

# Model D Spray Gun

311320C

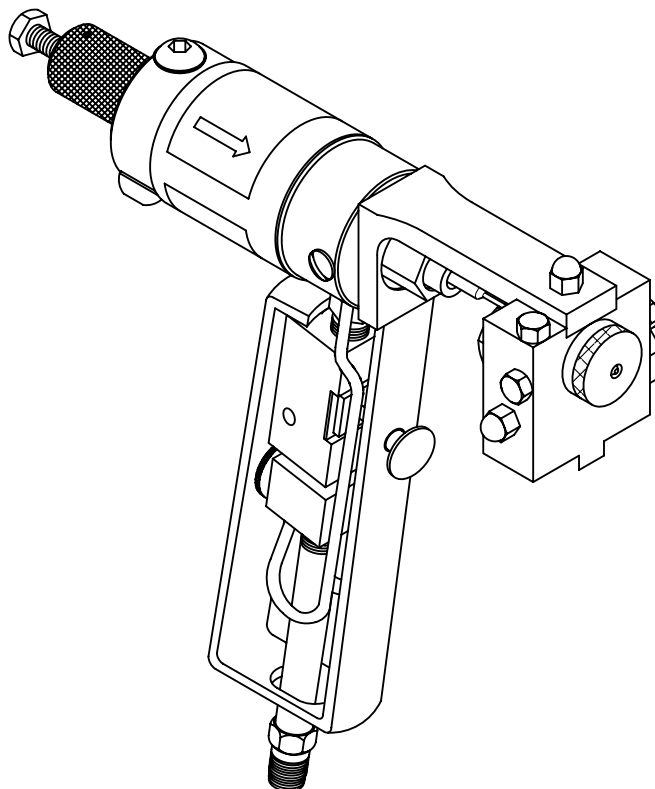
***For use with non-flammable polyurethane foams. Not for use in explosive atmospheres.***

*See page 2 for model information.*

*1000 psi (7 MPa, 70 bar) Maximum Working Pressure*



**Important Safety Instructions**  
Read all warnings and instructions  
in this manual. Save these instructions.



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# Contents





<b>Models</b> .....	<b>2</b>	<b>Spray Pattern Adjustment</b> .....	<b>14</b>
<b>Warnings</b> .....	<b>3</b>	<b>Maintenance</b> .....	<b>17</b>
<b>Overall View</b> .....	<b>5</b>	Gun Service Kits .....	17
Major Components .....	5	Clean Spray Gun Procedure .....	18
Centerline Components .....	6	<b>Repair</b> .....	<b>19</b>
<b>Operation Basics</b> .....	<b>7</b>	Filter Screen Removal and Service ...	19
Isocyanate Hazard .....	7	Clean Injection Slots .....	20
Keep A and B Components Separate ..	7	Valving Rod Adjustment .....	21
Grounding .....	7	Centerline Component Removal .....	22
Coupling Block .....	7	Centerline Component Installation ...	24
Air Hose Connection .....	9	<b>Parts</b> .....	<b>26</b>
Valving Rod Adjustment Screw .....	9	Model D Spray Gun Assembly .....	26
Air Cap Adjustment Valve .....	10	Air Cylinder Assembly .....	30
Felt Wiper .....	10	Coupling Block Assembly .....	31
<b>Initial Set Up</b> .....	<b>11</b>	<b>Notes</b> .....	<b>32</b>
<b>Daily Start-Up</b> .....	<b>12</b>	<b>Technical Data</b> .....	<b>33</b>
<b>Daily Shutdown</b> .....	<b>12</b>	<b>Graco Standard Warranty</b> .....	<b>34</b>
<b>Pressure Relief Procedure</b> .....	<b>13</b>	<b>Graco Information</b> .....	<b>34</b>

## Models

Part No.	Description	Mix Module
295530	D-55	296597
295531	D-55-RECIRC	296597
295532	D-62	296598
295533	D-70	296599

# Warnings

The following general warnings are for the setup, use, grounding, maintenance, and repair of this equipment. Additional, more specific warnings may be found throughout the body of this manual where applicable. *Symbols appearing in the body of the manual refer to these general warnings. When these symbols appear throughout the manual, refer back to these pages for a description of the specific hazard.*

 <b>WARNING</b>	
	<p><b>PERSONAL PROTECTIVE EQUIPMENT</b></p> <p>You must wear appropriate protective equipment when operating, servicing, or when in the operating area of the equipment to help protect you from serious injury, including eye injury, inhalation of toxic fumes, burns, and hearing loss. This equipment includes but is not limited to:</p> <ul style="list-style-type: none"> <li>• Protective eyewear</li> <li>• Clothing and respirator as recommended by the fluid and solvent manufacturer</li> <li>• Gloves</li> <li>• Hearing protection</li> </ul>
	<p><b>TOXIC FLUID OR FUMES HAZARD</b></p> <p>Toxic fluids or fumes can cause serious injury or death if splashed in the eyes or on skin, inhaled, or swallowed.</p> <ul style="list-style-type: none"> <li>• Read MSDS's to know the specific hazards of the fluids you are using.</li> <li>• Store hazardous fluid in approved containers, and dispose of it according to applicable guidelines.</li> </ul>
	<p><b>SKIN INJECTION HAZARD</b></p> <p>High-pressure fluid from gun, hose leaks, or ruptured components will pierce skin. This may look like just a cut, but it is a serious injury that can result in amputation. <b>Get immediate surgical treatment.</b></p> <ul style="list-style-type: none"> <li>• Do not point gun at anyone or at any part of the body.</li> <li>• Do not put your hand over the spray tip.</li> <li>• Do not stop or deflect leaks with your hand, body, glove, or rag.</li> <li>• Do not spray without tip guard and trigger guard installed.</li> <li>• Follow <b>Pressure Relief Procedure</b> in this manual, when you stop spraying and before cleaning, checking, or servicing equipment.</li> </ul>


**WARNING**
**FIRE AND EXPLOSION HAZARD**

Flammable fumes, such as solvent and paint fumes, in **work area** can ignite or explode. To help prevent fire and explosion:

- Use equipment only in well ventilated area.
- Eliminate all ignition sources; such as pilot lights, cigarettes, portable electric lamps, and plastic drop cloths (potential static arc).
- Keep work area free of debris, including solvent, rags and gasoline.
- Do not plug or unplug power cords, or turn power or light switches on or off when flammable fumes are present.
- Ground all equipment in the work area. See **Grounding** instructions.
- Use only grounded hoses.
- Hold gun firmly to side of grounded pail when triggering into pail.
- If there is static sparking or you feel a shock, **stop operation immediately**. Do not use equipment until you identify and correct the problem.
- Keep a fire extinguisher in the work area.

**EQUIPMENT MISUSE HAZARD**

Misuse can cause death or serious injury.

- Do not operate the unit when fatigued or under the influence of drugs or alcohol.
- Do not exceed the maximum working pressure or temperature rating of the lowest rated system component. See **Technical Data** in all equipment manuals.
- Use fluids and solvents that are compatible with equipment wetted parts. See **Technical Data** in all equipment manuals. Read fluid and solvent manufacturer's warnings. For complete information about your material, request MSDS forms from distributor or retailer.
- Check equipment daily. Repair or replace worn or damaged parts immediately with genuine Graco/Gusmer replacement parts only.
- Do not alter or modify equipment.
- Use equipment only for its intended purpose. Call your Graco/Gusmer distributor for information.
- Route hoses and cables away from traffic areas, sharp edges, moving parts, and hot surfaces.
- Do not kink or over bend hoses or use hoses to pull equipment.
- Keep children and animals away from work area.
- Comply with all applicable safety regulations.

**PRESSURIZED EQUIPMENT HAZARD**

Fluid from the gun/dispense valve, leaks, or ruptured components can splash in the eyes or on skin and cause serious injury.

- Follow **Pressure Relief Procedure** in this manual, when you stop spraying and before cleaning, checking, or servicing equipment.
- Tighten all fluid connections before operating the equipment.
- Check hoses, tubes, and couplings daily. Replace worn or damaged parts immediately.

# Overall View

## Major Components

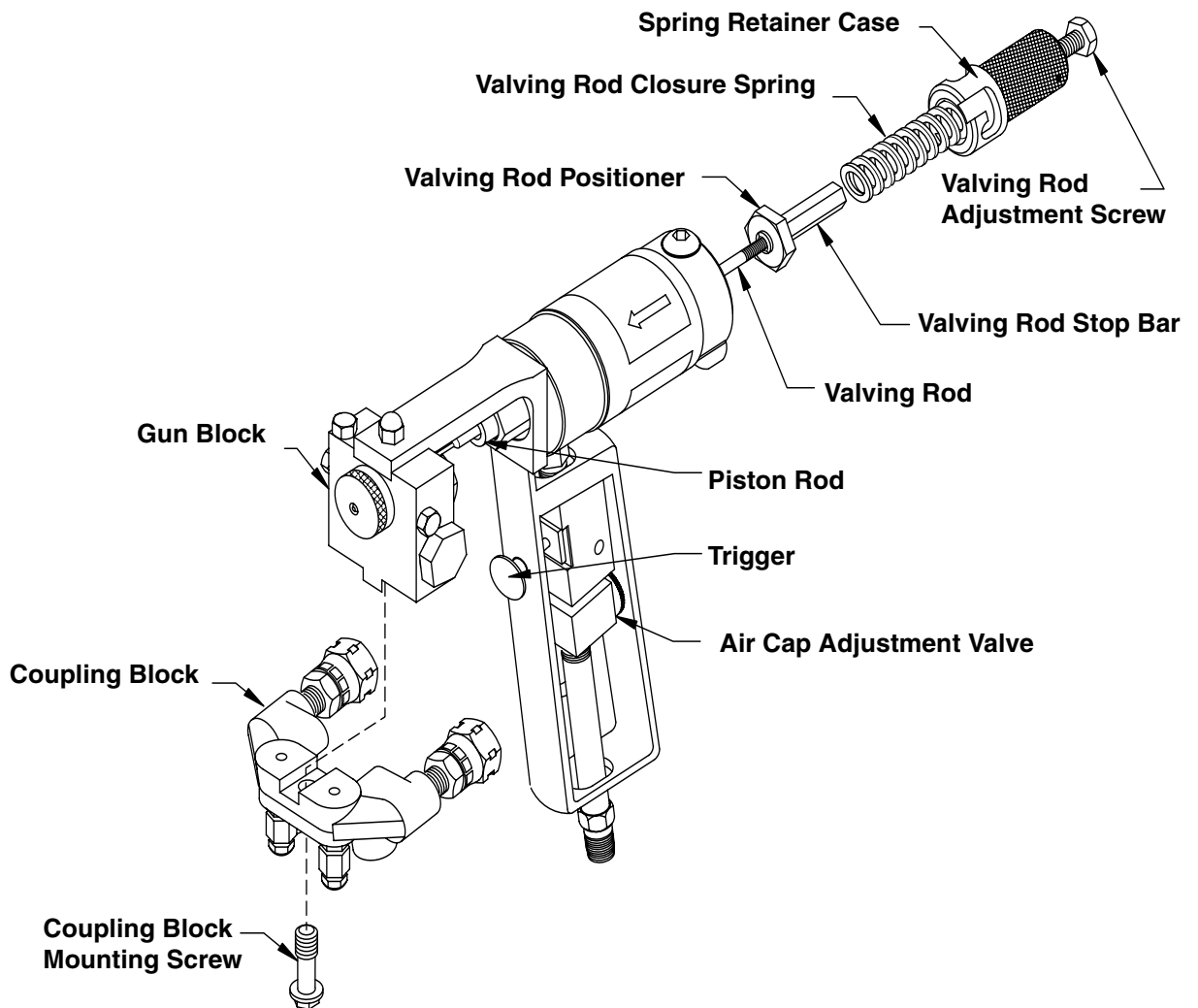


FIG. 1: Major Components

# Centerline Components

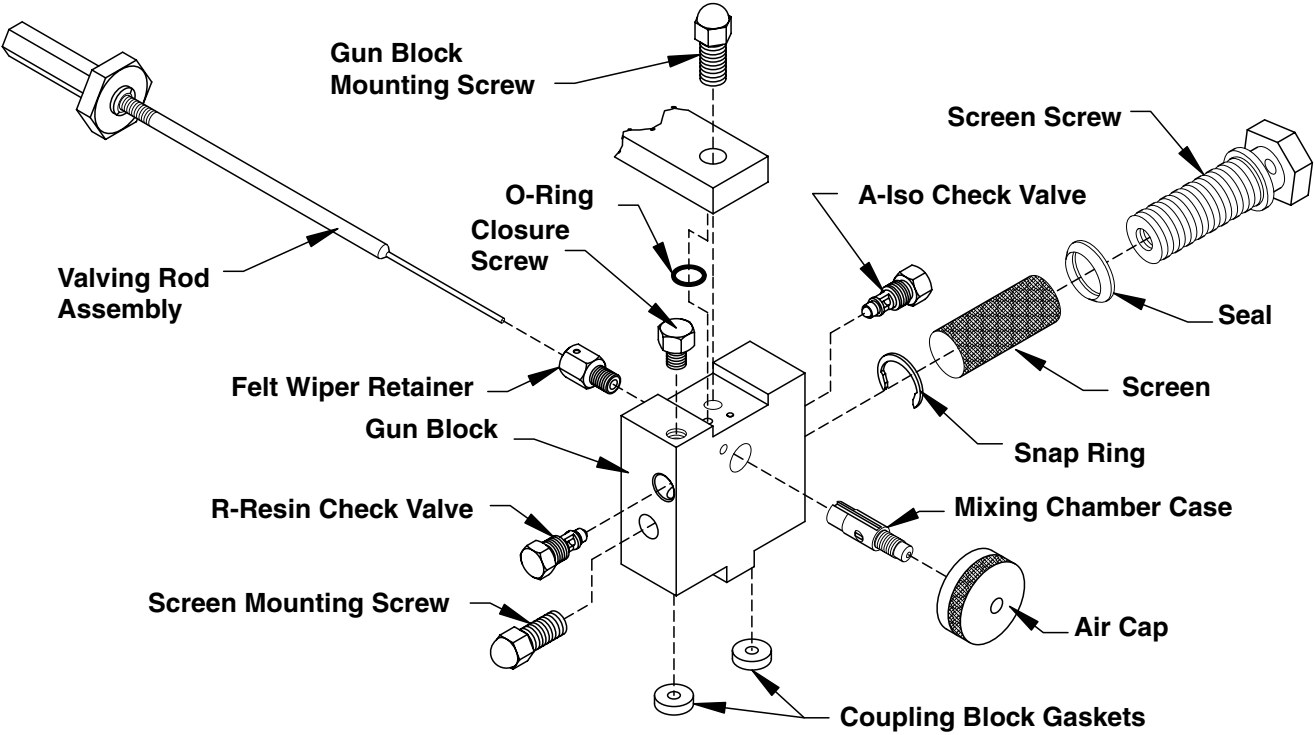










FIG. 2: Centerline Components

# Operation Basics

						
To prevent accidental gun operation, always disconnect air supply before servicing gun or anytime gun is not in use.						



## Isocyanate Hazard

						
Read Material Safety Data Sheet (MSDS) to know the specific hazards of isocyanates. Use equipment in a well-ventilated area. Wear respirator, gloves, and protective clothing when using isocyanates.						

## Keep A and B Components Separate

<b>CAUTION</b>	
To prevent cross-contamination of the gun's wetted parts, do not interchange A component (isocyanate) and B component (resin) parts. The gun is shipped with the A side on the left.	

## Grounding

						
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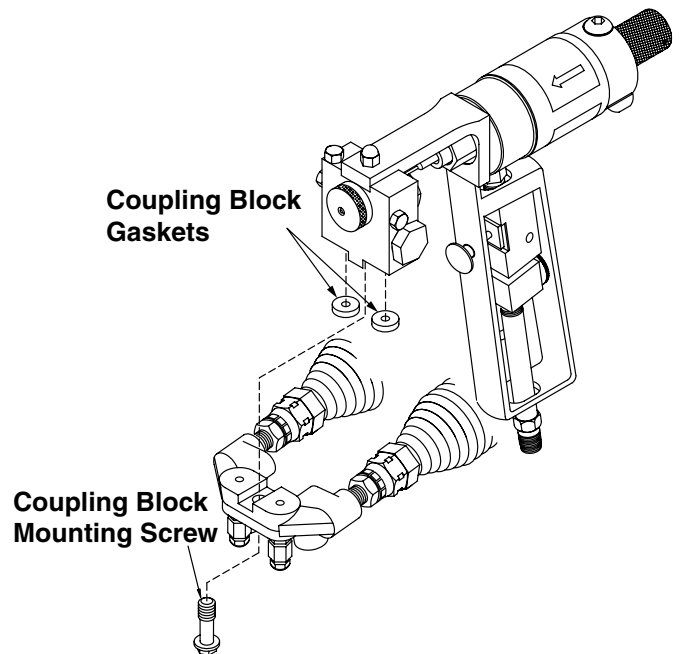
Check your local electrical code and proportioner manual for detailed grounding instructions.

Ground the spray gun through connection to a Graco-approved grounded fluid supply hose.

## Coupling Block


### Install Coupling Block

1. Inspect coupling block gaskets for damage and wear. Replace if necessary.
2. With gaskets in place, fit coupling block to gun block.
3. Insert coupling block mounting screw and tighten securely with 5/16 in. nut driver.



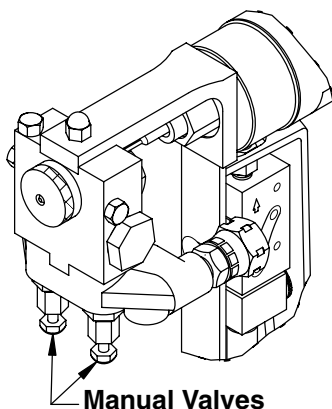
**FIG. 3: Coupling Block**

## Manual Valves

 Triggering gun with manual valves closed may cause crossover if gun ports contain residual chemical.






						
Never open manual valves unless coupling block is secured to gun or exit port is directed into flush pail.						

1. Open manual valves using 5/16 in. nut driver; turn manual valves counterclockwise approximately three full turns. Do not open until it bottoms out.
2. Close manual valves by turning fully clockwise.



**FIG. 4: Manual Valves**

## Remove Coupling Block

						
To prevent release of pressurized chemical, close both manual valves before removing coupling block.						

1. Disconnect air hose.
2. Close both manual valves.
3. Remove coupling block mounting screw (FIG. 3).
4. Separate coupling block from gun. Do not lose gaskets.
5. Use gun cleaner to wipe clean mating surface of gun block and coupling block. Cover exposed opening with grease.

## Air Hose Connection

To CONNECT air hoses, pull back sleeve of female fitting, insert male fitting and slide sleeve forward to secure connection.

To DISCONNECT air hoses, pull back sleeve of female fitting and remove male fitting.

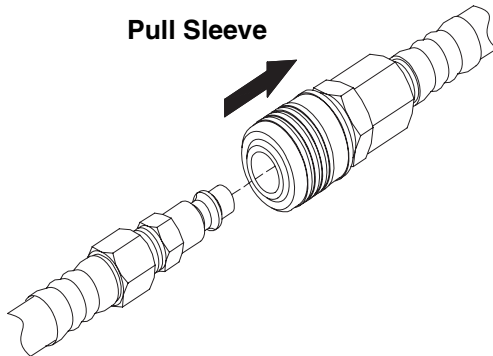


FIG. 5: Air Hose Connection

## Valving Rod Adjustment Screw

Use to regulate amount of valving rod travel when gun trigger is depressed with air supply connected. Turn clockwise to decrease travel, and counterclockwise to increase travel.

1. Use 5/64 in. hex key wrench to loosen friction lock.
2. Turn adjustment screw as required and tighten friction lock until screw no longer easily turns by hand.
3. Check friction lock periodically and tighten as required to prevent screw from slipping during operation.

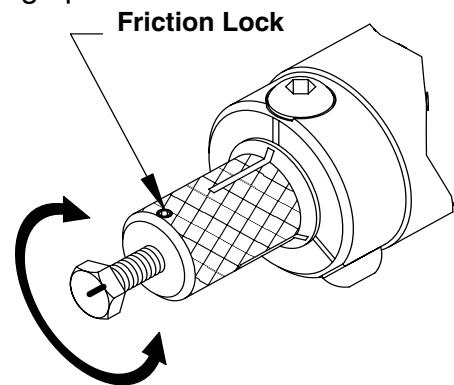


FIG. 6: Valving Rod Adjustment Screw

## Air Cap Adjustment Valve

Use to control amount of air that passes through air cap and over mixing chamber tip. Airflow helps keep tip free of sprayed chemical. Too much air may distort spray pattern and create overspread. Too little air will not properly clean end of valving rod.

To OPEN valve, turn knob approximately 1/8 turn counterclockwise.

To CLOSE valve, turn knob fully clockwise.

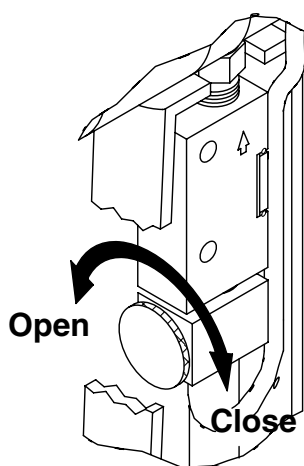


FIG. 7: Air Valve Adjustment

## Felt Wiper

### Adjust Felt Wiper

1. Use 5/16 in. open-end wrench to loosen retainer slightly.
2. Slowly tighten it by hand until it seats against rear packings in mixing chamber.
3. Use 5/16 in. open-end wrench to tighten retainer another half turn.

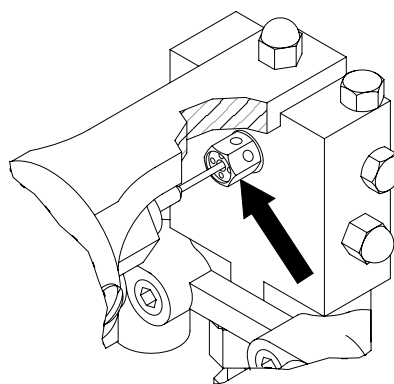


FIG. 8: Felt Wiper

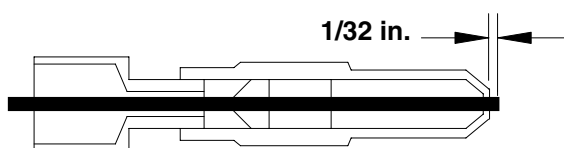
### Clean Felt Wiper

1. Insert nozzle of flush can into holes of felt wiper.
2. Saturate felt with gun cleaner.

# Initial Set Up



1. Remove coupling block from gun.
2. Check valving rod clearance in closed position. Rod should extend approximately 1/32 in. (1 mm) beyond tip of mixing chamber. If it does not, see Valving Rod Adjustment procedure, page 21.



**FIG. 9: Valving Rod (Closed Position)**

3. Adjust valving rod travel to initial setting.
  - a. Loosen friction lock. Turn valving rod adjustment screw clockwise until it stops.
  - b. Turn valving rod adjustment screw 11 turns counterclockwise.
4. Connect air supply hose to gun.
5. Connect A-isocyanate hose (red-taped) to notched fitting on coupling block. Then connect R-resin hose (blue-taped) to fitting without notches on coupling block.
6. Close both manual valves.
7. Pressurize the A and R chemical hoses and check for leaks. (See Proportioning Unit manual.)
8. Bleed air from chemical hoses:
  - a. Hold coupling block with exit ports pointed into disposable container.
  - b. Open each manual valve to allow trapped air to escape. Bleed each side until chemical is free of air.
  - c. Close both manual valves.
9. Use clean cloth soaked in gun cleaner to wipe clean coupling block and its mating surfaces.
10. Install coupling block to gun block.
11. Proceed with Daily Start-up procedure or Shutdown procedure as required.

## CAUTION

To avoid accumulation of dirt and other contaminants, do not apply grease to mating surfaces of coupling block.

## Daily Start-Up




1. Connect air supply to gun, page 9.
2. Adjust air cap valve, page 10.
3. Saturate felt in felt wiper with gun cleaner using flush can.
4. Trigger gun multiple times to ensure valving rod moves the full travel quickly and freely.

### CAUTION

Sluggish valving rod action may result in valving rod sticking in open position when fluid pressure is applied. Always have a 5/16 in. nut driver available to quickly close manual valves on coupling block.


5. Open both manual valves, page 8.

6. Test spray on disposable surface and adjust spray pattern as needed. (See Spray Pattern Adjustment procedure, page 14.)

 Do not exceed 1000 psi (7 MPa, 70 bar) maximum fluid working pressure even in static de-triggered conditions, or check valve damage may result.




## Daily Shutdown



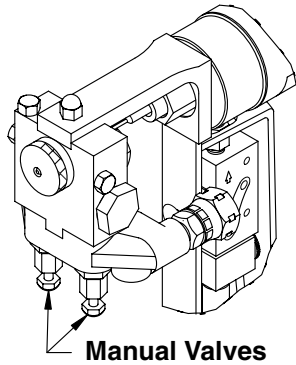
 Follow when gun is out of service for any length of time. Daily disassembly of gun for cleaning is not recommended if it has been operating properly. However, if you remove the gun from the coupling block, flush and clean thoroughly.

1. Follow Pressure Relief Procedure, page 13.

# Pressure Relief Procedure

						
Relieve pressure before cleaning or repairing gun.						




1. Close both manual valves.



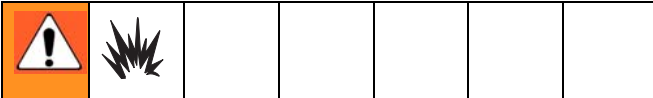
2. Trigger gun once onto waste area to relieve fluid pressure in front end of gun.

3. Disconnect gun air supply, page 9.

4. If gun is removed from coupling block, follow Clean Spray Gun Procedure, page 18.

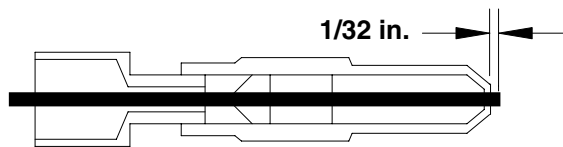
						
If fluid in hose and proportioner is still under pressure, follow Pressure Relief Procedure in proportioner manual						
To relieve pressure in hose after gun is removed, place fluid manifold over containers, facing away from you. Very carefully open fluid valves. Under high pressure, fluid will spray sideways from fluid ports.						

# Spray Pattern Adjustment



This adjustment may create a large mass “bun” of urethane foam. Very high temperatures created by chemical reaction inside a bun may not dissipate after outside surface has cooled. A large bun may continue to react for several hours after spraying until flash (burning) point of foam is reached. ALWAYS break buns into smaller pieces so heat can escape.

1. Check valving rod clearance in closed position. Rod should extend approximately 1/32 in. (1 mm) beyond tip of mixing chamber. If it does not, see Valving Rod Adjustment procedure, page 21.

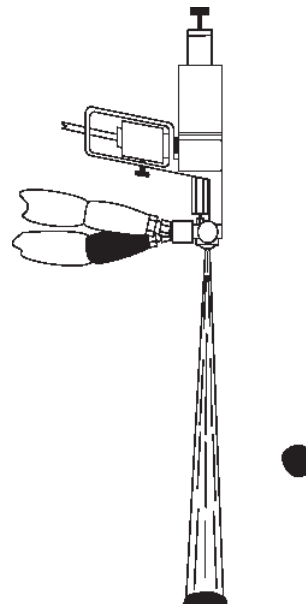


**FIG. 10: Valving Rod (Closed Position)**

2. Adjust valving rod travel to initial setting.
  - a. Loosen friction lock. Turn valving rod adjustment screw clockwise until it stops.
  - b. Turn valving rod adjustment screw 11 times counterclockwise.
3. Locate point of valving:
  - a. Aim gun at disposable target.
  - b. Dispense short (1 second) bursts toward target while simultaneously withdrawing valving rod adjustment screw

from retainer case by 1/4-turn increments in counterclockwise direction.

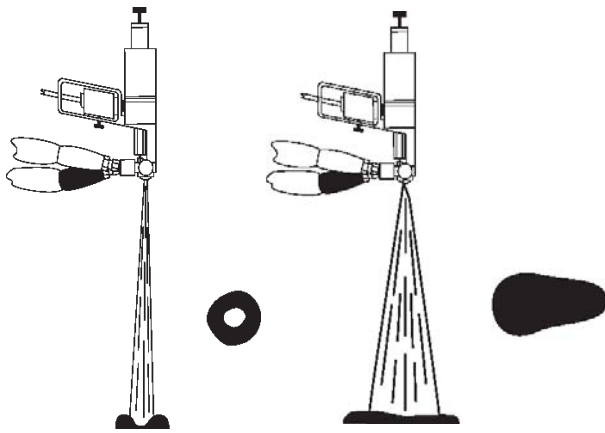
- c. Point of valving is reached when chemical stream mists as shown in FIG. 11.



**FIG. 11: Point of Valving**

4. Adjust spray pattern. Note position of notch in hexhead of adjustment screw, then back screw out counterclockwise the number of turns specified in Table 1. Notice spray pat-

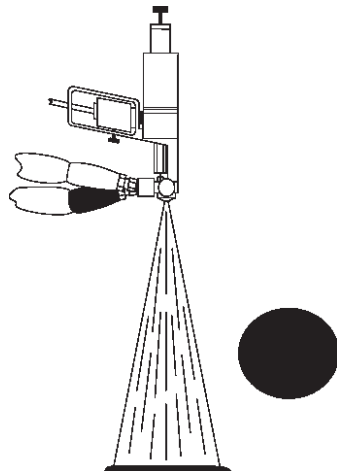
tern opens as adjustment is made (FIG. 12).



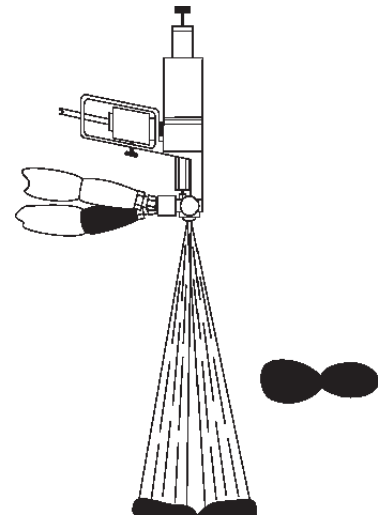
**FIG. 12: Opening Spray Pattern**

5. Fine tune spray pattern:

- a. After you back out adjustment screw, make fine adjustments (1/8 turns or less in either direction as required) to obtain pattern shown in FIG. 13. Moving the screw out beyond this point may cause the pattern to split, as shown in FIG. 14.



**FIG. 13: Desired Pattern**



**FIG. 14: Split Pattern**

- b. If full-round pattern cannot be achieved, ensure that material temperature and spray pressure are correct. If pattern remains closed upon reaching maximum specified number of turns out from point of valving, material temperature is too low
- c. If pattern splits or has hollow center, even with the adjustment screw at minimum number of turns from point of valving, material temperature is too high. Refer to FIG. 12.
- d. After reaching satisfactory spray pattern, note temperatures at proportioner and hose, and position of notch on the adjustment screw. As spraying proceeds, pattern may occasionally streak or change. If this happens, inspect chamber tip and remove any build-up of solid foam with wooden stick or brass wire brush.

- e. If buildup recurs shortly after cleaning tip, remove air cap and ensure inside is clean.

Reinstall air cap and ensure airflow is properly set.

If no buildup occurred on air cap, check the following items in this order and readjust if necessary:

- Check Valving Rod Adjustment Screw/Sleeve setting.
- Check hose temperature setting.
- Check primary heater temperature setting.
- Ensure spray pressures between chemicals are balanced. If they are not, refer to Troubleshooting section of Proportioning Unit Operation Manual for the proportioner in use.
- Ensure flow of air to air cap is adequate but not excessive.

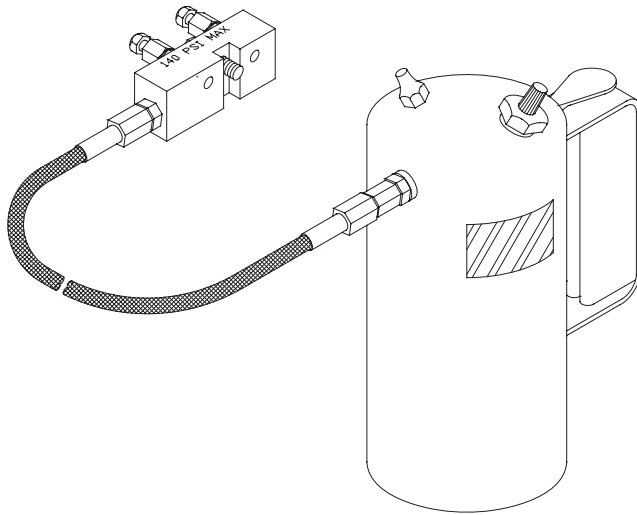
Chamber	Turns Out From Point of Valving		Recommended Distance of Gun from Surface	Pattern Size
	Minimum	Maximum		
46-800	1/2 turn	2 turns	12 in. (304-8 mm)	6 in. (152.4 mm)
46-810	1/2 turn	2 turns	12 in. (304-8 mm)	6 in. (152.4 mm)
55-776	1 3/4 turns	2 5/8 turns	18 to 20 in. (457.2 to 508 mm)	8 in. (203.2 to 228.6 mm)
62	2 turns	3 turns	18 to 20 in. (457.2 to 508 mm)	8 to 9 in. (203.2 to 228.6 mm)
70	2 turns	3 turns	18 to 20 in. (457.2 to 508 mm)	10 to 12 in. (254 to 304.8 mm)
78-851	2 turns	3 turns	24 in. (609.6 mm)	14 in. (355.6 mm)

**Table 1: Valving Rod Adjustment for Standard Mixing Chambers**

# Maintenance

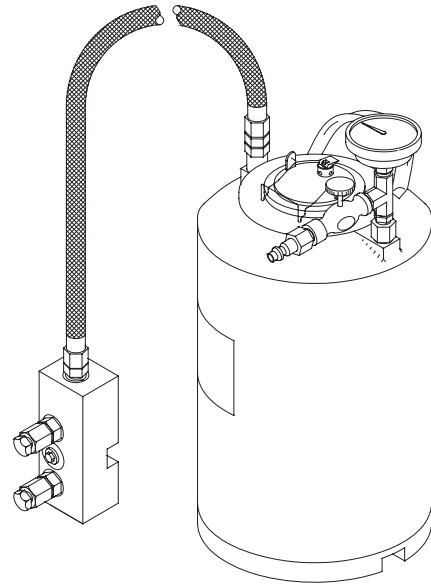
## Gun Service Kits

Use either the 1-Quart Gun Service Kit (296980) or 3-Gallon Gun Service Kit (296981) to perform daily flushing of spray gun without disassembly.



**FIG. 15: 1-Quart Gun Service Kit**

For more information about the 1-Quart Gun Service Kit, see manual 311340.



**FIG. 16: 3-Gallon Gun Service Kit**

For more information about the 3-Gallon Gun Service Kit, see manual 311341.

## Clean Spray Gun Procedure



Thoroughly flush gun block with gun cleaner before removing valving rod or mixing components from gun block. Also allow chemicals in spray gun to cool before cleaning.

This procedure makes use of the 1-Quart or 3-Gallon Gun Service Kit.





1. Close both manual valves.
2. Remove gun from coupling block.
3. Attach service block of gun service kit to spray gun, and then tighten using 5/16 in. nut driver.
4. Pressurize container to 100 psi.
5. Open one manual valve on service block.
6. Trigger gun while holding against a grounded waste container until there is a fine, unobstructed mist of gun cleaner.
7. Release trigger of gun and 1-quart kit, and close manual valves on service block.
8. Repeat steps 5-7 for other side of gun.
9. After initial cleaning, remove air cap and flush a second time to ensure thorough cleaning.
10. Remove service block of gun service kit from spray gun.
11. Disconnect air supply.
12. Clean screens, check valves and screen screw. See Filter Screw Removal and Service procedure, page 19.



Inspect air cap, mixing chamber, and gun block for build up of material and clean as required.

Do not use metal cleaning devices to clean plastic components.

# Repair

						
<p>Shut down proportioner and allow chemicals to cool before performing any repair procedures.</p> <p>Clean Center Line Components using Gun Service Kit prior to performing any repair procedures.</p>						

## Filter Screen Removal and Service

1. Perform Pressure Relief Procedure (page 13) and Clean Spray Gun Procedure, page 18.
2. Unthread screen mounting screw. Remove screen mounting screw and filter screen assembly from gun block.

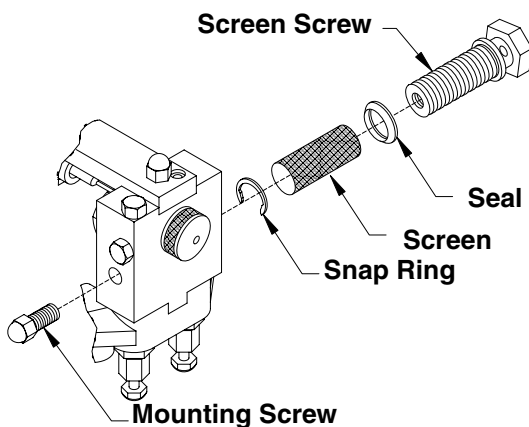


FIG. 17: Filter Screen Assembly

3. Remove screen screw retainer (snap ring at end of screw) and screen. If screen is dirty and clogged, replace it.
4. Clean and inspect screen cavity. If particles are visible, remove with cleanout drills and flush thoroughly with gun cleaner.

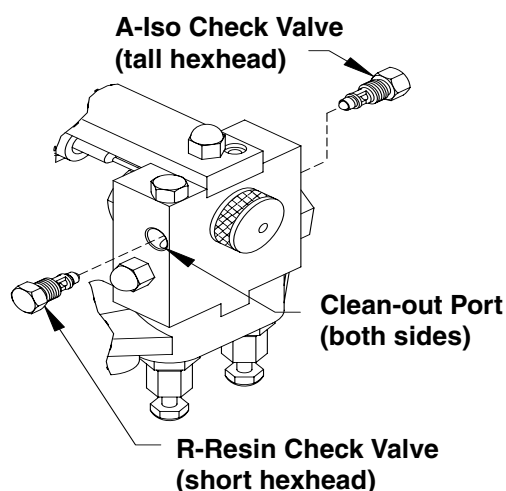
### CAUTION

Any remaining material in cavity on down stream side of screen will clog mixing chamber.

5. Inspect seal, and replace if worn or damaged.
6. Reinstall filter screen assembly. With seal in place, install screen and retainer clip-on screen screw.
7. Install screen assembly to gun block. Ensure screw is tight to prevent leakage.
8. Flush gun after cleaning cavity and screen. See Clean Spray Gun Procedure, page 18.

## Clean Injection Slots

1. Perform Pressure Relief Procedure (page 13) and Clean Spray Gun Procedure, page 18.
2. Remove check valves.



**FIG. 18: Check Valves**

3. Inspect check valves to ensure sleeve is secured, and place check valves in separate containers of gun cleaner.
4. Flush cleanout ports with gun cleaner.

5. Turn valving rod adjustment screw one full turn counterclockwise to ensure valving rod will be withdrawn completely past injection slot.
6. Clean mixing chamber injection slots. With air supply connected to gun, depress and hold trigger to keep valving rod in open position. Insert appropriate cleanout spade into cleanout hole and mixing chamber.

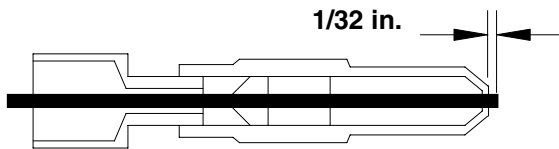
### CAUTION

To prevent damage to chamber, do not release trigger while cleanout spade is in chamber slot.

7. Flush injection slots. With valving rod in open position, flush each injection slot with gun cleaner. Press flush can needle firmly into cleanout hole to create seal. Continue until gun cleaner sprays out chamber tip.
8. Inspect and clean check valves, page 22.
9. Install tall hexhead check valve on Isocyanate side, and short hexhead on Resin side.
10. Adjust valving rod adjustment screw one turn clockwise.

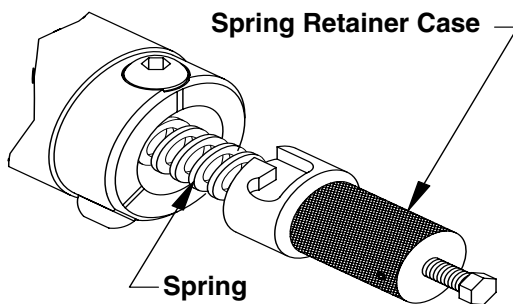
## Valving Rod Adjustment

In closed position, valving rod should extend approximately 1/32 in. (1 mm) beyond tip of mixing chamber. If it does not, follow this procedure:



**FIG. 19: Valving Rod (Closed Position)**

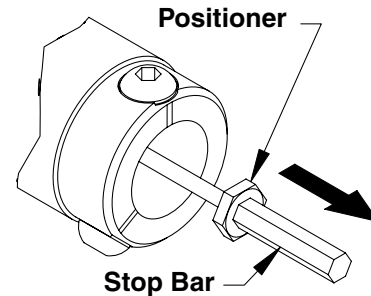
1. Perform Pressure Relief Procedure (page 13) and Clean Spray Gun Procedure, page 18.
2. Disconnect air supply from gun.
3. Remove spring retainer case. Firmly grasp spring retainer case, push in and rotate counterclockwise. Pull spring out of air cylinder.



**FIG. 20: Retainer Case Removal**

4. Loosen felt wiper retainer 2-3 turns (DO NOT REMOVE).

5. Remove valving rod. Push back firmly on piston rod until end of Stop Bar emerges from cylinder.




**FIG. 21: Valving Rod Removal**

6. Loosen stop bar from positioner. Turn positioner to adjust length of valving rod as required. Retighten stop bar against positioner.
7. Replace valving rod, spring, and spring retainer case. Grasp firmly, push in, and turn clockwise to lock in place.
8. Adjust felt wiper and soak with gun cleaner.
9. Connect air supply to gun.
10. Check action of valving rod. With manual valves closed, press trigger several times and ensure valving rod moves freely.

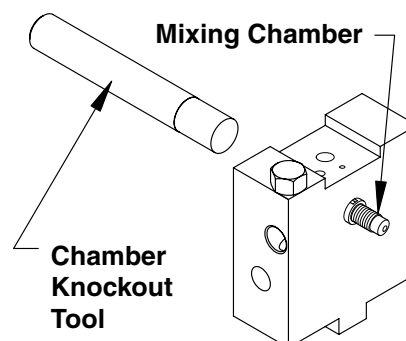
If you have encountered no problems, spray gun is ready for test spray. Follow Daily Start-up procedure (page 12) and Spray Pattern Adjustment procedure (page 14).

## Centerline Component Removal

 Refer to Figure 2 to view centerline components.

1. Perform Pressure Relief Procedure (page 13) and Clean Spray Gun Procedure, page 18.
2. Remove air cap by hand, turning it counterclockwise.
3. Remove screen screw assembly. Flush and place in gun cleaner.
4. Remove check valves. Flush and place in gun cleaner.
5. Flush screen screw and check valve ports.
6. Remove spring retainer case by firmly grasping knob of case. Push in and rotate counterclockwise to remove from air cylinder. Pull spring out of air cylinder.
7. Loosen felt wiper retainer 2-3 turns. **DO NOT REMOVE.**
8. Remove valving rod. Push back firmly on piston rod until end of valving rod stop bar emerges from cylinder.
9. Remove gun block from frame.
10. Unscrew felt wiper assembly from rear of mixing chamber. Keep rear of mixing chamber in upright position to prevent possible loss of internal chamber parts. Ensure brass retaining sleeve is not stuck to felt wiper. Place wiper assembly in gun cleaner.
11. Remove mixing chamber. Hold gun block in one hand with chamber tip pointing into your palm. Insert mixing chamber knockout

tool into rear of gun block and tap with hammer until chamber ejects. Place chamber in gun cleaner.

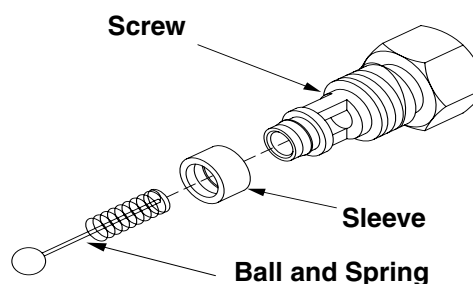


**FIG. 22: Mixing Chamber Removal**

### CAUTION

Matching tapers on mixing chamber and center hole in gun block are machined to an exact fit to hold chambers in place and create a leak-proof seal. When handling or cleaning these parts be careful not to damage finish. Do not use metal tools to clean these parts.

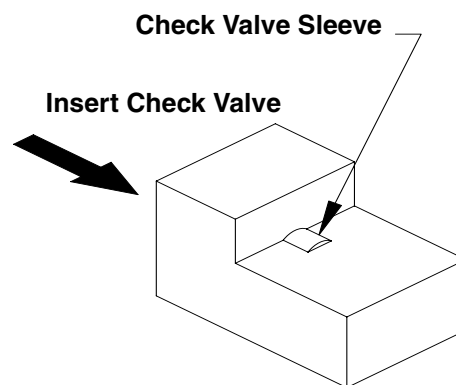
12. Remove closure screw in top of gun block. Place screw in gun cleaner and clean entire gun using appropriate cleanout tools and brass brushes. Then flush thoroughly with gun cleaner.
13. Disassemble check valve assemblies.



**FIG. 23: Check Valves**

- a. Remove ball and spring assembly. Hold ball and unscrew assembly. If dirt or material build-up prevents complete removal of the spring, screw it back in. Soak assembly in gun cleaner and try to remove it again. If ball and spring assembly cannot be removed undamaged, replace it.
- b. Use check valve cleanout drill to clean inside of closure screw. Insert the flattened end of cleanout drill into opening at end of screw, avoiding spurs in the closure screw. Do not spin drill until the flat on the drill has cleared spurs. Spin drill with your fingers to loosen any buildup, then remove drill and flush inside of screw with gun cleaner. Next, check area where ball seats for damage. Also check sleeve for damage; it should fit tightly on the end of the screw. If there is damage or if the sleeve fits loosely, replace it. Replace sleeve if check valve can be threaded all the way into gun block by hand. A good check valve requires the use of a 5/16 in. nut driver to make the last 1/4 turn, compressing the sleeve. This compression is required to create an internal seal in the gun block.
- c. Remove damaged check valve sleeve. Remove ball and spring. Insert check valve into check valve sleeve removal block (FIG. 24). While holding block, and keeping pressure on head of check valve, slice check valve sleeve with razor knife at a 10 - 15 degree angle rel-


ative to the plane of removal block. Remove check valve from block and peel sleeve off. If check valve sleeve remains in gun block after removing check valve, use extractor tool to remove sleeve. Insert threaded end of tool into cleanout port and, while pressing tool into gun block, turn it clockwise several times. Withdraw tool from gun block; sleeve should slide out with tool.



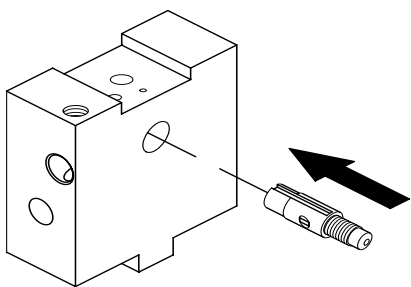
**FIG. 24: Sleeve Removal Block**

- d. Insert spring assembly into check valve and turn the screw clockwise. When the spring is fully inserted, stem will jump over spurs in screw and make clicking sound. Ensure ball fully seats in check valve. If not, or ball is damaged, replace with new ball and spring assembly.
14. Remove retaining ring, washer, and felt wiper from retainer. Flush retainer with gun cleaner, insert new felt wiper and washer, then install retaining ring. Loosely thread felt wiper retainer into rear of mixing chamber (DO NOT TIGHTEN). If not installing to gun block, store assembly in plastic vial with corresponding cleanout spade.

## Centerline Component Installation

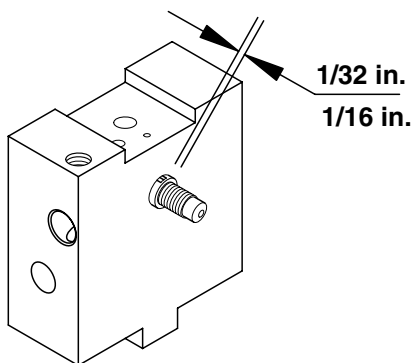
 All gun block parts must be clean and free of damage before installation.

1. Remove felt wiper assembly from rear of mixing chamber.
2. Ensure internal mixing chamber parts are in place.
3. Insert chamber into gun block. Align keyway in chamber with pin protruding from top of hole in block.



**FIG. 25: Mixing Chamber Insertion**

4. Press chamber into block so that flange is  $1/32$  -  $1/16$  in. above face of gun block.



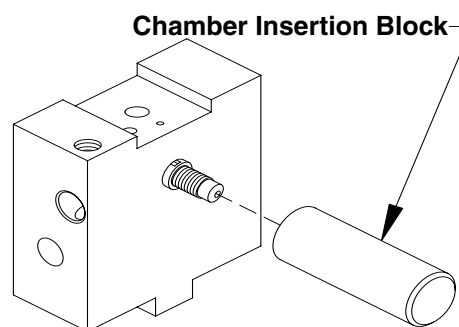
**FIG. 26: Chamber Positioning**

5. Thread felt wiper assembly into back of mixing chamber. Do not tighten.

### CAUTION

Failure to install felt wiper in rear of chamber allows internal chamber parts to fall out when chamber is tapped into place.

6. With rear of gun block facing palm of your hand, place mixing chamber insertion block over nose of chamber so it rests squarely on the chamber flange. Firmly tap insertion block with hammer until flange of chamber is flush with face of gun block (FIG. 27).



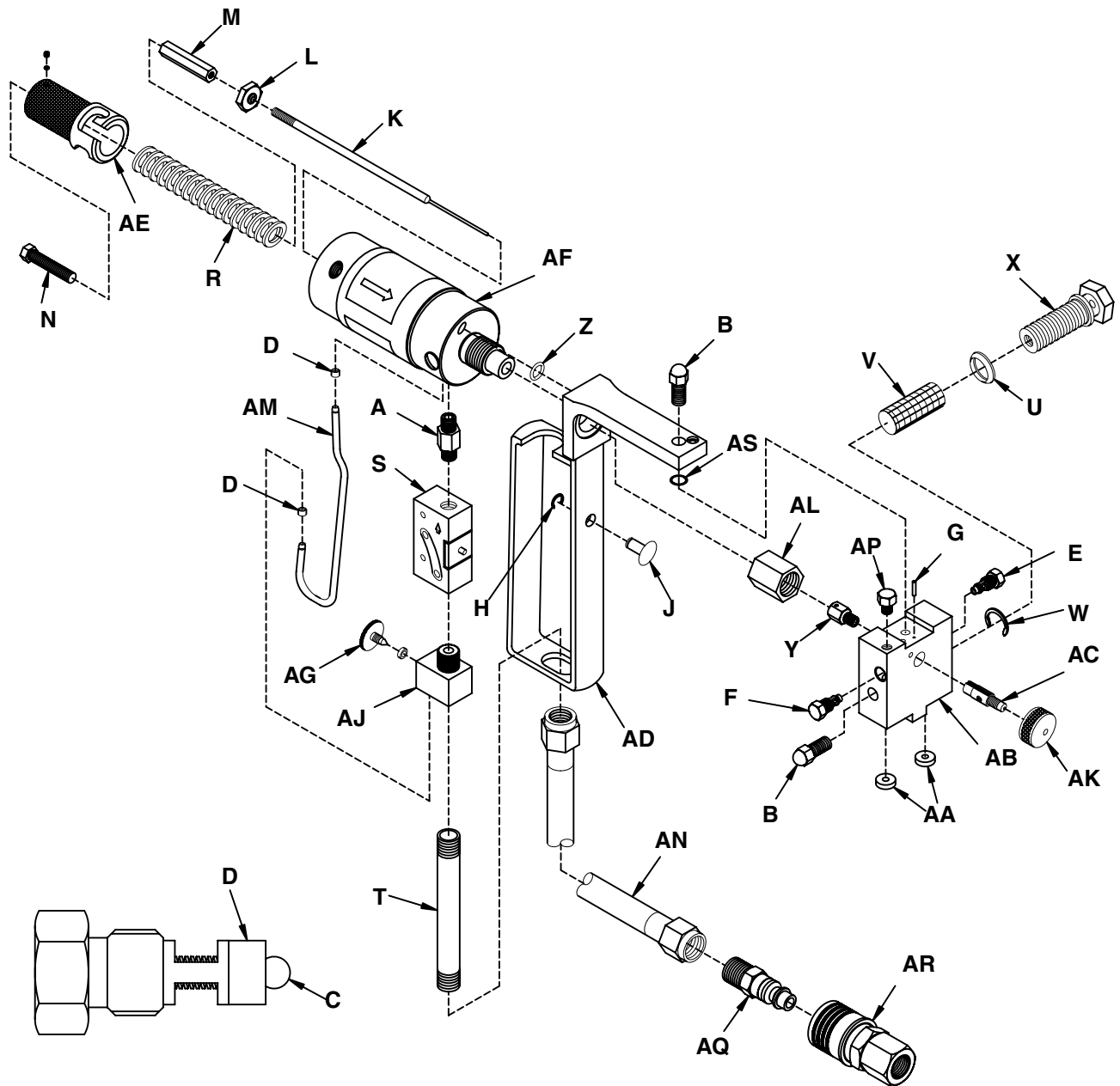
**FIG. 27: Chamber Seating**

7. With o-ring in place on underside of gun frame, assemble block to frame.
8. Install valving rod assembly. If using new felt wiper, push valving rod through felt with retainer case off chamber. Remove felt wiper and any felt buildup on tip of rod. Install wiper, hand tighten into rear of chamber in gun block. Then insert valving rod through piston in air cylinder, guiding it through center of felt wiper retainer. Use firm pressure to carefully push valving rod into mixing chamber until piston of air cylinder bottoms out.
9. Check valving rod clearance. If it does not extend approximately  $1/32$  in. (1mm) beyond tip of mixing chamber, see Valving Rod Adjustment, page 21.

10. Replace valving rod spring and spring retainer case. Grasp knob, push in, and turn clockwise to lock in place.
11. Replace air cap.
12. Replace check valves and screen screw assembly.
13. Replace closure screw in top of gun block.
14. Mount gun onto coupling block.
15. Connect air supply to gun.
16. Adjust felt wiper and soak felt with gun cleaner.
17. Close manual valves and press trigger several times to ensure valving rod moves freely.

# Parts

## Model D Spray Gun Assembly



## Model D Spray Gun Assembly

Ref. No.	Part No.	Description	Qty.	Ref. No.	Part No.	Description	Qty.
A	295591	Hex nipple, 1/8 in. MPT, steel	1	Y	296611	Felt wiper assembly (includes retainer, wiper, washer) (pack of 5)	
B	295185	Mounting screw, 1/2 in. LG	2				
C	296090	Ball and spring assembly (pack of 10)			296612	Felt wiper (pack of 15) and retainer washers (pack of 3)	
D	296091	Check valve sleeve (pack of 10)		Z	111450	O-ring	1
E	296614	Kit, A-check valve, includes C and D (pack of 10)		AA	296625	Coupling block gasket (pack of 10)	
F	296615	Kit, R- check valve, includes C and D (pack of 10)		AB	296121	D gun block, complete (includes G, AA, AP)	1
G	295592	Roll pin, 1/16 x 5/16 in. SST	1	AC		Mixing chamber (includes Y) (see Table 1)	1
H		Tru-Arc, snap ring (see J)	1				
J	296616	Trigger button; includes H	1				
K		Valving rod (see Table 1)	1	AD	295590	Gun frame	1
L		Valving rod positioner (see M)	1	AE	296629	Spring retainer case (includes N)	1
M	296617	Valving rod stop bar; includes L	1	AF		Air cylinder (see page 30)	1
N	295171	Valving rod stop adjustment screw	1	AG	296633	Needle valve and packing kit	1
R	296618	Valving rod closure spring	1	AJ	295182	Needle valve body	1
S*		Air valve	1	AK		Air cap (see Table 1)	1
T	296620	Pipe nipple	1	AL	295183	Retainer nut/dust cover	1
U	296621	Screen screw seal (pack of 10)		AM	296126	Gun air tube, includes D (qty. 2)	
V	296622	Screen-80 mesh (pack of 10)		AN	295184	Air hose	1
	296623	Screen-80 mesh (pack of 50)		AP	295482	Closure screw	1
W	295595	Tru-Arc, 2000-50, snap ring	1	AQ	295596	Coupler plug	1
X	296624	Kit, gun block screen screw (includes U, V, W)	1	AR	295597	Coupler	1
				AS	103557	O-ring	1

\* Purchase Air Valve Repair Kit 296125 (purchase separately). Includes Needle Valve Packing.

Model No.	Description	Valving Rod	Mixing Chamber	Air Cap	Cleanout Spade	Coupling Block	Tool Kit
295530	D-55	295904	295958	295913	295934	295887	296636
295531	D-55-RECIRC	295904	295958	295913	295934	295884	296636
295532	D-62	295905	295959	295913	295935	295887	296636
295533	D-70	295906	295962	295914	295935	295887	296636

Table 1: Model D Gun Assembly, Parts by Model Number

<b>Mixing Chamber Size</b>					
<b>Reference Size</b>	46	55	62	70	78
<b>K (valving rod)</b>	296578	296579	296580	296581	296582
<b>AC (chamber)</b>	296594 (N-800) 296595 (N-810) 296584 (L-800) 296590 (L-800-LM) 296585 (L-810) 296591 (L-810-LM)	296597 (N) 296586 (L) 296592 (L-LM)	296598 (N) 296587 (L)	296599 (N) 296588 (L)	296600 (N) 297592 (L)
<b>AK (air cap)</b>	296838	296634	296634	296635	296635
<b>Cleanout spade</b>	297007 (pack of 2)	295934 (pack of 2)	295935 (pack of 2)	295935 (pack of 2)	295935 (pack of 2)

**Table 2: Model D Gun Assembly, Parts by Mixing Chamber Size**

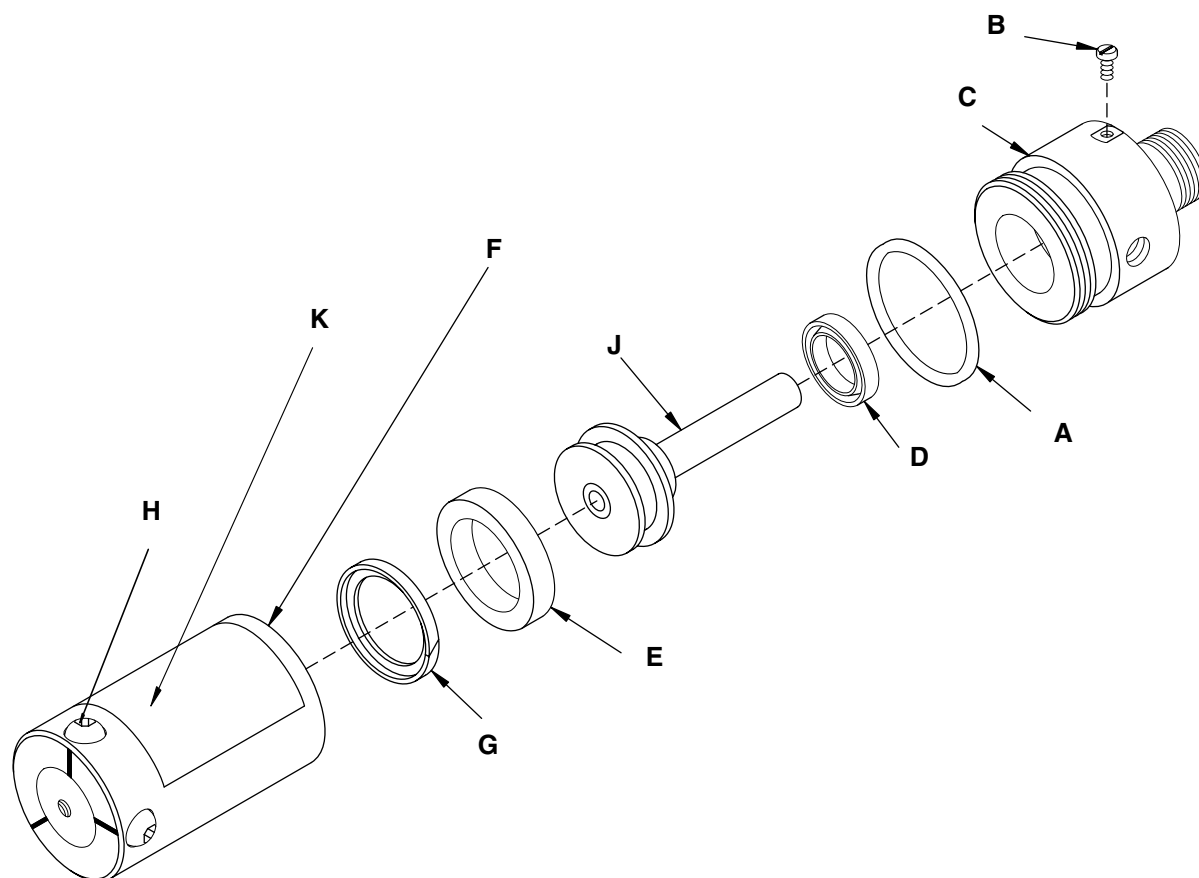
## Standard Mixing Chambers

Six standard mixing chambers are available. The following table provides a general description about use and operational performance of each chamber. Actual pattern sizes and outputs achieved may vary depending on material viscosity, hose length, condition of equipment, environment, working pressure, and additional factors.

<p><b>46 Size</b></p> <p>296594 (N-800) 296584 (L-800) 296590 (L-800-LM)</p>	<p>Designed for operation in confined areas and for spraying 3/8 to 1/2-in. (.7 to 1.3 cm) thicknesses. Gun may be held within 4 in. (10.2 cm) of target without blowing away freshly applied foam. Pattern diameter is approximately 4 in., with gun 4-in. (10.2-cm) distance from target. Output is approximately 2 to 3-1/4 pounds/min. (.9 to 1.5 kg/min.).</p>
<p><b>46 Size</b></p> <p>296595 (N-810) 296585 (L-810) 296591 (L-810-LM)</p>	<p>For the same uses as above. These chambers have an increased output of approximately 3 to 4-1/2 pounds/min. (1.4 to 2.0 kg/min.).</p>
<p><b>55 Size</b></p> <p>296597 (N) 296586 (L) 296592 (L-LM)</p>	<p>Designed for stud areas of trucks and small- to medium-sized wall applications. Pattern diameter is about 8 in. (20.3 cm), with gun 18 to 20 in. (45.7 to 50.8 cm) from target. Output is approximately 6 to 8 pounds/min. (2.7 to 3.6 kg/min.).</p>
<p><b>62 Size</b></p> <p>296598 (N) 296587 (L)</p>	<p>Widely used for large applications, such as large wall surfaces, tanks, and roofs. Pattern diameter is about 9 in. (22.9 cm) with gun 18 to 20 in. (45.7 to 50.8 cm) from target. Output range is about 7 to 10 pounds/min. (3.2 to 4.5 kg/min.).</p>
<p><b>70 Size</b></p> <p>296599 (N) 296588 (L)</p>	<p>Widely used for large applications, such as large wall surfaces, tanks, and roofs. Pattern diameter is about 9 in. (22.9 cm) with gun 18 to 20 in. (45.7 to 50.8 cm) from target. Output range is about 7 to 10 pounds/min. (3.2 to 4.5 kg/min.).</p>
<p><b>78 Size</b></p> <p>296600 (N) 297592 (L)</p>	<p>For very large area applications. Pattern diameter is about 14 in. (35.6 cm) with gun 24 in. (60.9 cm) from target. Output range is about 13-1/2 to 16-1/2 pounds/min. (6.1 to 7.5 kg/min.).</p>

# Air Cylinder Assembly

Part Number 296632

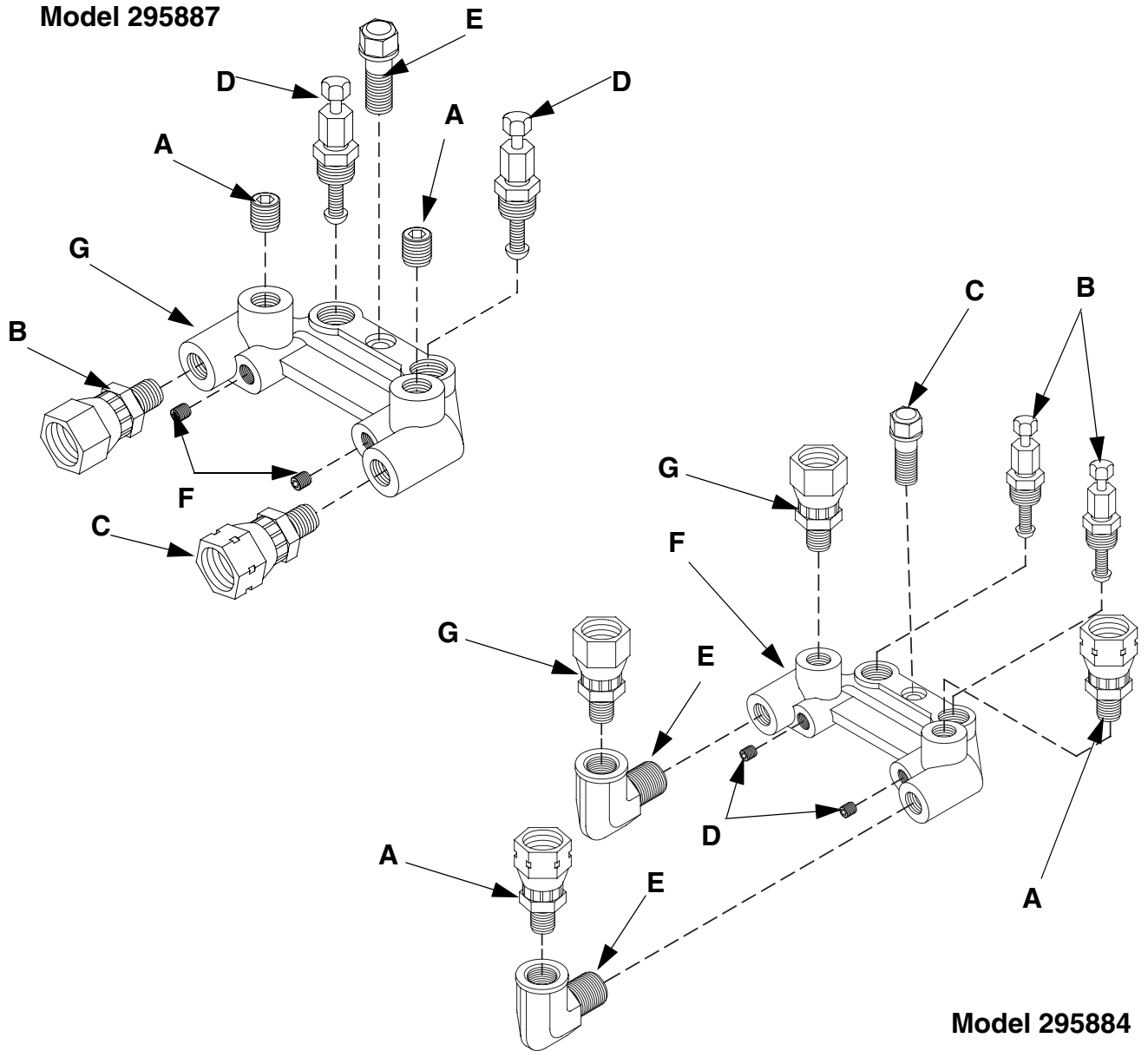


Ref. No.	Part No.	Description	Qty.
A*	107083	O-ring, fluoroelastomer	1
B	295494	Pan head machine screw, 8-32 x 3/16 in.	1
C	295177	Front head blank	1
D*	296627	U-cup (pack of 5)	
E*	296628	U-cup (pack of 5)	
F	295178	Cylinder	1
G*	296631	Wear ring	1
H	295179	Buttonhead cap screw	3
J	295484	Piston assembly	1
K▲	295492	Label, warning	1

\* Parts included in Air Cylinder Seal Kit 296725 (purchase separately)

▲ Replacement Danger and Warning labels, tags, and cards are available at no cost.

# Coupling Block Assembly



Model 295887 (Standard)

Model 295884 (Recirc)

Ref. No.	Part No.	Description	Qty.	Ref. No.	Part No.	Description	Qty.
A	295662	Flush seal pipe plug, 1/8 in.	2	A	295889	A-swivel fitting	2
B	295888	R-swivel fitting	1	B	296626	Manual valve assembly (pack of 2)	-
C	295889	A-swivel fitting	1	C	295619	Mounting screw	1
D	296626	Manual valve assembly (pack of 2)	-	D	295693	Pipe plug	2
E	295619	Mounting screw, 15/16 in.	1	E	112307	Street elbow	2
F	295693	Flush seal pipe plug, 1/36 in.	2	F	295886	Coupling block	1
G	295886	Coupling block	1	G	295888	R-swivel fitting	2



# Technical Data

Category	Data
Maximum Fluid Working Pressure	1000 psi (7 MPa, 70 bar)
Maximum Air Inlet Pressure	100 psi (0.75 MPa, 7.5 bar)
Minimum Air Inlet Pressure	90 psi (0.6 MPa, 6 bar)
Maximum Output (flow rate)	16 lbs/min (7.3 kg/min) *
Minimum Output (flow rate)	2 lbs/min (0.9 kg/min) *
Air Inlet Size	x npt
A Component (ISO) Inlet Size	-5 JIC; 1/2-20 UNF
R Component (Resin) Inlet Size	-6 JIC; 9/16-18 UNF
Length	9.25 in. (24 cm)
Height	8 in. (20 cm)
Width (without coupling block)	2.4 in. (6 cm)
Weight	3 lbs. (1.4 kg)
Wetted Parts	Stainless steel, carbon steel, brass, nylon, acetal, PTFE

\* Theoretical: actual results will vary with operating conditions

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