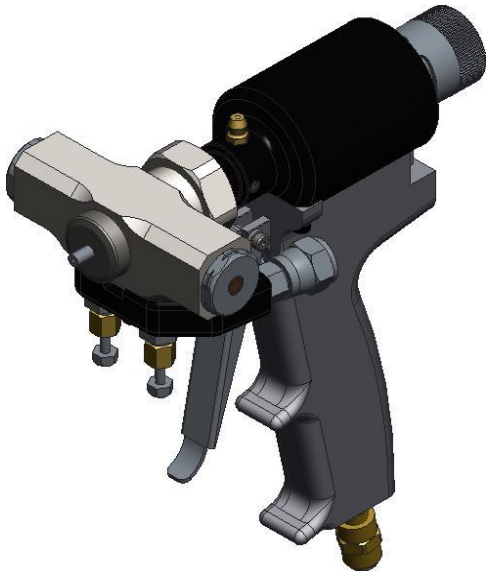




POLYURETHANE MACHINERY CORPORATION



Air Purge Spray & Pour Gun AP-1

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

**Manual
Ref. # MN-04002**

REVISION 1.0

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Before installing the AP-1 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-1 Gun. All of the information is aimed at improving user safety and avoiding possible breakdowns from the incorrect use of the AP-1 Gun.

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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.
- Cosmetic damage.

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-1** series Gun.



Before installing the AP-1 Gun and start-up, carefully read all the technical and safety documentation included in this Manual. Pay special attention to the information to know and understand the operation and the conditions of use of the unit. All of the information is aimed at enhancing User Safety and avoiding possible breakdowns derived from the incorrect use of the AP-1 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-1 Gun or how to avoid a situation that could cause minor 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-1 Gun; you will provide a better opportunity for incident-free operation for a longer time 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 directly contact Polyurethane Machinery Company.

IMPORTANT SAFETY INFORMATION

The AP-1 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-1 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-1 Gun. If in doubt, consult your authorized PMC distributor.

When working with the AP-1 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 of respiratory protection when operating the AP- 1 Gun is recommended at all times. 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.

Deal with the waste caused according to current regulations.

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.

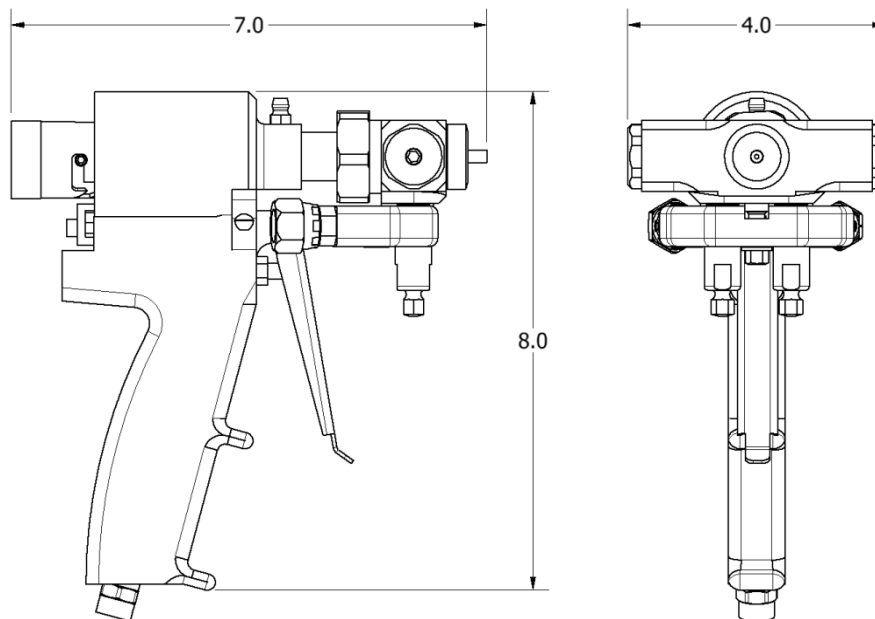
The equipment includes components that reach high temperatures and can cause burns. Hot parts of the equipment must not be handled or touched until they have cooled completely.

CHARACTERISTICS

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

Weight: 2.8 lbs

Dimensions: H 8.0" / W 4" / L 7.0" (20 cm / 10 cm / 18 cm)





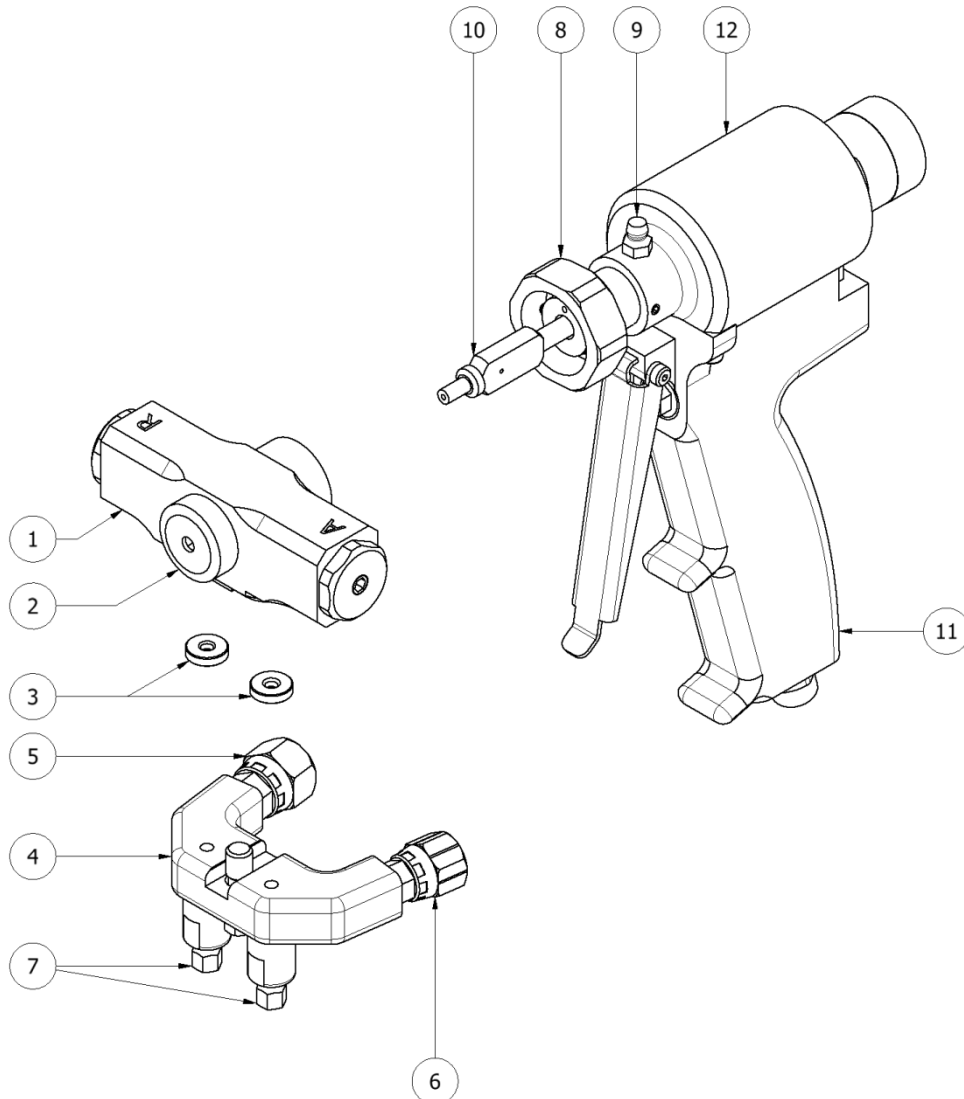
TECHNICAL SPECIFICATIONS

Maximum Working Pressure:	_____ 3,500 psi (241 bar)
Maximum Air Pressure:	_____ 125 psi (8.6 bar)
Maximum Output (1:1 ratio):	_____ 40 lb/min (18 kg)
Minimum Output (1:1 ratio):	_____ 3.3 lb/min (1.5 kg)
Opening Force @ 110 psi (8 bar)	_____ 200 lb (14 bar)
Closing Force @ 110 psi (8 bar)	_____ 205 lb (14 bar)

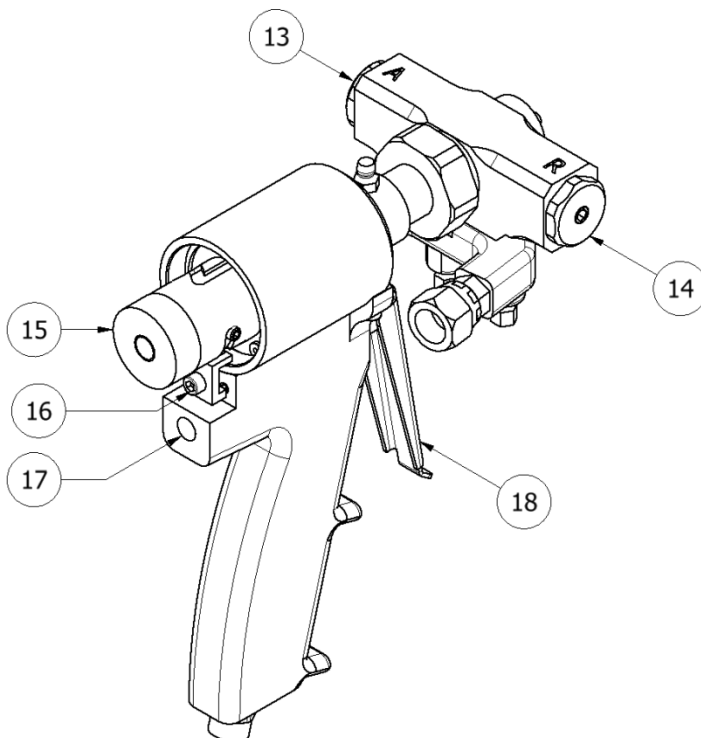
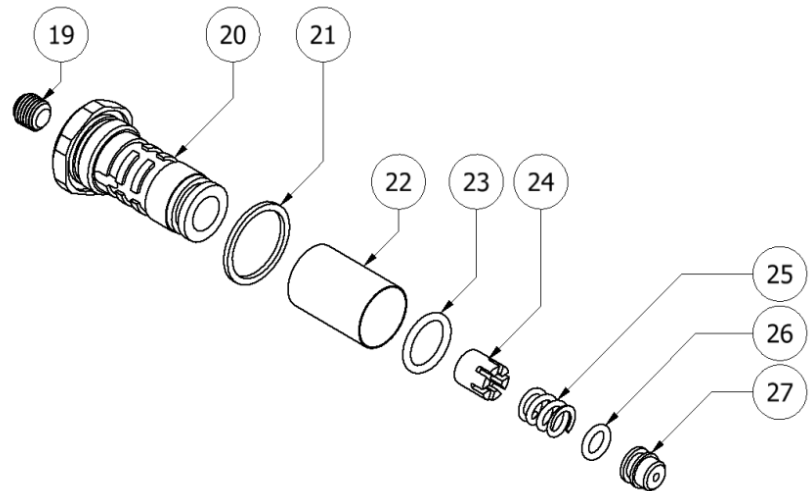
GENERAL DESCRIPTION

For better knowledge of the **AP-1** Gun, the main components and their description are shown. For a more precise identification, see the Parts Identification section.

- | | |
|------------------------------------|-----------------------------------|
| 1 Gun Block | 7 Manual Valve (2) |
| 2 Air Cap | 8 Gun Block Retainer Nut |
| 3 Coupling Block Gasket (2) | 9 Grease Fitting |
| 4 Coupling Block | 10 Mixing Chamber and Seal |
| 5 Poly (B) Fitting | 11 Gun Handle |
| 6 Iso (A) Fitting | 12 Air Cylinder |



- 13.** Iso (A) Screen Screw
- 14.** Poly (R) Screen Screw
- 15.** Gun Safety Lock
- 16.** Air Cylinder Mtg. Clamp
- 17.** Air Inlet (Standard Configuration)
- 18.** Gun Trigger
- 19.** Clean Out Plug
- 20.** Screen Screw
- 21.** Screen Screw Seal
- 22.** Screen
- 23.** O-Ring



- 24.** Check Valve Assembly
- 25.** Spring
- 26.** O-Ring
- 27.** Side Seal

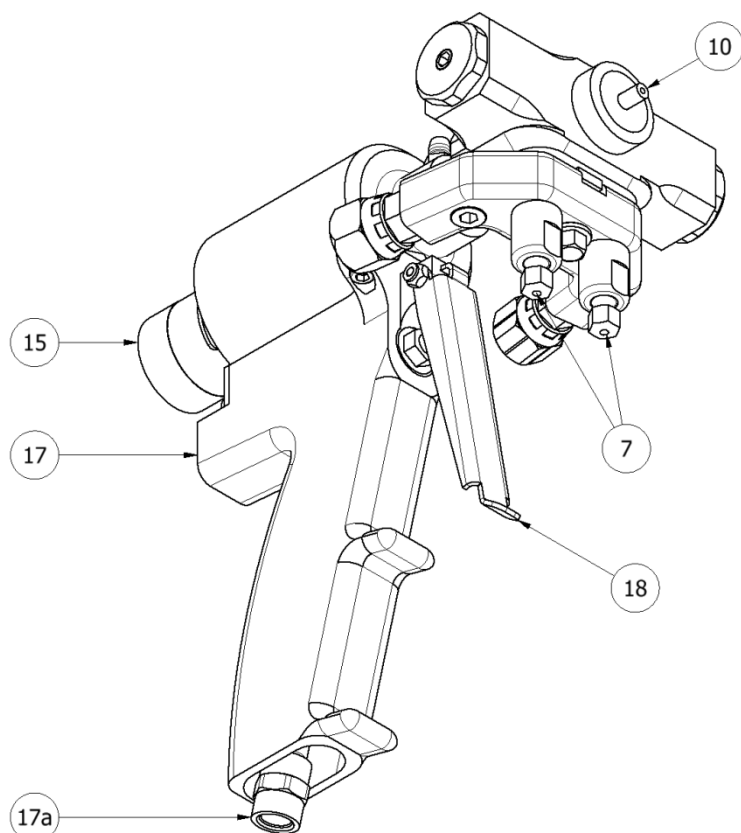
INSTALLATION AND START-UP

CAUTION! When working with the AP-1 Gun or performing maintenance work, wear suitable safety protection in accordance with the recommendations and specifications provided by the product suppliers.

1. Ensure the Coupling Block Manual Valves [7] 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.

2. CLOSE the Gun Safety Lock [15] by pushing in and turning clockwise.
3. Connect the AP-1 Gun to the Coupling Block using the supplied 5/16" Spintite Nut Driver. Ensure Coupling Block Gaskets [3] are in place [not shown].
4. Connect the air supply to the gun either through the port at rear of the gun [17] standard configuration, or through the handle [17a] see page 11.



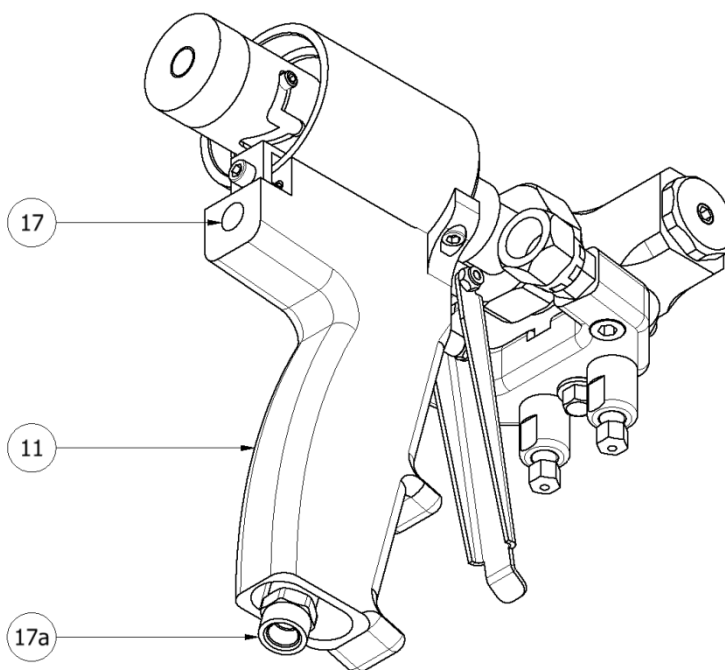
NOTE! The material delivery hoses are color coded Red and Blue, allowing the user to recognize them. The Red corresponds to the Isocyanate (A) and the Blue to the Polyol (R). To avoid connection errors, the Coupling Connections of the Isocyanate (A) and Polyol (R) hoses are also different sizes, which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

5. Pull the Trigger [18] several times to check for correct movement of the Mixing Chamber [10].
6. Ensure the material pressures at the Proportioner and the material temperatures in the Material Heaters and Heated Hoses are as recommended by the chemical supplier (see Machine Service

Manual).

7. OPEN each Manual Valve [7] by turning to the full counter clockwise position (**2 turns**).
8. Open the Gun Safety Lock [15] by pushing it in and turning it $\frac{1}{4}$ turn.
9. Perform a test spray.

The AP-1 Gun is designed with the flexibility to have the air input at the rear of the Gun Handle [17] (standard configuration) or in the base [17a].



To make the change, do the following:

1. Unscrew 1/8 NPT plug located inside the handle [11] and install it at the rear of the gun [17].
2. Use Teflon tape or sealing paste on all threads to prevent air leaks.
3. Install the Pipe Nipple [17a] with the bushing up into the gun handle and screw it into the area where the pipe plug was removed.

SHUTDOWN PROCEDURES

1. CLOSE the Gun Safety Lock, push in and turn full counterclockwise position [15].

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

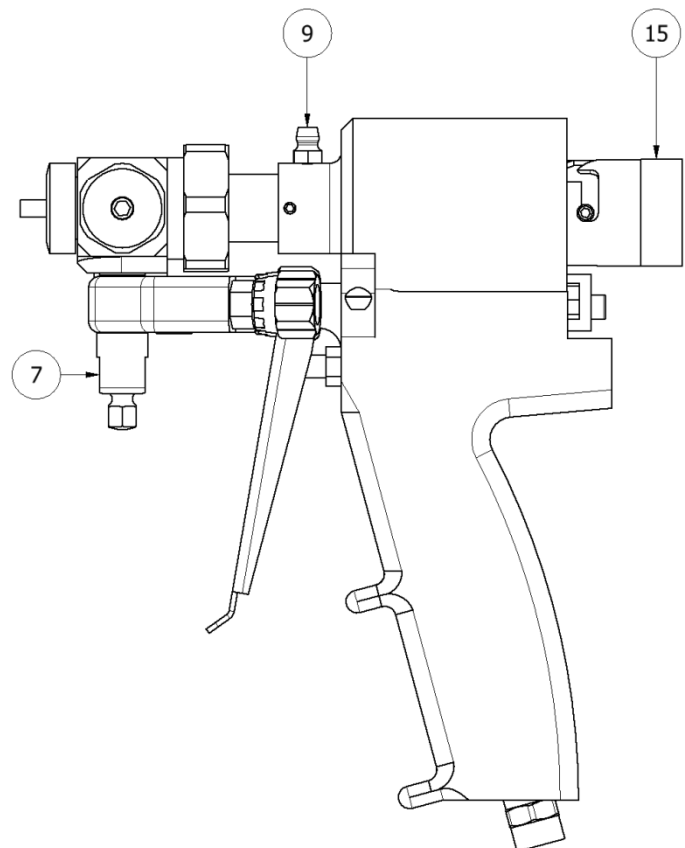
2. Close the Manual Valves [7] by turning them to full clockwise position.
3. Using PMC Grease and Grease Gun, lubricate the Mixing Chamber through the Grease Fitting [9] until a fine mist of grease is sprayed from the Gun.
4. Disconnect the air supply.

NOTE: *The injection of PMC grease supplied with the Gun at the end of the day will minimize maintenance time and eliminate the need to remove the Mixing Chamber each day to clean it. Use of grease with high moisture content will not achieve the desire results.*

LOSS OF AIR PRESSURE/EMERGENCY SHUT-OFF

1. Push in the Gun Safety Lock [15] this will move the entire Air Piston and Mixing Chamber forward and put it into the closed position
2. Using supplied 5/16" Nut Driver close each manual valve [7].

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



MAINTENANCE

To obtain maximum performance from your AP-1 Gun, it is necessary to periodically perform certain maintenance operations.

WARNING! Before proceeding with any maintenance work on the AP-1 Gun, ensure the Gun Safety Lock is in the safety position and the Manual Valves are CLOSED. Trigger the Gun to remove internal material pressure. It is recommended to remove the Gun from the Coupling Block.



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



Deal with the waste caused according to current regulations.



To prevent serious damage caused by the impact of pressurized fluids, never open a connection or perform maintenance work on components subject to pressure until all pressure has been eliminated.

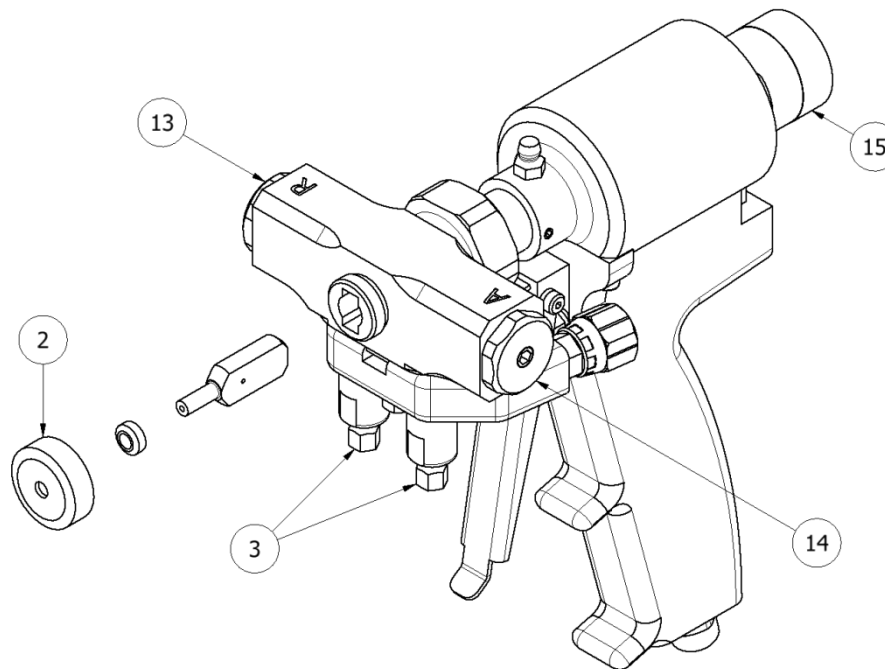


Use suitable protection when operating, maintaining or being present in the area where the equipment is functioning. This includes, but is not limited to, the use of protective goggles, gloves, shoes and safety clothing and breathing equipment.



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.

MIXING CHAMBER MAINTENANCE AND REPLACEMENT



1. CLOSE the Manual Valves [7] by turning them to the full clockwise position.
2. Trigger Gun over Waste Container to release internal material pressure.
3. Remove the Gun Safety Lock [15].
4. Remove the Air Cap [2].
5. Remove both Screen Screws [13,14] and flush the chemical on each side of the gun block.
6. Use the 5/16" Spintite Nut Driver, unscrew the Piston Shaft [35] located in the center of the Air Cylinder End Cap (not shown) from the Mixing chamber by turning it counterclockwise.
7. Remove the Mixing Chamber and Air Seal [10a] from the front of the Gun.
8. Flush and clean any residue from the mixing chamber area of the Gun Block.
9. Clean or replace the Mixing Chamber including Air Seal as required.
10. Reassemble the Mixing Chamber in reverse order.

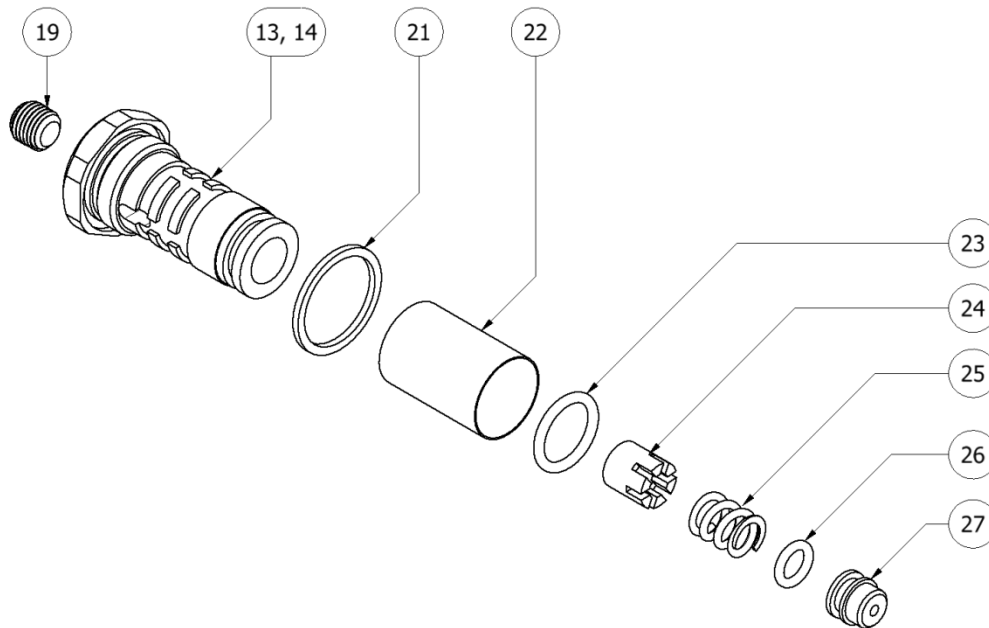
***CAUTION!* Do not over tighten the Piston Shaft when installing the Mixing Chamber. This will result in permanent damage to both the Piston Shaft and Mixing Chamber!**

***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 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 a groove around the Screen Screw Head.



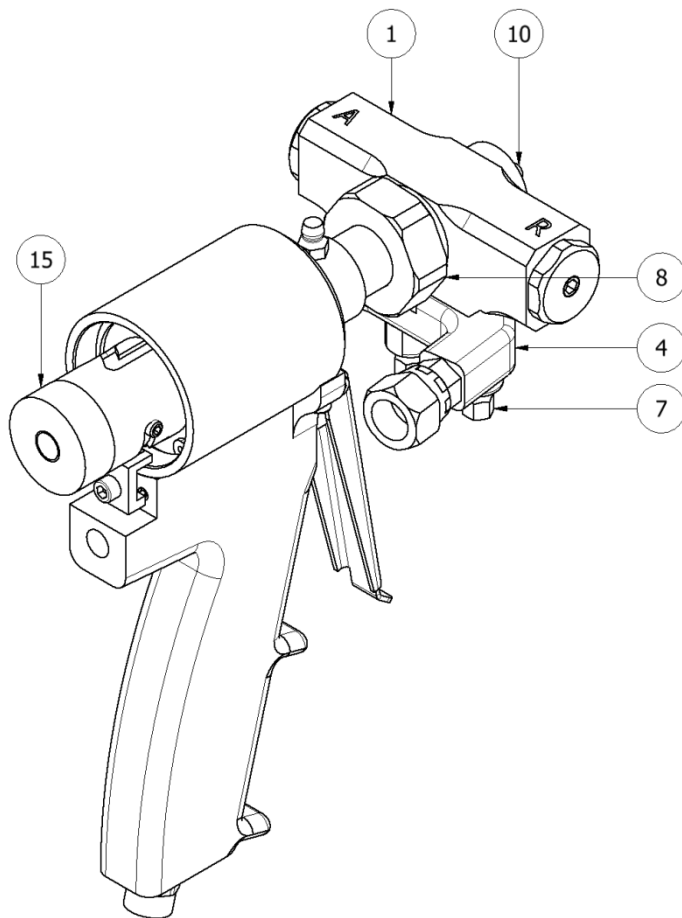
1. CLOSE the Manual Valves [7] by turning them to the full clockwise position.
2. Trigger Gun over Waste Container to release internal material pressure.
3. CLOSE the Gun Safety Lock [15].
4. Use a 15/16" open-end wrench and remove the Screen Screw [13, 14].
5. Clean or replace the Screen [22] as required.
6. Remove the Side Seal [27], Spring [25] and Check Valve [24] from the Screen Screw. If necessary, unscrew the access plug [19] to remove the components. Inspect the Screen Screw Seal [21] and O-rings [23, 26]. Clean or replace as required.
7. Apply lubrication to the O-rings and threads and reassemble in reverse order.
8. The Gun is now ready for service.

GUN BLOCK REMOVAL

1. CLOSE the Manual Valves [7] by turning them to the full clockwise position.

CAUTION! *Excessive force in opening or closing 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. Remove both Screen Screws and flush the chemical from the Gun Block.
4. CLOSE the Gun Safety Lock [15].
5. Remove Gun from Coupling Block [4].
6. Remove the Mixing Chamber [10] as directed on page 14.
7. Use a 1-3/8" open-end wrench and loosen the Gun Block Retainer Nut [8].
8. Carefully pull the Gun Block [1] forward to remove.
9. Service the Gun Block and component parts as required.
10. Reassemble in reverse order.



CAUTION! *The Mixing Chamber must be removed and installed through the front of the Gun Block before removal and reinstalled AFTER the Gun Block is reinstalled.*

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

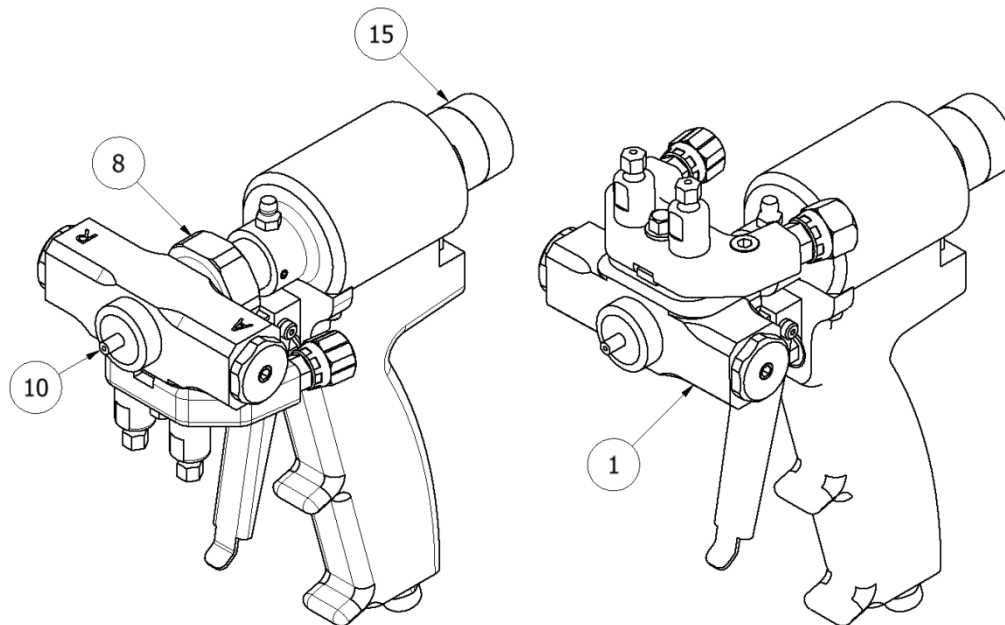
GUN BLOCK REVERSAL

1. CLOSE the Manual Valves [7] by turning them to the full clockwise position.

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

2. Remove the Gun from the Coupling Block.
3. Trigger Gun over Waste Container to release internal material pressure.
4. CLOSE the Gun Safety Lock [15].
5. Loosen the Mixing Chamber [10] as directed on Page 14 Step 6.
6. Use a 1-3/8" open-end wrench and loosen the Gun Block Retainer Nut [8].
7. Pull the Gun Block [1] forward approximately 1/4" to free from the Retaining Pins (not shown).
8. Rotate the Gun Block 180 degrees and reseal rearward, being careful to re-engage the Retaining Pins.
9. Tighten the Gun Block Retainer Nut.

NOTE: Depending on Hose orientation, it may be necessary to remove the Coupling Block from the Gun Whip Hose before performing the Gun Block reversal.

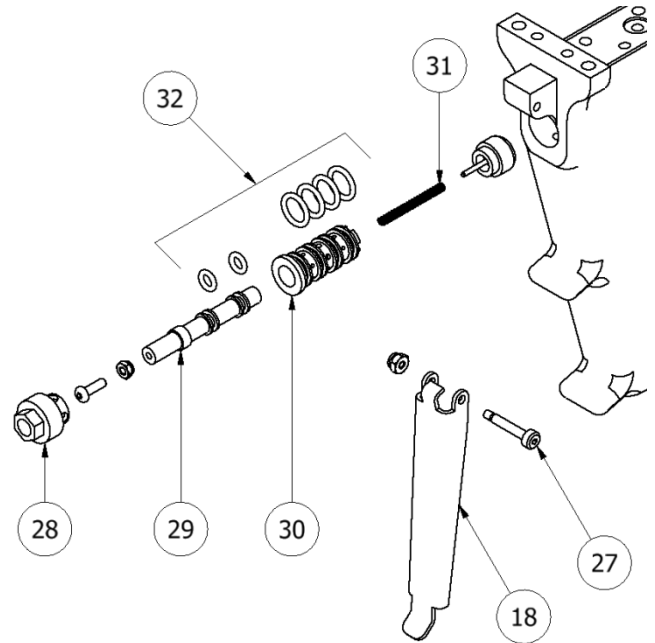


TRIGGER AND TRIGGER VALVE MAINTENANCE

1. CLOSE the Manual Valves [7, page 17] by turning them to the full clockwise.
2. CLOSE the Gun Safety Lock [15, page 17].
3. Disconnect the air supply to the Gun.
4. Remove Airline from back of the gun. If the

Gun has the air inlet through the handle (optional), disconnecting the airline is not required.

5. Remove the Shoulder Bolt [27] holding the Trigger [18] in place.
6. Unscrew and remove the Retainer Nut [28] of the Trigger Valve.
7. Remove 1/16" Pipe Plug located in Gun Handle inside air inlet [not shown]. Using a Drift Punch, carefully tap out from the rear, entire Trigger Valve assembly.
8. Replace the O-rings [32] and Spring [31] [KT-04003]. Apply a small amount of PMC grease on all components to facilitate the reassembly.

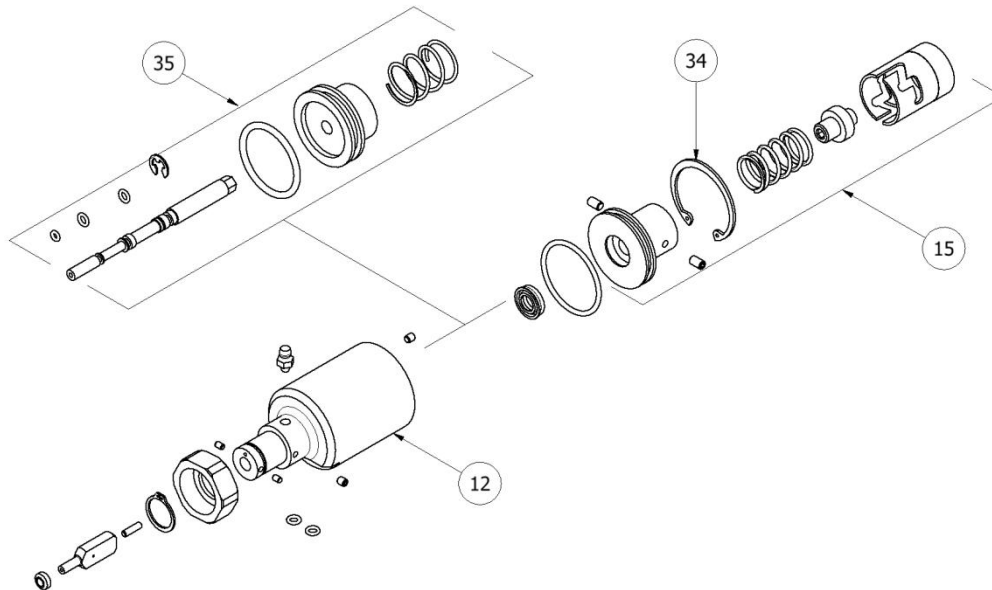


NOTE: When replacing O-rings, replace ALL O-rings included in the appropriate Kit.

9. Inspect, clean and/or replace all remaining Trigger Valve assembly components. Apply a small amount of PMC grease to the inside of the Trigger Valve cavity to facilitate reassembly.
10. Reassemble the Trigger and Trigger Valve assembly in reverse order and reinstall 1/16" Pipe Plug.

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.

AIR CYLINDER MAINTENANCE



1. Close the Manual Valves [7, Pg.17] by turning them to the full clockwise position.
2. Trigger Gun over Waste Container to release internal pressure.
3. Close the Gun Safety Lock [15].
4. Disconnect the air supply to the Gun.
5. Remove the Mixing Chamber [10] from the Gun Block. See page 14.
6. Remove the Cylinder Mounting Clamp [16].
7. Remove the Snap Ring [34] from the rear of the Air Cylinder [12] and pull out the Gun Lock Safety Assembly [15].
8. Remove the Piston Assembly [35] through the rear of the Air Cylinder [12].
9. Inspect the O-Rings on the Piston Assembly and replace as required.
10. If the Piston Shaft is damaged, replace it by removing the Snap Ring holding the Shaft to the Piston and separate the two parts.
11. Inspect the Spring [31 pg. 18]. It should be 1-1/4" long. Replace if it measures 1-1/8" or less.
12. Coat the inside of the Cylinder and all O-rings 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.

TROUBLESHOOTING GUIDE

PROBLEM	POSSIBLE CAUSE	SOLUTION
Mixing Chamber [10] not flush with Air Cap [2] when Gun is triggered	Gun Safety Lock [15] CLOSED	OPEN, see page 13, #8
	Insufficient Gun air pressure (minimum 100 psi)	Ensure 100 psi of air pressure at Gun
	Air Cylinder requires service	Rebuild, see page 20
	Air Passages plugged	Clean
Material does not spray when Gun is triggered	Manual Valve [7] CLOSED	OPEN, see page 13, #7
	Gun Safety Lock [15] closed	OPEN, see page 13, #8
	Air Passages Closed	Clean
	Mixing Chamber [10] Inlet Orifices plugged	Clean, see page 24 for proper size drills.
	Side Seal [27] Orifices plugged	Clean, see page 17
	Check Valve [24] plugged	Replace, see page 17
Mixing Chamber [10] moves slowly	Trigger Valve requires service	Rebuild, see page 20
	Low Air Pressure	See Page 12
	Piston Assembly [35] requires service	Rebuild, see page 21
	Air Passages plugged	Clean
Mixing Chamber [10] moves slower than normal speed	Reacted material around Side Seals [27]	Inspect Side Seals [27] Mixing Chamber [10] for reacted materials, clean, see page 16, 17
	Low Air Pressure	
Loss of Pattern	Mixing Chamber Nozzle dirty	Clean, see page 24
	Material temperatures or pressures not set as recommended by supplier	Adjust, see Proportioner Operating Manual
Material spray pressure imbalance	Mixing Chamber [10] Inlet Orifices plugged	Clean, see page 24
	Side Seal [27] Orifices plugged	Clean, see page 17
	Clogged Screen in Gun	See Page 17
	Check Material Supply System	See Proportioner Manual
	Check Valve [24] plugged	Replace, see page 17
	Material temperatures not as recommended by material supplier	Adjust, see Proportioner Operating Manual
Iso and/or Resin in Gun Air Passages	Side Seal [27] damaged	Replace, see page 17
	Mixing Chamber [10] damaged	Replace, see page 16
	Screen Screw O Ring [23] damaged	Replace, see page 17
	Side Seal O-rings [26] damaged	Replace, see page 17
Material mist from Mixing Chamber [10] or Air Cap [2]	Side Seal [27] damaged	Replace, see page 17
	Mixing Chamber [10] damaged	Replace, see page 16
	Screen Screw O Ring [23] damaged	Replace, see page 17
	Side Seal O-rings [26] damaged	Replace, see page 17
Excessive overspray	Material temperatures and/or spray pressures not as recommended by material supplier	Adjust, see Proportioner Operating Manual
Steady air leakage from Handle	Air Cylinder [12] O-rings damaged	Replace, see page 21
	Trigger Valve [32] O-rings damaged	Replace, see page 20

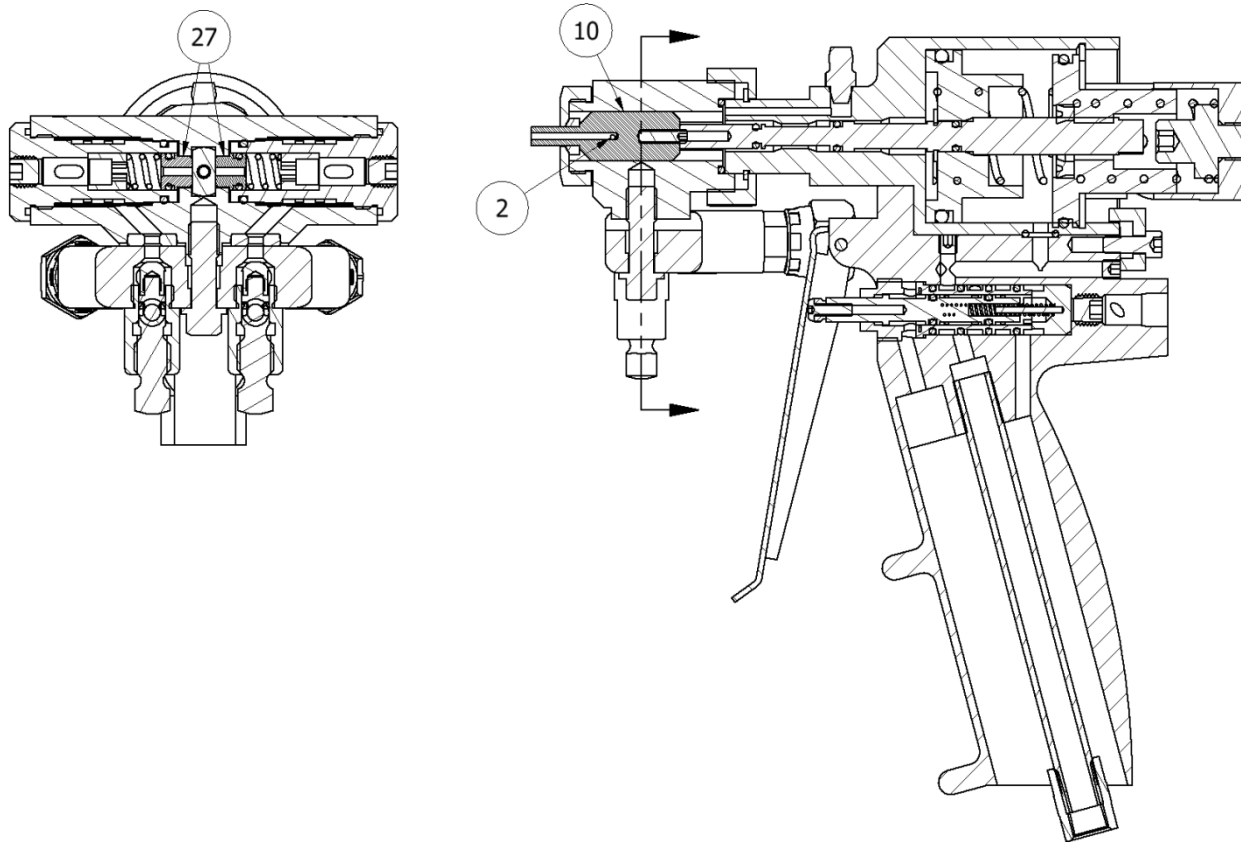
GUN OPERATION

TRIGGERED ON

The Mixing Chamber [10] moves rearward, shutting off purge air flow and aligning Mixing Chamber Orifices [10b] with Side Seal [27] Orifices. This allows material at temperature and pressure to be atomized as it flows into the Mixing Chamber. The two atomized materials are “impinged” on each other and the flow is directed out of the Mixing Chamber Nozzle. A slight offset of the Mixing Chamber Orifices causes the material to swirl forming the round pattern.

TRIGGERED OFF

The Mixing Chamber moves forward, shutting off material flow through the Side Seal Orifices and Mixing Chamber Orifices. Air through porting enters the Mixing Chamber Orifices and expels mixed material out of Mixing Chamber Nozzle.



REPLACEMENT KITS

<u>MIXING CHAMBER KITS</u>				
KIT NUMBER	AIR SEAL	OUTPUT	INLET ORIFICE CLEANOUT DRILL	NOZZLE ORIFICE CLEANOUT DRILL
GU-04006-00	GU-04024*	3 - 6 lb/min (1-3 kg/min)	#69 (.029)*	#56 (.046)*
GU-04006-01	GU-04024*	5 - 9 lb/min (2-4 kg/min)	#59 (.041)*	#53 (.059)*
GU-04006-02	GU-04024*	10-20 lb/min (4-9 kg/min)	#56 (.046)*	#51 (.067)*
GU-04006-03	GU-04024*	12-30 lb/min (5-14 kg/min)	#53 (.059)*	#44 (.093)*
GU-04006-04	GU-04024*	20-45 lb/min (9-20 kg/min)	#50 (.070)*	#42 (.093)*

*** INCLUDED WITH MIXING CHAMBER**

<u>MIXING CHAMBER CLEANOUT DRILL PART NUMBERS</u>	
DRILL NUMBER	PART NUMBER
#42	GU-03029
#44	GU-03028
#50	GU-03054
#51	GU-03024
#53	GU-03022
#56	GU-03023
#59	GU-03021
#69	GU-03027

<u>SIDE SCREEN KITS</u>		
KIT NUMBER	SCREEN SIZE (NOMINAL OPENING)	SCREEN PART NUMBER
KT-04000	#80 (0.007)	GU-04023-80
KT-04001	#60 (0.0098)	GU-04023-60
KT-04002	#40 (0.0165)	GU-04023-40

***INCLUDES 10-SCREENS, 4-SCREEN SCREW WASHERS (GU-04007)**

<u>VALVE KITS</u>				
KIT NUMBER	DESCRIPTION	INCLUDES		
		PART NUMBER	DESCRIPTION	QTY
KT-04003	TRIGGER VALVE KIT	OR-00002A	O-RING	2
		OR-00037A	O-RING	4
		SP-04002	SPRING	1
KT-04033	CHECK VALVE KIT	GU-04033A	CHECK VALVE	8

SIDE SCREEN O-RING KIT (KT-04010)

PART NUMBER	DESCRIPTION	QTY
OR-00038A	O-RING	6
GU-04007	SCREEN SCREW SEALS	2

AIR CYLINDER KIT (KT-04004)

PART NUMBER	DESCRIPTION	QTY
OR-00001A	O-RING	1
OR-00002A	O-RING	4
TN-04093	SNAP RING	1
OR-00029A	O-RING	1
OR-00043A	O-RING	1
OR-00026A	O-RING	1
OR-00042A	O-RING	2
OR-00027A	SEAL	1

COUPLING BLOCK GASKET KIT (KT-04012)

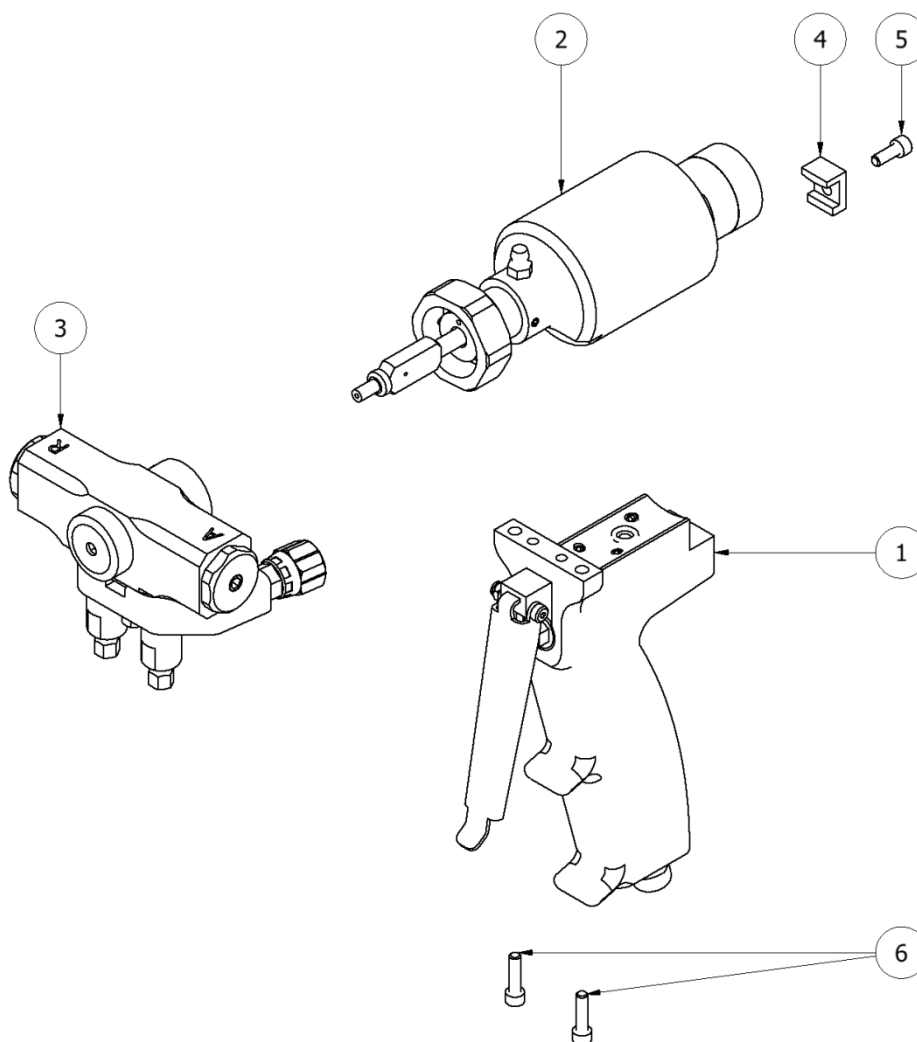
PART NUMBER	DESCRIPTION	QTY
GU-04012	COUPLING BLOCK GASKETS	6

<u>SIDE SEAL KIT</u>				
KIT NUMBER	DESCRIPTION	INCLUDES		
		PART NUMBER	DESCRIPTION	QTY
KT-04008	#00 - #03	GU-04031-02	SIDE SEAL	6
		OR-00048A	O-RING	6
		SP-04005	SPRING	3
KT-04009	#04 - #05	GU-04031-03	SIDE SEAL	6
		OR-00048A	O-RING	6
		SP-04005	SPRING	3

<u>TOOLS</u>	
PART NUMBER	DESCRIPTION
GU-00101	PIN VISE
TL-00002	GREASE GUN
TL-0003	GREASE
TL-03	CALIBRATION TOOL

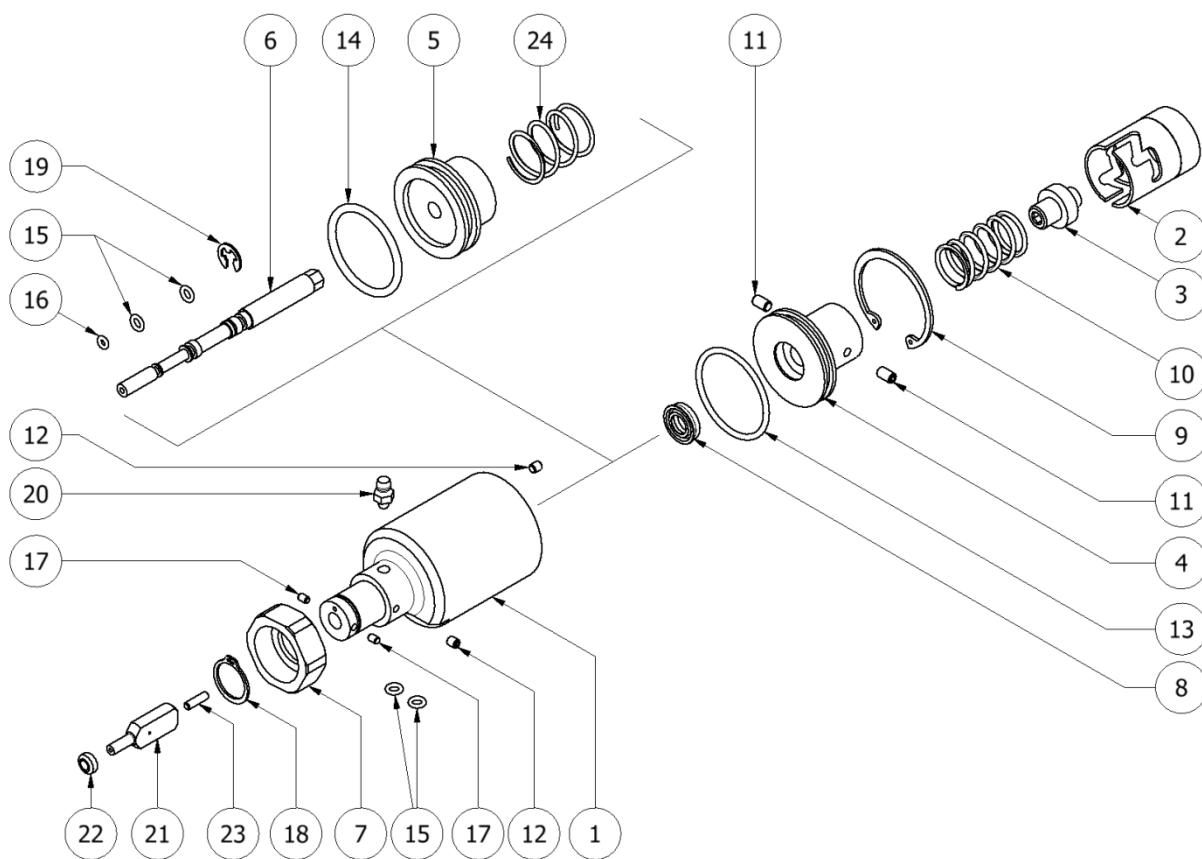
PARTS IDENTIFICATION

TOP LEVEL ASSEMBLY



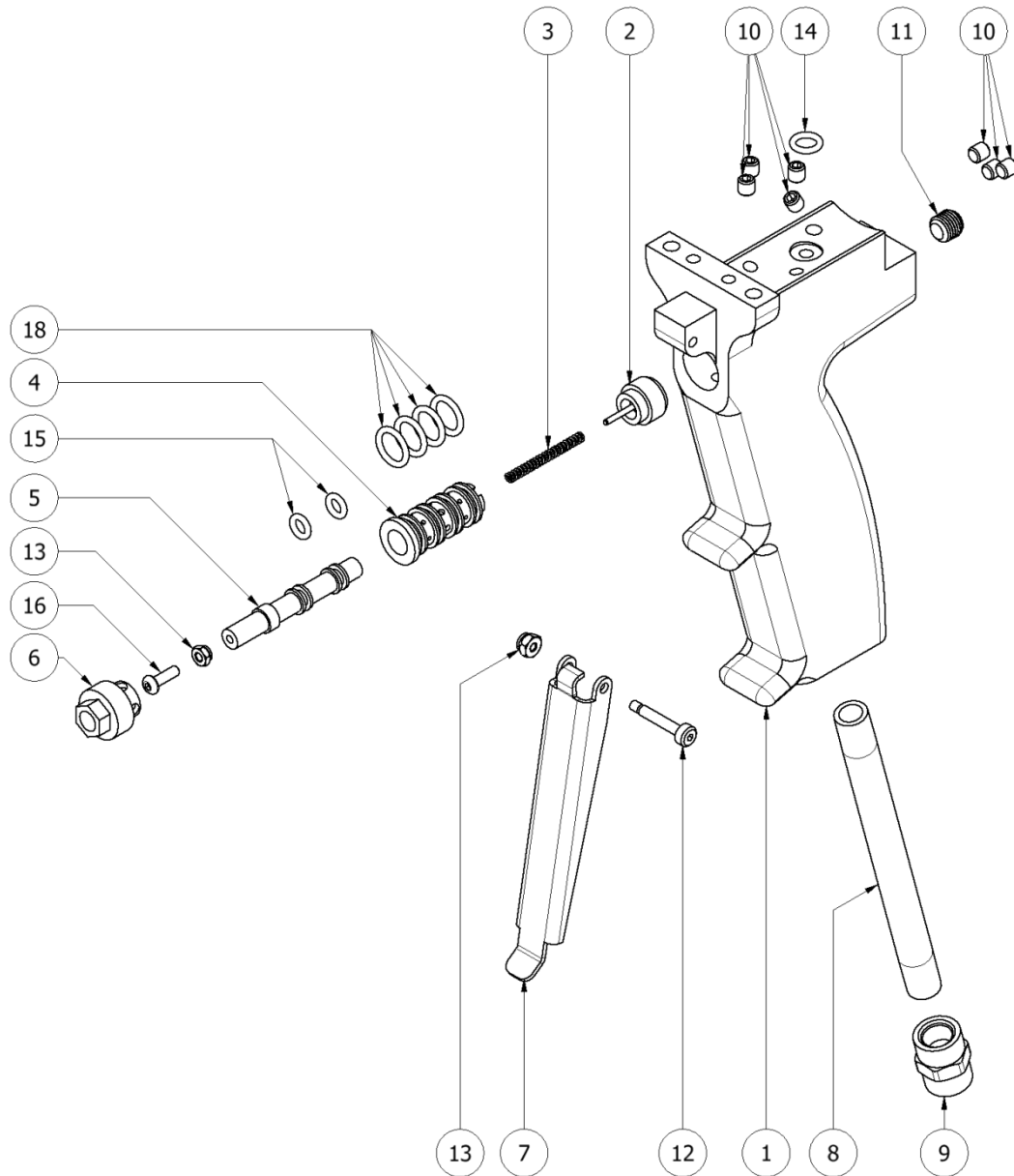
TOP LEVEL ASSEMBLY			
ITEM	QTY	PART NUMBER	DESCRIPTION
1	1	-	GUN HANDLE ASSEMBLY (SEE PAGE 30)
2	1	-	PISTON CYLINDER ASSEMBLY (SEE PAGE 28)
3	1	-	GUN BLOCK ASSEMBLY (SEE PAGE 32)
4	1	GU-04008	CYLINDER CLAMP
5	1	TN-04002	SCREW; CYLINDER MOUNTING CLAMP
6	2	TN-04001	CYLINDER MOUNTING SCREW

PISTON CYLINDER ASSEMBLY



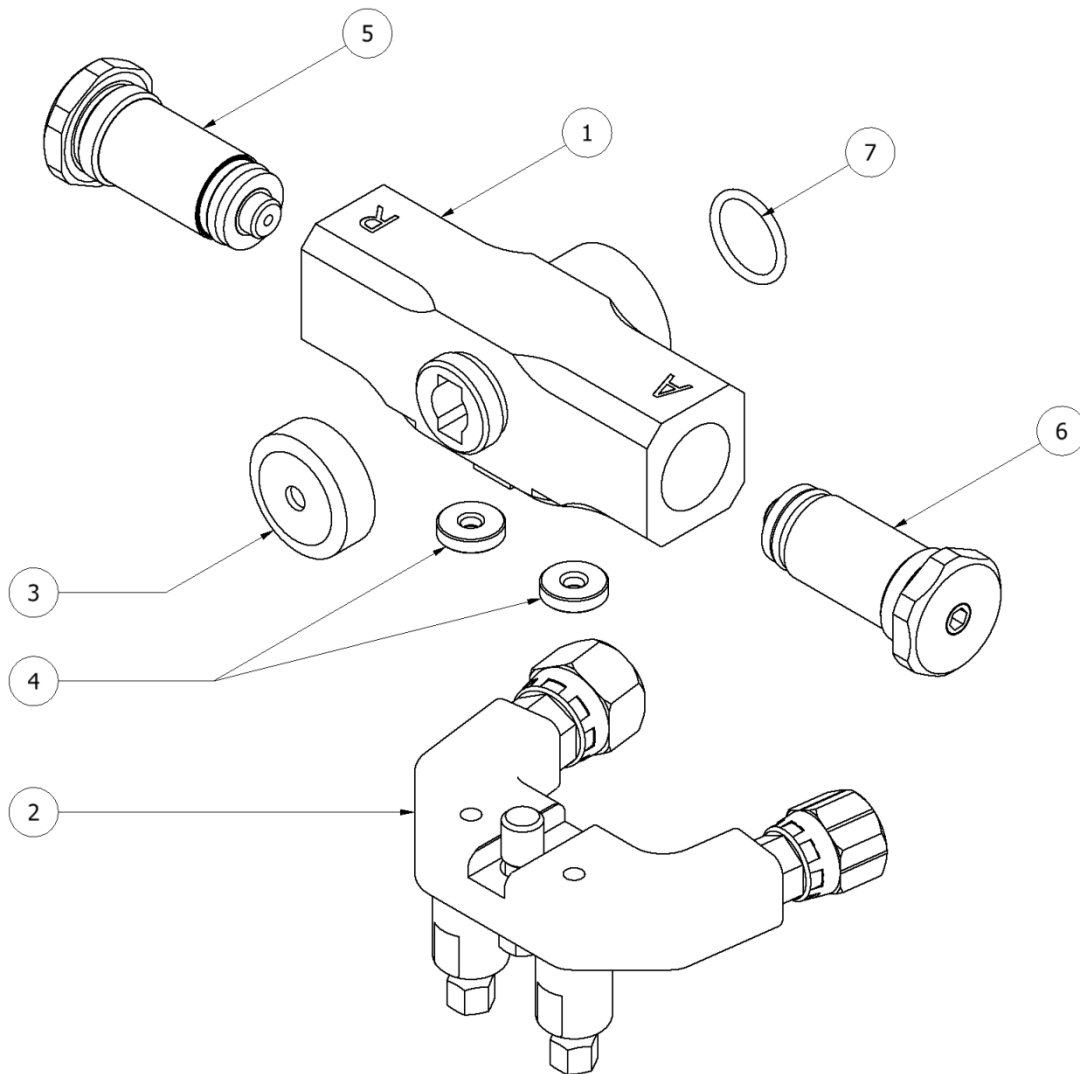
PISTON CYLINDER ASSEMBLY			
ITEM	QTY	PART NUMBER	DESCRIPTION
1	1	GU-04002	AIR CYLINDER W/ SCREW & NUT
2	1	GU-04080	AP-1 GUN LOCK
3	1	GU-04080-3	AP-1 GUN LOCK; NUT
4	1	GU-04080-1	AIR CYLINDER CAP
5	1	GU-04057-2	AIR PISTON
6	1	GU-04057-1	PISTON SHAFT
7	1	GU-04058	AIR CYLINDER; LOCKING COLLAR
8	1	OR-00027A	U-CUP SEAL
9	1	TN-04092	TRU ARC SNAP RING
10	1	SP-04009	SPRING; GUN LOCK
11	2	TN-04187	SHCS 10-32 X 3/16 PORT PLUG
12	2	TN-04189	SHCS AIR CYLINDER PLUGS
13	1	OR-00026A	O-RING #129 VITON
14	1	OR-00029A	O-RING #222 VITON
15	4	OR-00002A	O-RING #008 VITON
16	1	OR-00001A	O-RING #006 VITON
17	2	TN-04188	AIR CYLINDER ALIGNMENT PINS
18	1	SP-04006	SNAP RING
19	1	TN-04093	RETAINER RING; AIR PISTON
20	1	TN-04186	GREASE FITTING
21	1	GU-04006-00	MIXING CHAMBER #00
	1	GU-04006-01	MIXING CHAMBER #01
	1	GU-04006-02	MIXING CHAMBER #02
	1	GU-04006-03	MIXING CHAMBER #03
	1	GU-04006-04	MIXING CHAMBER #04
22	1	GU-04024	SLIDE VALVE
23	1	TN-04010	SCREW; CHAMBER CONNECTING
24	1	SP-04008	SPRING; CYLINDER

GUN HANDLE ASSEMBLY



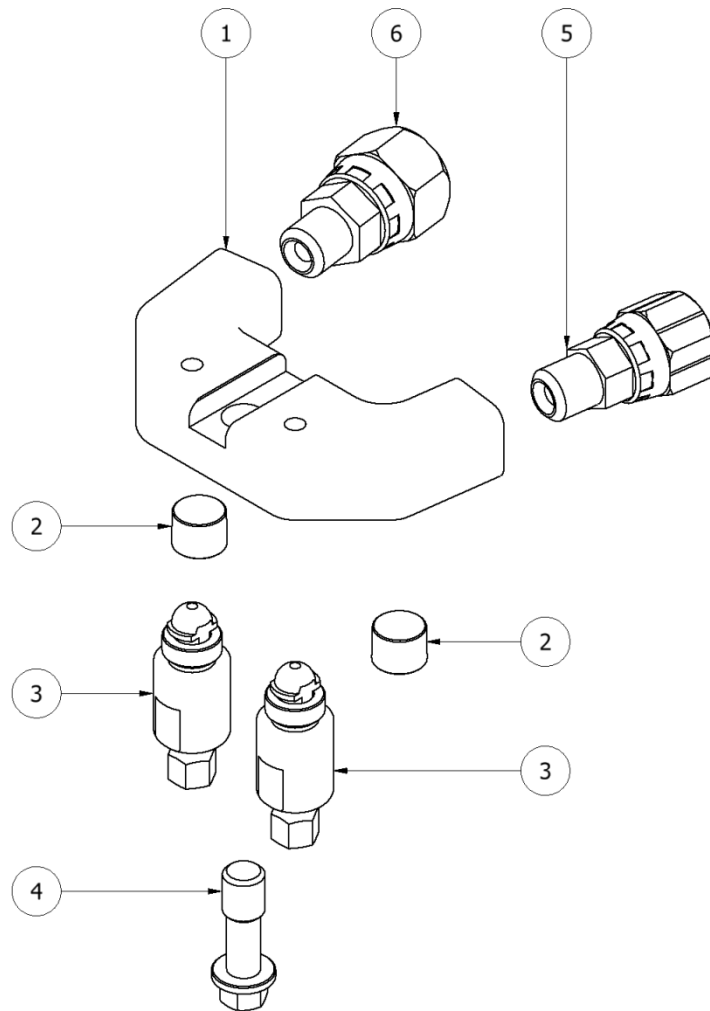
GUN HANDLE ASSEMBLY			
ITEM	QTY	PART NUMBER	DESCRIPTION
1	1	GU-04005	GUN HANDLE W/ SCREWS
2	1	GU-04027A	SPRING SEAT W/ PIN
3	1	SP-04002A	SPRING; VALVE
4	1	GU-04056	VALVE LINER
5	1	GU-04016	SPOOL VALVE
6	1	GU-04026	RETAINER NUT
7	1	GU-04015	TRIGGER HANDLE
8	1	GU-01037A	PIPE NIPPLE; 1/8 NPT X 4-1/2
9	1	RA-PAR-207P2	COUPLER FEMALE; 1/8" PIPE FEMALE
10	7	TN-04187	SHCS 10-32 X 3/16 PORT PLUG
11	1	TN-04195	1/16 NPT PIPE PLUG
12	1	TN-04190	SHOULDER SCREW
13	2	TN-00185	NYLOC NUT
14	1	OR-00043B	O-RING #010 80D AFLAS
15	2	OR-00002A	O-RING #008 VITON
16	1	TN-00184	M3 X 3/8 BHCS
18	4	OR-00037B	QUAD RING #011 VITON

GUN BLOCK ASSEMBLY



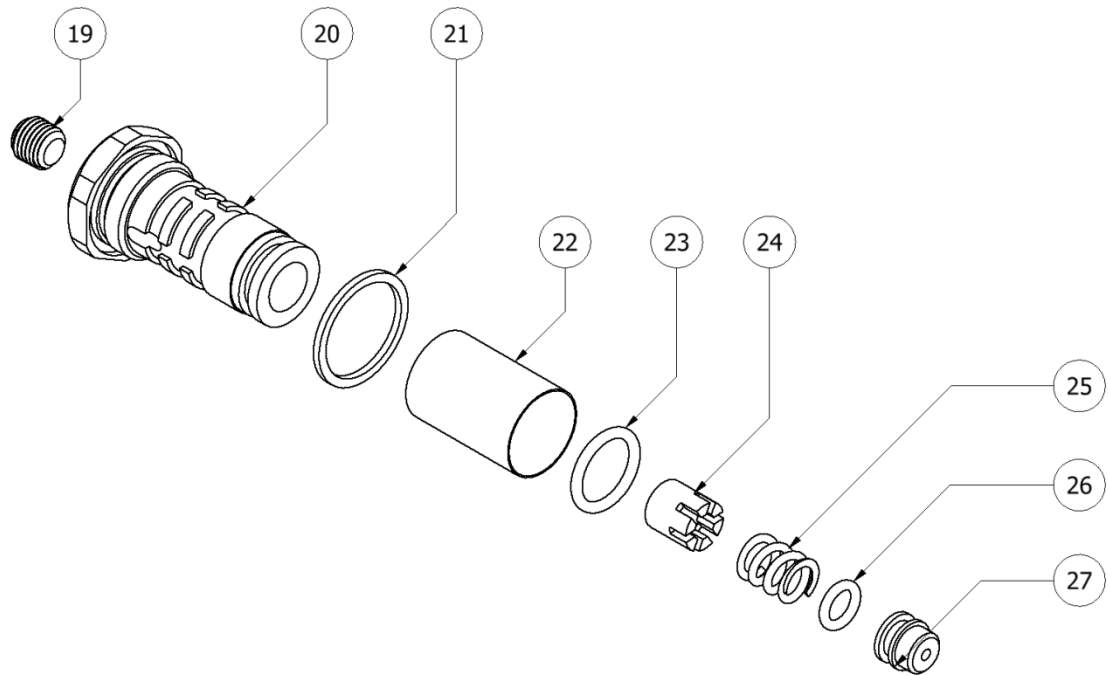
GUN BLOCK ASSEMBLY			
ITEM	QTY	PART NUMBER	DESCRIPTION
1	1	GU-04004	GUN BLOCK STEEL
	1	GU-04004A	GUN BLOCK ALUMINUM
2	1	GU-04001	COUPLING BLOCK ASSEMBLY (SEE PAGE 33)
3	1	GU-04028	AIR CAP
4	2	GU-04012	COUPLING BLOCK GASKET
5	1	-	R-SCREEN SCREW ASSEMBLY (SEE PAGE 34)
6	1	-	A-SCREEN SCREW ASSEMBLY (SEE PAGE 34)
7	1	OR-00042A	PCT FLAT TIP O-RING #016

COUPLING BLOCK ASSEMBLY



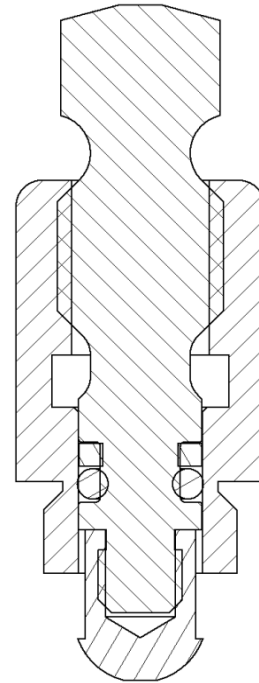
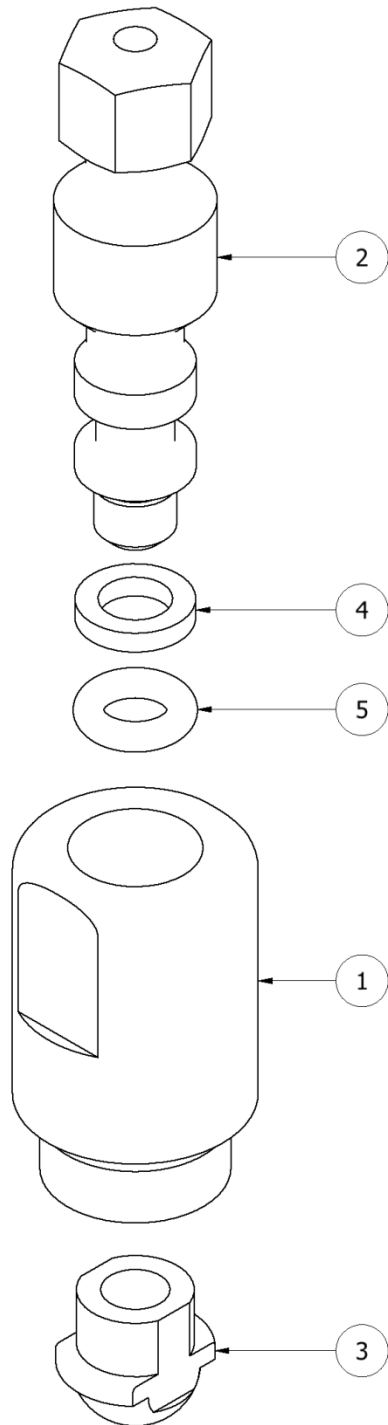
COUPLING BLOCK ASSEMBLY			
ITEM	QTY	PART NUMBER	DESCRIPTION
1	1	GU-04001-01	COUPLING BLOCK BODY
2	2	TN-04192	1/8 NPT PIPE PLUG
3	2	GU-020	MANUAL VALVE ASSEMBLY (SEE PAGE 35)
4	1	TN-04193	COUPLING BLOCK MOUNTING SCREW
5	1	RA-00005A	1/8 NPT X #5 JIC SWIVEL
6	1	RA-00006A	1/8 NPT X #6 JIC SWIVEL

"A" & "R" SCREEN SCREW ASSEMBLY



"A" & "R" SCREEN SCREW ASSEMBLIES			
ITEM	QTY	PART NUMBER	DESCRIPTION
19	1	TN-04195	1/16 NPT PIPE PLUG
20	1	GU-04017	"A" SCREEN SCREW
	1	GU-04018	"R" SCREEN SCREW
21	1	GU-04007	SCREEN SCREW SEAL
22	1	GU-04023-40	FILTER SCREEN; VORTEX GUN, 40
	1	GU-04023-60	FILTER SCREEN; VORTEX GUN, 60
	1	GU-04023-80	FILTER SCREEN; VORTEX GUN, 80
23	1	OR-00038A	O-RING 2MM X 12.5MM, 75 VITON BROWN
24	1	GU-04033A	CHECK VALVE ASSEMBLY
25	1	SP-04005	SPRING; SIDE SEAL
26	1	OR-00048A	O-RING #10 VITON 90D
27	1	GU-04031-02	SIDE SEAL #0-#3
	1	GU-04031-03	SIDE SEAL #4-#5

MANUAL VALVE ASSEMBLY



GU-020 MANUAL VALVE ASSEMBLY			
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 PTFE BACKUP RING
5	1	OR-015	#007 AFLAS O-RING

MANUAL REVISIONS

Revision	Date	Changes	Approved
1.0	20-Feb-15	Updated all illustrations and replacement parts	Vadams