



AP-2 Air Purge Spray & Pour Gun

Service Manual

Ref. # MN-04006

Revision 5.1

3/16/2021



For use with non-flammable Foam and Polyurea
For professional use only
Not for use in explosive atmospheres



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Before installing the AP-2 Gun and start-up, carefully read all the technical and safety documentation included in this manual. Pay special attention to the information in order to know and understand the operation and the conditions of use of the AP-2 Gun. All of the information is aimed at improving user safety and avoiding possible breakdowns from the incorrect use of the AP-2 Gun.

WARRANTY

Polyurethane Machinery Corporation (hereinafter “PMC”) provides this **LIMITED WARRANTY** (hereinafter “Warranty”) to the original purchaser (hereinafter “Customer”) covering this equipment and the original PMC manufactured accessories delivered with the equipment (hereinafter “Product”) against defects in material or workmanship of the Product (hereinafter “Defect” or “Defective”) for a period of one (1) year from the date of first purchase as shown on the original PMC invoice (hereinafter “Warranty Period”).

If during the Warranty Period under normal use, the Product is suspected by Customer to be Defective in material or workmanship, it is Customer’s responsibility to contact PMC and return the Product to PMC as directed by PMC, freight prepaid. If PMC determines that the Product is Defective and that such Defect is covered by this Warranty, PMC will credit Customer for the reasonable freight charges incurred by Customer in returning the Defective Product to PMC, and PMC (or its authorized agent) will, at PMC’s option, repair or replace the Product, subject to the following:

Original Invoice: The original invoice must be kept as proof of the date of first sale and the Product serial number. The Warranty does not cover any Product if the Original Invoice appears to have been modified or altered, or when the serial number on the Product appears to have been altered or defaced.

Product Maintenance: It is the Customer’s responsibility to maintain the Product properly. See your maintenance schedule and owner’s manual for details. The Warranty does not cover an improperly maintained Product.

Non-PMC Components and Accessories: Non-PMC manufactured components and accessories that are used in the operation of the Product are not covered by this Warranty. Such components and accessories shall be subject to the warranty offered to the Customer, if any, by the original manufacturer of such component or accessory.

Other Warranty Exclusions: The Warranty does not cover any Product that PMC determines has been damaged or fails to operate properly due to misuse, negligence, abuse, carelessness, neglect, or accident. By way of example only, this includes:

- Normal wear and tear.
- Improper or unauthorized installation, repair, alteration, adjustment or modification of the Product.
- Use of heating devices, pumping equipment, dispensers, or other parts or accessories with the Product that have not been approved or manufactured by PMC.
- Failure to follow the operating instructions and recommendations provided by PMC may cause loss or damage to personnel, equipment, or work area.
- Fire, flood, “acts of God,” or other contingencies beyond the control of PMC.

THE WARRANTY DESCRIBED HEREIN IS THE EXCLUSIVE REMEDY FOR THE CUSTOMER AND IS IN LIEU OF ALL OTHER WARRANTIES, EXPRESS, IMPLIED, STATUTORY OR OTHERWISE, AND THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE AND ALL OTHER WARRANTIES ARE HEREBY DISCLAIMED. TO THE FULLEST EXTENT PERMITTED BY LAW, PMC SHALL NOT BE RESPONSIBLE, WHETHER BASED IN CONTRACT, TORT (INCLUDING, WITHOUT LIMITATION, NEGLIGENCE), WARRANTY OR ANY OTHER LEGAL OR EQUITABLE GROUNDS, FOR ANY CONSEQUENTIAL, INDIRECT, INCIDENTAL, LOST PROFITS, SPECIAL, PUNITIVE OR EXEMPLARY DAMAGES, WHETHER TO PERSON OR PROPERTY, ARISING FROM OR RELATING TO THE PRODUCT, EVEN IF PMC HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH LOSSES OR DAMAGES.

Non-Warranty Service by PMC: If PMC determines that the suspected Defect of the Product is not covered by this Warranty, disposition of the Product will be made pursuant to the terms and conditions of PMC's written estimate on a time and materials basis.

Continuing Warranty for Products Repaired or Replaced under Warranty: Following the repair or replacement of a Product covered by this Warranty, such Product will continue to be subject to the original Warranty for the remainder of original Warranty Period or for three (3) months from the repair or replacement date, whichever is longer.

No Rights Implied: Nothing in the sale, lease or rental of any Product by PMC shall be construed to grant any right, interest or license in or under any patent, trademark, copyright, trade secret or other proprietary right or material owned by anyone; nor does PMC encourage the infringement of same.

Exclusive Warranty: This writing is the final, complete, and exclusive expression of the Warranty covering the Product. Any statements made by PMC, its employees or agents that differ from the terms of this Warranty shall have no effect. It is expressly understood that Customer's acceptance of this Warranty, by performance or otherwise, is upon and subject solely to the terms and conditions hereof, and any additional or different terms and conditions proposed or expressed by Customer or anyone, whether in writing or otherwise, are null and void unless specifically agreed to in writing by an Officer of PMC.

SAFETY AND HANDLING

This chapter contains important information on the safety, handling and use of your AP-2 Gun.



Before installing the AP-2 Gun and start-up, carefully read all the technical and safety documentation included in this manual. Pay special attention to the information in order to know and understand the operation and the conditions of use of the AP-2 Gun. All of the information is aimed at improving user safety and avoiding possible breakdowns from the incorrect use of the AP-2 Gun.

WARNING! Presents information to alert of a situation that might cause serious injuries if the instructions are not followed.

CAUTION! Presents information that indicates how to avoid damage to the AP-2 Gun or how to avoid a situation that could cause injuries.

NOTE! Is relevant information of a procedure being carried out.

Careful study of this Manual will enable the operator to know the characteristics of the Gun and the operating procedures. By following the instructions and recommendations contained, you will reduce the potential risk of accidents in the installation, use or maintenance of the AP-2 Gun; you will provide a better opportunity for incident-free operation for a longer time, greater productivity and the possibility of detecting and resolving problems fast and simply.

Keep this Service Manual for future reference to useful information. If you lose this Manual, ask for a new copy from your PMC Service Center or go to the company website (www.polymacusa.com).

The AP-2 Gun has been designed and built for the application of polyurea chemical systems, polyurethane foam chemical systems and some two-component epoxy systems.

WARNING! The design and configuration of the AP-2 Gun does not allow its use in potentially explosive atmospheres or exceeding the pressure and temperature limits described in the Technical Specifications of this Manual to be exceeded.

Always use liquids and solvents that are compatible with the AP-2 Gun. If in doubt, consult **PMC** Technical Service.

When working with the AP-2 Gun, it is recommended that the operator wear suitable clothing and elements of personal protection, including, without limitation, gloves, protective goggles, safety footwear and face masks. Use breathing equipment when working with the Gun in enclosed spaces or in areas with insufficient ventilation. The introduction and follow-up of safety measures must not be limited to those described in this Manual. Before beginning to work with the Gun, a comprehensive analysis must be made of the risks derived from the products to be dispensed, the type of application and the working environment.



To prevent possible injury caused by incorrect handling of the materials and solvents used in the process, carefully read the Material Safety Data Sheet (SDS) provided by your supplier.



To avoid damage caused by the impact of pressurized fluids, do not open any connection or perform maintenance work on components subject to pressure until the pressure has been completely eliminated.



Use suitable protection when operating, maintaining or being present in the area where the equipment is functioning. This includes, but is not limited to, the use of protective goggles, gloves, shoes and safety clothing and breathing equipment.



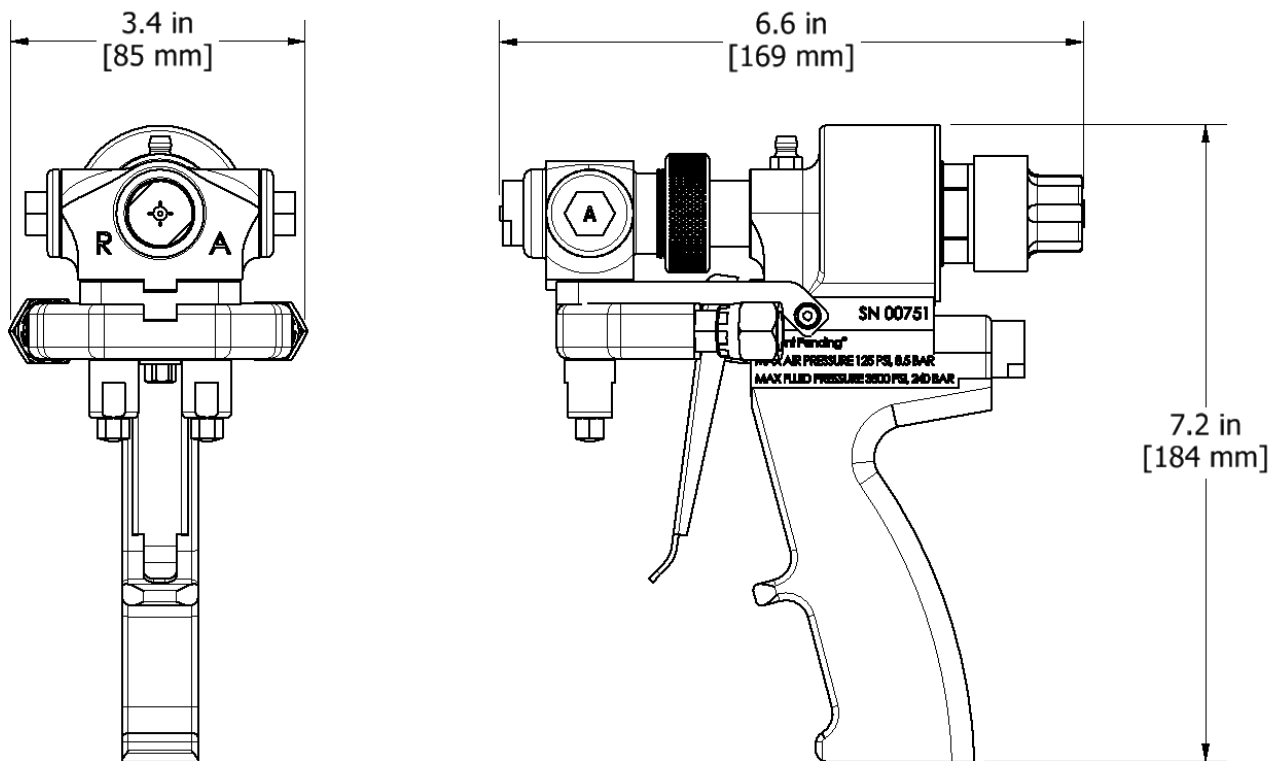
The equipment includes components that reach high temperatures and can cause burns. Hot parts of the equipment must not be handled or touched until they have cooled completely.



The equipment sprays high pressure fluids that can lead to fluid being injected under the skin or eyes. Severe injury could be incurred. Proper personal protective equipment should be used in conjunction with training and situational awareness of all personnel on the job.

CHARACTERISTICS

- Internal mixing from high pressure impingement
- Automatic cleaning with air pressure
- No solvents required
- Exterior lubrication of the Mix Chamber

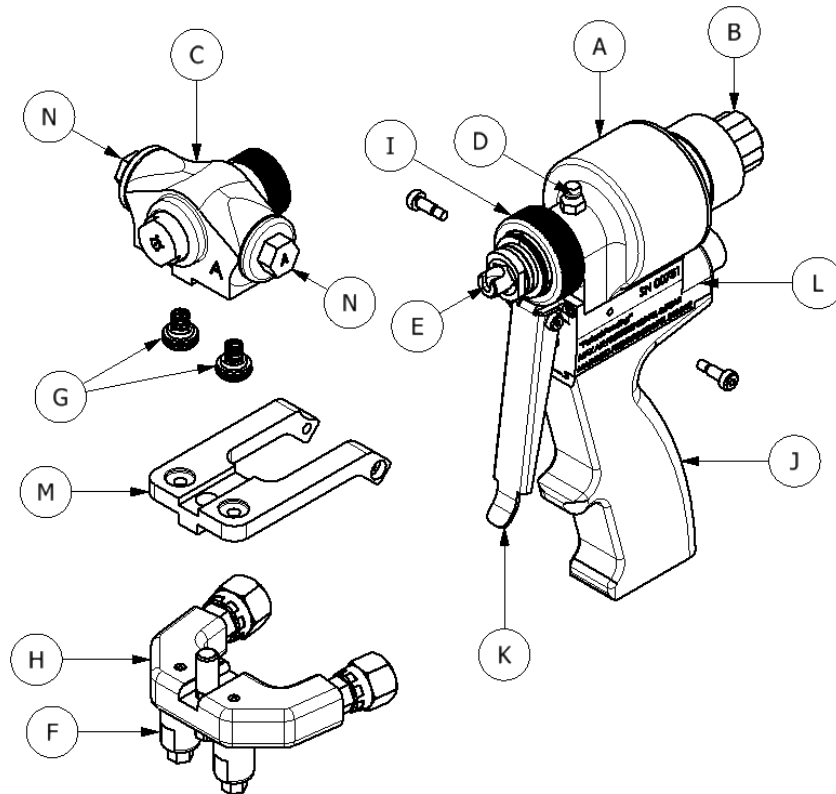


TECHNICAL SPECIFICATIONS

Maximum Working Pressure:	3,500 psi (245 Bar)
Air Pressure:	90-125 psi (6.2-8.6 Bar)
Maximum Output (1:1 ratio):	40 lb/min (20 L/min)
Minimum Output (1:1 ratio):	3.3 lb/min (1.55 L/min)
Opening Force @ 110 psi (8 Bar):	200 lb (91 kg)
Closing Force @ 110 psi (8 Bar):	200 lb (91 kg)
Weight (Not including Coupling Block):	2.235 lbs (1.014 kg)
Weight (Including Coupling Block):	2.902 lbs (1.316 kg)

GENERAL DESCRIPTION

For better knowledge of the **AP-2** Gun, the main components and their description are shown. For a more precise identification, see the Parts Identification section.



- | | |
|--------------------------------|-----------------------------------|
| A. Air Cylinder | H. Coupling Block Assembly |
| B. Gun Lock and End Cap | I. Lock Collar |
| C. Gun Block | J. Gun Handle |
| D. Grease Fitting | K. Trigger |
| E. Piston | L. Air Manifold Assembly |
| F. Manual Valves | M. Head Latch |
| G. Check Valves | N. Screen Screws |

INSTALLATION AND START UP

CAUTION! When working with the AP-2 Gun or performing maintenance work, wear suitable safety protection in accordance with the recommendations and specifications provided by the product suppliers.

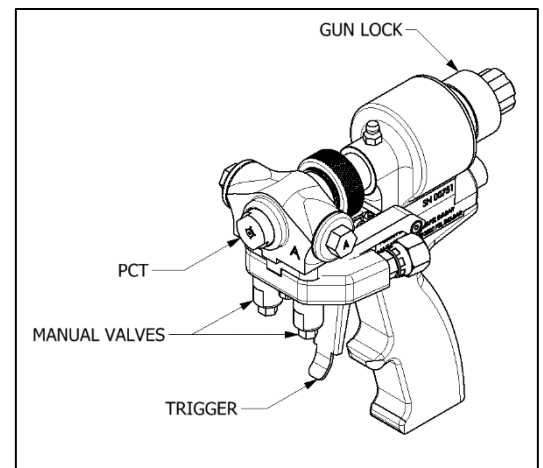
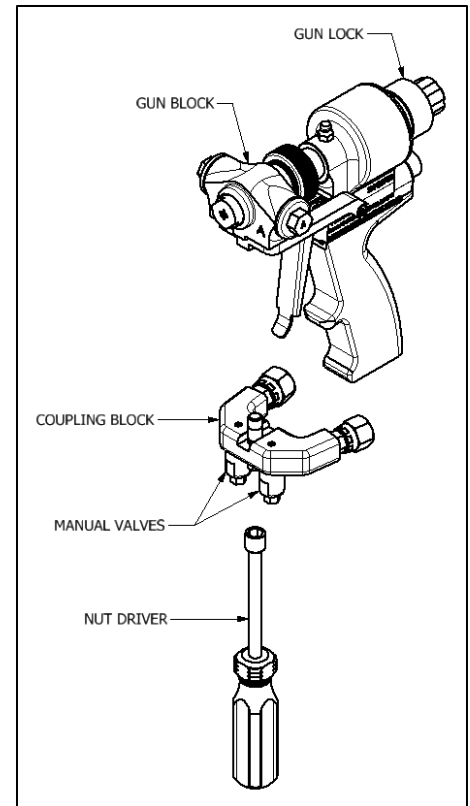
1. Install **Coupling Block** to the hose.
2. Ensure the **Manual Valves** are **CLOSED** by turning them to the full clockwise position.

CAUTION! Excessive force closing or opening the **Manual Valves** may result in damage to the **Manual Valves** and/or **Coupling Block**.

3. Set the **Gun Lock** to the **LOCKED** position.
4. Ensure **Check Valve** Assemblies (G, Pg. 6) are in place.
5. Connect the **Coupling Block** to the **Gun Block** using the **Nut Driver** provided (Pg. 42). Tighten **Coupling Block** until there is a hand tight seal.
6. Connect the air supply with 90 to 125 psi (6.2 to 8.6 bar) to the gun.

NOTE! The material delivery hoses are color coded Red and Blue. The Red corresponds to the Isocyanate (A) and the Blue to the Polyol (R). To avoid connection errors, the (A) and (B) hoses have connections with different sizes to avoid incorrect connections.

7. Set the **Gun Lock** to the **OPEN** position.
8. Pull the **Trigger** several times to check for correct movement of the **Mixing Chamber** and **PCT**.
9. Ensure the Proportioner and supply system are in the ready position and the material pressures and temperatures are set as recommended by the chemical supplier (see Machine Service Manual).
10. **OPEN** each **Manual Valve** by turning three (3) full turns counter clockwise.
11. Perform a test spray.



SHUTDOWN PROCEDURES

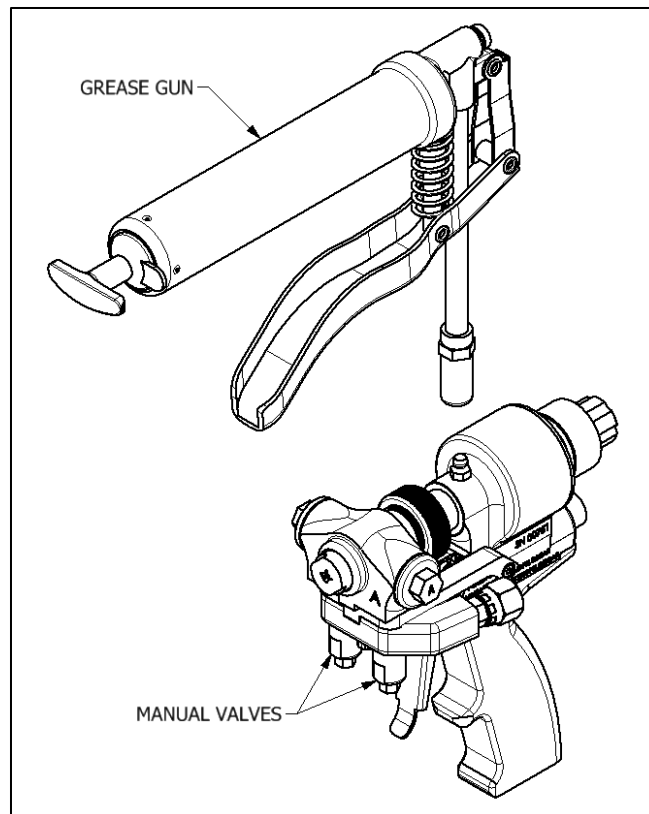
1. CLOSE the **Manual Valves** by turning them to the full clockwise position.

CAUTION! *Excessive force closing or opening Manual Valves may result in damage to the Manual Valves and/or Coupling Block.*

2. Using the supplied **Grease Gun** (Pg. 42), lubricate the **Mixing Chamber** through the **Grease Fitting** until a fine mist of grease is sprayed from the gun (Pg. 52 for Grease Gun Assembly Instructions). This action will help prevent Isocyanate from crystallizing on the mixing chamber which may cause damage to the internal parts.

NOTE! *The injection of grease supplied with the Gun at the end of the day will minimize maintenance time and can eliminate the need to remove the Mixing Chamber each day to clean it. Use of grease with high moisture content will not achieve the desired results. PMC Grease is recommended. Use of incorrect grease will cause blockage in the mixing chamber.*

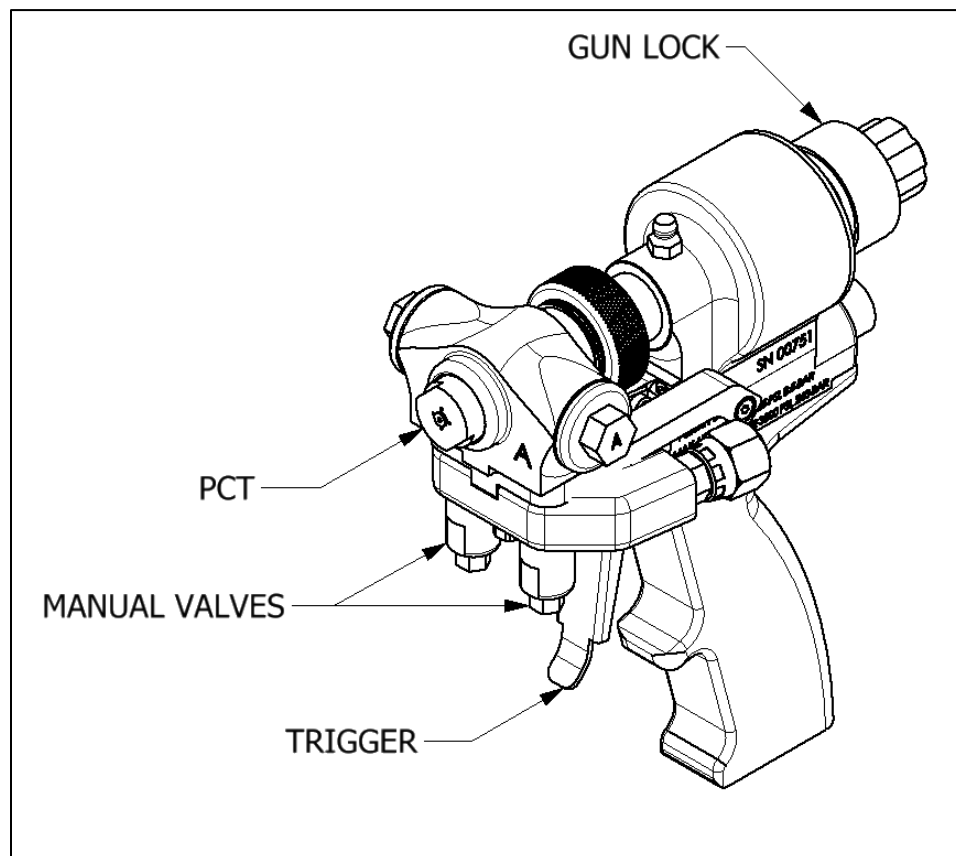
3. Disconnect the air supply.



LOSS OF AIR PRESSURE/EMERGENCY SHUT-OFF

1. **SHUT OFF** air supply to gun.
2. Using the palm of your hand, push in on the **Gun Lock** and rotate clockwise to set it to the **LOCKED** position. In the locked position the **Gun Lock** will restrict the movement of the air piston (center line) from moving to the rear to an open position, thus rendering the gun inoperable.
3. **CLOSE** each **Manual Valve**.

CAUTION! Excessive force closing or opening Manual Valves may result in damage to the Manual Valves and/or Coupling Block. Emergency shut off if trigger sticks – disconnect air line.



MAINTENANCE

To obtain maximum performance from your AP-2 Gun, it is necessary to periodically perform certain maintenance operations

WARNING! Before proceeding with any maintenance work on the AP-2 Gun, trigger the gun to remove internal material pressure, ensure the Manual Valves are CLOSED, ensure the Gun Lock is in the LOCKED position, and SHUT OFF/DISCONNECT the air supply. It is recommended to remove the Gun from the Coupling Block.



To prevent possible injury caused by incorrect handling of the materials and solvents used in the process, carefully read the Material Safety Data Sheet (SDS) provided by your supplier.



To avoid damage caused by the impact of pressurized fluids, do not open any connection or perform maintenance work on components subject to pressure until the pressure has been completely eliminated.



Use suitable protection when operating, maintaining or being present in the area where the equipment is functioning. This includes, but is not limited to, the use of protective goggles, gloves, shoes and safety clothing and breathing equipment.

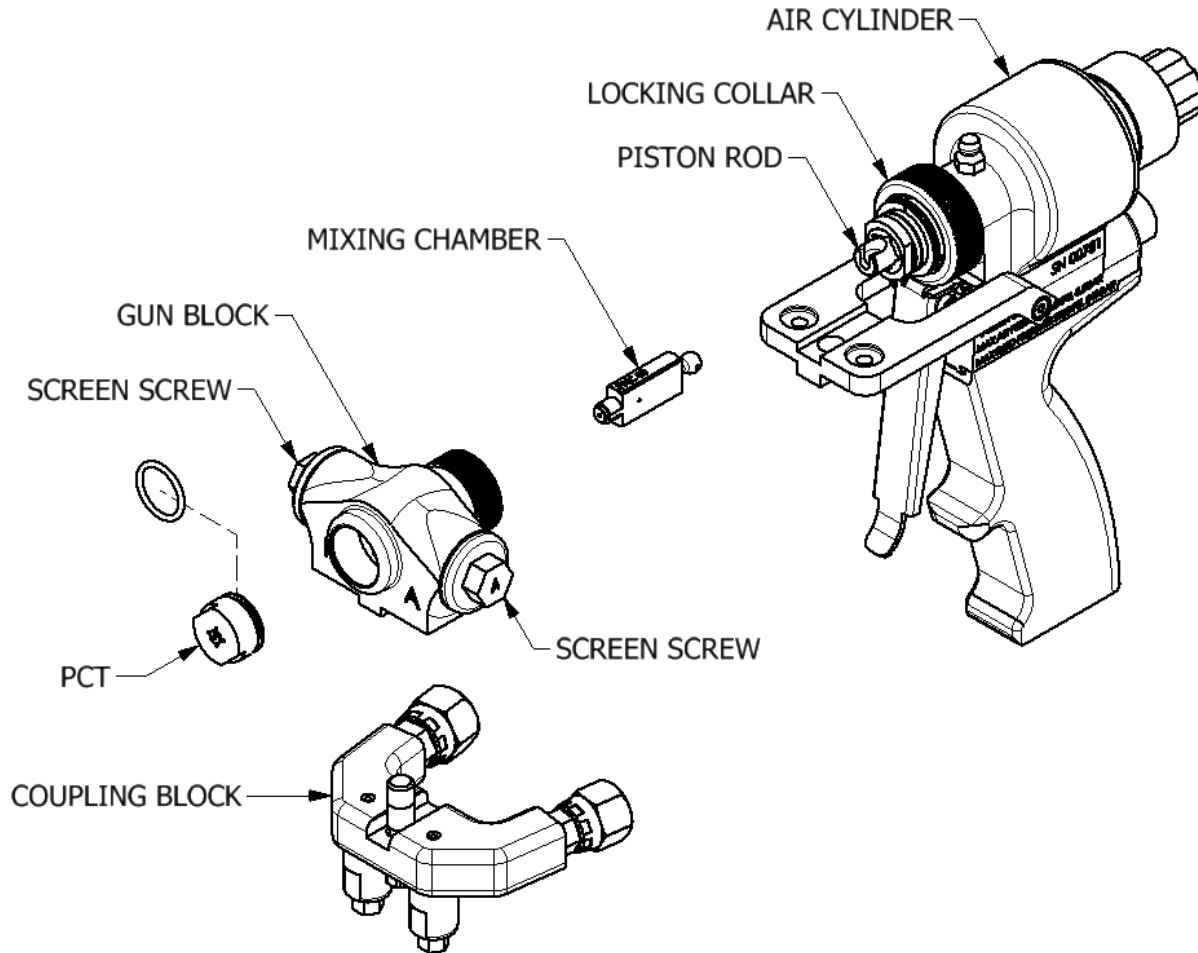


The equipment includes components that reach high temperatures and can cause burns. Hot parts of the equipment must not be handled or touched until they have cooled completely.



The equipment sprays high pressure fluids that can lead to fluid being injected under the skin or eyes. Severe injury could be incurred. Proper personal protective equipment should be used in conjunction with training and situational awareness of all personnel on the job.

GUN BLOCK AND MIXING CHAMBER REMOVAL

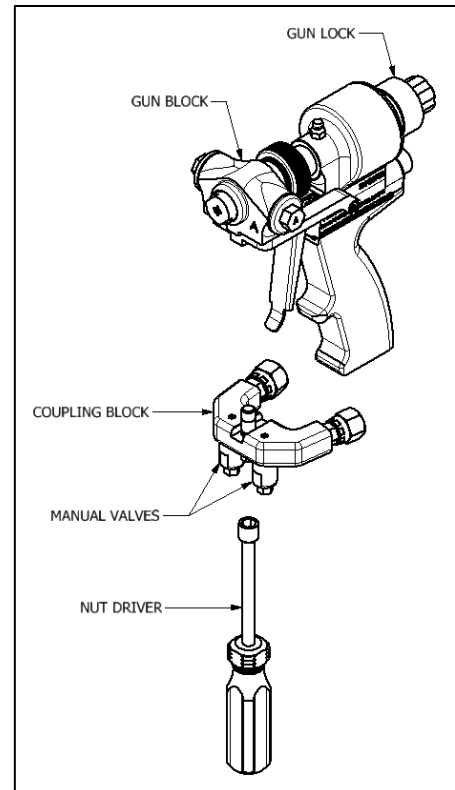


1. **CLOSE** the **Manual Valves** by turning them to the full clockwise position.

CAUTION! Excessive force opening or closing Manual Valves may result in damage to the Manual Valves and/or Coupling Block.

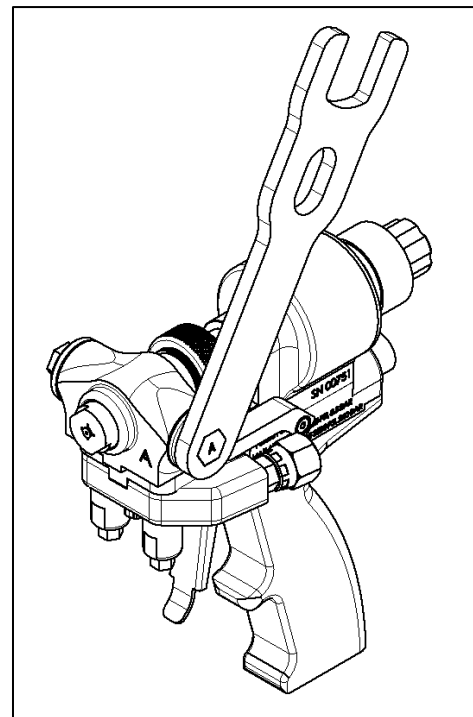
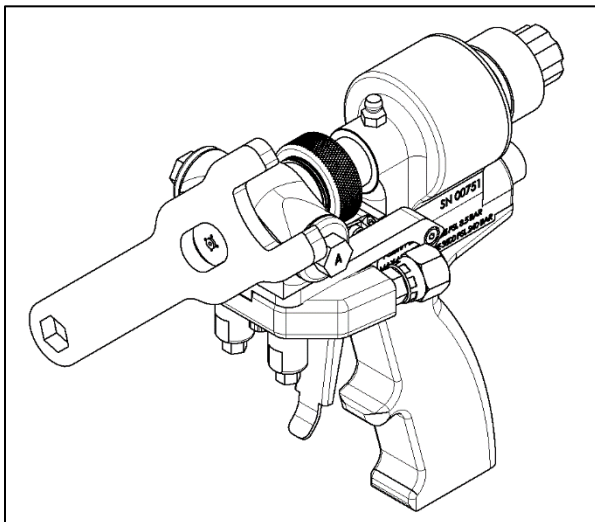
2. Point the gun over a waste container and pull the **Trigger** to relieve pressure.
3. Using the **Wrench** provided (Pg. 42), or a standard 5/8" wrench, remove the **PCT** from the mixing chamber, as shown below.
4. Using the **Wrench** provided (Pg. 42) or a 1/2" wrench, loosen or remove both **Screen Screws** to facilitate easy removal of the **Mixing Chamber**, as shown below.

5. Using the **Nut Driver** provided (Pg. 42), remove the **Coupling Block** from the **Gun Block**.
6. Disengage the **Head Latch** from the **Gun Block**.
7. Loosen the **Locking Collar** from the **Gun Block** and remove the **Gun Block** from the **Air Cylinder**.
8. Remove the **Mixing Chamber** from the **Piston Rod**.
9. Flush the **Gun Block** to remove any residue. Use the recommended **Flush Tank** (Pg. 32).
10. Clean or replace the **Mixing Chamber** as required.
11. When reassembling in reverse order, it is recommended to screw the **PCT** onto the **Mixing Chamber** first, then insert the **Mixing Chamber** into the front of the **Gun Block**. This helps to reduce wear on the **PCT O-ring**.

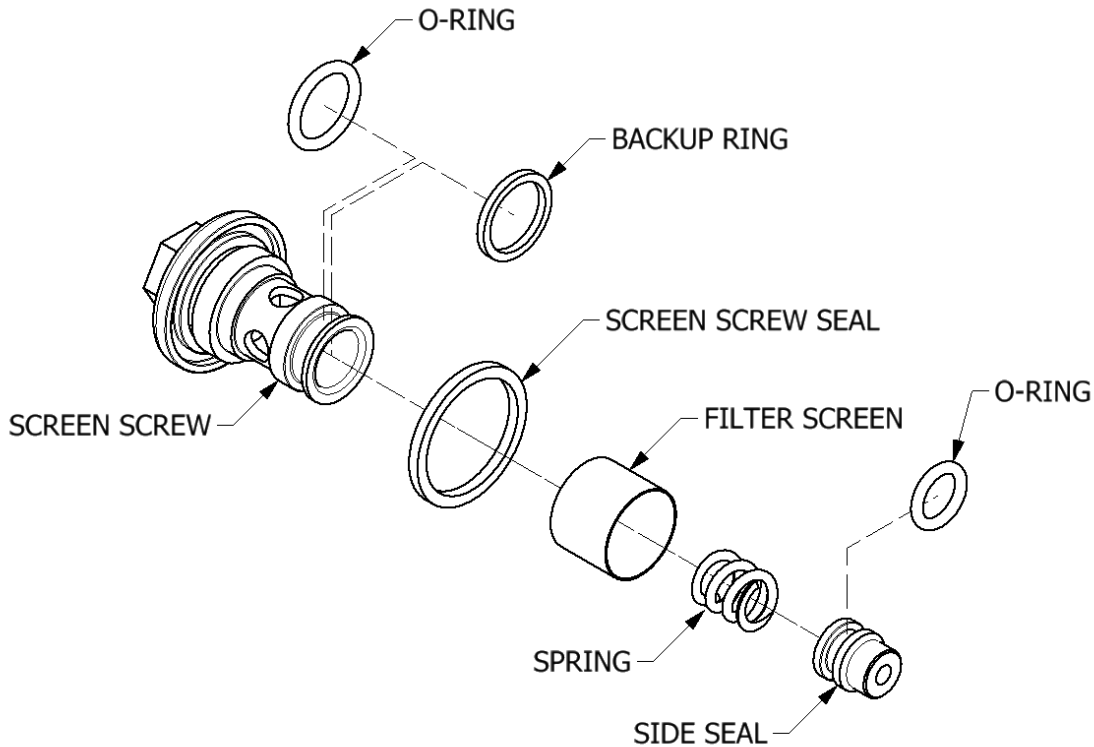


NOTE! A small amount of PMC grease applied to the Mixing Chamber and Side Seals upon assembly is recommended.

CAUTION! Use wooden or plastic tools or a brass brush for cleaning. Do not use metal or abrasive tools that can scratch or damage the contact surfaces.



SCREEN SCREW AND COMPONENT MAINTENANCE



CAUTION! To avoid possible contamination by the residual chemical inside the Gun do not interchange the Isocyanate (A) parts with the Polyol (R) parts. The Isocyanate (A) side is identified with an (A) on the Screen Screw Head and the Polyol (R) side is marked with an (R) on the Screen Screw Head. The Gun Block is also marked with (A) and (R) designation.

1. CLOSE the Manual Valves by turning them to the full clockwise position.

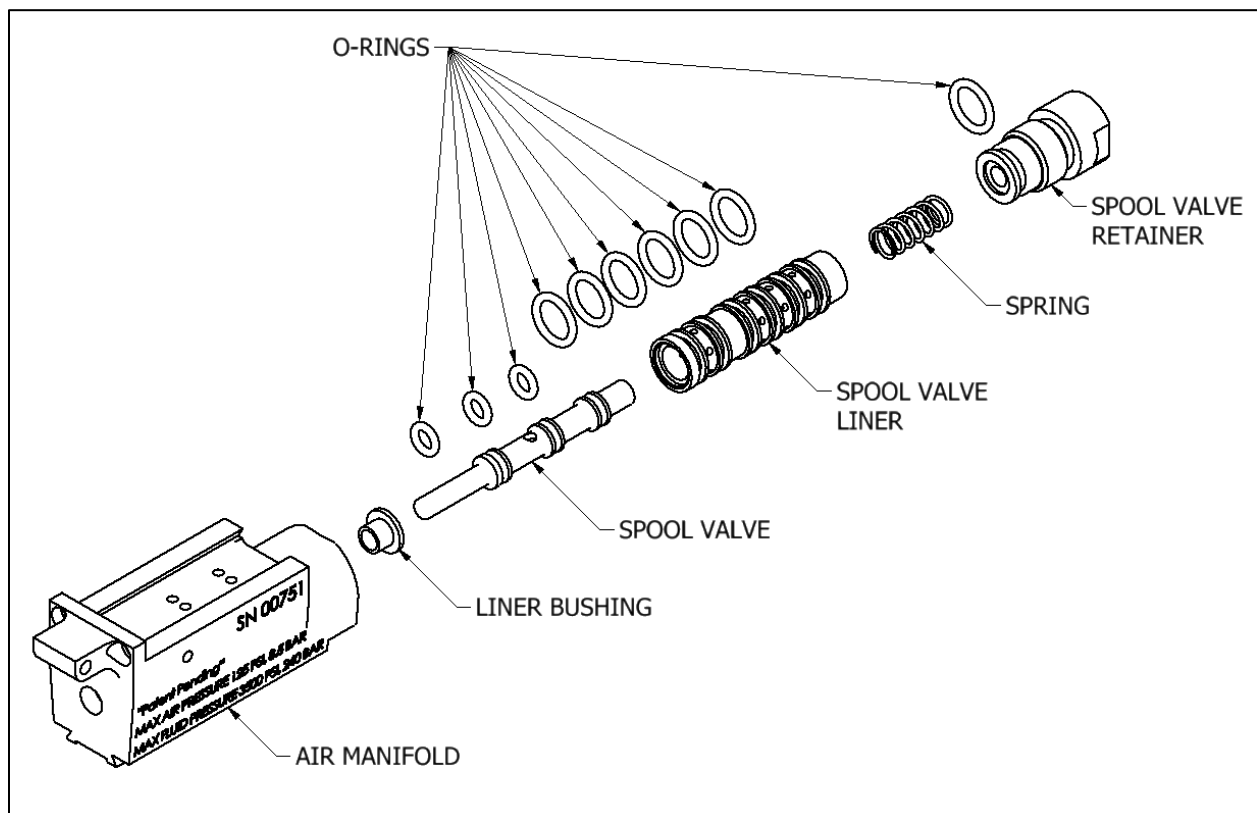
CAUTION! Excessive force opening or closing Manual Valves may result in damage to the Manual Valves and/or Coupling Block.

2. Point the gun over a waste container and pull the Trigger to relieve pressure.
3. SHUT OFF air supply to the gun.
4. Set the Gun Lock to the LOCKED position.
5. Use the Wrench provided (Pg. 42) or a ½" wrench to remove the Screen Screw.

6. To clean or replace the **Screens**, remove the larger **O-Ring** and **Back Up Ring**.
7. Remove the **Side Seal** and **Spring** from the **Screen Screw**. Inspect all components and O-rings. Clean or replace as required.
8. Inspect for damage and apply PMC lubrication to all O-rings and threads and reassemble in reverse order.
9. The gun is now ready for service.

NOTE! When replacing O-rings, replace *ALL* O-rings included in the appropriate Kit.

AIR MANIFOLD MAINTENANCE



1. **CLOSE** the **Manual Valves** by turning them to the full clockwise position.

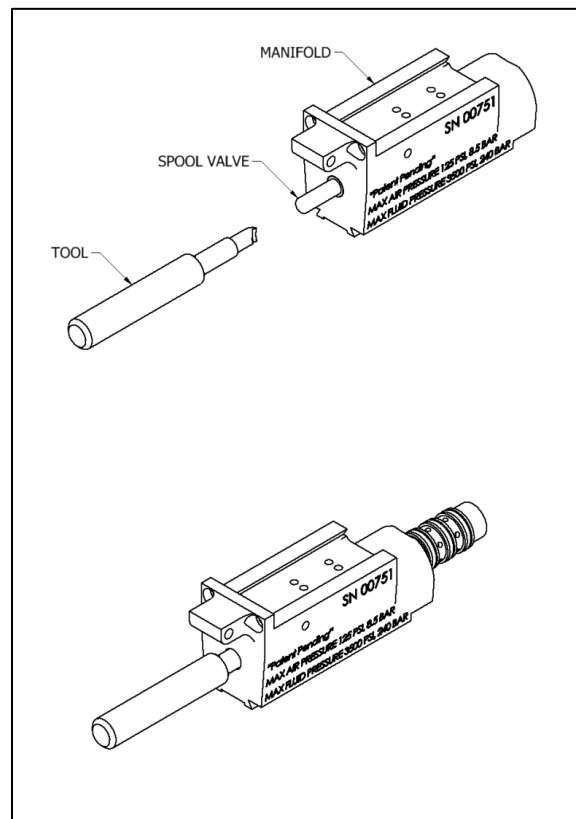
CAUTION! Excessive force opening or closing Manual Valves may result in damage to the Manual Valves and/or Coupling Block.

2. Set the **Gun Lock** to the **LOCKED** position.
3. **Disconnect** the air supply from the gun.

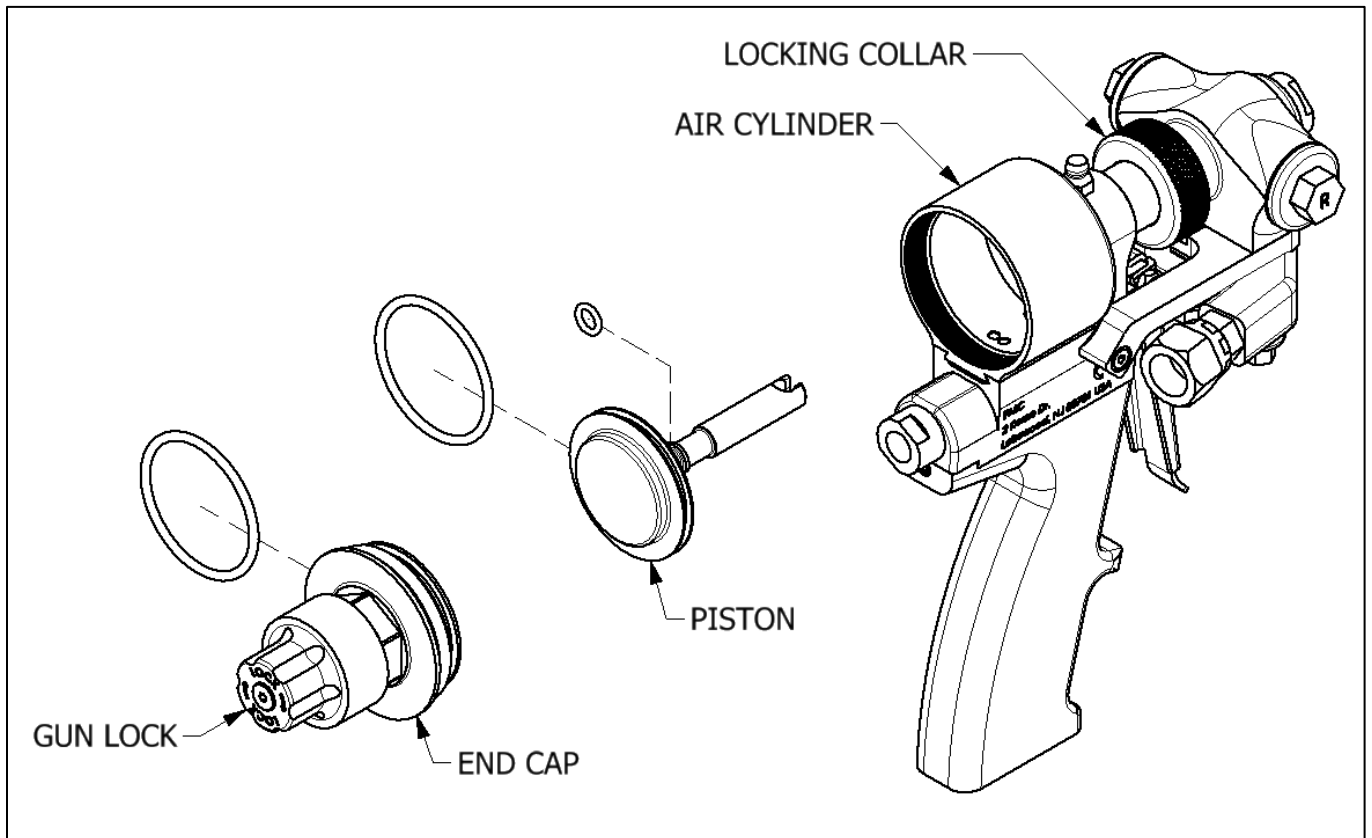
4. Use a suitable size wrench and remove the air fitting from the rear of the **Air Manifold**.
5. Remove the **Trigger** from the assembly to access the front of the **Air Manifold**.
6. Use the **Tool** provided (Pg. 42) and remove the **Spool Valve Retainer**.
7. Remove the **Spring**, **Spool Valve Liner**, **Spool Valve**, and **Liner Bushing** using the tool provided (Pg. 42), as shown below.
8. Remove and discard all **O-Rings**.
9. Replace the **O-rings** and **Spring** supplied in KT-826 (Pg. 43).

NOTE! When replacing O-rings, replace ALL O-rings included in KT-826 Rebuild Kit.

10. Inspect, clean and/or replace all remaining assembly components. Apply a small amount of PMC grease to the inside of the manifold cavity and to the **O-rings** on the **Spool Valve** to facilitate reassembly.
11. Reattach the **Trigger** and **Air Manifold** assembly in reverse order.



AIR CYLINDER MAINTENANCE



1. **CLOSE** the **Manual Valves** by turning them to the full clockwise position.

CAUTION! *Excessive force opening or closing Manual Valves may result in damage to the Manual Valves and/or Coupling Block.*

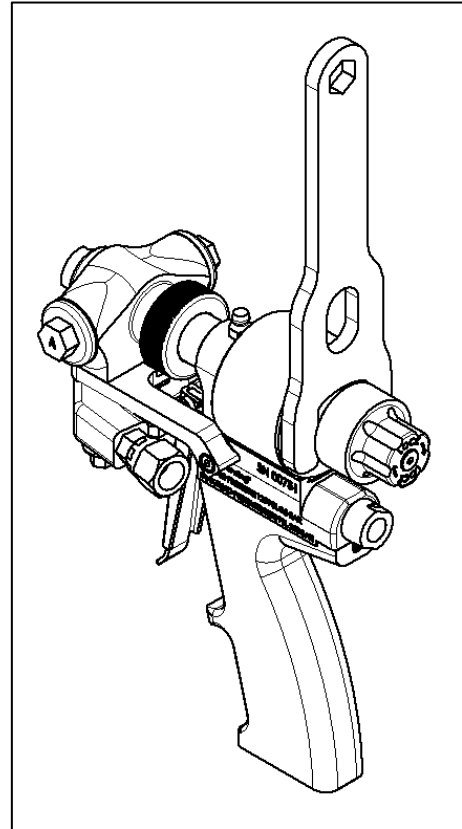
2. Point the gun over a waste container and pull the **Trigger** to relieve pressure.
3. **DISCONNECT** air supply to gun.
4. Set the **Gun Lock** to the **LOCKED** position.
5. Loosen the **Screen Screws** using the **Wrench** provided (Pg. 42) a 1/2" wrench.
6. Disconnect **Coupling Block** from **Gun Block** using the **Nut Driver** provided (Pg. 42).

7. Disengage the **Head Latch** from the **Gun Block**.
8. Loosen the **Locking Collar** from the **Gun Block** and remove the complete **Gun Block** assembly from the **Air Cylinder**.
9. Using the **Wrench** provided remove the **End Cap**.
10. Push on the exposed **Piston** by the **Locking Collar** to remove the **Piston** from the rear of the **Air Cylinder**.
11. Inspect the **O-rings** on the **Piston** and **Shaft** and replace as required.
12. Inspect the **O-ring** on the **End Cap** and replace as required.

NOTE! *When replacing O-rings, replace ALL O-rings included in the KT-801 Rebuild Kit.*

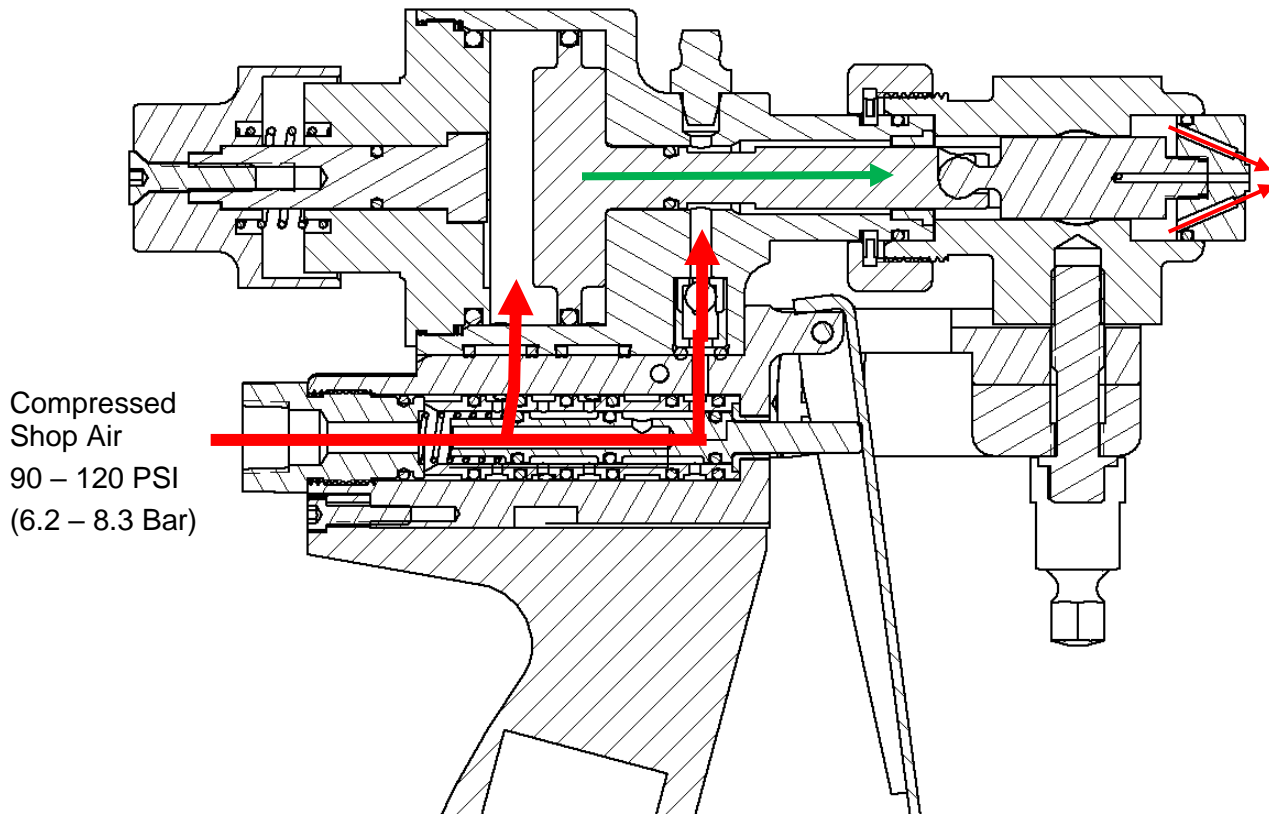
13. Coat the inside of the **Cylinder** and all **O-rings** with PMC grease to facilitate reassembly.
14. Reassemble the **Air Cylinder** in reverse order.

CAUTION! *Use wooden or plastic tools or a brass brush for cleaning. Do not use metal or abrasive tools that can scratch the contact surfaces.*



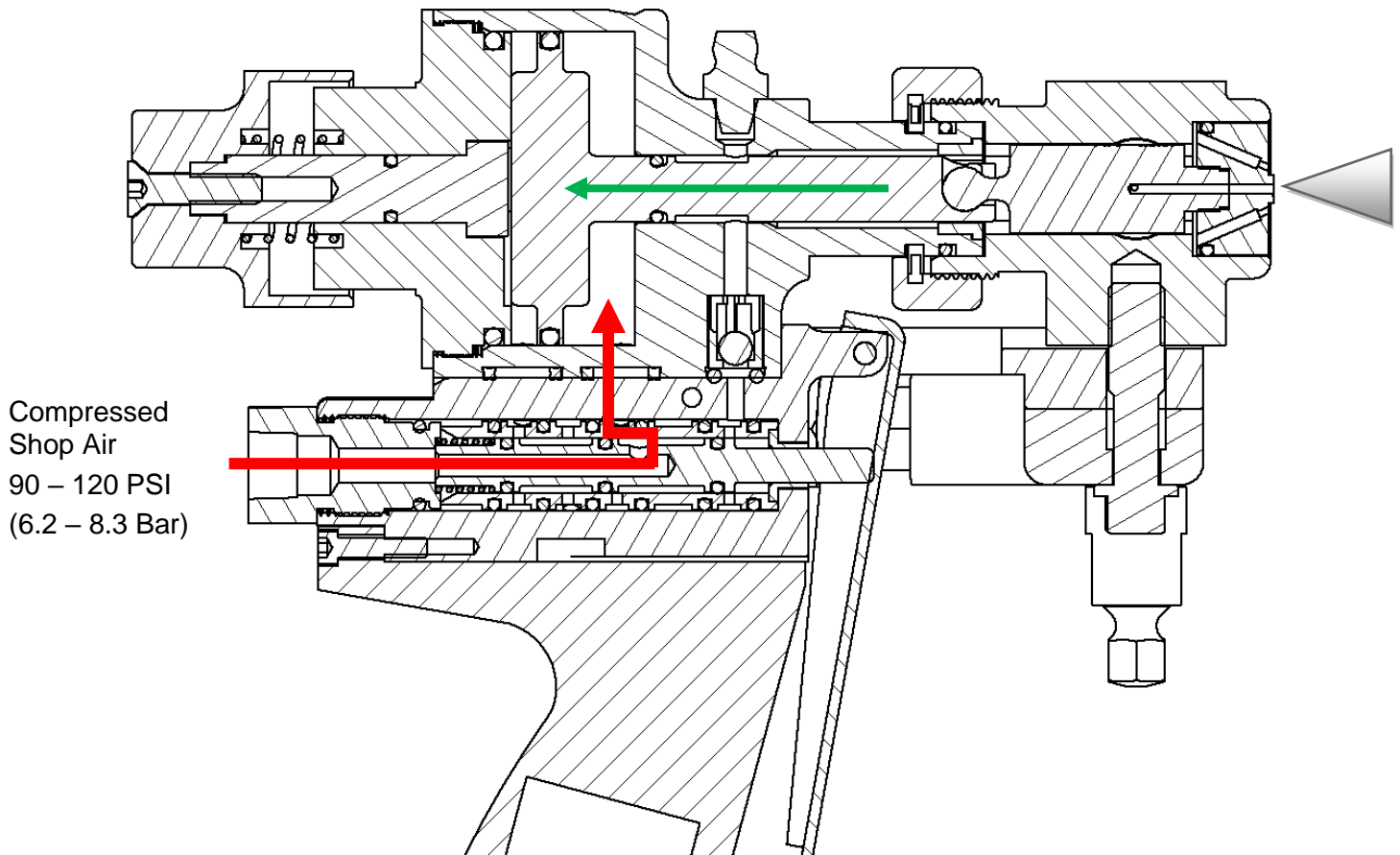
GUN OPERATION

TRIGGERED OFF



- Compressed shop air enters through the rear of the Air Manifold.
- The air passes around the Spool Valve to the Rear of the Piston in the Air Cylinder, moving the Piston (and Mixing Chamber) forward to the **CLOSED** position.
- In the **CLOSED** position, the orifices in the Mixing Chamber are **NOT** aligned with the Side Seal ports. The orifices in the Mixing Chamber are exposed to the air/grease chamber in the Gun Block.
- Purge air passes through the Spool Valve and the Check Valve, and into the Air Cylinder and Gun Block.
- Purge air and residual grease enter the Mixing Chamber and pass through the Mixing Chamber and PCT, expelling mixed material out of the chamber area in the process.
- Purge air is also expelled from the PCT in a circular trajectory to keep the tip clean.

TRIGGERED ON















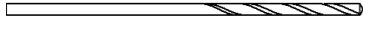
- Compressed shop air passes through the open Spool Valve, filling the cavity and pushing the Piston and Chamber backwards.
- The orifices in the Chamber are now captured within the Side Seals and exposed to high pressure chemical.
- High pressure chemical enters the chamber from the opposing orifices. The high pressure chemicals mix by impingement, and the mixture then travels down the chamber and out the PCT.



















NOTE! While the trigger is pulled, the purge air is shutoff during spraying and the PCT will be retracted to the point of being flush with the front surface of the Gun Block.






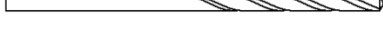


TROUBLESHOOTING GUIDE

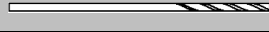





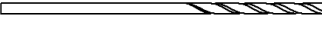

PROBLEM	POSSIBLE CAUSE	SOLUTION
PCT not flush with Gun Block when Gun is triggered	Insufficient air pressure (minimum 90 psi, 6.2 bar)	Ensure 90 psi (6.2 Bar)
	Trigger Valve requires service	Rebuild, see page 14
	Air Passages plugged	Clean, See page 14
Material does not spray when Gun is triggered	Lock is in "Locked" position	Unlock gun
	Air supply is not on	Turn on air supply
	Manual Valve CLOSED	OPEN, see page 7
	Mixing Chamber Inlet Orifices plugged	Clean, see page 11
	Side Seal Orifices plugged	Clean, see page 13
	Check Valve plugged	Replace
Mixing Chamber moves slowly	Air Manifold requires service	Rebuild, see page 14
	Insufficient Gun air pressure (minimum 90 psi, 6.2 Bar)	Ensure 90 psi (6.2 Bar) of air pressure
	Piston Assembly requires service	Rebuild, see page 15
	Air Passages plugged	Clean, see page 18
Mixing Chamber moves slowly, then normally	Reacted material around Side Seals	Inspect Side Seals, Mixing Chamber and clean, see pages 11, 13
Pattern deformation	Incorrect chemical temperature	See Proportioner Manual
	Mixing Chamber Nozzle and/or PCT dirty	Inspect and clean
Material spray pressure imbalance	Mixing Chamber Inlet Orifices plugged	Clean
	Side Seal Orifices plugged	Clean, see page 13
	Dirty screens	Replace
	Material temperatures not as recommended by material supplier	Adjust, see Proportioner Operating Manual
Iso and/or Resin in Gun Air Passages	Side Seal damaged	Replace, see page 13
	Mixing Chamber damaged	Replace, see page 11
	Side Seal/ Screen Screw O-rings damaged	Replace, see page 13
Material mist from Mixing Chamber or PCT	Side Seal damaged	Replace, see page 13
	Mixing Chamber damaged	Replace, see page 11
	Side Seal/Screen Screw O-rings damaged	Replace, see page 13
Excessive overspray	Material temperatures and/or spray pressures not as recommended by material supplier	Adjust, see Proportioner Operating Manual
Buildup of material on PCT	Plugged air passages in PCT and Gun Block	Clean, see page 18
Air leakage from Handle	Air Cylinder O-rings damaged	Replace, see page 15
	Trigger Valve O-rings damaged	Replace, see page 14















REFERENCE GUIDE







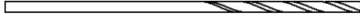








CHAMBER KITS					
KIT NUMBER	PART NUMBER	QTY	DESCRIPTION (INCH)	FOR USE WITH	ILLUSTRATION
GU-814-000	200476	1	#63 DRILL (.0370)	MIXING NOZZLE	
	GU-03031	1	#70 DRILL (.0280)	MIXING CHAMBER PORT	
	RM-814-000	1	CHAMBER #000	-	-
GU-814-DP-000	200476	1	#63 DRILL (.0370)	MIXING NOZZLE	
	GU-03031	1	#70 DRILL (.0280)	MIXING CHAMBER PORT	
	RM-814-DP-000	1	CHAMBER #000	-	DIAMOND PLATED
GU-814-00	200477	1	1.25mm DRILL (.0492)	MIXING NOZZLE	
	GU-03027	1	#69 DRILL (.0292)	MIXING CHAMBER PORT	
	RM-814-00	1	CHAMBER #00	-	-
GU-814-DP-00	200477	1	1.25mm DRILL (.0492)	MIXING NOZZLE	
	GU-03027	1	#69 DRILL (.0292)	MIXING CHAMBER PORT	
	RM-814-DP-00	1	CHAMBER #00	-	DIAMOND PLATED
GU-814-00X	200478	1	1.35mm DRILL (.0531)	MIXING NOZZLE	
	GU-03032	1	#61 DRILL (.0390)	MIXING CHAMBER PORT	
	RM-814-00X	1	CHAMBER #00X	-	-
GU-814-DP-00X	200478	1	1.35mm DRILL (.0531)	MIXING NOZZLE	
	GU-03032	1	#61 DRILL (.0390)	MIXING CHAMBER PORT	
	RM-814-DP-00X	1	CHAMBER #00X	-	DIAMOND PLATED
GU-814-01	200479	1	1.45mm DRILL (.0571)	MIXING NOZZLE	
	GU-03021	1	#59 DRILL (.0410)	MIXING CHAMBER PORT	
	RM-814-01	1	CHAMBER #01	-	-

CHAMBER KITS (CONTINUED)					
GU-814-DP-01	200479	1	1.45mm DRILL (.0571)	MIXING NOZZLE	
	GU-03021	1	#59 DRILL (.0410)	MIXING CHAMBER PORT	
	RM-814-DP-01	1	CHAMBER #01	-	DIAMOND PLATED
GU-814-01X	GU-03053	1	#52 DRILL (.0635)	MIXING NOZZLE	
	GU-03052	1	#57 DRILL (.0430)	MIXING CHAMBER PORT	
	RM-814-01X	1	CHAMBER #01X	-	-
GU-814-DP-01X	GU-03053	1	#52 DRILL (.0635)	MIXING NOZZLE	
	GU-03052	1	#57 DRILL (.0430)	MIXING CHAMBER PORT	
	RM-814-DP-01X	1	CHAMBER #01X	-	DIAMOND PLATED
GU-814-02	GU-03024	1	#51 DRILL (.0676)	MIXING NOZZLE	
	GU-03023	1	#56 DRILL (.0465)	MIXING CHAMBER PORT	
	RM-814-02	1	CHAMBER #02	-	-
GU-814-DP-02	GU-03024	1	#51 DRILL (.0676)	MIXING NOZZLE	
	GU-03023	1	#56 DRILL (.0465)	MIXING CHAMBER PORT	
	RM-814-DP-02	1	CHAMBER #02	-	DIAMOND PLATED
GU-814-02X	200480	1	2mm DRILL (.0787)	MIXING NOZZLE	
	GU-03050	1	#55 DRILL (.0520)	MIXING CHAMBER PORT	
	RM-814-02X	1	CHAMBER #02X	-	-
GU-814-DP-02X	200480	1	2mm DRILL (.0787)	MIXING NOZZLE	
	GU-03050	1	#55 DRILL (.0520)	MIXING CHAMBER PORT	
	RM-814-DP-02X	1	CHAMBER #02X	-	DIAMOND PLATED
GU-814-03	GU-03028	1	#44 DRILL (.0860)	MIXING NOZZLE	
	GU-03035	1	#54 DRILL (.055)	MIXING CHAMBER PORT	
	RM-814-03	1	CHAMBER #03	-	-
GU-814-DP-03	GU-03028	1	#44 DRILL (.0860)	MIXING NOZZLE	
	GU-03035	1	#54 DRILL (.055)	MIXING CHAMBER PORT	
	RM-814-DP-03	1	CHAMBER #03	-	DIAMOND PLATED

CHAMBER KITS (CONTINUED)					
GU-814-04	200481	1	2.4mm DRILL (.0945)	MIXING NOZZLE	
	GU-03054	1	#50 DRILL (.0700)	MIXING CHAMBER PORT	
	RM-814-04	1	CHAMBER #04	-	-
GU-814-DP-04	200481	1	2.4mm DRILL (.0945)	MIXING NOZZLE	
	GU-03054	1	#50 DRILL (.0700)	MIXING CHAMBER PORT	
	RM-814-DP-04	1	CHAMBER #04	-	DIAMOND PLATED
200920	GU-03028	1	#44 Drill (.0860)	MIXING NOZZLE	
	201120	1	#33 DRILL (0.1130)	MIXING CHAMBER PORT	
	RM-814-05	1	CHAMBER #05	-	-
GU-814-DP-05	GU-03028	1	#44 Drill (.0860)	MIXING NOZZLE	
	201120	1	#33 DRILL (0.1130)	MIXING CHAMBER PORT	
	RM-814-DP-05	1	CHAMBER #05	-	DIAMOND PLATED

PCT KITS					
KIT NUMBER	PART NUMBER	QTY	DESCRIPTION	FOR USE WITH	ILLUSTRATION
GU-815-000	GU-03033	1	#65 DRILL (.0350)	PCT PURGE PORT	
	GU-03035	1	#54 DRILL (.055)	PCT PURGE PORT	
	2000476	1	#63 DRILL (.0370)	PCT NOZZLE PORT	
	OR-00042A	2	O-RING, VITON, -016	-	-
	RM-815-000	1	PATTERN CONTROL TIP 000	-	
GU-815-00	GU-03033	1	#65 DRILL (.0350)	PCT PURGE PORT	
	GU-03035	1	#54 DRILL (.055)	PCT PURGE PORT	
	200477	1	1.25mm DRILL (.0492)	PCT NOZZLE PORT	
	OR-00042A	2	O-RING, VITON, -016	-	-
	RM-815-00	1	PATTERN CONTROL TIP 00	-	

PCT KITS (CONTINUED)					
GU-815-00X	GU-03033	1	#65 DRILL (.0350)	PCT PURGE PORT	
	200478	1	1.35mm DRILL (.0531)	PCT PURGE AND NOZZLE PORT	
	OR-00042A	2	O-RING, VITON, - 016	-	
	RM-815- 00X	1	PATTERN CONTROL TIP 00.X	-	
GU-815-01	GU-03033	1	#65 DRILL (.0350)	PCT PURGE PORT	
	200479	1	1.45mm DRILL (.0571)	PCT PURGE & NOZZLE PORT	
	OR-00042A	2	O-RING, VITON, - 016	-	
	RM-815-01	1	PATTERN CONTROL TIP 01	-	
GU-815-01X	GU-03033	1	#65 DRILL (.0350)	PCT PURGE PORT	
	GU-03035	1	#54 DRILL (.055)	PCT PURGE PORT	
	GU-03053	1	#52 DRILL (.0635)	PCT NOZZLE PORT	
	OR-00042A	2	O-RING, VITON, - 016	-	
	RM-815- 01X	1	PATTERN CONTROL TIP 01X	-	
GU-815-02	GU-03033	1	#65 DRILL (.0350)	PCT PURGE PORT	
	GU-03035	1	#54 DRILL (.055)	PCT PURGE PORT	
	GU-03024	1	#51 DRILL (.0676)	PCT NOZZLE PORT	
	OR-00042A	2	O-RING, VITON, - 016	-	
	RM-815-02	1	PATTERN CONTROL TIP 02	-	

PCT KITS (CONTINUED)					
KIT NUMBER	PART NUMBER	QTY	DESCRIPTION	FOR USE WITH	ILLUSTRATION
GU-815-02X	GU-03033	1	#65 DRILL (.0350)	PCT PURGE PORT	
	GU-03035	1	#54 DRILL (.055)	PCT PURGE PORT	
	200480	1	2mm DRILL (.0787)	PCT NOZZLE PORT	
	OR-00042A	2	PCT FLAT TIP O-RING .016	-	
	RM-815-02X	1	PATTERN CONTROL TIP 02X	-	
GU-815-03	GU-03033	1	#65 DRILL (.0350)	PCT PURGE PORT	
	GU-03035	1	#54 DRILL (.055)	PCT PURGE PORT	
	GU-03028	1	#44 DRILL (.0860)	PCT NOZZLE PORT	
	OR-00042A	2	PCT FLAT TIP O-RING .016	-	
	RM-815-03	1	PATTERN CONTROL TIP 03	-	
GU-815-04	GU-03033	1	#65 DRILL (.0350)	PCT PURGE PORT	
	GU-03035	1	#54 DRILL (.055)	PCT PURGE PORT	
	200481	1	2.4mm DRILL (.0945)	PCT NOZZLE PORT	
	OR-00042A	2	PCT FLAT TIP O-RING .016	-	
	RM-815-04	1	PATTERN CONTROL TIP 04	-	

CHAMBER/PCT KITS			
KIT NUMBER	PART NUMBER	QTY	DESCRIPTION
KT-814-000	GU-814-000	1	CHAMBER 000 W/ DRILLS
	GU-815-000	1	PCT 000 RND W/ DRILLS
	OR-00042A	1	O-RING, VITON, -016
KT-814-00	GU-814-00	1	CHAMBER 00 W/ DRILLS
	GU-815-00	1	PCT 00 RND W/ DRILLS
	OR-00042A	1	O-RING, VITON, -016
KT-814-00X	GU-814-00X	1	CHAMBER 00X W/ DRILLS
	GU-815-00X	1	PCT 00X W/ DRILLS
	OR-00042A	1	O-RING, VITON, -016
KT-814-01	GU-814-01	1	CHAMBER 01 W/ DRILLS
	GU-815-01	1	PCT 01 RND W/ DRILLS
	OR-00042A	1	O-RING, VITON, -016
KT-814-01X	GU-814-01X	1	CHAMBER 01X W/ DRILLS
	GU-815-01X	1	PCT 01X RND W/ DRILLS
	OR-00042A	1	O-RING, VITON, -016
KT-814-02	GU-814-02	1	CHAMBER 02 W/ DRILLS
	GU-815-02	1	PCT 02 RND W/ DRILLS
	OR-00042A	1	O-RING, VITON, -016
KT-814-02X	GU-814-02X	1	CHAMBER 02X W/ DRILLS
	GU-815-02X	1	PCT 02X RND W/ DRILLS
	OR-00042A	1	O-RING, VITON, -016
KT-814-03	GU-814-03	1	CHAMBER 03 W/ DRILLS
	GU-815-03	1	PCT 03 RND W/ DRILLS
	OR-00042A	1	O-RING, VITON, -016
KT-814-04	GU-814-04	1	CHAMBER 04 W/ DRILLS
	GU-815-04	1	PCT 04 RND W/ DRILLS
	OR-00042A	1	O-RING, VITON, -016
201119	200920	1	CHAMBER 05 W/ DRILLS
	200918	1	PCT 05 RND W/ DRILLS
	OR-00042A	1	O-RING, VITON, -016

SOFT CHAMBER KITS		
PART NUMBER	QTY	DESCRIPTION
GU-814-0000	1	SOFT CHAMBER KIT WITH CLEANOUT DRILLS
GU-814-S000	1	SOFT CHAMBER KIT WITH CLEANOUT DRILLS
GU-814-S00	1	SOFT CHAMBER KIT WITH CLEANOUT DRILLS
GU-814-S01	1	SOFT CHAMBER KIT WITH CLEANOUT DRILLS
GU-814-S01X	1	SOFT CHAMBER KIT WITH CLEANOUT DRILLS
GU-814-S02	1	SOFT CHAMBER KIT WITH CLEANOUT DRILLS
GU-814-S02X	1	SOFT CHAMBER KIT WITH CLEANOUT DRILLS

**Soft chambers are intended to be used with Delrin side seals (P/N 202248).
Soft chambers are not compatible with steel or resin side seals.**

DIAMOND PLATED CHAMBER/PCT KITS			
KIT NUMBER	PART NUMBER	QTY	DESCRIPTION
KT-814-DP-000	GU-814-DP-000	1	CHAMBER 000 W/ DRILLS
	GU-815-000	1	PCT 000 RND W/ DRILLS
	OR-00042A	1	O-RING, VITON, -016
KT-814-DP-00	GU-814-DP-00	1	CHAMBER 00 W/ DRILLS
	GU-815-00	1	PCT 00 RND W/ DRILLS
	OR-00042A	1	O-RING, VITON, -016
KT-814-DP-00X	GU-814-DP-00X	1	CHAMBER 00X W/ DRILLS
	GU-815-00X	1	PCT 00X W/ DRILLS
	OR-00042A	1	O-RING, VITON, -016
KT-814-DP-01	GU-814-DP-01	1	CHAMBER 01 W/ DRILLS
	GU-815-01	1	PCT 01 RND W/ DRILLS
	OR-00042A	1	O-RING, VITON, -016
KT-814-DP-01X	GU-814-DP-01X	1	CHAMBER 01X W/ DRILLS
	GU-815-01X	1	PCT 01X RND W/ DRILLS
	OR-00042A	1	O-RING, VITON, -016
KT-814-DP-02	GU-814-DP-02	1	CHAMBER 02 W/ DRILLS
	GU-815-02	1	PCT 02 RND W/ DRILLS
	OR-00042A	1	O-RING, VITON, -016
KT-814-DP-02X	GU-814-DP-02X	1	CHAMBER 02X W/ DRILLS
	GU-815-02X	1	PCT 02X RND W/ DRILLS
	OR-00042A	1	O-RING, VITON, -016
KT-814-DP-03	GU-814-DP-03	1	CHAMBER 03 W/ DRILLS
	GU-815-03	1	PCT 03 RND W/ DRILLS
	OR-00042A	1	O-RING, VITON, -016
KT-814-DP-04	GU-814-DP-04	1	CHAMBER 04 W/ DRILLS
	GU-815-04	1	PCT 04 RND W/ DRILLS
	OR-00042A	1	O-RING, VITON, -016
KT-814-DP-05	200920	1	CHAMBER 05 W/ DRILLS
	200918	1	PCT 05 RND W/ DRILLS
	OR-00042A	1	O-RING, VITON, -016

AP-2/AP-3 SPARE PARTS KITS DESC		
PART NUMBER	DESCRIPTION	REFERENCE PAGE
200445	AP-2/AP-3-000 SPARE PARTS KIT	29
200446	AP-2/AP-3-00 SPARE PARTS KIT	29
200447	AP-2/AP-3-00X SPARE PARTS KIT	29
200448	AP-2/AP-3-01 SPARE PARTS KIT	29
200449	AP-2/AP-3-01X SPARE PARTS KIT	29
200450	AP-2/AP-3-02 SPARE PARTS KIT	29
200451	AP-2/AP-3-02X SPARE PARTS KIT	29
200452	AP-2/AP-3-03 SPARE PARTS KIT	29
200453	AP-2/AP-3-04 SPARE PARTS KIT	29
201173	AP-2/AP-3-05 SPARE PARTS KIT	29
202536	AP-2/AP-3-000 SPARE PARTS KIT, DP	30
202537	AP-2/AP-3-00 SPARE PARTS KIT, DP	30
202538	AP-2/AP-3-00X SPARE PARTS KIT, DP	30
202539	AP-2/AP-3-01 SPARE PARTS KIT, DP	30
202540	AP-2/AP-3-01X SPARE PARTS KIT, DP	30
202541	AP-2/AP-3-02 SPARE PARTS KIT, DP	30
202542	AP-2/AP-3-02X SPARE PARTS KIT, DP	30
202543	AP-2/AP-3-03 SPARE PARTS KIT, DP	30
202544	AP-2/AP-3-04 SPARE PARTS KIT, DP	30
202545	AP-2/AP-3-05 SPARE PARTS KIT, DP	30

FOR ALL DIAMOND PLATED KITS (202536-202545)

❖ **KT-814-SIZE IS REPLACED WITH KT-814-DP-SIZE**

❖ **202247 IS REPLACED WITH 202454**

AP-2/AP-3 SPARE PARTS KITS											
KIT PART NUMBER		200445	200446	200447	200448	200449	200450	200451	200452	200453	201173
PART NUMBER	DESCRIPTION	000	00	00X	01	01X	02	02X	03	04	05
200459	O-RING, VITON, -018	2	2	2	2	2	2	2	2	2	2
200592	000 PKG DRILL BITS	1	-	-	-	-	-	-	-	-	-
200593	00 PKG DRILL BITS	-	1	-	-	-	-	-	-	-	-
200598	00X PKG DRILL BITS	-	-	1	-	-	-	-	-	-	-
KT-830	01 PKG DRILL BITS	-	-	-	1	-	-	-	-	-	-
200596	01X PKG DRILL BITS	-	-	-	-	1	-	-	-	-	-
KT-829	02 PKG DRILL BITS	-	-	-	-	-	1	-	-	-	-
200597	02X PKG DRILL BITS	-	-	-	-	-	-	1	-	-	-
200594	03 PKG DRILL BITS	-	-	-	-	-	-	-	1	-	-
200595	04 PKG DRILL BITS	-	-	-	-	-	-	-	-	1	-
201174	05 PKG DRILL BITS	-	-	-	-	-	-	-	-	-	1
202247	SIDE SEAL, .125 STEEL	2	2	2	2	2	2	2	2	2	2
GP-00101	PIN VICE	1	1	1	1	1	1	1	1	1	1
GP-LUBEGREASE	GREASE; TUBE	1	1	1	1	1	1	1	1	1	1
GU-020	MANUAL VALVE ASSY.	1	1	1	1	1	1	1	1	1	1
GU-04007	SCREEN SCREW SEAL	2	2	2	2	2	2	2	2	2	2
GU-818-80	FILTER SCREEN; 80 MESH	4	4	4	4	4	4	4	4	4	4
KT-020	MANUAL VALVE SOFTWARE KIT	1	1	1	1	1	1	1	1	1	1
KT-814-SIZE	CHAMBER/PCT ROUND SIZE W/DRILLS	1	1	1	1	1	1	1	1	1	-
201119	CHAMBER/PCT ROUND 05 W/DRILLS	-	-	-	-	-	-	-	-	-	1
KT-850	CHECK VALVE KIT	1	1	1	1	1	1	1	1	1	1
OR-00026A	O-RING, VITON, -129	2	2	2	2	2	2	2	2	2	2
OR-00042A	O-RING, VITON, -016	2	4	4	4	4	4	4	4	4	4
OR-00043B	O-RING, AFLAS, -010	10	10	10	10	10	10	10	10	10	10
OR-800	#013 BACK UP RING	2	2	2	2	2	2	2	2	2	2
OR-801A	O-RING, AFLAS, -013	2	2	2	2	2	2	2	2	2	2
OR-804	O-RING, BUNA, 2mm X 4mm	3	3	3	3	3	3	3	3	3	3
OR-805	O-RING, VITON, -108	8	8	8	8	8	8	8	8	8	8
SP-04005	SPRING; SIDE SEAL	2	2	2	2	2	2	2	2	2	2
202799	O-RING, BUNA, 2.5mm X 3mm	2	2	2	2	2	2	2	2	2	2

AP-2/AP-3 SPARE PARTS KITS (DIAMOND PLATED)

KIT PART NUMBER		202536	202537	202538	202539	202540	202541	202542	202543	202544	202545
PART NUMBER	DESCRIPTION	000	00	00X	01	01X	02	02X	03	04	05
200459	O-RING, VITON, -018	2	2	2	2	2	2	2	2	2	2
200592	000 PKG DRILL BITS	1	-	-	-	-	-	-	-	-	-
200593	00 PKG DRILL BITS	-	1	-	-	-	-	-	-	-	-
200598	00X PKG DRILL BITS	-	-	1	-	-	-	-	-	-	-
KT-830	01 PKG DRILL BITS	-	-	-	1	-	-	-	-	-	-
200596	01X PKG DRILL BITS	-	-	-	-	1	-	-	-	-	-
KT-829	02 PKG DRILL BITS	-	-	-	-	-	1	-	-	-	-
200597	02X PKG DRILL BITS	-	-	-	-	-	-	1	-	-	-
200594	03 PKG DRILL BITS	-	-	-	-	-	-	-	1	-	-
200595	04 PKG DRILL BITS	-	-	-	-	-	-	-	-	1	-
201174	05 PKG DRILL BITS	-	-	-	-	-	-	-	-	-	1
202454	SIDE SEAL, .125 RESIN	2	2	2	2	2	2	2	2	2	2
GP-00101	PIN VICE	1	1	1	1	1	1	1	1	1	1
GP-LUBEGREASE	GREASE; TUBE	1	1	1	1	1	1	1	1	1	1
GU-020	MANUAL VALVE ASSY.	1	1	1	1	1	1	1	1	1	1
GU-04007	SCREEN SCREW SEAL	2	2	2	2	2	2	2	2	2	2
GU-818-80	FILTER SCREEN; 80 MESH	4	4	4	4	4	4	4	4	4	4
KT-020	MANUAL VALVE SOFTWARE KIT	1	1	1	1	1	1	1	1	1	1
KT-814-DP-SIZE	CHAMBER/PCT ROUND SIZE W/DRILLS, DP	1	1	1	1	1	1	1	1	1	1
KT-850	CHECK VALVE KIT	1	1	1	1	1	1	1	1	1	1
OR-00026A	O-RING, VITON, -129	2	2	2	2	2	2	2	2	2	2
OR-00042A	O-RING, VITON, -016	2	4	4	4	4	4	4	4	4	4
OR-00043B	O-RING, AFLAS, -010	10	10	10	10	10	10	10	10	10	10
OR-800	#013 BACK UP RING	2	2	2	2	2	2	2	2	2	2
OR-801A	O-RING, AFLAS, -013	2	2	2	2	2	2	2	2	2	2
OR-804	O-RING, BUNA, 2mm X 4mm	3	3	3	3	3	3	3	3	3	3
OR-805	O-RING, VITON, -108	8	8	8	8	8	8	8	8	8	8
SP-04005	SPRING; SIDE SEAL	2	2	2	2	2	2	2	2	2	2
202799	O-RING, BUNA, 2.5mm X 3mm	2	2	2	2	2	2	2	2	2	2

AP-2/AP-3 PACKAGE DRILL BITS											
KIT PART NUMBER		200592	200593	200598	KT-830	200596	KT-829	200597	200594	200595	201174
PART NUMBER	DESCRIPTION	000	00	00X	01	01X	02	02X	03	04	05
200476	DRILL 0.94mm (.0370")	2	-	-	-	-	-	-	-	-	-
200477	DRILL 1.25mm (.0492")	-	2	-	-	-	-	-	-	-	-
200478	DRILL 1.35mm (.0531")	-	-	2	-	-	-	-	-	-	-
200480	DRILL 2.00mm (.0787")	-	-	-	-	-	-	2	-	-	-
200481	DRILL 2.40mm (.0945")	-	-	-	-	-	-	-	-	2	-
201093	DRILL 2.90mm (.1142")	-	-	-	-	-	-	-	-	-	1
201120	DRILL 2.87mm (.1130")	-	-	-	-	-	-	-	-	-	1
GU-03021	DRILL 1.04mm (.0410")	-	-	-	1	-	-	-	-	-	-
GU-03023	DRILL 1.18mm (.0465")	-	-	-	-	-	1	-	-	-	-
GU-03024	DRILL 1.70mm (.0670")	-	-	-	-	-	1	-	-	-	-
GU-03027	DRILL 0.74mm (.0292")	-	1	-	-	-	-	-	-	-	-
GU-03028	DRILL 2.18mm (.0860")	-	-	-	-	-	-	-	1	-	1
GU-03031	DRILL 0.71mm (.0280")	1	-	-	-	-	-	-	-	-	-
GU-03032	DRILL 0.99mm (.0390")	-	-	1	-	-	-	-	-	-	-
GU-03033	DRILL 0.89mm (.0350")	1	1	1	1	1	1	1	1	1	1
GU-03035	DRILL 1.40mm (.0550")	1	1	1	2	1	1	1	1	1	1
GU-03050	DRILL 1.32mm (.0520")	-	-	-	-	-	-	1	-	-	-
GU-03052	DRILL 1.09mm (.0430")	-	-	-	-	1	-	-	-	-	-
GU-03053	DRILL 1.61mm (.0635")	-	-	-	-	1	-	-	-	-	-
GU-03054	DRILL 1.78mm (.0700")	-	-	-	-	-	-	-	-	1	-

1/4" UNHEATED STAINLESS STEEL HOSE ASSY

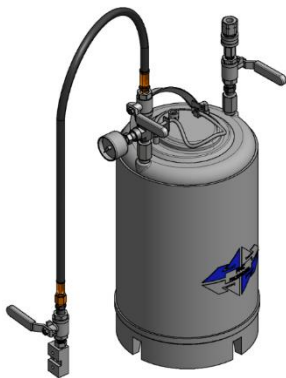
PART NUMBER	DESCRIPTION
MA-41	HOSE PACKAGE KIT, UNHEATED
MA-41A	REPLACEMENT HOSE, "A" SIDE
MA-41R	REPLACEMENT HOSE, "R" SIDE



Optional MA-41 Kit shown on AP-2 Gun

FLUSH TANKS

Optional 2.5 Gallon Flush Tank (200426, 200427) and 1QT Mini Flush Tank (200216, 200217) shown.



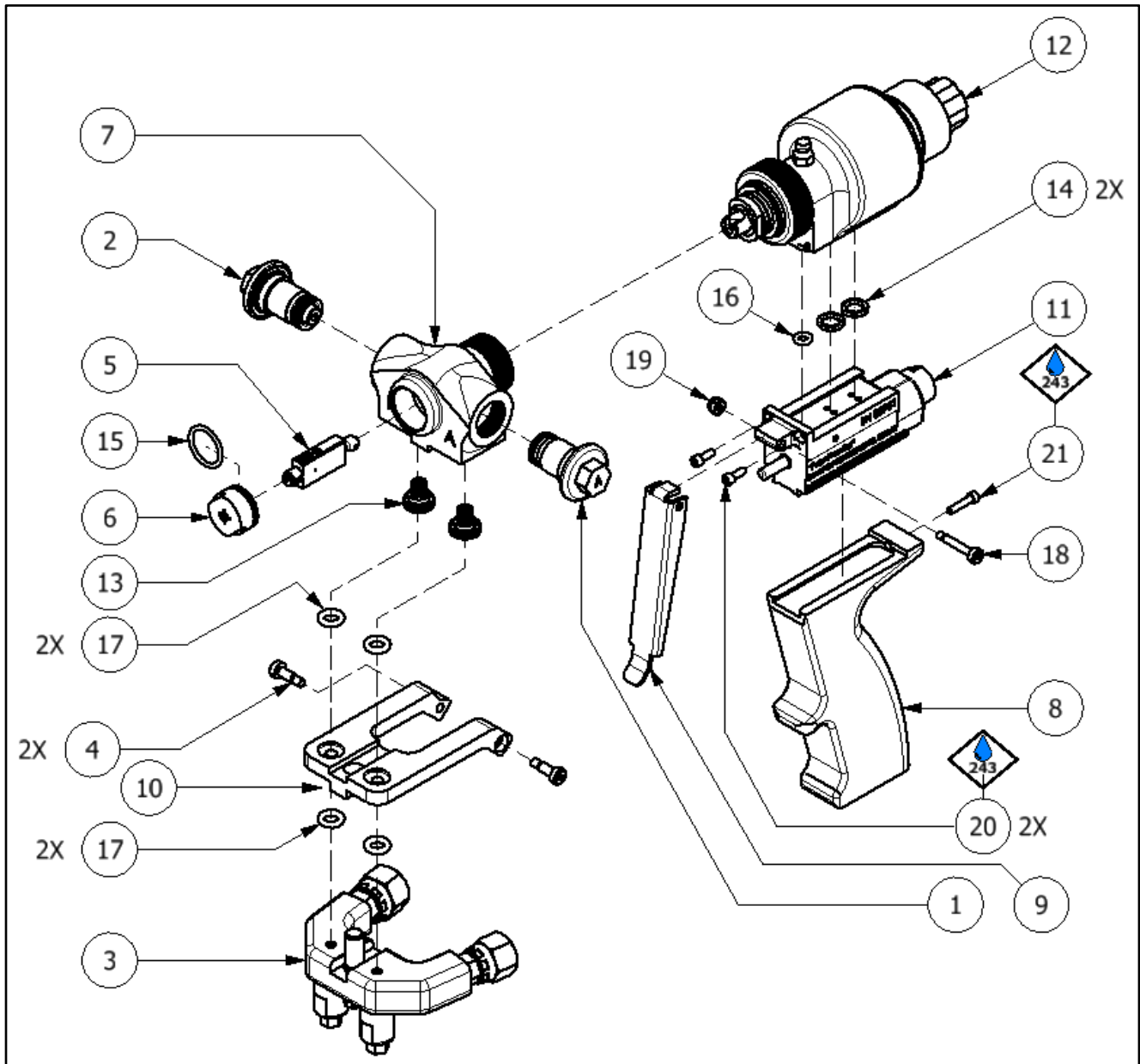
FLUSH TANKS

2.5 Gallon Flush Tank		1 QT Mini Flush Tank	
200426	Solvent Flush Kit, 2.5 Gal, AP	200216	Solvent Flush Kit, Quart, AP
200427	Solvent Flush Kit, 2.5 Gal, F-AP	200217	Solvent Flush Kit, Quart, F-AP

PARTS IDENTIFICATION

FINAL GUN ASSEMBLY

*AP-2 O-Ring Kit is on page 49.



= Apply Blue loctite 243 or similar to indicated threads.

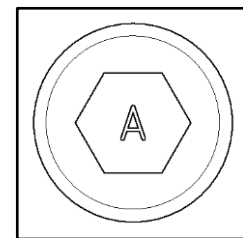
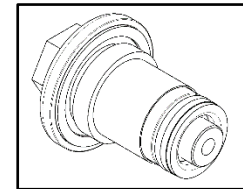
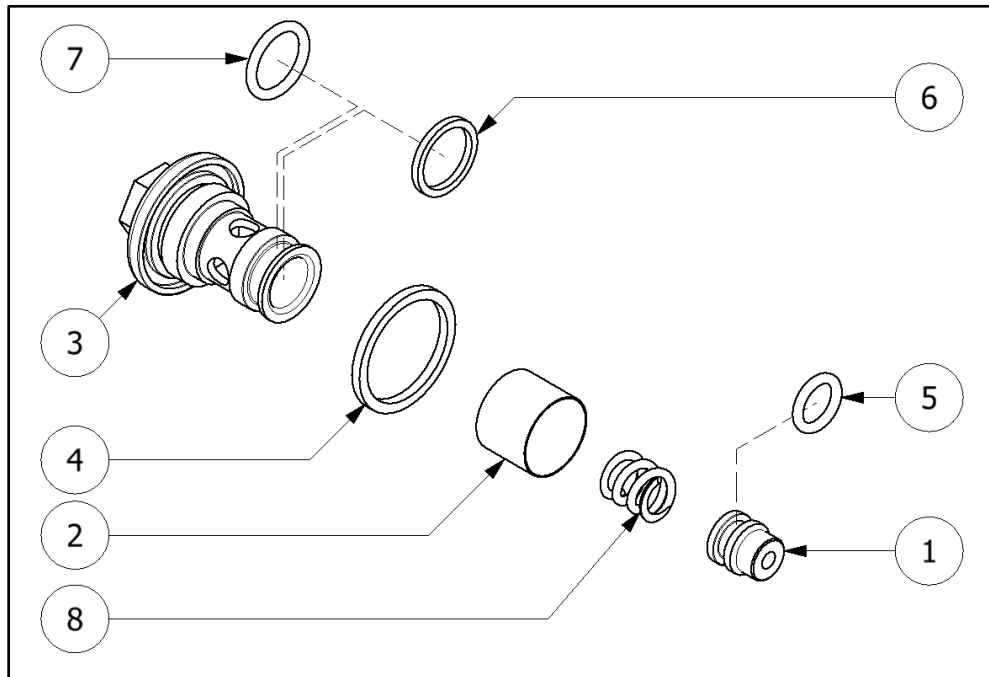
FINAL GUN ASSEMBLY			
ITEM	PART NUMBER	DESCRIPTION	QTY
1	202409	SCREEN SCREW ASSY, A, AP-2/3	1
2	202410	SCREEN SCREW ASSY, R, AP-2/3	1
3	GU-04001	COUPLING BLOCK ASSEMBLY	1
4	GU-808	SHLDR BOLT, #6-32x0.188,18-8SS	2
5	GU-814-DP-XX ¹	MIXING CHAMBER, DP	1
6	GU-815-XX	PATTERN CONTROL TIP (PCT)	1
7	GU-816	GUN BLOCK, AP-2	1
	GU-816S	GUN BLOCK, STEEL, AP-2	
8	GU-827-1	GUN HANDLE, AP-2	1
9	GU-828	TRIGGER, AP-2	1
10	GU-842	HEAD LATCH, AP-2	1
11	GU-843	AIR MANIFOLD ASSEMBLY, AP-2	1
12	GU-845	COMPLETE AIR CYL ASSY, AP-2	1
13	KT-850	CHECK VALVE ASSEMBLY	2
14	OR-00037B	O-RING, X, -011, BUNA	2
15	OR-00042A	O-RING, VITON, -016	1
16	OR-804	O-RING, BUNA, 2mm x 4mm	1
	202799	O-RING, BUNA, 2.5mm X 3mm	2
17	OR-805	O-RING, VITON, -108	4
18	TN-04190	SHOULDER BOLT, #4-40 X 0.750, BO	1
19	TN-04191	NUT, LOCK, #4-40, ZP	1
20	TN-830	SHCS, #4-40 X 0.313, BO	2
21	TN-831	SHCS, #4-40 X 0.500, BO	1

¹ Also available as soft chambers, see page 26. (Requires Delrin side seals (P/N 202248))

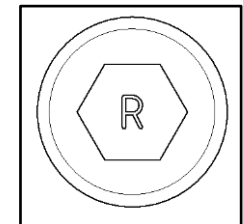
SCREEN SCREW ASSEMBLY

(A-SIDE: 202409 / R-SIDE: 202410)

*Screen Screw Assembly Kits are on page 47



GU-819-A



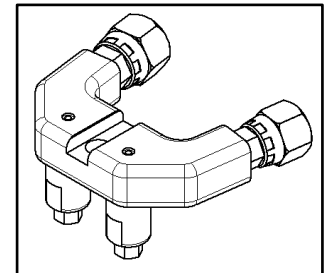
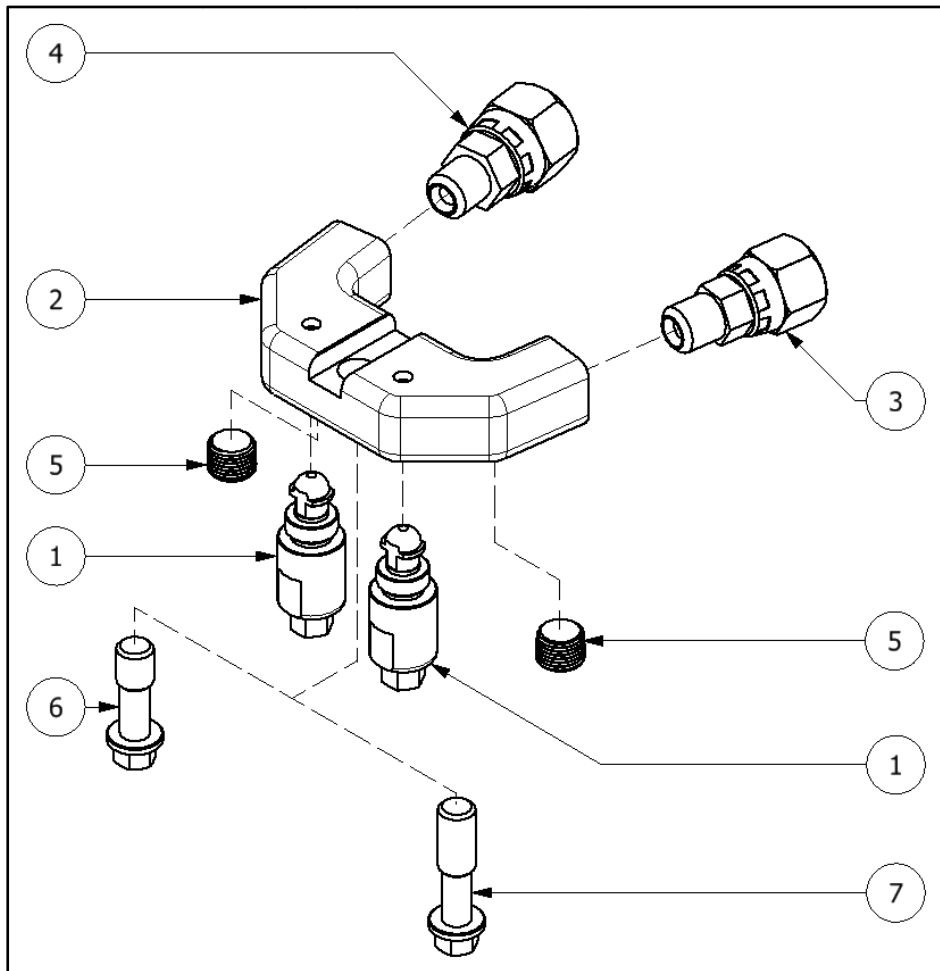
GU-819-R

SCREEN SCREW ASSEMBLY

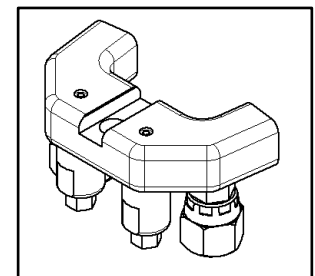
ITEM	PART NUMBER	DESCRIPTION	QTY
1	202454	SIDE SEAL, 125, RESIN	1
2	GU-818-80	FILTER SCREEN, 80 MESH	1
3*	GU-819-A	A-SCREEN SCREW	1
	GU-819-R	R-SCREEN SCREW	1
4*	GU-04007	SCREEN SCREW SEAL	1
5	OR-00043B	O-RING #010 80D AFLAS	1
6*	OR-800	#013 BACK UP RING	1
7*	OR-801A	O-RING #013 80D AFLAS	1
8	SP-04005	SPRING; SIDE SEAL	1

* Included in KT-819-A or KT-819-R (See Page 47)

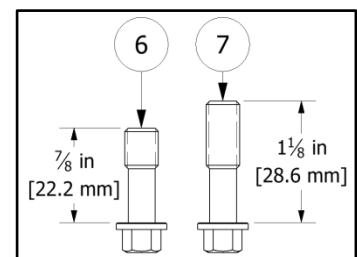
COUPLING BLOCK ASSEMBLY (GU-04001)



STANDARD ORIENTATION



OPTIONAL ORIENTATION



MOUNTING SCREWS

COUPLING BLOCK ASSEMBLY (GU-04001)

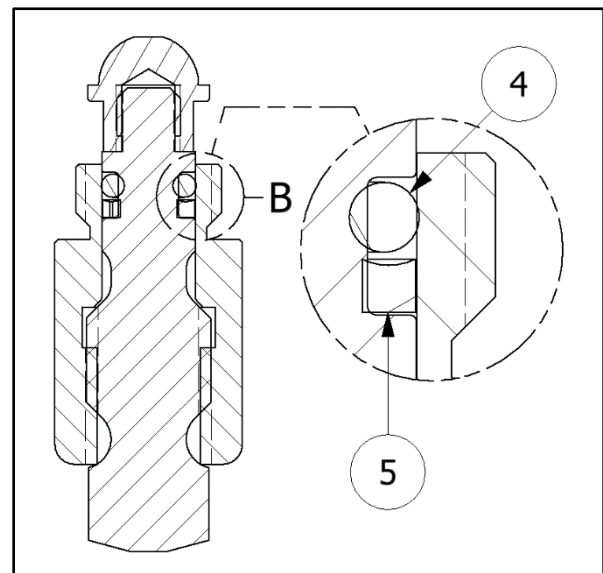
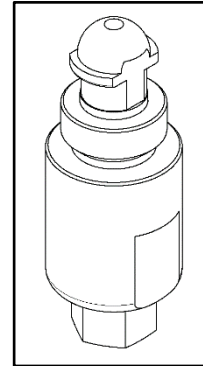
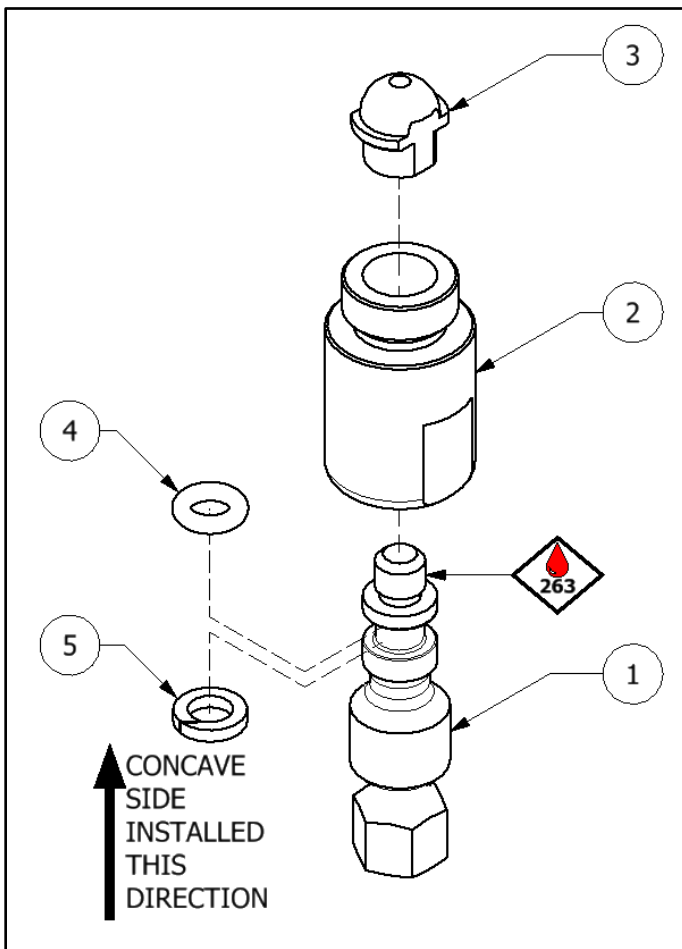
ITEM	PART NUMBER	DESCRIPTION	QTY
1	GU-020	MANUAL VALVE ASSY	2
2	GU-04001-01	BODY, COUPLING BLOCK	1
3	RA-00005A	1/8 NPT x #5 JIC SWIVEL	1
4	RA-00006A	1/8 NPT X #6 JIC SWIVEL	1
5	TN-04192	PIPE PLUG, 1/8 NPT, STL	2
6 ²	TN-04193	COUPLING BLOCK MOUNTING SCREW	1
7 ³	TN-04197	COUPLING BLOCK STABILIZER MOUNTING SCREW	1


² TN-04193 is used for AP-3, AP-EX, and PX-7 gun models.

³ TN-04197 is used for AP-2 gun models.

MANUAL VALVE ASSEMBLY (GU-020)

*Manual Valve Software Kit is listed on page 44.



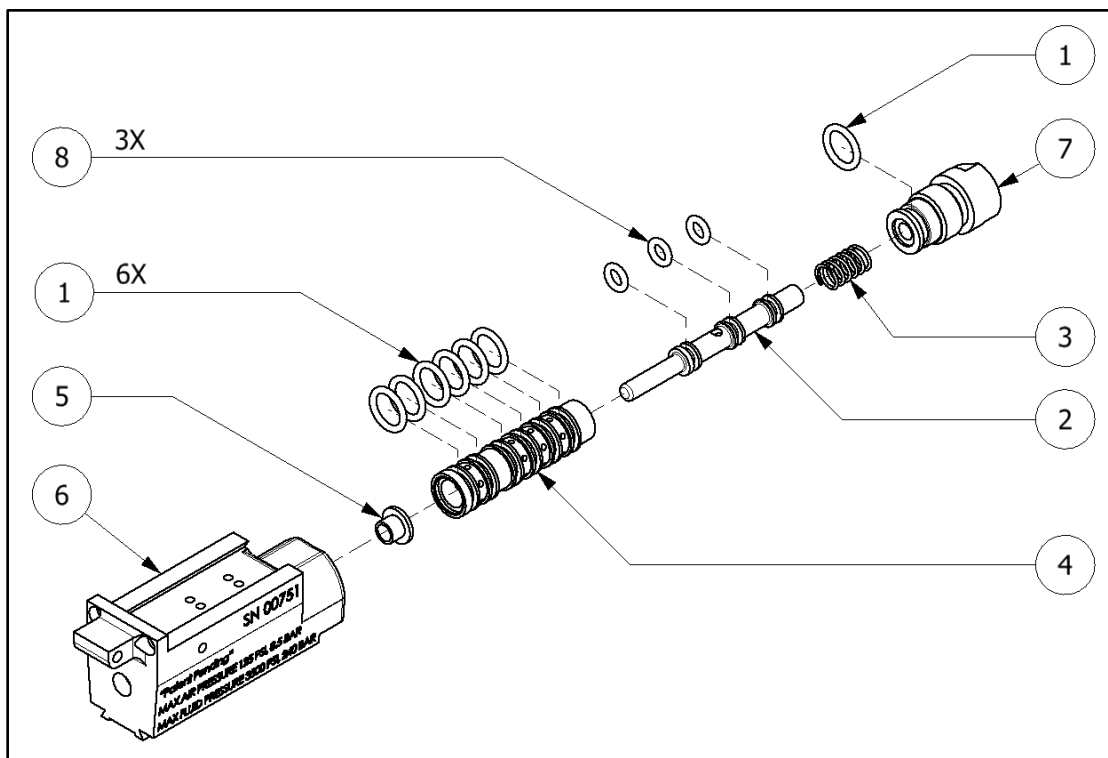
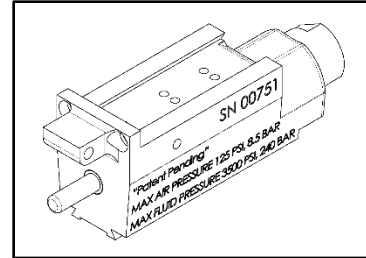
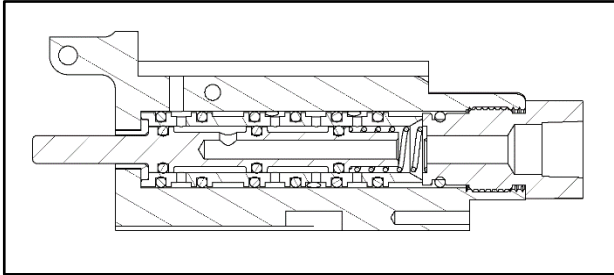
 = Apply Red Loctite 263 or similar to indicated threads.

Note: Orientation of the Back-Up Ring is critical. The concave side must be aligned with the o-ring as shown above when it is installed.

MANUAL VALVE ASSEMBLY (GU-020)			
ITEM	PART NUMBER	DESCRIPTION	QTY
1	GU-021	MANUAL VALVE, VALVE STEM	1
2	GU-022	MANUAL VALVE, HOUSING	1
3	GU-023	MANUAL VALVE, SEAT	1
4	OR-015	O-RING, AFLAS, -007	1
5	OR-016	BACK-UP RING, -007, VITON	1

AIR MANIFOLD ASSEMBLY (GU-843)

*Air Manifold Trigger Rebuild Kit is on page 48.

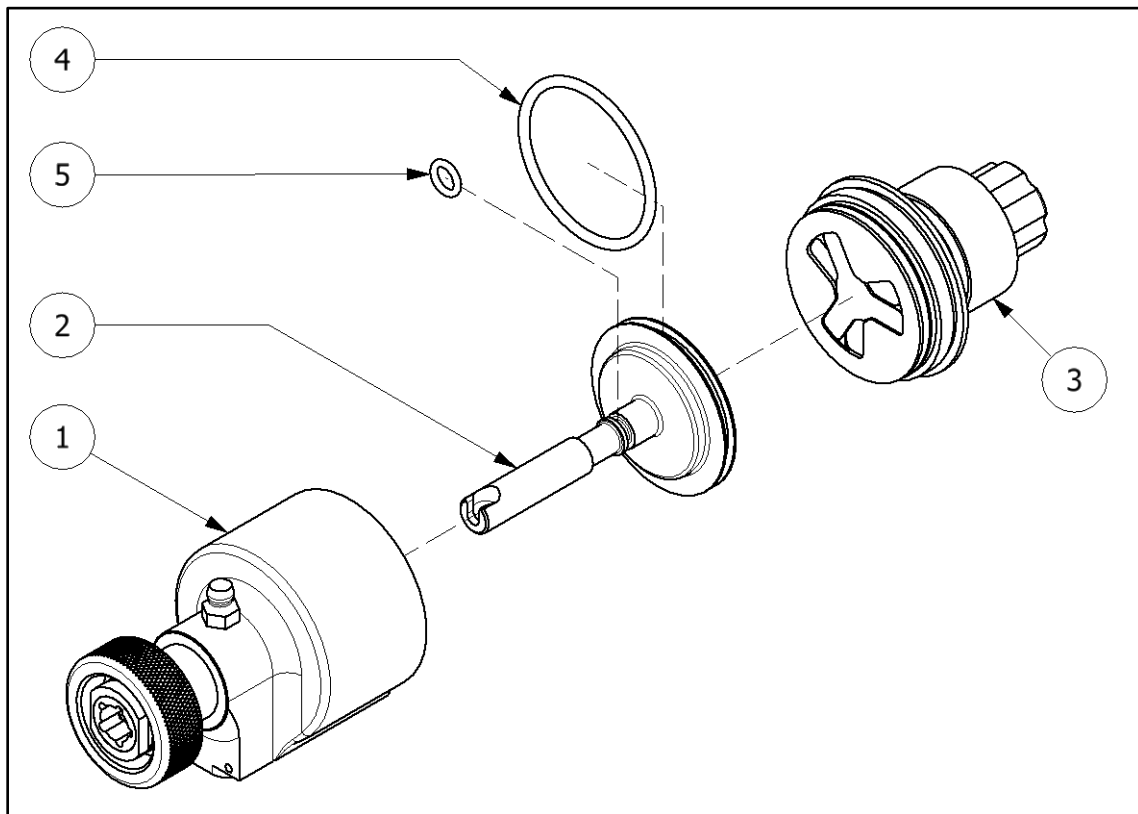
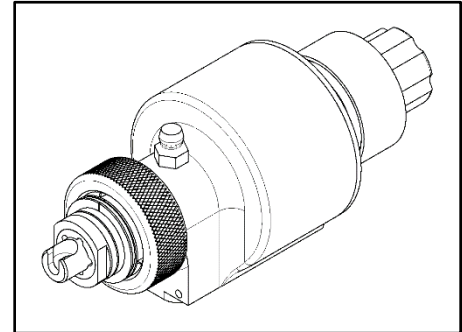
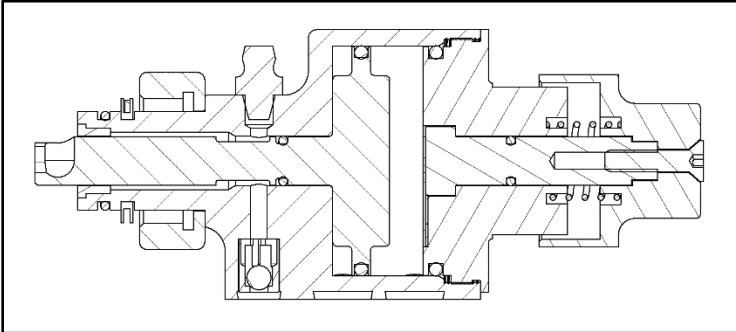


AIR MANIFOLD ASSEMBLY (GU-843)

ITEM	PART NUMBER	DESCRIPTION	QTY
1	200513	O-RING, VITON, 9.25 x 1.78MM	7
2	GU-823	SPOOL VALVE, AP-2	1
3	GU-824	SPOOL VALVE SPRING, AP-2	1
4	GU-825-1	SPOOL VALVE LINER, AP-2	1
5	GU-825-2	LINER BUSHING, AP-2	1
6	GU-826	AIR MANIFOLD, AP-2	1
7	GU-833	HOSE ADAPTER, AP-2	1
8	OR-00002A	O-RING, VITON, -008	3

COMPLETE AIR CYLINDER ASSEMBLY (GU-845)

*Air Cylinder Rebuild Kit is on page 46.

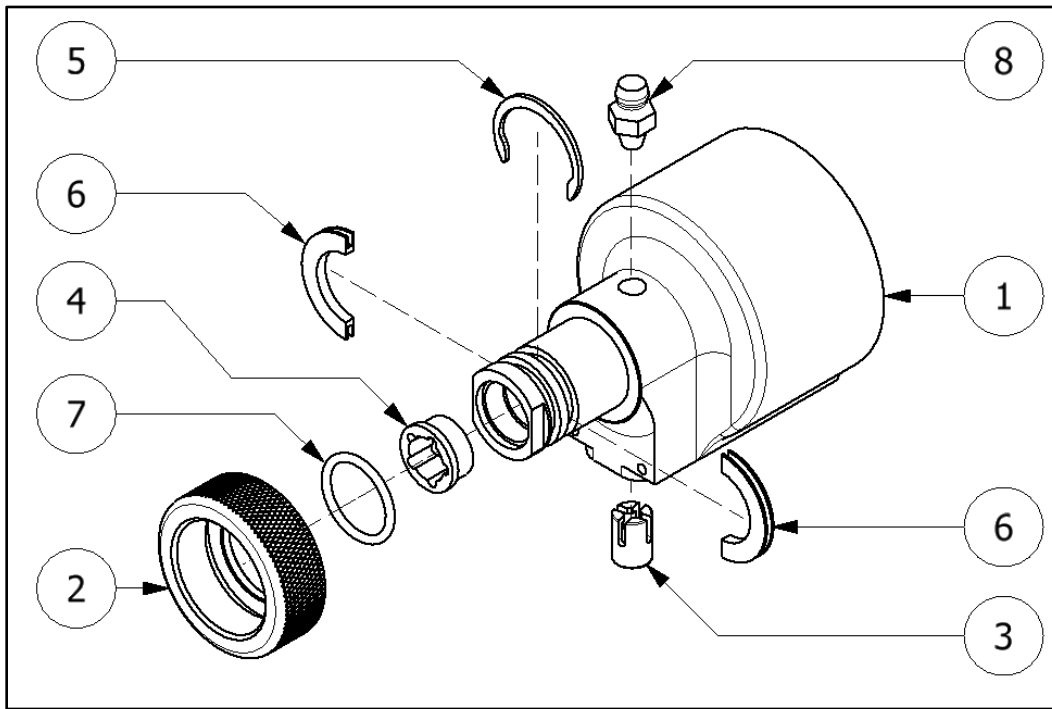
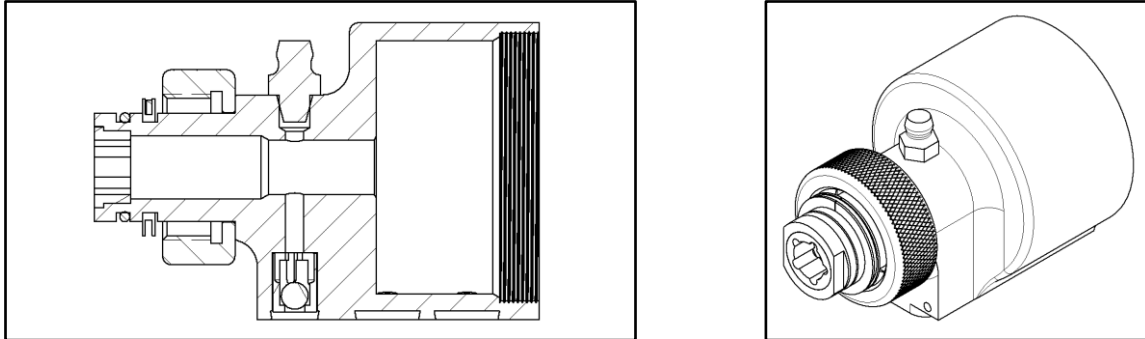


COMPLETE AIR CYLINDER ASSEMBLY (GU-845)

ITEM	PART NUMBER	DESCRIPTION	QTY
1	GU-801-A	AIR CYLINDER ASSEMBLY, AP-2	1
2	GU-802	PISTON, AP-2	1
3	GU-844	END CAP ASSEMBLY, AP-2/3 standard	1
4	OR-00026A	O-RING, VITON, -129	1
5	OR-00043B	O-RING, AFLAS, -010, 80D	1

AIR CYLINDER ASSEMBLY (GU-801-A)

*Air Cylinder Rebuild Kit is on page 46.

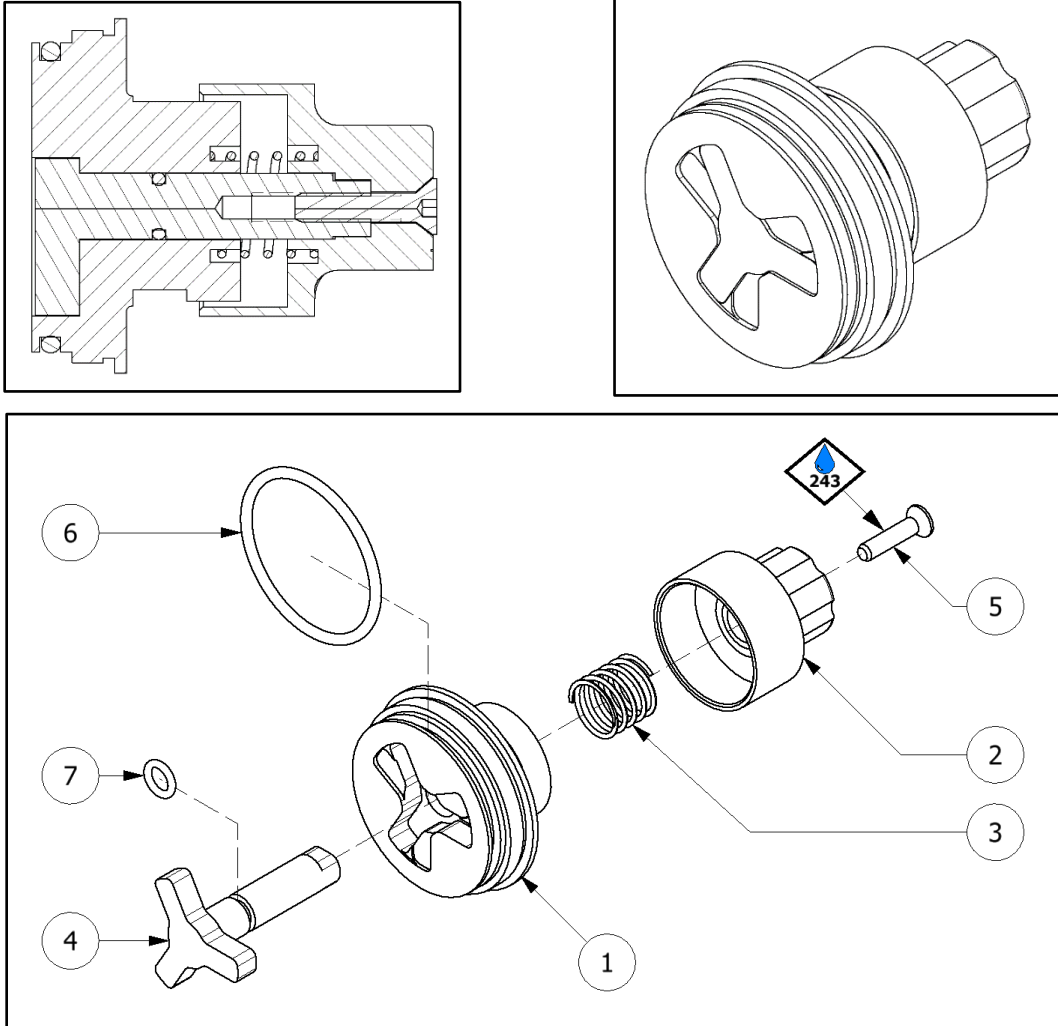


AIR CYLINDER ASSEMBLY (GU-801A)

ITEM	PART NUMBER	DESCRIPTION	QTY
1	GU-801	AIR CYLINDER, AP-2	1
2	GU-812	LOCK COLLAR, AP-2	1
3	GU-829	A/P CHECK VALVE	1
4	GU-830	AIR CYLINDER BUSHING, AP-2	1
5	GU-836	SIDE MOUNT EXT RETAINING RING, AP-2	1
6	GU-837	RETAINER RING, SPLIT-SET, AP-2	2
7	OR-00042A	O-RING, VITON, -016	1
8	TN-04186	GREASE FITTING, 1/4-28	1

END CAP ASSEMBLY (GU-844)

*Air Cylinder Rebuild Kit is on page 46.

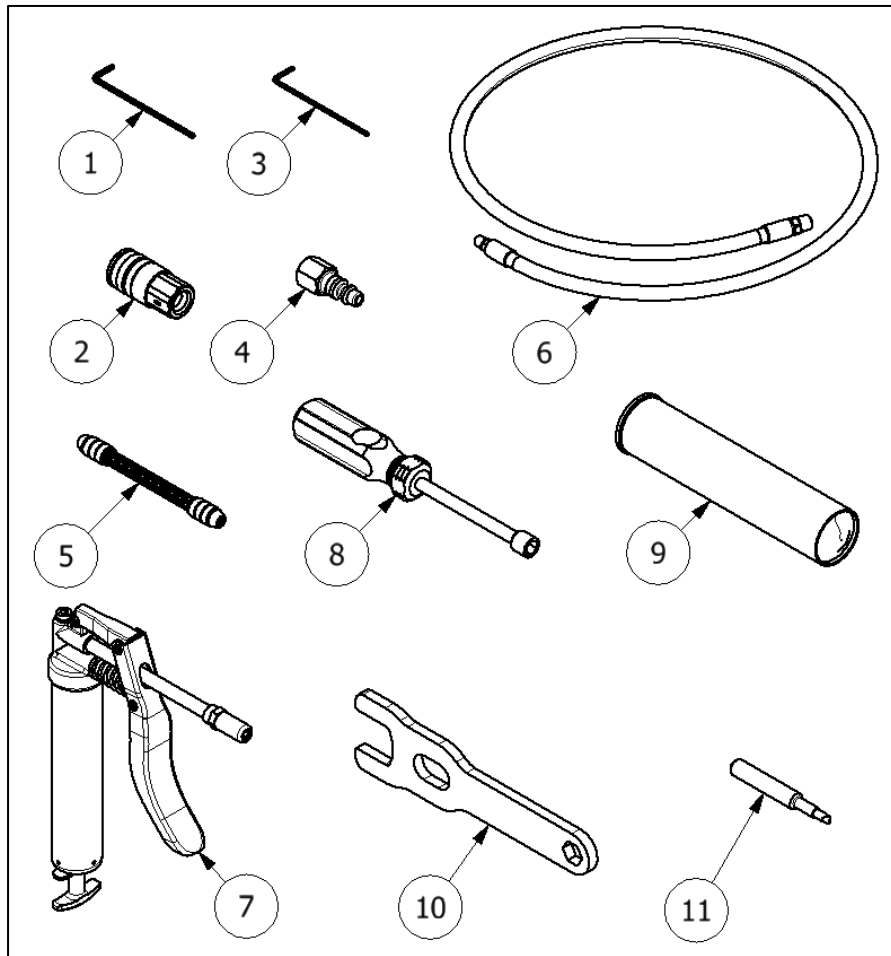


= Apply Blue loctite 243 or similar to indicated threads.

END CAP ASSEMBLY (GU-844)

ITEM	PART NUMBER	DESCRIPTION	QTY
1	GU-803	CYLINDER END CAP, AP-2/3	1
2	GU-804	LOCK KNOB, AP-2/3	1
3	GU-806	SPRING, LOCK, AP-2/3	1
4	GU-807	TWO POSITION STOP, AP-2/3	1
5	GU-831	RETAINING SCREW, AP-2/3	1
6	OR-00026A	O-RING, VITON, -129	1
7	OR-00043B	O-RING, AFLAS, -010, 80D	1

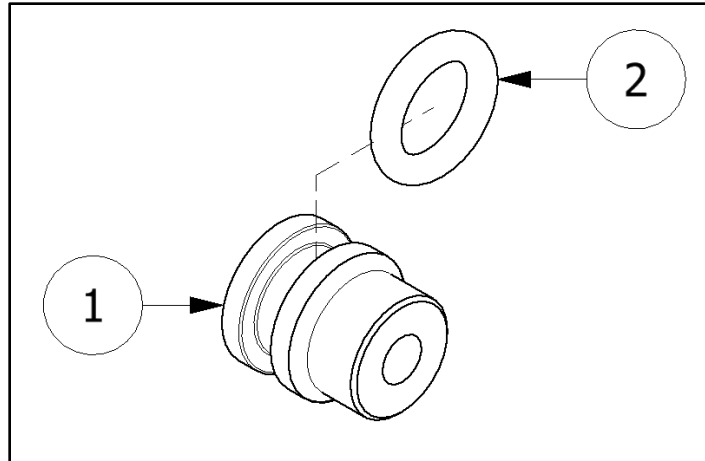
LIST OF TOOLS



LIST OF TOOLS			
ITEM	PART NUMBER	DESCRIPTION	QTY
1	200581	3/32" ALLEN WRENCH	1
2	200585	QUICK CONNECT, FEMALE	1
3	200609	5/64" ALLEN WRENCH	1
4	202340	QD,PLUG,1/4 IND X 1/4 FNPT,STL	1
5	GP-00101	DOUBLE ENDED PIN VISE	1
6	GU-04019	AIR HOSE	1
7	TL-00002	GREASE GUN	1
8	TL-04001	5/16 SPINTITE, NUT DRIVER	1
9	TL-04003	GREASE TUBE	1
10	TL-09	OPEN END WRENCH	1
11	TL-10	CHECK VALVE REMOVAL TOOL	1

REBUILD KITS & SPARE PARTS KITS

SIDE SEAL KITS



SIDE SEAL KIT, .125 RESIN (202546)

ITEM	PART NUMBER	DESCRIPTION	QTY
1	202454	SIDE SEAL, 125, RESIN	2
2	OR-00043B	O-RING, AFLAS 80D, -010	2

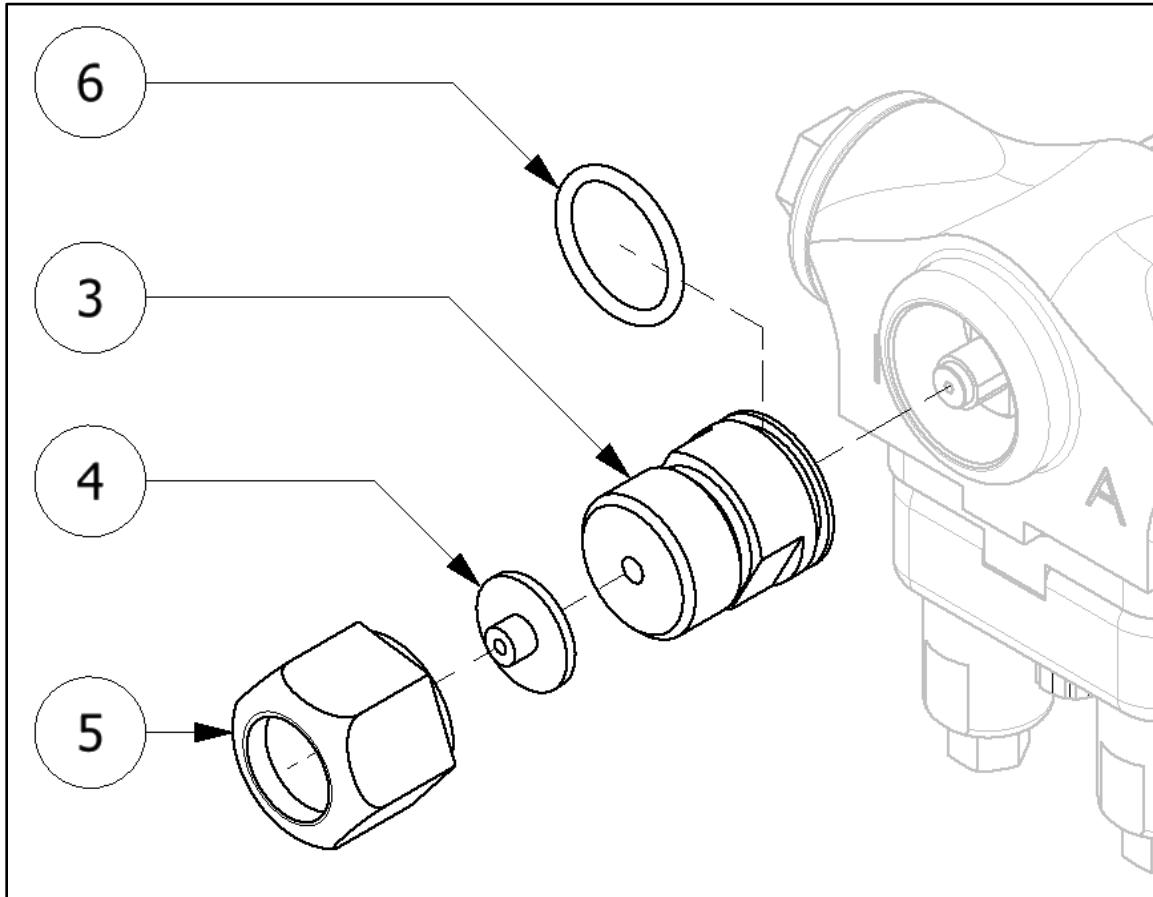
SIDE SEAL KIT, .125 DELRIN (202254)

ITEM	PART NUMBER	DESCRIPTION	QTY
1	202248	SIDE SEAL, 125, DELRIN	2
2	OR-00043B	O-RING, AFLAS 80D, -010	2

SIDE SEAL KIT, .125 STEEL (202265)

ITEM	PART NUMBER	DESCRIPTION	QTY
1	202247	SIDE SEAL, 125, STEEL	2
2	OR-00043B	O-RING, AFLAS 80D, -010	2

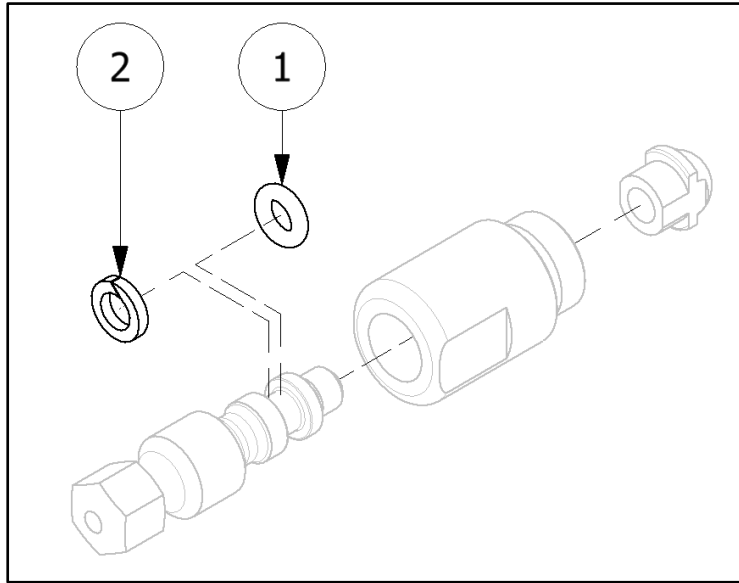
FLAT TIP ADAPTER (GU-815-52)



PCT FLAT TIP RETAINER ASSEMBLY (GU-815-52)

ITEM	PART NUMBER	DESCRIPTION	QTY
1	200712	DRILL, 3.10mm, (.1220"/3.10mm)	1
2	GU-03054	DRILL, #50, (.0700"/1.78mm)	1
3	GU-815-52-1	FLAT TIP ADAPTER BODY	1
4	GU-815-52-2	PCT FLAT TIP GASKET	1
5	GU-815-52-3	PCT FLAT TIP RETAINER	1
6	OR-00042A	O-RING, VITON, -016	2

MANUAL VALVE SOFTWARE KIT (KT-020)



MANUAL VALVE SOFTWARE KIT (KT-020)

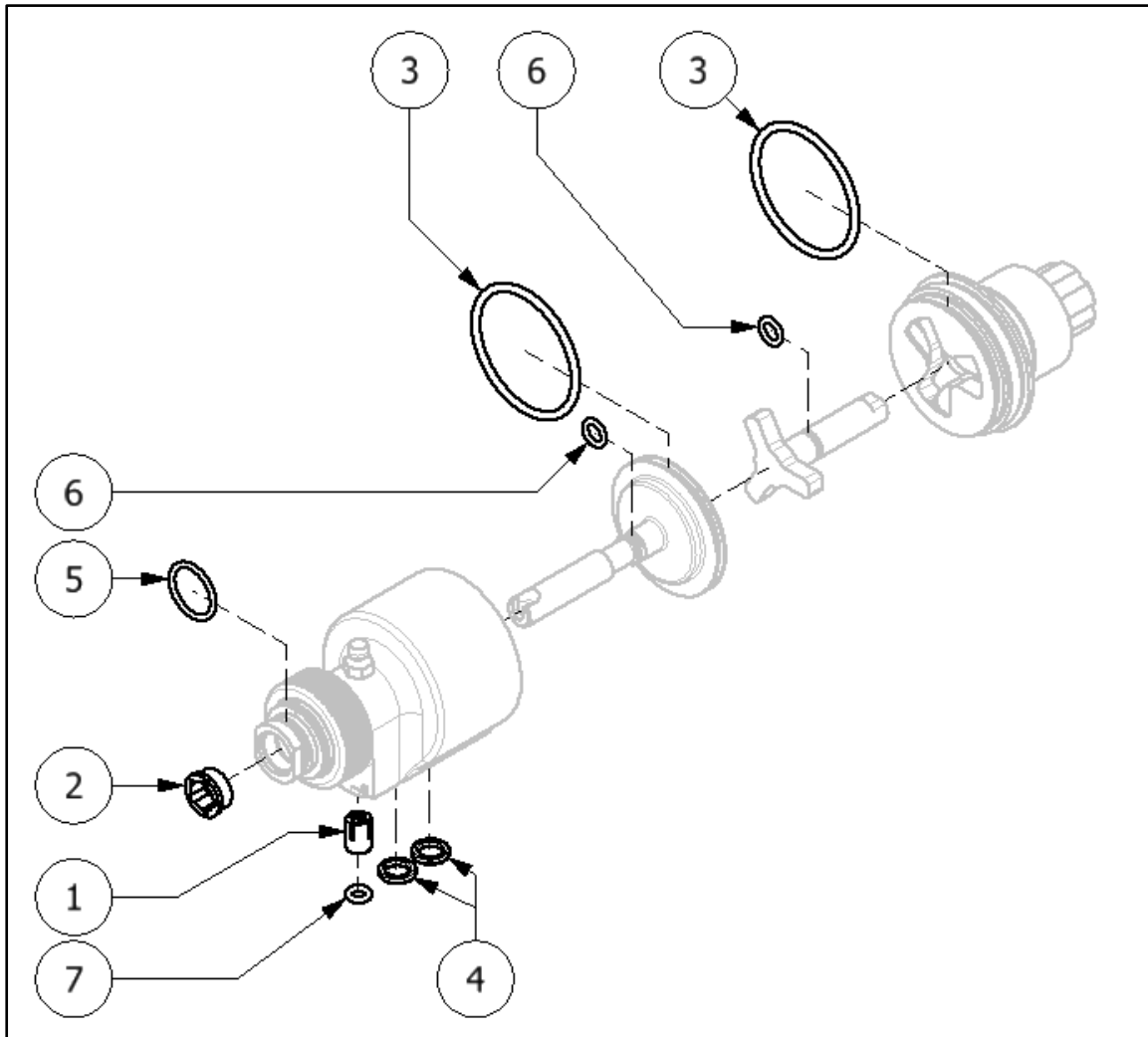
ITEM	PART NUMBER	DESCRIPTION	QTY
-	GU-LOCTITE	LOCTITE #242	1
1	OR-015	O-RING #007 AFLAS	4
2	OR-016	#007 VITON CURVED BACKUP RING	4

O-RING GREASE

PMC RECOMMENDED O-RING GREASE

PART NUMBER	QTY	DESCRIPTION
GP-LUBEGREASE	1	LUBRIPLATE GREASE
TL-04003	1	GREASE TUBE FOR USE W/ GREASE GUN

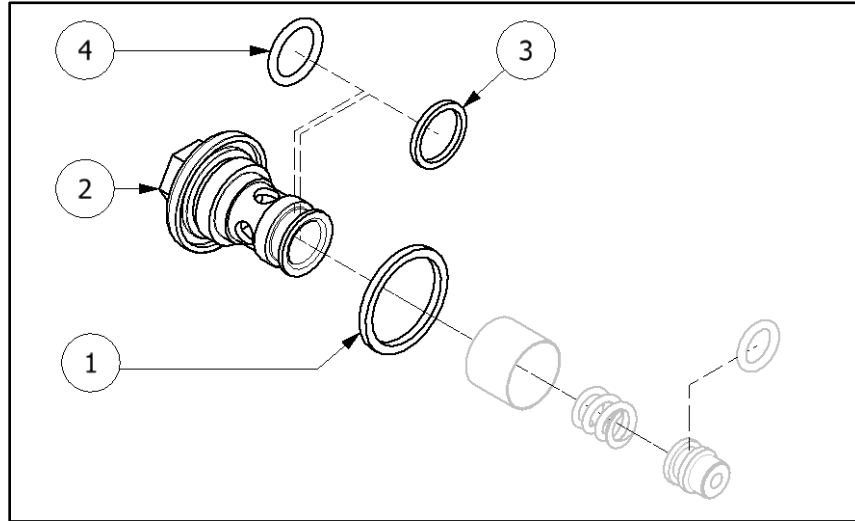
AIR CYLINDER REBUILD KIT (KT-801)



AIR CYLINDER REBUILD KIT (KT-801)

ITEM	PART NUMBER	DESCRIPTION	QTY
1	GU-829	A/P CHECK VALVE	1
2	GU-830	AIR CYLINDER BUSHING	1
3	OR-00026A	O-RING #129 VITON	2
4	OR-00037B	O-RING, X, -011, BUNA	2
5	OR-00042A	O-RING, VITON, -016	1
6	OR-00043B	O-RING #010 80D AFLAS	2
7	OR-804	O-RING, BUNA, 2mm x 4mm	1
	202799	O-RING, BUNA, 2.5mm X 3mm	2

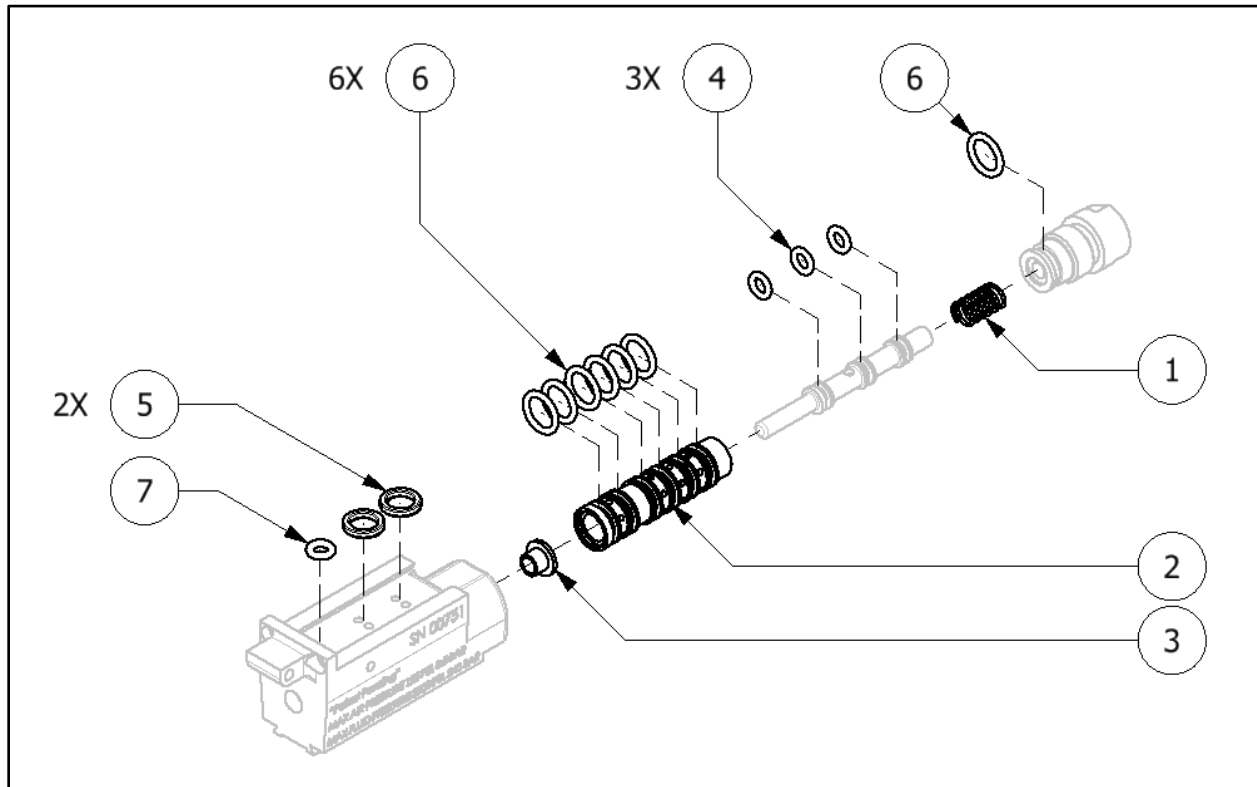
SCREEN SCREW ASSEMBLY KITS (KT-819-A/KT-819-R)



A & R SCREEN SCREW ASSEMBLY KITS				
KIT NUMBER	ITEM	PART NUMBER	QTY	DESCRIPTION
KT-819-A	1	GU-04007	1	SCREEN SCREW SEAL
	2	GU-819-A	1	A SCREEN SCREW
	3	OR-800	1	#013 BACK UP RING
	4	OR-801A	1	O-RING, AFLAS, -013
KT-819-R	1	GU-04007	1	SCREEN SCREW SEAL
	2	GU-819-R	1	R SCREEN SCREW
	3	OR-800	1	#013 BACK UP RING
	4	OR-801A	1	O-RING, AFLAS, -013

SCREEN SIZES		
PART NUMBER	QTY	DESCRIPTION
GU-818-40	1	FILTER SCREEN, 40 MESH
GU-818-60	1	FILTER SCREEN, 60 MESH
GU-818-80	1	FILTER SCREEN, 80 MESH (STANDARD)
KT-818-40	1	FILTER SCREEN, 40 MESH (PKG 10)
KT-818-60	1	FILTER SCREEN, 60 MESH (PKG 10)
KT-818-80	1	FILTER SCREEN, 80 MESH (PKG 10)

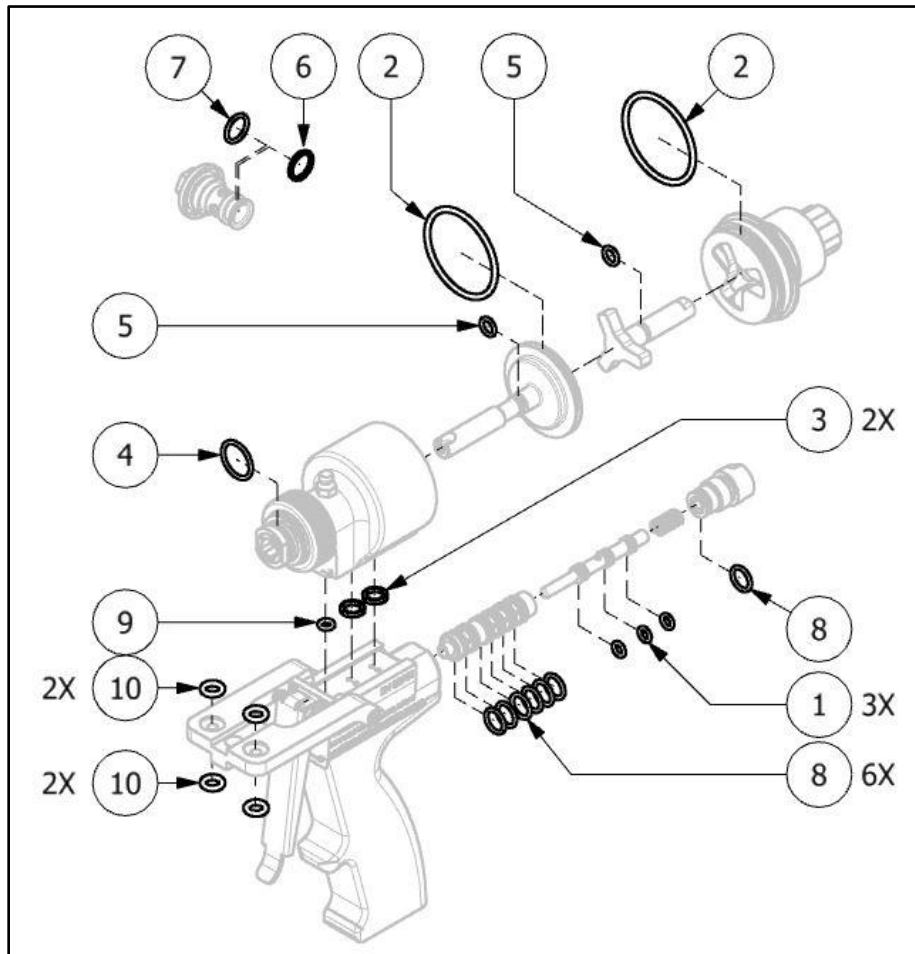
AIR MANIFOLD TRIGGER REBUILD KIT (KT-826)



AIR MANIFOLD TRIGGER REBUILD KIT (KT-826)

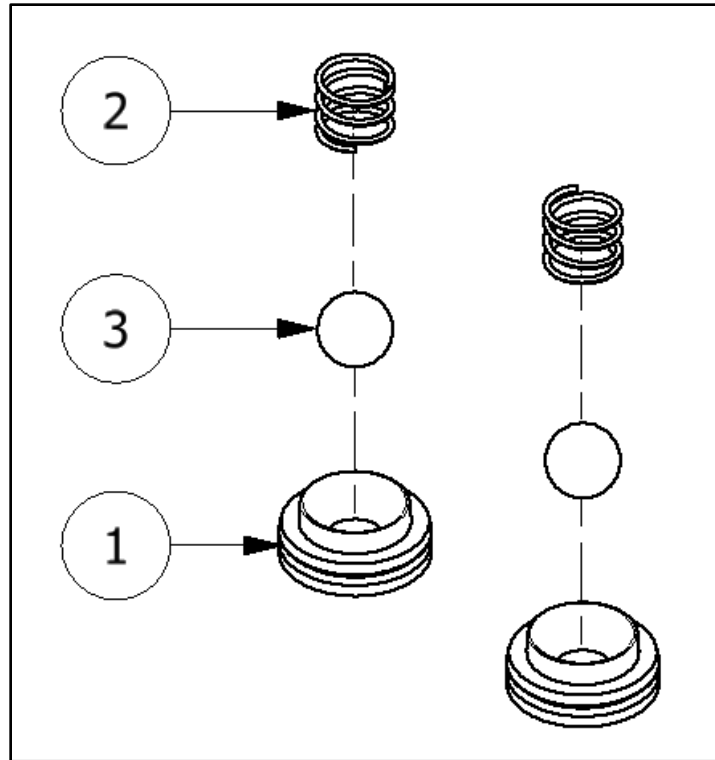
ITEM	PART NUMBER	DESCRIPTION	QTY
1	GU-824	SPOOL VALVE SPRING, AP-2	1
2	GU-825-1	SPOOL VALVE LINER, AP-2	1
3	GU-825-2	LINER BUSHING, AP-2	1
4	OR-00002A	O-RING, VITON, -008	3
5	OR-00037B	O-RING, X, -011, BUNA	2
6	OR-803	O-RING, VITON, -012	7
7	OR-804	O-RING, BUNA, 2mm x 4mm	1
	202799	O-RING, BUNA, 2.5mm X 3mm	2

AP-2 O-RING KIT (KT-827)



AP-2 O-RING KIT (KT-827)			
ITEM	PART NUMBER	DESCRIPTION	QTY
1	OR-00002A	O-RING, VITON, -008	3
2	OR-00026A	O-RING, VITON, -129	2
3	OR-00037B	O-RING, X, -011, BUNA	2
4	OR-00042A	O-RING, VITON, -016	1
5	OR-00043B	O-RING, AFLAS, -010, 80D	4
6	OR-800	#013 BACK UP RING	2
7	OR-801A	O-RING #013 80D AFLAS	2
8	OR-803	O-RING #012 VITON	7
9	OR-804	O-RING, BUNA, 2mm x 4mm	1
	202799	O-RING, BUNA, 2.5mm X 3mm	2
10	OR-805	O-RING, VITON, -108	4

CHECK VALVE ASSEMBLY KIT (KT-850)



CHECK VALVE ASSEMBLY KIT (KT-850)			
ITEM	PART NUMBER	DESCRIPTION	QTY
1	GU-851	CHECK VALVE SEAT	4
2	GU-852	CHECK VALVE SPRING	2
3	GU-853	¼" CHECK VALVE BALL	2

OPTIONAL PARTS		
PART NUMBER	QTY	DESCRIPTION
202248	1	SIDE SEAL, 125, DELRIN
202454	1	SIDE SEAL, 125, RESIN
GU-815-50	1	BLASTER TIP 3.5
GU-815-50-509	1	BLASTER TIP .059
GU-815-51	1	POUR TIP
GU-815-52	1	PCT FLAT TIP RETAINER ASSEMBLY
GU-815-52-1 ⁴	1	PCT FLAT TIP BODY
GU-815-52-2	1	PCT FLAT TIP GASKET
GU-815-52-3	1	PCT FLAT TIP RETAINER
GU-815-53	1	POUR NOZZLE
OR-00042A	1	O-RING, VITON, -016

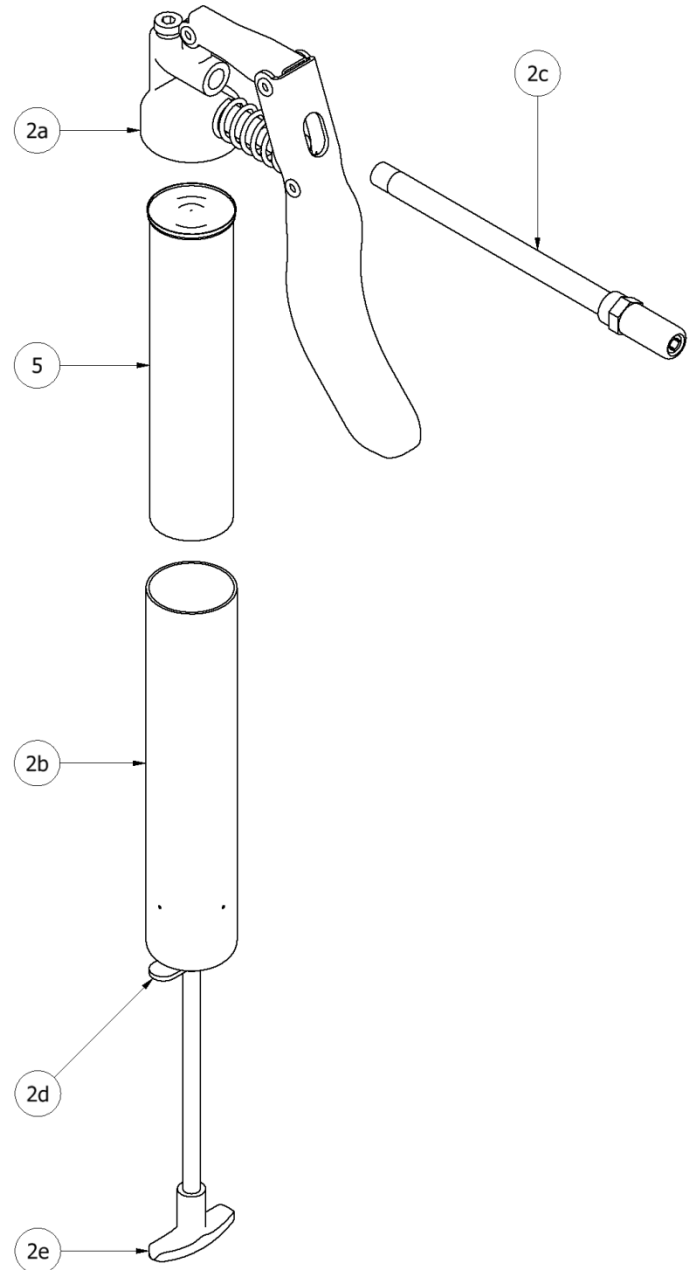
RECOMMENDED SPARE PARTS			
PART NUMBER	QTY	DESCRIPTION	PAGE
202546	1	SIDE SEAL KIT, .125 RESIN	43
GU-020	1	MANUAL VALVE ASSEMBLY	35
GU-04007	2	SCREEN SCREW SEAL	47
GU-818-40	4	FILTER SCREEN 40 MESH	47
GU-818-60	4	FILTER SCREEN 60 MESH	47
GU-818-80	4	FILTER SCREEN 80 MESH (STANDARD)	47
GU-829	1	A/P CHECK VALVE	40
KT-801	1	AIR CYLINDER REBUILD KIT	46
KT-826	1	AIR MANIFOLD REBUILD KIT	48
KT-827	1	AP-2 O-RING KIT	49
KT-850	2	CHECK VALVE ASSEMBLY	49
OR-00042A	2	O-RING, VITON, -016	49
OR-00043B	8	O-RING #010 80D AFLAS	49
OR-800	8	#013 BACK UP RING	49
OR-801A	8	O-RING #013 80D AFLAS	49
SP-04005	2	SPRING; SIDE SEAL	35
TL-04003	1	GREASE TUBE	45
TN-831	2	4-40 X ½ SHCS	34

⁴ Denotes parts included with GU-815-52 (see page 40).

APPENDIX

GREASE GUN ASSEMBLY

1. Screw the rod (2c) into the top of the grease gun (2a) so that the final assembly represents the assembled grease gun (2, Page 8).
2. Unscrew the top of the grease gun (2a) from the bottom of the grease gun (2b).
3. Pull the handle (2e) on the bottom of the grease gun (2b) so that it resembles the picture.
4. Remove the tape and cap from the grease tube (5) and insert the uncapped end of the grease tube (5) into the bottom of the grease gun (2b).
5. Remove the foil from the grease tube (5).
6. Screw the top of the grease gun (2a) back on to the bottom of the grease gun (2b).
7. Push down on the latch (2d) to release the plunger and push plunger completely back in.



<u>MIXING CHAMBER FLOW RATES*</u>				
Chamber	lbs/min @ 1000 psi	kg/min @ 69 bar	lbs/min @ 2000 psi	kg/min @ 138 bar
GU-814-000	4	2	6	3
GU-814-00	7	3	11	5
GU-814-00X	8	3.5	13.5	6
GU-814-01	9	4	16	7
GU-814-01X	10.5	4.5	19	8.5
GU-814-02	12	5	22	10
GU-814-02X	15	7.5	27	12
GU-814-03	18	8	32	14
GU-814-04	25	11	47	21

*Flow rates will vary depending on viscosity, hose length and machine efficiency.

<u>CHAMBER/ORIFICE COMPARISON CHART</u>			
Competitive Air Purge		PMC Air Purge	
Chamber Number	Orifice Size	Chamber Number	Orifice Size
000 (AR2020)	0.0200	000	0.0280
00 (AR2929)	0.0290	00	0.0350
NOT AVAILABLE		00X	0.0380
01 (AR4242)	0.0420	01	0.0410
NOT AVAILABLE		01X	0.0440
02 (AR5252)	0.0520	02	0.0520
NOT AVAILABLE		02X	0.0550
03 (AR6060)	0.0600	03	0.0610
04 (AR7070)	0.0700	04	0.0690

TECHNICAL SERVICE BULLETINS

April 24, 2013

REF: AP-2 SCREEN SCREW IMPROVEMENT PART NUMBER GU-819-A and GU-819-R

All AP-2 spray guns starting with serial #347 Screen Screw have the improved screen screws. The screen screws have been improved to extend the service life of the Screen Screw O-Ring when operating at high pressure. The improvement entails a back up ring (OR-800) in addition to the O-Ring (OR-801). See Details below.

The original screen screw **Will Not** accept the backup ring and o-ring. The customers using the original Screen Screw can continue to use this design. Any new Screen Screws sold will be the new style and will be ordered under Part Numbers KT-819-A (A side) and KT-819-R (Resin Side).

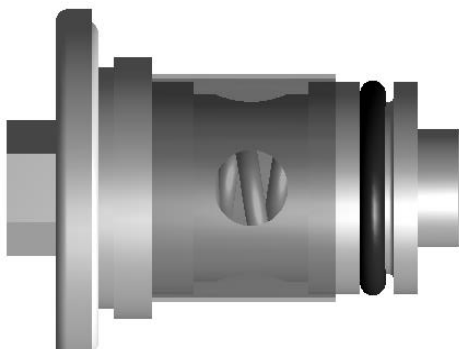
These part numbers will include the following, Screen Screw (GU-819-A or GU-819-R, O-Ring (OR-801), backup ring (OR-800), Screen Screw Gasket (GU-04007).

NOTE: The new style Screen Screw also has a larger hex on the end for easy removal from the gun block.

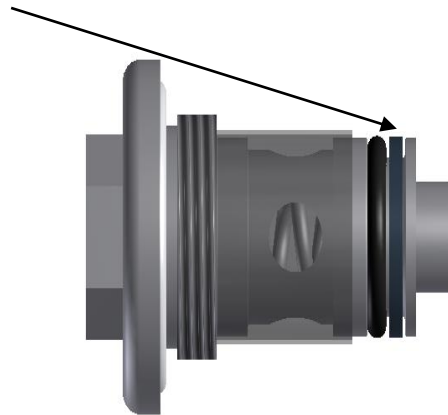
Backup Ring (PN# OR-800) must be installed as shown on the detail below.

Backup Ring PN# (OR-800)

O-Ring PN# (OR-801A)



Original Style



Improved Style

August 16, 2013

REF: **AP-2 STABILIZER BAR KIT # KT-828**

See exploded drawing and parts details attached.

PMC has recently added the #KT-828 Stabilizer Bar Kit to all guns produced after this date. The new Stabilizer Kit will help prevent racking to the gun caused by the chemical hoses dangling during the spray operation. The addition of the Stabilizer Bar creates a more rigid gun assembly which leads to an improved alignment between the chamber and the side seals. The result is less wear on the chamber and side seals and longer parts life.

The #KT-828 Stabilizer Bar Kit can be field retrofit onto any AP-2 gun manufactured prior to this date. The installation is quite easy and only requires two Allen wrenches, 5/16" spin-tite and PMC grease.

Installation Instructions

- 1) If the gun is connected to the coupling block turn off the manual valves and remove the gun from the coupling block.
- 2) Remove two TN-830 socket head cap screws from front of existing trigger manifold.
- 3) Slide off the air cylinder from the trigger manifold.
- 4) Remove all old O-rings.
- 5) Clean the parts and apply a small amount of PMC grease into each O-ring location.
- 6) Install all new supplied O-rings as per the exploded view.
- 7) Install the Riser Block #GU-841 onto the air cylinder.
- 8) Install the trigger manifold onto the Riser Block.
- 9) Secure with 4 supplied screws #TN-830.
- 10) Install Stabilizer Bar #GU-842 onto Riser Block # GU-841. Secure with two supplied shoulder bolts #GU-828.
- 11) Insert 4 O-rings #OR-805 into Stabilizer Bar.
- 12) Secure Gun to Coupling Block using the supplied Coupling Block Screw # TN-04197.

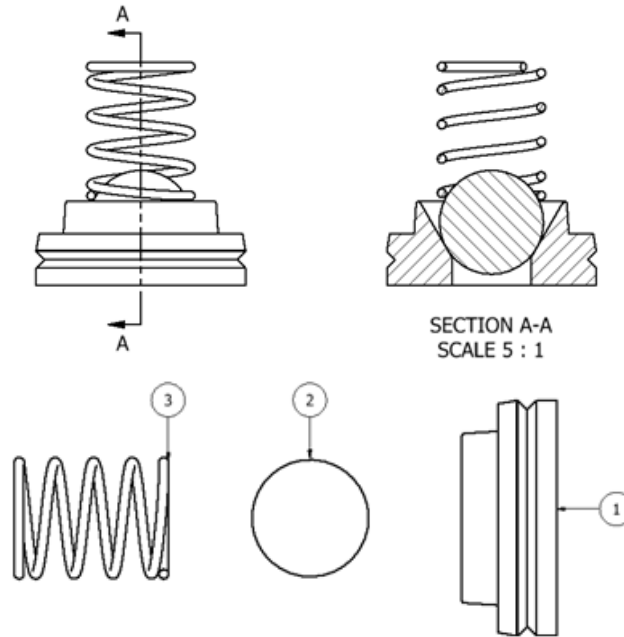
You are now ready to Spray!

August 26, 2014

Ref: AP-2 New Fluid Check Valve Assembly # KT-850

PMC has recently introduced a more robust, less expensive fluid check valve for the AP-2 air purge gun. Part number KT-850 Check Valve Assembly Set now replaces the former GU-820 check valve. All PMC AP-2 guns manufactured after August 15, 2014 have been fitted with the new check valves. In the past you would be required to order an individual check valve under part number GU-820. The new check valve assembly set, part number KT-850, actually includes the components for TWO check valves (two springs, two balls, two check valve seats) plus two extra check valve seats. The spring and the ball can be cleaned and re-used. The valve seats in cases of a severe cross over may be damaged during disassembly and thus the reason for the extra seats. The cost of the KT-850 with all the components included above is less than the cost of one of the previous GU-820 check valves.

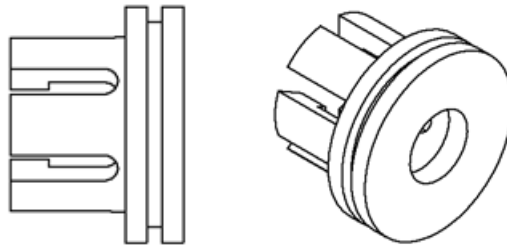
New Style Check Valve Assembly # KT-850



CHECK VALVE ASSEMBLY (KT-850)		
QTY	PART NUMBER	DESCRIPTION
4	GU-851	CHECK VALVE SEAT, AP-2
2	GU-852	CHECK VALVE SPRING, AP-2
2	GU-853	CHECK VALVE BALL, AP-2



Old Style Check Valve # GU-820



June 13, 2017

Ref: AP-2 Manual Valve Assembly # GU-020

All new style manual valves contain a red back up ring that must be installed in the proper orientation. When rebuilding manual valves (GU-020), please follow the guidelines below. **Note the design includes left handed threads and thread sealant.** As always, we recommend using PMC O-Ring grease for all O-Rings and sealing surfaces.

DISASSEMBLY: (Heat is not required to loosen Red Loctite.) NOTE: The threads are **left handed** and must be **turned clockwise to loosen.**

ASSEMBLY:

1. Use Part # GP-Lube-Grease (REF Table: PMC Recommended O-Ring Grease) to grease the groove of the Manual Valve Stem (GU-021).
2. Check the Red Back-up ring (OR-016) for any imperfections before using.
3. Place **FLAT SIDE FACE DOWN** in the groove of the Manual Valve Stem behind the first stop past the threads. Reference picture below.
4. Next the Black O-Ring (OR-015) is to be installed on in the same fashion in front of the Red O-Ring.
5. Lubricate the stem and housing and then screw the stem into the Manual Valve Housing (GU-022).
6. Dry off any excess lubricant.
7. Apply Red Loctite and turn **COUNTER CLOCKWISE** into Manual Valve Seat (GU-023) until hand tight.
8. Wipe clean to remove any excess Red Loctite.
9. To lock in, tighten **COUNTER CLOCKWISE** less than ¼ turn.
10. Wipe clean again.
11. Use a nut driver to test for proper movement.
12. Keep in **EXTENDED** position and let sit for 24 hours to allow the Red Loctite to completely cure.

