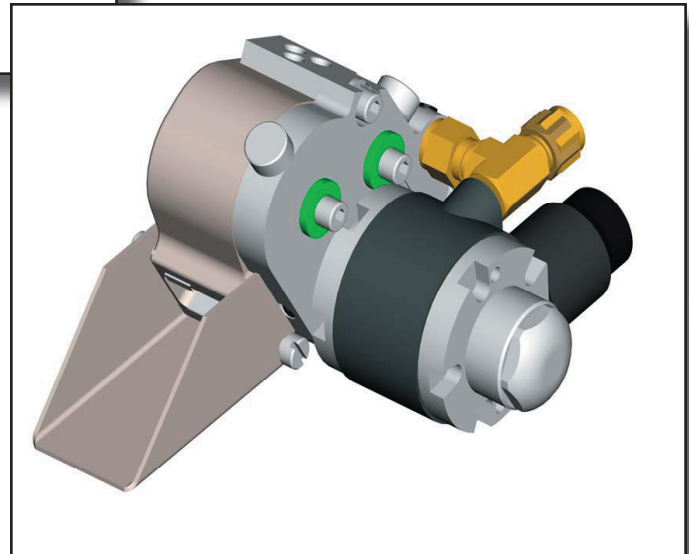
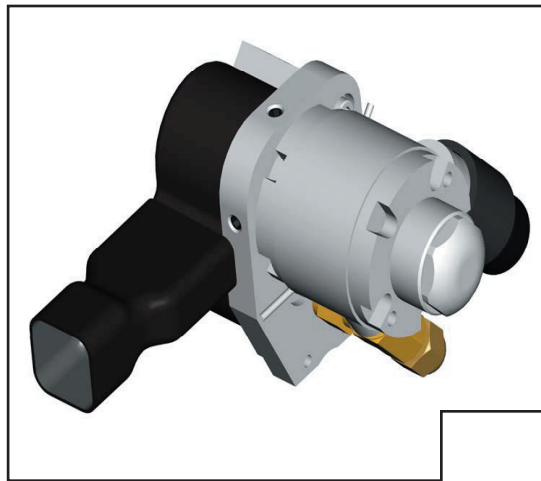


USER MANUAL

GlasCraft
DISPENSING EXCELLENCE

Fiberglass Roving Choppers



GlasCraft
DISPENSING EXCELLENCE

5845 WEST 82ND STREET
INDIANAPOLIS, INDIANA
46278 U.S.A.

Phone (317) 875-5592
Fax (317) 875-5456
Email gcisales@glascraft.com
Web www.glascraft.com

CE
CERTIFIED



Table Of Contents

Introduction

About This Manual.....	1
General Information	2

Parts & Illustrations

Repair Kits	3
B-410 Assembly	4
B-510 Assembly	6
AM-100 Air Motor	8
AM-100-2 Air Motor	9

Safety

Operating Your Polyester System Safety	10
--	----

Installation

LPA2 / Indy Gun	18
Indy-X Gun	20
Formula Gun	21
Operation	23

Maintenance

Blade Replacement Procedure	25
Chopper Blade Installation Illustration	26
Anvil Sleeve Replacement / Adjustments	27

Notes	29
-------------	----

Limited Warranty Policy	31
-------------------------------	----

Technical Assistance	32
----------------------------	----

For Your Reference	INSIDE BACK COVER
--------------------------	-------------------

Introduction

About This Manual

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:

NOTE

Is information about the procedure in progress.

CAUTION

Is imperative information about equipment protection.

WARNING

Is imperative information about personal 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 **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.

General Information

The manner in which this equipment is adjusted and used will ultimately determine the quality of the finished parts it is used to produce. Glass/resin ratios, cure times and outputs are readily adjustable with the use of the pressure regulators provided. However, the amount of material waste, evenness of application and speed of operation will be regulated by the skill of the operator.

Any change in the resin pressure regulator setting will require simultaneous changes in the roving cutter to maintain identical glass/resin ratios and cure times. At very high outputs, it may become necessary to use multiple strands of roving in order to achieve sufficient glass content.

NOTE

Do not attempt to achieve glass contents in excess of 40%

The experience of most fiberglass operations indicates that extremely high glass/resin ratios result in laminates that are difficult to roll out and insufficiently "wet-out" for highest strength. On the other hand, very low glass contents may result in laminates with very low mechanical strengths and a tendency to fracture under stress.

When spraying with a Chopper attached, proper Chopper adjustment is essential to achieving an even dispersal of cut roving in the resin fan.

If the Chopper is off-center, roving will collect on one side of the spray pattern with excess resin on the other side. If the Chopper height adjustment is too low, roving will miss the resin completely and fall to the floor dry. If adjusted too high, roving will tend to concentrate in the middle of the spray pattern.

Whenever possible, the gun should be held perpendicular to the mold surface. A working distance of 18 to 36 inches will generally give good results.

Parts & Illustrations

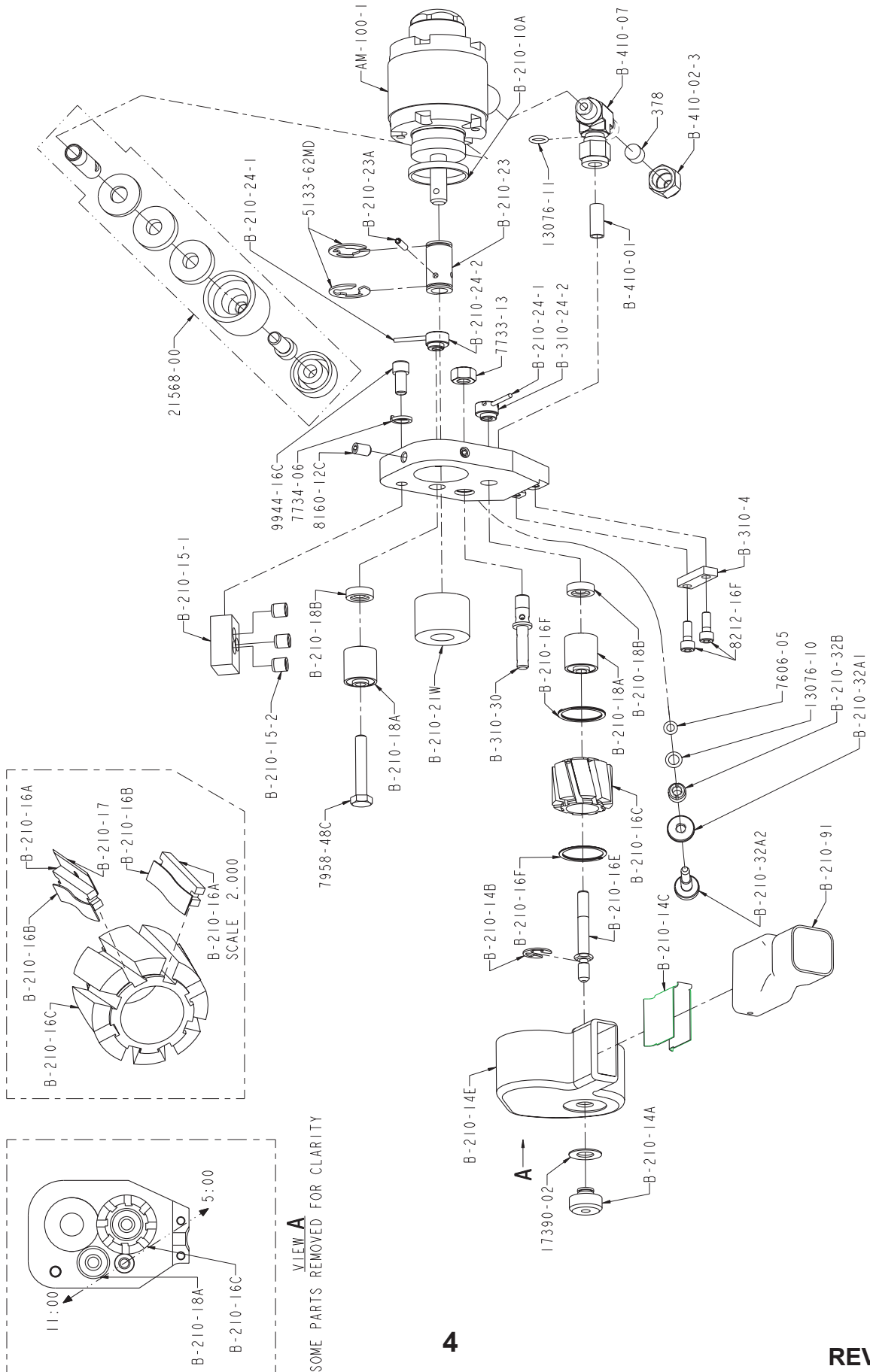
B-210-71 Repair Kit		
Part Number	Description	Qty.
B-210-17	BLADES	100
B-210-21W	SMALL WHITE RUBBER WHEEL	1
5133-62MD	SNAP RING	2

B-510-71 Repair Kit		
Part Number	Description	Qty.
B-510-25	BLADES	100
B-510-08	LARGE WHITE RUBBER WHEEL	1

AM-120 Repair Kit		
Part Number	Description	Qty.
AM-103	VANE	8
AM-109	GASKET	2
AM-112	BEARING	2
AM-113	SEAL	1
7606-17	O-RING	1

Chopper Snout Options		
Part Number	Description	Gun
23543-00	OPEN SNOUT	INDY / FORMULA
23543-01	CLOSED SNOUT	INDY / FORMULA
23543-02	OPEN SNOUT	INDY X
B-210-91	CLOSED SNOUT (NARROW)	LPA2 / INDY / FORMULA
B-210-92	CLOSED SNOUT (WIDE)	LPA2 / INDY / FORMULA

B-410 Chopper



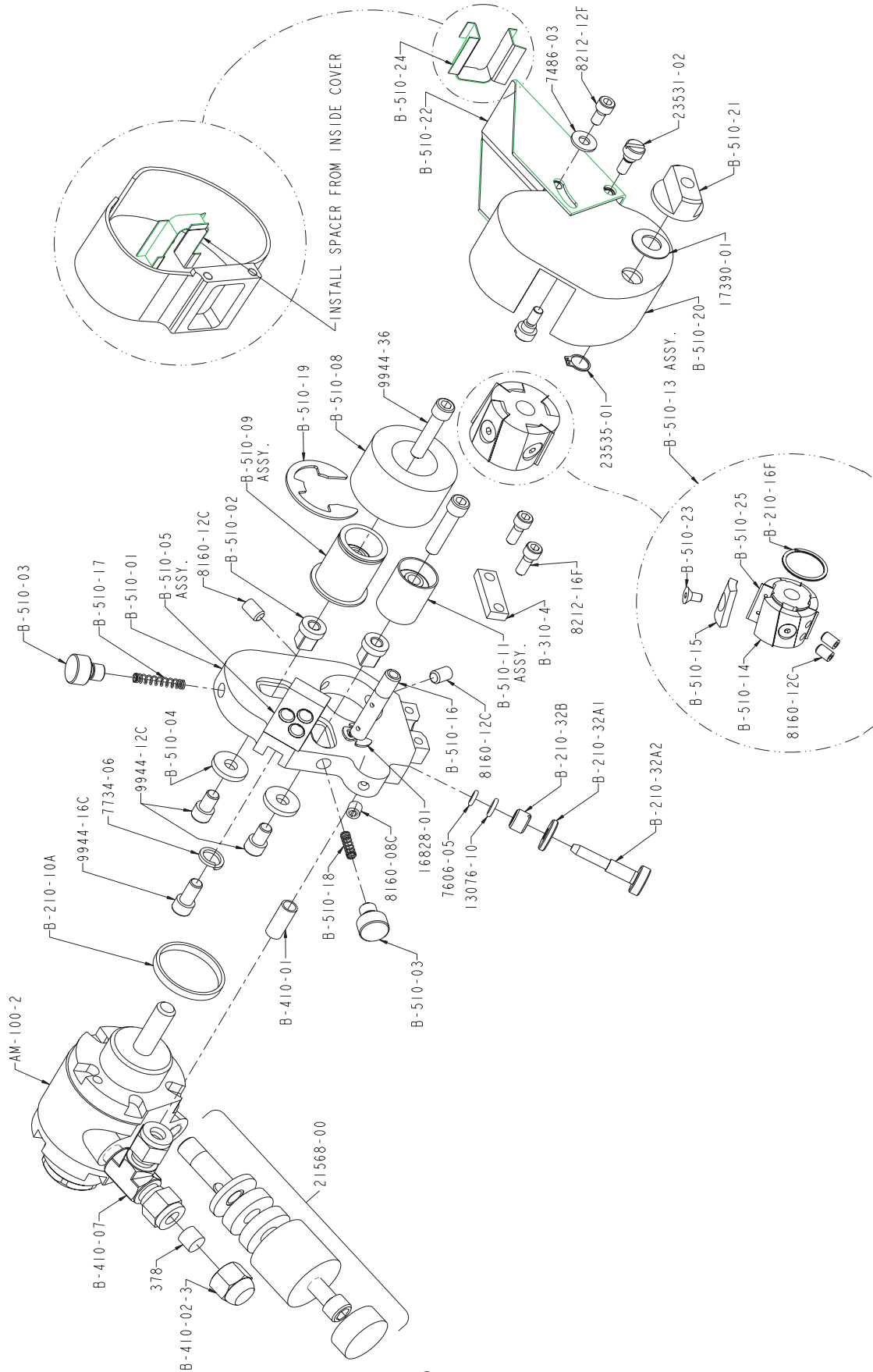
B-410 Parts List

Part Number	Description
378	FELT OILER
13076-10	O-RING
13076-11	O-RING
17390-02	SPRING WASHER
5133-62MD	SNAP RING
7606-05	O-RING
7733-13	NUT
7734-06	LOCK WASHER
7958-48C	MACHINE SCREW
8160-12C	SET SCREW
8212-16F	MACHINE SCREW
9944-16C	MACHINE SCREW
21568-00	MUFFLER ASSEMBLY
AM-100-1	AIR MOTOR ASSEMBLY
B-210-10A	AIR MOTOR SPACER
B-210-14A	NUT GUARD
B-210-14B	SNAP RING
B-210-14C	GUARD LINER
B-210-14E	CHOPPER GUARD
B-210-15-1	FEED BAR
B-210-15-2	BUSHING
B-210-16A	CUTTING BLADE BAR
B-210-16B	RET.BAR SPRING
B-210-16C	CUTTER HEAD
B-210-16E	CUTTING HEAD BOLT
B-210-16F	SNAP RING
B-210-17	CUTTING HEAD BLADE
B-210-32A2	THUMB SCREW
B-210-32B	CONTROL BLOCK NUT
B-210-71	CHOPPER PARTS KIT
B-210-91	CUTTER GUARD SNOOT
B-310-24-2	ECCENTRIC NUT
B-310-30	CHOPPER BLOWER TUBE
B-310-4	CUTTER CLIP
B-410-01	AIR MOTOR TUBE
B-410-02-3	NUT CAP
B-410-07	TEE SWAGE PIPE FITTING
B-410-13	CUTTER BACK PLATE
GC-1021	USER MANUAL

Part Number	Description	Qty.
21561-00	LOCK NUT	1
21562-00	FELT WASHER	2
21563-01	SPEED KNOB	1
21564-00	MUFFLER TUBE	1
21567-24F	SCREW	1
7486-23	WASHER	1

Part Number	Description	Qty.
B-210-17	CUTTING HEAD BLADE	100
B-210-21W	SMALL WHITE RUBBER WHEEL	1
5133-62MD	SNAP RING	2

B-510 Chopper



B-510 Chopper Parts List

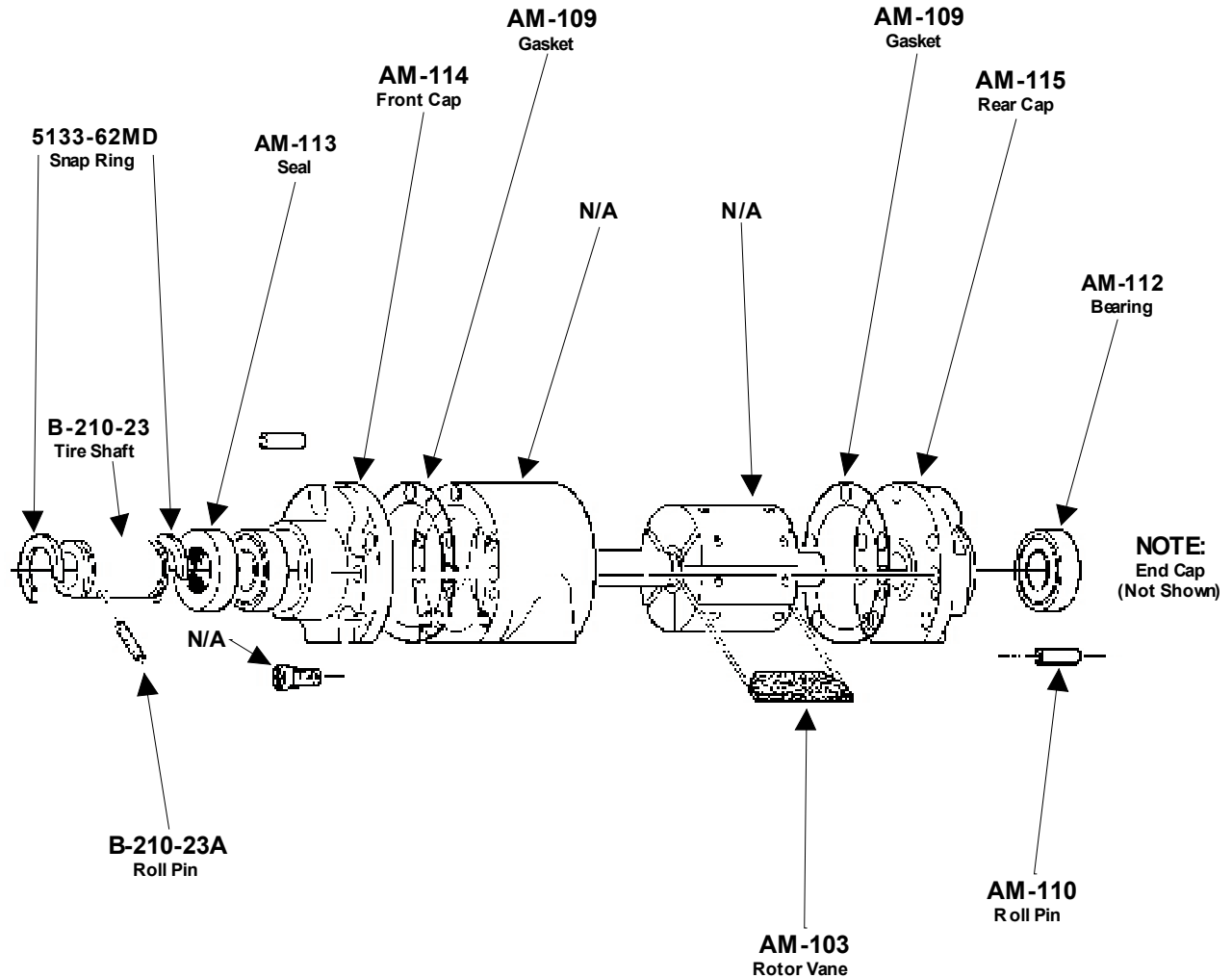
Part Number	Description
378	FELT OILER
13076-10	O-RING
13076-11	O-RING
16828-01	RETAINING RING
17390-01	SPRING WASHER
7486-03	WASHER
7606-05	O-RING
7734-06	LOCK WASHER
8160-08C	SET SCREW
8160-12C	SET SCREW
8212-12F	SCREW
8212-16F	SCREW
9944-12C	SCREW
9944-16C	SCREW
9944-36C	SCREW
21568-00	CHOPPER MUFFLER ASSEMBLY
23531-02	SHOULDER SCREW
23535-01	SNAP RING
AM-100-2	AIR MOTOR ASSEMBLY
B-210-10A	AIR MOTOR SPACER
B-210-16F	SNAP RING
B-210-17	CUTTING HEAD BLADE
B-210-32A1	LOCK NUT
B-210-32A2	THUMB SCREW
B-210-32B	CONTROL BLOCK NUT
B-310-4	CUTTER CLIP
B-410-01	AIR MOTOR TUBE
B-410-02-3	NUT CAP
B-410-07	TEE SWAGE PIPE FITTING
B-510-01	BACK PLATE
B-510-02	SLIDING LOCK
B-510-03	ADJUSTMENT KNOB
B-510-04	ADJUSTMENT WASHER
B-510-05	FEED BAR
B-510-08	LARGE WHITE RUBBER WHEEL
B-510-09	ROLLER HUB
B-510-11	IDLER BEARING
B-510-14	ANGLE WEDGE CUTTER HEAD
B-510-15	ANGLE WEDGE INSERT
B-510-16	BLOWER TUB

Part Number	Description
B-510-17	COMPRESSION SPRING
B-510-18	COMPRESSION SPRING
B-510-19	RETAINING RING
B-510-20	GUARD CASTING
B-510-21	TURN KNOB
B-510-22	CHOPPER CHUTE
B-510-23	SCREW
B-510-24	COVER INSERT
B-510-25	1 in. CUTTING HEAD BLADE
B-510-71	CUTTER SPARE PARTS KIT
GC-1021	USER MANUAL

Part Number	Description	Qty.
21561-00	LOCK NUT	1
21562-00	FELT WASHER	2
21563-01	SPEED KNOB	1
21564-00	MUFFLER TUBE	1
21567-24F	SCREW	1
7486-23	WASHER	1

AM-100 Air Motor

Used with B-410 Chopper

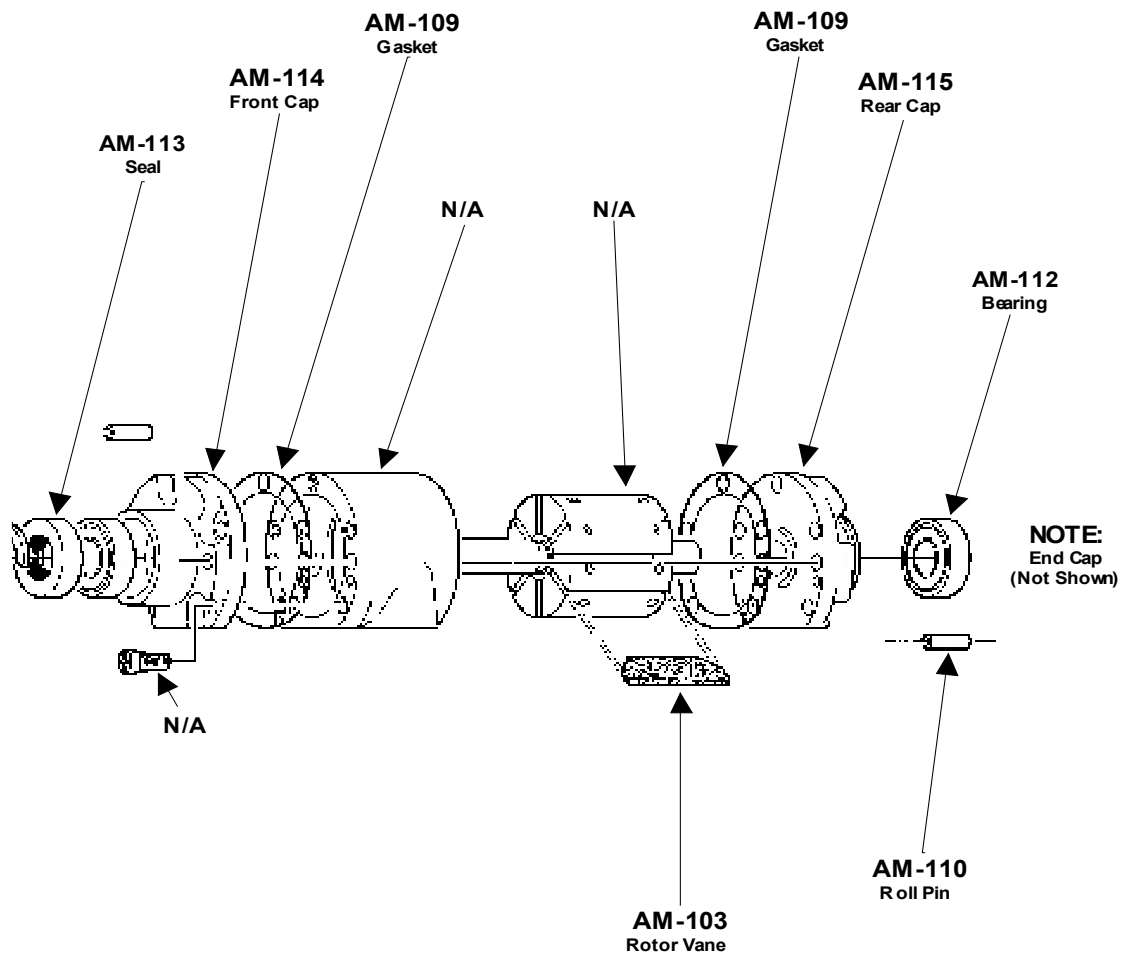


REVISED 2/98

REPAIR KIT: AM-120

AM-100-2 Air Motor

Used with the B-510 Chopper



REPAIR KIT: AM-120

Safety

Operating Your Polyester System Safely

1.0 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.

This system has been specifically designed for use of Polyester Resin, Gel-Coat, and Methyl Ethyl Ketone Peroxides (MEKP) applications. Other formulations or blends considered for use in this equipment is strictly prohibited without the expressed consent by GlasCraft Inc.

GlasCraft, Inc. cannot eliminate every danger nor foresee every circumstance that might cause an injury during equipment operation. Some risks, such as the high pressure liquid stream that exits the spray tip, are inherent to the nature of the machine operation and are necessary to the process in order to manufacture the end-product. For this reason, ALL personnel involved in polyester operations should read and understand the Safety Manual. It is very important for the safety of employees involved in the operation that equipment operators, maintenance and supervisory personnel understand the requirements for safe operation.

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. GlasCraft recommends this Safety Manual remain on your equipment at all times for your personnel safety.

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.

Other standards and recognized authorities to consult are the National Fire Protection Association (NFPA) bulletins as follows:

- NFPA No. 33 Chapter 14, Organic Peroxides and Dual Component Materials
- NFPA No. 63 Dust Explosion Prevention
- NFPA No. 70 National Electrical Code
- NFPA No. 77 Static Electricity
- NFPA No. 91 Blower and Exhaust System
- NFPA No. 654 Plastics Industry Dust Hazards
- Type of Fire Extinguishing equipment recommended :

Fire Extinguisher -- code ABC, rating number 4a60bc. Extinguishing Media -- Foam, Carbon Dioxide, Dry Chemical, Water Fog.

Copies of the above bulletins are available, at a nominal charge from:

National Fire Protection Association
470 Atlantic Avenue
Boston, MA 02210

Research Report No. 11 of the American Insurance Association deals with "Fire, Explosion and Health Hazards of Organic Peroxides". It is published by...

American Insurance Association
85 John Street
New York, New York 10038

Local codes and authorities also have standards to be followed in the operation of your spraying equipment. Your insurance carrier will be helpful in answering questions that arise in your development of safe procedures.

1.2 Personnel Safety Equipment

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



EYE
PROTECTION



HEARING
PROTECTION



BREATHING
PROTECTION

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

2.0 Material Safety

2.1 Hazards Associated with Laminating Operations

The major hazards which should be guarded against in polyester laminating operations are those associated with:

1. The flammability and explosion dangers of the catalyst normally used - Methyl Ethyl Ketone Peroxide (MEKP).
2. The flammability dangers of clean-up solvents sometimes used (GlasCraft recommends that clean-up solvents be nonflammable), and of resin diluents used, such as styrene.
3. The flammability dangers of catalyst diluents, if used. (GlasCraft recommends that catalyst not be diluted.)
4. The flammability dangers of the uncured liquid resins used.
5. The combustibility dangers of the cured laminate, accumulations of overspray, and laminate sandings.
6. The toxicity dangers of all the chemicals used in laminating operations with respect to ingestion, inhalation and skin and eye hazards.

2.2 Catalyst

(Methyl Ethyl Ketone Peroxide)

MEKP is among the more hazardous materials found in commercial channels. The safe handling of the "unstable (reactive)" chemicals presents a definite challenge to the plastics industry. The highly reactive property which makes MEKP valuable to the plastics industry in producing the curing reaction of polyester resins also produces the hazards which require great care and caution in its storage, transportation, handling, processing and disposal.

MEKP is not a single chemical. Various polymeric forms may exist which are more or less hazardous with respect to each other. These differences may arise not only from different molecular structures (all are, nevertheless, called "MEKP") and from possible trace impurities left from the manufacture of the chemicals, but may also arise by contamination of the MEKP with other materials in its storage or use. Even a small amount of contamination with acetone, for instance, may produce an extremely shock-sensitive and explosive compound.

Contamination with promoters, or materials containing promoters, such as laminate sandings, or with any readily oxidizable material, such as brass or iron, will cause exothermic "redox" reactions which can become explosive in nature. Heat applied to MEKP, or heat build-up from contamination reactions can cause it to reach what is called its Self-Accelerating Decomposition Temperature (SADT).

Researchers have reported measuring pressure rates-of-rise well in excess of 100,000 psi per second when certain MEKP's reach their SADT. (For comparison, the highest pressure rate-of-rise listed in NFPA Bulletin No. 68, "Explosion Venting", is 12,000 psi per second for an explosion of 12% acetylene and air. The maximum value listed for a hydrogen explosion is 10,000 psi per second.)

Some forms of MEKP, if allowed to reach their SADT, will burst even an open topped container. This suggests that it is not possible to design a relief valve to vent this order of magnitude of pressure rate-of-rise. The user should be aware that any closed container, be it a pressure vessel, surge chamber, or pressure accumulator, could explode under certain conditions. There is no engineering substitute for care by the user in handling organic peroxide catalysts.

If, at any time, the pressure relieve valve on top of the catalyst tank should vent, the area should be evacuated at once and the fire department called. The venting could be the first indication of a heat, and therefore, pressure build-up that could eventually lead to an explosion. Moreover, if a catalyst tank is sufficiently full when the pressure relief valve vents, some catalyst may spray out, which could cause eye injury. For this reason, and many others, anyone whose job puts them in an area where this vented spray might go, should always wear full eye protection even when laminating operations are not taking place.

Safety

Safety in handling MEKP depends to a great extent on employee education, proper safety instructions and safe use of the chemicals and equipment. Workers should be thoroughly informed of the hazards that may result from improper handling of MEKP, especially in regards to contamination, heat, friction and impact. They should be thoroughly instructed regarding the proper action to be taken in the storage, use and disposal of MEKP and other hazardous materials used in the laminating operation.

In addition, users should make every effort to:

1. Store MEKP in a cool, dry place in original containers away from direct sunlight and away from other chemicals.
2. Keep MEKP away from heat, sparks and open flames.
3. Prevent contamination of MEKP with other materials, including polyester overspray and sandings, polymerization accelerators and promoters, brass, aluminum and non-stainless steels.
4. Never add MEKP to anything that is hot, since explosive decomposition may result.
5. Avoid contact with skin, eyes and clothing. Protective equipment should be worn at all times. During clean-up of spilled MEKP, personal safety equipment, gloves and eye protection must be worn. Fire fighting equipment should be at hand and ready.
6. Avoid spillage, which can heat up to the point of self-ignition.
7. Repair any leaks discovered in the catalyst system immediately, and clean up the leaked catalyst at once in accordance with the catalyst manufacturer's instructions.
8. Use only original equipment or equivalent parts from GlasCraft in the catalyst system (i.e.: hoses, fittings, etc.) because a dangerous chemical reaction may result between substituted parts and MEKP.
9. Catalyst accumulated from the purging of hoses or the measurement of fluid output deliveries should never be returned to the supply tank. such catalyst should be diluted

with copious quantities of clean water and disposed of in accordance with the catalyst manufacturer's instructions.

The extent to which the user is successful in accomplishing these ends and any additional recommendations by the catalyst manufacturer determines largely the safety that will be present in his operation.

2.3 Clean-Up Solvents and Resin Diluents

WARNING

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

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 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.**

Safety

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 or 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. 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

Do not use Halogenated Hydrocarbon solvents in pressurized fluid systems having aluminum or galvanized wetted parts.

NOTE

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.

2.4 Catalyst Diluents

GlasCraft spray-up and gel-coat systems currently produced are designed so that catalyst diluents are not required. GlasCraft, therefore, recommends that diluents not be used. This avoids the possible contamination which could lead to an explosion due to the handling and mixing of MEKP and diluent. In addition, it eliminates any problems from the diluent being contaminated through rust particles in drums, poor quality control on the part of the diluent supplier, or any other reason. If, however, diluents are absolutely required, contact your catalyst supplier and follow his instructions explicitly. Preferably, the supplier should premix the catalyst to prevent possible "on the job" contamination while mixing.

WARNING

If diluents are not used, it should be remembered that catalyst spillage, gun, hose and packing leaks are potentially more hazardous, since each drop contains a higher concentration of catalyst, and therefore will react quicker with overspray and the like.

2.5 Uncured Liquid Resin

Resin should be stored in a well ventilated building at least 50 feet from your main plant. In addition, the storage temperature should not exceed 75 degrees F.

Safety

In your main plant, store only enough resin for one day's production.

"NO SMOKING" signs must be posted and observed in all areas where resin is stored and/or used.

Refer to OSHA Section 1910.94, 1910.106, 1910.107 and consult resin suppliers for more detailed information.

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.

Resin must never be stored in an area where MEKP is stored or used.

Open-top drums should not be used, due to possible contamination and possible catalyzation from overspray or spillage of MEKP into drum, which could not only severely damage the polyester spray system, but might also cause the drum of resin to ignite.

When spraying test patterns or purging the gun, always remove the test samples and waste from the building immediately and dispose of them in accordance with your material supplier's recommendations.

2.6 Cured Laminate, Overspray and Laminate Sandings Accumulation

Remove all accumulations of overspray, FRP sandings, etc. from the building as they occur. If this waste is allowed to build up, spillage of catalyst is more likely to start a fire. In addition, the fire would burn hotter and longer.

Floor coverings, if used, should be non-combustible.

Spilled or leaked catalyst may cause a fire if it comes in contact with an FRP product, oversprayed chop or resin, FRP sandings or any other material with MEKP.

To prevent this spillage and leakage, you should:

1. Maintain your GlasCraft System. Check the gun several times daily for catalyst and resin packing or valve leaks. REPAIR ALL LEAKS IMMEDIATELY.
2. Never leave the gun hanging over, or lying inside the mold. A catalyst leak in this situation would certainly damage the part, possibly the mold, and may cause a fire.
3. Inspect resin and catalyst hoses daily for wear or stress at the entry and exits of the boom sections and at the gun and fittings. Replace if wear or weakness is evident or suspected.
4. Arrange the hoses and fiberglass roving guides so that the fiberglass strands DO NOT rub against any of the hoses at any point. If allowed to rub, the hoses may be cut through, causing a hazardous leakage of material which could increase the danger of fire. Also the material may spew onto personnel in the area.

2.7 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.

2.8 Treatment of Chemical Injuries

Great care should be used in handling the chemicals (resins, catalyst and solvents) used in polyester systems. Such chemicals should be treated as if they hurt your skin and eyes and as if they are poison to your body. For this reason, GlasCraft recommends the use of protective clothing and eye wear in using polyester systems.

However, users should be prepared in the event of such an injury. Precautions include:

1. Know precisely what chemicals you are using and obtain information from your chemical supplier on what to do in the event the chemical gets onto your skin or into the eyes, or is swallowed.
2. Keep this information together and easily available so that it may be used by those administering first aid or treating the injured person.
3. Be sure the information from your chemical supplier includes instructions on how to treat any toxic effects the chemicals may have.

Safety

WARNING

Contact a doctor immediately in the event of any 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.

Fast treatment of the outer skin and eyes that contact such chemicals generally includes immediate and thorough washing of the exposed skin and immediate and continuous flushing of the eyes with lots of clean water for at least 15 minutes or more. These general instructions of first aid treatment, however, may be incorrect for some chemicals; that is why you must know the chemicals and treatment before an accident occurs. Treatment for swallowing a chemical frequently depends upon the nature of the chemical.

NOTE

Refer to your System User Manual for complete and detailed operating instructions and service information.

3.0 Equipment Safety

WARNING

GlasCraft suggest that personnel safety equipment such as EYE GOGGLES, GLOVES, EAR PROTECTION, and RESPIRATORS be worn when servicing or operating this equipment. Ear protection should be worn when operating a fiberglass chopper to protect against hearing loss since noise levels can be as high as 116 dB (decibels). This equipment should only be operated or serviced by technically trained personnel!!!

WARNING

Never place fingers, hands, or any body part near or directly in front of the spray gun fluid tip. The force of the liquid as it exits the spray tip can cause serious injury by shooting liquid through the skin. NEVER LOOK DIRECTLY INTO THE GUN SPRAY TIP OR POINT THE GUN AT OR NEAR ANOTHER PERSON. (TREAT THE GUN AS IF IT WERE A LOADED PISTOL)

3.1 Emergency Stop Procedures

The following steps should be followed in order to stop the machinery in an emergency situation:

1. The yellow air valve located where the air enters the machine should be pushed to the "OFF" (closed) position. To do this simply push on the lever protruding out the side of the valve. This will also cause all the system air to bleed out of the system in a matter of a few seconds thus making the system incapable of operating.

NOTE

Step 2 is a precautionary step and should be followed whenever the emergency stop valve is activated to the stop mode. Failure to do so will damage regulators and components when reactivating to the ON position.

2. Turn all system regulators to OFF (counter-clockwise) position.

NOTE

Verify that the Catalyst Pressure Relief Line and the Resin Return Line are secured before relieving catalyst and resin fluid pressure.

3. Catalyst pressure in the Slave Pump can be eliminated by rotating the yellow valve handle on the Slave Pump 90 degrees to the "ON" position.

NOTE

The "ON" position the valve handle is parallel (in line) with the valve body . The "OFF" position the valve handle is perpendicular (across) the valve body.

4. Resin pressure can be eliminated by rotating the yellow handled valve on the bottom of the fluid filter 90 degrees. Place a container under the bottom of the valve to catch any resin that is ejected from the valve.

3.2 General Safety Precautions

The following general safety precautions should be followed when servicing or operating this equipment to ensure operator safety:

- When filling catalyst container, protective eye equipment must be worn to protect against injuries.
- Always maintain adequate material levels to prevent loss of prime during system operation.
- At the first sign of a leak, stop operations, activate emergency stop valve, back off air regulators and open all bleed valves to remove all pressure from the gun, hoses, pump, catalyst system and any other liquid containers.
- Solvent Pot Pressure Relief:
- Turn Solvent Pressure Regulator counter clock wise (ccw) until regulator handle stops.
- Open Petcock valve to bleed Solvent Tank pressure completely.
- Catalyst Injector Pressure Relief:
- Refer to Catalyst Injector User Manual for proper pressure relief.
- Never operate a Fiberglass System with fixed Pinch Point guards removed from system.
- Do not operate Fiberglass Chopper Guns with out protective covers in place.
- Correct packing or valve seat leaks immediately.
- Never immerse the gun in any liquid.
- Periodically check operation of catalyst alarms to make sure they are operation properly.
- Frequently check condition of hoses. Replace worn hoses and other parts before they fail.
- Catalyst fluid nozzles and seals **MUST** be in good condition at all times to prevent internal and external leaks. Inspect periodically and replace as needed, or at intervals of three to four months. Use catalyst nozzle seal only once to prevent possible leakage of catalyst into air passages of gun.
- Make absolutely certain that all pressure has been relieved from the gun before disassembly from the hoses before loosening any fittings; from the material or catalyst pump before disassembly; from the catalyst injector before disassembly or filling.
- If you have any doubt that fluid pressure is relieved, call your GlasCraft distributor or GlasCraft, Inc. before proceeding with any disassembly.
- Use only genuine GlasCraft replacement parts when repairing your system. Substitutes may not be the proper material or may not fit the system and may cause dangerous operating conditions and the failure of other components.

3.3 Grounding

Grounding an object means providing an adequate path for the flow of an electrical charge from the object to the ground. An adequate path is one that permits charge to flow from the object fast enough that it will not accumulate to the extent that a spark can be formed. It is not possible to define exactly what will be an adequate path under all conditions since it depends on many variables.

In any event, the grounding means should have the lowest possible electrical resistance. Grounding straps should be installed on all loose conductive objects in the spraying area. This includes material containers and equipment. GlasCraft recommends grounding straps be made of AWG No. 18 stranded wire as a minimum, and that larger wire be used where possible. NFPA Bulletin No. 77 states that the electrical resistance of such a leakage path may be as low as 1 meg ohm (106 ohms) but that resistances as high as 10,000 meg ohms will produce an adequate leakage path in some cases.

Whenever flammable or combustible liquids are transferred from one container to another, or from one container to the equipment, both containers or container and equipment shall be effectively bonded and grounded to dissipate static electricity.

For further information, see **National Fire Protection Association** (NFPA) 77 titled "Recommended Practice on Static Electrical". Refer especially to Section 7-7 titled "Spray Application of Flammable and Combustible Materials". Check with local codes and authorities for other specific standards that might apply to your application.

Never use hard materials such as wire, pins, etc., To clear a plugged gun. Hard materials can cause permanent damage. Dab with a bristle brush, blow backwards with air until clear while wearing a protective eye shield. Repeat as many times as necessary.

Do not perform any maintenance or repairs until you have followed the precautions stated above. If you, as an equipment operator or supervisor, do not feel that you have been adequately trained or instructed and that you lack the technical knowledge to operate or perform maintenance on a piece of GlasCraft equipment, please call GlasCraft, inc. Before operating or performing maintenance on the equipment.

If you have any questions regarding the above precautions or any service or operation procedures, call your GlasCraft distributor or GlasCraft, 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.



5845 WEST 82nd STREET, SUITE 102
INDIANAPOLIS, INDIANA 46728 U.S.A.
PHONE (317) 875-5592 FAX (317) 875-5456

Installation

Mounting Instructions B-410, LPA 2 Gun

NOTE

The following Mounting Instructions pertain to mounting a Model B-410 onto a Model LPA, Model LPA-II Spray Gun.

1. Remove Set Screw, P/N D-145-08C from the Gun body located where the Chopper is mounted and replace at the top of the handle. (see Fig. 1)
2. Attach the Chopper assembly into the mounting hold and tighten with the Chopper snout pointing down into the resin spray pattern. The correct adjustments for glass entering the pattern will be done when the spray test is completed.
3. Chopper "On/Off" Lever, P/N B-310-11, located on the base of the Chopper mount, should be in the "OFF" position. (see Fig. 2)
4. Thread roving from box through the Roving Guidance system and into the back of the Chopper Feed Bar, P/N B-210-15. It is suggested that the top feed hole be used if only one strand of glass is being used.
5. After all components have been securely installed, turn on main air supply slowly until fully on.

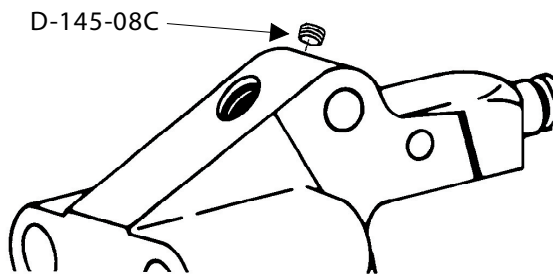


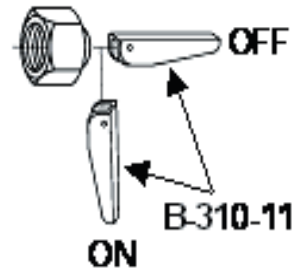
Fig. 1

6. Activate the Chopper "On/Off" Lever to the "On" position. (see Fig. 2)
7. Depressing the Gun Trigger fully, a spray pattern of resin and catalyst with chopped glass should now be present.

8. Adjust Chopper mount until chopped glass enters spray pattern at desired entry location. Chopped glass should be uniformly entering the spray pattern resulting in an evenly distributed resin spray and chopped glass pattern on the test substrate.

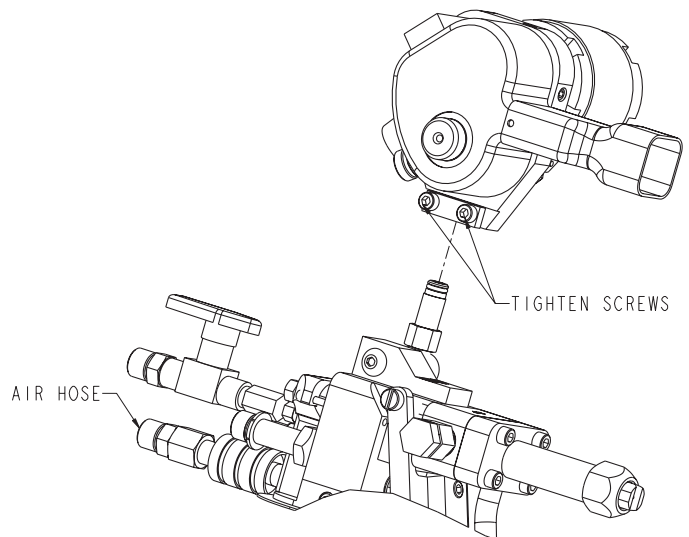
NOTE

Test spraying should be done on a clean piece of paper or cardboard and disposed of properly.



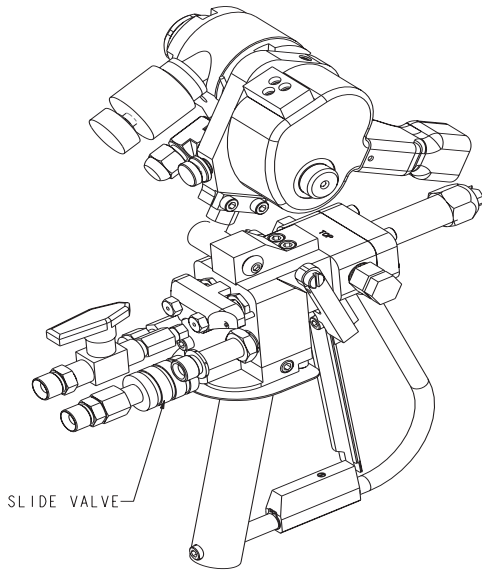
Mounting Instructions B-410, & B-510, Indy Gun 23550-00

1. The B-410 / 510 Chopper Assy. Mounts to Cutter Pivot Tube, P/N 21491-00 on Chopper Rotating Mount, P/N 23513-00. Tighten down Bar, P/N B-310-4 with Screws, P/N 8212-16F. P/N, 17798-XX Hose attaches to fitting P/N 1880-00 in back of gun.

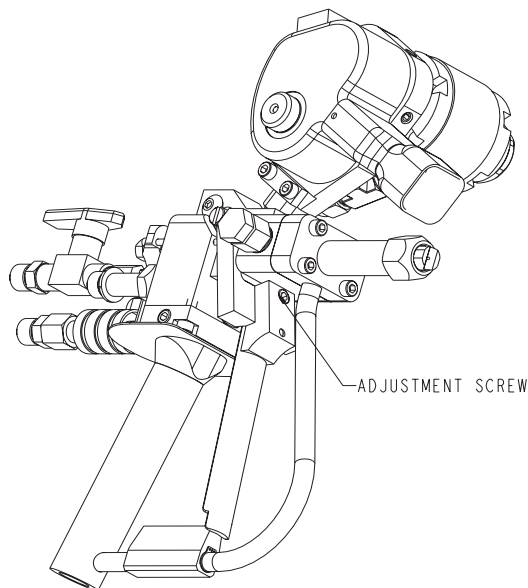


Installation

- The Slide Valve, P/N 20086-01 controls air to the Gun for the Chopper. Sliding it forward turns the air on, while sliding it back, turns the air off.



- The Gun Trigger is staged: $\frac{1}{4}$ pull on the trigger will actuate material only. Full back on the trigger actuates the Chopper and Material. The Stager can be adjusted by adjusting the Set screw, P/N 23532-01 in the Gun Trigger, p/n 23503-00.



Chopper Air Requirements

100 PSI / 8 CFM

Adjusting Speed & Blower Air

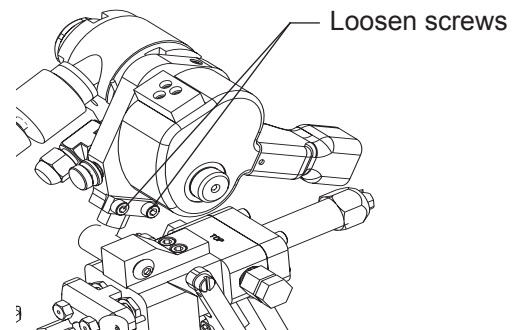
- The Blower Air is adjusted by the Thumb Screw, P/N B-210-32A2. Only a small amount of air is required to:
 - Cool Chopper Head.
 - Assist in Dispersing chop.

Speed Control / Muffler

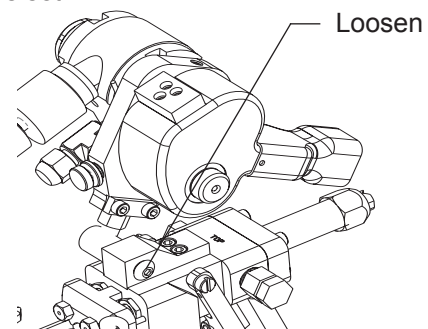
- The Muffler Assembly controls the Amount, and Speed of air exhausting the Air Motor.
- As the Speed Knob, P/N 21563-01 and Machine Screw, P/N 21567-24F is turned out, the Air Motor speed increases.
- Once it is set, Lock the Knob / Screw down with the Body, P/N 21561-00.

Adjusting Chopper Mount

- Loosen Screw, P/N 8212-16F to twist the Chopper side to side on the Pivot Tube, P/N 21491-00. Retighten once it is set.



- Loosen Screw, P/N 20188-16C to pivot the Chopper up & down on the Chopper Bracket, P/N 23512-00. Retighten once it is set.



Installation

NOTE

For B-510

Loosen Lock Nut, P/N 7729-04, Pivot Chopper Mount to desired angle, Retighten P/N 7729-04. Once general position can be found, fine tuning can be adjusted by moving the chute, P/N B-510-22.

3. The Snout, P/N 23543-00 is standard with the Indy System. The end of the Snout is adjustable. Optional snouts are available for the B-410 only, which include the B-210-91 and B-210-92.

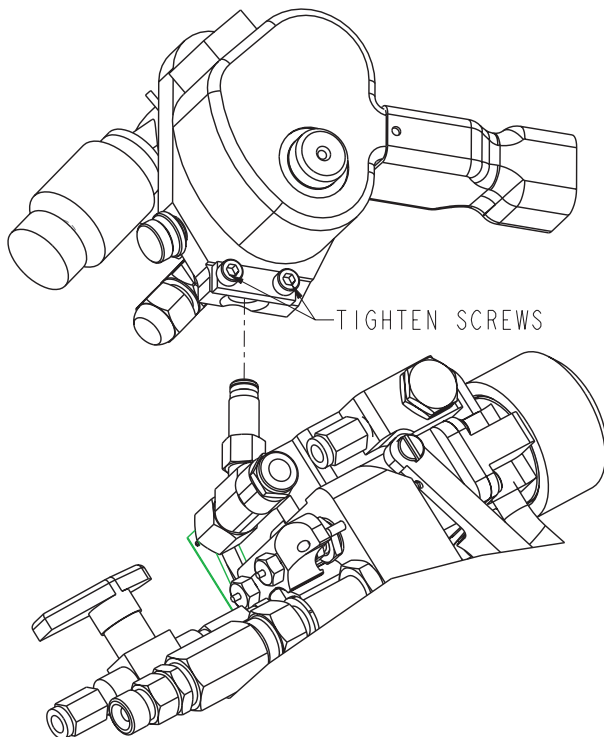
NOTE

Test spraying should be done on a clean piece of paper or cardboard and disposed of properly.

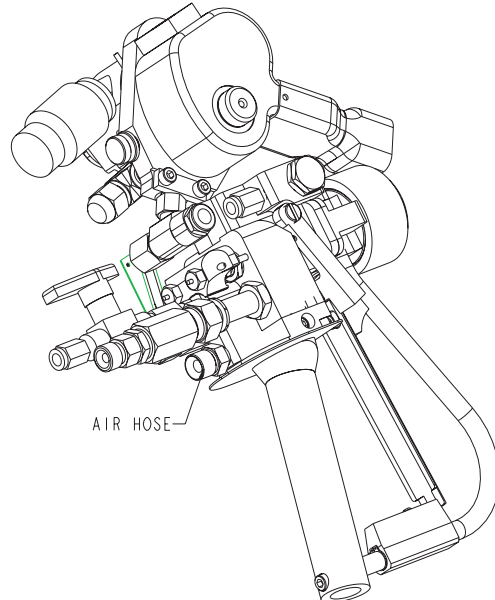
Mounting Instructions

B-410, B-510, Indy-X Gun 23575-00

1. The B-410 / B-510 Chopper Assembly mounts to Cutter Pivot Tube, P/N 21491-00 on Chopper Valve, P/N 23569-00. Once Chopper is set, tighten Cutter Clip, P/N B-310-4 with Screws.



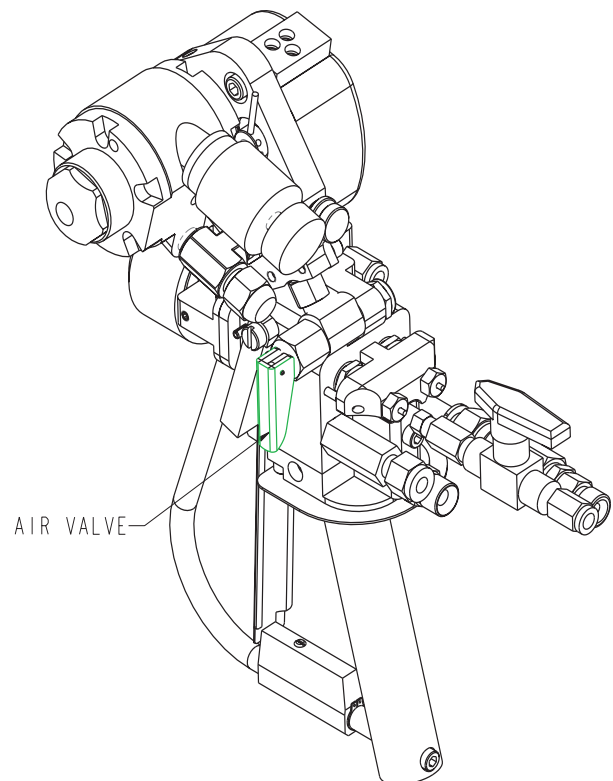
2. Air Hose P/N 17798-XX attaches to fitting, P/N 1880-00 on back of gun.



3. The Cutter Valve Lever, P/N B-310-11 controls air flow to the chopper. Perpendicular to the Chopper Valve = Air On.
Inline with Valve = Air OFF.

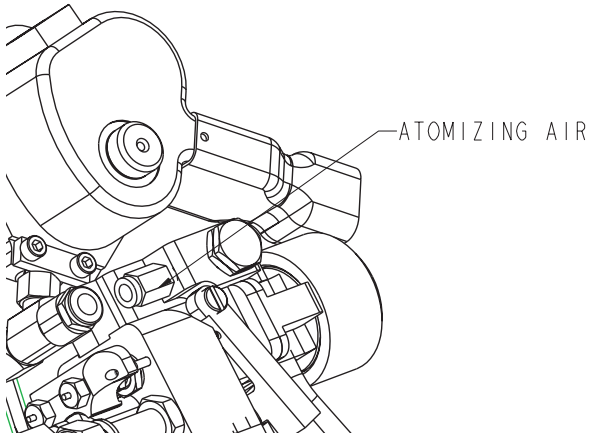
NOTE

This is a positive ON/OFF valve. It does not regulate Air Flow.



Installation

4. The Catalyst Atomizing Air Line connects to Connector Fitting, P/N 20796-00. When the gun is triggered, Line Air will run the Chopper Motor and regulated air will flow thru to the atomized circuit.



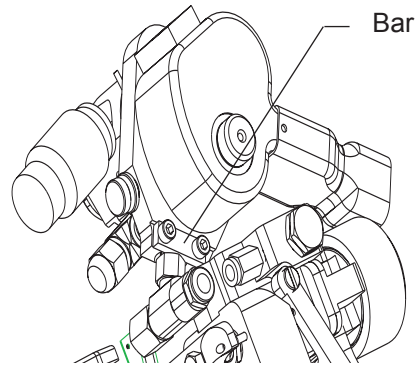
NOTE

For B-510

A general position can be found. Fine tuning of the Glass angle can be adjusted by moving the Chute P/N, B-510-22.

Centering Adjust

Loosen Bar Screws, P/N 8212-16F and Twist Chopper left or right to desired location, then retighten P/N 8212-16F Shoulder Screw.



Chopper Air Requirements

100 PSI @ 8 CFM

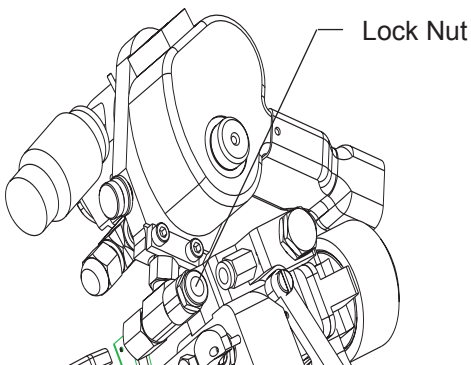
Adjusting Speed & Blower Air

1. The blower air is adjusted by the Thumb Screw, P/N B-210-32A2. a small amount of air is required to:
 - a. Cool Chopper Head
 - b. Assist in Dispersing chop.

Adjusting Chopper Mount

Angle Adjust:

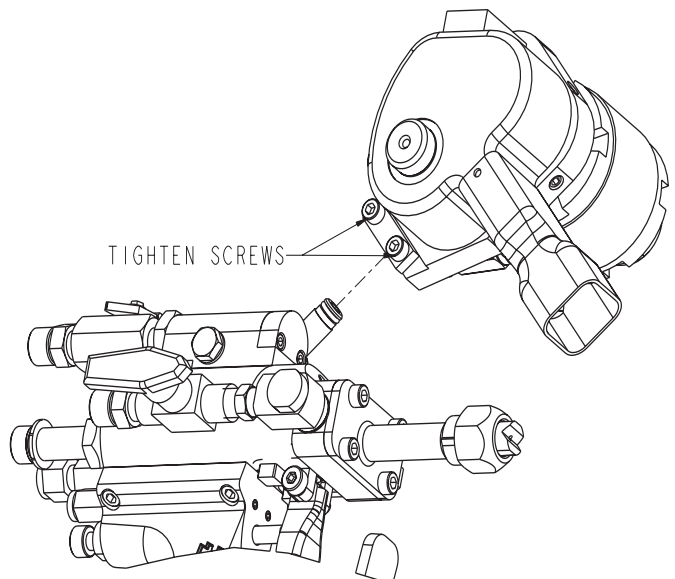
1. Loosen Lock Nut, P/N 7729-04, Pivot Chopper Mount to desired Angle. Retighten, P/N 7729-04 Hex Nut.



Mounting Instructions

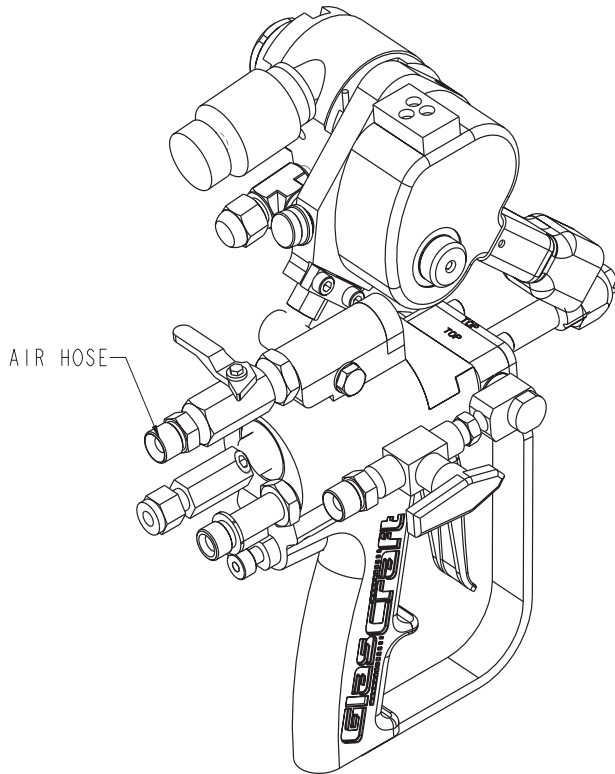
B-410, B-510, Formula Gun 23750-00

1. The B-410 / B-510 Chopper Assembly mounts to Cutter Pivot Tube, P/N 21491-00. Once the Chopper is set, tighten Cutter Clip, P/N B-310-4 with Screws.



Installation

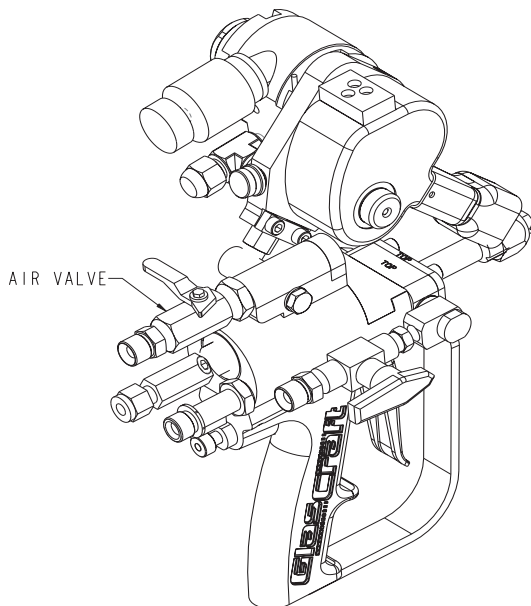
2. Air Hose P/N 17798-XX attaches to fitting, P/N 1880-00 on back of gun.



3. The Cutter Valve, P/N 23776-00 controls the air flow to the chopper.

NOTE

This is a positive ON/OFF valve. It does not regulate Air Flow.



Chopper Air Requirements

100 PSI / 8 CFM

Adjusting Speed & Blower Air

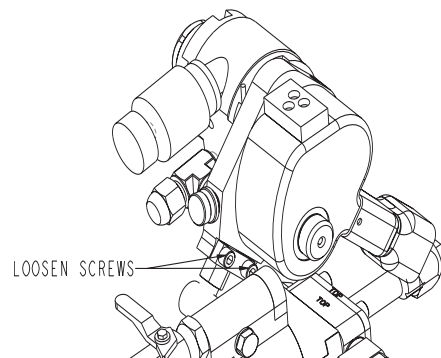
1. The Blower Air is adjusted by the Thumb Screw, P/N B-210-32A2. Only a small amount of air is required to:
 - a. Cool Chopper Head.
 - b. Assist in Dispersing chop.

Speed Control / Muffler

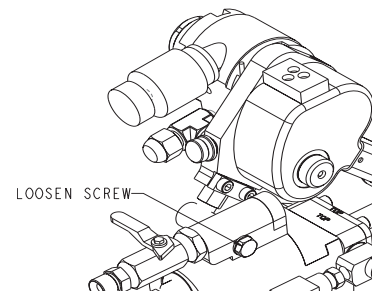
1. The Muffler Assembly controls the Amount, and Speed of air exhausting the Air Motor.
2. As the Speed Knob, P/N 21563-01 and Machine Screw, P/N 21567-24F is turned out, the Air Motor speed increases.
3. Once it is set, Lock the Knob / Screw down with the Body, P/N 21561-00.

Adjusting Chopper Mount

1. Loosen Screw, P/N 8212-16F to twist the Chopper side to side on the Pivot Tube, P/N 21491-00. Retighten once it is set.



2. Loosen Screw, P/N 7958-16C to pivot the Chopper up & down on the Chopper Bracket, P/N 23512-00. Retighten once it is set.



Operation

Air Requirements

All GlasCraft Choppers require 8 CFM (cubic feet per minute) @ 100 PSI. of dry, filtered, compressed air. The air supply hose to the Chopper must be new and have at least a 5/16" inside diameter.

CAUTION

Do not attempt to use lower air pressures or a smaller hose as erratic operation may result.

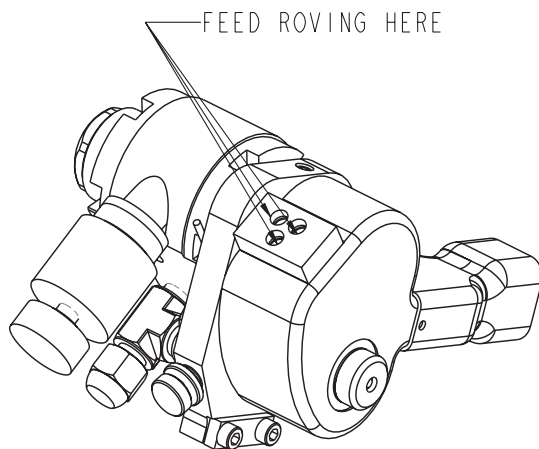
CAUTION

Do not wet the end of the roving or attempt to feed frayed roving into the Chopper as this may cause it to wrap around the feed roller and jam. Avoid wetting the roving with over-spray to prevent similar problems

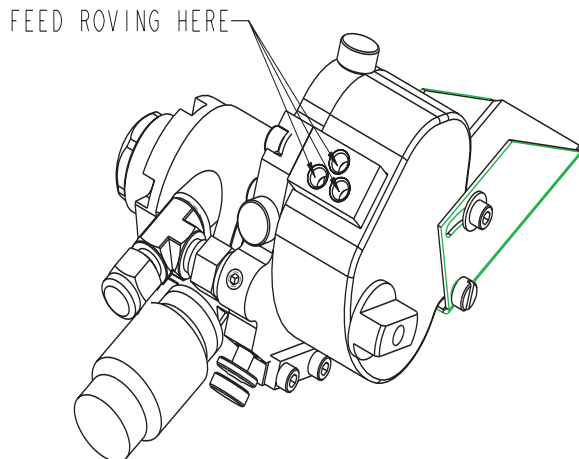
Chopper Operation

Models B-410 / B-510

1. To introduce roving to the Chopper, cut the free end of the roving cleanly and double it over approximately one inch from the end. Feed into one of the three holes provided in the back of the cutter while running at moderate speed.

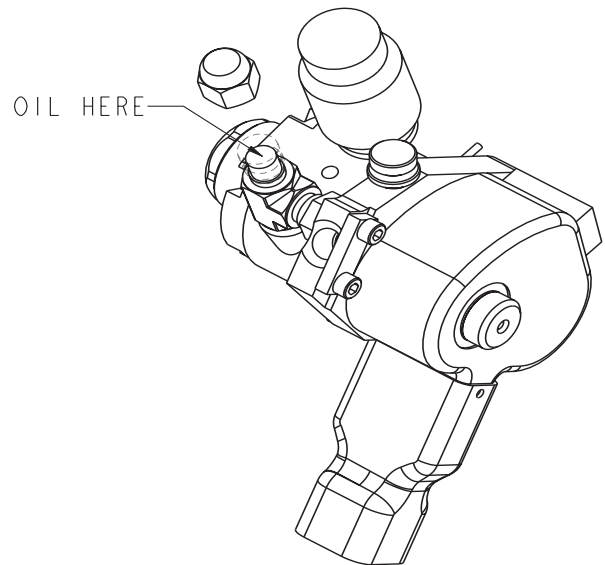


B-410

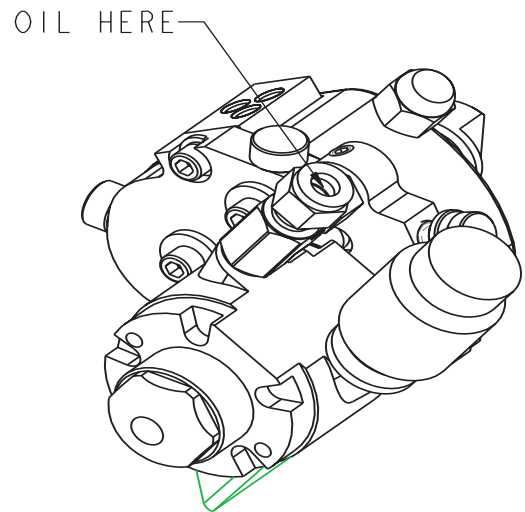


B-510

2. The Motor Oiler is located on the forward port of the Air Motor. It is recommended that the Oiler Felt, P/N 378, be lubricated with Air Motor Oil, P/N 562. Depending on use, it is generally recommended that two or three drops of oil be placed on the Felt every other day.



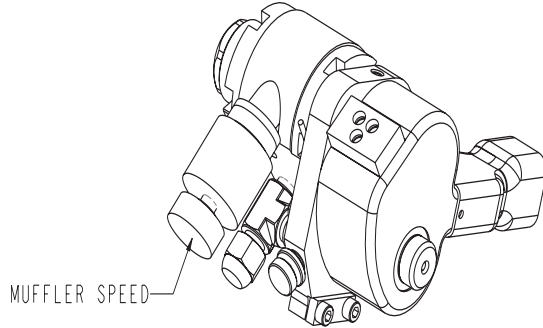
B-410



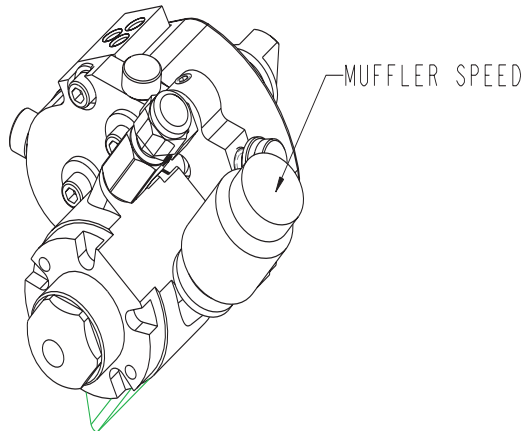
B-510

Operation

3. The Muffler/Speed Control is located on the rear port of the Air Motor. Adjustment of Knob, P/N 21563-01 controls the Air Motor speed and determines the cutting rate. Adjust this valve until the desired glass content is achieved.

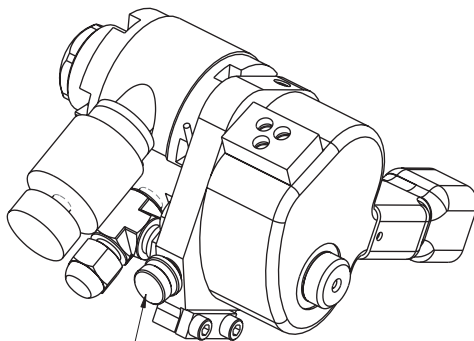


B-410

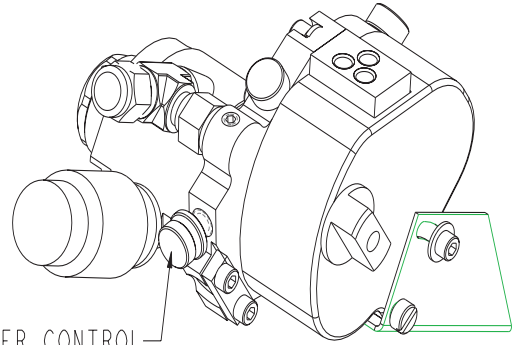


B-510

4. The Chopper Blower Control Valve is located on the rear of the Back Plate. Adjustment of Thumb Screw, P/N B-210-32A2 controls the amount of bypass air which serves to vary the dispersion of the cut roving as it leaves the Chopper.



B-410



B-510

NOTE

This Valve should be at least slightly open at all times or the Chopper may tend to fill and jam.

5. Adjust this valve until a good glass/resin fan results with a minimum of drop-off. If an excessive amount of bypass air is used, the roving may filamentize or cotton, causing various wet-out problems.

6. When desired adjustment has been made, lock Thumb Screw, P/N B-210-32A2, in place by tightening Lock Nut, P/N B-210-32A1. Do not over-tighten!

Roving Cut-Length Adjustment

The cut length of the roving fibers may vary from 1/2" to 4" depending upon the number of blades in the cutting head. The cutting head has a circumference of 4" and is divided by eight slots at 1/2" intervals. Any number of blades may be omitted to achieve cut-lengths greater than 1/2" or blends of lengths. The most popular length in use today is 1", which may be achieved with four equally spaced blades. The chopper is delivered to you set in this matter.

WARNING

Relieve all air pressure from the system before attempting any repair or maintenance procedures on this equipment. Do not operate the Chopper with the cover or guard removed. The blades may fly free if improperly installed.

Maintenance

Blade Replacement

NOTE

Refer to Figure 7 illustration during the following Blade Replacement instructions.

WARNING

*Cutter Blades are EXTREMELY SHARP.
Use extreme caution to prevent accidental cuts or nicks!*

B-410

1. Using a small slotted-blade screwdriver, carefully pry out the Blade Retainer Bar, P/N B-210-16A, Retainer Bar Spring, P/N B-210-16B and the Blade, P/N B-210-17. Be careful not to lose these small parts as they come free of the slot. Clean slots before replacing Blades.

2. To re-insert Blades, place in slot, sharp edge out.

NOTE

It is very important that the Blade be held against the side of the slot which will contact the Anvil Roller first.

3. Next, place in the Blade Retainer Bar, P/N B-210-16A and install Spring, P/N B-210-16B with a screwdriver or needle-nose pliers.

B-510

1. Using a 1/8" Allen Wrench, loosen and remove P/N, B-510-23 screw. This will allow removal of P/N, B-510-15 wedge insert.
2. Remove old blade.
3. Clean slot on P/N, B-510-14 as necessary.
4. Install new blade. Set insert in properly.
5. Reinstall P/N, B-510-23 screw and snug tightly.

Chopper Blade Installation Illustration

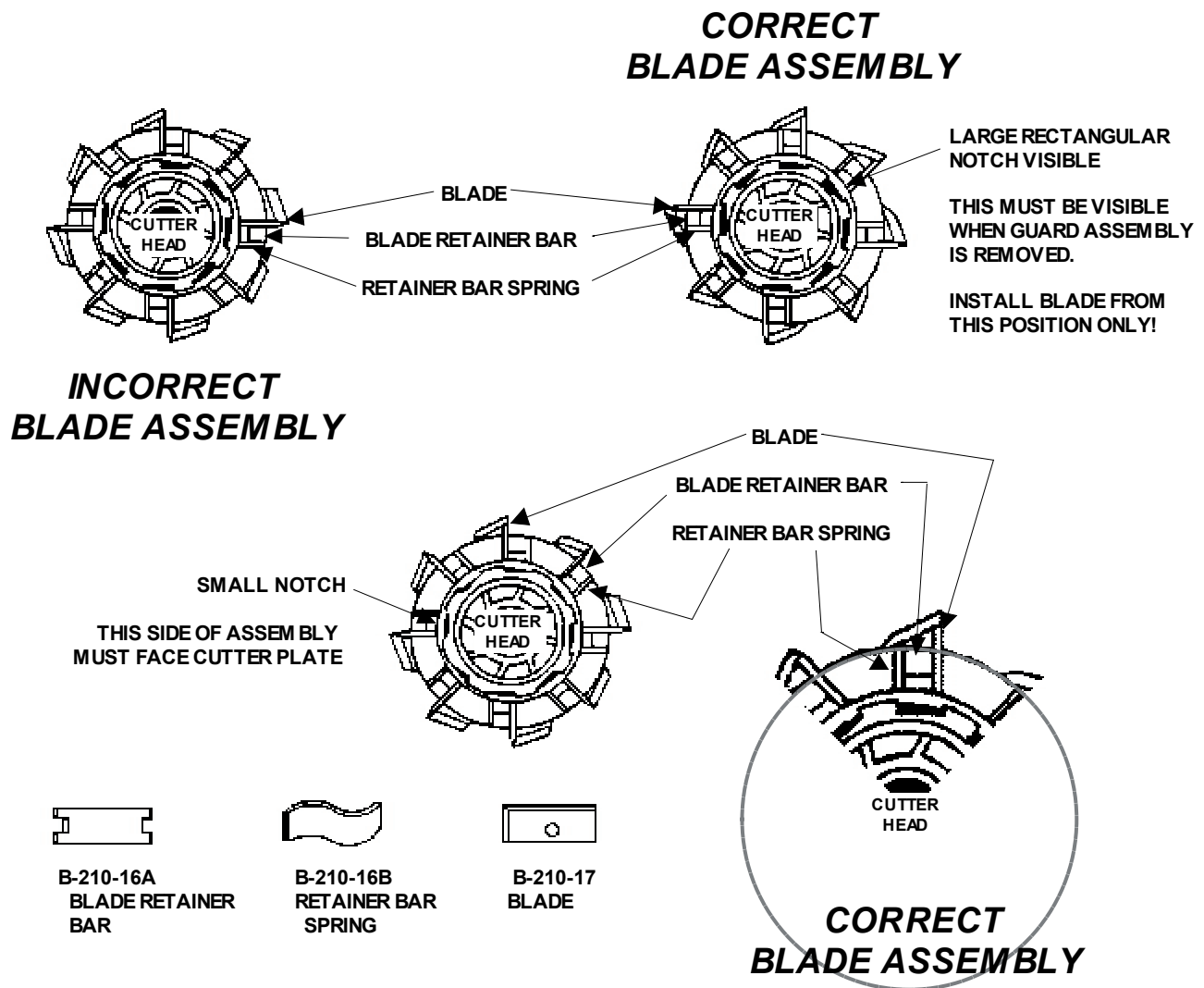


Fig. 7

Maintenance

Anvil Sleeve Replacement

If the Chopper fails to cut properly with new blades, the anvil roller needs replaced.

1. Remove Retaining Ring, P/N 5133-62MD with a screwdriver. Care must be taken not to spring the Retaining Ring excessively.
2. Slide or pry off the old anvil roller and install a replacement by pressing it in place. To prevent the blades from making deep cuts in roller's surface, be sure to rotate the roller as it is pressed on.

CAUTION

Do not use a hammer when installing a new sleeve as permanent damage may result.

3. Replace the Retaining ring with ordinary pliers.
4. Operate the Chopper for a minute or so with the cover in place, to run the new anvil roller. The Chopper should now start and run freely.

Chopper Adjustments

Should adjustments be necessary, they may be accomplished by simply loosening either the Cutting Head or the Idler Bearing, rotating the Eccentric Nut in the back and retightening.

B-410 Adjustments

1. Cutting head should have sufficient squeeze to cut properly. Excessive Anvil Squeeze or roll interference will overload the motor or create starting problems. Insufficient Squeeze will result in incomplete cutting.
2. Idler Bearing should be adjusted so there is only slight contact with the Anvil Roller. Excessive pressure will create motor drag and cause starting problems. Insufficient squeeze will allow the roving not to feed or drop out of the chopper when it is stopped.

B-510 Adjustments

The B-510 adjustments are set at the factory during final inspection of the unit. This adjustment is set without running glass roving through the chopper. It is also important to remember that the chopper head is the drive mechanism of the assembly, adjustments are being made to the Rubber Roller, P/N B-510-08 and Idler Bearing, P/N B-510-11.

After feeding in the strands of roving "In Process" adjustments may be required. This adjustment is dependent on the type of glass roving being used and the number of strands.

Adjust as follows:

1. Shut off air supply to chopper.
2. Loosen Lock Screw, P/N 9944-16C for the Rubber Roller, P/N B-510-08.
3. Loosen Adjustment Knob, P/N B-510-03 for the P/N B-510-08. This action will allow the glass in between the Cutter Head and Roller to relax and move roller away from Cutter Head slightly.
4. Retighten Lock Screw, P/N 9944-16C.
5. Loosen Lock Screw, P/N 9944-16C for the Idler Bearing, P/N B-510-11.
6. The Idler Bearing should now find its setting with the spring pressure applied to it.
7. Retighten Lock Screw, P/N 9944-16C.
8. Turn air supply on to chopper and operate, verify glass is consistently cut to length. Chopper Air Motor

CAUTION

The clearances in this Motor range are from .0015 to .002 and are extremely critical. For this reason, it is advisable that the Motor NEVER be disassembled in the shop!

Maintenance

Model B-410 / B-510

The Air Motor on your Chopper is precision built and under normal operation will last hundreds of hours of continuous use with proper care. It is recommended that the Oiler Felt, P/N 378, be lubricated with Air Motor Oil, P/N 562. Depending on use, it is generally recommended that two or three drops of oil be placed on the Felt every other day.

NOTE

Before cutting glass...

...RELIEVE AIR PRESSURE TO CHOPPER.

...remove Chopper Guard and carefully wipe clean excess Oil on Guard, Anvil Sleeve, etc.

...replace Guard.

Notes

Notes

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.

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**

Model: _____

Spray gun: _____

Serial number: _____

Material pump: _____

Serial number: _____

Catalyst pump: _____

Chopper: _____

Serial number: _____

Type of material: _____

Type of catalyst: _____

Catalyst percentage: _____

Air compressor size: _____

Compressor to system supply line: _____

Pressure at the system: _____

Main air line volume: _____

System gauge pressures

AAC pressure: _____

Atomizing air pressure: _____
(external mix)

Material pump pressure: _____

Solvent flush pressure: _____

For Your Reference



Date Purchased _____
Distributor _____

Contact _____
Phone _____
E-mail _____

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

***FORMULA - INTERNAL & EXTERNAL MIX POLYESTER EQUIPMENT
CHOPPER & GELCOAT SYSTEMS***

- . NO NEEDLE IN THE SPRAY GUN
- . INFINITELY ADJUSTABLE CATALYST PUMP

INDY - INTERNAL & EXTERNAL MIX EQUIPMENT

- . LOWEST LEVEL OF EMISSIONS
- . AUTOMATIC EQUIPMENT FOR ROBOT APPLICATIONS

SPARTAN - CLOSED MOLD / RTM EQUIPMENT

- . HAND HELD & DELUXE MODELS
- . PROGRAMMABLE CATALYST PERCENTAGES

SPECIALTY DISPENSE EQUIPMENT

- . APD - HIGH VISCOSITY POLYESTER PUTTY DISPENSE
- . RCD - RESIN / CATALYST DISPENSE
- . PFR - PRESSURE FED ROLLERS

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



www.glascraft.com

GC-1021
REVISION SEP T. 06

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

Phone (317) 875-5592
Fax (317) 875-5456
E-Mail sales@glascraft.com