



This manual contains important warnings and information.
READ AND KEEP FOR REFERENCE.

INSTRUCTIONS

Model M-1265, Series B

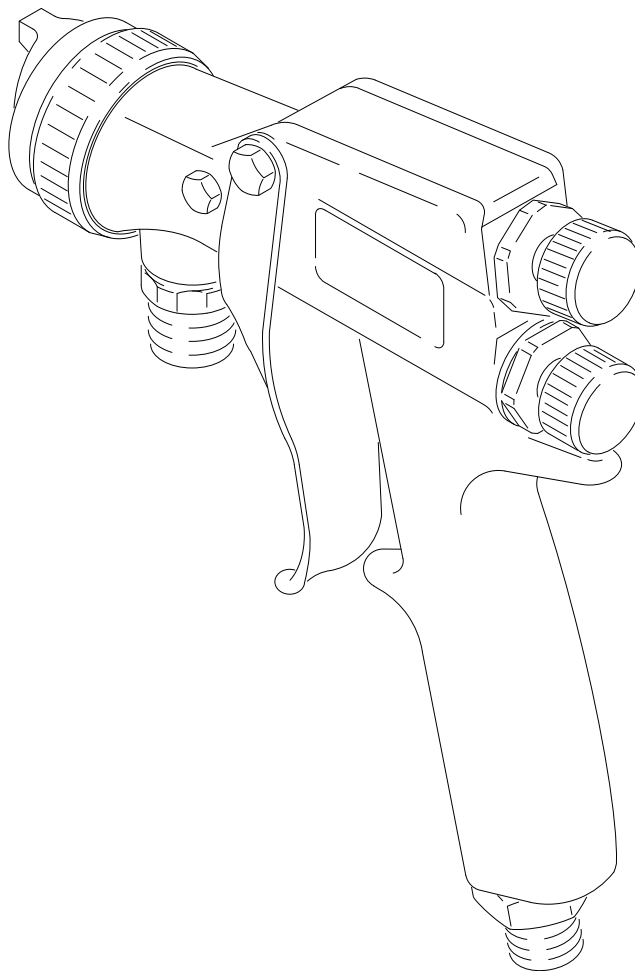
Optimiser™ HVLP Spray Gun

100 psi (0.7 MPa, 7 bar) Maximum Working Fluid Pressure

100 psi (0.7 MPa, 7 bar) Maximum Working Air Pressure

65 psi (444 kPa, 4.4 bar) Maximum Compliant Inbound Air Pressure

U.S. Patent Pending



02017

GRACO INC. P.O. BOX 1441 MINNEAPOLIS, MN 55440-1441

©COPYRIGHT 1993, GRACO INC.

Graco Inc. is registered to I.S. EN ISO 9001

Table of Contents

Warnings	2
Selection Charts	4
Air Flow and Atomizing Pressure	7
Typical Installation	8
Setup	9
Operation	13
Daily Gun Care, Flushing, and Cleaning	14
Troubleshooting	18
Service	20
Part Drawing	24
Parts List	25
Accessories	26
Technical Data	28
Dimensions	28
Warranty	32

Symbols

Warning Symbol



This symbol alerts you to the possibility of serious injury or death if you do not follow the instructions.

Caution Symbol



This symbol alerts you to the possibility of damage to or destruction of equipment if you do not follow the instructions.

! WARNING



INSTRUCTIONS

EQUIPMENT MISUSE HAZARD

Equipment misuse can cause the equipment to rupture, malfunction or start unexpectedly and result in serious injury.

- This equipment is for professional use only.
- Read all instruction manuals, tags, and labels before operating the equipment.
- Use the equipment only for its intended purpose. If you are uncertain about usage, call your Graco distributor.
- Do not alter or modify this equipment. Use only genuine Graco parts and accessories.
- Check equipment daily. Repair or replace worn or damaged parts immediately.
- Use this equipment only in low pressure, air spray systems.
- Do not exceed the maximum working pressure of the lowest rated system component. This equipment has a **100 psi (0.7 MPa, 7 bar) maximum working fluid and air pressure**.
- Route the hoses away from the traffic areas, sharp edges, moving parts, and hot surfaces. Do not expose Graco hoses to temperatures above 180°F (82°C) or below -40°F (-40°C).
- Wear hearing protection when operating this equipment.
- Use fluids or solvents that are compatible with equipment wetted parts. See the **Technical Data** section of all equipment manuals. Read the fluid and solvent manufacturer's warnings.
- Methylene Chloride with formic or propionic acid is not recommended as a flushing or cleaning solvent with this gun or any other device with nylon or aluminum components as it can damage these parts.
- Comply with all applicable local, state and national fire, electrical and other safety regulations.

WARNING



PRESSURIZED EQUIPMENT HAZARD

Spray from the gun, hose leaks or ruptured components can splash fluid in the eyes or on the skin and cause serious injury.

- Do not stop or deflect fluid leaks with your hand, body, glove or rag.
- Follow the **Pressure Relief Procedure** on page 13 when: you are instructed to relieve pressure; stop spraying; clean, check or servicing the equipment; and install or clean fluid nozzles.
- Do not point the spray gun at anyone or at any part of the body.
- Tighten all fluid connections before operating the equipment.
- Check the hoses, tubes and couplings daily. Replace worn, damaged or loose parts immediately. Permanently coupled hoses cannot be repaired; replace the entire hose.



FIRE AND EXPLOSION HAZARD

Poor air ventilation, open flames, or sparks can cause a hazardous condition and result in fire or explosion and serious injury.

- Provide fresh air ventilation to avoid the buildup of flammable fumes from solvent or the fluid being sprayed.
- Extinguish all open flames or pilot lights in the spray area.
- Electrically disconnect all equipment in the spray area.
- Keep the spray area free of debris, including solvent, rags and gasoline.
- Do not turn on or off any light switch in the spray area while operating or if fumes are present.
- Do not smoke in the spray area.
- Do not operate a gasoline engine in the spray area.



TOXIC FLUID HAZARD

Hazardous fluids or toxic fumes can cause serious injury or death if splashed in the eyes or on the skin, inhaled, or swallowed.

- Know the specific hazards of the fluid you are using. Read the fluid manufacturer's warnings.
- Store hazardous fluid in an approved container. Dispose of hazardous fluid according to all local, state and national guidelines.
- Dress appropriately for your application. Wear the appropriate protective clothing, gloves, eyewear, and respirator.

Selection Charts

TERMS:

Light Fluid: Up to 18 seconds with No. 2 Zahn cup (20 centipoise)

Medium Fluid: 19 to 28 seconds with No. 2 Zahn cup (20–64 centipoise)

Heavy Fluid: Greater than 28 seconds with No. 2 Zahn cup (greater than 64 centipoise) --
2.8 Volatile Organic Compounds, High-solid Polyurethanes, Heavy Waterborne Enamels

P/N: Part number

NOTE: See page 6 for additional tips on selecting the needle/nozzle/air cap set best suited to your application.

CHART 1: GUN ASSEMBLIES, Series B

Standard Gun Assemblies

With standard needle/nozzle/air cap kit

Standard Complete Gun Assy. Part No.	Includes:	Orifice Size	Material Usage (See TERMS above)
	Standard Needle/Nozzle/Air Cap Kit P/N		
236-013	238-233	0.042" (1.067 mm)	Light to Medium Fluids or Low Fluid Flow [5-8 oz./min. (0.15-0.24 l/min.)]
236-014	238-234	0.055" (1.397 mm)	Light to Medium Fluids or Medium Fluid Flow [6-12 oz./min. (0.18-0.36 l/min.)]
236-015	238-235	0.070" (1.778 mm)	Medium to Heavy Fluids or Medium Fluid Flow [6-12 oz./min. (0.18-0.36 l/min.)]
236-016	238-236	0.086" (2.184 mm)	Heavy Fluids or High Fluid Flow [10-15 oz./min. (0.3-0.45 l/min.)]

Optional Gun Assemblies – available as “Build to Order”

With optional needle/nozzle/air cap kit

Optional Complete Gun Assy. Part No.	Includes:	Orifice Size	Material Usage (See TERMS above)
	Optional Needle/Nozzle/Air Cap Kit P/N		
236-020	238-230	0.020" (0.508 mm)	Light Fluids or Low Fluid Flow [3-6 oz./min. (0.09-0.18 l/min.)]
236-021	238-231	0.026" (0.660 mm)	Light Fluids or Low Fluid Flow [3-6 oz./min. (0.09-0.18 l/min.)]
236-022	238-232	0.030" (0.762 mm)	Light to Medium Fluids or Low Fluid Flow [5-8 oz./min. (0.15-0.24 l/min.)]

Selection Charts

CHART 1: GUN ASSEMBLIES, Series B (continued)

Optional Non-HVLP Compliant Gun Assemblies

With standard needle and nozzle and optional high pressure air cap

Optional Complete Gun Assy. Part No.	Includes:			Orifice Size	Material Usage (See TERMS on page 4)
	Needle Assy. P/N	* Nozzle P/N	† High Pressure Air Cap P/N		
236-023	238-217	276-293	189-755	0.042" (1.067 mm)	Light to Medium Fluids or Low Fluid Flow [5-8 oz./min. (0.15-0.24 l/min.)]
236-024	238-218	276-294	189-755	0.055" (1.397 mm)	Light to Medium Fluids or Medium Fluid Flow [6-12 oz./min. (0.18-0.36 l/min.)]

* Maximum recommended torque to install molded fluid nozzle in the spray gun is 35 in-lbs (4 N•m).

† See atomizing air pressure chart on page 7.

CHART 2: NEEDLE/NOZZLE/AIR CAP KITS

Standard Needle/Nozzle/Air Cap Kits

Standard Needle/Nozzle/Air Cap Kit Part No.	Includes:			Orifice Size
	† Needle Assy. P/N	* Nozzle P/N	Air Cap P/N	
238-233	238-217	276-293	188-754	0.042" (1.067 mm)
238-234	238-218	276-294	188-754	0.055" (1.397 mm)
238-235	238-219	276-295	188-755	0.070" (1.778 mm)
238-236	238-220	276-296	188-756	0.086" (2.184 mm)

† See page 6 for needle assembly replacement tips.

Optional Needle/Nozzle/Air Cap Kits – available as “Build to Order”

Optional Needle/Nozzle/Air Cap Kit Part No.	Includes:			Orifice Size
	† Needle Assy. P/N	* Nozzle P/N	Air Cap P/N	
235-306	238-703	276-290	188-754	0.020" (0.508 mm)
235-307	238-703	276-291	188-754	0.026" (0.660 mm)
235-308	238-703	276-292	188-754	0.030" (0.762 mm)

* Maximum recommended torque to install molded fluid nozzle in the spray gun is 35 in-lbs (4 N•m).

† See page 6 for needle assembly replacement tips.

Selection Charts

**CHART 3: OPTIONAL ORIFICE PURGE
SST NEEDLE ††**

Optional Stainless Steel Orifice-Purge Needle Part No.	Orifice Size
186-931	0.042" (1.067 mm)
186-932	0.055" (1.397 mm)
186-933	0.070" (1.778 mm)
186-934	0.086" (2.184 mm)

†† Use these needles to purge fluid out of the nozzle orifice to prevent plugging of the tip with fast drying material. A needle shaft assembly (part no. 224-849) must be used with these needles and replaces the standard one-piece needles.

Selecting the Proper Needle/Nozzle/Air Cap Set

The High Volume Low Pressure Spray Gun's needle/nozzle sets range in size to provide different fluid flow rates. Chart 1 shows the recommended combinations based on fluid viscosities and flow rates.

As a general guideline, use the fluid nozzle that will give the required flow with the needle fully triggered at the lowest fluid pressure.

For low flow rates or light viscosity fluid, select the smaller nozzle sizes.

For high flow rates or high viscosity fluid, select the larger nozzle sizes.

Using an air cap size that is smaller than the nozzle/needle size is not recommended.

NOTE: To help select the proper needle/nozzle size, a fluid pressure gauge may be connected temporarily to the gun fluid inlet to determine the fluid pressure. See **Accessories**.

**CHART 4: NEEDLE ASSEMBLY
REPLACEMENT TIPS**

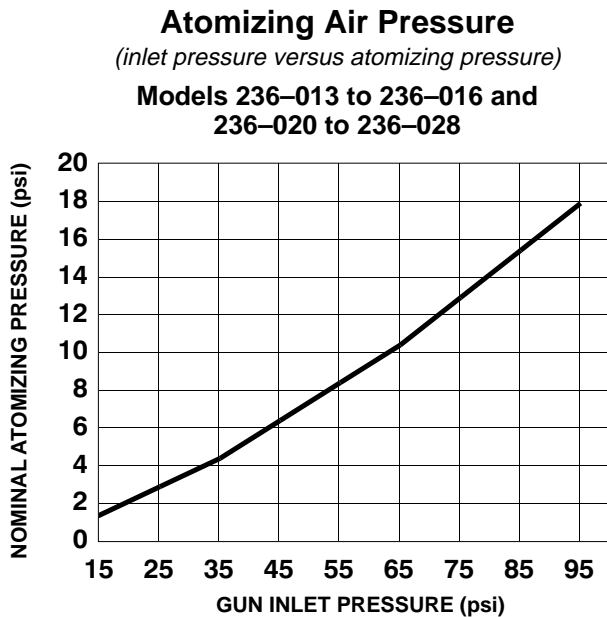
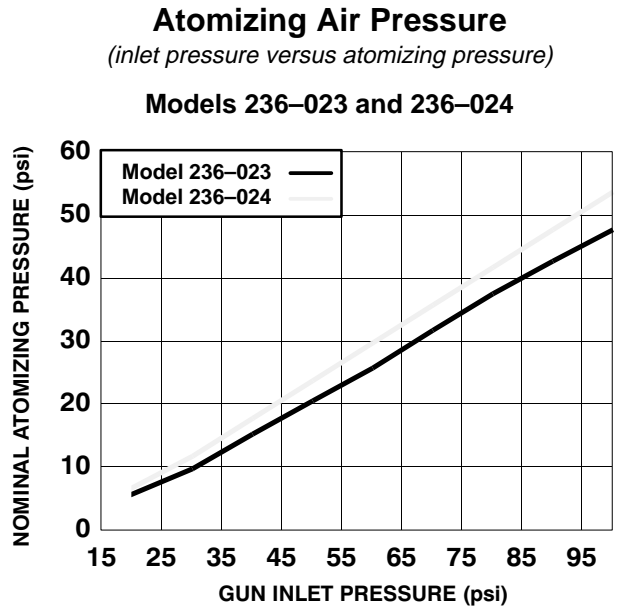
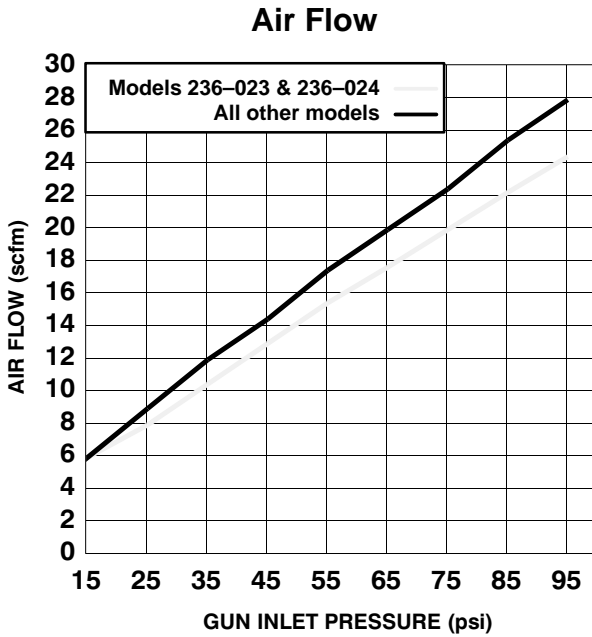
Needle Assembly Part No.	Needle Tip P/N
238-217	191-016
238-218	191-017
238-219	191-018
238-703	191-564

Selection Problems and Solutions

PROBLEM	POSSIBLE CAUSE	SOLUTION
Fluid <u>pressure</u> is too high (greater than 10 psi [70 kPa, 0.7 bar]) with gun triggered	Using set with too small orifice	Use needle/nozzle/air cap set with larger orifice
Using a low pressure setting, the fluid <u>flow</u> is too high, making it necessary to restrict needle travel to reduce fluid flow.	Using set with too large orifice	Use needle/nozzle/air cap set with smaller orifice
Fluid system will not operate at low enough fluid pressure [below 10 psi (70 kPa, 0.7 bar)]	There's no fluid regulator or air regulator is not sensitive enough	Add low pressure fluid regulator or add more sensitive air regulator on pressure pot

Air Flow and Atomizing Pressure

NOTE: All tests were completed with the pattern adjustment valve fully open.

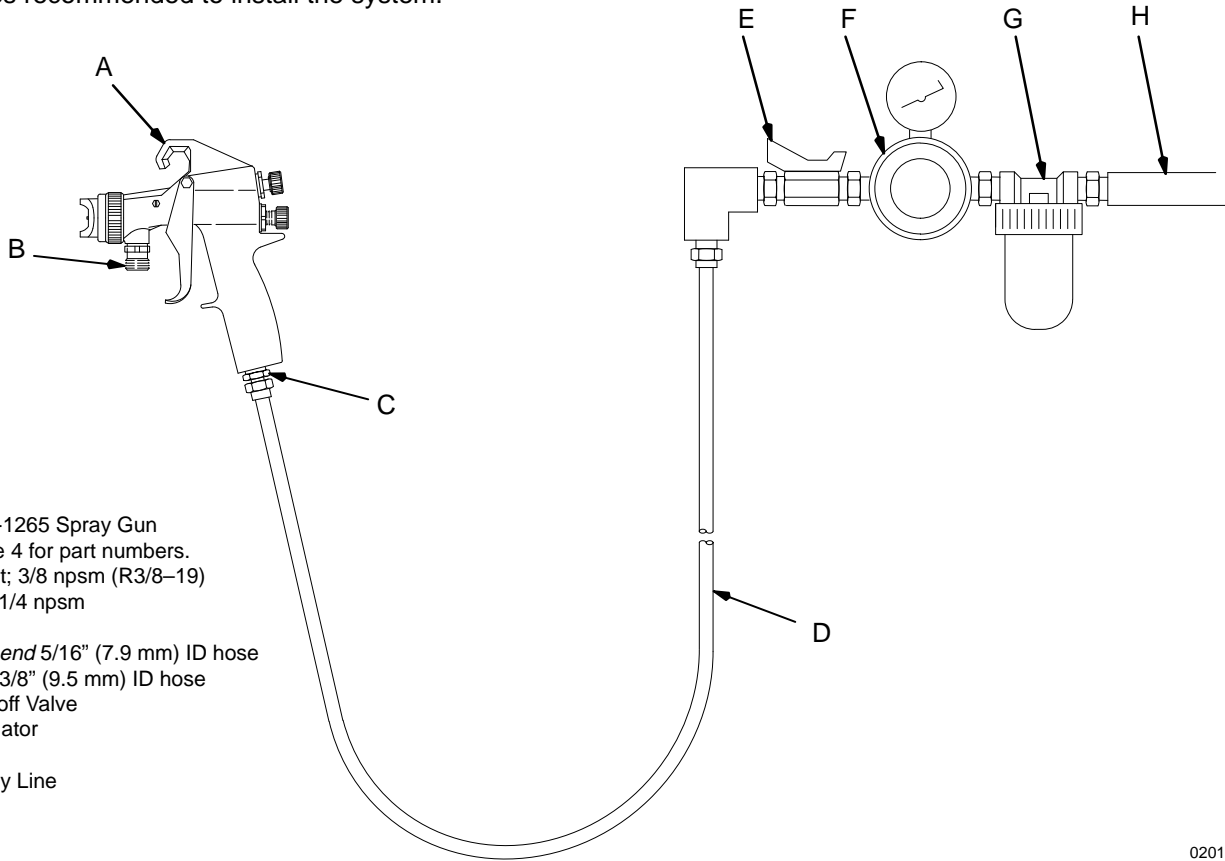


Gun Inlet Pressure psi (kPa, bar)	Nominal Atomizing Pressure psi (kPa, bar)	
	Model 236-023	Model 236-024
20 (140, 1.4)	6 (41, 0.4)	7 (48, 0.4)
30 (210, 2.1)	10 (70, 0.7)	12 (84, 0.8)
40 (280, 2.8)	16 (111, 1.1)	18 (125, 1.2)
50 (345, 3.4)	21 (147, 1.5)	24 (168, 1.6)
60 (410, 4.1)	26 (181, 1.8)	30 (210, 2.1)
70 (480, 4.8)	32 (224, 2.2)	36 (251, 2.5)
80 (550, 5.5)	38 (265, 2.6)	42 (294, 2.9)
90 (620, 6.2)	43 (301, 3.0)	48 (335, 3.3)
100 (700, 7.0)	48 (335, 3.3)	54 (373, 3.7)

Gun Inlet Pressure psi (kPa, bar)	Nominal Atomizing Pressure psi (kPa, bar)
15 (104, 1.0)	1.5 (10.5, 0.1)
25 (174, 1.7)	3.0 (21.0, 0.2)
35 (244, 2.4)	4.5 (31.5, 0.3)
45 (312, 3.1)	6.0 (41.0, 0.4)
55 (379, 3.7)	8.5 (58.5, 0.6)
65 (444, 4.4)	10.0 (70.0, 0.7)
75 (514, 5.1)	13.0 (91.0, 0.9)
85 (584, 5.8)	15.5 (107.5, 1.1)
95 (654, 6.5)	18.0 (125.0, 1.2)

Typical Installation

NOTE: See the **Accessories** section for accessories recommended to install the system.



KEY

- A Model M-1265 Spray Gun
See page 4 for part numbers.
- B Fluid Inlet; 3/8 npsm (R3/8-19)
- C Air Inlet; 1/4 npsm
- D Air Hose
Recommend 5/16" (7.9 mm) ID hose
Optional 3/8" (9.5 mm) ID hose
- E Air Shut-off Valve
- F Air Regulator
- G Air Filter
- H Air Supply Line

02018

The M-1265 HVLV Spray Gun

The Model M-1265 HVLV Spray Gun was designed to produce the highest quality finish with today's fluids as well as the the Low V.O.C. (volatile organic compound) fluids of tomorrow.

This spray gun can spray most coatings or finishes currently being used for automotive refinish, industrial, aerospace, marine, wood, plastic and architectural applications, while easily operating from any paint delivery system, including cups, pressure pots, or remote pumps for production line operation.


The Model M-1265 HVLV Spray Gun typically utilizes 65 psi (444 kPa, 4.4 bar) inbound air pressure to produce high quality paint finishes at 10 psi (0.07 bar) atomizing air pressure.

The air regulator must have a minimum air flow capacity of 30 scfm at 100 psi (0.7 MPa, 7 bar) air pressure.

NOTE: If the gun's hanging hook is needed, remove the gun trigger and replace the gun plate with the hook, then reinstall the trigger. See the parts drawing, page 24.

Ventilate the Spray Booth

⚠ WARNING



To prevent hazardous concentrations of toxic and/or flammable vapors, spray only in a properly ventilated spray booth. Do not operate the spray gun unless ventilation fans are operating.

Check and follow all of the National, State and Local codes regarding air exhaust velocity requirements.

Check and follow all local safety and fire codes.

Setup

1. Connect the Air Line

NOTE:

- You must install an air pressure regulator (F) on the gun air line to control air pressure to the gun. See Fig. 2.
- If your regulated air source does not have a filter, install an air filter (G) on the air line to ensure a dry, clean air supply to the gun. Dirt and moisture can ruin the appearance of your finished workpiece. See Fig. 2.
- Use a 5/16 inch (7.9 mm) I.D. air hose to minimize excessive pressure drop in the hose.

- A. Connect the air hose (D) to the 1/4 npsm gun air inlet (C).

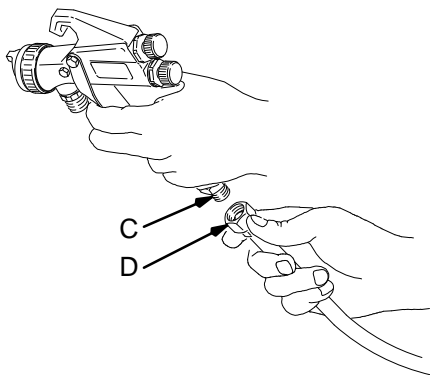


Fig. 1 _____ 02051

- B. Connect the other end of the air hose (D) to a regulated air supply line (H).

NOTE: Fig. 2 shows the filter (G) air regulator (F), and air shut-off valve (E) on the air supply line.

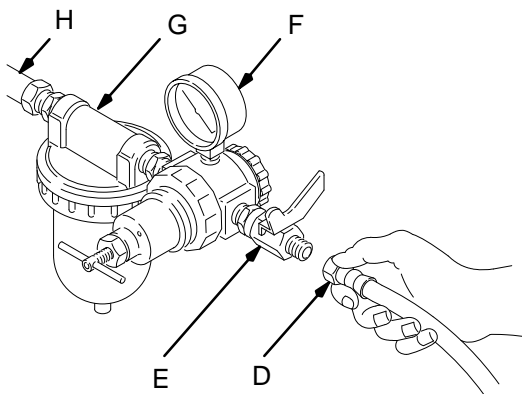


Fig. 2 _____ 01990

2. Connect the Fluid Hose

NOTE:

- Before connecting the fluid line, blow it out with air and flush it with solvent. Use solvent which is compatible with the fluid to be sprayed.
- Install a fluid regulator (L) on the fluid line to control fluid pressure to the gun. See Fig. 4.
- Filter the fluid line of coarse particles and sediment to avoid clogging the fluid nozzle and causing finishing defects.

- A. Connect the fluid hose (J) to the gun fluid inlet (B) 3/8–18 npsm [R 3/8–19] compound thread.

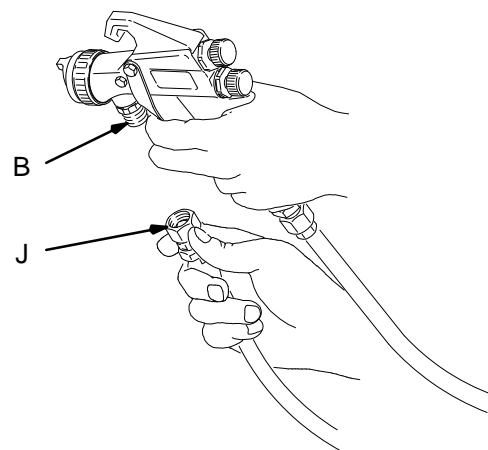


Fig. 3 _____ 02052

- B. Connect the other end of the fluid hose (J) to a regulated fluid supply line (K).

NOTE: Fig. 4 shows the fluid regulator (L) and fluid shut-off valve (M) on the fluid supply line (K).

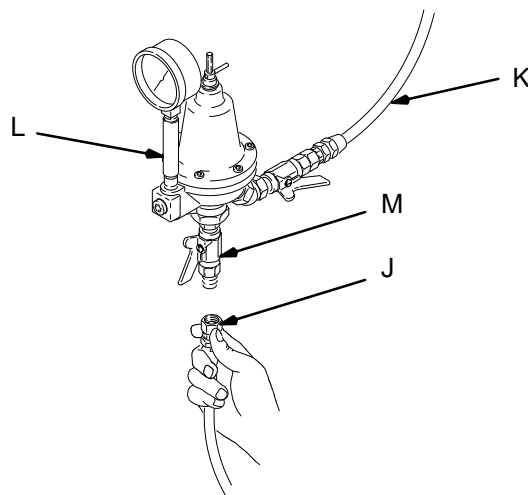


Fig. 4 _____ 02054

Setup

3. Flush the Spray Gun.

Before running any paint through the spray gun, flush the gun out with a solvent that is compatible with the fluid to be sprayed, using the lowest possible fluid pressure and a grounded metal container.

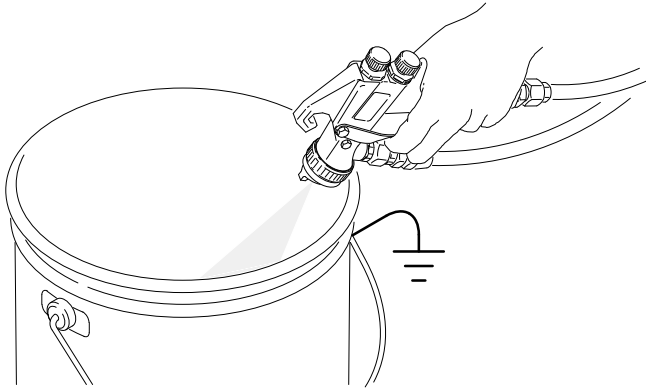


Fig. 5 _____ 02053

! WARNING

PRESSURIZED EQUIPMENT HAZARD

To reduce the risk of a serious injury whenever you are instructed to relieve pressure, follow the **Pressure Relief Procedure** on page 13.

4. Relieve the Pressure.

5. Position the Air Cap

Rotate the air cap as needed to achieve the desired spray pattern direction. To create a round pattern, turn the pattern air off by turning the pattern adjustment knob (13a) fully clockwise. Refer to Fig. 12.

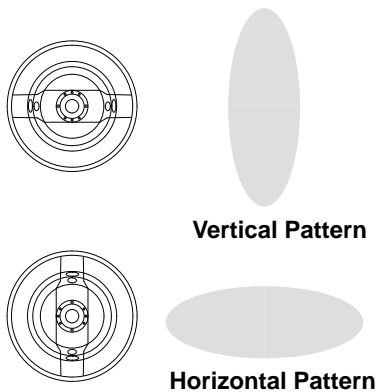


Fig. 6 _____ 02020

6. Adjust the Spray Pattern

! WARNING



COMPONENT RUPTURE HAZARD

Do not exceed the **100 psi (0.7 MPa, 7 bar) maximum fluid and air pressure** of this gun. Higher pressures can cause parts to rupture and result in serious injury.

Follow these steps to establish the correct fluid flow and air flow:

- A. Turn the fluid adjustment knob (8) counterclockwise until no restriction of the trigger movement is felt, then turn the knob another half turn. When the knob is turned far enough, the trigger should be able to touch the gun handle when the gun is triggered.

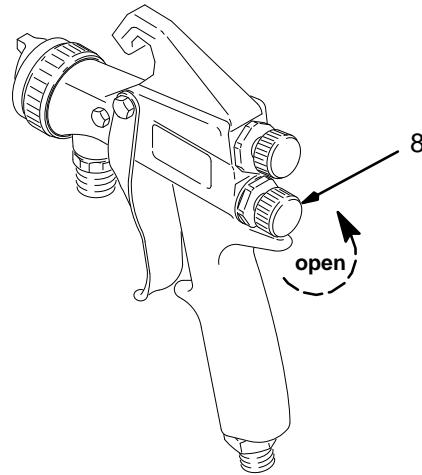


Fig. 7 _____ 02017

Setup

6. Adjust the Spray Pattern (continued)

- B. Adjust the fluid flow using the fluid pressure regulator (L) installed in the gun fluid line. Typical industrial flow rates will vary with regulator pressures from 5 to 10 psi (34 to 70 kPa, 0.3 to 0.7 bar).

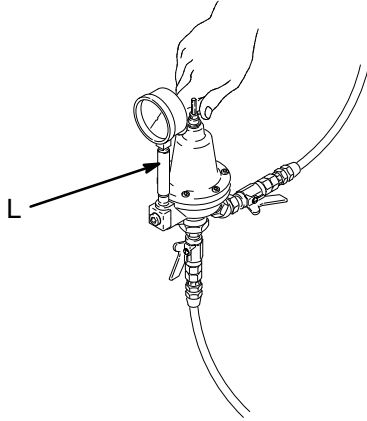


Fig. 8

02059

- C. Hold the gun parallel to the floor and adjust the fluid pressure to yield a 1 to 6 inch (25.4 to 152.4 mm) straight fluid stream before the stream falls off.

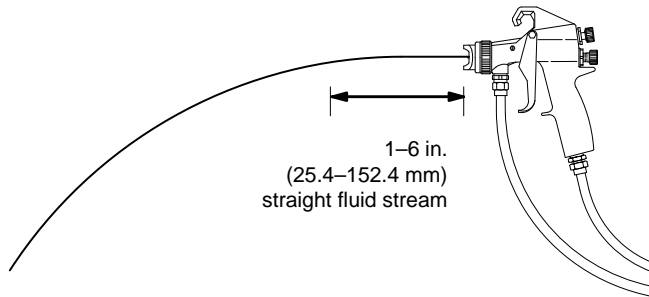


Fig. 9

02106

Fluid Velocity of Fluid Nozzles at the Same Flow Rate

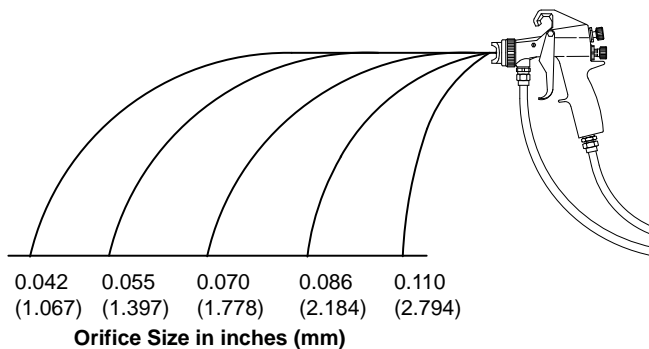


Fig. 10

02105

NOTE: A larger fluid nozzle at a reduced fluid pressure will maintain the same flow rate, but slow down the fluid stream (velocity). When air is applied, this allows the air to act on the fluid longer and improve the atomization.

- D. If further fluid flow restriction is needed at the gun, turn the fluid adjustment knob (8) clockwise to reduce the volume of fluid output by limiting the needle travel.

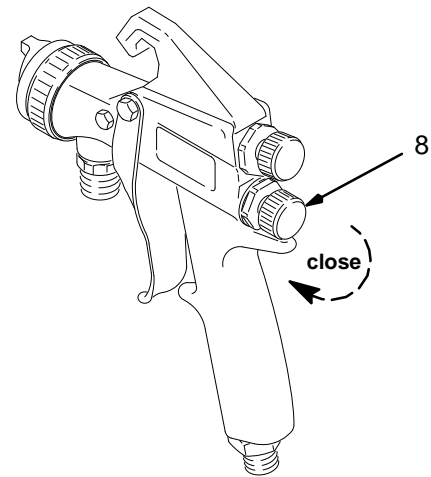


Fig. 11

02017

CAUTION

Restricting the trigger and fluid needle travel by continuously spraying with the fluid adjustment knob closed (turned clockwise), will cause accelerated abrasive wear on the fluid needle and wear on the trigger/air valve shaft interface.

For the best results, use the gun fluid regulator to adjust the fluid flow or use a different size needle/nozzle/air cap combination. Refer to page 5.

NOTE:

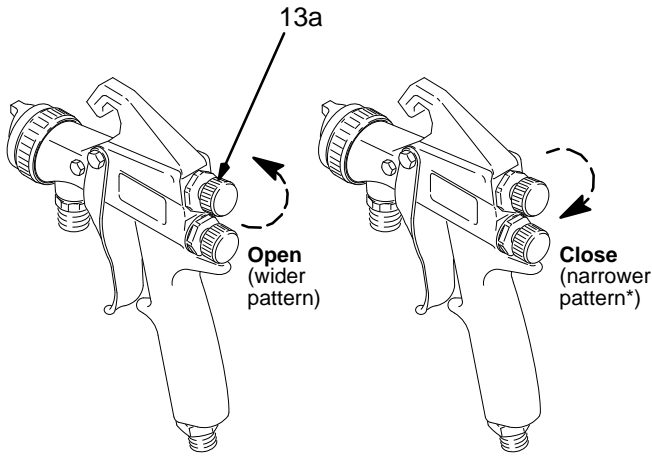
- If the fluid adjustment knob is turned in all the way the gun will emit only air.
- For continuous spraying, turn the fluid adjustment knob (8) counterclockwise until no restriction of the trigger movement is felt. When the knob is turned far enough, the trigger should be able to touch the gun handle when the gun is triggered. This provides maximum fluid flow and prevents premature wear on the fluid nozzle.

Continued on the next page.

Setup

6. Adjust the Spray Pattern (continued)

- E. Open the pattern adjustment valve (13a) by turning it fully counterclockwise for a full fan pattern.



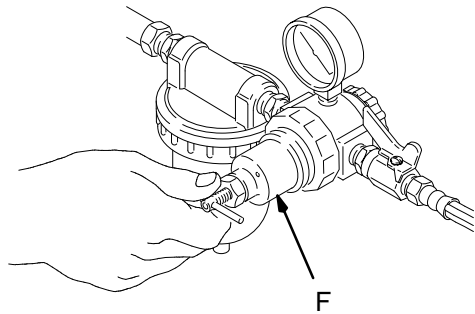
02017

Fig. 12

- F. Using the air pressure regulator (F), set the gun air supply pressure at 50 psi (345 kPa, 3.4 bar) at the gun inlet.

If available, use the fluid manufacturer's recommendations to set the air line pressure for a high volume, low pressure, spray gun application.

NOTE: Local laws may limit the maximum pressure to 10 psi (70 kPa, 0.7 bar) at the air cap for HVLP compliance.



01997

Fig. 13

- G. Test the spray pattern and atomization while holding the gun about 6 to 8 inches (150 to 200 mm) from the test piece.
- H. The spray pattern may be too wide with the pattern adjustment knob (13a) turned fully counterclockwise. Turn the pattern adjustment knob clockwise until you have the desired pattern size.
- NOTE:** Turning the pattern adjustment knob fully clockwise will produce a round pattern.
- I. Check the atomization quality again. Increase the gun air supply pressure with the air pressure regulator in 5 psi (34 kPa, 0.3 bar) increments until you obtain the desired atomization.
- J. If after increasing the gun air supply pressure the atomization is still unacceptable, try installing a larger fluid nozzle size to reduce the fluid velocity. Refer to Fig. 10. Repeat steps 6-E to 6-I until you obtain the desired atomization.

CAUTION

Trigger the gun whenever you tighten or remove the nozzle. This keeps the needle seat away from the nozzle seating surface and prevents the seat from being scratched.

When tightening the nozzle, do not exceed 35 in-lbs (4 N•m) torque. Over-tightening the nozzle can cause the nozzle hex to round, can affect the spray pattern, and is unnecessary to guarantee a seal.

Operation

Pressure Relief Procedure

⚠ WARNING

PRESSURIZED EQUIPMENT HAZARD

The system pressure must be manually relieved to prevent the system from starting or spraying accidentally. To reduce the risk of an injury from accidental spray from the gun, splashing fluid, or moving parts, follow the **Pressure Relief Procedure** whenever you:

- are instructed to relieve the pressure,
- stop spraying,
- check or service any of the system equipment,
- or install or clean the spray nozzle.

1. Turn off the air and fluid supply to the gun.
2. Trigger the gun into a grounded metal waste container to relieve air and fluid pressure.

Applying the Fluid

When using the HVLP spray gun, instead of a conventional air spray gun, you may need to use a slightly slower hand movement and make fewer passes with the gun to coat a part. This is due to the reduced spray velocity produced by lower HVLP air pressures, along with a larger fluid particle size because there is less air to blow off solvents than what is produced by conventional air spray. Take care to avoid runs or sags as you spray.

1. To achieve the best results when applying fluid, keep the gun perpendicular to the surface and maintain a consistent distance of approximately 6 to 8 inches (150 to 200 mm) from the object being sprayed. See Fig. 14.
2. To obtain an even finish, use smooth, even strokes across the object being sprayed with 50% overlap.
3. Paint using parallel strokes. This spray gun applies all coatings evenly without cross coating.

NOTE: To eliminate the need to shut off the air pressure at the air supply, install a quick-disconnect at the gun inlet fitting. See **Accessories**.

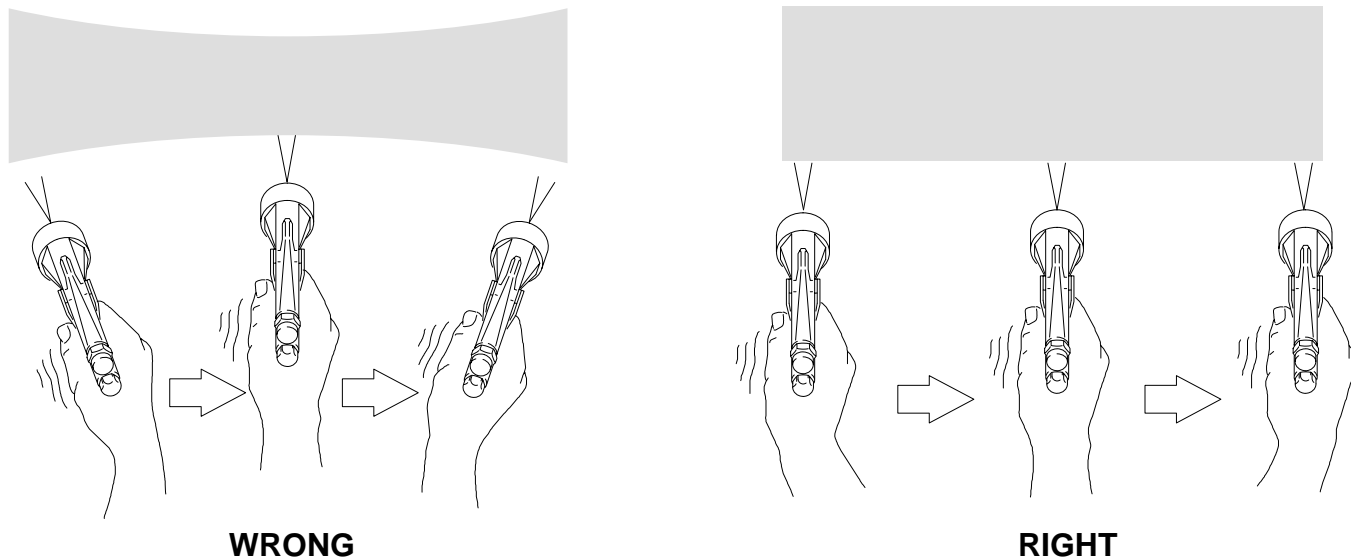


Fig. 14

0793

Daily Gun Care, Flushing, and Cleaning

⚠ WARNING

PRESSURIZED EQUIPMENT HAZARD

To reduce the risk of a serious injury whenever you are instructed to relieve pressure, follow the **Pressure Relief Procedure** on page 13.

⚠ CAUTION

Clean all parts with a non-conductive solvent, compatible with the fluid being sprayed. Conductive solvents can cause the gun to malfunction.

Methylene chloride with formic or propionic acid is not recommended as a flushing or cleaning solvent with this gun as it will damage nylon components.

⚠ CAUTION

Solvent left in gun air passages could result in a poor quality paint finish. Do not use any cleaning method which may allow solvent into the gun air passages.

Do not point the gun up while cleaning it.



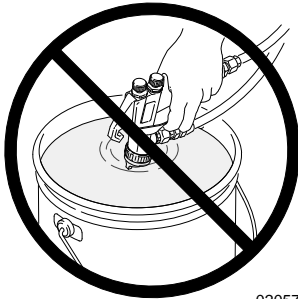
02056

Do not wipe the gun with a cloth soaked in solvent; ring out the excess.



02027

Do not immerse the gun in solvent.



02057

Do not use metal tools to clean the air cap holes as this may scratch them; scratches can distort the spray pattern.



02055

General System Maintenance

1. Relieve the pressure.
2. Clean the fluid and air line filters daily.
3. Check for any fluid leakage from the gun and fluid hoses. Tighten fittings or replace equipment as needed.
4. Flush the gun before changing colors and whenever you are done operating the gun.

Daily Gun Care, Flushing, and Cleaning

⚠ WARNING

PRESSURIZED EQUIPMENT HAZARD

To reduce the risk of a serious injury whenever you are instructed to relieve pressure, follow the **Pressure Relief Procedure** on page 13.

1. Relieve the pressure.
2. Disconnect the fluid supply hose (J) from the gun;

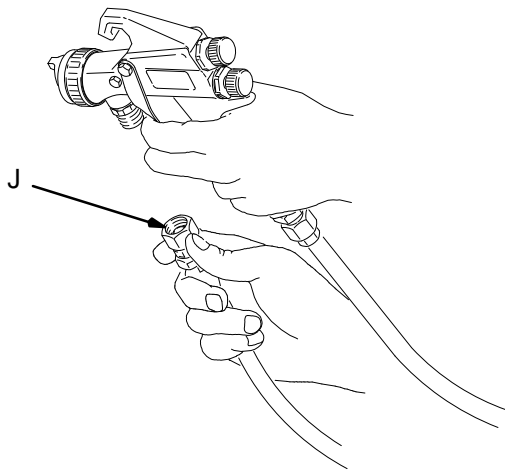


Fig. 1 _____ 02052

3. Connect the solvent supply hose (N) to the gun.

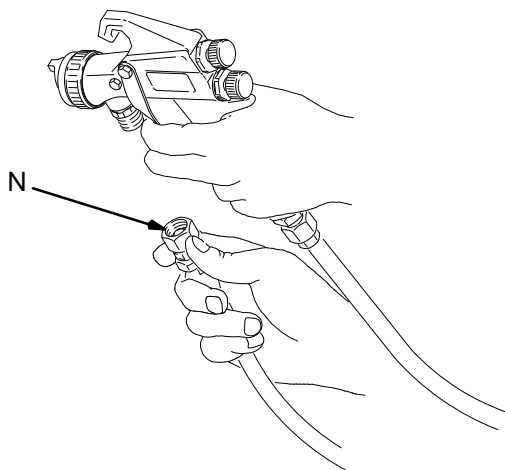


Fig. 2 _____ 02052

4. Point the gun down into a grounded metal container, and flush the gun with solvent until all traces of paint are removed from the gun passages.

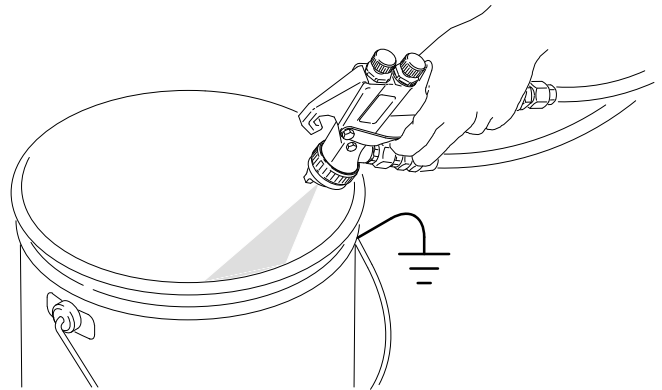


Fig. 3 _____ 02053

5. Turn off the solvent supply.
6. Relieve the pressure. Disconnect the solvent supply.
7. Disconnect both the solvent (N) and air (D) supply hoses from the gun.

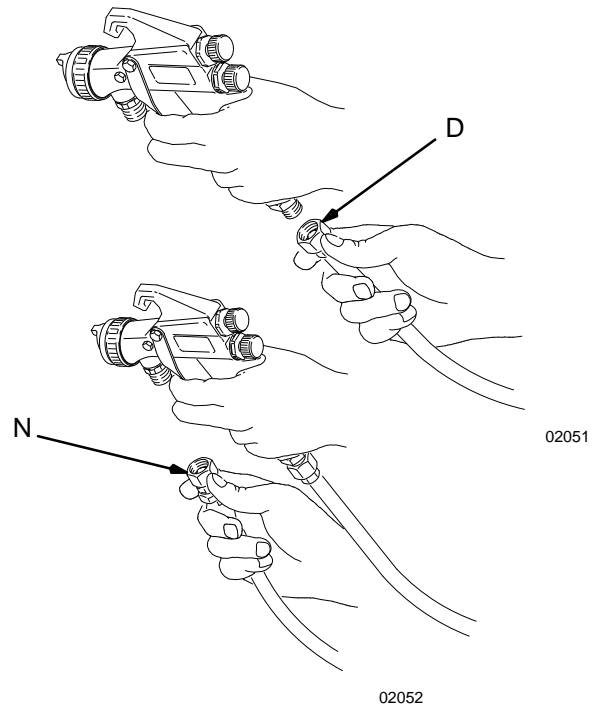


Fig. 4 _____ 02052

Daily Gun Care, Flushing, and Cleaning

8. Remove the air cap ring (12) and air cap (19).
9. Trigger the gun while you remove the fluid nozzle (20) from the gun with the gun wrench (35).

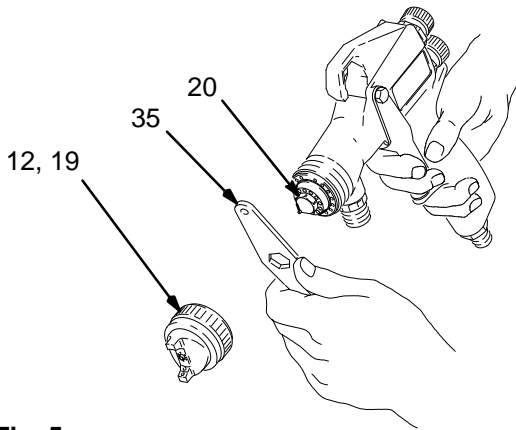


Fig. 5 02060A

⚠ CAUTION

Trigger the gun whenever you tighten or remove the nozzle. This keeps the needle seat away from the nozzle seating surface and prevents the seat from being scratched.

10. Soak the ring, air cap, and fluid nozzle in solvent.
11. Dip the end of a soft-bristle brush into a compatible solvent. Do not continuously soak the brush's bristles with solvent and do not use a wire brush.

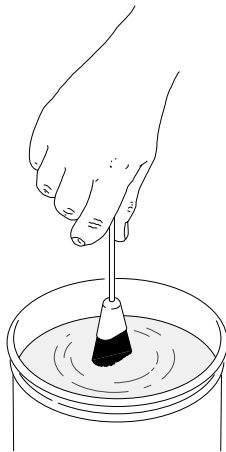


Fig. 6 02007

12. With the gun pointed down, clean the front of the gun, using the soft-bristle brush and solvent.

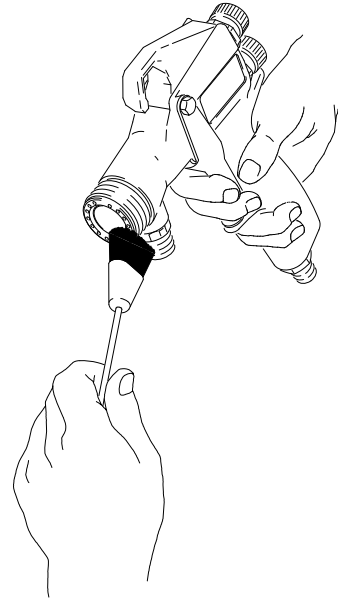


Fig. 7 02062A

13. Scrub the the air cap ring, air cap, and fluid nozzle with the soft-bristle brush. To clean out air cap holes, use a soft implement, such as a toothpick, to avoid damaging critical surfaces. Clean the air cap and fluid nozzle daily, minimum. Some applications require more frequent cleaning.

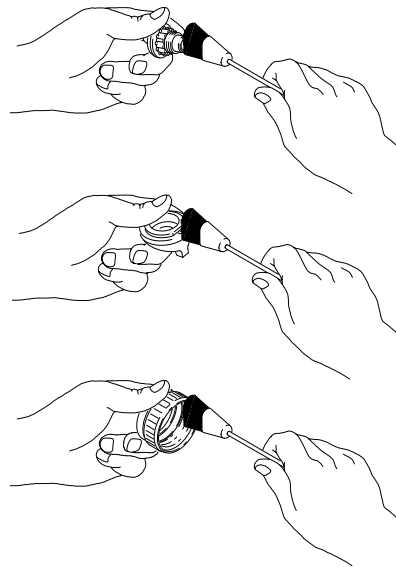


Fig. 8 02011

Daily Gun Care, Flushing, and Cleaning

14. Trigger the gun while you install the fluid nozzle (20) with the gun wrench (35).

⚠ CAUTION

When tightening the nozzle, do not exceed 35 in-lbs (4 N•m) torque. Over-tightening the nozzle can cause the nozzle hex to round, can affect the spray pattern, and is unnecessary to guarantee a seal.

15. Install the air cap ring (12) and air cap (19).

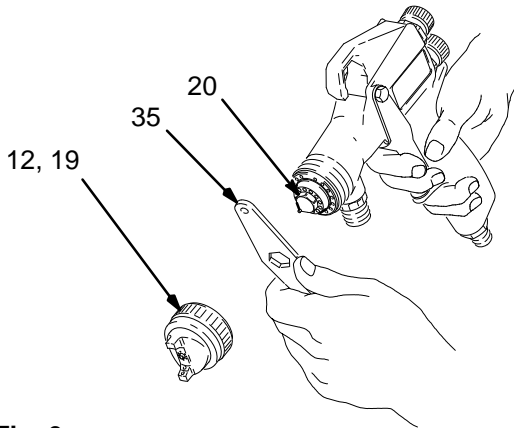


Fig. 9

02060A

16. Dampen a soft cloth with solvent and wring-out the excess. Point the gun down and wipe off the outside of the gun.

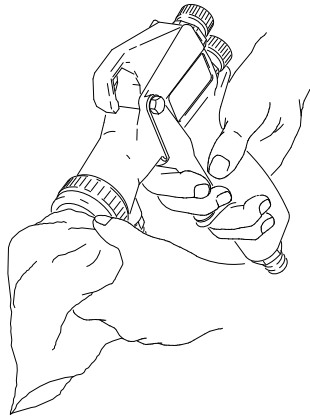


Fig. 10

02063

17. After cleaning the gun, lubricate the following parts with lubricant 111–265 daily:

- Fluid adjustment knob threads
- Trigger pivot pin
- Fluid needle shaft; refer to the **Service** section to remove and reinstall the needle

NOTE: See Accessories to order lubricant 111–265.

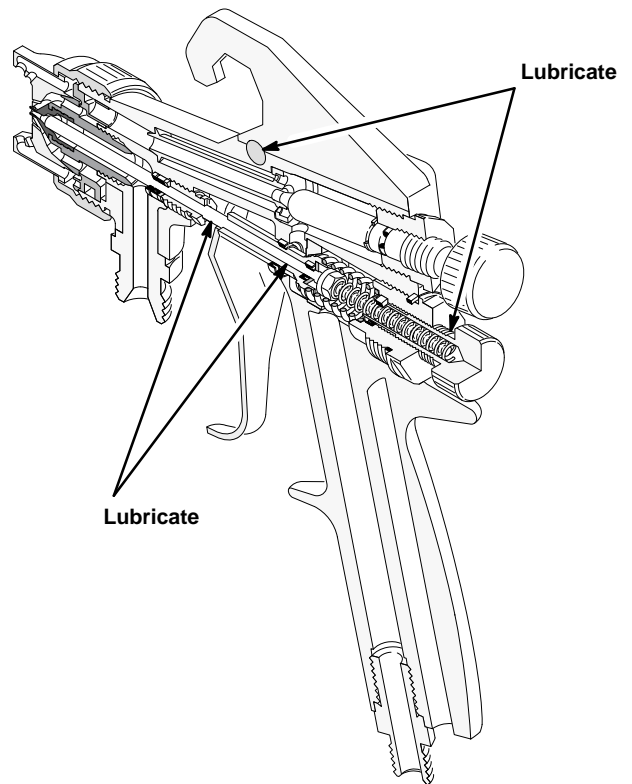


Fig. 11

02019

Troubleshooting

WARNING

PRESSURIZED EQUIPMENT HAZARD

To reduce the risk of a serious injury, follow the **Pressure Relief Procedure** on page 13 before checking or repairing any part of the gun or system.

PROBLEM	CAUSE	SOLUTION
Fluid flow is fluttering while spraying	<ol style="list-style-type: none"> 1. Fluid nozzle not tight enough 2. Fluid filter clogged 3. Fluid adjustment knob not properly set 4. Baffle (item 11) installed wrong or damaged 	<ol style="list-style-type: none"> 1. Tighten fluid nozzle; Do not exceed 35 in-lbs (4 N•m) torque. 2. Check fluid filter. 3. Turn the fluid adjustment knob out for less feathering or use a larger size nozzle. 4. Check if baffle protrusion is properly inserted into gun insert hole; see page 24. Replace baffle if damaged.
Fluid flow fades while spraying high viscosity fluids	<ol style="list-style-type: none"> 1. Air hose size is too restricted for higher air flows 2. Fluid pressure too low, causing fluid flow to reduce when gun is elevated 	<ol style="list-style-type: none"> 1. Use larger 3/8 in. (9.5 mm) ID air hose, part no. 185–353. See Accessories. 2. Raise fluid pressure at source or use a smaller fluid nozzle.
No round pattern control	Baffle (item 11) installed wrong or damaged	Check if baffle protrusion is properly inserted into gun insert hole; see page 24. Replace baffle if damaged.
Pattern becomes off-set or heavy on ends	<ol style="list-style-type: none"> 1. Fluid nozzle is over-tightened 2. Air cap too tight 3. Air cap horn holes plugged 	<ol style="list-style-type: none"> 1. Do not exceed 35 in-lbs (4 N•m) torque on nozzle. Replace nozzle if damaged. 2. Loosen air cap retaining ring. 3. Clean air cap horn holes with non-metallic item such as a toothpick.
Fluid system will not operate at low enough fluid pressure [below 10 psi (70, kPa, 0.7 bar)]	There's no fluid regulator, or air regulator on pressure pot is not sensitive enough at low pressures	Add low pressure fluid regulator, or add more sensitive air regulator on pressure pot.

Service

Items Needed for Service

- Gun Wrench – provided
- Seal Installation Tool – provided
- Adjustable Wrench
- Screw Driver
- Lubricant part no. 111–265; see **Accessories** to order
- Compatible Solvent

NOTE:

- Gun Repair Kit 236–007 is available. The kit includes the air valve assembly (14), ring packing (22) u-cup seals (32, 33), and packing assembly (39). See page 25 to order.
- The following procedure covers the replacement of all the parts included in the Gun Repair Kit.
- The Optional M-1265 Spray Gun (part no. 236–020 to 236–022, 236–027 and 236–028) have a two piece needle assembly, which includes a SST needle shaft assembly and a SST needle tip, instead of the one-piece needle shown in the following instructions. See Chart 2 on page 5 for part numbers.

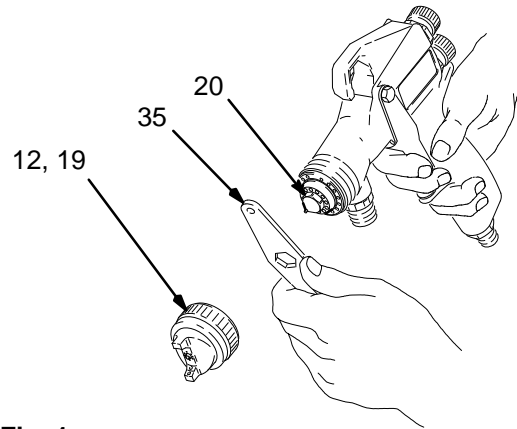


Fig. 1

02060A

4. Remove the fluid adjustment knob (8) and fluid spring (16). See Fig. 5.
5. Pull the fluid needle (21) out the back of the gun.
6. Remove the trigger (3).
7. Remove the fluid adjustment nut (6), spring (15), and air valve (14).
8. To remove the packing adjustment screw (31), insert a thin-blade screw driver (A) through the back of the gun and into the packing adjustment screw (31) as shown in Fig. 2. Be careful not to nick or damage parts with the tool.

⚠ WARNING

PRESSURIZED EQUIPMENT HAZARD

To reduce the risk of a serious injury, follow the **Pressure Relief Procedure** on page 13 before checking or repairing any part of the gun or system.

Disassembly

1. Relieve the pressure.
2. Remove the air cap retaining ring (12) and air cap (19).
3. Trigger the gun while you remove the fluid nozzle (20) with the gun wrench (35). See Fig. 1.

⚠ CAUTION

Trigger the gun whenever you tighten or remove the nozzle. This keeps the needle seat away from the nozzle seating surface and prevents the seat from being scratched.

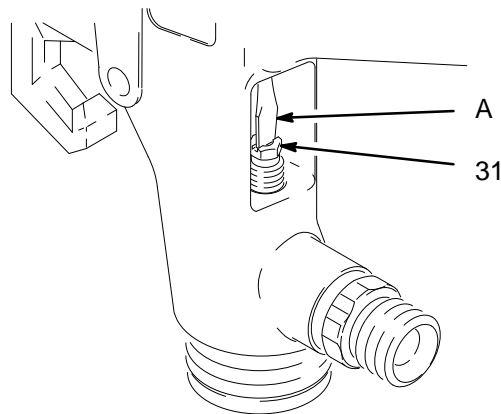


Fig. 2

02110

Service

⚠ CAUTION

Do not use excessive force to push out the packing assembly (39) or the u-cup seal (33) as this may bend the fluid needle (21). Refer to Fig. 3 and 4. If packings are difficult to remove, use a 3/16 in. plastic rod to push them out.

9. Push the three piece packing assembly (39) out toward the back of the gun, with the threaded end of the fluid needle, as shown in Fig. 3.

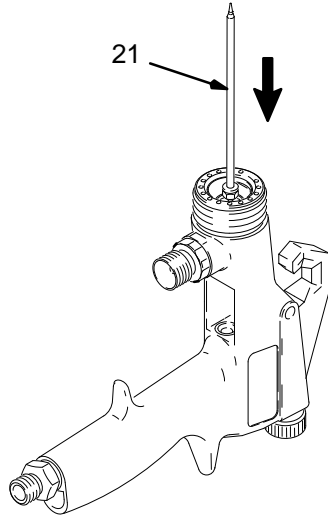


Fig. 3

02109A

10. Use the threaded end of the fluid needle (21) to push out the u-cup seal (33) as shown in Fig. 4.

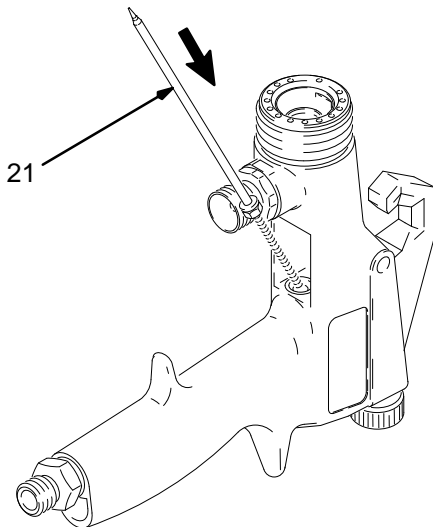


Fig. 4

02022A

11. Clean the parts. Check the fluid needle (21) for damage or excessive wear. Replace if necessary.
12. Check the baffle (11) for damage. If it is damaged, carefully pry it off with a screwdriver and replace it.
13. Lightly lubricate the parts indicated in Fig. 5 with lubricant 111-265.

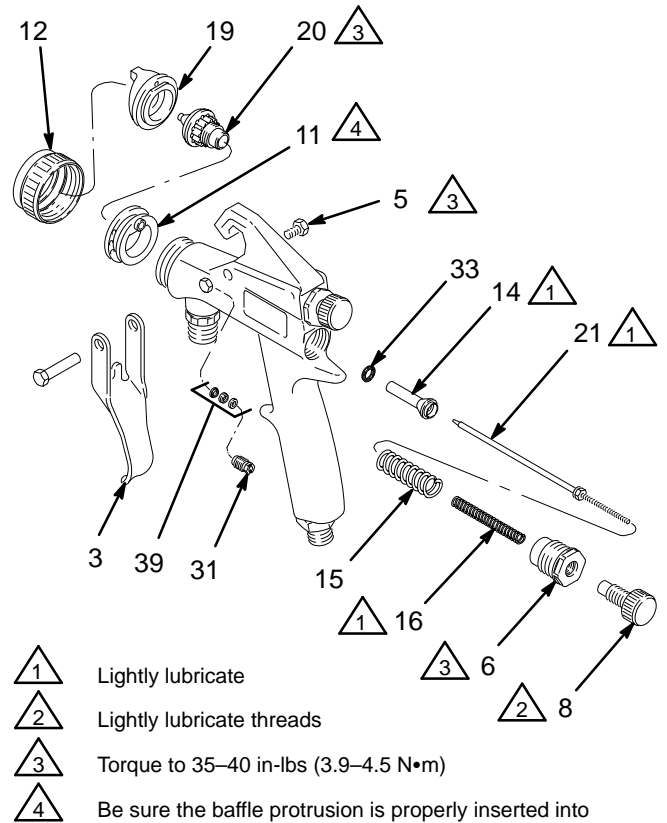


Fig. 5

02103A

Service

Assembly

1. Insert the fluid needle (21) through the front of the gun as shown in Fig. 6. Install the new packing assembly (39) by placing them on the end of the needle tip. Orientate the packings as shown in Fig. 6.

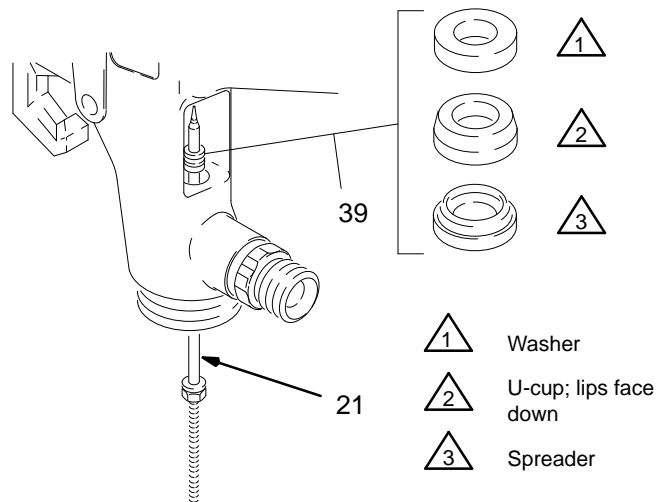


Fig. 6

2. Place the packing adjustment screw (31) over the packing assembly and start the threads into the gun. Then remove the needle.
3. Insert a thin-blade screw driver (A) through the back of the gun and into the packing adjustment screw (31) as shown in Fig. 7. Be careful not to nick or damage parts with the tool. Turn the screw with the screw driver (about 3 turns); the packing will still be loose.

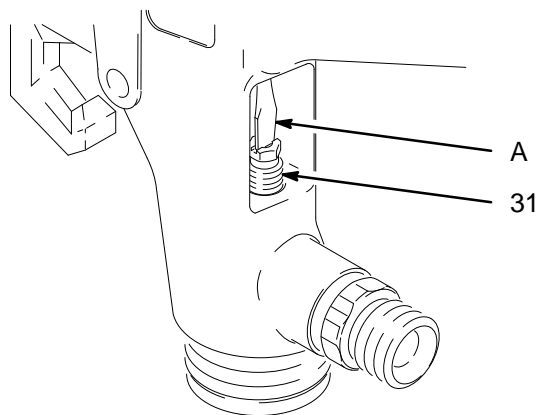


Fig. 7

4. Place the new u-cup seal (33) on the seal installation tool (42) with the u-cup lips facing the tool as shown in Fig. 8.
5. Push the packing (33) into the gun until a definite snap is felt.

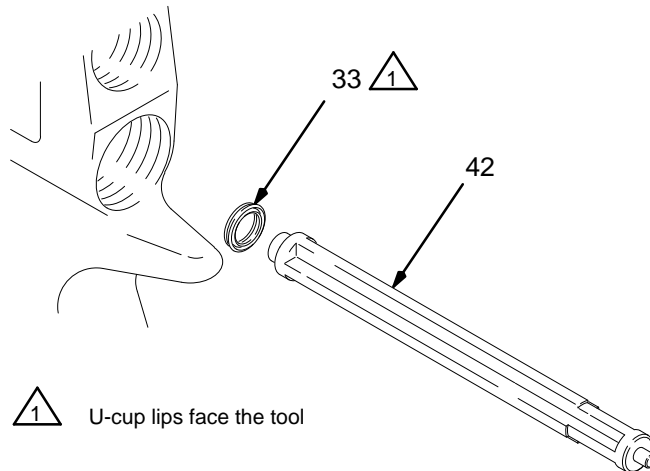


Fig. 8

6. Place the new air valve assembly (14) on the fluid needle (21), against the nut (B). See Fig. 9. This helps align the entrance of the air valve stem into the inside diameter of the u-cup seal (33) without damaging the seal lip.
7. Install the fluid needle (21) and the air valve assembly (14) into the back of the gun.

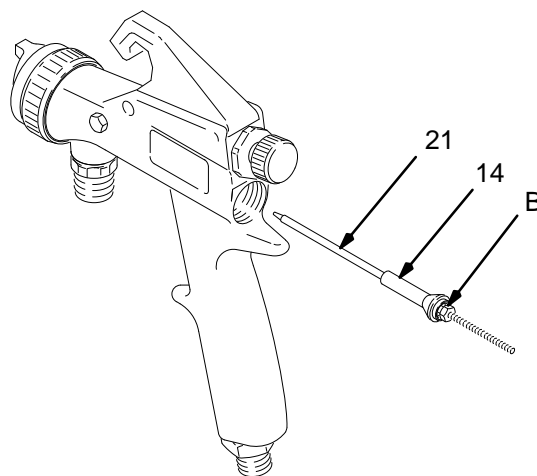
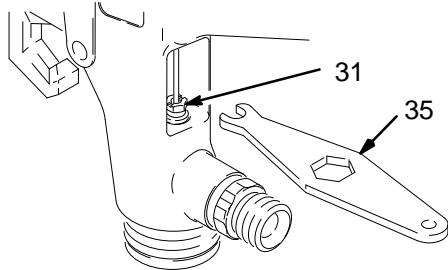


Fig. 9

Service


- Tighten the packing adjustment screw (31) with the gun wrench (35), as shown in Fig. 10, until you can feel a slight drag on the fluid needle. Do not over-tighten the screw as this may bind the needle movement.

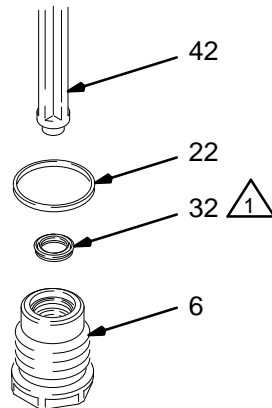


02104A

Fig. 10

- Install the trigger (3). Torque the screw (5) to 10–15 in-lbs (1.1–1.7 N•m). See Fig. 12.
- Remove the u-cup seal (32) from the fluid adjustment nut (6). See Fig. 11. Be careful not to damage the seal surface or the nut's internal threads.
- Install the new u-cup seal (32) with the seal installation tool (42); the u-cup lips must face toward the tool as shown in Fig. 11. This will help apply even pressure to the u-cup lips and avoid damaging them.
- Push the u-cup seal (32) into the fluid adjustment nut (6) until a definite snap is felt.
- Install the new packing ring (22).

 U-cup lips face the tool



02021

Fig. 11

- Install the spring (15) and fluid adjustment nut (6). Torque the nut to 25–35 in-lbs (2.8–4.0 N•m). See Fig. 12.
- Install the spring (16) and fluid adjustment knob (8).

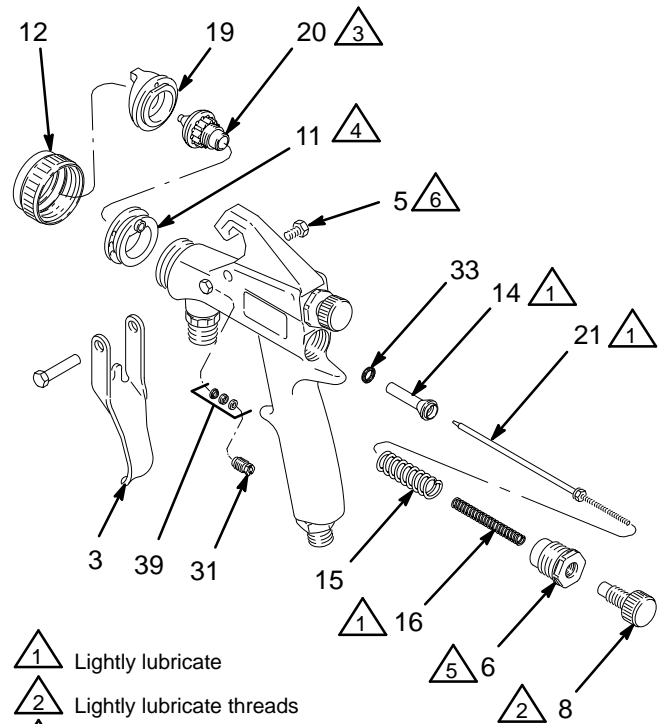
- Trigger the gun to test the needle movement. If the needle does not return after the trigger is released or is slow in returning, loosen the packing adjustment screw (31) with the gun wrench (35) until the needle returns freely. See Fig. 10.
- Trigger the gun while you install the fluid nozzle (20) with the gun wrench (35).







CAUTION

When tightening the nozzle, do not exceed 40 in-lbs (4.5 N•m) torque. Over-tightening the nozzle can cause the nozzle hex to round, can affect the spray pattern, and is unnecessary to guarantee a seal.

- Install the air cap ring (12) and air cap (19).
- Make sure the gun fluid packing assembly is sealing properly by spraying solvent at low pressure before fully pressurizing the gun with the fluid to be sprayed.

If the fluid packing leaks, tighten the packing adjustment screw (31) slightly and retest until the packing seals completely.

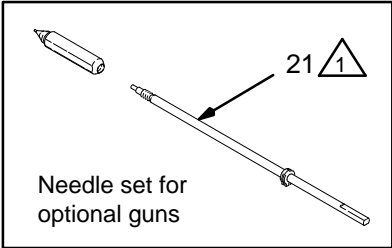
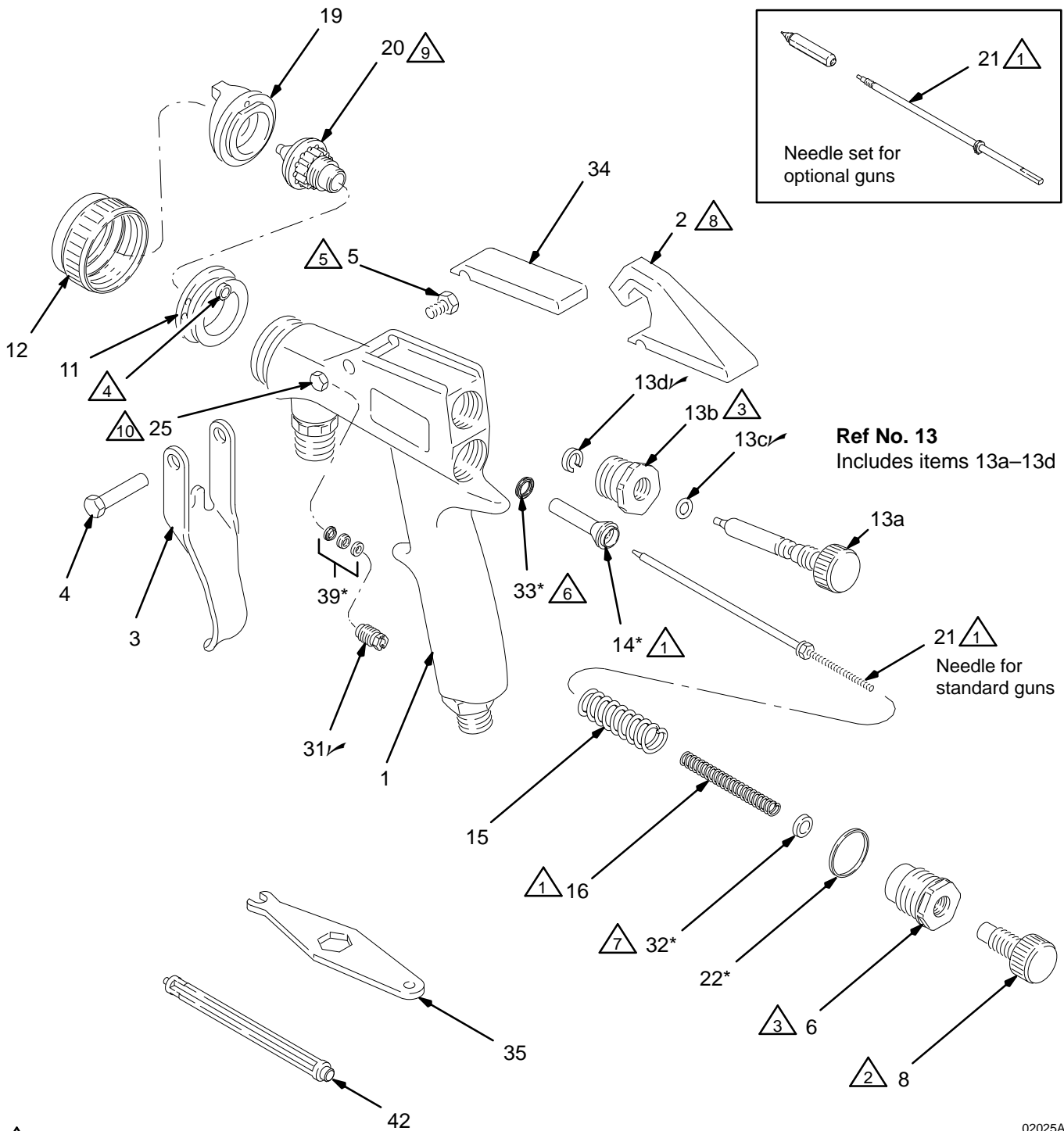


-  Lightly lubricate
-  Lightly lubricate threads
-  Torque to 35–40 in-lbs (3.9–4.5 N•m)
-  Be sure the baffle protrusion is properly inserted into the gun insert hole before tightening the nozzle
-  Torque to 25–35 in-lb (2.8–4.0 N•m)
-  Torque to 10–15 in-lb (1.1–1.7 N•m)

02103A

Fig. 12

Parts Drawing



Ref No. 13
Includes items 13a–13d

21 1
Needle for standard guns

- 1 Lightly lubricate
- 2 Lightly lubricate threads
- 3 Torque to 25–35 in-lbs (2.8–4.0 N•m)
- 4 Be sure the baffle protrusion is properly inserted into the gun insert hole before tightening the nozzle
- 5 Torque to 10–15 in-lbs (1.1–1.7 N•m)

- 6 U-cup lips face air valve (14)
- 7 U-cup lips face spring (16)
- 8 Optional gun hook to replace plate (34)
- 9 Torque to 35–40 in-lb (3.9–4.5 N•m)
- 10 Torque the screw or any accessory installed in this port to 4–6 in-lb (0.35–0.53 N•m)

02025A

Parts List

Part No. 236-013 to 236-016, Series B

M-1265 Standard HVLP Spray Gun
With standard needle, nozzle, and air cap
Includes items 1-42

Part No. 236-020 to 236-028, Series B

M-1265 Optional HVLP Spray Gun
With optional needle, nozzle, and air cap
Includes items 1-42

Part No. 236-023 and 236-024, Series B

M-1265 Optional Non-HVLP Compliant Spray Gun
With standard needle and nozzle and
optional high pressure air cap
Includes items 1-42

Ref No.	Part No.	Description	Qty	Ref No.	Part No.	Description	Qty
1	236-004	GUN BODY	1	33*	188-493	SEAL, u-cup; UHMWPE	1
2	275-852	HOOK, gun	1	34	275-853	PLATE, gun	1
3	185-761	TRIGGER, two-finger	1	35	188-666	WRENCH, gun	1
4	185-746	PIN, pivot; 10-24 UNC-2B	1	39*	236-008	PACKING ASSY.; includes u-cup spreader, u-cup seal and packing washer	1
5	203-953	SCREW, lock; No. 10-24 UNC-2A x 0.375 in.	1	42	276-268	TOOL, seal installation	1
6	188-490	NUT, fluid adjustment	1	<p>* <i>These parts are included in Repair Kit 236-007, which may be purchased separately.</i></p> <p>✓ <i>Keep these spare parts and the Repair Kit on hand to reduce down time.</i></p> <p>☞ <i>See selection charts for your gun model on pages 4 and 6 to order air caps, fluid nozzles, and fluid needles.</i></p>			
8	185-745	KNOB, fluid adjustment	1				
11	275-851	BAFFLE, pattern	1				
12	276-278	RETAINING RING, air cap	1				
13	236-006	PATTERN ADJUSTMENT VALVE ASSY.; Includes items 13a-13d	1				
13a	188-492	•VALVE, pattern adjustment	1				
13b	188-700	•NUT, air adjustment	1				
13c	187-699	•O-RING, split; PTFE	1				
13d	105-456	•RETAINING RING	1				
14*	236-009	AIR VALVE ASSY.	1				
15	111-291	SPRING, compression	1				
16	110-402	SPRING, compression	1				
19	-	AIR CAP	1				
20	-	FLUID NOZZLE	1				
21	-	FLUID NEEDLE	1				
22*	188-694	RING PACKING, PTFE	1				
25	108-382	PLUG	1				
31	188-665	SCREW, packing adjustment	1				
32*	110-453	SEAL, u-cup, nut; UHMWPE	1				

Manual Change Summary

Changed the Selection Charts to reflect the Series B gun parts.

Accessories

Cleaning Brush 105–749

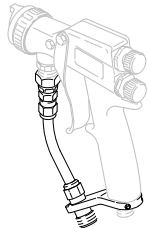
For use in cleaning gun

Lubricant 111–265

One 4 oz. (113 gram) tube sanitary (non-silicone) lubricant for fluid seals and wear areas.

Fluid Tube Kit 236–318

Allows air and fluid hoses to be more easily strapped together and eases gun movement by the operator.



03405

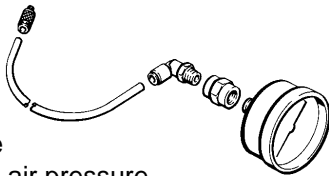
High Pressure Air Cap 189–755

Optimal air cap for use in non-HVLP compliant operations. Water-base compatible

Air Pressure Verification Kit 224–187

For use in checking gun atomizing air pressure at various supply air pressures. **Not to be used for actual spraying.**

Assemble kit as shown in drawing below. Screw tube connector into gun's side port. Turn on the air to the gun, then trigger the gun and read the resulting air pressure.

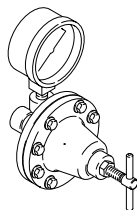


NOTE: To be "HVLP compliant", the atomizing air pressure must not exceed 10 psi (70 kPa, 0.7 bar).

SST Fluid Pressure Regulator

100 psi (0.7 MPa, 7 bar) Maximum Inlet Pressure
3–30 psi (21–210 kPa, 0.2–2.1 bar)
Regulated Pressure Range

To regulate the fluid pressure to the gun.
1/4 npt(f) inlet and outlet



236–081 Regulator without pressure gauge

236–449 Regulator with pressure gauge

Air Hose Assembly 210–867

100 psi (0.7 MPa, 7 bar) Maximum Working Pressure
25 ft. (7.625 m) long, 5/16 in. (7.94 mm) ID, 1/4 npsm(f) swivel, buna-n

Air Hose Assembly 185–353

100 psi (0.7 MPa, 7 bar) Maximum Working Pressure
Optional air hose for use when higher air flow is required. 25 ft. (7.625 m) long, 3/8 in. (9.53 mm) ID, 1/4 npsm(f) swivel, buna-n

Air Hose Quick-disconnect

Install between gun air inlet fitting and air hose.

208–536 Coupler, 1/4 npt(f)

169–970 Nipple, 1/4 npt(m)

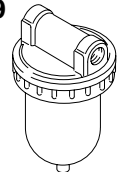
Fluid Hose Assembly 205–142

300 psi (2.1 MPa, 21 bar) Maximum Working Pressure
Nylon with neoprene cover, 0.25 in. (2.4 mm) ID, 3/8 npsm(fbe), 25 ft. (7.6 m) long

Air Filter and Moisture Separator 106–149

250 psi (1.7 MPa, 17.4 bar) Maximum Working Pressure

Removes moisture, oil, and other contaminants from the compressed air supply.
1/2 npt(fbe)

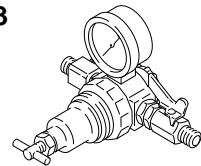


Air Pressure Regulator Kit 210–613

300 psi (2.1 MPa, 20 bar) Maximum Inlet Pressure

0–125 psi (0–0.87 MPa, 0–8.75 bar) Regulated Pressure Range

To regulate the air pressure to the gun. Includes gauge, air shutoff valve, and fittings. 1/4 npt(m)



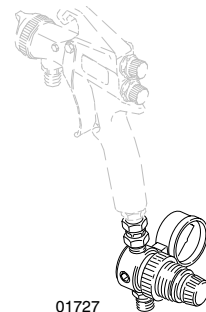
0135

Air Shutoff Valve 208–390

500 psi (3.4 MPa, 34 bar) Maximum Working Pressure
To shutoff air supply line. 1/4 npt(m)

Gun Air Regulator Assy. 235–119

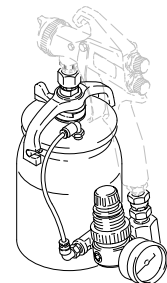
0–100 psi (0–0.7 MPa, 0–7 bar) air regulator to control air to gun



01727

SST Pressure Cup Kit 235–373 with single air regulator

1 qt. (0.95 liter) capacity, 304 stainless steel cup. Includes a pressure relief valve and a single air regulator and gauge.

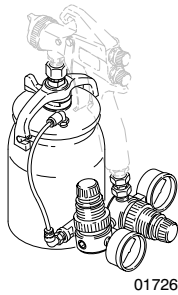


01725

Accessories

SST Pressure Cup Kit 235–374 with double air regulator

1 qt. (0.95 liter) capacity, 304 stainless steel cup. Includes a pressure relief valve, a 0–100 psi (0–0.7 MPa, 0–7 bar) air regulator for gun atomization, and a 0–15 psi (0–104 kPa, 0–1.0 bar) air regulator for the 1 qt. pressure cup supply air.



01726

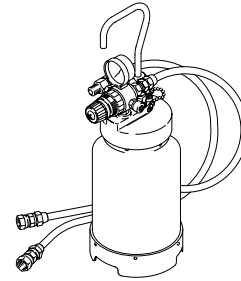
Disposable Polyethylene Cup Liners

Paint and solvent resistant. 40 liners per box.

- 112–490 1 Quart Cup Size
- 112–491 2 Quart Cup Size

2 Quart Pressure Cup 214–627

2 qt. (1.94 liter) capacity, aluminum cup. Includes air pressure regulator and gauge, 4 ft. (1.2 m) length air and fluid hose with 1/4 npsm(f) swivel ends, pressure relief valve, and rigid hook handle.



0123

Gravity Cup Kit 236–038

7.5 oz. (220 cc) capacity, 430 stainless steel cup, 3/8 npsm(f) fluid inlet



0125

1 Quart Pressure Cup Kit 224–426

1 qt. (0.95 liter) capacity, aluminum cup. Some assembly required. Includes:

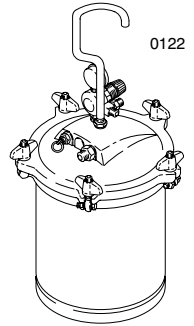
Part No.	Description
224–419	1 Quart Pressure Cup Assy., aluminum (with check valve)
111–324	Female Connector, 1/8 npt x 5/32 tube
111–328	Male Connector, 10-32 x 5/32 tube
187–169	Tubing, 5/32" OD



0166

Pressure Tank 171–226

2.5 gal (9.5 liter) capacity, aluminum tank. Includes air pressure regulator and gauge, pressure relief valve, pick-up tube, and rigid hook handle.



0122

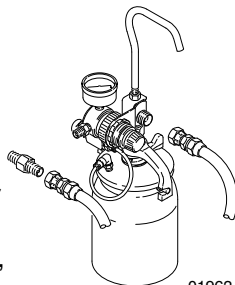
Husky™ 307 HVLP Systems

Includes Husky 307 Pump, Pail Cover, Air Regulators, Suction Tube and Inlet Filter, Fluid Regulator, Fluid Recirculation Line, and Air and Fluid Hoses

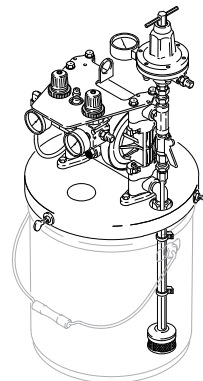
Part No.	Description
224–833	SST Pail Mount System
235–659	Carbon Steel Pail Mount System

1 Quart Remote SST Pressure Cup 235–054

1 qt. (0.95 liter) capacity, 304 stainless steel cup. Includes air pressure regulator and gauge, 4 ft. (1.2 m) length air and fluid hose with 1/4 npsm(f) swivel ends, pressure relief valve, and rigid hook handle.



01962



01526

Accessories

Low Pressure SST Pressure Tanks

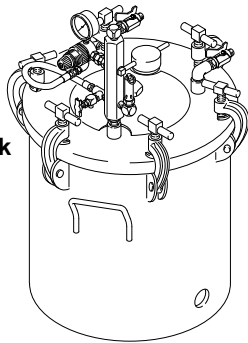
For fluid pressures up to 15 psi (104 kPa, 1.0 bar)

High Pressure SST Pressure Tanks

For fluid pressures up to 100 psi (700 kPa, 7 bar)

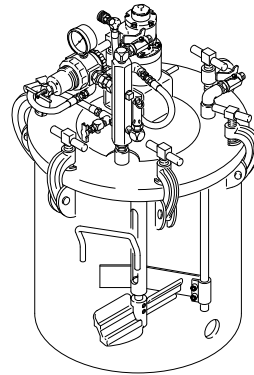
Tank Size gallons (liters)	Low Pressure Tank P/N	Low Pressure Tank with Agitator P/N	High Pressure Tank P/N	High Pressure Tank with Agitator P/N
5 (19)	236-143	236-146	236-149	236-152
10 (38)	236-144	236-147	236-150	236-153
15 (57)	236-145	236-148	236-151	236-154

Low Pressure Tank



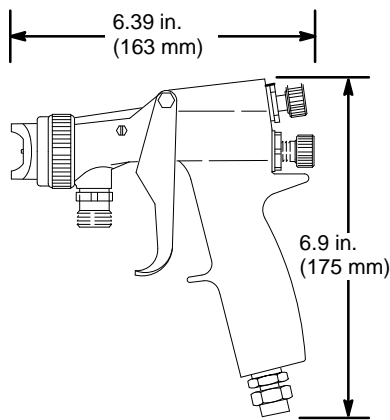
03084

High Pressure Tank
with Agitator



03189

Dimensions



02018

Technical Data

Category	Data
Maximum Working Fluid Pressure	100 psi (0.7 MPa, 7 bar)
Maximum Working Air Pressure	100 psi (0.7 MPa, 7 bar)
Maximum Compliant Inbound Air Pressure	65 psi (444 kPa, 4.4 bar)
Fluid and Air Operating Temperature Range	32° F to 140° F (0° C to 60° C)
Weight	14.9 oz. (422 g)
Air Inlet	1/4-18 npsm (R1/4-19) compound thread
Fluid Inlet	3/8-18 npsm (R3/8-19) compound thread
Wetted Parts	304 and 17-4 PH Stainless Steel
Noise Data*	
Sound Pressure at 65 psi (444 kPa, 4.4 bar)	95 Db(A)
Sound Power at 65 psi (444 kPa, 4.4 bar):	101 Db(A)

* All readings were taken with the gun controls fully open at the assumed operator position. Sound pressure was tested to CAGI-PNUEROP-1969. Sound power was tested to ISO 3744-1981.

Graco Warranty and Limitation of Liability

WARRANTY

Graco warrants all equipment listed in this manual which is manufactured by Graco and bearing its name to be free from defects in material and workmanship on the date of sale by an authorized Graco distributor to the original purchaser for use. Graco will, for a period of twelve months from the date of sale, repair or replace any part of the equipment determined by Graco to be defective. This warranty applies only when the equipment is installed, operated and maintained in accordance with Graco's written recommendations.

This warranty does not cover, and Graco shall not be liable for general wear and tear, or any malfunction, damage or wear caused by faulty installation, misapplication, abrasion, corrosion, inadequate or improper maintenance, negligence, accident, tampering, or substitution of non-Graco component parts. Nor shall Graco be liable for malfunction, damage or wear caused by the incompatibility of Graco equipment with structures, accessories, equipment or materials not supplied by Graco, or the improper design, manufacture, installation, operation or maintenance of structures, accessories, equipment or materials not supplied by Graco.

This warranty is conditioned upon the prepaid return of the equipment claimed to be defective to an authorized Graco distributor for verification of the claimed defect. If the claimed defect is verified, Graco will repair or replace free of charge any defective parts. The equipment will be returned to the original purchaser transportation prepaid. If inspection of the equipment does not disclose any defect in material or workmanship, repairs will be made at a reasonable charge, which charges may include the costs of parts, labor, and transportation.

THIS WARRANTY IS EXCLUSIVE, AND IS IN LIEU OF ANY OTHER WARRANTIES, EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO WARRANTY OF MERCHANTABILITY OR WARRANTY OF FITNESS FOR A PARTICULAR PURPOSE.

Graco's sole obligation and buyer's sole remedy for any breach of warranty shall be as set forth above. The buyer agrees that no other remedy (including, but not limited to, incidental or consequential damages for lost profits, lost sales, injury to person or property, or any other incidental or consequential loss) shall be available. Any action for breach of warranty must be brought within two (2) years of the date of sale.

GRACO MAKES NO WARRANTY, AND DISCLAIMS ALL IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE IN CONNECTION WITH ACCESSORIES, EQUIPMENT, MATERIALS, OR COMPONENTS SOLD BUT NOT MANUFACTURED BY GRACO. These items sold, but not manufactured by Graco (such as electric motors, switches, hose, etc.) are subject to the warranty, if any, of their manufacturer. Graco will provide purchaser with reasonable assistance in making any claim for breach of these warranties.

For Sales to Canadian Customers:

Except as expressly stated herein, Graco makes no representations, warranties or conditions, express, implied or collateral, concerning any goods or services sold, and **GRACO SHALL NOT BE LIABLE IN ANY MANNER FOR** any other representation, warranty or condition of any kind, whether arising by operation of law or otherwise, including but not limited to, **WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE.**

LIMITATION OF LIABILITY

In no event will Graco be liable for indirect, incidental, special or consequential damages resulting from Graco supplying equipment hereunder, or for the furnishing, performance, or use of any products or other goods sold hereto, whether due to a breach of contract, breach of warranty, the negligence of Graco, or otherwise.

Graco Phone Numbers

TO PLACE AN ORDER, contact your Graco distributor, or call this number to identify the distributor closest to you:
1-800-367-4023 Toll Free

*All written and visual data contained in this document reflects the latest product information available at the time of publication.
Graco reserves the right to make changes at any time without notice.*

Sales Offices: Minneapolis, Detroit, Los Angeles
Foreign Offices: Belgium, Canada, England, Korea, France, Germany, Hong Kong, Japan

GRACO INC. P.O. BOX 1441 MINNEAPOLIS, MN 55440-1441

PRINTED IN U.S.A. 308-293 May 1993, Revised February 1997