PRO AND SUPER PRO CHOPPER REPAIR VRC-1000, VRC-2000 & VRC-3000



MagnumVenusPlastech

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TABLE OF CONTENTS:

SECTION:	Page
TERMS & CONDITIONS OF SALE	4
SAFETY & WARNING INFORMATION	7
PRO CHOPPER	16
SUPER PRO CHOPPER	28
REVISION INFORMATION	31

Terms & Conditions of Sale:

1. **ACCEPTANCE**: Acceptance of any purchase order from a customer or potential customer ("Buyer") is subject to credit approval by GSSC, Inc. ("Seller"), acceptance of the purchase order by Seller and, when applicable, any manufacturer, vendor, or other third party that provides goods to Seller for resale to Buyer ("Vendor"). If Seller, in its sole discretion, determines that Buyer's credit becomes unsatisfactory or it has reasonable grounds for insecurity, Seller reserves the right, upon notice to Buyer, to demand adequate assurance of due performance from Buyer and/or terminate any purchase order with no liability to Seller. BY REQUESTING A QUOTE FROM SELLER, ACCEPTING AN INVOICE FROM SELLER, OR PRESENTING A PURCHASE ORDER TO SELLER, BUYER CONFIRMS THAT THESE TERMS & CONDITIONS SHALL GOVERN ALL PURCHASES OF PRODUCTS OR MATERIALS PROVIDED TO BUYER BY SELLER ("GOODS"). GOODS SOLD BY SELLER ARE EXPRESSLY SUBJECT TO THE TERMS AND CONDITIONS SET FORTH HEREIN AND ANY DIFFERENT OR ADDITIONAL TERMS OR CONDITIONS SET FORTH IN A PURCHASE ORDER OR SIMILAR COMMUNICATION RECEIVED FROM BUYER ARE OBJECTED TO AND SHALL NOT BE BINDING UPON SELLER UNLESS SPECIFICALLY AGREED TO IN WRITING BY AN AUTHORIZED CORPORATE OFFICER OF SELLER.NO SELLER EMPLOYEE OR AGENT HAS THE AUTHORITY TO MODIFY THESE TERMS & CONDITIONS VERBALLY. SELLER OBJECTS TO AND REJECTS ANY TERMS BETWEEN BUYER AND ANY OTHER PARTY, AND NO SUCH TERMS, INCLUDING BUT NOT LIMITED TO ANY GOVERNMENT REGULATIONS OR "FLOWDOWN" TERMS, SHALL BE A PART OF OR INCORPORATED INTO ANY PURCHASE ORDER FROM BUYER TO SELLER, UNLESS AGREED TO IN WRITING BY AN AUTHORIZED REPRESENTATIVE OF SELLER.
2. **PRICES AND TAXES**: Buyer agrees to pay the prices quoted by Seller or listed on any related invoice, and is responsible for additional applicable shipping and handling charges, taxes, duties, and charges for import and export licenses and certificates. All prices quoted by Seller are subject to change without notice. Seller will generally collect applicable taxes along with the purchase price unless Buyer submits a valid tax exemption certificate, and indicates which Goods are covered by it. Prices on special-order Goods may be subject to change before shipment. In order to be corrected any discrepancies in pricing and/or quantities on invoices must be reported by Buyer within thirty (30) days of the invoice date.
3. **PAYMENT**: Payment terms are 30 days net from the invoice date or upon such other terms approved by Seller in writing. Retainage shall not apply, and Buyer shall not hold back any retainage from Seller, even if retainage is part of any contract between Buyer and any other party. Payment is not contingent on Buyer's ability to collect or obtain funds from any other party. Credit card sales are billed at the time of purchase. Buyer expressly represents it is solvent at the time it places any purchase order with Seller. Seller, in its sole discretion, may determine that Buyer's financial condition requires full or partial payment prior to manufacture or shipment. If Buyer fails to make any payment when due, Seller reserves the right to suspend performance. Buyer agrees to pay a charge on all amounts past due at the rate of 1 ½% per month (18% per year) or the maximum lawful rate, whichever is less. In the event of non-payment, Buyer agrees to pay Seller's reasonable attorney fees and court costs, if any, incurred by Seller to collect payment, and all applicable interest charges. **Seller may apply payments to any outstanding invoices unless Buyer provides specific payment direction.**
4. **TITLE AND RISK OF LOSS OR DAMAGE**: As to Goods delivered directly by Seller, title passes upon delivery at the place Buyer receives possession; and, thereafter, all risk of loss or damage shall be on Buyer. All other sales are F.O.B., point of shipment, and Buyer takes title and assumes responsibility for risk of loss or damage at the point of shipment for such sales. Claims for Goods damaged in transit are Buyer's sole responsibility when not delivered directly by Seller.
5. **QUOTATIONS**: All quotations expire thirty (30) days from the date of the quotation unless otherwise noted on the quotation. This time limit applies even if Buyer uses the quotation to submit a job or project bid to any other party.
6. **ASSIGNMENT**: The Buyer's rights and responsibilities under any purchase order or these Terms & Conditions shall not be assigned by Buyer without the express written consent of the Seller.
7. **RETURN OF GOODS:** Permission to return items must be requested and granted in advance. No credit will be given if items are returned prior to requesting and receiving permission. Subject to the foregoing, Seller shall accept returns of Goods for any reason for a period of thirty (30) days following shipment for exchange or refund of the purchase price; provided, that such Goods must be unused and are subject to a 15% restocking charge, which may be increased or decreased, in the Seller's sole discretion, depending on the reason for such return. Any Goods which were special ordered by Buyer are may not be returned, and any such Goods which are returned are subject to a restocking/cancellation fee of 100% of the cost of the Goods. Goods shall be deemed accepted by Buyer (and cannot thereafter be returned), if Buyer fails to object to the Goods within thirty (30) days after the Goods are received by Buyer.
8. **CANCELLATION:** The Buyer may cancel any purchase order prior to shipment of the Goods by mutual agreement of the parties and upon payment to Seller of reasonable and proper cancellation charges.
9. **TERMINATION:** Seller may terminate the whole or any part of any purchase order if there is a material breach of these Terms & Conditions. In the event of any such breach, the Seller will provide Buyer with written notice of the nature of the breach and the Seller's intention to terminate for default. In the event Buyer does not cure such failure within ten (10) days of such notice, Seller may, by written notice, terminate the purchase order; provided, that Buyer shall continue its performance to the extent not terminated.
10. **CHANGE IN BUYER'S FINANCIAL CONDITION:** Seller reserves the right to cancel any order or to require full or partial payment in advance without liability to Seller in the event of: (i) insolvency of the Buyer; (ii) the filing of voluntary petition in bankruptcy by Buyer; (iii) the appointment of a Receiver or Trustee for the Buyer; (iv) the execution by Buyer of an assignment for benefit of creditors; or (v) past due payment on previous shipments to Buyer by Seller. Seller reserves the right to cancel Buyers credit at any time for any reason.
11. **INTERPRETATION RESPONSIBILITY; PRODUCT USE AND SAFETY**: Seller does not guarantee that the Goods it sells conform to any plans and specifications or intended use. When plans and specifications are involved, Buyer is solely responsible for verifying Seller's interpretations of such plans and specifications, and it is Buyer's sole responsibility to assure that Seller's Goods will be acceptable for any specific job. When Seller offers substitute Goods on any proposal, Buyer is solely responsible for confirming their acceptability.
12. **DELIVERY**: Shipping dates given in advance of actual shipment are approximate and not guaranteed. All contract dates and timelines begin upon receipt by Seller of a purchase order, Buyer's acceptance of these Terms & Conditions, and the payment of any required down payment.

13. **EXCUSABLE DELAYS**: Seller shall have no liability if its performance is delayed or prevented by causes beyond its reasonable control, including, without limitation, acts of nature, labor disputes, government priorities, transportation delays, insolvency or other inability to perform by any Vendor, or any other commercial impracticability. In the event of any such delay, the date of delivery or performance shall be extended for a period equal to the time lost by reason of delay. If Goods are held or stored beyond the delivery date for the convenience of Buyer, such Goods shall be so stored at the risk and expense of Buyer.

14. **CLAIMS:** Claims for any nonconforming Goods must be made by Buyer, in writing, within ten (10) days of Buyer's receipt of such Goods and must state with particularity all material facts concerning the claim then known to Buyer. Failure by Buyer to give notice within such ten (10) day period shall constitute an unqualified acceptance of such Goods by Buyer, and a waiver of any right to reject or revoke acceptance of such Goods.

15. **WARRANTIES**:

(a) SELLER'S WARRANTIES: Seller warrants that all Goods sold shall mechanically operate as specified and shall be free from faults in respect to materials and workmanship for a period of: (i) for parts, twelve (12) months from the date of invoice, and (ii) for systems, twelve (12) months from start-up, or, if earlier, eighteen (18) months from the date of the bill of lading. Seller also warrants that the Goods shall, upon payment in full by Buyer for the Goods, be free and clear of any security interests or liens. Buyer's exclusive remedy for breach of such warranties shall be limited to repair or replacement costs or termination of any security interests or liens, and Seller shall have no responsibility for reimbursing repair costs incurred by Byer in connection with Goods without first giving written authorization for such charges. In any claims by the Buyer against the Seller in respect of the Goods, the liability of the Seller shall be limited to the value of the Goods. This warranty applies only to Goods properly used and maintained and does not apply to any Goods which are misused, neglect or accident, or which has been installed, operated, repaired, altered or modified other than in accordance with instructions or written authorization by Seller. This warranty does not apply to any Goods not manufactured by Seller, and Buyer's sole warranty with respect to such Goods shall be that of the Seller's Vendor, if any.

(b) VENDOR'S WARRANTIES: Seller shall assign to Buyer any Vendor warranties and/or remedies provided to Seller by its Vendor.

(c) INTELLECTUAL PROPERTY INFRINGEMENT: SELLER DISCLAIMS ANY AND ALL WARRANTIES AND/OR INDEMNIFICATIONS AGAINST INFRINGEMENT OF ANY INTELLECTUAL PROPERTY RIGHTS OF ANY NATURE. SELLER SHALL, IF GIVEN PROMPT NOTICE BY BUYER OF ANY CLAIM OF INTELLECTUAL PROPERTY INFRINGEMENT WITH RESPECT TO ANY GOODS SOLD HEREUNDER, REQUEST THE APPLICABLE VENDOR TO GRANT FOR THE BUYER SUCH WARRANTY OR INDEMNITY RIGHTS AS SUCH VENDOR MAY CUSTOMARILY GIVE WITH RESPECT TO SUCH GOODS.

(d) LIMITATIONS: THERE ARE NO OTHER WARRANTIES WRITTEN OR ORAL, EXPRESS, IMPLIED OR BY STATUTE. SELLER SPECIFICALLY DISCLAIMS ALL IMPLIED WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. NO REPAIR OF GOODS OR OTHER COSTS ARE ASSUMED BY SELLER UNLESS AGREED TO, IN ADVANCE, IN WRITING.

16. **LIMITATIONS OF LIABILITY**: UNLESS APPLICABLE LAW OTHERWISE REQUIRES, SELLER'S AND ANY VENDOR'S TOTAL LIABILITY TO BUYER, BUYER'S CUSTOMERS OR TO ANY OTHER PERSON, RELATING TO ANY PURCHASES GOVERNED BY THESE TERMS & CONDITIONS, FROM THE USE OF THE GOODS FURNISHED OR FROM ANY ADVICE, INFORMATION OR ASSISTANCE PROVIDED BY SELLER (BY ANY METHOD, INCLUDING A WEB SITE), IS LIMITED TO THE PRICE OF THE GOODS GIVING RISE TO THE CLAIM. NEITHER SELLER NOR ITS VENDORS SHALL BE LIABLE FOR ANY SPECIAL, INCIDENTAL, DIRECT, CONSEQUENTIAL OR PENAL DAMAGES, INCLUDING, BUT NOT LIMITED TO BACKCHARGES, LABOR COSTS, COSTS OF REMOVAL, REPLACEMENT, TESTING OR INSTALLATION, LOSS OF EFFICIENCY, LOSS OF PROFITS OR REVENUES, LOSS OF USE OF THE GOODS OR ANY ASSOCIATED GOODS, DAMAGE TO ASSOCIATED GOODS, LATENESS OR DELAYS IN DELIVERY, UNAVAILABILITY OF GOODS, COST OF CAPITAL, COST OF SUBSTITUTE GOODS, FACILITIES OR SERVICES, DOWNTIME, OR CLAIMS FROM BUYER'S CUSTOMERS OR OTHER PARTIES. IF SELLER FURNISHES BUYER WITH ADVICE OR OTHER ASSISTANCE WHICH CONCERNS ANY GOODS SUPPLIED HEREUNDER, OR ANY SYSTEM OR EQUIPMENT IN WHICH ANY SUCH GOODS MAY BE INSTALLED, AND WHICH IS NOT REQUIRED PURSUANT TO THESE TERMS & CONDITIONS, THE FURNISHING OF SUCH ADVICE OR ASSISTANCE WILL NOT SUBJECT SELLER TO ANY LIABILITY, WHETHER BASED ON CONTRACT, WARRANTY, TORT (INCLUDING NEGLIGENCE) OR OTHER GROUNDS.

17. **BUYER'S USE OF GOODS**: Many factors beyond Seller's control contribute to the success of the Buyer's finished products, such as raw materials used to manufacture the products. Seller is not liability for the quality or quantity of finished products produced by Buyer with the use of the Goods.

18. **EXPORTS:** If Goods are sold for export, Seller's standard terms & condition for export sales, if any, shall also apply. Acceptance of export orders is not valid unless confirmed in writing by Seller. Buyer, and not Seller, is responsible for compliance with all United States export control rules and regulations. Buyer shall not name Seller as shipper or exporter of record in connection with the export of any Goods purchased from Seller.

19. **INSTALLATION**: Installation of the Goods is the responsibility of Buyer, unless otherwise indicated in the quotation or invoice provided to Buyer. Notwithstanding the foregoing, however, Seller will provide installation supervision personnel within thirty (30) days of Buyer's request. If an installation for which the Seller is to participate is delayed by the Buyer more than six (6) months after the date of shipment of the Goods, or if Buyer's facility, materials, or parts are not prepared for installation for such period of time, Seller shall be entitled to invoice the Buyer for the anticipated installation costs, up to $1,250 per day plus expenses, for each of Seller's installations technicians which are on site.

20. **ANTI-MONEY LAUNDERING RESTRICTIONS**: Seller rejects questionable purchase orders and payments: Except for pre-approved credit arrangements, Seller rejects third-party payments, cashiers' checks, money orders and bank drafts. Seller accepts only checks imprinted with Buyer's name; wire transfers originated in Buyer's account; letters of credit with Buyer as account party; and credit or debit cards in Buyer's name. All payments must be by single instrument in the amount of the invoice, less credits, from banks acceptable to Seller.

21. **GOVERNING LAW**: These Terms & Conditions and all disputes related to it shall be governed by the laws of the State of Florida, United States of America, without giving effect to its conflict of law rules.

22. **JURISDICTION AND VENUE:** The parties hereby irrevocably submit to the jurisdiction of the state courts of the State of Florida and to the jurisdiction of the United States District Court for the Middle District of Florida, for the purpose of any suit, action, or other proceeding related to, arising out of or based upon these Terms & Conditions or in any way related to, arising out of or involving sale of Goods hereunder; waive and agree not to assert by way of motion, as a defense, or otherwise, in any such suit, action, or proceeding, any claim that it is not subject personally to the jurisdiction of the above-named courts, that its property is exempt or immune from attachment or execution, that the suit, action, or proceeding is brought in any inconvenient forum, that the venue of the suit, action, or proceeding is improper, or that these Terms & Conditions or the subject matter hereof may not be enforced in or by such court; and waive and agree not to seek any review by any court of any other jurisdiction which may be called upon to grant an enforcement of the judgment of any such Florida state or federal court. The parties hereby consent to service of process by registered mail at the address to which notice is to be given. The exclusive venue for any proceeding under these Terms & Conditions shall be solely in any state court in Pinellas County, Florida, or the Federal District Court for the Middle District of Florida, Tampa Division, sitting in Tampa, Florida. Buyer acknowledges that the prices for Goods offered hereunder are in part dependent on Buyer's consent to jurisdiction in Florida and exclusive venue in Pinellas County, Florida or the Federal District Court for the Middle District of Florida, Tampa Division, sitting in Tampa, Florida, and without Buyer's consent to this jurisdiction and venue provision the prices for the Goods may be higher.

23. **GENERAL:** Any representation, affirmation of fact and course of dealing, promise or condition in connection therewith or usage of trade not contained herein, shall not be binding on either party. If any provision hereof shall be unenforceable, invalid or void for any reason, such provision shall be automatically voided and shall not be part of these Terms & Conditions and the enforceability or validity of the remaining provisions of these Terms & Conditions shall not be affected thereby.

TO THE EXTENT NOT CONTRARY TO APPLICABLE LAW, THE FOLLOWING SHALL APPLY:

24. Buyer waives any available homestead exemption as well as any and all requirements or rights with regard to notice, demand, presentment, or protest and appoint any employee or attorney of Seller to appear in any court of competent jurisdiction for the purpose of confessing judgment for all amounts due Seller pursuant to these terms and conditions.

25. Buyer hereby waives all rights to notice, judicial hearing or prior court order in connection with Seller's obtaining any prejudgment remedy in connection with said transactions or extensions of same. Buyer also waives any and all objection which Buyer might otherwise be able to assert now or in the future to the exercise or use by Seller of any right of setoff, repossession or self-help as may presently exist under statute, including the Uniform Commercial Code and common law.

IMPORTANT NOTICE: *THIS INSTRUMENT PERMITS SELLER TO OBTAIN AND USE YOUR INDIVIDUAL CREDIT HISTORY FOR CREDIT EVALUATION PURPOSES. THIS INSTRUMENT FURTHER CONTAINS A CONFESSION OF JUDGMENT PROVISION AND OTHER WAIVERS, WHICH CONSTITUTES A WAIVER OF IMPORTANT RIGHTS YOU MAY HAVE, AND IF YOU DO NOT PAY ON TIME, ALLOWS SELLER TO OBTAIN A JUDGMENT AGAINST YOU WITHOUT FURTHER NOTICE OR YOUR PRIOR KNOWLEDGE. BY ACCEPTING THESE TERMS YOU GIVE UP YOUR RIGHT TO NOTICE AND TRIAL. THE POWERS OF THE COURT CAN BE USED TO COLLECT THE AMOUNT DUE REGARDLESS OF ANY CLAIMS YOU MAY HAVE WHETHER FOR RETURNED OR FAULTY GOODS, FAILURE BY SELLER TO COMPLY WITH THESE TERMS & CONDITIONS, OR ANY OTHER CAUSE.*

SAFETY & WARNING INFORMATION:

OPERATING YOUR POLYESTER SYSTEM SAFELY



1. 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 safety. 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 Magnum Venus Plastech Inc. Magnum Venus Plastech 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. Magnum Venus Plastech hopes that this manual is helpful to the user and recommends that the precautions in this manual be included in any such program. Magnum Venus Plastech recommends this Safety Manual remain on your equipment at all times for your personnel safety. In addition to the manual, Magnum Venus Plastech 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 deal with “Fire, Explosion and Health Hazards of Organic Peroxides”. It is published by:

American Insurance Association
85 John Street
New York, NY 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 Personal Safety Equipment

Magnum Venus Plastech recommends the following Personal Safety Equipment for conducting safe operations of the Polyester Systems:

Magnum Venus Plastech 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 (Magnum Venus Plastech recommends that clean-up solvents be non-flammable), and of resin diluents used, such as styrene.

3. The flammability dangers of catalyst diluents, if used. (Magnum Venus Plastech 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 over spray, 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 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 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 oxidizing 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 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 form 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:

A. Store MEKP in a cool, dry place in original containers away from direct sunlight and away from other chemicals.

B. Keep MEKP away from heat, sparks and open flames.

C. Prevent contamination of MEKP with other materials, including polyester over spray and sandings, polymerization accelerators and promoters, brass, aluminum and non-stainless steels.

D. Never add MEKP to anything that is hot, since explosive decomposition may result.

E. 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.

F. Avoid spillage, which can heat up to the point of self-ignition.

G. 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.

H. Use only original equipment or equivalent parts from Magnum Venus Plastech in the catalyst system (i.e.: hoses, fitting, etc.) because a dangerous chemical reaction may result between substituted parts and MEKP.



I. Catalyst accumulated from the purging of hoses or the measurement of fluid output deliverie 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 (pump, 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 Magnum Venus Plastech spray equipment includes aluminum or galvanized components and will be affected by Halogenated Hydrocarbon Solvents.

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

a. 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. b. 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.

b. Equipment capable of withstanding pressure. When HHC solvent 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.

A. 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 MEKP, alcohol, and toluene, may render the inhibitors ineffective.

B. 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.

C. 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.

D. 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: **Magnum Venus Plastech is aware of NO stabilizers available to prevent Halogenated Hydrocarbon solvents from reaction under all conditions with aluminum components in closed fluid system.** ***TAKE IMMEDIATE ACTION…*** **Halogenated Hydrocarbon solvents are dangerous when used with aluminum components in a closed fluid system.**

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

B. Magnum Venus Plastech recommends that you contact your solvent supplier regarding the best non-flammable clean-up solvent with the heat toxicity for your application.

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

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

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

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

G. 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.

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

2.4 Catalyst Diluents

Magnum Venus Plastech spray-up and gel-coat systems currently produced are designed so that catalyst diluents are not required. Magnum Venus Plastech, 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 diluents. In addition, it eliminates any problems from the diluent being contaminated through rust particles in drums, poor quality control on the part of the diluents suppliers, or any other reason. If, however, diluents are absolutely required, contact your catalyst supplier and follow his instructions explicitly. Preferable, 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 over spray and the leak.

2.5 Cured Laminate, Overspray and Laminate Sandings Accumulation

A. 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.

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

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

To prevent this spillage and leakage, you should:

1. Maintain your Magnum Venus Plastech 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 hose 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 hose will 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

A. Magnum Venus Plastech recommends that you consult OSHA Sections 1910.94, 1910.106, 1910.107 and NFPA No.33, Chapter 14, and NFPA No.91.

B. 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.

C. 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, Magnum Venus Plastech 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 have.



WARNING

Contact your 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 your 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

Magnum Venus Plastech suggest that personal 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 ball valve located where the air enters the Powerhead of the resin pump, should be moved to the “OFF” or closed position. To do this, simply rotate the lever on the ball valve 90 degrees. Doing this will cause all the system air to bleed out of the system in a matter of a few seconds, making the system incapable of operating

NOTE: Step 2 is a precautionary step and should be followed whenever the above mentioned ball valve is activated to the stop mode. Failure to do so, can damage the regulators and components on reactivating to the “ON” position.

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

NOTE: Verify that the Catalyst relief line, located on the catalyst manifold, and the resin return line, located on the resin filter, are secured relieving catalyst and resin fluid pressure.

3. Catalyst pressure in the catalyst pump can be eliminated by rotating the ball valve on the catalyst manifold 90 degrees to the “open” or “on” position.

Note: The “open” or “on” position is when the ball valve handle is parallel (in line) with the ball valve body. The “closed” or “off” position is when the ball valve handle is perpendicular (across) the ball valve body.



4. Resin pressure in the resin pump can be eliminated by rotating the ball valve on the resin filter 90 degrees to the “open” or “on” position. Place a container under the ball valve to catch any resin that is ejected out of the valve.

3.2 Grounding

Grounding an object means providing an adequate path for the flow of the electrical charge from the object to the ground. An adequate path is one that permits a 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. Magnum Venus Plastech recommends grounding straps be made of AWG No.18 stranded wire as a minimum and the larger wire be used where possible. NFPA Bulletin No77 states that the electrical resistance of such a leakage path may be as low as 1 meg ohm (10 ohms) but that resistance 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 MAGNUM VENUS PLASTECH EQUIPMENT, PLEASE CALL MAGNUM VENUS PLASTECH BEFORE OPERATING OR PERFORMING MAINTENANCE ON THE EQUIPMENT. IF YOU HAVE ANY QUESTIONS REGARDING THE ABOVE PRECAUTIONS OR ANY SERVICE OR OPERATION PRECEDURES, CALL YOUR MAGNUM VENUS PLASTECH DISTRIBUTOR OR MAGNUM VENUS PLASTECH.

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 express or implied. The user should not assume that all safety measures are indicated or that other measures are not required.

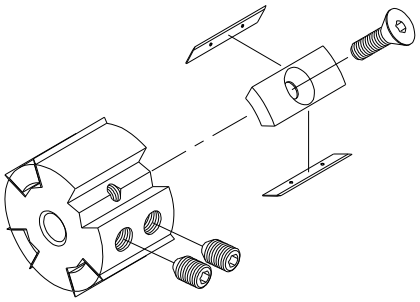
DANGER: Contaminated catalyst may cause Fire or Explosion. Before working on the catalyst pump or catalyst accumulator, wash hands and tools thoroughly. Be sure work area is free of dirt, grease or resin. Clean catalyst system components with clean water only.

DANGER: Eye, skin and respiration hazard. The Catalyst, MEKP, may cause blindness, skin irritation or breathing difficulty. Keep hands away from face. Keep food and drink away from work area.

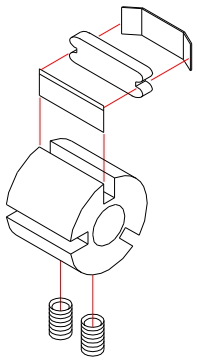
WARNING: Please refer to your catalyst manufacturer's safety information regarding the safe handling and storage of catalyst. Wear appropriate safety equipment as recommended.

Pro Chopper:

There are two basic styles of rotor assemblies, the wedge style and the spring & spacer style. The Pro Chopper Rotor diameter is 1.2" (30.48mm)



Wedge Rotor Assembly



Spring & Spacer Style Rotor

Wedge Rotor Assemblies

Part Number	Description	# of blades	Chop Length	Optional configurations
5113-03-01	6 Blade Wedge Rotor	6	5/8"	2 blade (1-7/8") & 3 blade (1-1/4")
77731-1	8 Blade Wedge Rotor	8	11/16"	2 blade (1-7/8") & 4 blade (15/16")

Spring and Spacer Rotor Assemblies

Part Number	Description	# of blades	Chop Length	Optional configurations
77706-3	3 Blade Rotor Assy.	3	1-1/4"	
77706-4	4 Blade Rotor Assy.	4	15/16"	2 blade (1-7/8")
77706-5	5 Blade Rotor Assy.	5	3/4"	
77706-6	6 Blade Rotor Assy.	6	5/8"	2 blade (1-7/8") & 3 blade (1-1/4")
77706-12	12 Blade Rotor Assy.	12	5/16"	2 blade (1-7/8") 3 blade (1-1/4") 4 blade (15/16") 6 blade (5/8")
77706-15	15 Blade Rotor Assy.	15	1/4"	
77706-24	24 Blade Rotor Assy.	24	5/32"	

Maintenance:

Replace chopper blades – Spring and Retainer Style

You should inspect chopper blades daily and replace blades which become worn or chipped.

DANGER: Before attempting to inspect or replace blades in the chopper, be sure to disconnect all air to the chopper.

Remove Chopper Cover

1. Remove the chopper cover by turning the cover stud (7103-2-1).

Remove Blade Assemblies

DANGER: BLADES ARE SHARP. To prevent injury, use caution when working around the rotor.

1. Remove the rotor from the air motor shaft.
2. To remove the spring, retainer and the blade from the rotor slot, insert a screwdriver blade into the slot from the rotor's side.
3. Press the screwdriver to remove the spring, spacer, and the blade quickly and safely.

Assemble Chopper Blades

1. Before installing the new blades, lightly dull the sharp edges by moving the blade edge back and forth on cardboard.
2. Make a "sandwich" or stack of one spring (04169-1), one spacer (70690-1), and one blade.
3. Locate the deep side of a slot in the rotor.
4. Slide the stack into the slot from the end of the rotor (not from the top of the slot) so that the blade is on the deep side of the slot.

NOTE: Make sure the blade aligns with the center line of the rotor.

5. Center the spring (04169-1), the spacer (70690-1), and the blade in the rotor.
6. Press the spacer and the spring (04169-1) to the bottom of the slot with a screwdriver handle.
7. Press the blade to the bottom of the slot by pushing the blade against the bench or a piece of wood.

8. Fill all the slots on the rotor with the spring, retainer, and blade subassembly.

CAUTION: Be sure the rotor is positioned correctly.

9. The rotor must be positioned so that, as it rotates clockwise, the retainer and spring contact the rubber roll before the blade does, (blade hits last).

10. Slide the rotor onto the air motor shaft so that the set screws align with the flat on the air motor shaft. Adjust the rotor so that the blades should align with the rubber roll.

11. Secure the rotor by tightening the set screws.

Reinstall Chopper Cover

1. Attach the cover to the chopper, aligning the base plate's notch with the boss in the cover. Twist the cover stud to lock the cover in place.

WARNING: Never operate the chopper unless the cover is installed, or personal injury may result.

Reinstall Glass

1. Thread the glass strands through the brake guides on the boom.

2. Bend the end of a strand of glass to form a small loop.

3. Insert the loop into a hole in the chopper cover.

DANGER: Be sure all air to chopper is disconnected to prevent accidental injury.

DANGER: BLADES ARE SHARP. To prevent injury, insert fingers carefully.

4. CAREFULLY insert your finger into the chopper, and then rotate the rubber roll by placing your finger under the roll and pulling your finger toward you. This pulls the glass strand into position between the rubber roll and the blade rotor assembly.

NOTE: Using two strands of glass results in a better glass pattern and less wear on the chopper unit.

REPLACE RUBBER ROLL

The rubber roll in the chopper should be inspected daily. If you see deep grooves in the roll, or if the chopper is delivering longer glass strands than normal, you need to replace the rubber roll.

DANGER: Disconnect air to the chopper before attempting to repair or perform maintenance.

Disconnect Air and Power

Disconnect air to the chopper

Replace Rubber Roll

DANGER: BLADES ARE SHARP. To prevent injury, use caution when working around the rotor.

1. Remove the chopper cover by turning the cover stud (7103-2-1).
2. Use a 7/16 inch socket wrench to loosen the screw (F-HB-04C-24-GR5) in the center of the rubber roll and mandrel (5103-5-1).
3. Use a screwdriver as a lever to remove the E-ring (7205-3-31) on the mandrel.
4. Pull the rubber roll off the mandrel (5103-5-1). If needed a screwdriver can be used to lever the rubber roll off.

NOTE: Do not soak the mandrel or the rubber roll in solvent.

Install New Rubber Roll

DANGER: BLADES ARE SHARP. To prevent injury, use caution when working around the rotor.

1. Push the new rubber roll onto the mandrel.
2. Snap the E-ring (7205-3-31) into position on the end of the mandrel (5103-5-1).
3. Use the socket wrench to secure the rubber roll and mandrel to the chopper.

Adjust Rubber Roll

1. Loosen the screw (F-HB-04C-24-GR5) holding the idler roll.

NOTE: The idler roll is also called the "sleeve and bearing."

2. Loosen the screw (F-HB-04C-24-GR5) holding the rubber roll and mandrel.

3. The rubber roll should exert just enough pressure against the blade rotor to turn the rotor. The rubber roll should be able to be turned while holding the rotor.

NOTE: The rubber roll may not be perfectly round, adjust to the middle point not the high or low point.

4. Adjust the idler roll and the rubber roll until the idler roll is barely touching the rubber roll.

NOTE: Turn the roller eccentric nuts clockwise to tighten. Do not turn the nuts counterclockwise. The idler roll should be just close enough to the rubber roll to pull the fiberglass into the chopper without pulling the glass too tightly.

Install Chopper Cover

1. Attach the cover to the chopper, aligning the base plate's notch with the boss in the cover. Twist the cover stud to lock the cover in place.

WARNING: Never operate the chopper unless the cover is installed, or personal injury may result.

Reinstall Glass

NOTE: Using two strands of glass helps achieve a better glass pattern and prolongs the life of the chopper unit.

NOTE: Thread the glass through the brake adjustment guides to prevent strands from overrunning the chopper after the gun has been shut off.

1. Bend the end of each glass strand to form a small loop.

2. Insert the loop into one hole in the chopper cover.

DANGER: Disconnect all air to chopper to prevent accidental injury.

DANGER: BLADES ARE SHARP. To prevent injury, insert fingers carefully.

3. CAREFULLY insert your finger into the chopper through the front port.

4. CAREFULLY place your finger under the roll and rotate the roll by pulling your finger toward you. This pulls the glass strands into position between the rubber roll and the blade rotor assembly.

Lubricate Chopper Air Motor

1. Remove the hose fitting that attaches the flexible conduit to the chopper.
2. Completely close the blower thumbscrew to prevent oil from entering the interior of the chopper.
3. Insert 1 to 2 drops of chopper motor oil into the hose fitting port.

NOTE: Magnum Venus Chopper Motor Oil is available in 1 oz. (part number: 6706-1-1) or 16 oz. (part number: 6706-1-16).

4. Reconnect the hose fitting.
5. Reconnect the air supply.

CAUTION: Lubricate the air motor every 4 hours during operation to prevent damage to the equipment.

6. Operate the chopper briefly with the blower thumbscrew closed.

CAUTION: Be sure to reopen the blower thumbscrew to the desired setting for normal operations.

DANGER: Disconnect all air to the chopper before disassembly.

Disconnect Air and Power

1. All air to the chopper and gun should be disconnected.
2. Remove air line from the back of the chopper

Remove Rolls

1. Remove chopper cover by unscrewing the thumbscrew on the chopper cover.
2. Use a wrench to remove the screw holding rubber roll assembly.

NOTE: If you need to replace the rubber roll, please refer to "Replace Rubber Roll," located above.

3. Remove idler roll (also called the "sleeve and bearing") (5103-7-01).
4. Loosen the two set screws on the side of the blade rotor.
5. Use a screwdriver to pry the blade rotor off the air motor shaft and base plate.

NOTE: If you need to replace chopper blades, please refer to "Replace Chopper Blades," located above.

Remove Air Motor

Remove the screw (7102-11-6) to disconnect the base plate (5113-3-1) from the air motor.

Remove Manifold Block

1. Remove screw (7102-2-8) which connects the manifold block (58642-1) to the air motor.
2. Remove the o-rings on the manifold block (58642-1).

Remove & Disassemble Valve Spool Assembly

NOTE: This valve assembly is used to control the velocity of the air motor.

1. Remove the screw (7101-1-3) and retaining disc (58734-1).
2. Push out the valve spool assembly (58733-1).
3. Unscrew the air silencer (04398).

NOTE: Do not scratch the valve spool.

4. Remove the o-rings (O-V-016) from the valve spool.
5. Unscrew the blower thumbscrew (5103-11-1).

Assemble Pro Chopper

In this section, you will reassemble the chopper, which breaks the fiberglass roving into short lengths and sprays it into the fan pattern of the gun.

Attach Manifold Block

1. Position two o-rings in the o-ring grooves on the flat side of the manifold block.
2. Lubricate the o-rings, valve spool and the bore in the manifold block with Pro Gun Oil.
3. Use the screw (7102-2-8) to attach the manifold block (58642-1) to the flat side of the air motor.

Install Valve Spool Assembly

NOTE: This valve assembly, or speed regulator, controls the velocity of the air motor.

1. Install two o-rings (O-V-016) onto the valve spool.
2. Lubricate the o-rings, valve spool, and the bore in the manifold with Pro Gun™ Oil (6706-3-1).

3. Install a new decal (if necessary) on the rim of the valve spool.

NOTE: Align the indentation on the rim with the zero (0) mark on the decal.

4. Place the washer (04396) on top of the silencer (04398) and tightly screw the silencer into the valve spool (58733-1).

5. Slide the valve spool (58733-1) into the bore in the manifold block (58642-1).

6. Secure the retaining disc (58734-1) on the back of the valve spool with the machine screw (7101-1-3).

7. Set the chopper speed regulator to zero by aligning the zero mark on the decal with the line on the chopper manifold.

Install Blower Screw

Screw the blower thumbscrew (5103-11-1) into the hole in the manifold block. (The hole in the manifold block is aligned with the blower tube).

NOTE: The blower thumbscrew clears the chopper of excess glass buildup. Opening this valve too much distorts the fan pattern.

Connect Base Plate to Air Motor

1. Place the set screw (F-SS-04C-06-SS) for tightening the air motor into the hole in the base plate (5113-3-1).

2. Lubricate the mounting flange on the air motor with Lubriplate (08465).

3. Insert the air motor into the base plate (7102-11-6).

NOTE: Align the blower tube and air motor with the proper holes in the base plate. The air motor goes into the holes on the side of the base plate with the raised platform.

4. Tighten the set screw (F-SS-04C-06-SS) to hold the air motor in place.

Install Blade Rotor

1. Slide the blade rotor onto the motor shaft, aligning the flat side of the shaft with the two screws on the side of the blade rotor.

2. Tighten the hex screws gently, but do not tighten securely yet.

NOTE: Position the rotor so that, as it rotates clockwise, the retainer and spring contact the rubber roll before the blade does.

Install Sleeve and Bearing (also called the IDLER ROLL)

1. Place the eccentric nut (5113-4-1) into the hole on the base plate.
2. Insert the screw through the sleeve assembly
3. Place the washer (5103-18-1) over the end of the screw.
4. Secure the idler roll to the washer with the screw.
5. Tighten the idler roll by rolling the eccentric nut (5113-4-1) toward the front of the chopper.

Install Chopper Mount

1. Insert the machine screw (F-HB-04C-12) and lock washer (F-SW-04) into the chopper mount.
2. Insert an eccentric stud (5103-17-1) into the chopper mount.
3. Thread into the gun block and tighten.
4. Place spherical washer (7202-7-1) over the hex cap screw (F-HB-04C-20-GR5).
5. Thread the screw and washer through the hole on the base plate assembly.
6. Place friction washer (5113-6-1) on the other side of the base plate assembly and use lock nut (F-TLN-04C) to secure the chopper mount and washer to the hex cap screw.

Install Rubber Roll Assembly

1. Press the rubber roll onto the mandrel (5103-5-1).
2. Place the E-ring (7205-3-31) into the groove on the mandrel.
3. From the E-ring side, insert a cap screw (F-HB-04C-24-GR5) through the mandrel assembly.

NOTE: Make sure that the cap screw is not bent.

4. Place a washer (00201-1) on the cap screw (F-HB-04C-24-GR5).
5. Insert the end of the mandrel assembly through the chopper base plate assembly.
6. Screw the rubber roll & mandrel assembly into the eccentric nut (5113-5-1).

NOTE: Do not tighten the assembly yet.

Align Rubber Roll with Blade Rotor

1. Be sure rubber roll and blade rotor align properly.

2. The blade rotor should lightly rub against the rubber roll when held still. The rubber roll should exert just enough pressure against the blade rotor to turn the rotor.

NOTE: If the blades press too hard against the rubber roll, the rubber roll will need to be replaced more often.

NOTE: The rubber roll may not be perfectly round, adjust to the middle point not the high or low point.

3. Adjust the idler (also called the "bearing or sleeve roll") and the rubber roll until the idler is barely touching the rubber roll.

NOTE: Turn the roller eccentric nuts clockwise to tighten the roller.

NOTE: The idler should be just close enough to the rubber roll to pull the fiberglass into the chopper without pulling the glass too tightly.

4. When you have properly aligned the rubber roll, blade rotor, and idler roll, tighten them into position by using the eccentric nuts on the back of the base plate.

Note: It will be necessary to periodically readjust the chopper as rubber roll becomes worn.

Reinstall Chopper Cover

1. Slide the chopper cover extension (sideways) onto the front bottom lip of the chopper cover.

2. Attach the cover to the chopper, aligning the base plate's notch with the boss in the cover. Twist the cover stud to lock the cover in place.

WARNING: Never operate the chopper unless the cover is installed, or personal injury may result.

Chopper Adjustment:

Caution: Before adjusting the chopper, the resin, catalyst, and solvent should be pressurized and operating correctly. Please refer to your operating instructions before proceeding with the next steps.

NOTE: The chopper can be adjusted vertically and from side to side.

Adjust Chopper Vertically

1. Move the chopper up or down so the glass will enter the spray fan 1.5 to 2 inches (3.8 to 5.08 cm) in front of the gun nozzle. To move the chopper up or down, loosen the hex cap screw which connects the chopper mount to the base plate.

Adjust Chopper Horizontally

1. Position the chopper as close to the center of the gun nozzle as possible. Loosen the large screw on the chopper mount, then insert a screwdriver in the eccentric stud and turn the stud to actually position the chopper. Retighten the screw on the chopper mount.

2. Turn the chopper regulator to approximately 1/3 higher psi than the resin pump pressure.

NOTE: This is only a starting point. Test shots of glass and weighing will determine the correct pressure to achieve the desired output.

3. The glass should enter the spray fan at the point where the width of the glass pattern is the same as the width of spray fan.

4. Make a test pass on a flat surface. If the glass is entering the fan to the left or right of the spray fan, then the chopper is not centered on the spray fan.

5. If the glass is:

   A: falling off both sides of the spray fan, then the chopper is set too close to the spray fan.

   B: “lumped” in the middle of the spray fan, then the chopper is set too high vertically to the spray fan.

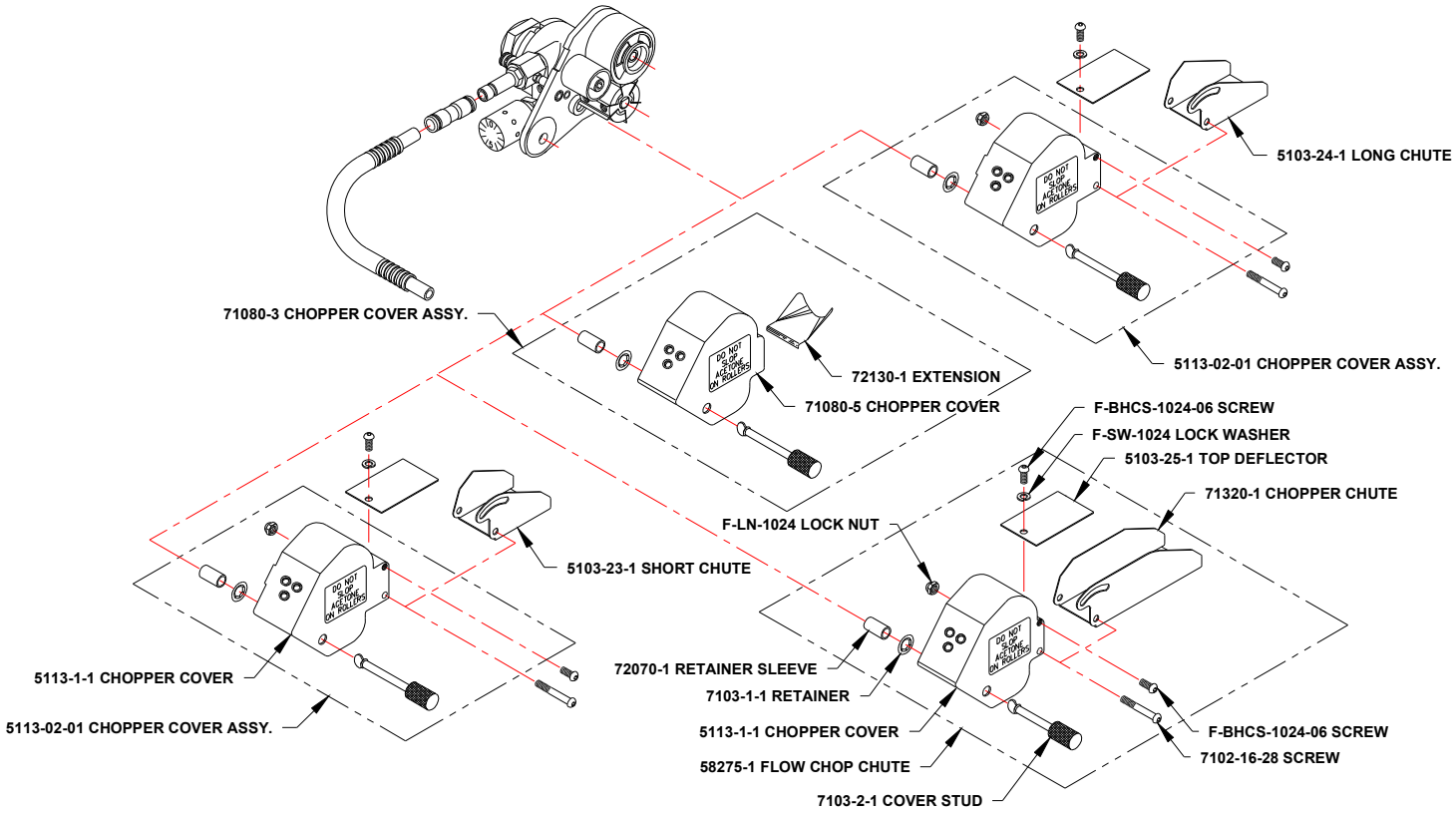
THE CHOPPER IS POSITIONED CORRECTLY IF:

A. The glass enters the center of the fan, and

B. The glass spreads evenly across the spray fan, and

C. No glass or a very minimal amount of glass falls off the sides of the spray fan.

PRO CHOPPER COVER OPTIONS:

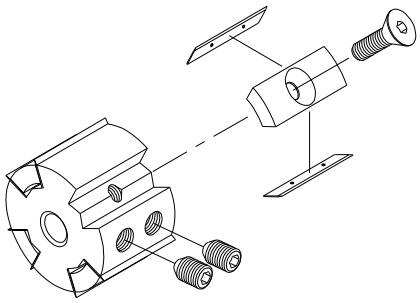


Super Pro Cutter:

NOTE: This chapter pertains to the disassembly and assembly of the rubber roll and rotor assemblies.

Introduction:

The SuperCutter uses different rotor assemblies from the Pro Chopper and they are only available in a Wedge style. The Super Cutter Rotor diameter is 1.375" (34.9mm).



Wedge Style Rotor Assembly

Wedge Rotor Assemblies

Part Number	Description	# of blades	Chop Length	Optional configurations
5103-04-01	**6 Blade Wedge Rotor**	**6**	**.72"**	**2 blade (2.16") & 3 blade (1.44")**
5103-03-01	**8 Blade Wedge Rotor**	**8**	**.54"**	**2 blade (2.16") & 4 blade (1.08")**

1. Unscrew the Cover Nut (5103-14-1) and remove the Chopper Cover (5103-13-1) from the Roving Cutter Basic Assembly (5103-00-01).

Rubber Roll Disassembly

2. To remove the Rubber Roll Assembly, loosen the Socket Cap Screw (7102-2-20) enough to slide the Slide Adjust Nut (5103-4-1) from the slot in the Base Plate (5301-1-1)

3. With a screw Driver, remove the E-Ring (7205-3-31), and slide the Rubber Roll (5103-6-1) off the Mandrel Assembly (5403-5-01).

Rotor Disassembly

4. Loosen the two Socket Cup Point Set Screws (7102-14-6), and slide the 8-Blade Rotor Assembly (5103-03-01) off of the Air Motor (8402-1-1) shaft.

NOTE: Be very careful when handling the Rotor Assembly as the blades are sharp and could cause injury.

5. Loosen the Socket Flat Head Screws (7102-13-6) used to secure the Wedge Inserts (5103-29-1), and remove the Chopper Blades (9210-1-1) from the 8-Blade Wedge Rotor Assembly (5103-03-01).

Super Cutter Assembly

NOTE: The sharp edge of the Chopper Blades should be slightly dulled by stropping them on cardboard prior to installation into Rotor Assembly. This intentional dulling of the blades by the whetting process will avoid slicing and nicking of the Rubber Roll and will assure longer life of both Blades and Rubber Roll.

Rotor Assembly

1. Insert Chopper Blades (9210-1-1) between the Rotor Hub (5103-28-1) and Wedge Insert (5103-29-1). The back edge of the Blade must be bottomed against the Rotor.

2. Align the edges of the blade with the end of the Rotor Hub (5103-28-1). Tighten the Socket Flat Head Screw (7102-13-6) in the Wedge Insert (5103-29-1) to secure the blades in place.

3. Wipe a small amount of grease on the Air Motor (8402-1-1) shaft.

4. Slide the Wedge Rotor Assembly (5103-03-01) onto the Air Motor (8402-1-1) shaft, so the Set Screws (7102-14-6) in the Rotor Hub (5103-28-1) ride on the flat of the chopper motor shaft.

NOTE: The rotor must be positioned on the Air Motor shaft so it aligns with the Rubber Roll.

Rubber Roll Assembly

1. Press the Rubber Roll (5103-6-1) onto the Mandrel Assembly (5103-5-01). Secure the Rubber Roll by inserting the E-Ring (7205-3-31) into the groove in the Mandrel.

2. Insert the Mandrel/Rubber Roll Assembly into the top of the T-Slot on the Base Plate (5103-1-1). Align the Slide Adjust Nut (5103-4-1) with the T-Slot.

3. Slide Rubber Roll Assembly toward the Wedge Rotor Assembly (5103-03-01) and tighten the Socket Head Cap Screw (7102-2-20).

Rubber Roll Adjustment

1. Slightly loosen the Socket Head Cap Screw (7102-2-20), just enough so the Rubber Roll Assembly will slide in the T-Slot.
2. Apply slight pressure of the Rubber Roll Assembly to the Wedge Rotor Assembly (5103-03-01), and tighten the Socket Head Cap Screw (7102-2-20).

NOTE: When making this adjustment, Rubber Roll must not be in contact with chopper blade.

Idler Adjustment

1. Slightly loosen the Socket Head Cap Screw (7102-2-20), just enough so the Idler Assembly will slide in the T-Slot.
2. Slide the Sleeve w/ Bearing (5103-7-01) until it just makes contact with the Rubber Roll (5106-6-1).

NOTE: Proper adjustment has Idler Assembly touching the Rubber Roll, but still able to rotate with minimum effort.

Revision Information:

Revision:	Description:
Rev. 02/2013	Updated the drawings and the “Terms and Conditions” section. Updated the document format, logo, and address and added the revision information section.

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