NOZZLE SEAL	1
18378-00	NOZZLE NUT	1
19881-00	PLUG FITTING	1
20634-01	SPIRAL MIXING ELEMENT	1
23974-12	O-RING	1
23985-00	STATIC MIXER ADAPTER	1

Section 4 - Safety Information: General 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. GlasCraft 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, GlasCraft 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

GlasCraft recommends the following Personal Safety Equipment for conducting safe operations of the Polyester Systems:



GlasCraft 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.

Section 4 - Safety Information: General Safety

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



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 GlasCraft 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.

Section 4 - Safety Information: General Safety

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.



GlasCraft 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.

GlasCraft 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

GlasCraft 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 plant.

First Aid

If chemicals containing isocyanate 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 isocyanate.

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.

Section 4 - Safety Information: General Safety

If a person accidentally swallows isocyanate, 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 GLASCRAFT DISTRIBUTOR OR GLASCRAFT, INC.



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.

GlasCraft
DISPENSING EXCELLENCE

5845 WEST 82nd STREET, SUITE 102
INDIANAPOLIS, INDIANA 46278 U.S.A.

PHONE (317) 875-5592

FAX (317) 875-5456

Section 4 - Notes

Sec. 4:2

Section 4 - 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 - 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**

For Air Powered Systems:

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: _____

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

Quality and Performance...

GENUINE GLASCRAFT

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