

PATRIOT CHOP CHECK PUTTY UNIT

Operations Manual

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MagnumVenusProducts™

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MagnumVenusProducts™

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Terms & Conditions of Sale:

GSSC, Inc.'s Terms & Conditions of Sale ("Terms & Conditions") 588284v4

- 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 1/2% 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 Buyer's 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 Buyer 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 or neglected, 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

IMPORTANT NOTICE: THIS INSTRUMENT PERMITS SELLER TO OBTAIN AND USE YOUR INDIVIDUAL CREDIT HISTORY FOR CREDIT EVALUATION PURPOSES.





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 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 Magnum Venus Products Inc. Magnum Venus Products 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 Products 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 Products recommends this Safety Manual remain on your equipment at all times for your personnel safety. In addition to the manual, Magnum Venus Products 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 Products recommends the following Personal Safety Equipment for conducting safe operations of the Polyester Systems:

Magnum Venus Products 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 Products 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 Products 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 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:

- 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. Firefighting 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 Products 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 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 (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 Products 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 contacts 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 Products 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 Products 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 Products spray-up and gel-coat systems currently produced are designed so that catalyst diluents are not required. Magnum Venus Products, 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 diluents 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, oversprayed chop or resin, FRP sandings or any other material with MEKP.

To prevent this spillage and leakage, you should:

1. Maintain your Magnum Venus Products 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 Products 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 Products 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 Products suggests 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 power head 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 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 Products 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 PRODUCTS EQUIPMENT, PLEASE CALL MAGNUM VENUS PRODUCTS 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 PRODUCTS DISTRIBUTOR OR MAGNUM VENUS PRODUCTS.

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.



Introduction:

This manual provides information needed to properly operate and perform simple maintenance and repair on this equipment.

- ☐ Step-by-step operations procedures are provided.
- ☐ This manual includes Installation, Start-up and Shut-Down instructions.
- ☐ Step-by-step assembly and disassembly procedures are included for each component.

Please read this manual carefully. Follow the steps in the order given, otherwise you may damage the equipment or injure yourself.

Major Components:

The Patriot Putty Unit consists of the following major components:

- ☐ PATRIOT CHOP CHECK FLUID SECTION MANUAL PAT-CCP-LS-0590
- ☐ PATRIOT METERING PUMP MANUAL PAT-CP-0245
- ☐ PATRIOT POWER HEAD MANUAL PAT-PH-4250
- ☐ CLASSIC PRO GUN REPAIR MANUAL



Description of Controls for Unit:

Familiarize yourself with the Air Manifold controls, which consist of the following regulators and gauges:

- ❑ PUMP PRESSURE gauge and regulator. This controls the main air pressure to the resin pump Air Motor.
- ❑ PRIMING BUTTON push button control. This control allows the pump to operate without opening the gun. The Priming Button sends an air signal to the pump control valve which allows control air to the power head.
- ❑ RAM EXTRACT PRESSURE gauge and regulator. This controls and displays the air pressure that is use to remove the piston from the empty pail. This is the air pressure that is put between the ram piston and the inside of the pail.
- ❑ RAM EXTRACT VALVE – this ball valve turns On/Off the Ram Extract air pressure.
- ❑ RAM / AIR LIFT PRESSURE gauge and regulator. This controls and displays the air pressure used to lift the pump out of or press the pump into the putty material.
- ❑ RAM / AIR LIFT CONTROL VALVE – this controls the direction of the Ram / Air Lift Pressure – Up/Neutral/Down. Placing the valve in the up position will cause the Ram to lift. Placing the valve lever in the center position will turn the air off to the ram cylinders. Placing the valve lever in the down position will cause the Ram to be pushed down into the material.
- ❑ SOLVENT PRESSURE – gauge and regulator. This is the gauge and regulator located on the top of the flush tank and sets the solvent flush pressure.
- ❑ MAIN AIR INLET VALVE – This is the main air inlet ball valve. This ball valve is used to turn off air supply to the unit. It also releases the air pressure in the unit.

Note: Open the Main Air Ball Valve in one full stroke open or closed if partially opened air will leak from the exhaust port on the valve.





Unit Requirements & Assembly:

Please make sure all appropriate personal protective equipment is used before start up of this unit. Refer to and follow the requirements of the Material Safety Data Sheets supplied by your coating material manufacturer for solvent, adhesive and activator.

CAUTION: Always wear proper safety equipment (glasses, gloves, respirator, etc.) when working on the dispensing equipment.

Air Requirements:

1. The system requires a supply of air (30cfm) and at least 100 psi.
2. We require a 1/2" inch (12-13mm) inside diameter air hose minimum (Use caution when using quick disconnects as they may restrict air flow.
3. Preferably the air will be clean, dry and oil free.

Assemble the unit:

1. Attach the Catalyst Jug Bracket and Catalyst Manifold to the upper support bar (see figure 1)

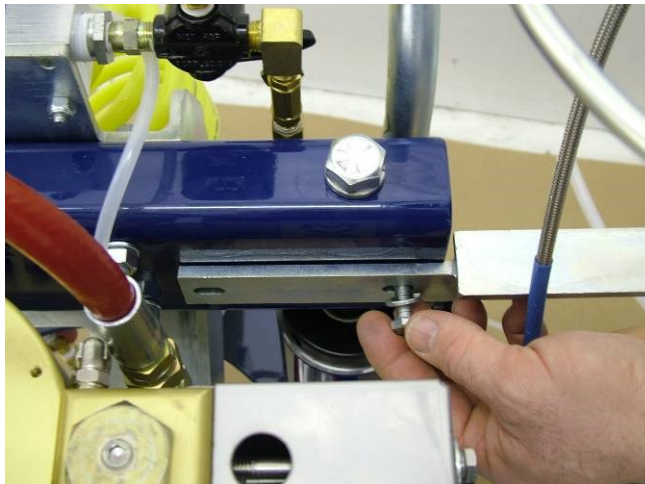


Fig. 1



2. Attach the Flush Tank Bracket to the main post and install Flush Tank (see figure 2)

Fig. 2



3. Loosen the two Locking Knobs and adjust the Handle/ Hose Bracket to desire position (see figure 3)

Fig. 3



4. Loosen the U-Bolts holding the Accumulator in place and raise the Accumulator to it the proper position.(see figure 4a & 4b)

Fig. 4a



Fig. 4b



Hose Connections:

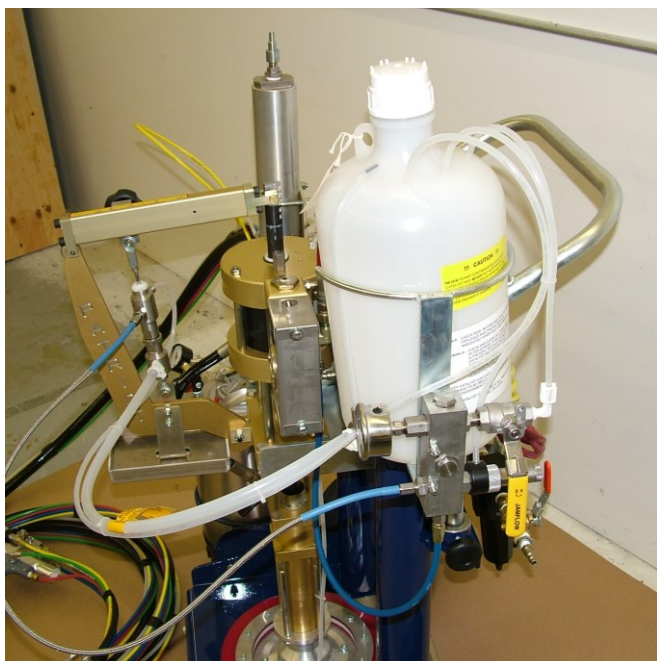
5. Connect the Resin Hose from the Pump Outlet to the Accumulator (see fig. 4b)
6. Attach Flush Tube (solvent to the gun) to the outlet (SOLVENT) side of the flush tank (see fig. 5)
7. Attach ¼ inch poly air hose from the air manifold to the flush tank regulator (AIR). (see fig. 5)
8. Connect the Resin Hose from the gun to the outlet side of the Accumulator. (see fig. 5)

Fig. 5



9. Install the Catalyst Jug into the Catalyst Jug Bracket. (see fig. 6)

Fig. 6



10. Connect blue Catalyst Hose from the gun to the bottom of the catalyst manifold. (see fig. 6)
11. Connect the Catalyst Hose from the Catalyst Pump the side of the Catalyst Manifold. (see fig. 6)
12. Install the Relief Valve and Return Valve tubes into the top of the Catalyst Jug. (see fig. 6)
13. Install the tube from the Catalyst Seal to the top of the Catalyst Jug. (see fig.6)
14. Connect the Catalyst Feed tube from the Catalyst Jug outlet to the Catalyst Pump inlet. (see fig. 6)
15. Install the proper fitting into the Main Air Supply Ball Valve and connect the air supply. The Ball Valve comes with a 1/2" NPT Female port. (see fig. 3)

Pre Startup Instructions:

1. Check all hoses for wear or damage from shipping, replace if necessary.
2. Check to be sure you have appropriate quantities of Resin/Putty and Catalyst to complete the job.
3. Check and repair or replace any damaged items before starting a job.
4. **Be sure all fluid connections are tight, all catalyst fittings, all resin fittings, all solvent fittings.**

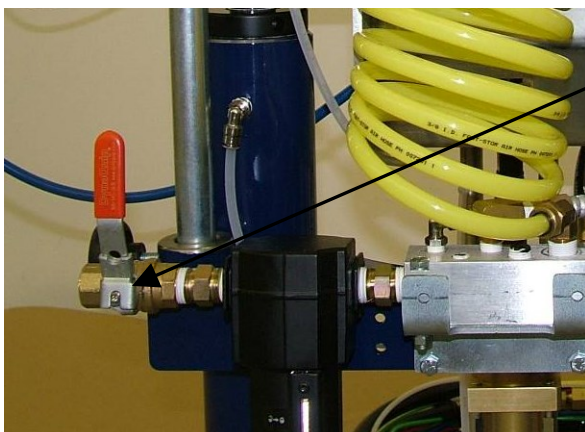


Priming the Unit:

Priming of Unit Air and Solvent:

1. Close the main inlet air valves on the main air manifolds (see fig. 7)

Fig. 7



Connect the air supply to the supplied fitting 1/2"npt.

2. Connect 1/2 inch main air supply to the Air Manifold (see fig. 7)
3. Turn all regulators counterclockwise to full off and close all ball valves on the unit
4. Make sure Ram / Air lift control levers are in "neutral" (see fig. 8)

Fig. 8



5. Open the recirculation valve on the catalyst manifold to the ON position (see figure 9).

Fig. 9



6. Open main air feed ball valve and listen for air leaks. The ball valve has a safety relief port and air will leak from the port until the valve is fully open or closed (see fig. 7).
7. Secure all fittings and correct air leaks if found.
8. Fill Flush Tank with appropriate cleaning agent at least 3/4 full.
9. Close the relief valve on the top of the Flush Tank.
10. Slowly turn up regulator pressure to Flush Tank to 50 -60 psi (3.5 – 4 bar) (see figure 10).

Fig. 10



11. Secure all solvent leaks.
12. Test flush system on gun block, by pressing the flush button, test both solvent and air purge (see fig. 11)

Fig. 11



Priming of Putty Chop Check Pump:

1. Fill solvent cups with throat seal liquid (see figure 12)

Fig. 12



2. Move the ram up/down valve handle to the up position (see figure 13).

Fig. 13



NOTE: Do not install static mixer tube to gun at this time.

3. To raise the Pump Ram, slowly increase air pressure on the regulator (marked air lift) to 15 to 20 psi (see figure 13).
4. While the barrel piston is going up, check that hoses are moving freely and no hoses are kinking.
5. Slide 5-gallon (20 liter) pail of material onto the unit against the pail stop and position to the barrel piston.
6. Install the Plastic Boot to the follower plate and seals to protect the seals and help keep the follower plate clean. Center the plastic boot on follower plate and seals and secure as desired. Be sure to leave the air bleed ball valve exposed for easy access and operation. (see fig. 14a)
7. Open the air bleed ball valve located at the top of the barrel piston; this will allow air trapped between the barrel piston and the material to escape. (see fig. 14)

Fig. 14

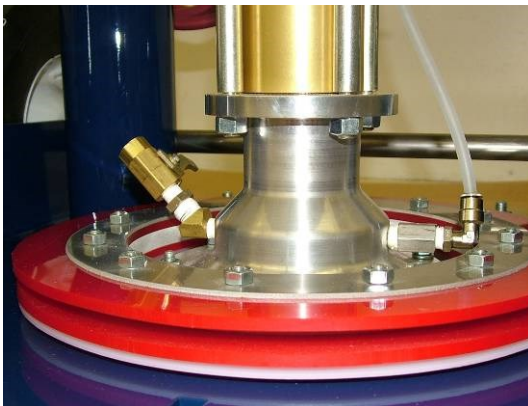
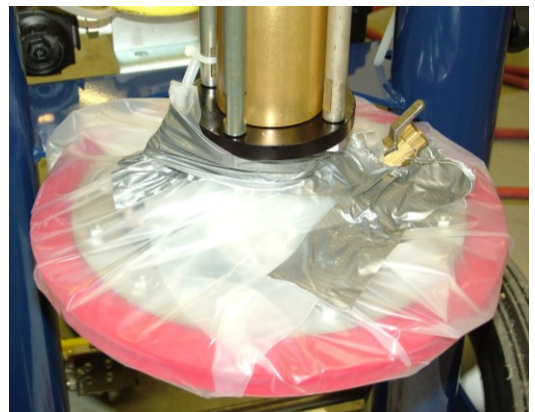


Fig. 14a



8. To lower barrel piston down into the pail, move the ram up/down handle to down position (see fig. 15).

Fig. 15



NOTE: Allow time for air to be pushed out of the air bleed off valve at the top of the barrel piston.

9. Once barrel piston has come to a complete stop and a small amount of material starts to come out the bleed off valve close the bleed off ball valve (see figure 14).
10. Remove mixer assembly and mixer plug for the front of the gun if it has not already been removed.
11. Position the gun over an appropriate waste container to allow priming of lines
12. Pull and lock the gun trigger into the ON position.
13. Slowly turn up pump pressure to 20 psi (1.2 bar) (see figure 16).

Fig. 16



14. The Pump should begin to stroke, check for leaks on all hose connections. Material will flow to the gun.
15. Secure leaks, if any.
16. Allow Pump to continue pumping until there is a steady air free flow of material.
17. Close the gun trigger.

18. Position outlet of the gun over a flush container
19. Press air purge button, a sudden purge of material from dispensing head is likely and could splash, so be cautious (see fig. 17)

Fig. 17



20. Allow air to flow for 3-4 seconds (see fig. 17)
21. Press flush button to solvent purge for 3-4 seconds and again watch for splashing
22. Repeat flush process several times as needed.

Priming the Catalyst pump:

1. Fill the catalyst jug at least 3/4 of the way full.
2. Check for leaks and be sure all fittings are tight.
3. Place the catalyst recirculation valve in the ON position (see figure 9).
4. Remove the Quick Pin from the slave arm assembly.
5. Hand pump the catalyst using the slave arm until a steady flow of air free catalyst flow back into the jug.
6. Position the gun over an appropriate container and lock the gun in the ON position.
7. Close the catalyst recirculation valve on the catalyst manifold.
8. Again hand pump catalyst through the catalyst hose until there is a steady flow of air free catalyst coming from the front of the gun.
9. Release the gun trigger and properly flush and clean the gun.
10. Now hand prime the catalyst pressure to approximately 200psi (14bar).



Mixing and Dispensing:

1. Attach static mixer to gun, apply lubricant to threads prior to attachment (see fig. 17)

Fig. 17



2. Trim the end of the disposable mixer to the desired diameter.
3. To build fluid pressure on the pump, push the priming button located on the air manifold while slowly adjusting the pump to the desired pressure (see figure 18).

Fig. 18



Priming Button

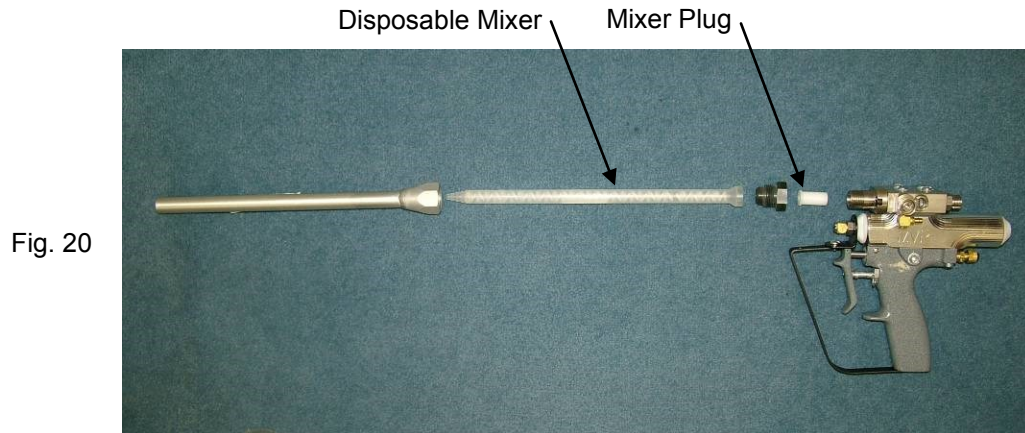
4. Once pump has come to a stop, release priming button.
5. Pull the trigger on the gun and allow mixed material to flow out of mixer into a container for 4-5 seconds
6. Begin dispensing a bead of material and check for mix by reviewing uniformity of color (see fig. 19). Refer to the "Testing and Adjusting Manual" for more details.

Fig. 19



Flushing, Cleaning and Shutdown:

1. When finished with dispensing, it is necessary to flush and clean mixer and mix housing.
2. Open trigger the gun momentarily to allow the pump shafts to run to full down position
3. Release the gun trigger.
4. Position outlet of mixer into approved waste container
5. Slowly open 3 way flush valve to air and allow air to purge for 4-5 seconds
6. Then turn 3 way flush valve to solvent purge for 4-5 seconds
7. Repeat steps 4 and 5
8. We recommend at this point removing the mixer plug and mix housing from the front of the gun for cleaning. Clean thoroughly and reinstall.
9. If you are using a disposable mixer assembly check for blockages or hardened material build up inside the mixer tube and replace as necessary. (see figure 20)



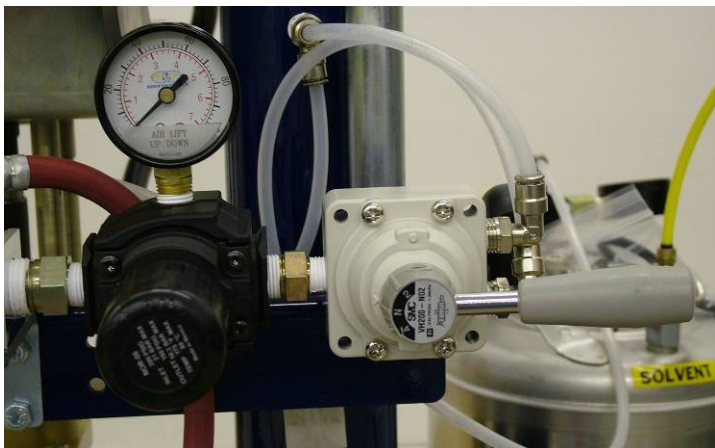
10. Turn main air "off" to system (see figure 7).
11. Relieve the air pressure from the flush tank by lifting the relief valve ring.



Changing the Empty Pain:

1. Turn Air Lift control lever to “neutral” position (see figure 21)

Fig. 21



2. Open the ball valve connected to the gauge and regulator marked Ram Extraction (see figure 22).
3. Slowly turn up Ram Extraction regulator to 25 psi (see figure 22).

Fig. 22



4. Turn Air Lift control lever to “up” position (see figure 23).

Fig. 23



5. Adjust pressure regulator marked Air Life to 20 psi
6. Hold pail down if it beings to lift, close and open the Air Lift lever intermittently to raise follower and pump out of pail.
7. It may be necessary to adjust both ram / Air Lift and ram extraction pressures accordingly to necessitate removal without lifting the pail.
8. After pump and follower are removed, inspect, seal and dispose of Plastic Boot if necessary.
9. Clean any build up of material on seals as well as follower plate.
10. Replace with “new” pail and refer back to procedures for priming.



Fig. 51



Daily Start-up & Shut-down:

- **DAILY STARTUP**

1. Check and refill all components and materials.
2. Close the relief valve on the flush tank lid.
3. Open the main air supply lockout ball valve to pressure up the system. Bleed off any water, check the system for leaks and damage, replace or repair items as needed.
4. Check that Air Lift pressure settings and pump pressure settings are set to the appropriate settings. If needed press and hold the priming button and adjust the pump pressure.
5. Apply a small amount of red grease (7607-2-1) to the threads of the mix chamber.
6. Reassemble and attach mixer assembly.
7. Check flush system for proper operation.

The system is ready for use.

- **DAILY SHUT-DOWN**

1. Drain water trap filter daily.
2. Thoroughly flush and clean the mix chamber.
3. Remove mixer and mixer plug from the mix chamber.
4. Remove the mix chamber and clean with solvent.
5. Wipe clean the front of the gun block and check for any damage.
6. Close the main lockout ball valve to relieve air pressure from the system.
7. Lift the relief valve on the flush tank lid to release flush tank pressure.

NOTE: Do not leave barrel piston in material if the system will be idle for more than two weeks.



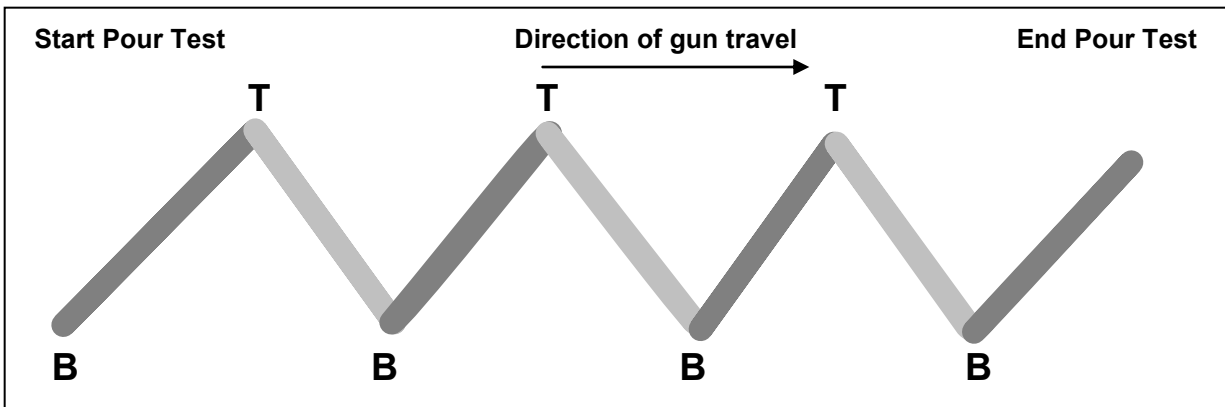
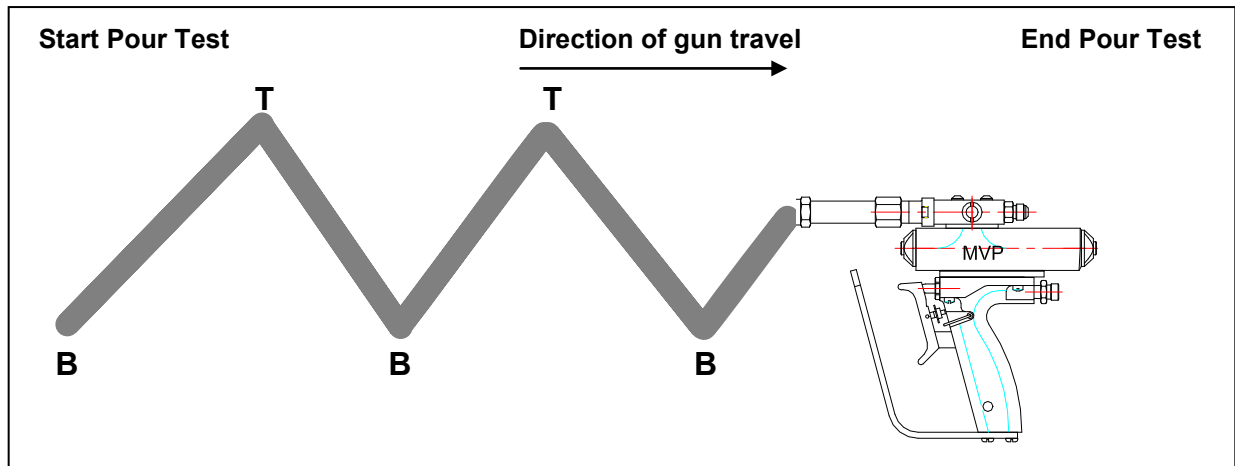


Testing and Adjusting:

Pour Testing:

The same process and results that are used for testing the spray can be used for testing a pour system. By pouring a bead of material in an up and down "zig zag" pattern and observing the results.

Note that depending on the length of the mixer there will be a delay in the metering issue and where it appears on the pattern.



Result 1:

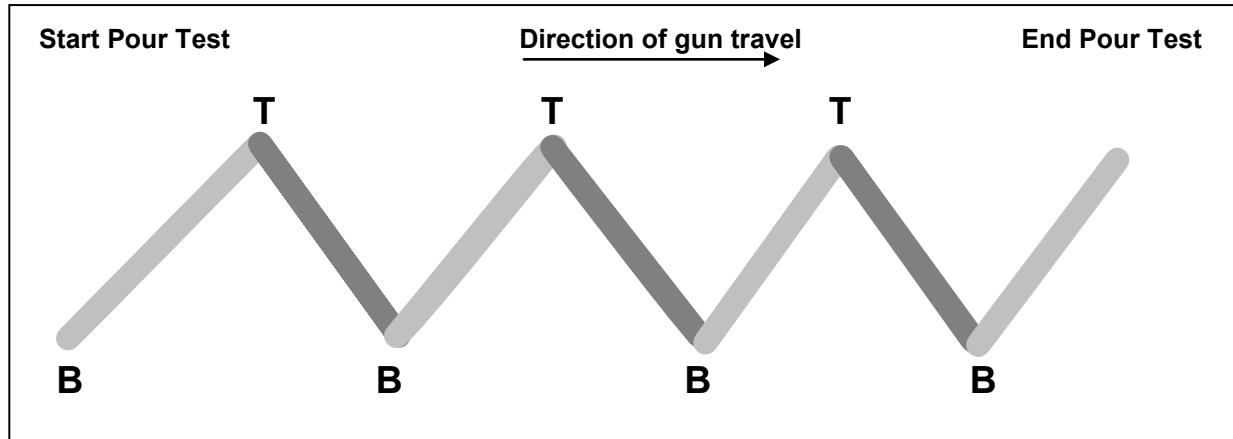
Material delivered at the top and bottom of the stroke is not curing or curing more slowly than the material delivered in the middle of the up- and down-stroke, see figure above.

Indicates: Low/no catalyst at top (T) and bottom (B) of the pump stroke.

Probable Cause: There is no or improper accumulation effect in the catalyst system. Normally this is only a problem at high pressures.

Solution: Check to be sure you are using the proper catalyst hose, with or without core. Install a catalyst accumulator if needed. Check for a restriction in the catalyst system.





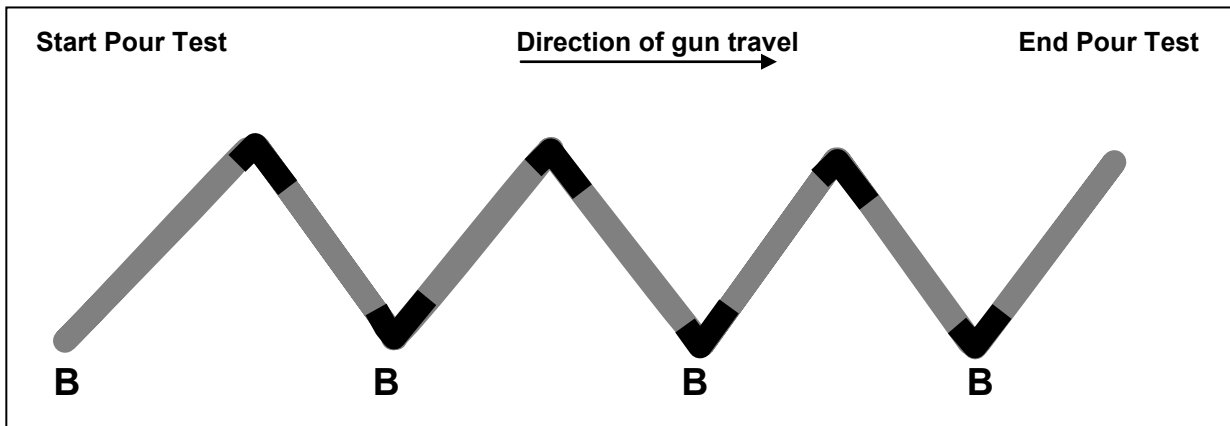
Result 2:

Material delivered at the top and bottom of the stroke is hot (curing very rapidly). Also thin areas of material might be noticeable compared to the volume delivered in the middle of the stroke, see figure above.

Indicates: Low resin at the top (T) and bottom (B) of the pump stroke.

Probable Cause: There is no or improper accumulation effect in the resin system.

Solution: Resin accumulator full of hard material or has a blockage. Clean resin filter and reinstall. Incorrect accumulator installed. Pump pressure is too high, lower resin pressure.



Result 3:

Material delivered at the top and bottom of the stroke is not curing or curing more slowly than the material delivered in the middle of the up- and down-stroke, see figure above.

Indicates: Low/no catalyst at top (T) and bottom (B) of the pump stroke.

Probable Cause: There is no or improper accumulation effect in the catalyst system. Normally this is only a problem at high pressures.

Solution: Check to be sure you are using the proper catalyst hose, with or without core. Install a catalyst accumulator if needed. Check for a restriction in the catalyst system.

Result 4:

Material delivered at the top and bottom of the stroke is hot (curing very rapidly). Also thin areas of material might be noticeable compared to the volume delivered in the middle of the stroke, see figure above.

Indicates: Low resin at the top (T) and bottom (B) of the pump stroke.

Probable Cause: There is no or improper accumulation effect in the resin system.

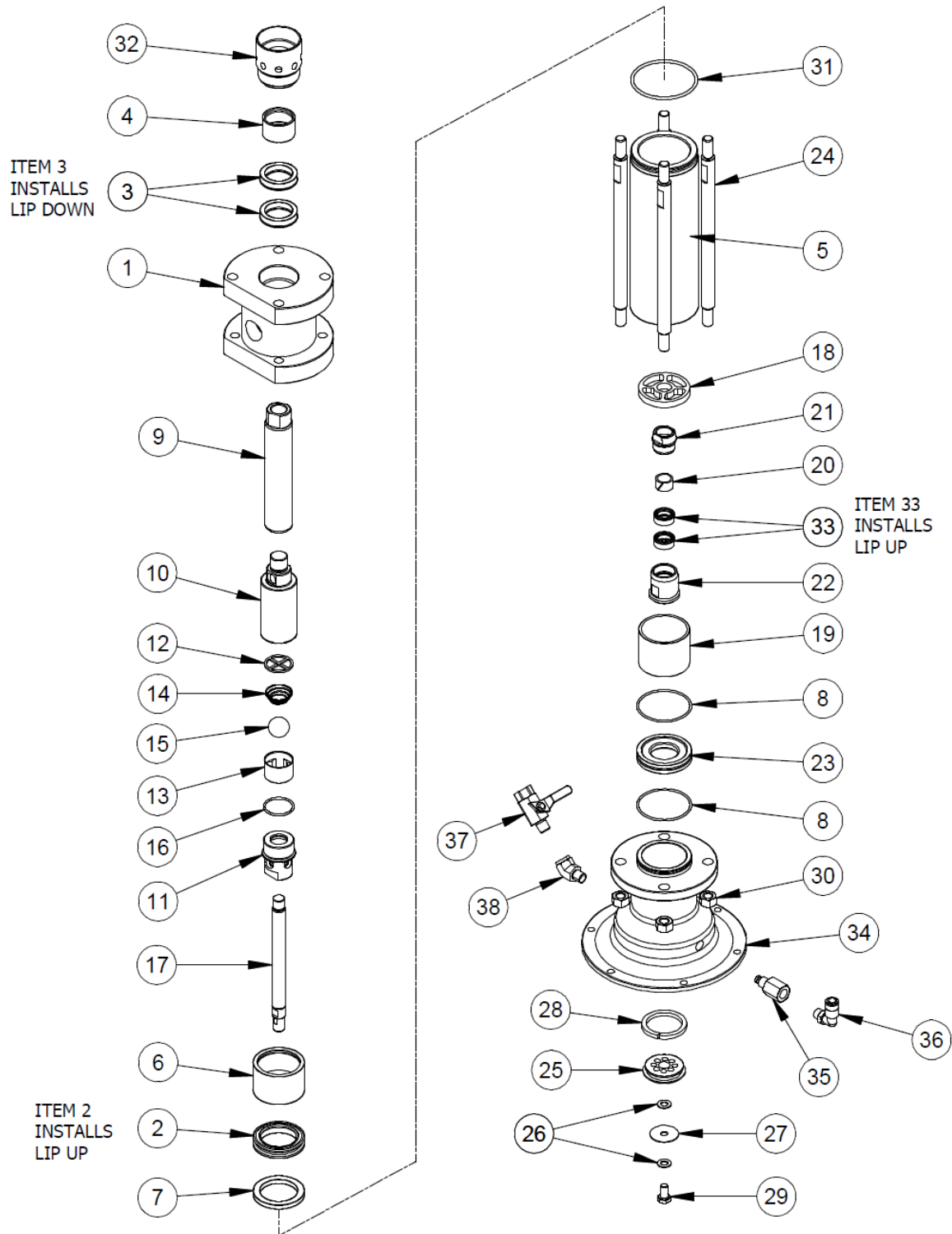
Solution: Resin accumulator full of hard material or has a blockage. Clean resin filter and reinstall. Incorrect accumulator installed. Pump pressure is too high, lower resin pressure.



Parts Drawings:

PAT-CCP-LS-0590	CHOP CHECK FLUID SECTION ASSEMBLY
PAT-CCP-PA-2300	COMPLETE CHOP CHECK PUMP ASSEMBLY
PAT-PH-4250	AIR MOTOR ASSEMBLY
CPP-6000	PRO PUTTY GUN ASSEMBLY
CPP-6100	CLASSIC PRO PUTTY GUN BLOCK
PAT-CP-0245	PATRIOT CATALYST PUMP
PAT-CCP-2300	PUTTY PUMPING SYSTEM
PAT-RA-5000-M	MOBILE RAM ASSEMBLY
PAT-RA-5000	RAM ASSEMBLY
PAT-RA-5021	PATRIOT RAM ASSEMBLY





MAGNUM VENUS PLASTECH

MINI CHOPCHECK LOWER SECTION

PAT-CCP-LS-0590

REV:11-10-08 BT2



Parts List			
ITEM	PART NUMBER	QTY	DESCRIPTION
	1	1	OUTLET BODY
*	2	1	PISTON SEAL ASSY
*	3	2	ROD SEAL ASSY
	4	1	ROD BUSHING
	5	1	CYLINDER
	6	1	PISTON BUSHING
	7	1	BACKUP RING
*	8	2	O-RING
	9	1	FLUID ROD
	10	1	PISTON - 1.323 DIA
	11	1	PISTON VALVE
	12	1	BALL STOP
	13	1	BALL GUIDE
	14	1	SPRING
	15	1	3/4" CHROME BALL
*	16	1	O-RING
	17	1	PRIMING ROD
	18	1	VALVE STOP
	19	1	SPACER
	20	1	INTAKE BUSHING
	21	1	VALVE NUT
	22	1	INTAKE VALVE
	23	1	LOWER SEAT
	24	4	TIE ROD
	25	1	PRIMING PISTON
	26	2	BACKUP WASHER
*	27	1	RELIEF WASHER
*	28	1	PRIMING SEAL
	29	1	HEX BOLT
	30	4	HEX NUT
*	31	1	O-RING
	32	1	PACKING NUT
*	33	2	FOOT VALVE SEAL
	34	1	INLET BELL FLANGE
	35	1	CHECK VALVE
	36	1	MALE ELBOW
	37	1	BALL VALVE
	38	1	45 DEG STREET ELBOW

REPAIR KIT

* PAT-CCP-LS-0590-RK (ASTERISKS DENOTE PARTS IN KIT)

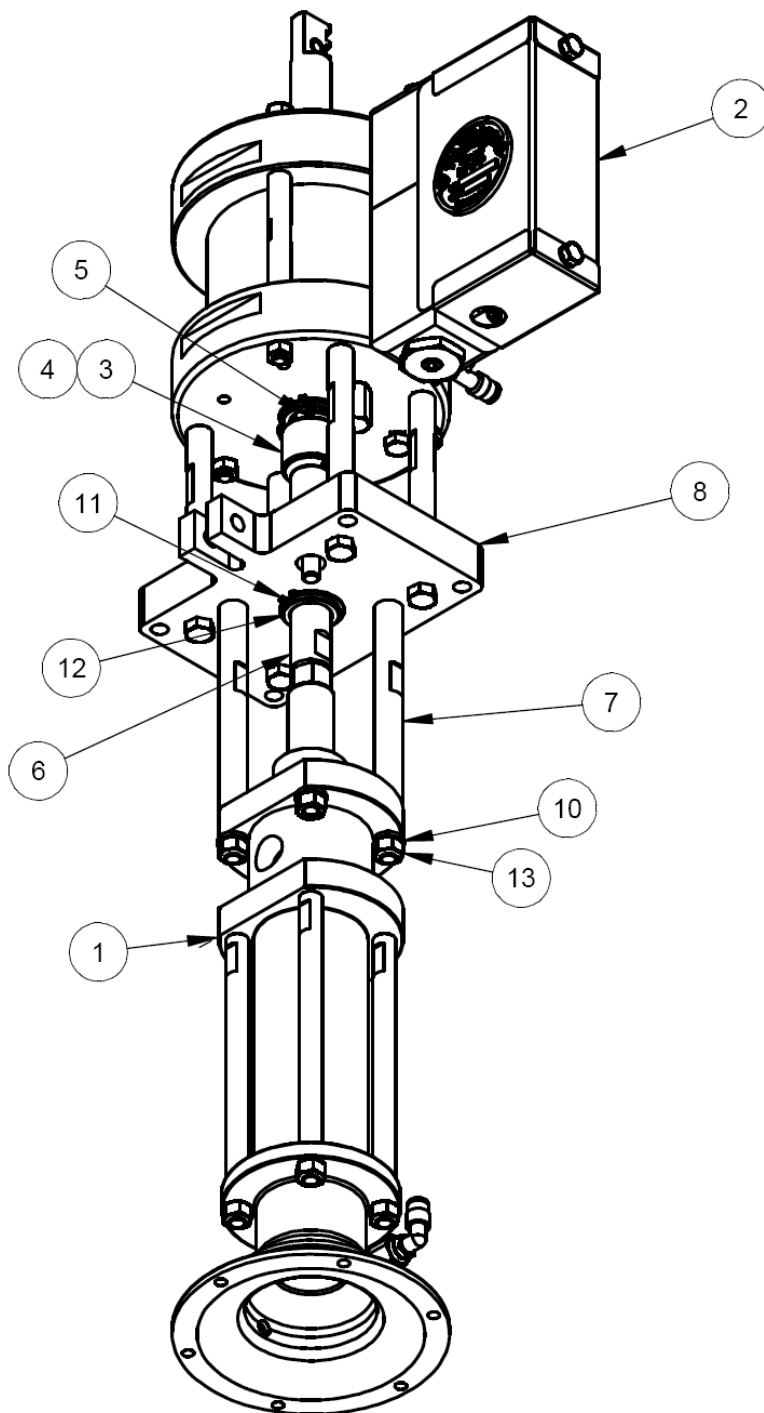
MAGNUM VENUS PLASTECH

MINI CHOPCHECK LOWER SECTION

PAT-CCP-LS-0590

REV:11-10-08 BT2





MAGNUM VENUS PLASTECH

PUMP ASSEMBLY

PAT-CCP-PA-2300

REV:01-30-08



Parts List			
ITEM	PART NUMBER	QTY	DESCRIPTION
1	PAT-CCP-LS-0590	1	LOWER PUMP SECTION ASSY
2	PAT-PH-4250	1	POWER HEAD ASSY- 4.25 IN.
3	PAT-PA-9109	1	SHELL RETAINER
4	APP-9096	2	HALF SHELL
5	F-ER-1.00-HD	1	Ø1" E-RING HEAVY DUTY
6	PAT-CCP-0521	1	ADAPTER SHAFT
7	PAT-CCP-0522	4	ADAPTER TIE ROD
8	PAT-CCP-0503	1	TRANSITION PLATE
9	F-HB-06C-24	4	HEX BOLT
10	F-SW-06	8	LOCK WASHER
11	MPH-3261	1	SNAP RING - EXTERNAL
12	PAT-CCP-0517	1	MID BUSHING
13	F-HN-06C	4	HEX NUT

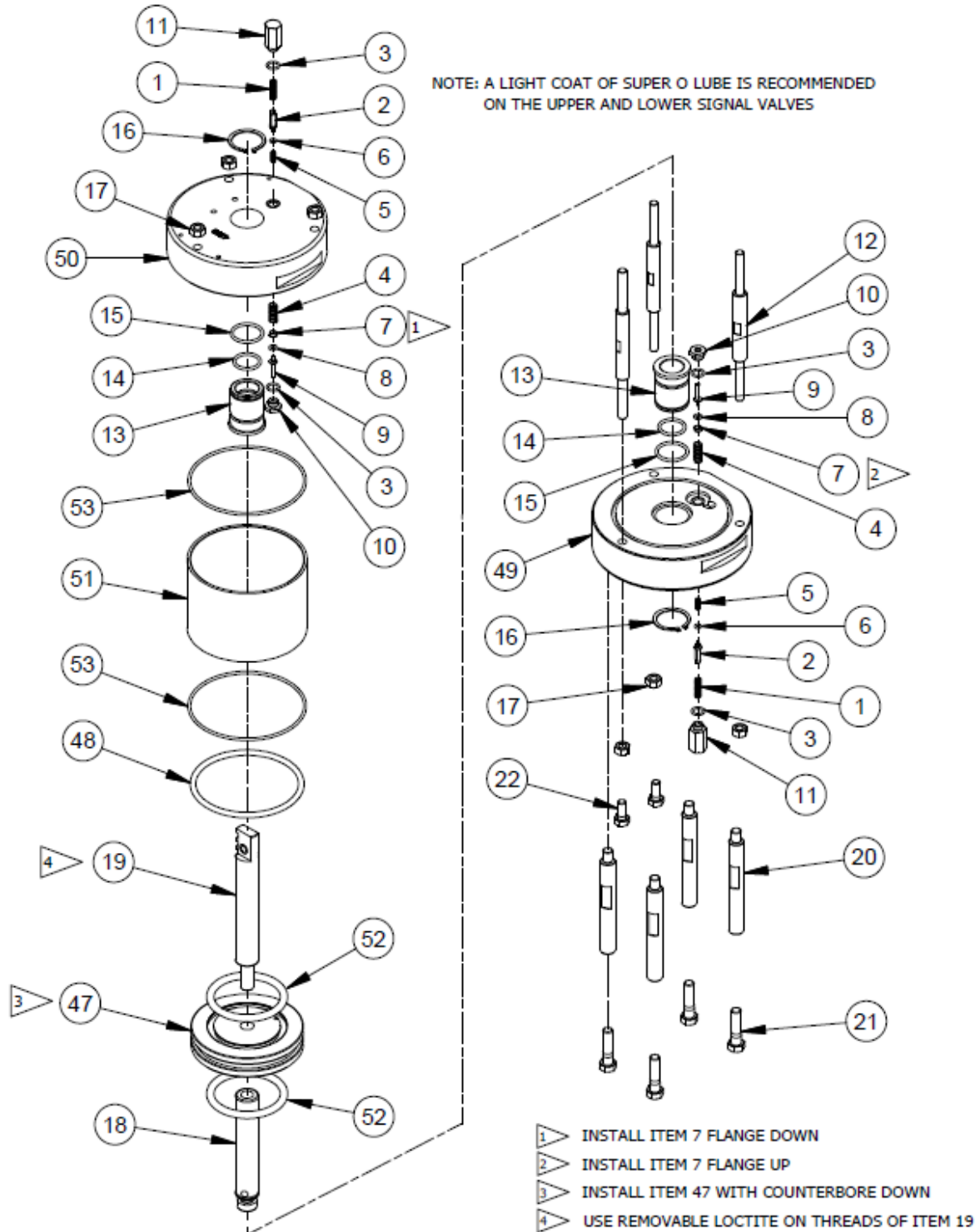
MAGNUM VENUS PLASTECH

PUMP ASSEMBLY

PAT-CCP-PA-2300

REV:01-30-08





MAGNUM VENUS PLASTECH

4-1/4" PATRIOT POWER HEAD

PAT-PH-4250

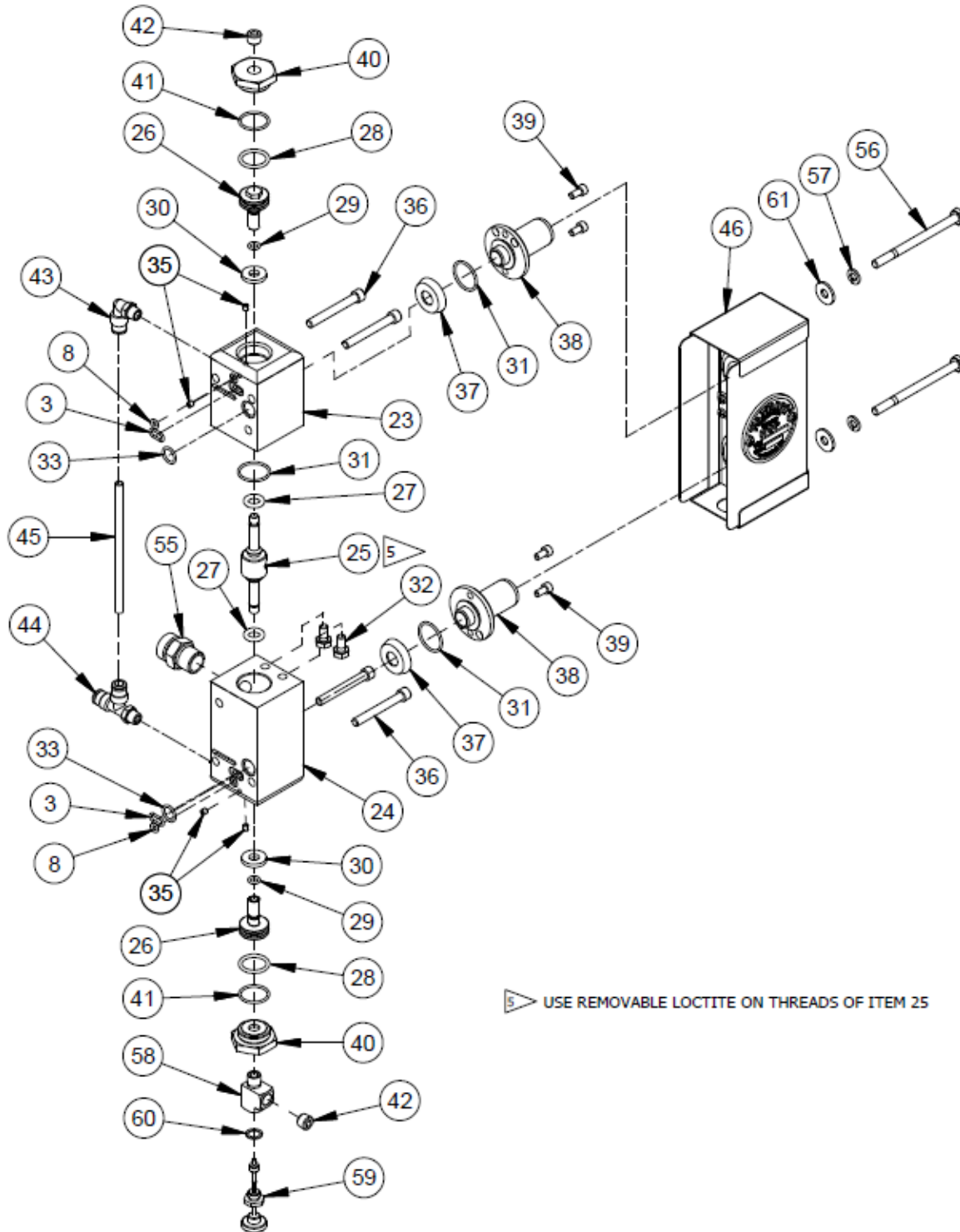
REV: A 05/24/11



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MAGNUM VENUS PLASTECH

4-1/4" PATRIOT POWER HEAD

PAT-PH-4250

REV: A 05/24/11



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4-1/4" POWER HEAD PARTS LIST			
ITEM	PART NUMBER	QTY	DESCRIPTION
	1 MPH-2533	2	COMPRESSION SPRING
	2 MPH-2540	2	INLET ROD- PILOT VALVE
*	3 O-B-012	6	O-RING
	4 MPH-2528	2	SPRING
	5 MPH-2526	2	SPRING
*	6 O-U-006	2	O-RING
	7 MPH-2512	2	SEAL GUIDE- PILOT VALVE
*	8 O-B-008	4	O-RING
	9 MPH-2513	2	VALVE STEM- PILOT VALVE
	10 MPH-2511-01	2	STEM SEAL ASSY- PILOT VALVE
	11 MPH-2541	2	SPRING HOUSING- PILOT VALVE
	12 PAT-PH-3206	3	TIE ROD - 2" STROKE P.H.
	13 VPH-4254	2	BUSHING- 7/8 DIA. PISTON ROD
*	14 O-B-118	2	O-RING
*	15 O-B-121	2	O-RING
	16 MPH-3261	2	SNAP RING - EXTERNAL
	17 F-HN-05F	6	HEX NUT
	18 PAT-PH-5009	1	LOWER ROD
	19 PAT-PH-5008	1	UPPER ROD ASSY
	20 PAT-PH-5011	4	TIE ROD
	21 F-HB-06C-24-GR8	4	HEX BOLT
	22 F-HB-05C-12	2	HEX BOLT
	23 PAT-PH-3201	1	UPPER VALVE BLOCK
	24 PAT-PH-3202	1	LOWER VALVE BLOCK
	25 PAT-PH-3205	1	VALVE ROD POPPET
	26 MPH-2517	2	VALVE PISTON
*	27 O-U-204-90	2	O-RING
*	28 O-B-116	2	O-RING
*	29 O-D-010-90	2	O-RING
	30 MPH-3262	2	PISTON STOP
*	31 O-B-020	3	O-RING
	32 F-HB-04C-08	2	HEX BOLT
*	33 O-B-013	2	O-RING
	35 F-SS-832-02-SS	4	SET SCREW
	36 F-CS-04C-32-SS	4	SOCKET HEAD CAP SCREW
*	37 MPH-2529	2	DIAPHRAGM
	38 MPH-2522	2	VALVE EXHAUST PORT
	39 F-CS-1024-06-SS	4	CAP SCREW
	40 MPH-2521	2	VALVE END CAP
*	41 O-B-019	2	O-RING
	42 PF-AP-02-SS	2	PIPE PLUG
	43 MPH-2539	1	MALE ELBOW
	44 MPH-2538	1	MALE POLY TEE FITTING
	45 MS-2052-1	.40ft	POLY TUBE
	46 PAT-PH-3210-01	1	MUFFLER ASSY. -2" STROKE
	47 VPH-4251	1	PISTON
*	48 O-B-344	1	O-RING
	49 PAT-PH-4204	1	LOWER END CAP
	50 PAT-PH-4212	1	UPPER END CAP
	51 PAT-PH-4203	1	CYLINDER
*	52 O-B-409	2	O-RING
*	53 O-B-156	2	O-RING
	55 PF-HN-06-08S	1	HOSE ADAPTER
	56 F-HB-04C-56-SS	2	HEX BOLT
	57 F-SW-04-SS	2	1/4" LOCK WASHER
	58 PF-ST-02-BR	1	TEE FITTING
	59 MPH-2546-01	1	RESET STEM ASSEMBLY
	60 MPH-2545	1	SEAL
	61 F-FW-04	2	FLAT WASHER

OPTIONAL PARTS AND ASSEMBLIES

PART No.	QTY.	DESCRIPTION
MPH-2542	1	RESET PUTTON ASSY
PAT-PH-SB	1	SHIFT BLOCK ASSY

* ASTERISKS DENOTE PARTS INCLUDED IN PAT-PH-4250-5K SEAL KIT

MAGNUM VENUS PLASTECH

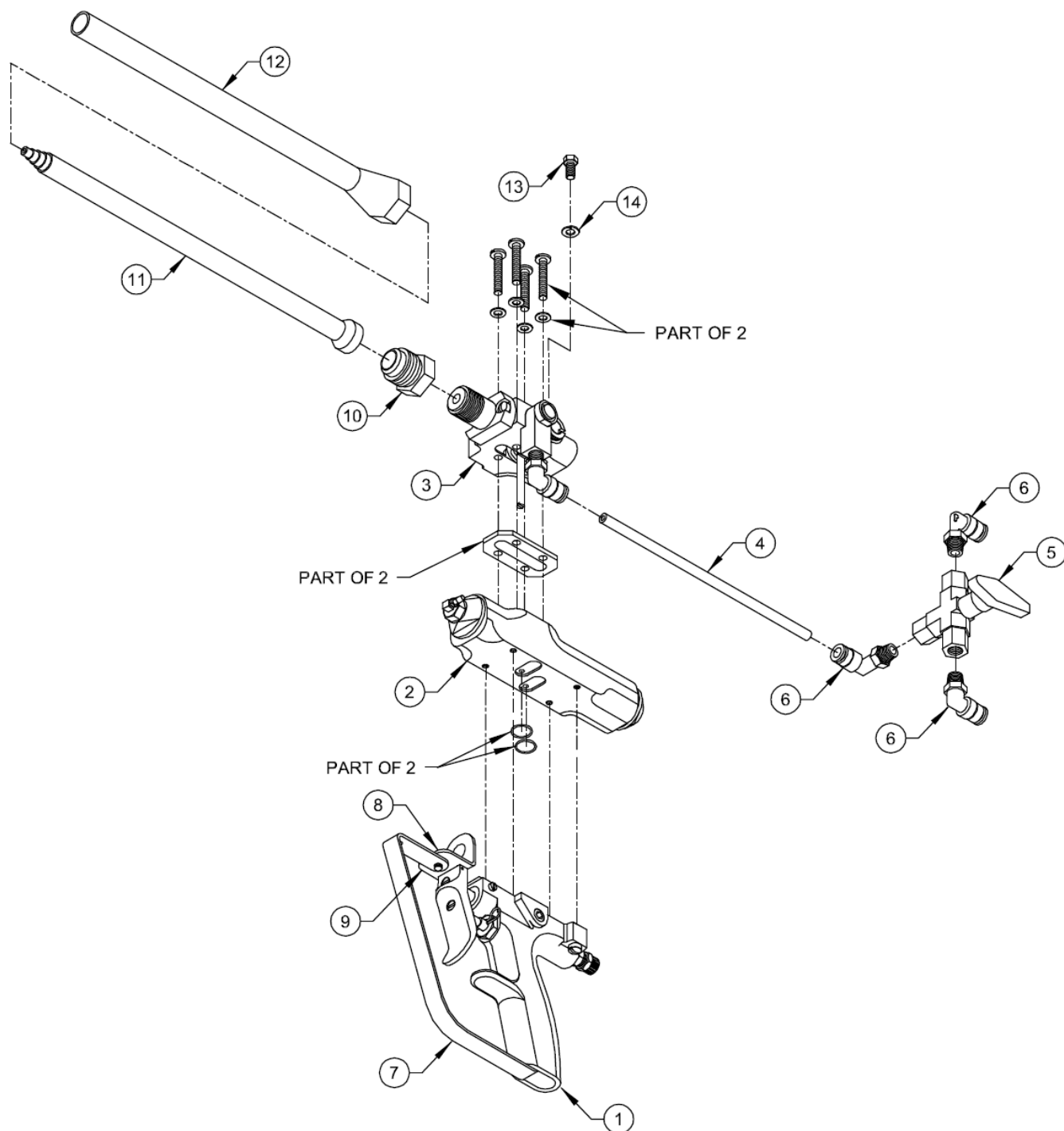
4-1/4" PATRIOT POWER HEAD

PAT-PH-4250

REV: A 05/24/11



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MAGNUM VENUS PLASTECH

Pro Putty Gun with Mixer

CPP-6000

REV. - 02/08/08 BT2

REV. A - ADDED ITEMS 10, 11, 12, 13, AND 14 03/13/08 BT2



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Pro Putty Gun Assembly CPP-6000

PARTS LIST

ITEM	PART NO.	QTY	DESCRIPTION
1	58603-3	1	GUN HANDLE
2	58604-1-S	1	ACTUATOR ASSEMBLY
3	CPP-6100	1	GUN BLOCK ASSEMBLY
4	01443	2 FT.	POLY TUBE
5	8407-6-1	1	BALL VALVE
6	MPH-2539	3	POLY ELBOW
7	58670-1	1	TRIGGER GUARD
8	02806-2	1	SCREW
9	58671-1	1	DRIP SHIELD
10	07552	1	FEMALE GUN ADAPTER
11	07550	1	MIXER
12	04409	1	MIXER HOUSING
13	F-HB-04C-08	1	HEX BOLT
14	F-SW-04	1	LOCK WASHER

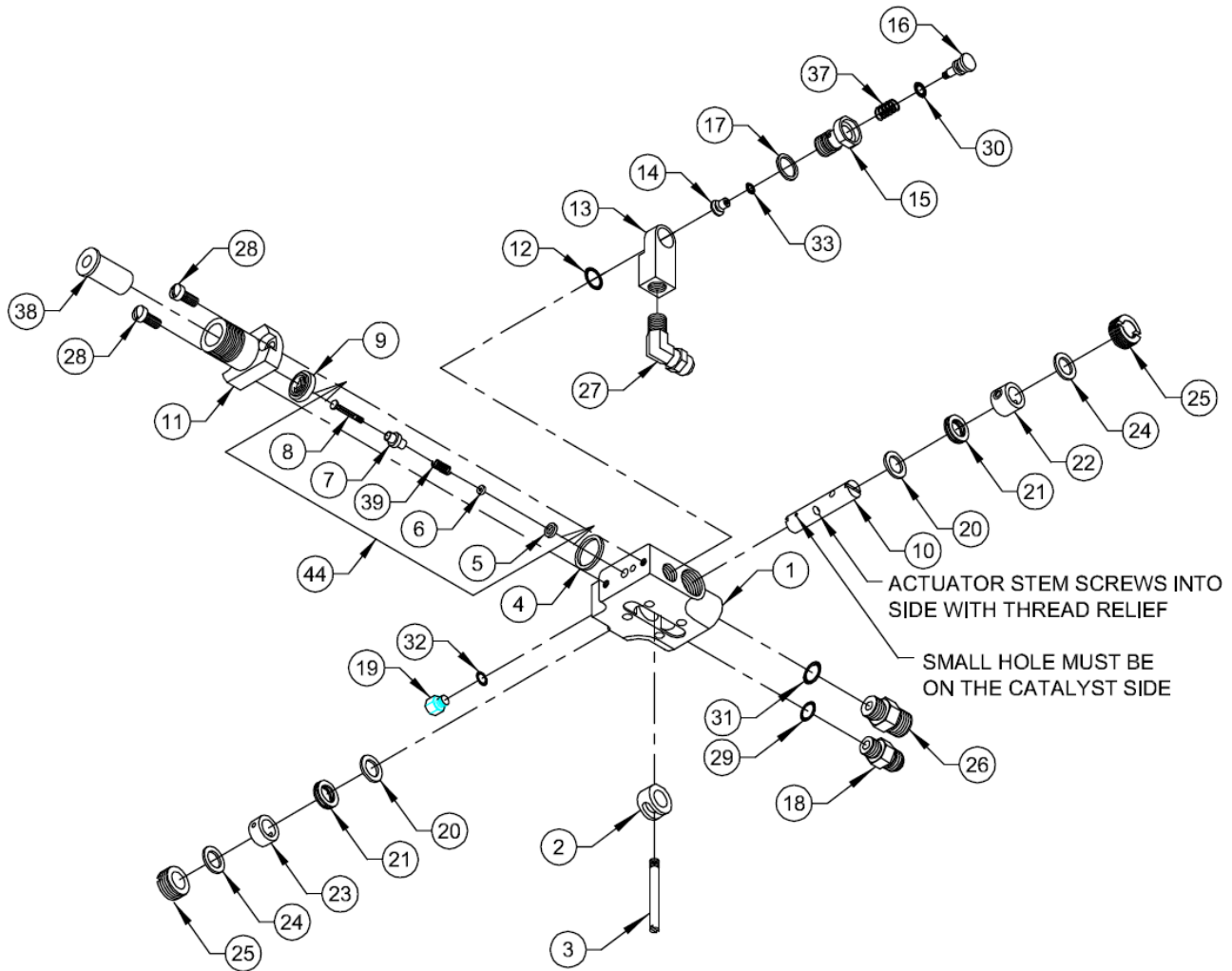
REPAIR KITS

PART NO.	DESCRIPTION
CPP-6000-RK	MAJOR REPAIR KIT

OPTIONAL PARTS AND ASSEMBLIES

PART NO.	DESCRIPTION
58676-1	TRIGGER GUARD ASSEMBLY
52301-1	MIXER ASSEMBLY (INCLUDES 10, 11, & 12)





MAGNUM VENUS PLASTECH

CLASSIC PRO PUTTY GUN BLOCK

CPP-6100

REV. 02-07-08 BT2
REV. A - REMOVED MIXER ITEMS, PLACED ON CPP-6000 DRAWING 03-13-08 BT2

PRO PUTTY GUN BLOCK CPP-6100

PARTS LIST

ITEM	PART NO.	QTY	DESCRIPTION
1	5104-1-1	1	GUN BLOCK
2	5104-10-1	1	CENTER SPACER
3	5104-11-1	1	ACTUATING STEM
* 4	5104-12-1	1	MIX HOUSING SEAL
* 5	5104-13-1	1	INJECTOR SEAL
6	5104-14-1	1	PLUNGER RETAINER
7	5104-15-1	1	INJECTOR BODY
8	5104-16-1	1	INJECTOR PLUNGER
9	5104-18-1	1	FILLED RESIN DISTRIBUTION RING
10	5104-2-1	1	VALVE ROD
11	5104-20-1	1	MIX HOUSING
* 12	5104-21-1	1	FLUSH VALVE SPLIT SEAL
13	5104-22-2	1	FLUSH VALVE NECK
14	5104-23-1	1	FLUSH SEAL BODY
15	5104-24-1	1	FLUSH VALVE BODY
16	5104-25-1	1	FLUSH VALVE BUTTON
* 17	5104-26-1	1	FLUSH VALVE SEAL
18	7701-3-6	1	CATALYST HOSE FITTING
19	5104-32-1	1	PLUG
* 20	5104-3-1	2	SECONDARY SEAL
21	5104-4-1	2	SPACER
* 22	5104-5-1	1	TEFLON RESIN SEAL
* 23	5104-6-1	1	TEFLON CATALYST SEAL
* 24	5104-7-1	2	PACKING RING
25	5104-8-1	2	PACKING NUT
26	5104-9-1	1	RESIN FITTING
27	MPH-2539	1	POLY ELBOW
28	7102-1-6	2	SOCKET HEAD CAP SCREW
* 29	O-S-3-903	1	O-RING
* 30	O-E-008	1	O-RING *DO NOT GREASE THIS O-RING*
* 31	O-E-3-904	1	O-RING
* 32	O-S-5-125	1	O-RING
* 33	O-E-007	1	O-RING
37	9203-2-3	1	COMPRESSION SPRING
38	CPP-6107	1	MIXER PLUG
39	9203-2-2	1	SPRING

REPAIR KIT

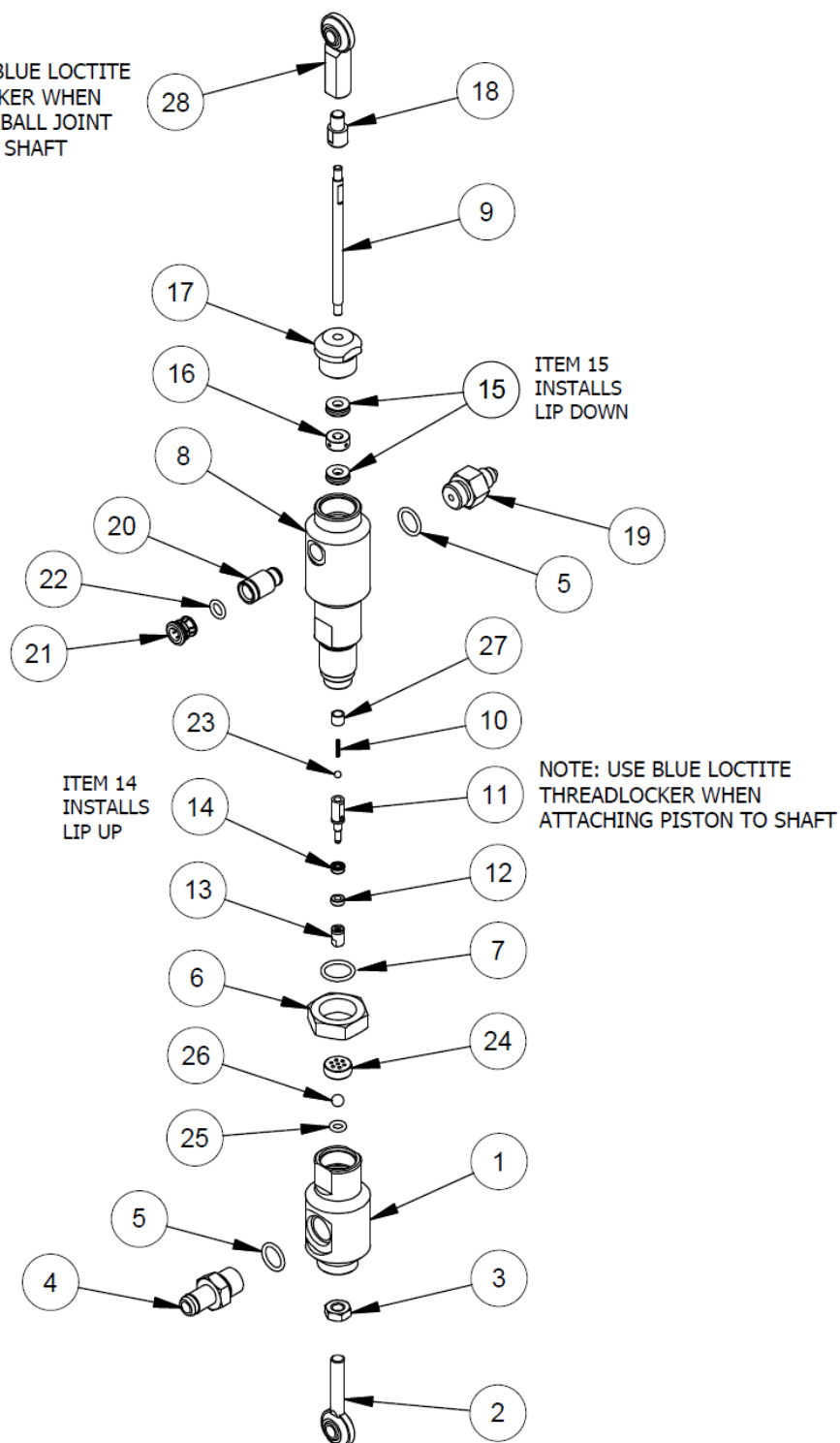
PART NO.	DESCRIPTION
* CPP-6100-RK	REPAIR KIT

OPTIONAL PARTS AND ASSEMBLIES

ITEM	PART NO.	QTY	DESCRIPTION
30B	O-K-008	1	O-RING
44	5104-03-01	1	INJECTOR ASSEMBLY



NOTE: USE BLUE LOCTITE
THREADLOCKER WHEN
ATTACHING BALL JOINT
LINKAGE TO SHAFT



MAGNUM VENUS PLASTECH

PATRIOT CATALYST PUMP

PAT-CP-0245

REV:A 02/22/13



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Parts List			
ITEM	PART NUMBER	QTY	DESCRIPTION
	1 PAT-CP-0202	1	INLET BODY
	2 PAT-CP-0504	1	BALL JOINT LINKAGE
	3 F-HN-04F	1	HEX NUT
	4 4101-8-1	1	INLET FITTING
*	5 O-S-013	2	O-RING
	6 4101-1-1	1	LOCK NUT
*	7 O-S-014	1	O-RING
	8 PAT-CP-0203	1	OUTLET BODY
	9 PAT-CP-0208	1	FLUID ROD
	10 SPR-C-1003	1	SPRING
	11 PAT-CP-0212	1	PISTON BODY
*	12 PAT-CP-0214	1	PISTON GUIDE
	13 PAT-CP-0213	1	SEAL RETAINER
*	14 PAT-CP-0215	1	PISTON SEAL
*	15 PAT-CP-0201	2	ROD SEAL ASSY
*	16 PAT-CP-0207	1	LEAK SPACER
	17 PAT-CP-0206	1	RETAINING NUT
	18 PAT-CP-0210	1	ROD ADAPTER
	19 51501-1	1	OUTLET FITTING
	20 PAT-CP-0505	1	FITTING BODY
	21 4105-5-1	1	LOCK COLLAR
*	22 O-S-010	1	O-RING
	23 9201-1-4	1	SS BALL 1/8
	24 PAT-CP-0209	1	BALL CAGE
	25 O-F-008	1	O-RING
	26 9201-1-7	1	SS BALL 7/32"
*	27 PAT-CP-0211	1	PISTON STOP
	28 MS-1022	1	BALL JOINT - FEMALE

REPAIR KIT

* PAT-CP-0245-RK (ASTERISKS DENOTE PARTS IN KIT)

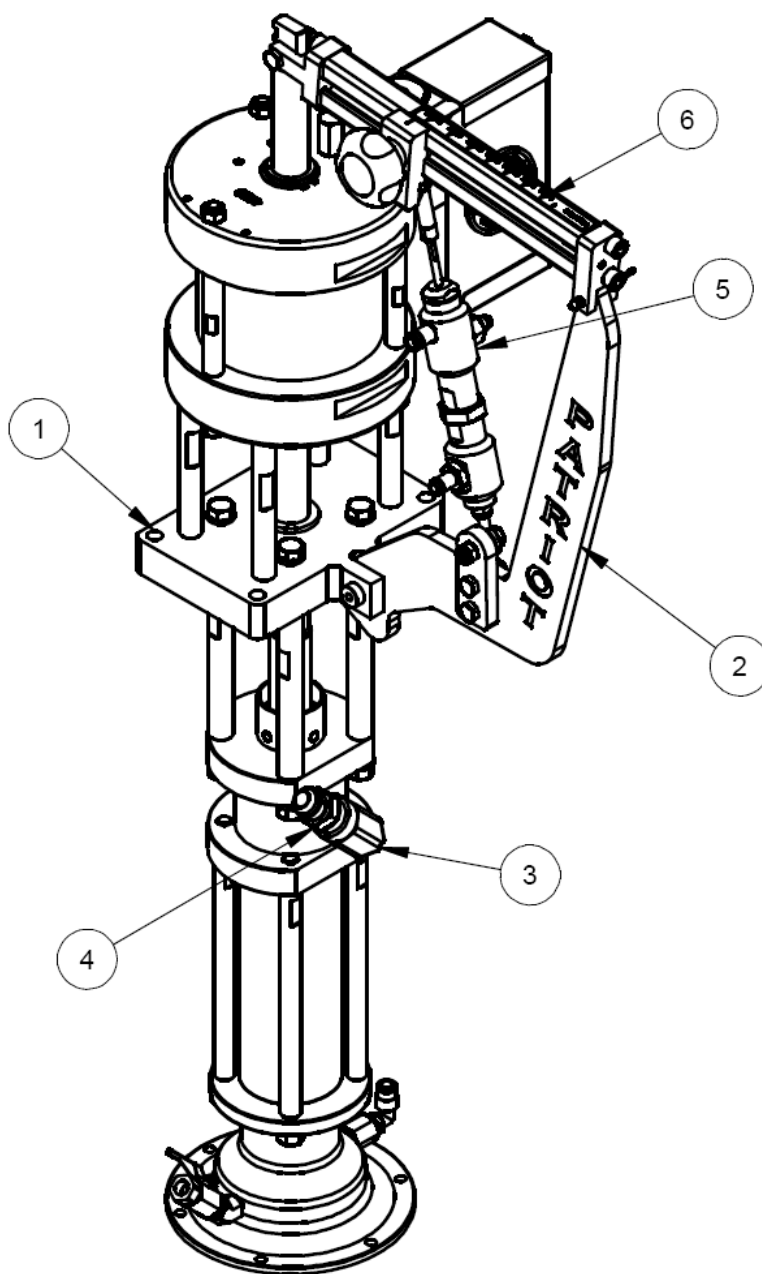
MAGNUM VENUS PLASTECH

CATALYST PUMP ASSEMBLY

PAT-CP-0245

REV:A 02/22/13





MAGNUM VENUS PLASTECH

PUMPING SYSTEM

PAT-CCP-2300

REV:01-30-08



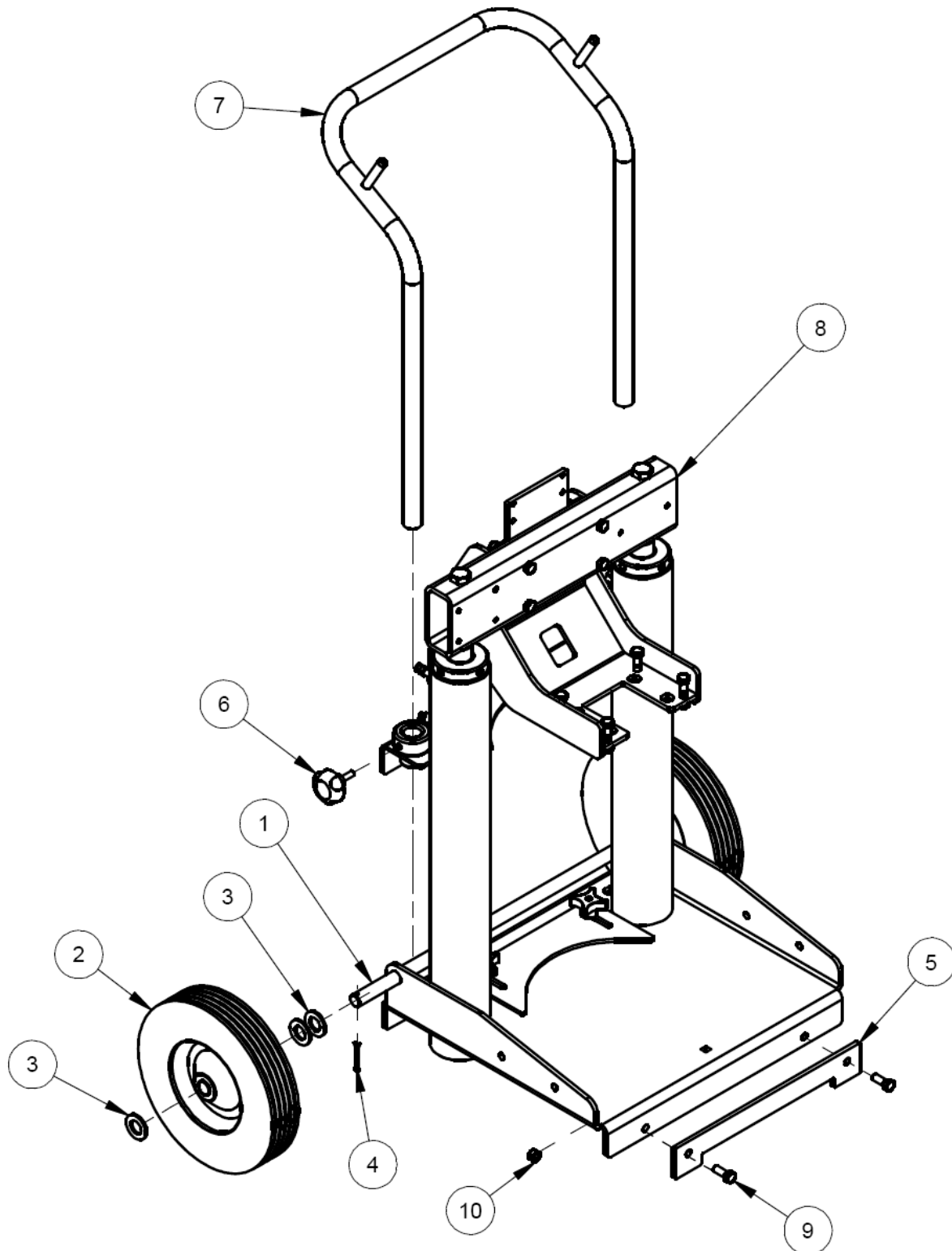
Parts List			
ITEM	PART NUMBER	QTY	DESCRIPTION
1	PAT-CCP-PA-2300	1	PUMP ASSY.
2	PAT-SD-3100	1	SLAVE DRIVE ASSY
3	PF-SE-08	1	STREET ELBOW
4	PF-HN-08-08J	1	HEX NIPPLE
5	PAT-CP-0245	1	CAT. PUMP ASSY.
6	PAT-RS-0590-024	1	RATIO STICKER

MAGNUM VENUS PLASTECH

PUMPING SYSTEM

PAT-CCP-2300

REV:01-30-08



MAGNUM VENUS PLASTECH

RAM ASSEMBLY - MOBILE

PAT-RA-5000-M

REV:01-30-08

Parts List			
ITEM	PART NUMBER	QTY	DESCRIPTION
1	PAT-RA-5010	1	AXLE
2	MVP-1003	2	TIRE & RIM 10"
3	F-FW-12-SAE	6	FLAT WASHER
4	F-CP-02-24	2	COTTER PIN
5	PAT-RA-5011	1	FRAME PAD
6	PAT-SD-3105	2	KNOB
7	PAT-HAN-2	1	HANDLE
8	PAT-RA-5000	1	RAM ASSY - MINI CHOPCHECK
9	F-HB-06C-16	2	HEX BOLT
10	F-HN-06C	2	HEX NUT

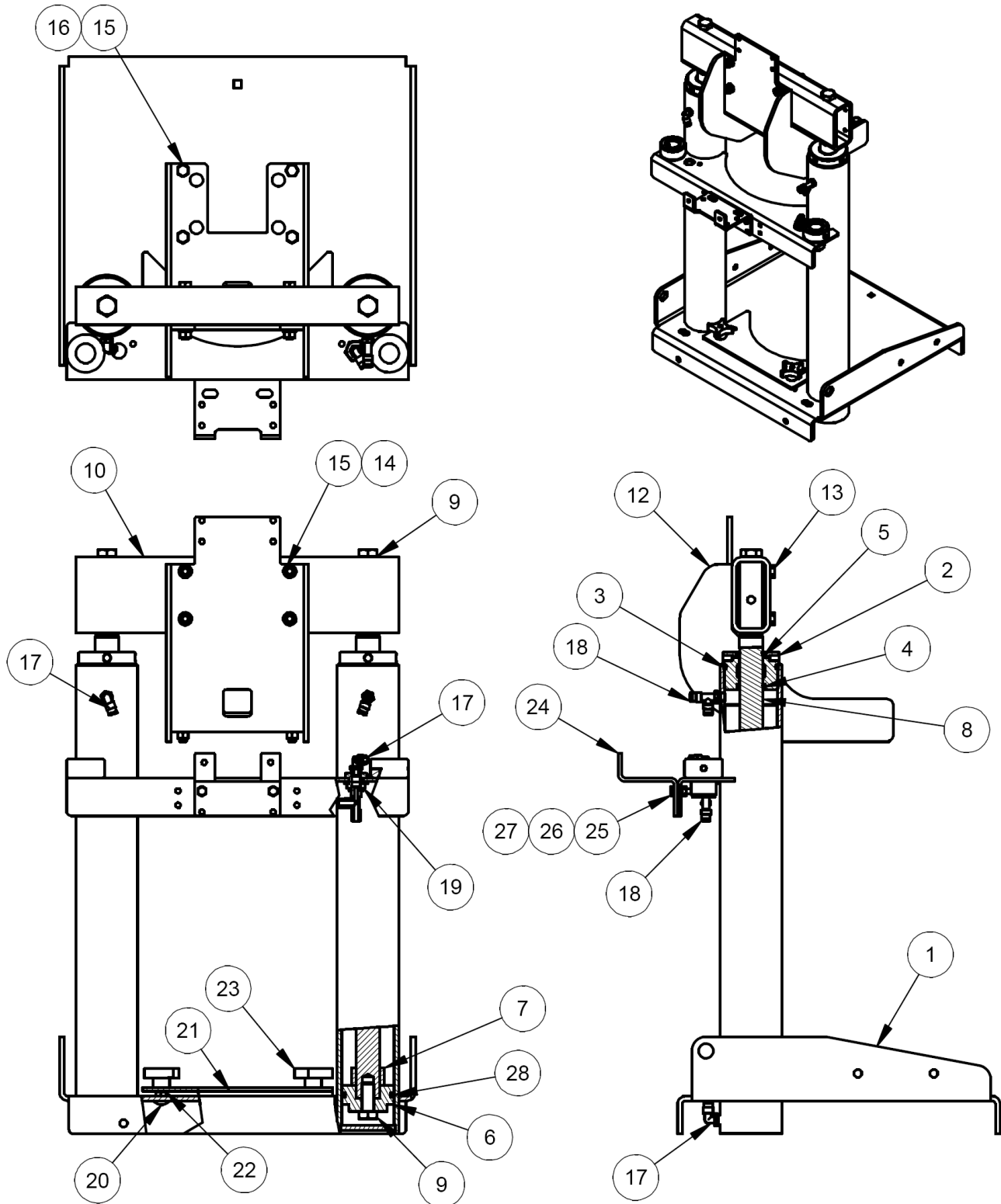
MAGNUM VENUS PLASTECH

RAM ASSEMBLY - MOBILE

PAT-RA-5000-M

REV:01-30-08





MAGNUM VENUS PLASTECH

RAM ASSEMBLY

PAT-RA-5000

REV:01-30-08

Parts List			
ITEM	PART NUMBER	QTY	DESCRIPTION
1	PAT-RA-5001	1	FRAME WELDMENT
2	PAT-RA-5003	2	CYLINDER CAP
3	O-B-231	2	O-RING
4	O-B-218	2	O-RING
5	02007	2	ROD WIPER
6	PAT-RA-5005	2	PISTON
7	PAT-RA-5004	2	BUMPER
8	PAT-RA-5006	2	PISTON SHAFT
9	F-HB-10F-24	4	HEX BOLT
10	PAT-RA-5007	1	SUPPORT BAR
12	PAT-RA-5008	1	PUMP MOUNT WELDMENT
13	F-HB-06C-44	4	HEX BOLT
14	F-SW-06	4	LOCK WASHER
15	F-HN-06C	8	HEX NUT
16	F-HB-06C-28	4	HEX BOLT
17	07233	4	MALE POLY ELBOW
18	07241	2	MALE POLY RUN TEE
19	7701-3-19	1	BULKHEAD FITTING
20	F-CB-06C-20	2	CARRIAGE BOLT
21	PAT-RA-5012	1	BUCKET STOP
22	F-JN-06C	2	Hex Jam Nut
23	MVP-1005	2	KNOB
24	PAT-BRKT-MA-1	1	AIR MANIFOLD BRACKET
25	F-HB-04C-16	2	HEX BOLT
26	F-SW-04	2	LOCK WASHER
27	F-HN-04C	2	HEX NUT
28	O-B-332	2	O-RING

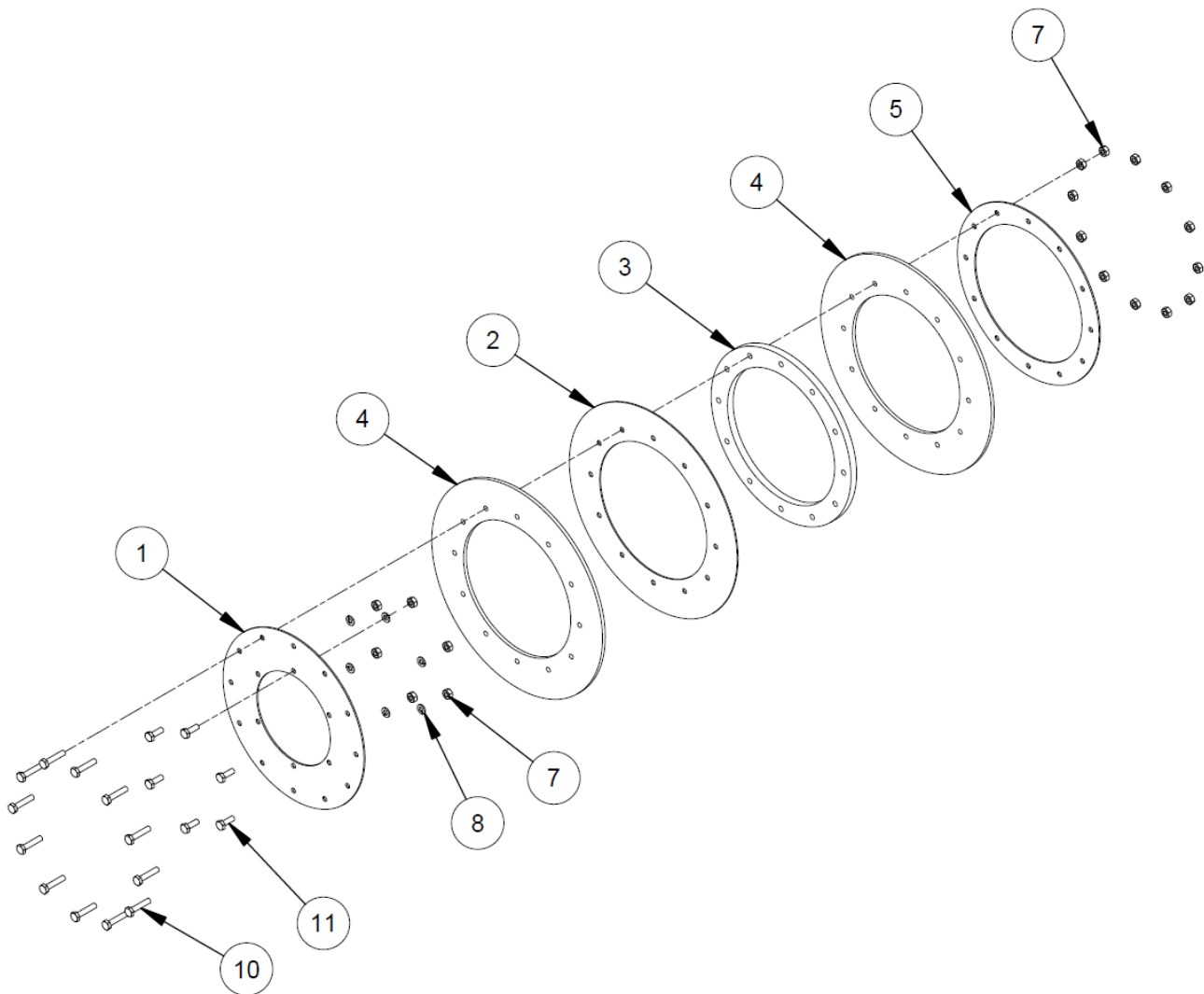
MAGNUM VENUS PLASTECH

RAM ASSY. - MINI CHOPCHECK

PAT-RA-5000

REV:01-30-08





MAGNUM VENUS PLASTECH

FOLLOWER PLATE ASSEMBLY

PAT-RA-5021

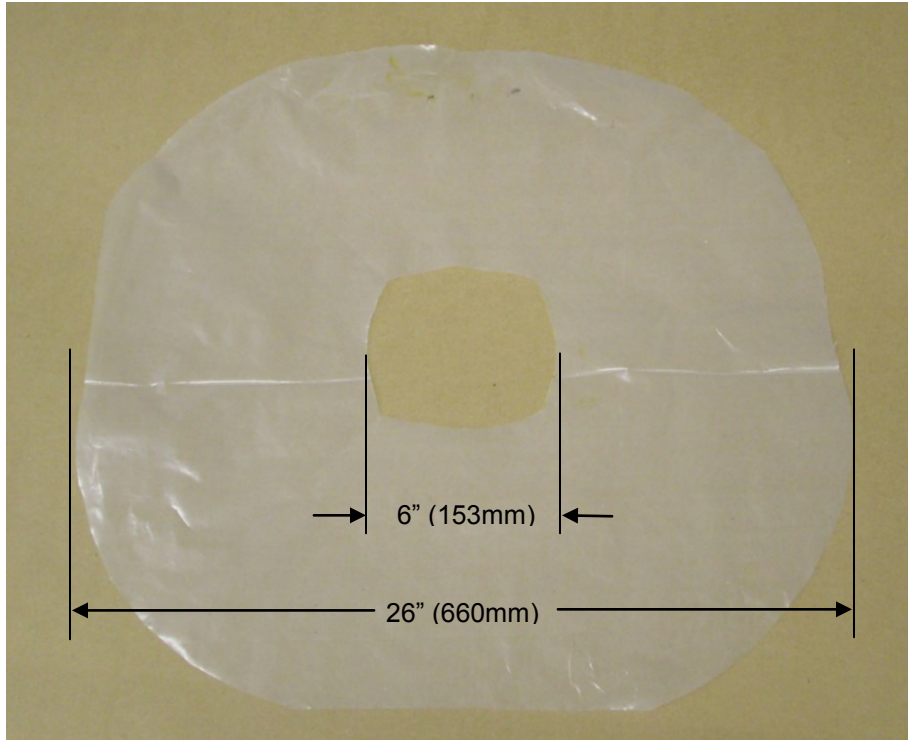
REV:A 01/28/2014

SHEET 1 / 2

10/8/2007

Plastic Boot for the Patriot Chop Check Putty Ram Piston.

Plastic Boot: 26" (660mm) diameter with 6" (153mm) diameter hole in the center – Polyethylene Sheet material.





Revision Information:

Revision:

Description:

Jan/2009: Added Plastic Boot information for the Follower Plate. Updated the drawings section.

Rev: 07/2012 Updated the manual format and Address. Added the Terms & Conditions of Sale section to the manual.

Rev. 10/2014 Updated the Address, name, logo and the Terms & Conditions of Sale. Removed references to Plastech.





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Included with this operations manual are the following component manuals:

- ☐ PATRIOT CHOP CHECK FLUID SECTION MANUAL PAT-CCP-LS-0590
- ☐ PATRIOT METERING PUMP PAT-CP-0245
- ☐ PATRIOT POWER HEAD MANUAL PAT-PH-4250
- ☐ CLASSIC PRO GUN MANUAL

