POLYURETHANE MACHINERY CORPORATION

AP-EX
Air Purge Extension Spray & Pour Gun

PATENT PENDING

For use with non-flammable Foam and Polyurea

For professional use only

Not for use in explosive atmospheres

Service Manual

Ref. # MN-04021

Revision 1.1

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Before installing the AP-EX 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-EX Gun. All of the information is aimed at improving user safety and avoiding possible breakdowns from the incorrect use of the AP-EX Gun.

Table of Contents

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-EX Gun.

Before installing the AP-EX 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-EX Gun. All of the information is aimed at improving user safety and avoiding possible breakdowns from the incorrect use of the AP-EX 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-EX 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 AP-EX 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-EX 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.polymac-usa.com).

The AP-EX 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-EX 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-EX Gun. If in doubt, consult PMC Technical Service.

When working with the AP-EX 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 (MSDS) 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.

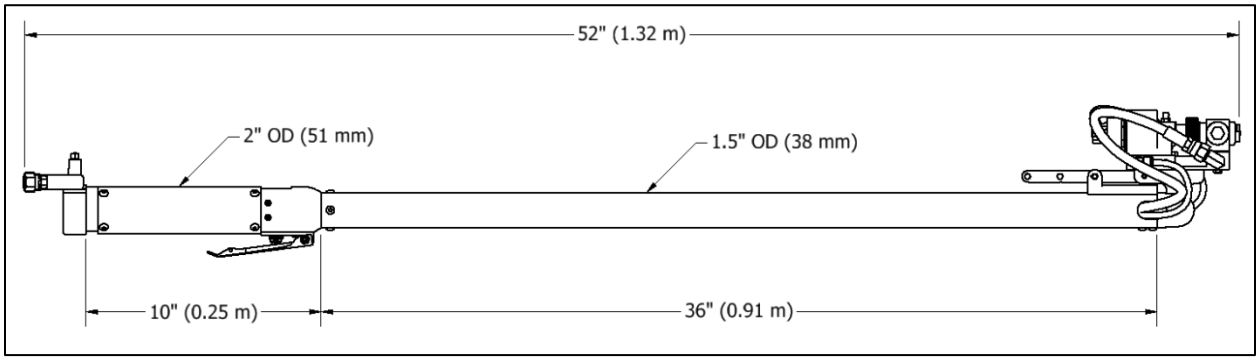
The equipment sprays high pressure fluids that can lead to fluid being injected under the skin or eyes. Severe injury could be incurred. Proper personal protective equipment should be used in conjunction with training and situational awareness of all personnel on the job.

CHARACTERISTICS

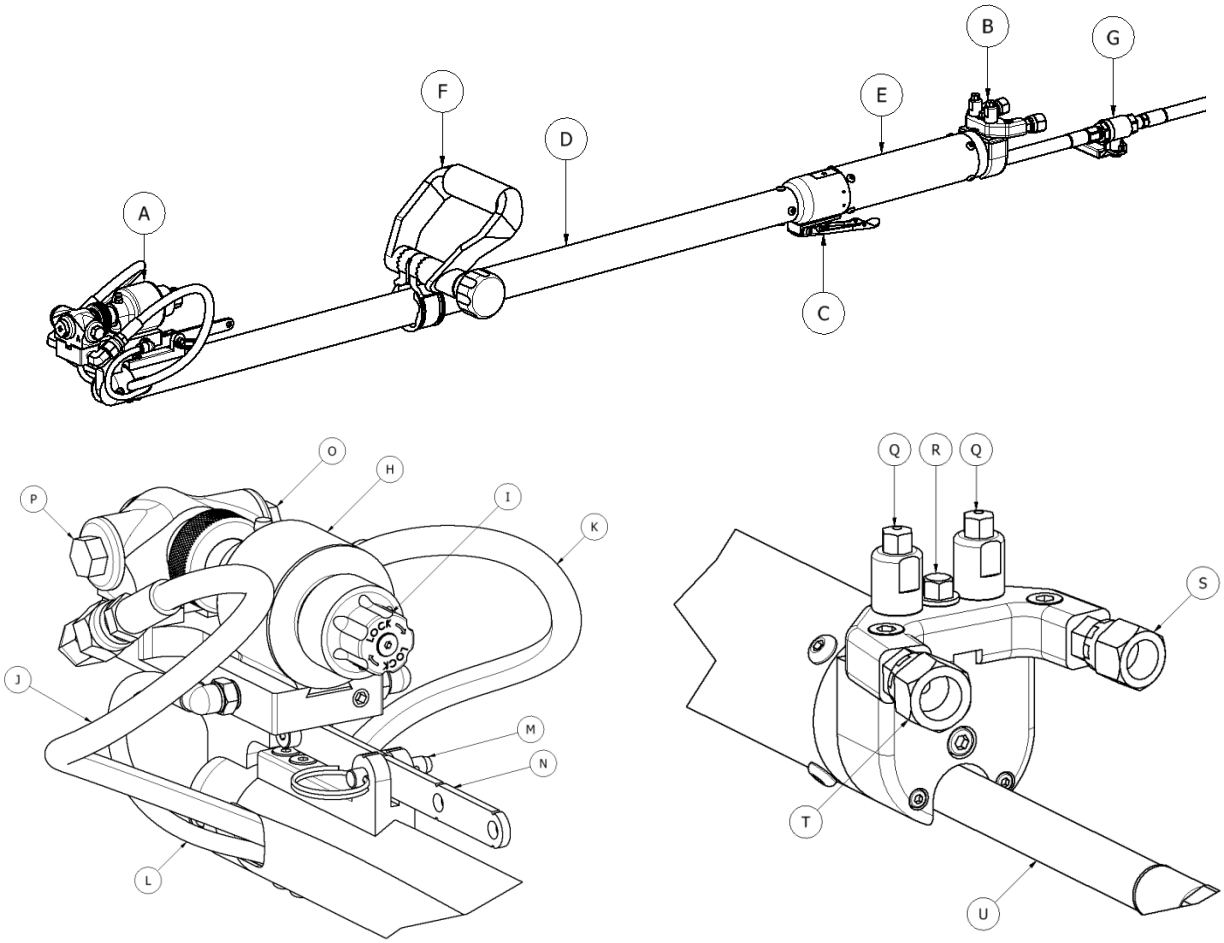
- Internal mixing from high pressure impingement
- Automatic cleaning with air pressure
- No solvents required
- Exterior lubrication of the Mixing Chamber
- Angle adjuster allows for 90, 45 and 0 tilt

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 (with coupling block):	8.25 lbs (3.74 kg)
Weight (without coupling block):	7.56 lbs (3.43 kg)



GENERAL DESCRIPTION

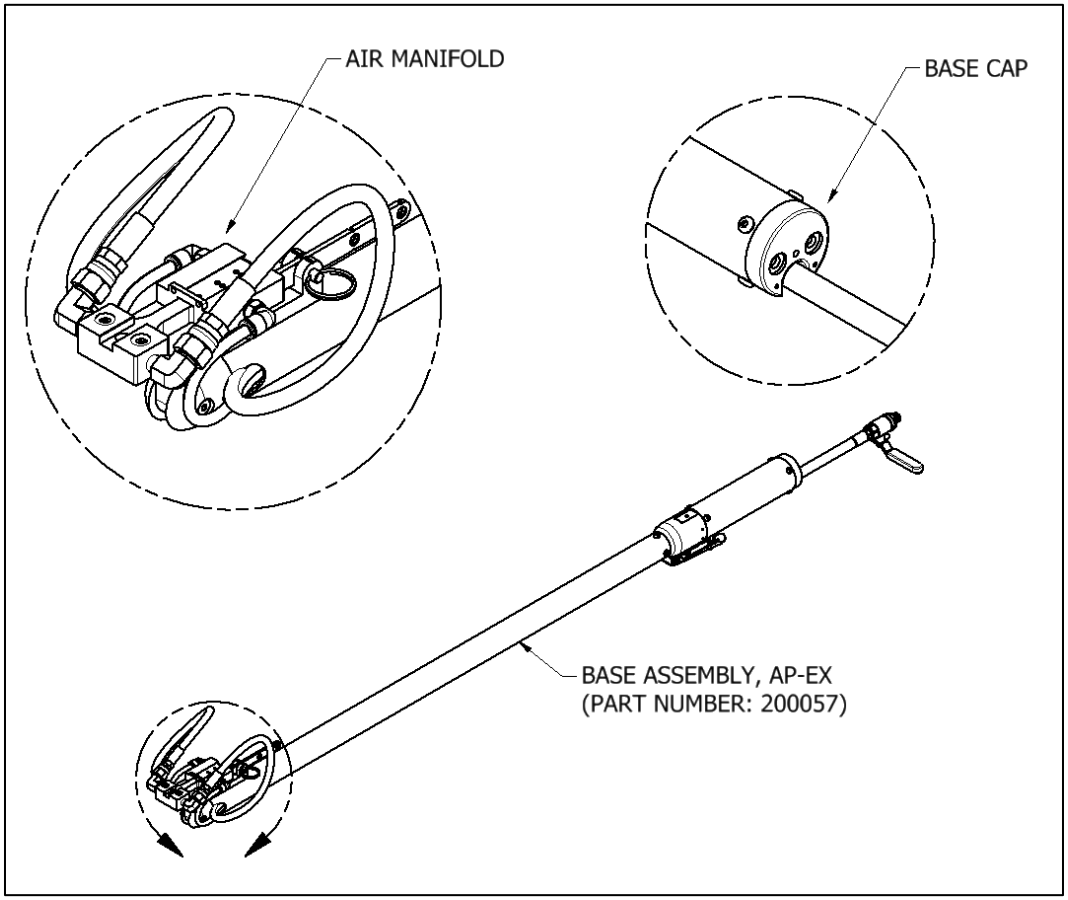


A. Rotating Gun Head
B. Coupling Block Interface
C. Trigger with Safety Lock
D. Tube Body
E. Lower Tube
F. Handle
G. Air Supply Ball Valve
H. Air Cylinder
I. Gun Lock
J. "A" Side Material Hose
K. "R" Side Material Hose
L. Air Hoses
M. Quick Release Pin
N. Pivot Adjustment Bar
O. "R" Screen Screw
P. "A" Screen Screw
Q. Manual Valves
R. Mounting Screw
S. "A" Side Inlet Fitting
T. "R" Side Inlet Fitting
U. Air Supply Hose

INSTALLATION AND START UP

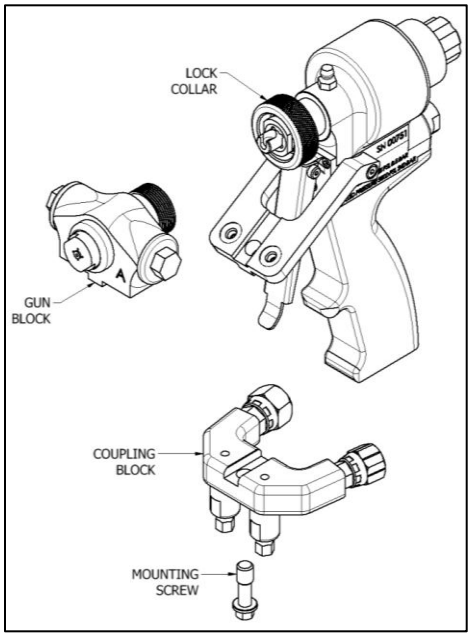
CAUTION! ***When working with the AP-EX Gun or performing maintenance, wear suitable safety protection in accordance with the recommendations and specifications provided by the product suppliers.***

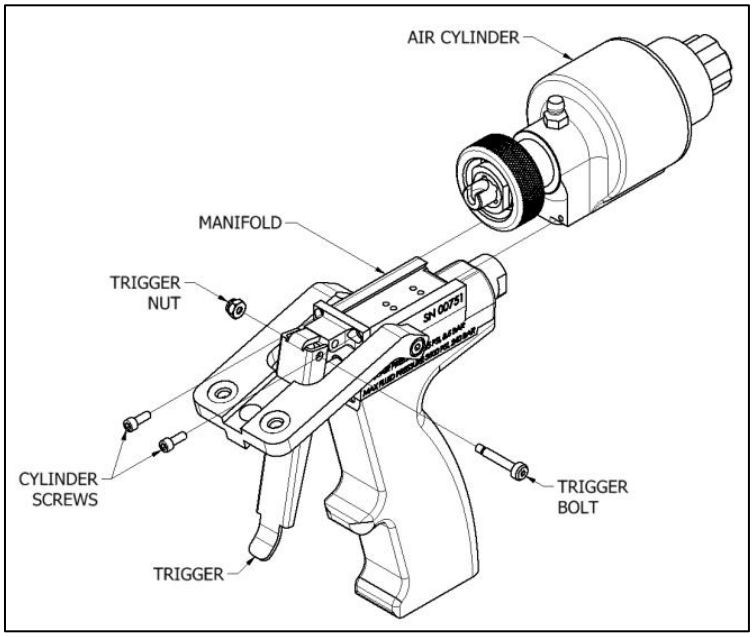
AP-2 Gun Modification



NOTE! *An AP-2 Gun can be converted to an AP-EX Gun with the* ***Base Assembly (Part Number: 200057)*** *show above. Follow the instructions outlined in this section to properly assemble the appropriate parts to the Air Manifold and the Base Cap.*

1. To remove the **Gun Block** and **Air Cylinder** from your AP-2 Gun:
    a. Remove the **Mounting Screw** and **Coupling Block**.
    b. Unscrew the **Lock Collar** and remove the **Gun Block**.
    c. Remove the **Trigger Nut** and **Trigger Bolt** in order to remove the **Trigger**.
    d. Remove the **Cylinder Screws** (2) and slide the **Air Cylinder** off the **Manifold**.





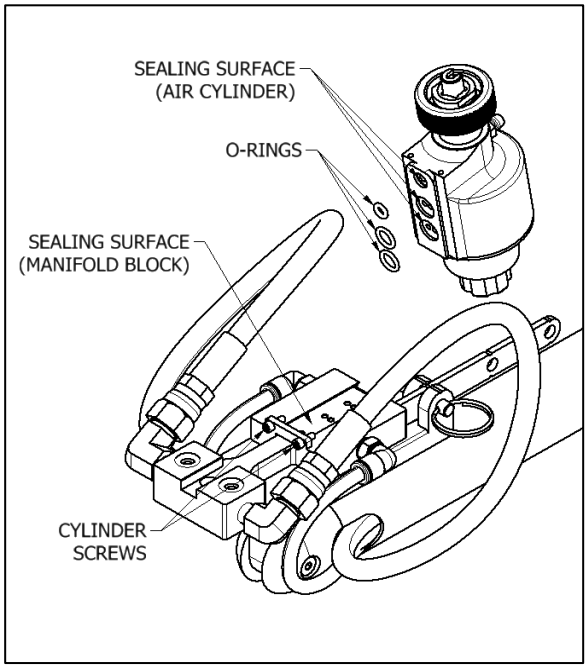
2. Remove **O-rings** and lubricate new **O-rings** and all contact/sealing surfaces before reinstalling.

3. Slide the **Air Cylinder** into the groove on the **Manifold Block**, being careful not to damage the **O-rings** in the process. Secure with **Cylinder Screws**.

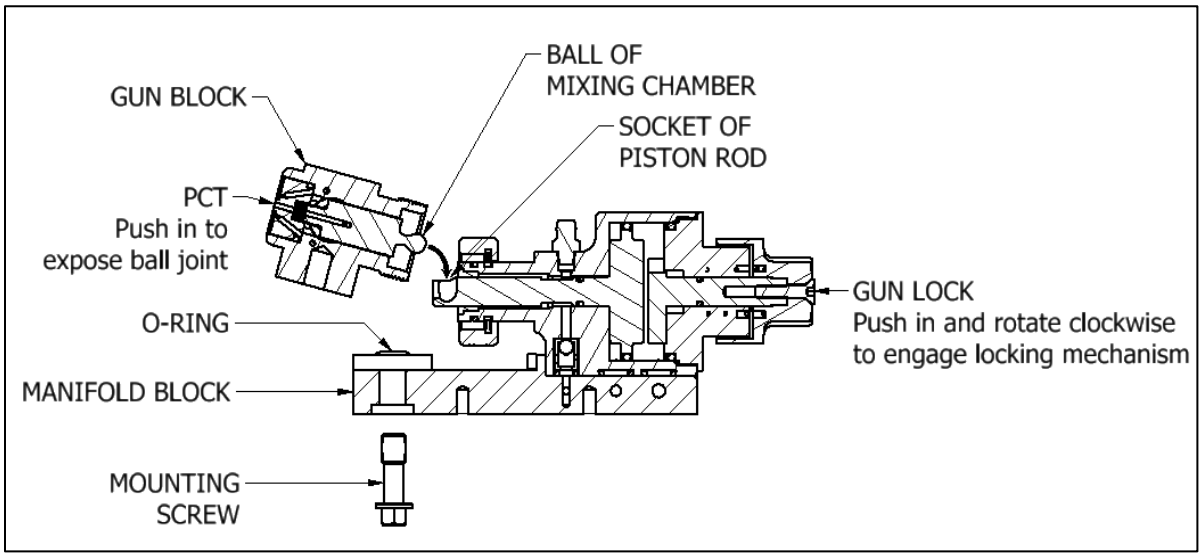
4. Ensure the **Gun Lock** is in the **LOCKED** position, and the **PCT** is fully recessed into the **Gun Block**.

5. Insert the ball of the **Mixing Chamber** into the socket of the **Piston Rod**.

6. Once the ball is properly seated in the socket, slide the **Gun Block** towards the **Air Cylinder**, and screw the **Lock Collar** hand tight.



7. Insert the **Mounting Screw** through the **Manifold Block** and into the **Gun Block**. Tighten the **Mounting Screw** until there is a hand tight seal.

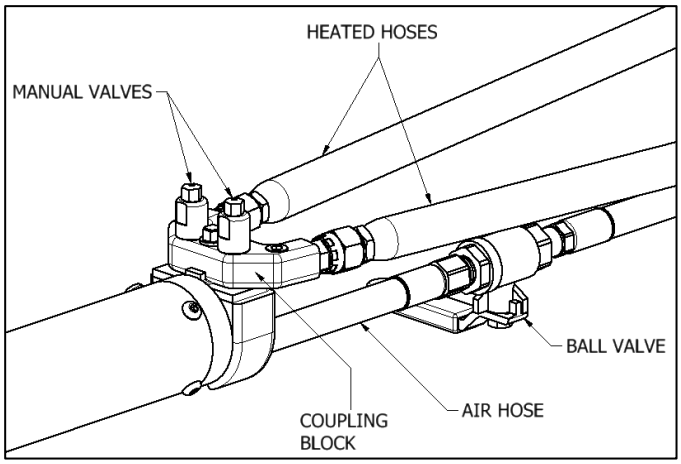


NOTE! *When attaching the Gun Block to the Air Cylinder and Manifold, it helps to squeeze the Gun Block down on the Air Cylinder. This helps to seat the O-rings into the dovetail grooves in the Air Cylinder, as well as properly align the Gun Block and Air Cylinder. The Lock Collar can then be fastened completely, allowing for the Gun Block to properly align with the Air Manifold so the Mounting Screw can be screwed in.*

AP-EX Gun Installation and Start Up

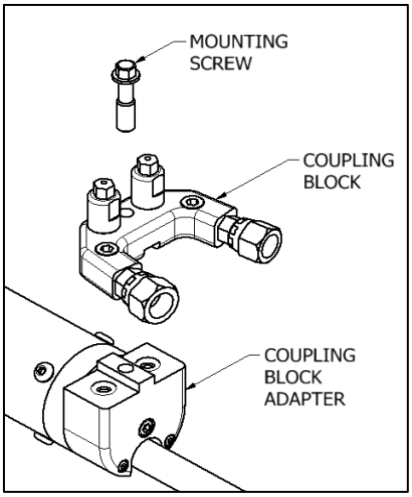
NOTE! *The material delivery hoses are color coded Red and Blue, allowing the user to recognize them. The Red corresponds to the Isocyanate (A) and the Blue to the Polyol (R). To avoid connection errors, the Coupling Connections of the Isocyanate (A) and Polyol (R) hoses are also different sizes, which makes it difficult to swap connections.*

1. Connect the **Heated Hoses** to the **Coupling Block**.
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.***

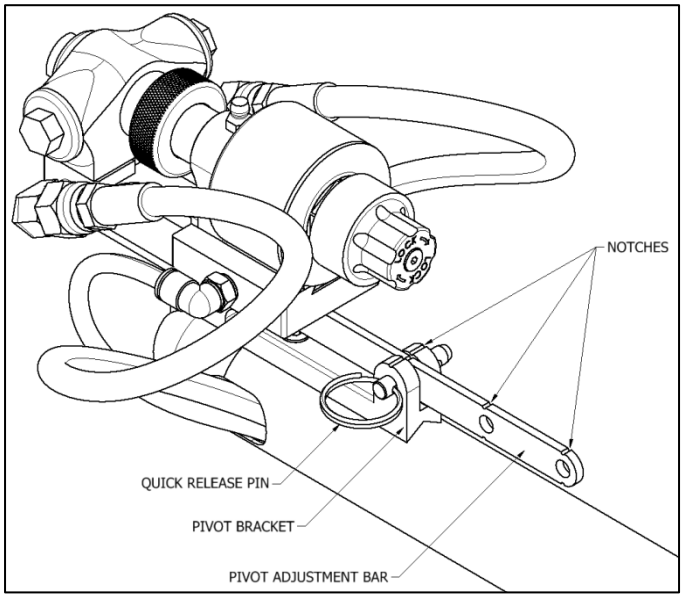
3. Set the **Gun Lock** to the **LOCKED** position
4. Install the **Coupling Block** to the **Coupling Block Adapter**. Tighten the **Mounting Screw** completely using the 5/16" Nut Driver (See Pg. for List of Tools).
5. Connect air supply (90-125 psi, 6.2-8.6 bar) to the **Air Hose** and open the **Ball Valve**.
6. Set the **Gun Lock** to the **OPEN** position.
7. Pull the **Trigger** several times to check for correct movement of the **PCT**. When the **Trigger** is pulled, the **PCT** should retract into the **Gun Block**. When the **Trigger** is released, the **PCT** should protrude back out of the **Gun Block**. (See Gun Operation, pg. 22)

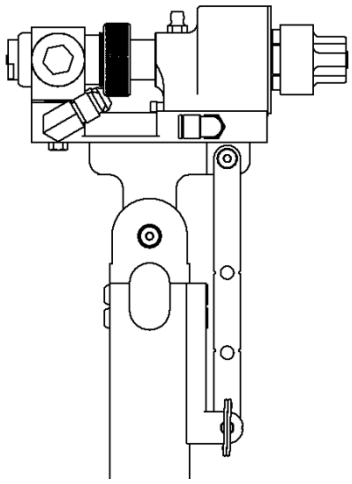
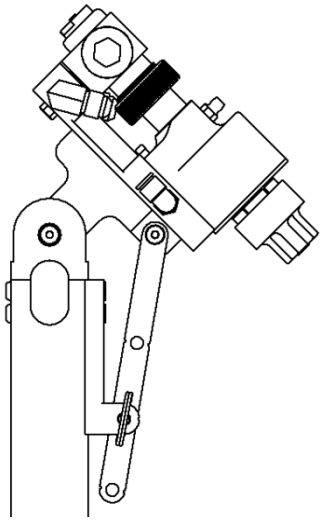
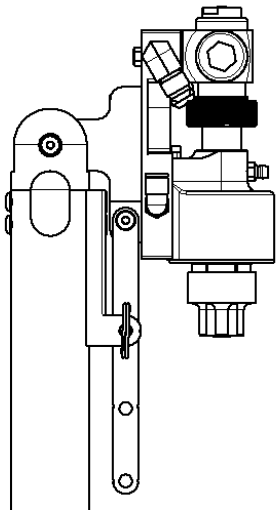


8. Ensure that the Proportioner and the supply system is in the ready position and the material pressures at the Proportioner and the material temperatures in the Material Heaters and Heated Hoses are set as recommended by the chemical supplier (see Machine Service Manual).
9. **OPEN** each **Manual Valve** and perform a test spray.

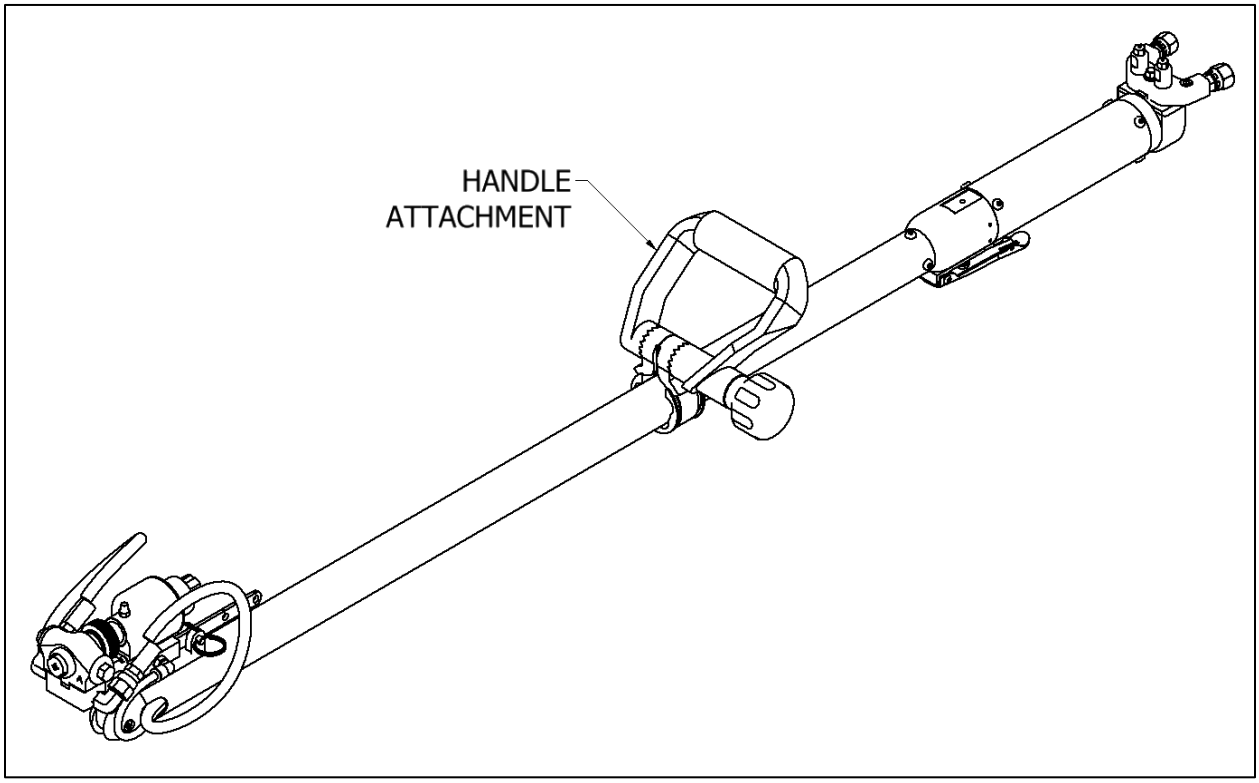
Angle Adjuster

1. Remove the **Quick Release Pin**.
2. Align the notches in the **Pivot Adjustment Bar** to the notch in the **Pivot Bracket** in order to set the desired angle. Each hole corresponds to an angle of 90°, 45°, and 0°. See diagrams for orientation.
3. Reinstall the **Quick Release Pin**.



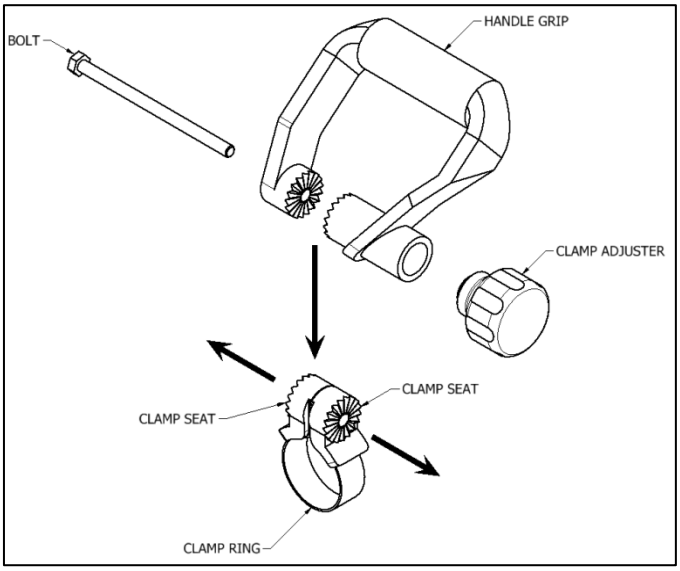
90°	45°	0°
		

Handle Attachment



NOTE! *The Adapter Ring is required for installation and can found in the supplied Tool Kit.*

1. Disassemble the **Handle**:
    a. Unscrew the **Clamp Adjuster** and remove.
    b. Remove the **Bolt**.
    c. Pull off the **Handle Grip**.
    d. Remove the **Clamp Seats** from the **Clamp Ring**.



2. Attach the **Adapter Ring** by snapping it onto the **Tube Body**.

3. Carefully attach the **Clamp Ring** by opening and snapping it onto the tube body (see below).

4. Carefully open up the **Clamp Ring** and slide it over the shoulder of the **Adpater Ring**. Ensure that the cut-out in the **Adapter Ring** is aligned with the legs of the **Clamp Ring**. (see below)

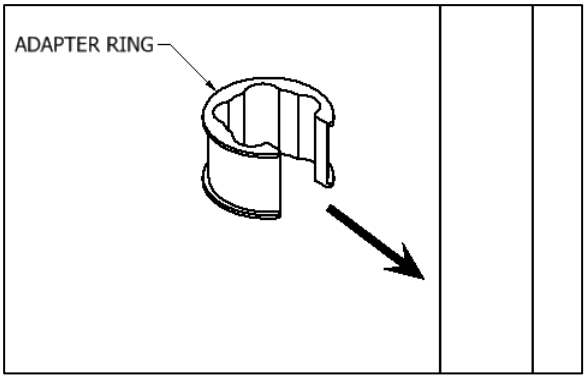
5. Reassembly the handle:

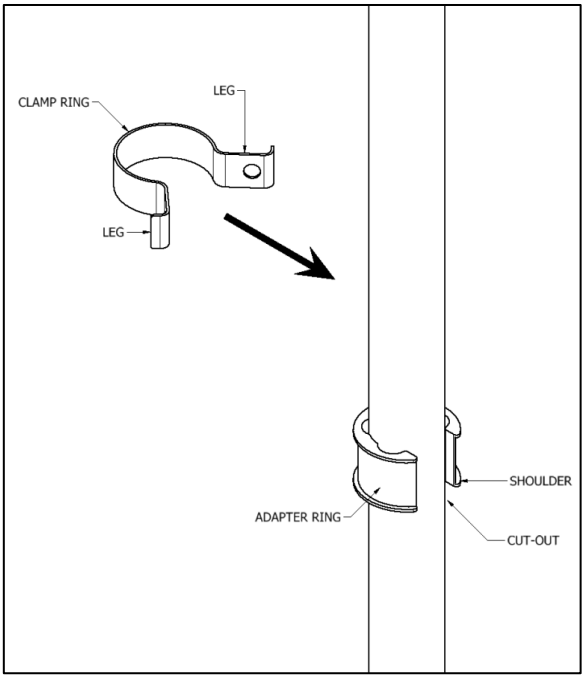
    a. Reattach the **Clamp Seats** to the **Clamp Ring**.

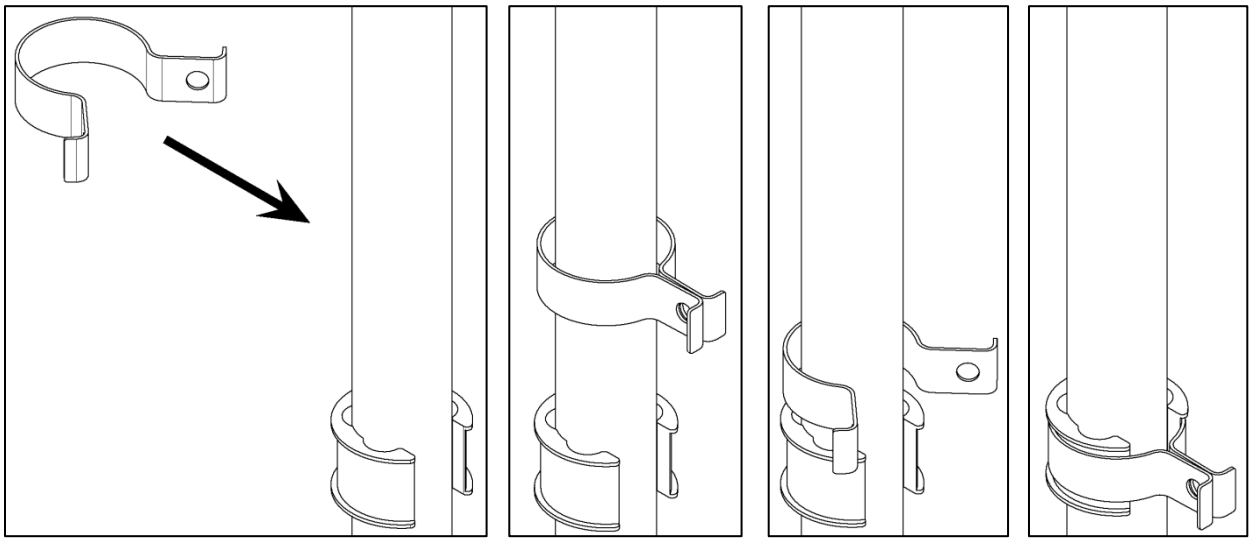
    b. Reattach the **Handle Grip**.

    c. Reinsert the **Bolt** and fasten the **Clamp Adjuster**.

    6. Adjust the location and orientation of the **Handle** and tighten the **Clamp Adjuster** to lock the **Handle** into place







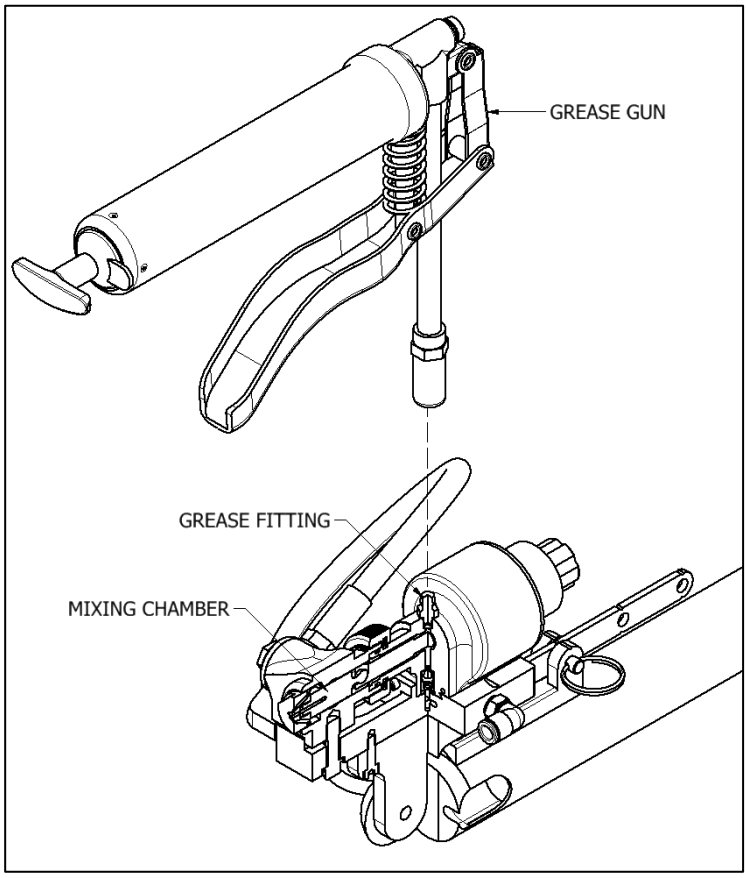
SHUTDOWN PROCEDURES

1. Ensure the **Manual Valves** are **CLOSED** by turning them in 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.

2. Using the supplied **Grease Gun** (Pg. 52), lubricate the **Mixing Chamber** through the **Grease Fitting** until a fine mist of grease sprays from the gun (See Pg. 55 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: PMC Grease is recommended. Use of incorrect grease will cause blockage in the mixing chamber.

3. Disconnect the air supply.



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.*

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

NOTE! *In the locked position, the Gun Lock will restrict the movement of the air piston from moving to the rear of the cylinder, thus rendering the gun inoperable.*

3. **CLOSE** each **Manual Valve** by rotating 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.***

MAINTENANCE

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

WARNING! Before proceeding with any maintenance work on the AP-EX 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 and/or DISCONNECT the air supply. It Is recommended to remove the gun from the coupling block.

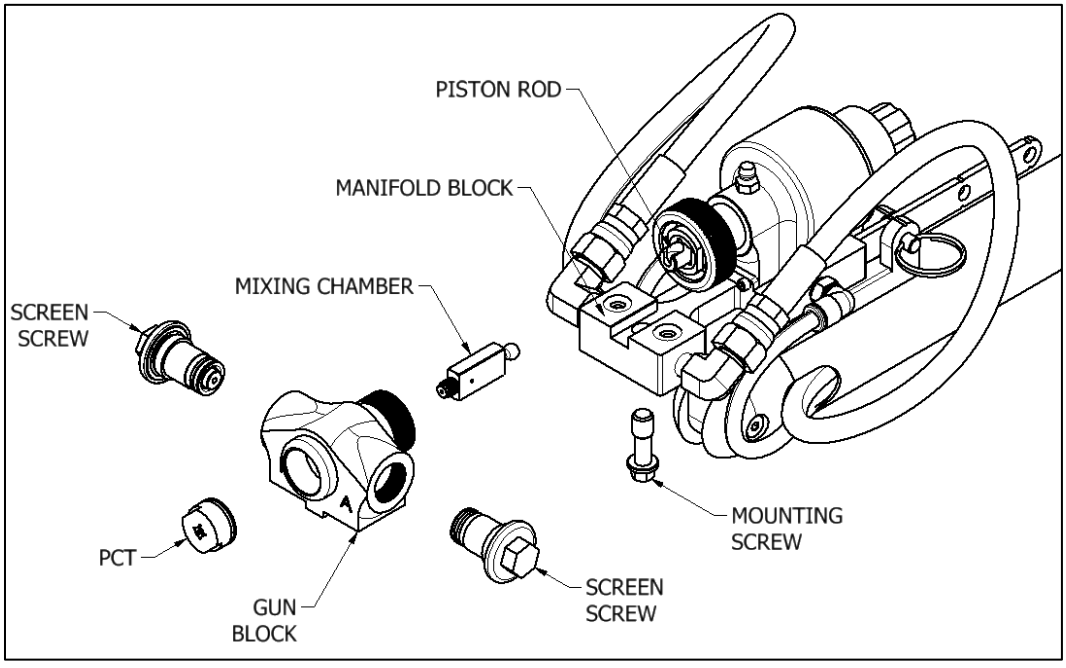
CAUTION! Excessive force closing or opening the Manual Valves may result in damage to the Manual Valves and/or Coupling Block.

Gun Block and Mixing Chamber Removal

1. Ensure the **Manual Valves** are closed by rotating 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.

2. Point the Gun over a waste container and pull the trigger to release internal material pressure.

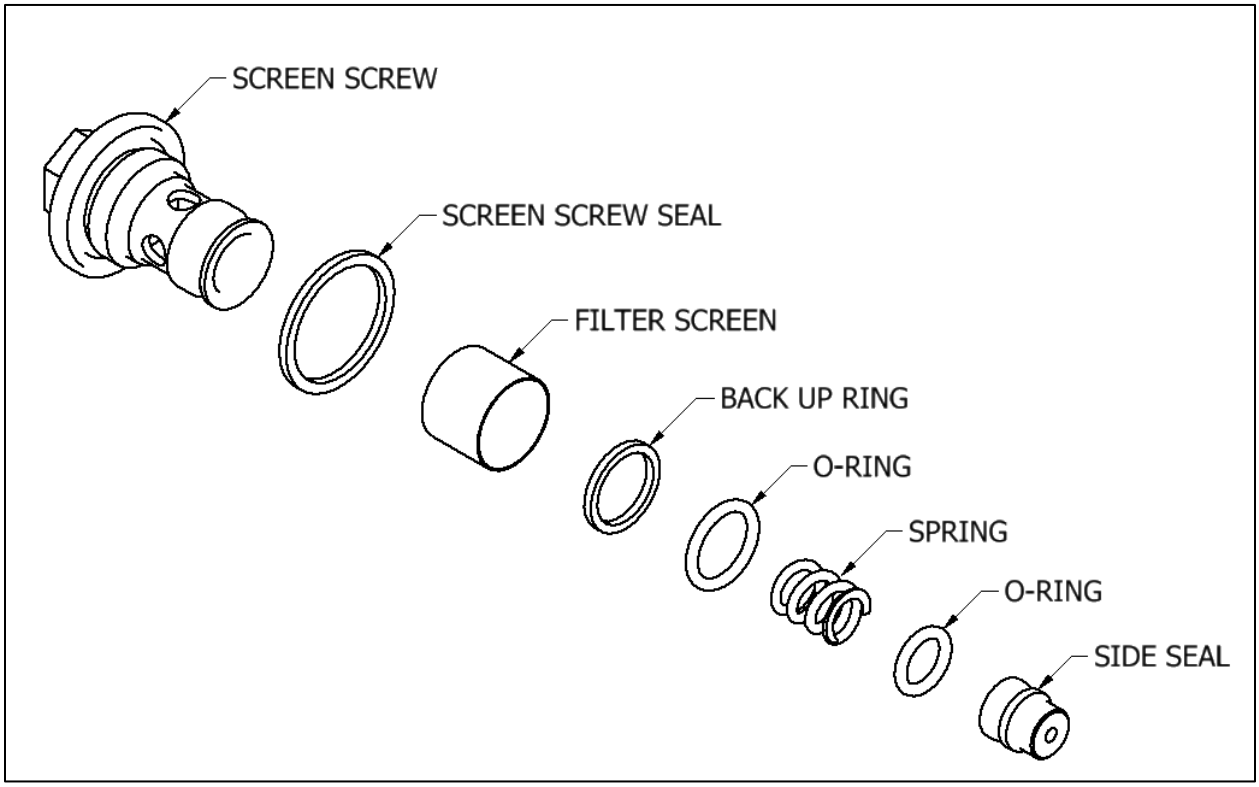


3. Using a 5/8” wrench, remove the **PCT** from the **Mixing Chamber**.
4. Using a 1/2” wrench, loosen or remove both **Screen Screws** to facilitate easy removal of the **Mixing Chamber**.
5. Using the 5/16” nut driver provided (Pg. 52), remove the **Mounting Screw** from the **Gun Block** and **Manifold Block**.
6. Loosen the **Locking Collar** and remove the **Gun Block** from the **Air Cylinder**.
7. Remove the **Mixing Chamber** from the **Piston Rod**.
8. Flush **Gun Block** to remove any residue. Use the recommended **Flush Tank**.
9. Clean or replace the **Mixing Chamber** as required.
10. 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 (4, Pg. 38) and Side Seals (29, Pg. 18) upon assembly is recommended. It is also recommended to lubricate the lubricate the threads on the Screen Screws to help prevent material from locking the threads.*

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! ***In order 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 closing or opening the 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** the Air Supply to the Gun.
4. Set the **Gun Lock** to the **LOCKED** position.

5. Use the **Wrench** provided (Pg. 52) or a ½" wrench to remove the **Screen Screws** from the **Gun Block**.

6. To clean or replace the **Screen**, remove the larger **O-Ring** and **Back-Up Ring**.

7. Remove the **Side Seal** and **Spring** from the **Screen Screw**. Inspect the components and O-rings. Clean or replace as required.

8. Inspect for damage and apply PMC lubrication to the O-rings and threads and reassemble in reverse order.

9. The Gun is now ready for service.

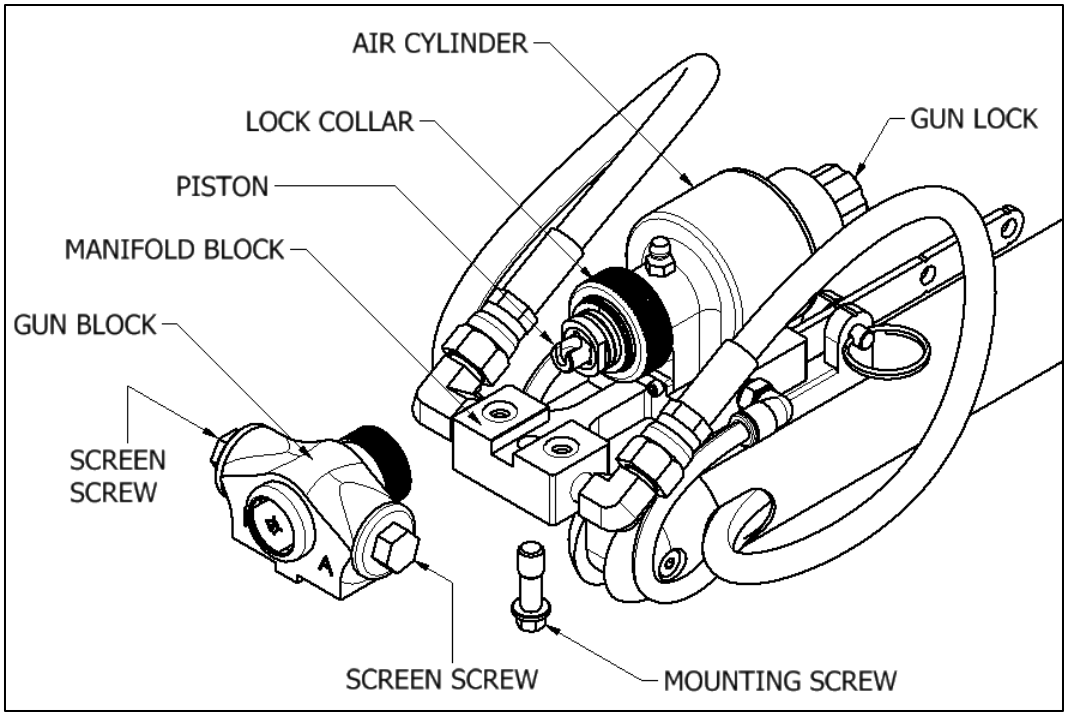
NOTE! *When replacing O-rings, replace ALL O-rings included in the appropriate kit.*

Air Cylinder Maintenance

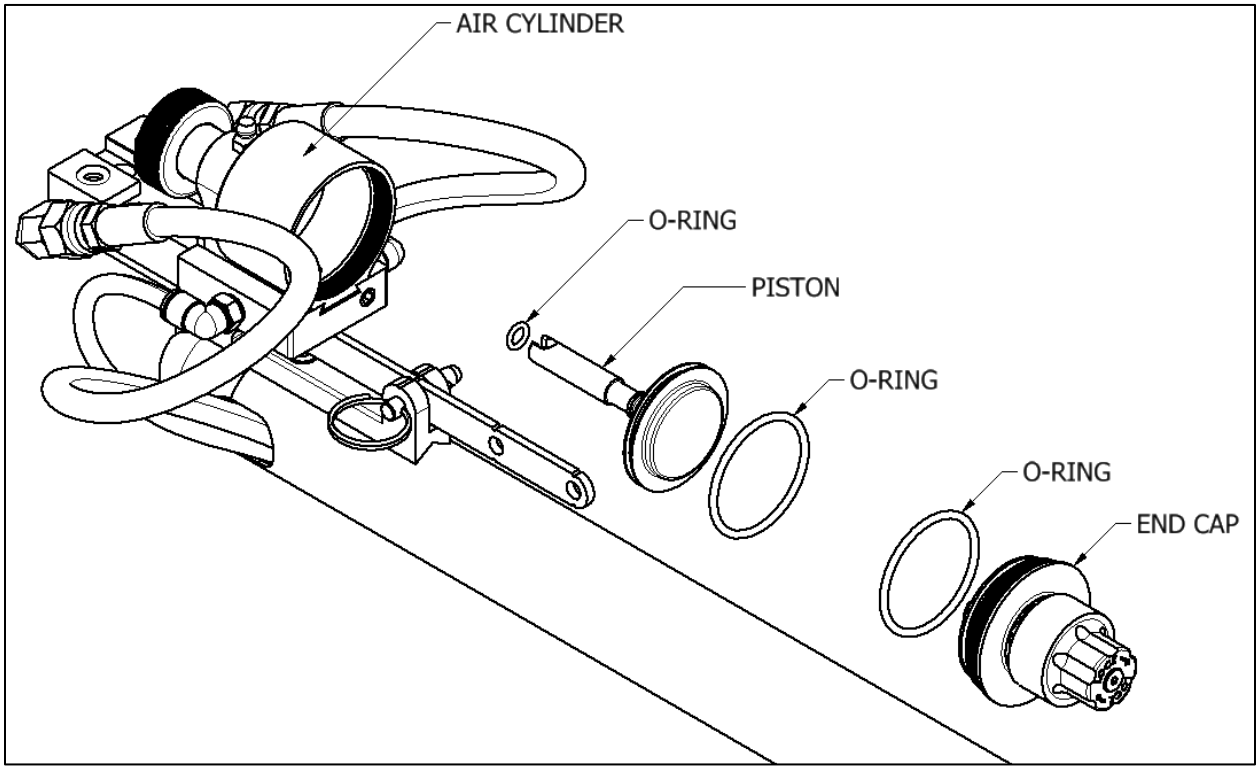
1. **CLOSE** the **Manual Valves** by turning them to the full clockwise position.

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

2. Trigger Gun over Waste Container to release internal material pressure.
3. Disconnect air supply to gun.



4. Set the **Gun Lock** to the **LOCKED** position.
5. Loosen the **Screen Screws** using a ½" wrench.
6. Remove the **Mounting Screw** from the **Gun Block** and the **Manifold Block**.
7. Loosen the **Locking Collar** from the **Gun Block** and remove the **Gun Block** from the **Air Cylinder**.
8. Set the **Gun Lock** to the **UNLOCKED** position.



9. Using the Wrench (Pg. 52) provided, remove the **End Cap**.

10. Push on the exposed **Piston** (near the **Lock Collar**) to remove the **Piston** from the rear of the **Air Cylinder**.

11. Inspect all **O-rings** and replace as required

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

12. Coat the inside of the **Air Cylinder**, all **O-rings**, and all threads with PMC grease to facilitate reassembly.

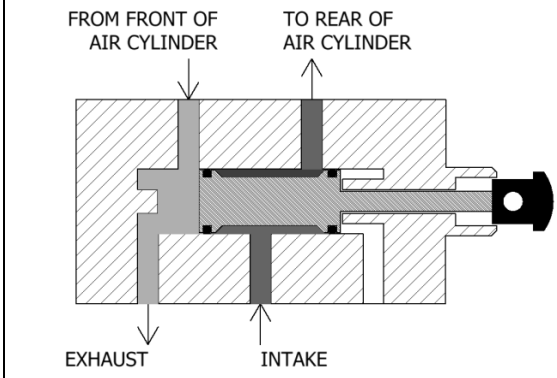
13. Reassemble the **Air Cylinder** in reverse order.

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

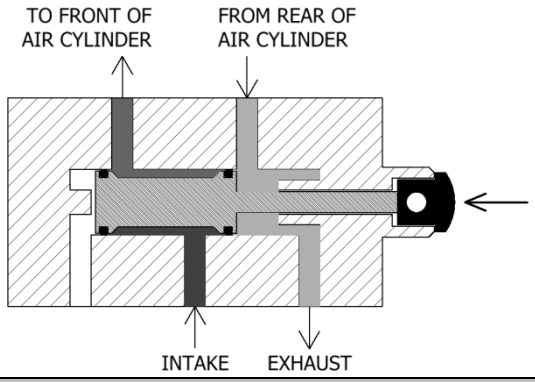
Trigger Valve

TRIGGER OFF



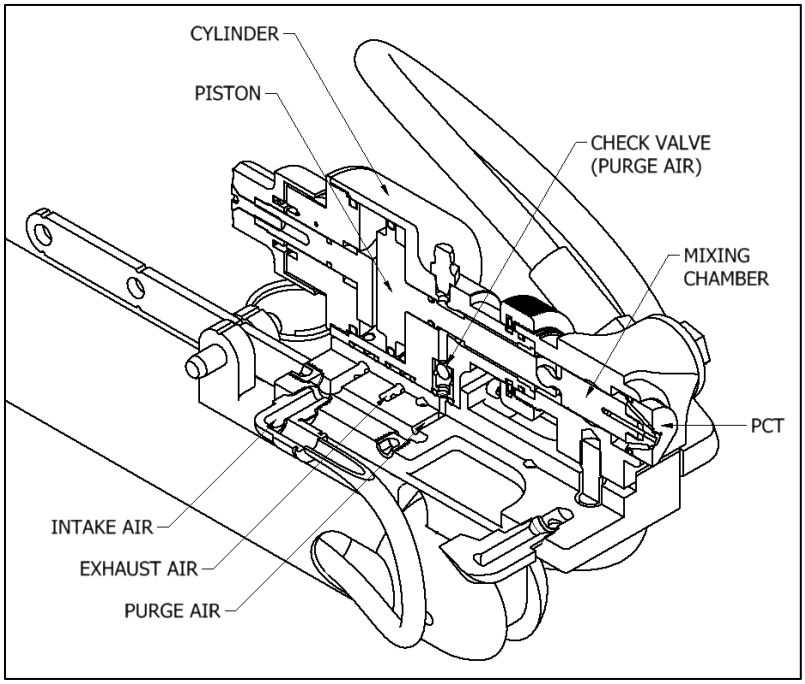
When the trigger is NOT pulled, pressurized air (dark gray) flows from the air supply, through the INTAKE port, and into the rear of the air cylinder (not shown). The air in the front of the air cylinder exits through the EXHAUST port and is exposed to ambient pressure (light gray).

TRIGGER ON

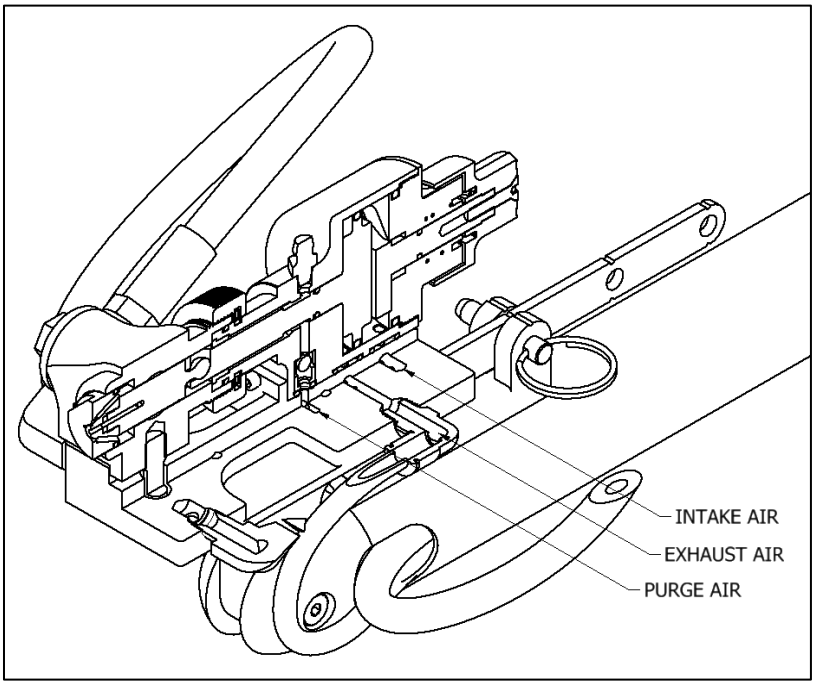


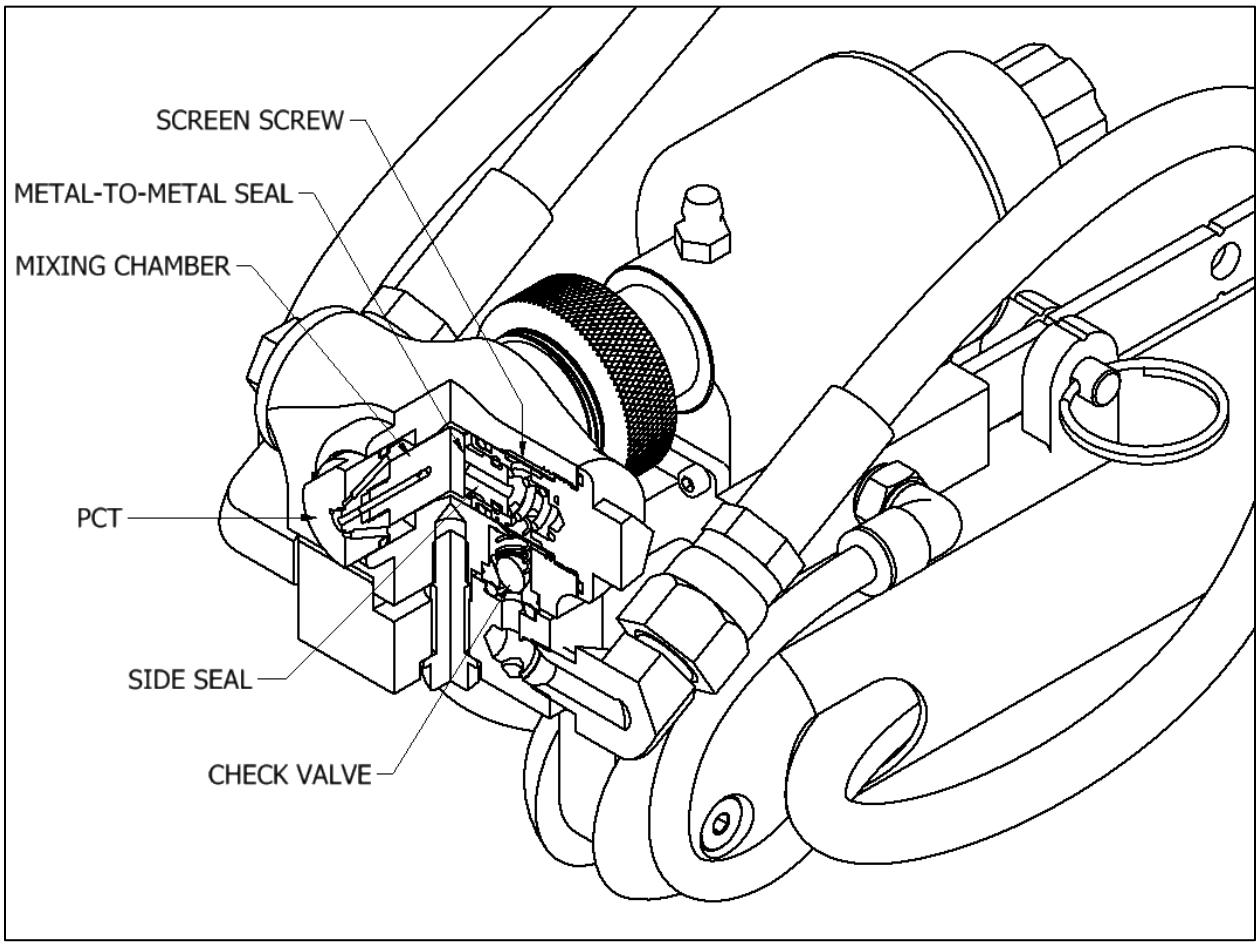
When the trigger is pulled, pressurized air (dark gray) flows from the air supply, through the INTAKE port, and into the front of the air cylinder (not shown). The air in the rear of the air cylinder exits through the EXHAUST port and is exposed to ambient pressure (light gray).

Trigger Off



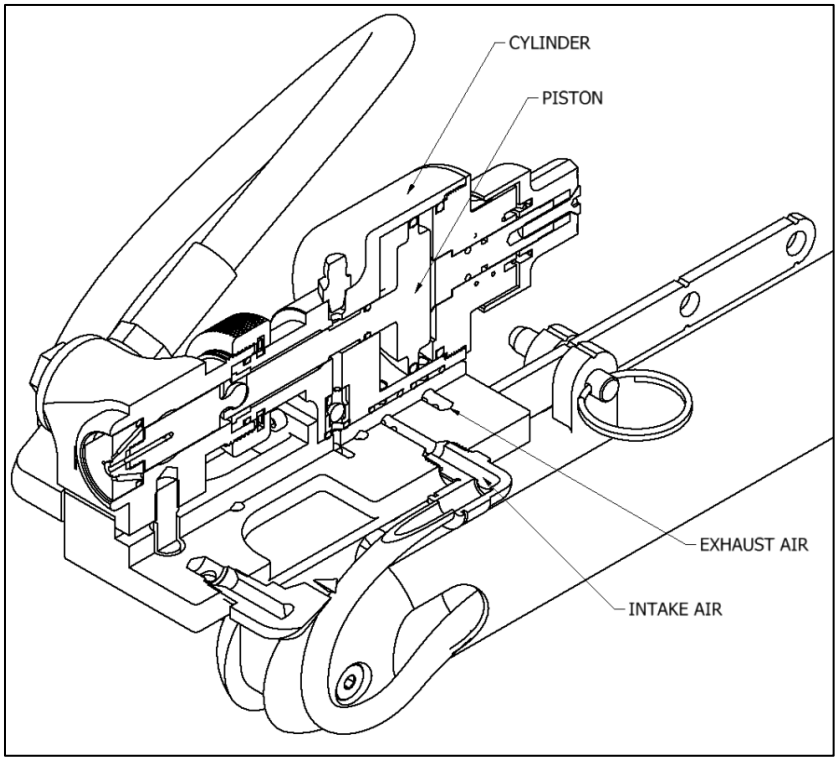
In the diagram above, Intake Air travels into the rear of the Cylinder, forcing the Piston forward, as Exhaust Air exits the front of the Cylinder. Purge Air is directed through the Check Valve, Mixing Chamber, and PCT.



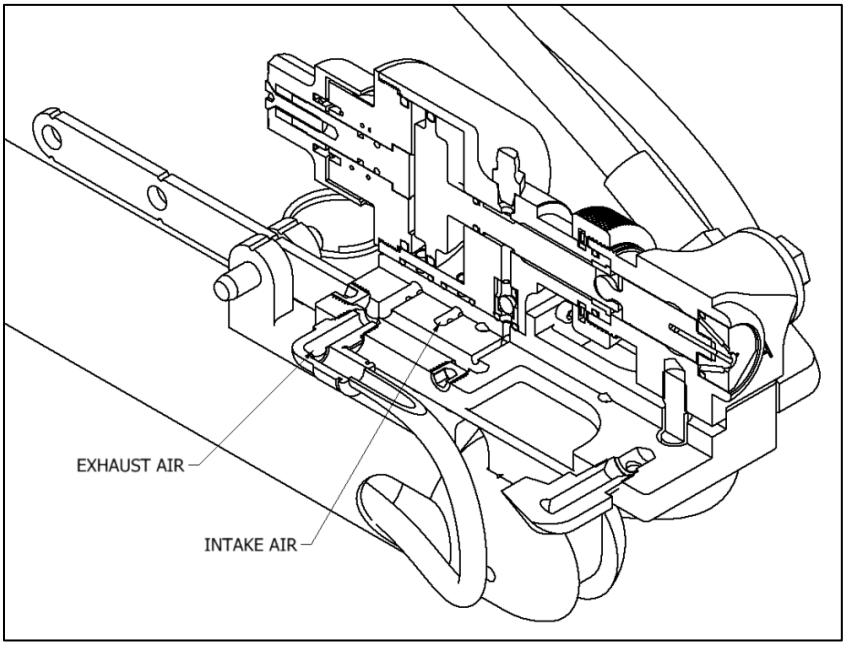


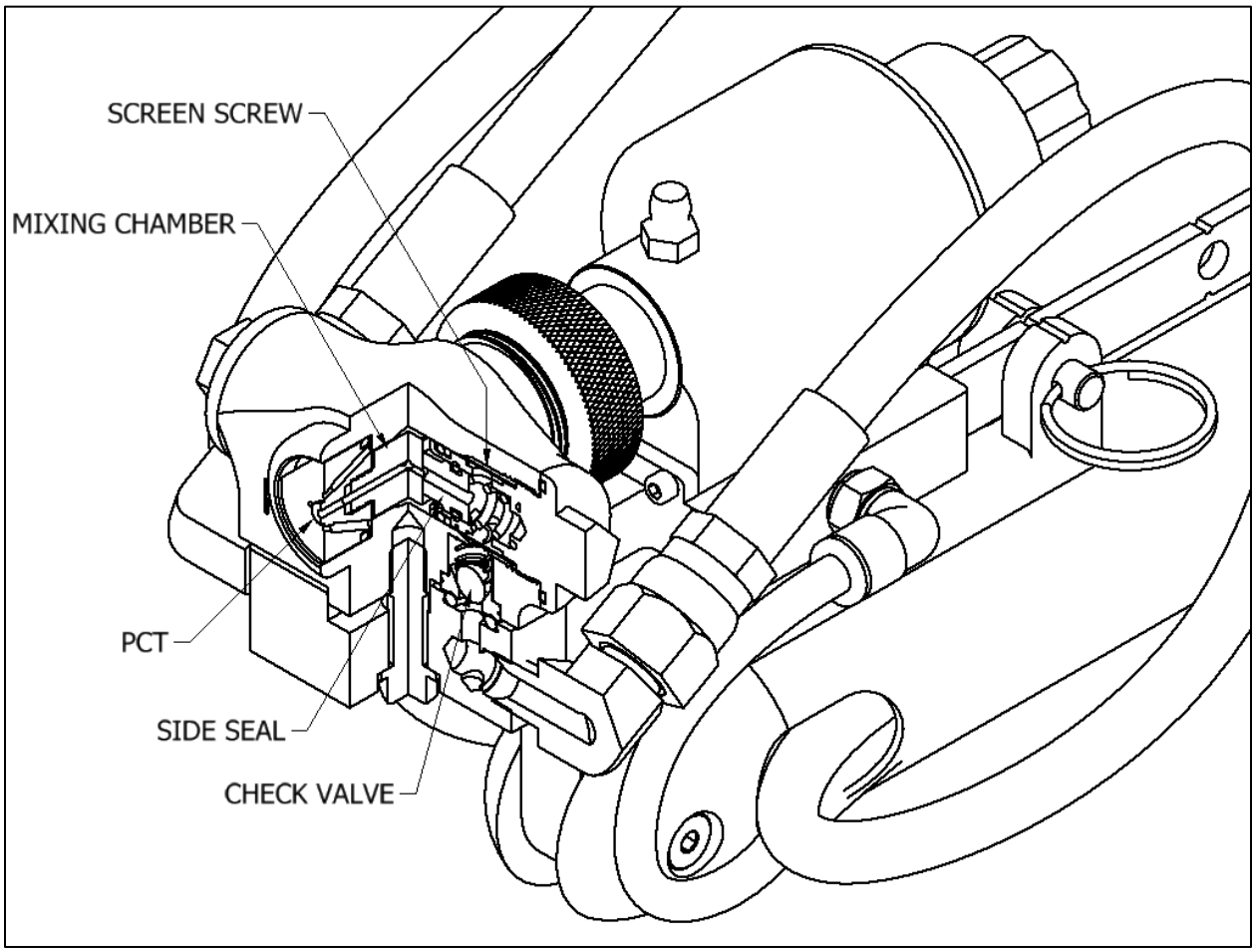
As the piston moves forward, the Mixing Chamber and PCT are pushed forward as well. The Side Seals create a metal-to-metal seal against the side of the Mixing Chamber, preventing material from exiting.

Trigger On



In the diagram above, Intake Air travels into the front of the Cylinder, forcing the Piston to the rear, as Exhaust Air exits the rear of the Cylinder. There is no Purge Air as the gun is spraying.





As the piston moves rearward, the Mixing Chamber and PCT are pulled backwards as well, allowing the orifice in the Side Seal to align with the inlet orifice in the Mixing Chamber. The two chemicals will impinge react as the mixture flows through the Mixing Chamber and exits through the PCT.

If there is a large enough pressure imbalance between the two chemicals, the chemical with a greater relative pressure may travel through the orifices of the Mixing Chamber to the other side and into orifice in the Side Seal on the opposite side of the gun. A Check Valve will prevent the higher pressure material from traveling down into the hoses, which would cause a chemical reaction and clogging of the hoses.

TROUBLE SHOOTING GUIDE

PROBLEM	POSSIBLE CAUSE	SOLUTION
PCT not flush with Gun Block when Gun is triggered	Insufficient Gun air pressure (minimum 90 psi, 6.2 Bar)	Ensure 90 psi (6.2 Bar) of air pressure at Gun
	Trigger Valve malfunction	Replace, see page 38
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(s) Valve CLOSED	Open Manual Valves
	Mixing Chamber Inlet Orifices plugged	Clean, see page 16
	Side Seal Orifices plugged	Clean, see page 18
	Check Valve plugged	Replace, see page 38
Mixing Chamber moves slowly	Trigger Valve malfunction	Replace, see page 38
	Insufficient air pressure (min 90 psi, 6.2 Bar)	Ensure 90 psi (6.2 Bar)
	Piston Assembly requires service	Rebuild, see page 20
Mixing Chamber moves slowly, then normal speed	Reacted material around Side Seals	Inspect Side Seals and Mixing Chamber for reacted materials and clean, see pages 16, 18
Pattern deformation	Incorrect chemical temperature	Adjust, see Proportioner Operating Manual
	Mixing Chamber Nozzle dirty	Clean, see page 16
	PCT is dirty	Clean, see page 16
Material spray pressure imbalance	Mixing Chamber Inlet Orifices plugged	Clean, see page 16
	Side Seal Orifices plugged	Clean, see page 18
	Dirty screens	Replace, see page 18
	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 18
	Mixing Chamber damaged	Replace, see page 16
	Side Seal/Screen Screw O-rings damaged	Replace, see page 18
Material mist from Mixing Chamber or PCT	Side Seal damaged	Replace, see page 18
	Mixing Chamber damaged	Replace, see page 16
	Side Seal/Screen Screw O-rings damaged	Replace, see page 18
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 16
Steady air leakage from Handle	Air Cylinder O-rings damaged	Replace, see page 20

REFERENCE GUIDE

Chamber Kits					
KIT NUMBER	PART NUMBER	QTY	DESCRIPTION (INCH)	FOR USE WITH	ILLUSTRATION
GU-814-000	GU-03032	1	#61 DRILL (.0390)	MIXING NOZZEL	
	GU-03031	1	#70 DRILL (.0280)	MIXING CHAMBER PORT	
	RM-814-000	1	CHAMBER #000	-	-
GU-814-00	GU-03023	1	#56 DRILL (.0465)	MIXING NOZZEL	
	GU-03027	1	#69 DRILL (.0292)	MIXING CHAMBER PORT	
	RM-814-00	1	CHAMBER #00	-	-
GU-814-00X	GU-03027	1	#61 DRILL (.0390)	MIXING NOZZEL	
	GU-03032	1	#69 DRILL (.0292)	MIXING CHAMBER PORT	
	RM-814-00X	1	CHAMBER #00X	-	-
GU-814-01	GU-03035	1	#54 DRILL (.055)	MIXING NOZZEL	
	GU-03021	1	#59 DRILL (.0410)	MIXING CHAMBER PORT	
	RM-814-01	1	CHAMBER #01	-	-
GU-814-01X	GU-03053	1	#52 DRILL (.0635)	MIXING NOZZEL	
	GU-03052	1	#57 DRILL (.0430)	MIXING CHAMBER PORT	
	RM-814-01X	1	CHAMBER #01X	-	-
GU-814-02	GU-03024	1	#51 DRILL (.0676)	MIXING NOZZEL	
	GU-03023	1	#56 DRILL (.0465)	MIXING CHAMBER PORT	
	RM-814-02	1	CHAMBER #02	-	-

Chamber Kits (Continued)

KIT NUMBER	PART NUMBER	QTY	DESCRIPTION (INCH)	FOR USE WITH	ILLUSTRATION
GU-814-02X	GU-03051	1	#48 DRILL (.0760)	MIXING NOZZEL	
	GU-03050	1	#55 DRILL (.0520)	MIXING CHAMBER PORT	
	RM-814-02X	1	CHAMBER #02X	-	-
GU-814-03	GU-03028	1	#44 DRILL (.0860)	MIXING NOZZEL	
	GU-03035	1	#54 DRILL (.055)	MIXING CHAMBER PORT	
	RM-814-03	1	CHAMBER #03	-	-
GU-814-04	GU-03029	1	#43 DRILL (.0890)	MIXING NOZZEL	
	GU-03054	1	#50 DRILL (.0700)	MIXING CHAMBER PORT	
	RM-814-04	1	CHAMBER #04	-	-

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	
	GU-03032	1	#61 DRILL (.0390)	PCT NOZZEL PORT	
	OR-00042A	1	PCT FLAT TIP O-RING .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	
	GU-03023	1	#56 DRILL (.0465)	PCT NOZZEL PORT	
	OR-00042A	1	PCT FLAT TIP O-RING .016	-	
	RM-815-00	1	PATTERN CONTROL TIP 00	-	

PCT Kits (Continued)					
KIT NUMBER	PART NUMBER	QTY	DESCRIPTION	FOR USE WITH	ILLUSTRATION
GU-815-00X	GU-03023	1	#56 DRILL (.0465)	PCT PURGE PORT	
	GU-03035	1	#54 DRILL (.055)	PCT PURGE AND NOZZEL PORT	
	OR-00042A	1	PCT FLAT TIP O-RING .016	-	
	RM-815-00X	1	PATTERN CONTROL TIP 00.X	-	
GU-815-01	GU-03033	1	#65 DRILL (.0350)	PCT PURGE PORT	
	GU-03035	1	#54 DRILL (.055)	PCT PURGE & NOZZEL PORT	
	OR-00042A	1	PCT FLAT TIP O-RING .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-03051	1	#52 DRILL (.0635)	PCT NOZZEL PORT	
	OR-00042A	1	PCT FLAT TIP O-RING .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 NOZZEL PORT	
	OR-00042A	1	PCT FLAT TIP O-RING .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	
	GU-03051	1	#46 DRILL (.0810)	PCT NOZZEL PORT	
	OR-00042A	1	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 NOZZEL PORT	
	OR-00042A	1	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	
	GU-03029	1	#43 DRILL (.0935)	PCT NOZZEL PORT	
	OR-00042A	1	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
KT-814-00	GU-814-00	1	CHAMBER 00 W/ DRILLS
	GU-815-00	1	PCT 00 RND W/ DRILLS
KT-814-00X	GU-814-00X	1	CHAMBER 00X W/ DRILLS
	GU-815-00X	1	PCT 00X W/ DRILLS
KT-814-01	GU-814-01	1	CHAMBER 01 W/ DRILLS
	GU-815-01	1	PCT 01 RND W/ DRILLS

Chamber/PCT Kits (Continued)

KIT NUMBER	PART NUMBER	QTY	DESCRIPTION
KT-814-01X	GU-814-01X	1	CHAMBER 01X W/ DRILLS
	GU-815-01X	1	PCT 01X RND W/ DRILLS
KT-814-02	GU-814-02	1	CHAMBER 02 W/ DRILLS
	GU-815-02	1	PCT 02 RND W/ DRILLS
KT-814-02X	GU-814-02X	1	CHAMBER 02X W/ DRILLS
	GU-815-02X	1	PCT 02X RND W/ DRILLS
KT-814-03	GU-814-03	1	CHAMBER 03 W/ DRILLS
	GU-815-03	1	PCT 03 RND W/ DRILLS
KT-814-04	GU-814-04	1	CHAMBER 04 W/ DRILLS
	GU-815-04	1	PCT 04 RND W/ DRILLS

Air Cylinder Rebuild Kit (KT-801)

PART NUMBER	QTY	DESCRIPTION
OR-00026A	2	O-RING #129 VITON
OR-00043A	3	O-RING #010 80D AFLAS
OR-00002A	1	O-RING #008 VITON
OR-00037B	2	QUAD RING #011 VITON
OR-00042A	1	#016 O-RING
GU-829	1	A/P CHECK VALVE
GU-830	1	AIR CYLINDER BUSHING

AP-EX O-Ring Kit (200080)

PART NUMBER	QTY	DESCRIPTION
200048	2	O-RING, 906, AFLAS
200049	2	O-RING, 109, AFLAS
OR-00037B	2	#011 O-RING
OR-00042A	1	#016 O-RING
OR-00043B	2	O-RING #010 80D AFLAS
OR-800	2	#013 BACK UP RING
OR-801A	2	O-RING #013 80D AFLAS
OR-804	1	2MMX4MM O-RING
OR-805	4	#108 O-RING

PMC Recommended O-Ring Grease

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

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

*FOR USE WITH PLASTIC SIDE SEALS (GU-817-90D)
NOT COMPATIBLE WITH STANDARD SIDE SEALS

A & R Screen Screw Assembly Kits

KIT NUMBER	PART NUMBER	QTY	DESCRIPTION
KT-819-R	GU-819-R	1	R SCREEN SCREW
	GU-04007	1	SCREEN SCREW SEAL
	OR-800	1	#013 BACK UP RING
	OR-801	1	O-RING #013 80D AFLAS
KT-819-A	GU-819-A	1	A SCREEN SCREW
	GU-04008	1	SCREEN SCREW SEAL
	OR-800	1	#013 BACK UP RING
	OR-801	1	O-RING #013 80D AFLAS

Screen Sizes

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

Check Valve Assembly (KT-850)

PART NUMBER	QTY	DESCRIPTION
GU-851	4	CHECK VALVE SEAT
GU-852	2	CHECK VALVE SPRING
GU-853	2	¼" CHECK VALVE BALL

Recommended Spare Parts

PART NUMBER	QTY	DESCRIPTION	PAGE
KT-801	1	AIR CYLINDER REBUILD KIT	32
KT-817-90	1	SIDE SEAL KIT	-
GU-818-40	4	FILTER SCREEN 40 MESH	33
GU-818-60	4	FILTER SCREEN 60 MESH	33
GU-818-80	4	FILTER SCREEN 80 MESH (STANDARD)	33
GU-04007	2	SCREEN SCREW SEAL	18
OR-00043B	8	O-RING #010 80D AFLAS	18
OR-801A	8	O-RING #013 80D AFLAS	18
SP-04005	2	SPRING; SIDE SEAL	18
GU-020	1	MANUAL VALVE ASSEMBLY	46
KT-850	2	CHECK VALVE ASSEMBLY	34
OR-00042A	2	#016 O-RING	38
GU-829	1	A/P CHECK VALVE	50
TN-831	2	4-40 X ½ SHCS	-
TL-04003	1	GREASE TUBE	55
OR-800	8	#013 BACK UP RING	18
KT-827	1	AP-2 O-RING KIT	32

Optional Parts

PART NUMBER	QTY	DESCRIPTION
GU-815-50-509	1	BLASTER TIP .059
GU-815-50	1	BLASTER TIP 3.5
GU-815-51	1	POUR TIP
GU-815-52	1	PCT FLAT TIP RETAINER ASSEMBLY
GU-815-53	1	POUR NOZZLE
* GU-815-52-1	1	PCT FLAT TIP BODY
* GU-815-52-2	1	PCT FLAT TIP GASKET
* GU-815-52-3	1	PCT FLAT TIP RETAINER
* OR-00042A	1	#016 O-RING
GU-817-90D	1	SIDE SEAL; DELRIN

*DENOTES PARTS IN THE GU-815-52 (SPRAY TIP NOT INCLUDED)

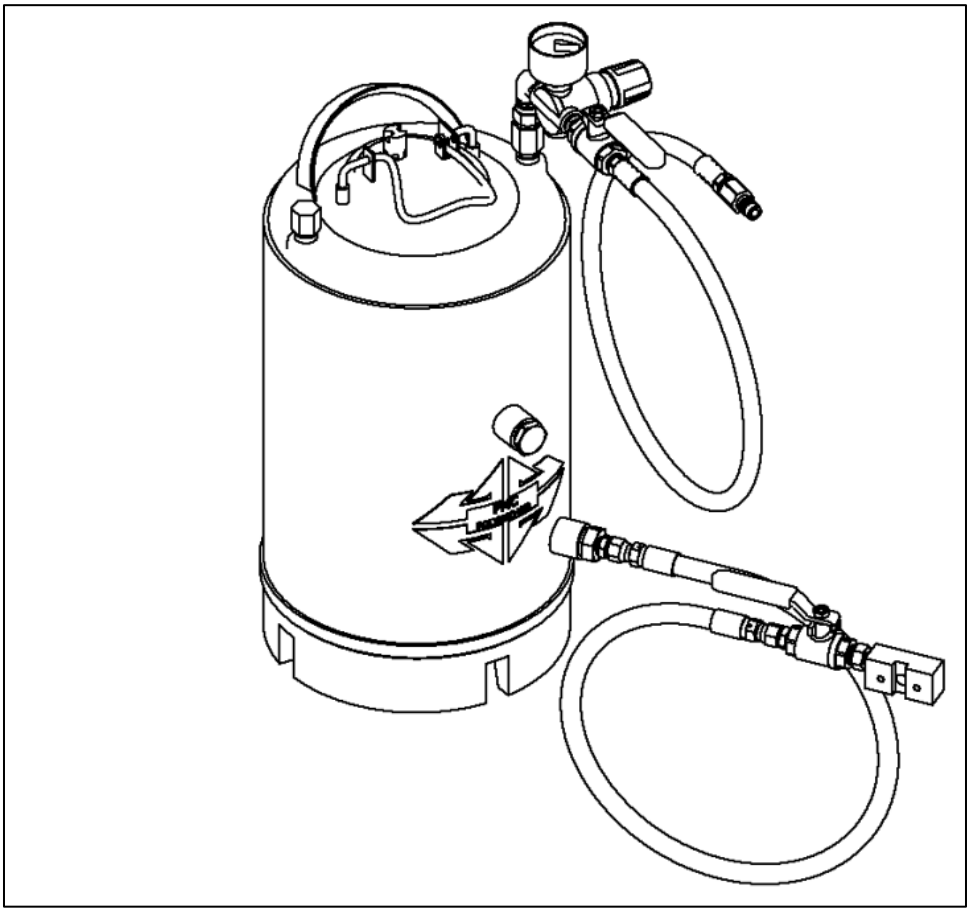
Check Valve Kit, AP-EX (KT-200039)		
PART NUMBER	**QTY**	**DESCRIPTION**
200039	2	3/8" BALL
200040	2	SPRING, .266 OD, .5 FL, 11 LB/IN

Hardware Kit, AP-EX (KT-200041)		
PART NUMBER	**QTY**	**DESCRIPTION**
200041	2	1/4" QUICK RELEASE PIN
200044	1	#10-32 SHOULDER BOLT (1/4" SHOULDER DIA, 3/4" SHOULDER LG)
200045	1	#10-32 SHOULDER BOLT (1/4" SHOULDER DIA, 5/32" SHOULDER LG)
FLOOR STOCK	2	#10-32 X 5/8 SHCS
FLOOR STOCK	2	#10-32 X 1/2 FHCS
FLOOR STOCK	2	#10-32 X 3/8 BHCS
FLOOR STOCK	12	#10-32 X 1/4 BHCS
FLOOR STOCK	4	#5-40 X 1 SHCS
FLOOR STOCK	1	#10-32 X 1-1/4 SHCS
FLOOR STOCK	1	#8-32 X 1/4 BHCS
FLOOR STOCK	1	#8-32 X 1-1/4 BHCS
FLOOR STOCK	1	#8-32 NYLOCK NUT
TN-831	2	#4-40 X 1/2 SHCS

Trigger Kit, AP-EX (KT-200046)		
PART NUMBER	**QTY**	**DESCRIPTION**
200046	1	TRIGGER W/ LOCK
FLOOR STOCK	1	#8-32 X 1-1/4 BHCS
FLOOR STOCK	1	#8-32 NYLOCK NUT

AP-2 Coupling Block Adapter Kit, AP-EX (KT-200033)		
PART NUMBER	**QTY**	**DESCRIPTION**
200033	1	COUPLING BLOCK ADAPTER FOR AP-2, AP-EX
OR-805	4	#108 O-RING
200049	4	O-RING, 109, AFLAS
FLOOR STOCK	4	#5-40 X 1 SHCS
FLOOR STOCK	1	#10-32 X 1-1/4 SHCS

F-AP Coupling Block Adapter Kit, AP-EX (KT-200058)		
PART NUMBER	**QTY**	**DESCRIPTION**
200058	1	F-AP COUPLING BLOCK ADAPTER, AP-EX
OR-805	4	#108 VITON O-RING
200049	4	O-RING, 109, AFLAS
FLOOR STOCK	4	#5-40 X 1 SHCS
FLOOR STOCK	1	#10-32 X 1-1/4 SHCS



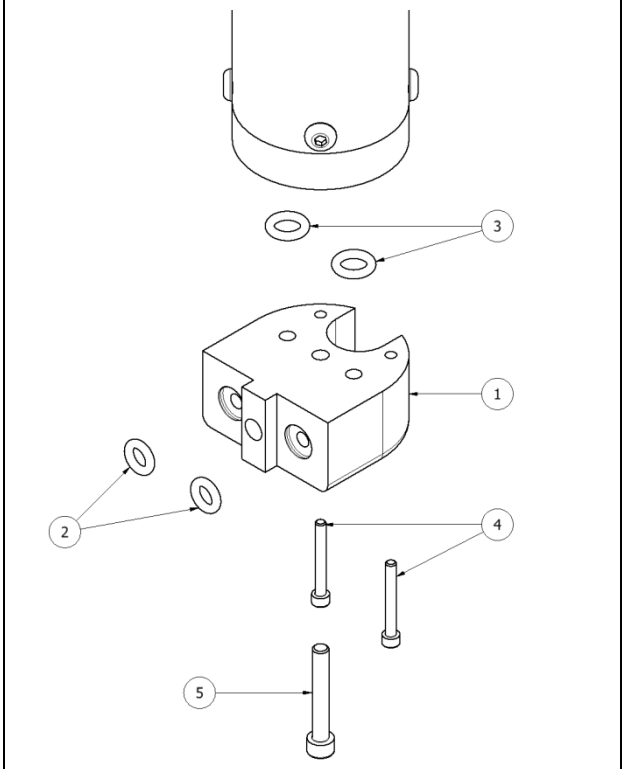
Part Number
TL-12

NOTE! *The Flush Tank assists in the cleaning and maintenance of the AP-EX Gun. It is highly recommended for increasing the life of the AP-EX Gun. See the Flush Tank manual for further details and instructions.*

COUPLING BLOCK ADAPTER KITS

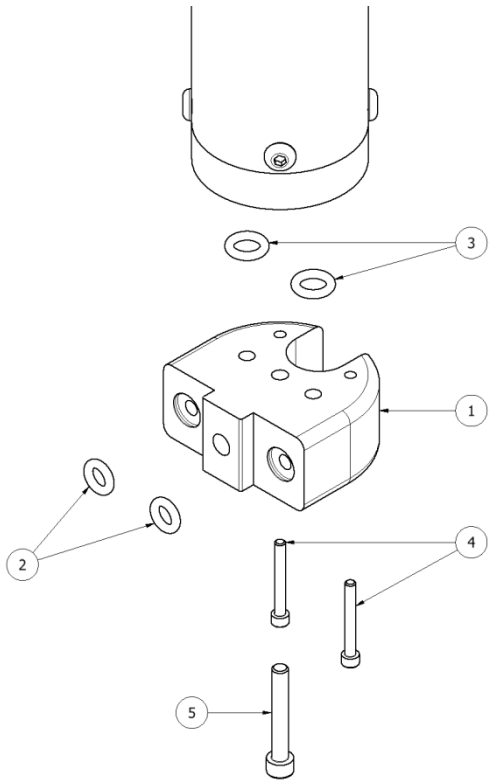
There are two Coupling Block Adapters available for the AP-EX in order to accommodate AP-2 style coupling blocks as well as wider style coupling blocks.

AP-2 Coupling Block Adapter Kit (KT-200033)



ITEM	QTY	PART NUMBER	DESCRIPTION
1	1	200033	COUPLING BLOCK ADAPTER FOR AP-2, AP-EX
2	4	OR-805	#108 VITON O-RING
3	4	200049	O-RING, 109, AFLAS
4	4	FLOOR STOCK	#5-40 X 1 SHCS
5	1	FLOOR STOCK	#10-32 X 1-1/4 SHCS

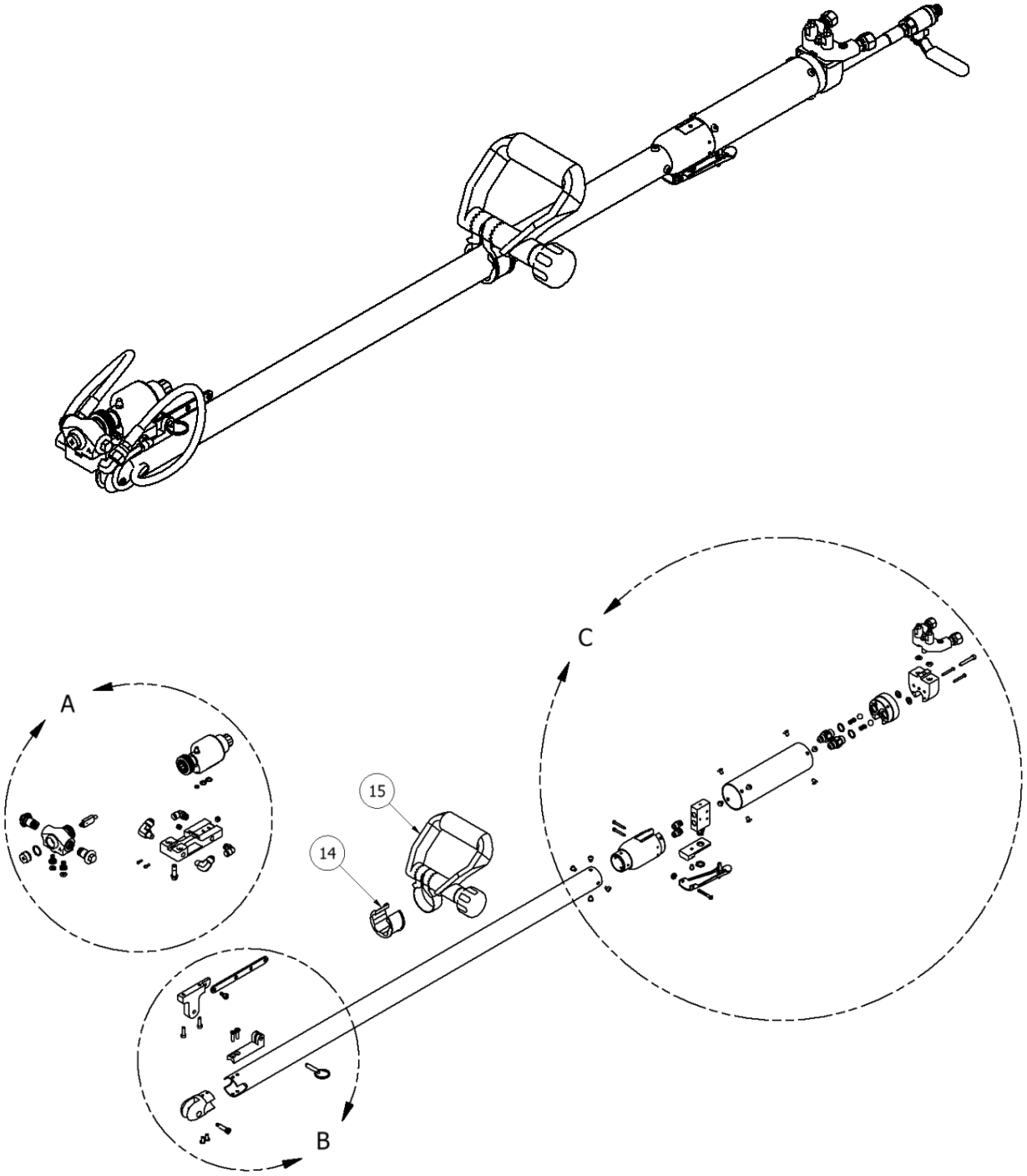
F-AP Coupling Block Adapter Kit (KT-200058)

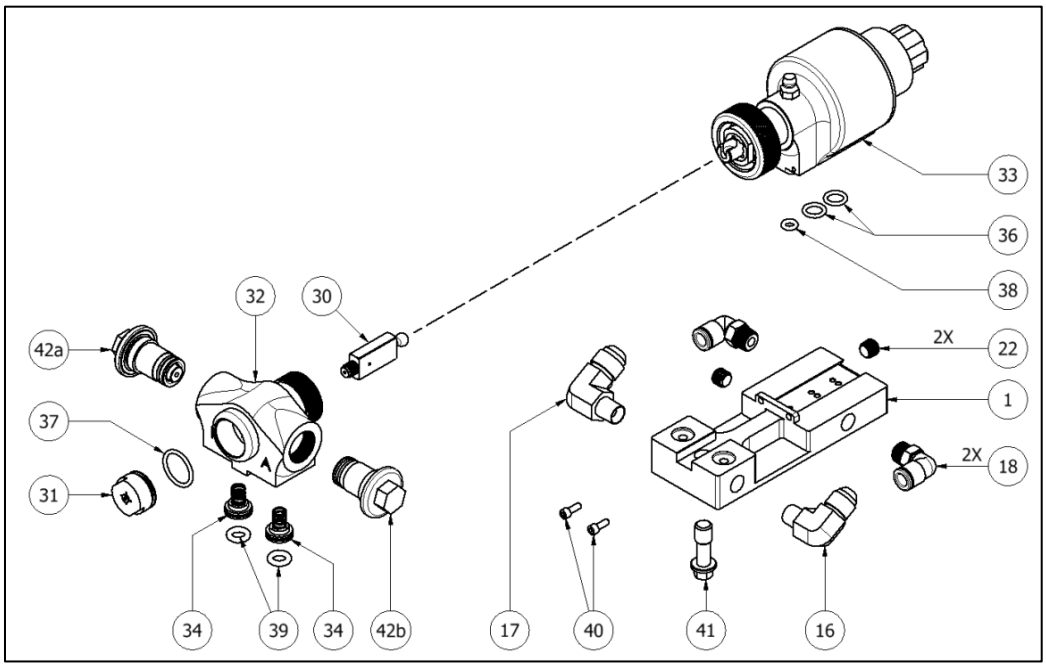


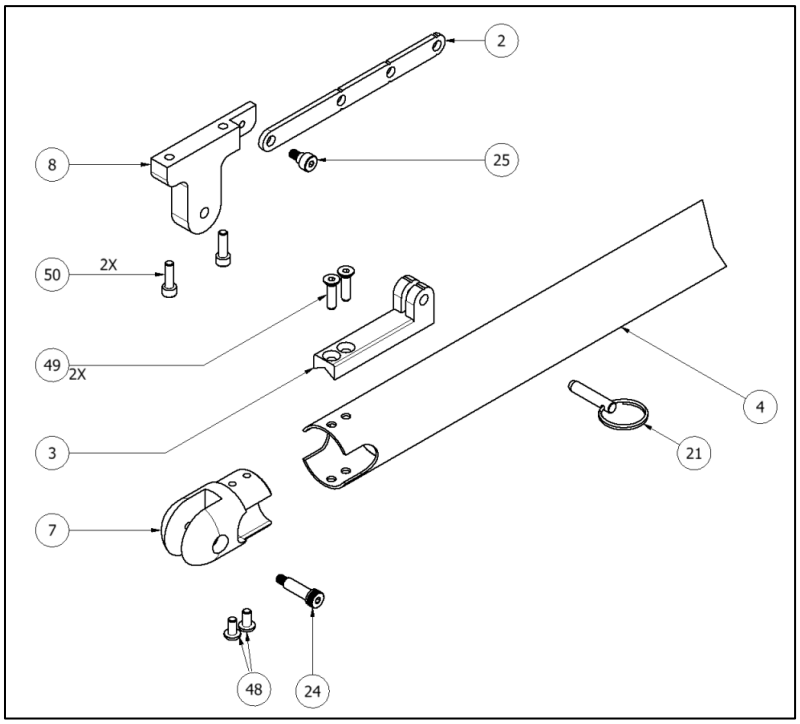
ITEM	QTY	PART NUMBER	DESCRIPTION
1	1	200058	F-AP COUPLING BLOCK ADAPTER ASSY, AP-EX
2	4	OR-805	#108 VITON O-RING
3	4	200049	O-RING, 109, AFLAS
4	4	FLOOR STOCK	#5-40 X 1 SHCS
5	1	FLOOR STOCK	#10-32 X 1-1/4 SHCS

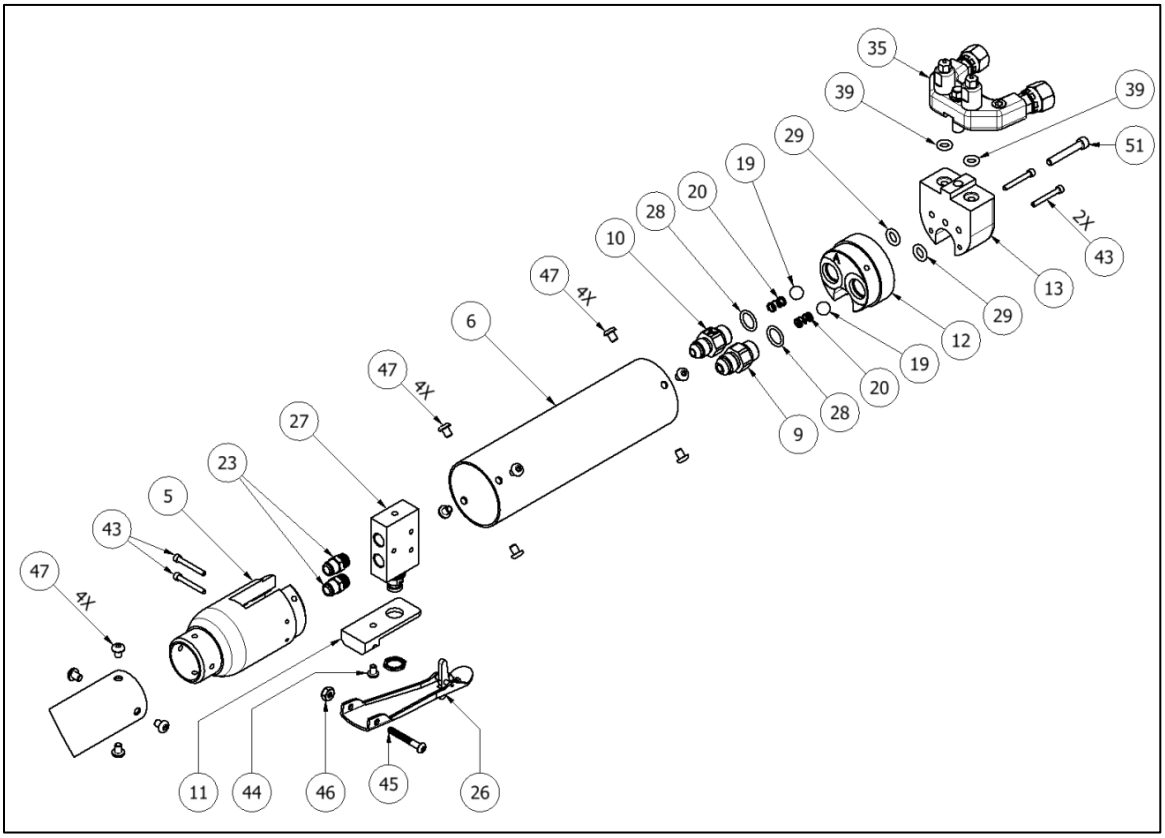
PARTS IDENTIFICATION

AP-EX Gun




33
36
38
32
30
42a
2X
22
37
1
2X
18
31
34
39
34
42b
17
40
41
16


2
8
25
50
2X
49
2X
4
3
21
7
48
24



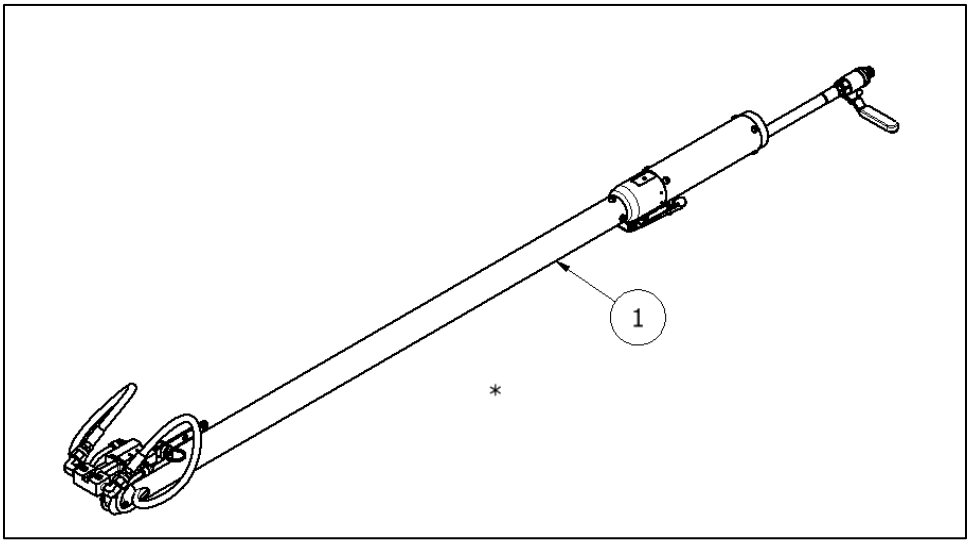
AP-EX PARTS LIST			
ITEM	QTY	PART NUMBER	DESCRIPTION
1	1	200020	AIR MANIFOLD; AP-EX
2	1	200021	PIVOT ADJUSTMENT BAR, AP-EX
3	1	200022	PIVOT BRACKET, AP-EX
4	1	200023	TUBE BODY, 36", AP-EX
5	1	200024	VALVE HOUSING, AP-EX
6	1	200025	LOWER TUBE, AP-EX
7	1	200026	TUBE CAP, PIVOT FEMALE, AP-EX
8	1	200027	PIVOT MALE, AP-EX
9	1	200028	CHECK VALVE, 6 JIC, AP-EX
10	1	200029	CHECK VALVE, 5 JIC, AP-EX
11	1	200030	TRIGGER BRACKET, AP-EX
12	1	200031	BASE CAP, AP-EX
13	1	200058	F-AP COUPLING BLOCK ADAPTER ASSY; AP-EX
	1	200033	COUPLING BLOCK ADAPTER FOR AP-2, AP-EX

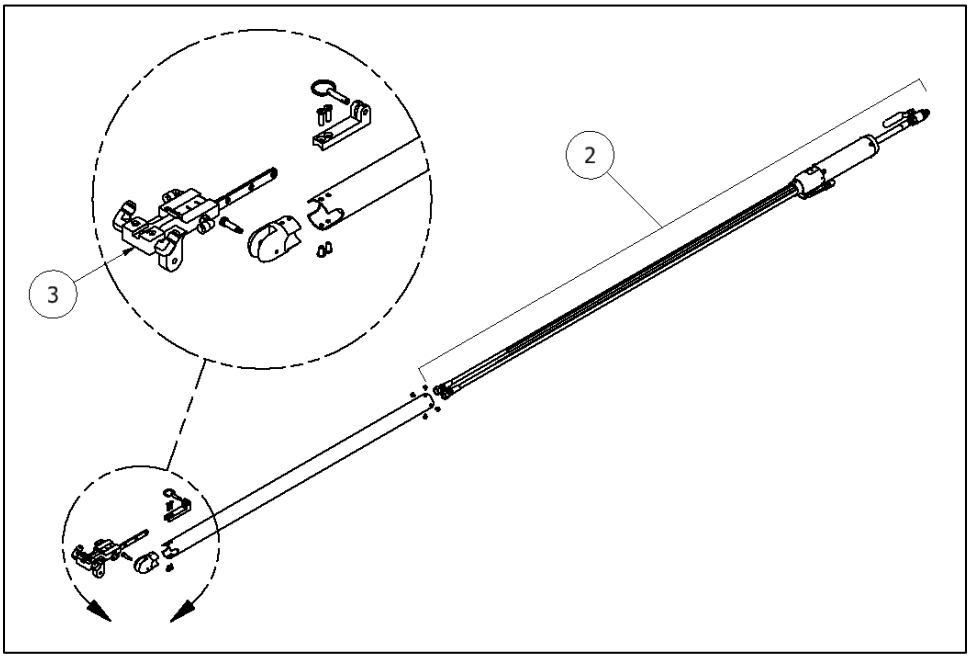
AP-EX PARTS LIST			
ITEM	QTY	PART NUMBER	DESCRIPTION
14	1	200034	RING, AP-EX
15	1	200035	HANDLE, AP-EX
16	1	200036	FITTING, 1/8 NPTM X 5 JIC 90DEG
17	1	200037	FITTING, 1/8 NPTM X 6 JIC 90DEG
18	2	200038	FITTING, 1/8 NPTM X 1/4 PUSH-TO-CONNECT 90DEG
19	2	200039	3/8" BALL
20	2	200040	SPRING, .266 OD, .5 FL, 11 LB/IN
21	1	200041	1/4" QUICK RELEASE PIN
22	2	200042	FITTING, 1/16" NPT PLUG, FLUSH MOUNT
23	2	200043	FITTING, 1/8 NPTM X 1/4 PUSH-TO-CONNECT
24	1	200044	SHOULDER BOLT
25	1	200045	SHOULDER BOLT
26	1	200046	TRIGGER W/ LOCK
27	1	200047	5 PORT, 2 POS, AIR VALVE
28	2	200048	O-RING, 906, AFLAS
29	2	200049	O-RING, 109, AFLAS
30*	1	GU-814-000	CHAMBER, 000
	1	GU-814-00	CHAMBER, 00
	1	GU-814-00X	CHAMBER, 00X
	1	GU-814-01	CHAMBER, 01
	1	GU-814-01X	CHAMBER, 01X
	1	GU-814-02	CHAMBER, 02
	1	GU-814-02X	CHAMBER, 02X
	1	GU-814-03	CHAMBER, 03
	1	GU-814-04	CHAMBER, 04
31	1	GU-815-000	PCT, 000
	1	GU-815-00	PCT, 00
	1	GU-815-00X	PCT, 00X
	1	GU-815-01	PCT, 01
	1	GU-815-01X	PCT, 01X
	1	GU-815-02	PCT, 02
	1	GU-815-02X	PCT, 02X
	1	GU-815-03	PCT, 03
	1	GU-815-04	PCT, 04

AP-EX PARTS LIST			
ITEM	QTY	PART NUMBER	DESCRIPTION
32	1	GU-816	GUN BLOCK
33	1	GU-845	COMPLETE AIR CYLINDER ASSEMBLY
34	2	GU-850	CHECK VALVE ASSY, AP-2
35	1	GU-04001	COUPLING BLOCK ASSEMBLY
36	2	OR-00037B	QUAD RING #011 VITON
37	1	OR-00042A	#016 O-RING
38	1	OR-804	O-RING; 2MMX4MM BUNA
39	4	OR-805	#108 VITON O-RING
40	2	TN-830	#4-40 X 5/16 SHCS
41	1	TN-04193	COUPLING BLOCK MOUNTING SCREW
42a	1	SEE PAGE 52	SCREEN SCREW ASSEMBLY, "A" SIDE
42b	1	SEE PAGE 52	SCREEN SCREW ASSEMBLY, "R" SIDE
43	4	FLOOR STOCK	#5-40 X 1 SHCS
44	1	FLOOR STOCK	#8-32 X 1/4 BHCS
45	1	FLOOR STOCK	#8-32 X 1-1/4 BHCS
46	1	FLOOR STOCK	#8-32 NYLOCK NUT
47	12	FLOOR STOCK	#10-32 X 1/4 BHCS
48	2	FLOOR STOCK	#10-32 X 3/8 BHCS
49	2	FLOOR STOCK	#10-32 x 1/2 FHCS
50	2	FLOOR STOCK	#10-32 X 5/8 SHCS
51	1	FLOOR STOCK	#10-32 X 1-1/4 SHCS

*Also available as soft chambers (see pg. 33 for part numbers, requires plastic side seals)

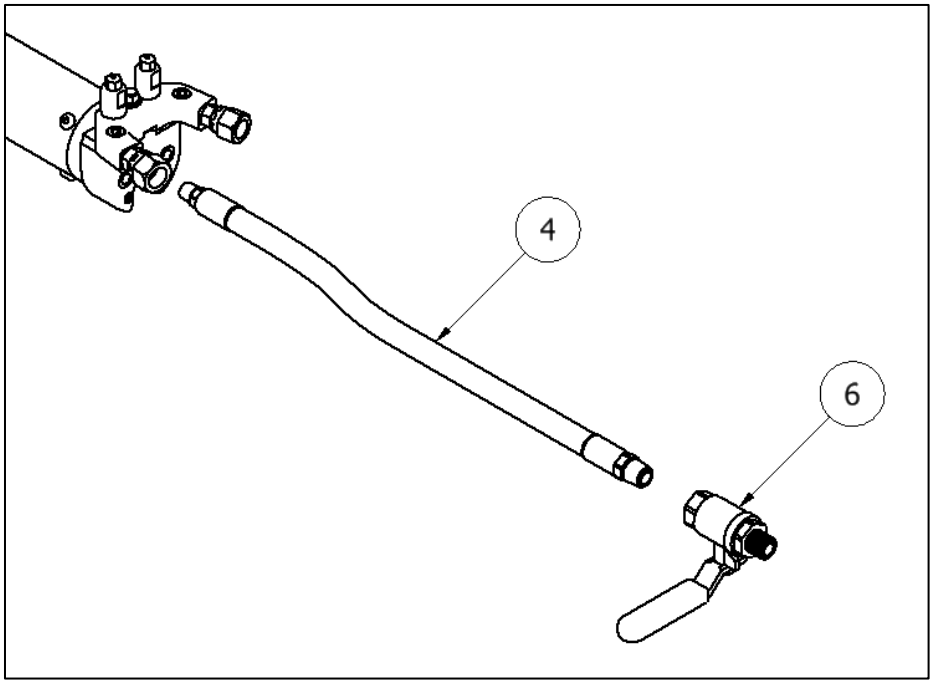
Subassemblies

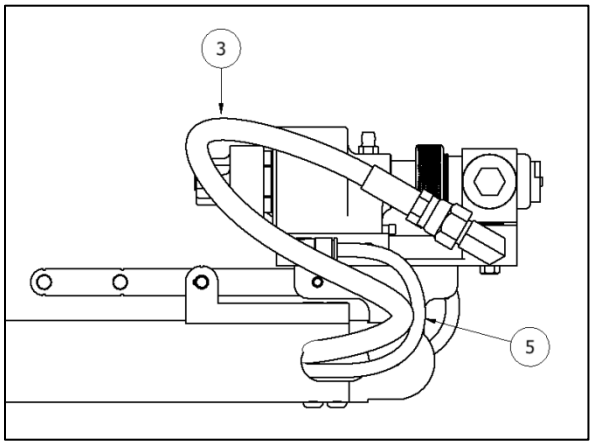


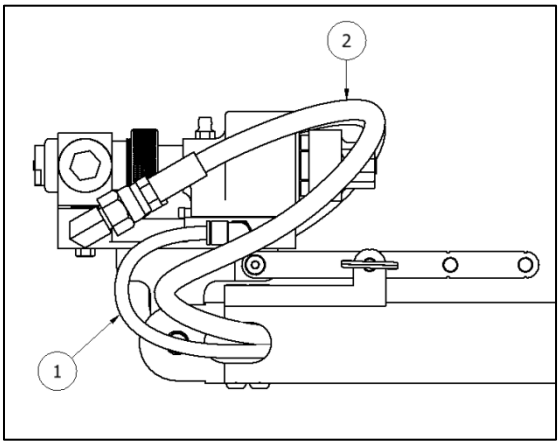


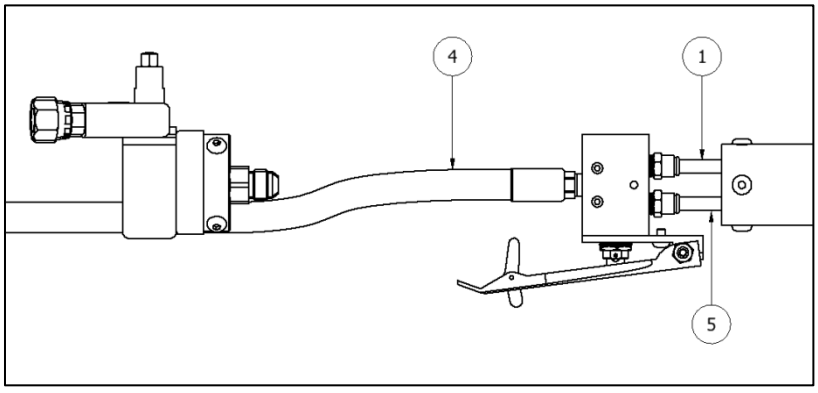
SUBASSEMBLIES			
ITEM	**QTY**	**PART NUMBER**	**DESCRIPTION**
1	1	200057	BASE ASSY, AP-EX (NO GUN OR COUPLING BLOCK INTERFACE)
2	1	200055	LOWER BODY ASSY, AP-EX
3	1	200056	MANIFOLD ASSY; AP-EX

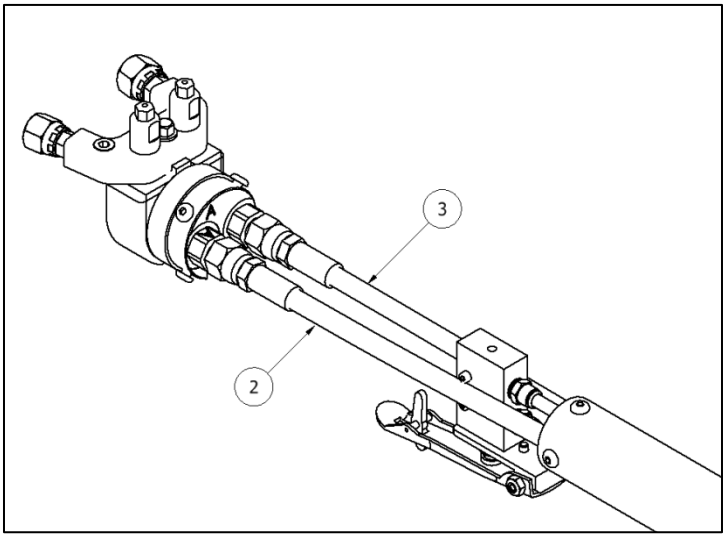
Hoses









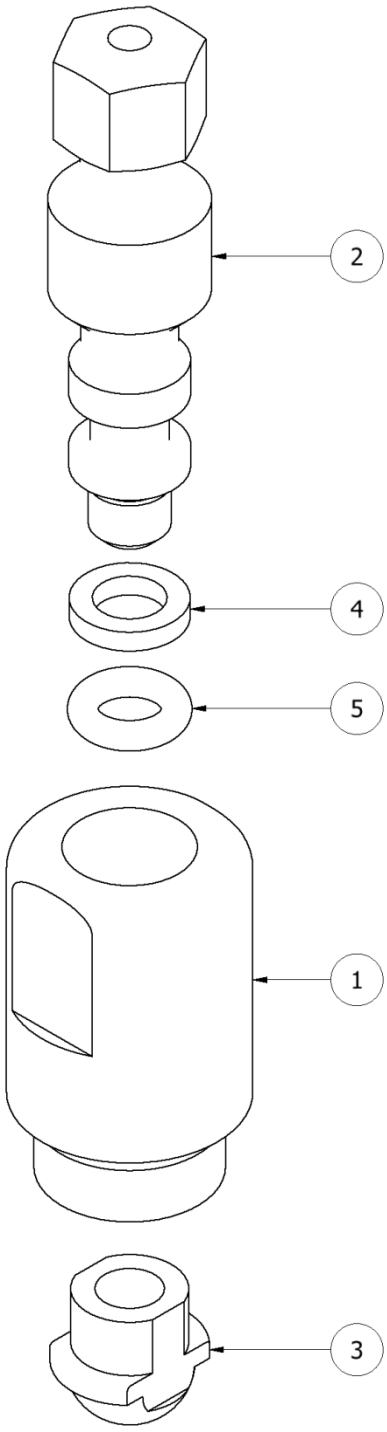


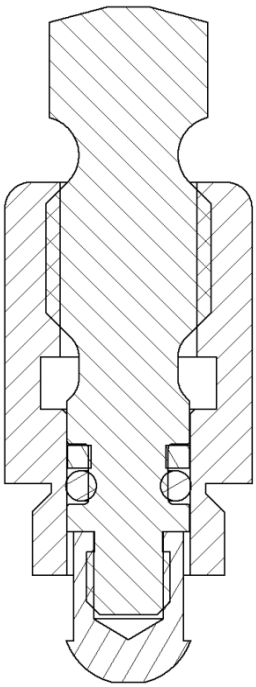
HOSES			
ITEM	QTY	PART NUMBER	DESCRIPTION
1	1	200050	1/4" OD POLY TUBE, 3.44', BLACK, AP-EX
2	1	200051	"A" HOSE SAE -5, AP-EX
3	1	200052	"R" HOSE SAE -6, AP-EX
4	1	200053	AIR HOSE ASSY, 1', AP-EX
5	1	200079	1/4" OD POLY TUBE, 3.57', CLEAR, AP-EX
6	1	PU-04000-82	BALL VALVE

NOTE! *When replacing air and material hoses, ensure each hose is connected to correct fitting. The "A" and "R" material hoses are sized differently to prevent incorrect pairing. The air hoses have different lengths and color to help distinguish between the two. See the drawings and part descriptions for proper locations.*

Manual Valve Assembly

(GU-020)

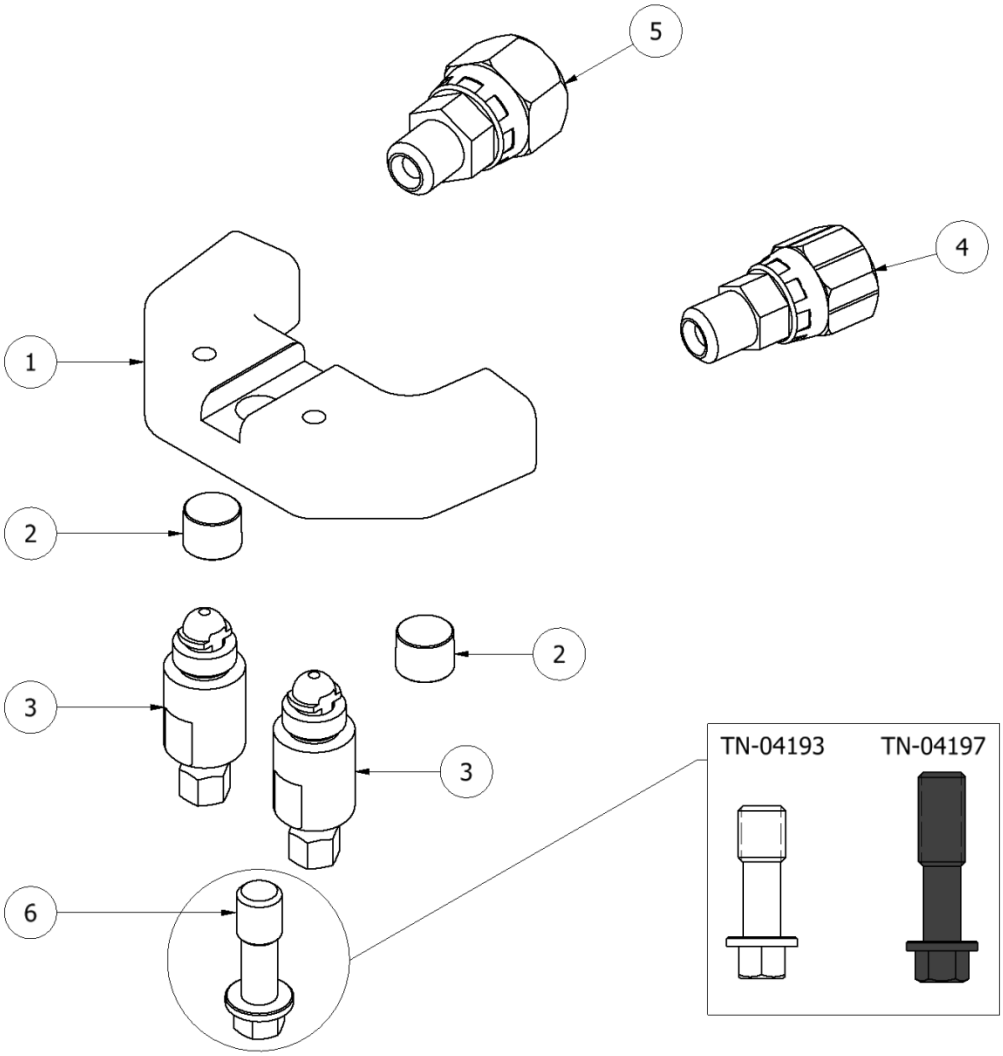


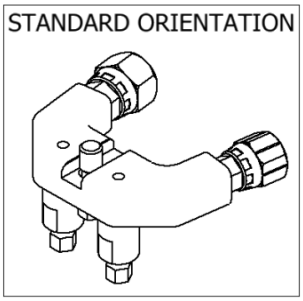


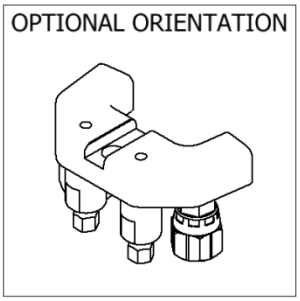
MANUAL VALVE ASSEMBLY (GU-020)			
ITEM	QTY	PART NUMBER	DESCRIPTION
1	1	GU-022	MANUAL VALVE HOUSING
2	1	GU-021	MANUAL VALVE STEM
3	1	GU-023	MANUAL VALVE SEAT
4	1	OR-016	007 VITON CURVED BACKUP RING
5	1	OR-015	#007 AFLAS O-RING

Coupling Block Assembly

(GU-04001)



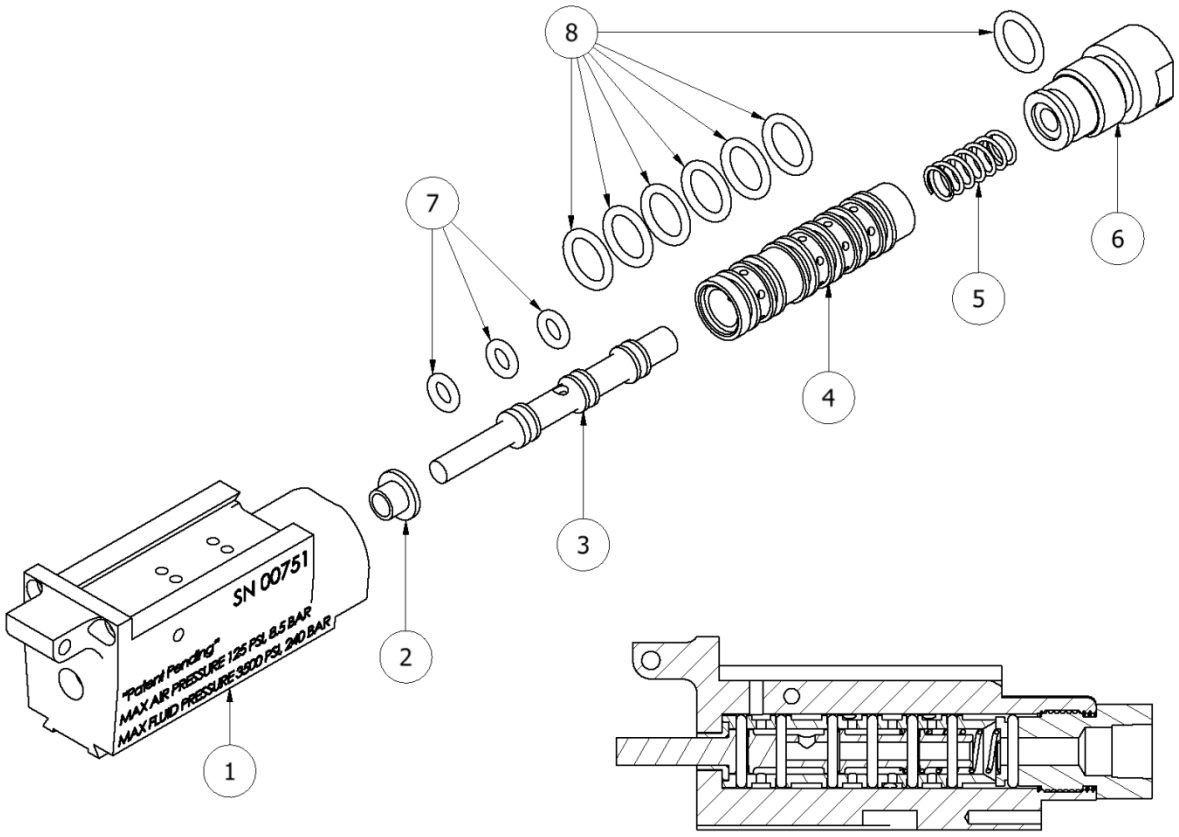




COUPLING BLOCK ASSEMBLY (GU-04001)			
ITEM	QTY	PART NUMBER	DESCRIPTION
1	1	GU-04001-01	COUPLING BLOCK BODY
2	2	TN-04192	1/8 NPT PIPE PLUG
3	2	GU-020	MANUAL VALVE ASSY
4	1	RA-00005A	1/8 NPT X #5 JIC SWIVEL
5	1	RA-00006A	1/8 NPT X #6 JIC SWIVEL
6	1	TN-04193	COUPLING BLOCK MOUNTING SCREW
	1	TN-04197	COUPLING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

Air Manifold Assembly

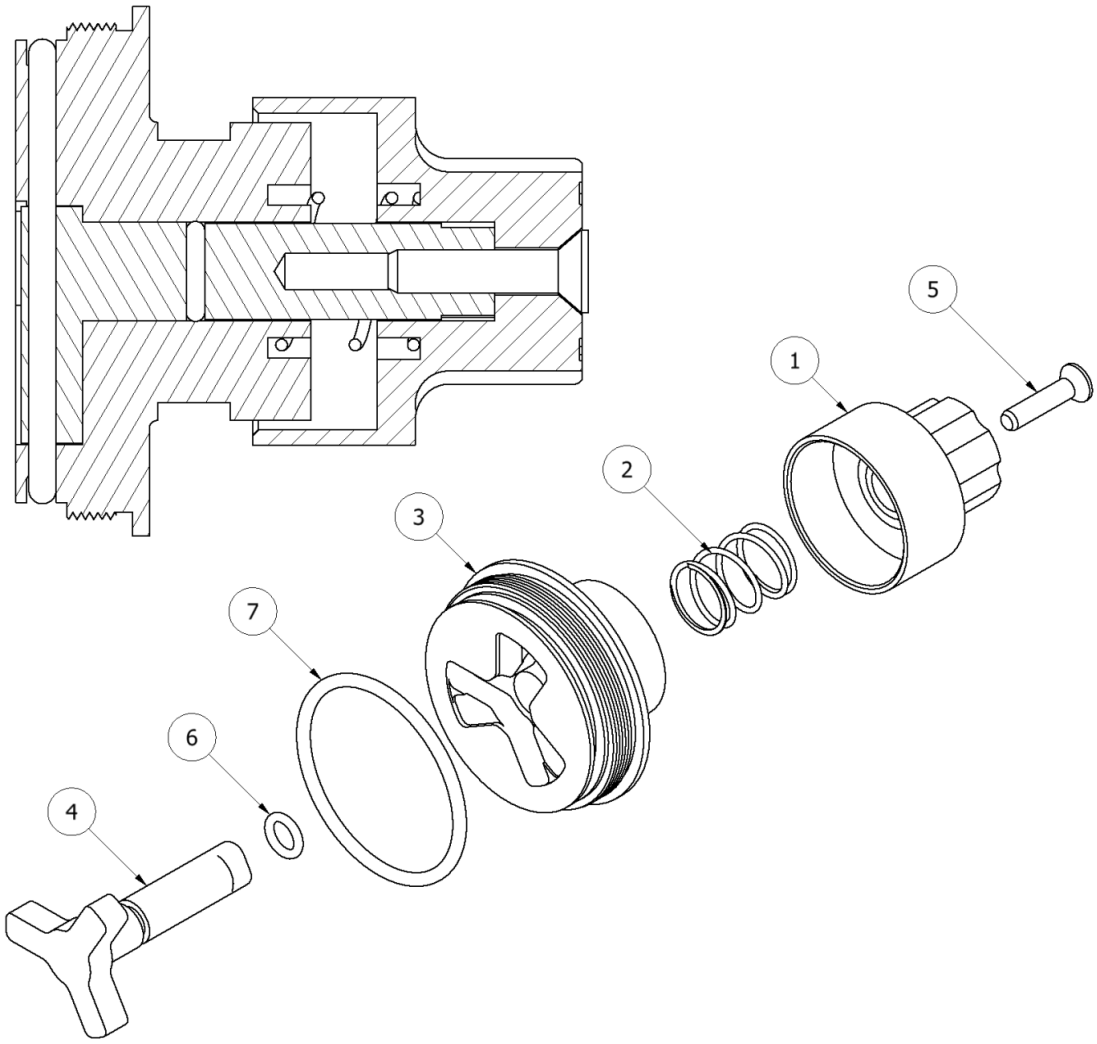
(GU-843)



AIR MANIFOLD ASSEMBLY (GU-843)			
ITEM	**QTY**	**PART NUMBER**	**DESCRIPTION**
1	1	GU-826	AIR MANIFOLD
2	1	GU-825-2	LINER BUSHING
3	1	GU-823	SPOOL VALVE
4	1	GU-825-1	SPOOL VALVE LINER
5	1	GU-824	SPOOL VALVE SPRING
6	1	GU-833	HOSE ADAPTER
7	3	OR-00002A	O-RING #008 VITON
8	7	OR-803	O-RING #012 VITON

End Cap Assembly

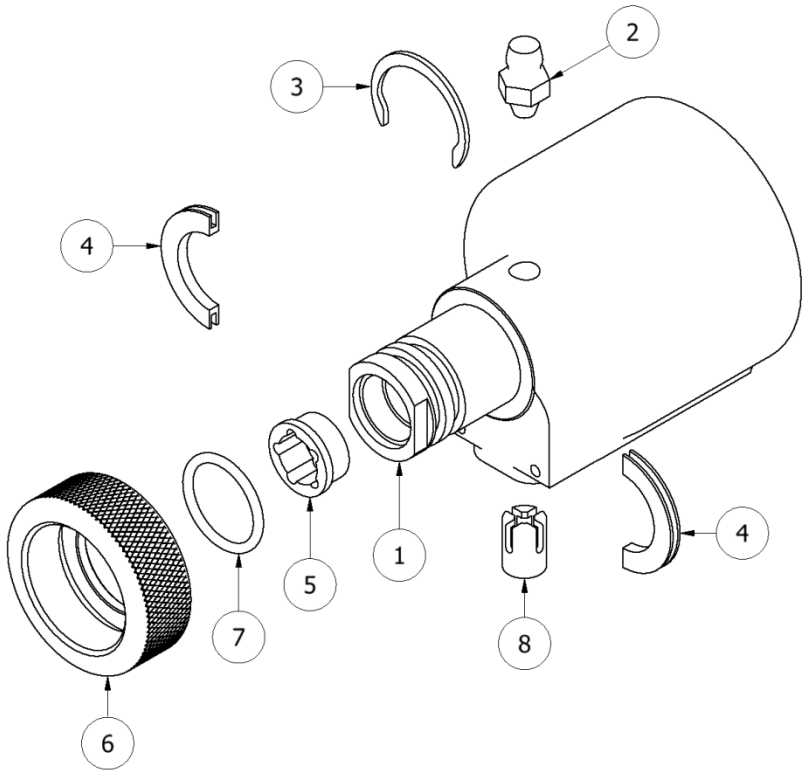
(GU-844)



END CAP ASSEMBLY (GU-844)			
ITEM	QTY	PART NUMBER	DESCRIPTION
1	1	GU-804	LOCK KNOB
2	1	GU-806	SPRING
3	1	GU-803	CYLINDER END CAP
4	1	GU-807	TWO POSITION STOP
5	1	GU-831	RETAINING SCREW
6	1	OR-00043B	O-RING #010 80D AFLAS
7	1	OR-00026A	O-RING #129 VITON

Air Cylinder Assembly

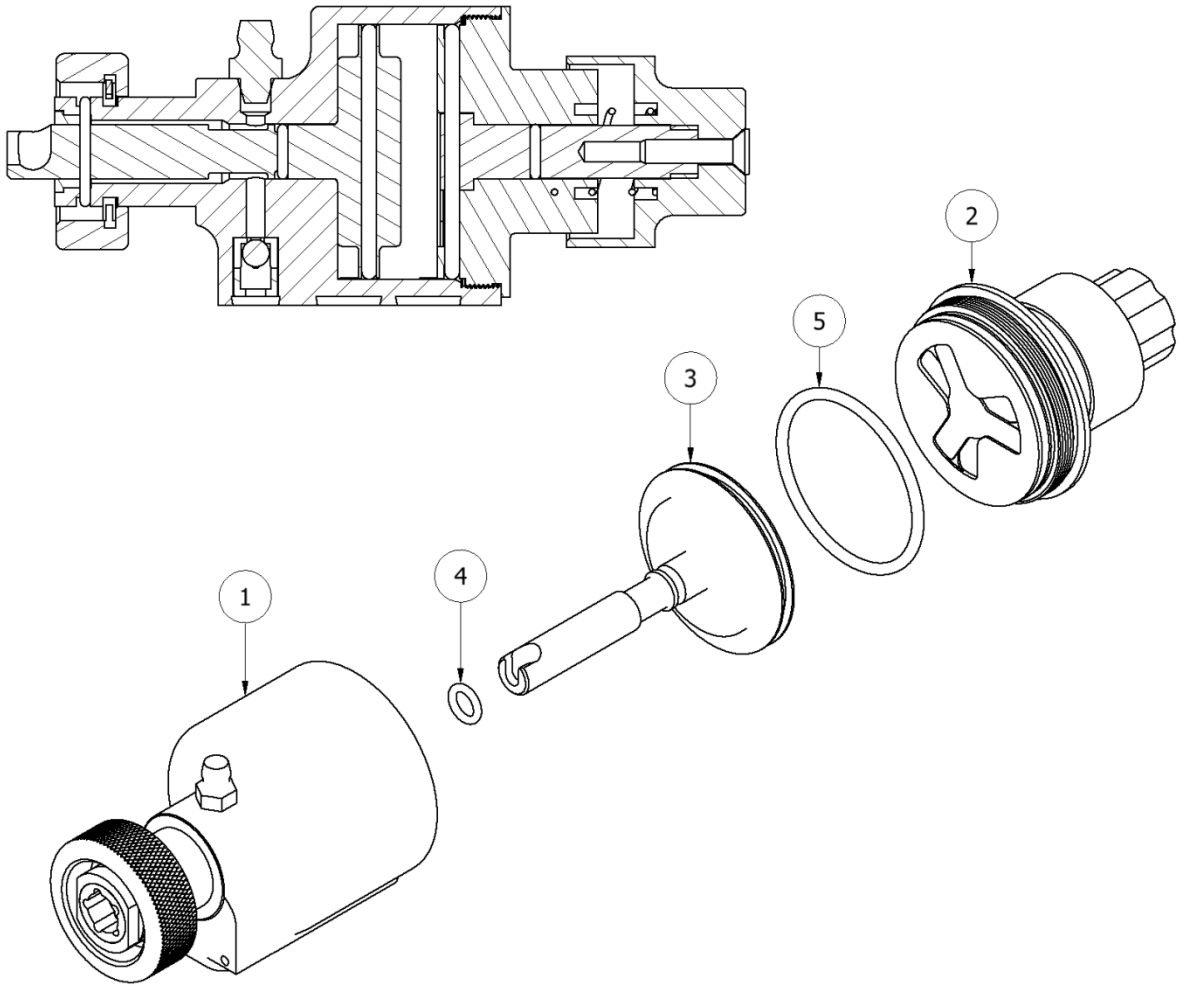
(GU-801A)



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

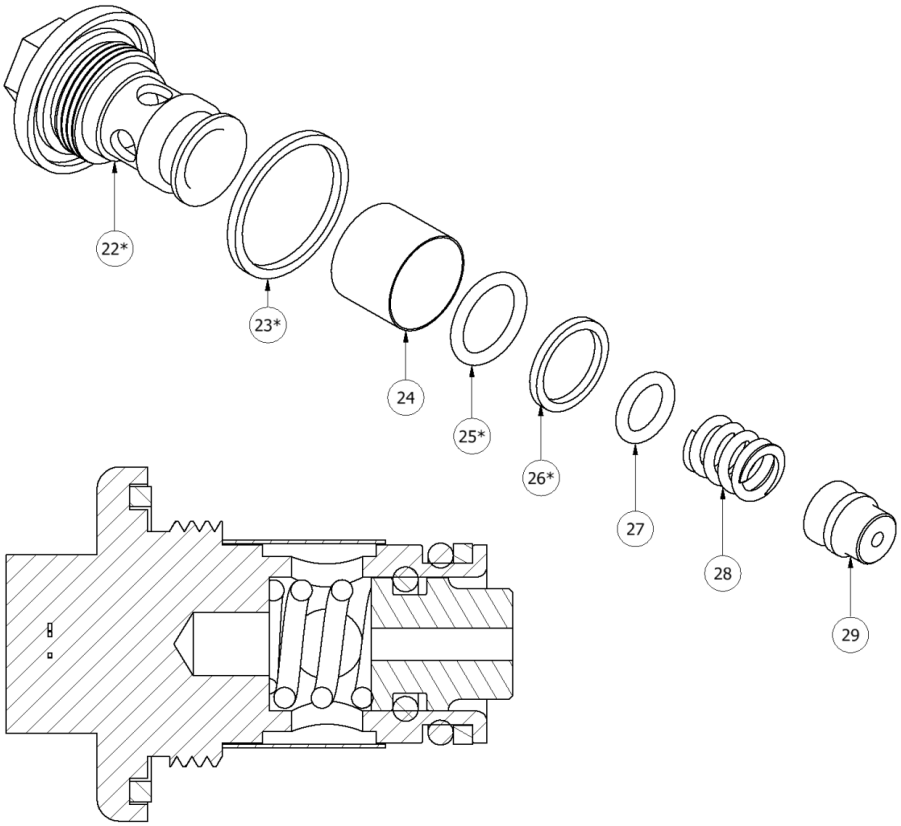
Complete Air Cylinder Assembly

(GU-845)



COMPLETE AIR CYLINDER ASSEMBLY (GU-845)			
ITEM	QTY	PART NUMBER	DESCRIPTION
1	1	GU-801A	AP-2 AIR CYLINDER ASSEMBLY
2	1	GU-844	AP-2 END CAP ASSEMBLY
3	1	GU-802	PISTON
4	1	OR-00043B	O-RING #10 80D AFLAS
5	1	OR-00026A	O-RING #129 VITON

Screen Screw Assembly

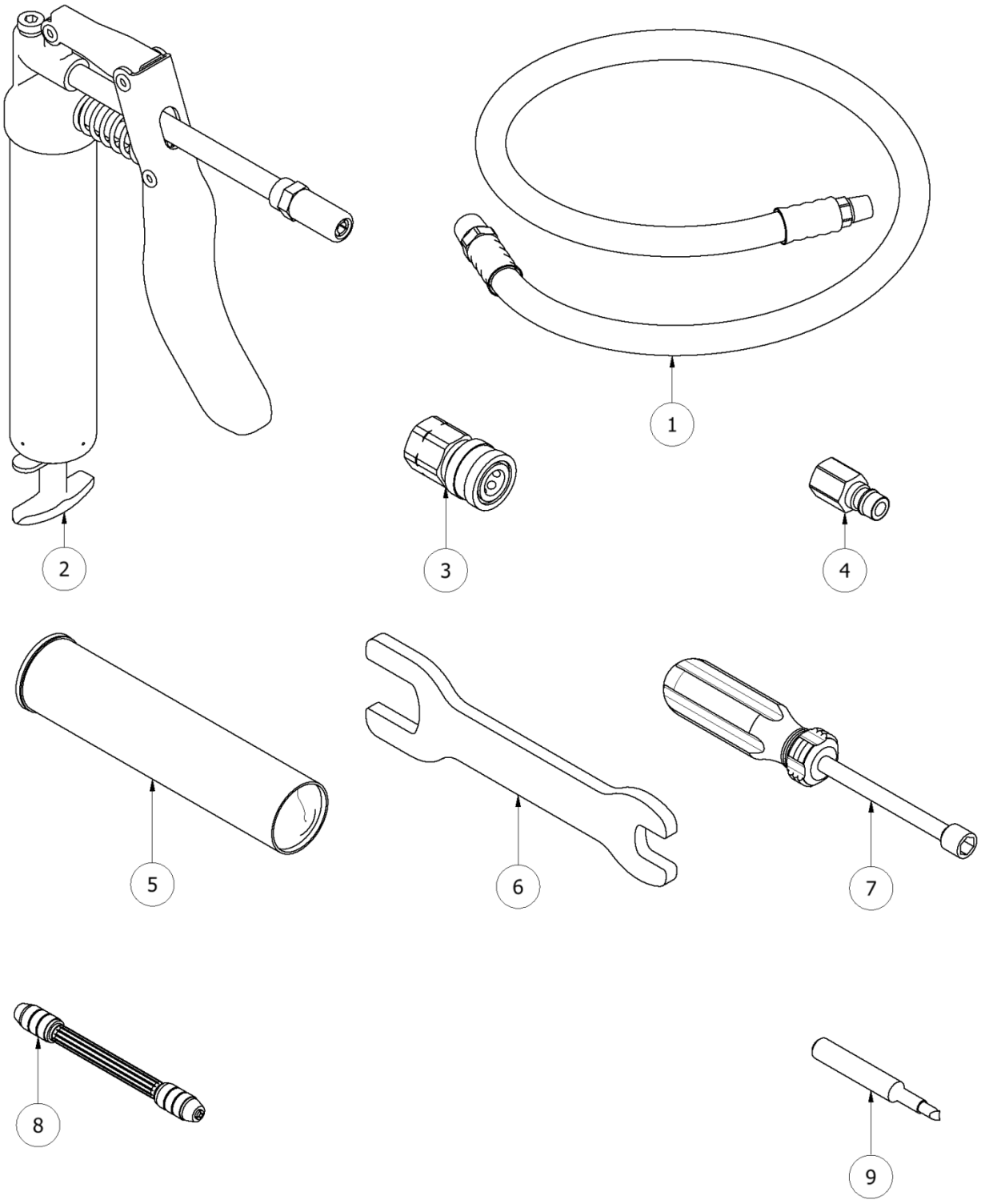


SCREEN SCREW COMPONENTS			
ITEM	**QTY**	**PART NUMBER**	**DESCRIPTION**
22	1	GU-819-R *	"R" SCREEN SCREW
	1	GU-819-A *	"A" SCREEN SCREW
23	1	GU-04007 *	SCREEN SCREW SEAL
24	1	GU-818-40	FILTER SCREEN; 40 MESH
	1	GU-818-60	FILTER SCREEN; 60 MESH
	1	GU-818-80	FILTER SCREEN 80 MESH **(STANDARD)**
25	1	OR-801 *	O-RING #013 80D AFLAS
26	1	OR-800 *	#013 BACK UP RING
27	1	OR-00043B	O-RING #010 80D AFLAS
28	1	SP-04005	SPRING; SIDE SEAL
29**	1	GU-817-90	SIDE SEAL
	1	GU-817-180	SIDE SEAL **(FOR CHAMBERS 03 & 04)**

*Included in KT-819-R and KT-819-A (Pg. 33)

**Available in plastic (GU-817-90D) for soft chambers

List of Tools



LIST OF TOOLS			
ITEM	QTY	PART NUMBER	DESCRIPTION
1	1	GU-04019	AIR HOSE
2	1	TL-00002	GREASE GUN
3	1	GU-04021	QUICK DISCONNECT; FEMALE
4	1	GU-04022	QUICK DISCONNECT; MALE
5	1	TL-04003	GREASE TUBE
6	1	TL-09	OPEN END WRENCH
7	1	TL-04001	5/16 SPINTITE; NUT DRIVER
8	1	GP-00101	DOUBLE ENDED PIN VISE
9	1	TL-10	CHECK VALVE REMOVAL TOOL

APPENDIX

Grease Gun Assembly

(TL-00002)

1. Screw the rod (2c) into the top of the grease gun (2a) so that the final assembly represents the assembled grease gun (2, Pg. 52).

2. Unscrew the top of the grease gun (2a) from the bottom of the grease gun (2b).

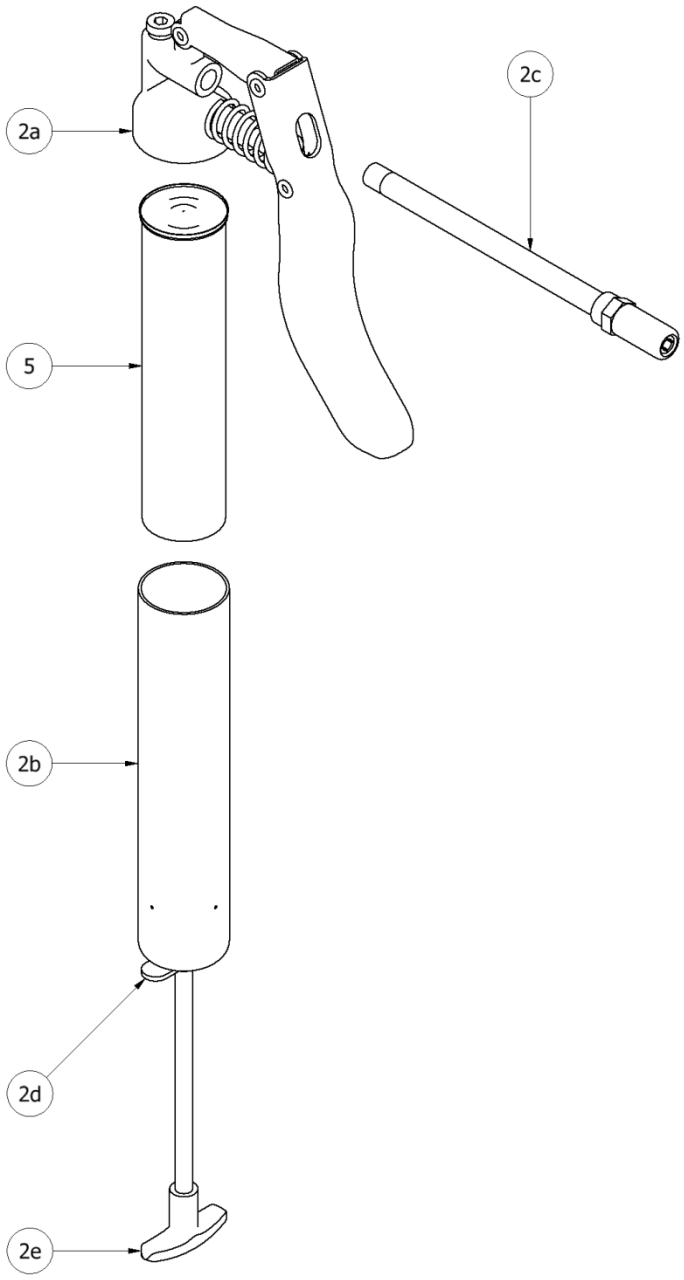
3. Pull the handle (2e) on the bottom of the grease gun (2b) so that it resembles the picture.

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.



Mixing Chamber Flow Rate				
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.

Chamber/Orifice Comparison Chart			
Competitive Air Purge		Competitive Air Purge	
Chamber Number	Chamber Number	Chamber Number	Chamber Number
000 (AR2020)	0.0200	000	0.0280
00 (AR2929)	0.0290	00	0.0292
01 (AR4242)	0.0420	01	0.0410
02 (AR5252)	0.0520	02	0.0465
03 (AR6060)	0.0600	03	0.0595
04 (AR7070)	0.0700	04	0.0700

TECHNICAL SERVICE BULLETINS

April 24, 2013

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

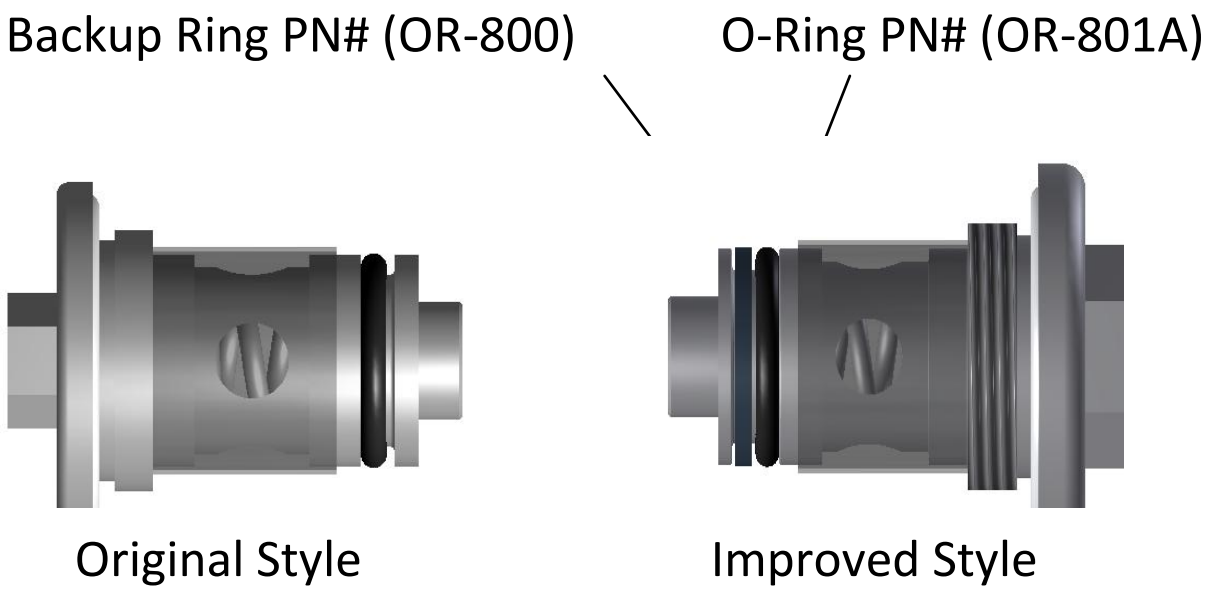
All AP-2 spray guns starting with serial #347 Screen Screw have the improved screen screws. The screen screws have been improved to extend the service life of the Screen Screw O-Ring when operating at high pressure. The improvement entails a back up ring (OR-800) in addition to the O-Ring (OR-801). See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

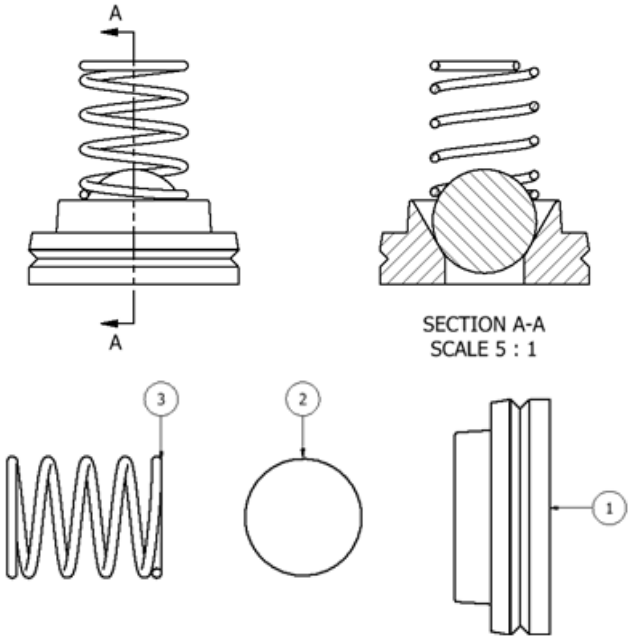


August 26, 2014

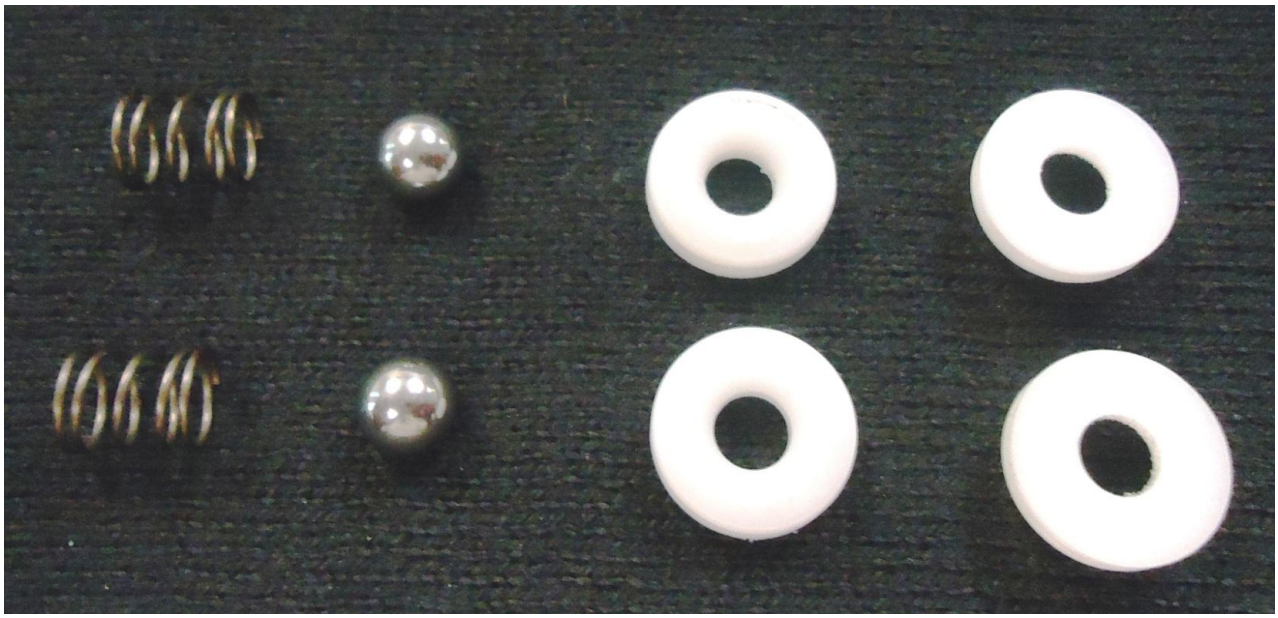
Ref: AP-2 New Fluid Check Valve Assembly # KT-850

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