Instructions

Stellair™ ACE Air Spray Gun

3B0140C

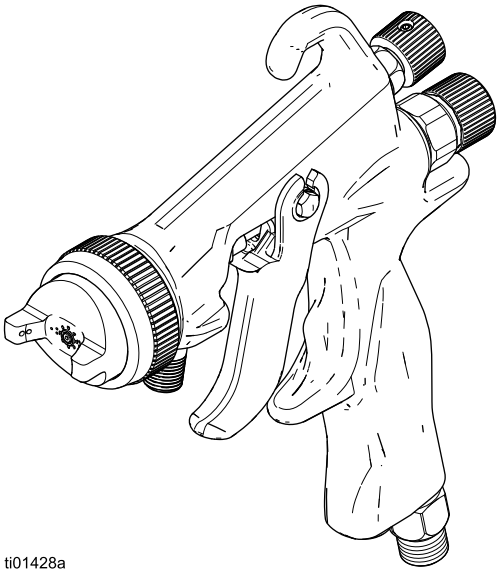
EN

Air spray gun for fine finish application of select paints and coatings using a properly regulated air source. For professional use only.

300 psi (2.1 MPa, 21 bar) maximum working fluid pressure.
100 psi (0.7 MPa, 7 bar) maximum working air pressure.

Important Safety Instructions

Read all warnings and instructions in this manual before using the equipment. Be familiar with the proper control and usage of the equipment. Save these instructions.



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PROVEN QUALITY. LEADING TECHNOLOGY.

Contents

Approvals

II 2 G
Ex h IIB T6 Gb

NOTE: Type of protection “h” applied is constructional safety “c”.

Spray Technology

HVLP: High transfer efficiency gun that limits the air pressure at the air cap to 10 psi (0.07 MPa, 0.7 bar) maximum.

LVMP: High transfer efficiency gun with a transfer efficiency greater than or equal to HVLP guns.

Models

Gun Models

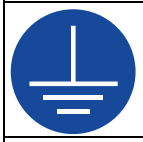
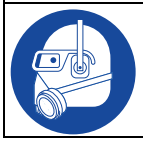
Part	Nozzle Size in. (mm)	Tip Construction	Spray Technology	Application	Hoses Included
2007267	0.030 (0.8)	PEEK Tip	HVLP or LVMP	General Industry	
2005971	0.042 (1.1)				
2005972	0.055 (1.4)				
2005973	0.070 (1.8)				
2005974	0.042 (1.1)				✓
2005975	0.055 (1.4)				✓
2005976	0.070 (1.8)				✓

✓ *Models include 6 ft (1.8 m) quick connect fluid whip hose (2005144) and 6 ft (1.8 m) air whip hose (2005139). See* ***Hoses****, page 25.*

Safety Symbols

The following safety symbols appear throughout this manual and on warning labels. Read the table below to understand what each symbol means.

Symbol	Meaning
	Equipment Misuse Hazard
	Fire and Explosion Hazard
	Pressurized Equipment Hazard
	Splash Hazard
	Toxic Fluid or Fumes Hazard
	Eliminate Ignition Sources

Symbol	Meaning
	Follow Pressure Relief Procedure
	Ground Equipment
	Read Manual
	Ventilate Work Area
	Wear Personal Protective Equipment

Safety Alert Symbol
This symbol indicates: Attention! Become Alert! Look for this symbol throughout the manual to indicate important safety messages.

General Warnings

The following warnings apply throughout this manual. Read, understand, and follow the warnings before using this equipment. Failure to follow these warnings can result in serious injury.

WARNING

FIRE AND EXPLOSION HAZARD

Flammable fumes, such as solvent and paint fumes, in **work area** can ignite or explode. Paint or solvent flowing through the equipment can cause static sparking. 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 sparking).
- Ground all equipment in the work area. See **Grounding,** instructions.
- Never spray or flush solvent at high pressure.
- 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.
- Use only grounded hoses.
- Hold gun firmly to side of grounded pail when triggering into pail. Do not use pail liners unless they are anti-static or conductive.
- **Stop operation immediately** if static sparking occurs or you feel a shock**.** Do not use equipment until you identify and correct the problem.
- Keep a working fire extinguisher in the work area.

PRESSURIZED EQUIPMENT HAZARD

Fluid from the equipment, leaks, or ruptured components can splash in the eyes or on skin and cause serious injury.

- Follow the **Pressure Relief Procedure** when you stop spraying/dispensing 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.

TOXIC FLUID OR FUMES HAZARD

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

- Read Safety Data Sheets (SDSs) to know the specific hazards of the fluids you are using.
- Store hazardous fluid in approved containers, and dispose of it according to applicable guidelines.

WARNING

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 Specifications** in all equipment manuals.
- Use fluids and solvents that are compatible with equipment wetted parts. See **Technical Specifications** in all equipment manuals. Read fluid and solvent manufacturer's warnings. For complete information about your material, request Safety Data Sheets (SDSs) from distributor or retailer.
- Do not leave the work area while equipment is energized or under pressure.
- Turn off all equipment and follow the **Pressure Relief Procedure,** when equipment is not in use.
- Check equipment daily. Repair or replace worn or damaged parts immediately with genuine manufacturer's replacement parts only.
- Do not alter or modify equipment. Alterations or modifications may void agency approvals and create safety hazards.
- Make sure all equipment is rated and approved for the environment in which you are using it.
- Use equipment only for its intended purpose. Call your 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.

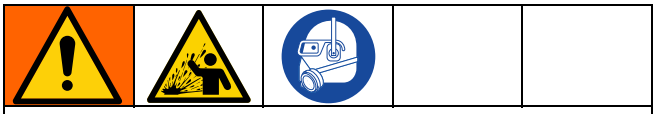
PERSONAL PROTECTIVE EQUIPMENT

Wear appropriate protective equipment when in the work area to help prevent serious injury, including eye injury, hearing loss, inhalation of toxic fumes, and burns. Protective equipment includes but is not limited to:

- Protective eyewear, and hearing protection.
- Respirators, protective clothing, and gloves as recommended by the fluid and solvent manufacturer.

Main Air and Fluid Line Installation

Main Air Line Typical Installation



Trapped air can cause the gun to spray unexpectedly, which could result in serious injury from splashing fluid. To help prevent injury, install a bleed-type master air valve.

- **Bleed-type master air valve:** required in your system to relieve air trapped between the pump and the gun when the valve is closed.

NOTE: Be sure the valve is easily accessible from the pump and located downstream from the air regulator.

- **Pump air pressure regulator:** to control pump speed and fluid outlet pressure. Locate it close to the pump.
- **Air line filter:** removes harmful dirt and moisture from compressed air supply. Ensures a dry, clean air supply.
- **Air shutoff valve:** shuts off air to the gun and pump.

Main Fluid Line Typical Installation

- **Fluid filter:** with a 60 or 100 mesh (250 micron) stainless steel element to filter particles from the fluid as it leaves the pump. Always use a clean fluid filter.
- **Fluid drain valve:** relieves fluid pressure in the hose and gun. Required in your system to assist in relieving fluid pressure in the displacement pump, hose and gun; triggering the gun to relieve pressure may not be sufficient.
- **Fluid shutoff valve:** shuts off fluid flow. Can be installed in the fluid line to the gun.
- **Fluid pressure regulator:** for more precise adjustment of the fluid pressure. Install a fluid pressure regulator on the main fluid line if the pump's maximum working pressure exceeds the gun's maximum fluid working pressure. See **Technical Specifications**, page 28.

Setup

Ventilate the Spray Booth

Do not operate the gun unless ventilating air flow is above the minimum required value. Provide fresh air ventilation to avoid the buildup of flammable or toxic vapors when spraying, flushing, or cleaning the gun. Interlock the gun fluid supply to prevent operation unless ventilating air flow is above the minimum required value.

The spray booth must have a ventilation system.

Electrically interlock the gun fluid supply with the ventilators to prevent gun operation any time that the ventilation air flow falls below minimum values. Check and follow all local codes and regulations regarding air exhaust velocity requirements. Verify the operation of the interlock at least once a year.

HVLP Gun Limits

In some areas, an HVLP gun is required for compliance with environmental standards. To comply with HVLP requirements, the air pressure at the air cap must be less than 10 psi (0.07 MPa, 0.7 bar).

Grounding

The equipment must be grounded to reduce the risk of static sparking. Static sparking can cause fumes to ignite or explode. Grounding provides an escape wire for the electric current.

The following grounding instructions are minimum requirements for a system. Your system may include other equipment or objects that must be grounded. Check your local electrical code for detailed grounding instructions for your area and type of equipment. Your system must be connected to a true earth ground.

Spray Gun: Ground the spray gun through connection to a properly grounded air and fluid supply hoses and pump. Check your local electrical code and pump manual for detailed grounding instructions. Use only electrically conductive air and fluid hoses.

Pump: Ground the pump by connecting a ground wire and clamp between the pump and a true earth ground as instructed in your separate pump instruction manual.

Air Compressors and Hydraulic Power Supplies: Ground air compressors and hydraulic power supplies according to the manufacturer recommendations.

Air, Fluid, and Hydraulic Hoses Connected To Pump: Use only electrically conductive hoses with a maximum of 100 ft (30.5 m) combined hose length to ensure grounding continuity. Check the electrical resistance of your air and fluid hoses at least once a week. If the total resistance to ground exceeds 25 megohms, replace the hose immediately. Use a meter that is capable of measuring resistance at this level.

Fluid Supply Container: Ground the fluid supply container according to local code and regulations.

Object Being Sprayed: Ground the object that is being sprayed according to local code and regulations.

Solvent Pails: Ground all solvent pails used during the **Flushing Procedure** according to local code. Use only metal pails, which are conductive. Do not place the pail on a non-conductive surface, such as paper or cardboard, which interrupts the grounding continuity.

Flush Before Using

The equipment was tested with lightweight oil, which is left in the fluid passages to protect parts. To avoid contaminating your fluid with oil, flush the equipment with a compatible solvent before using the equipment. See **Flushing Procedure**, page 14.

Connect the Spray Gun

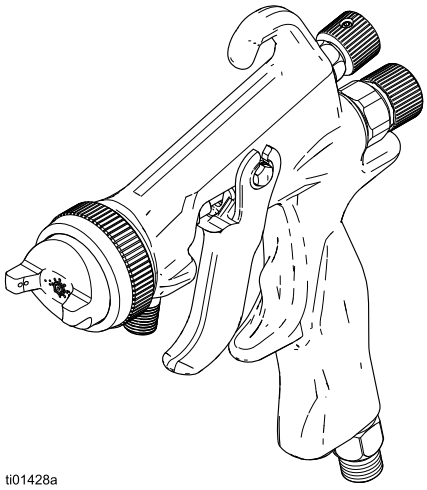


FIG. 1: Gun Air and Hose Connections

1. Connect the gun air supply hose to the gun air inlet (6). A 5/16 in. (7.9 mm) ID hose recommended. A 3/8 in. (9.5 mm) hose is optional.

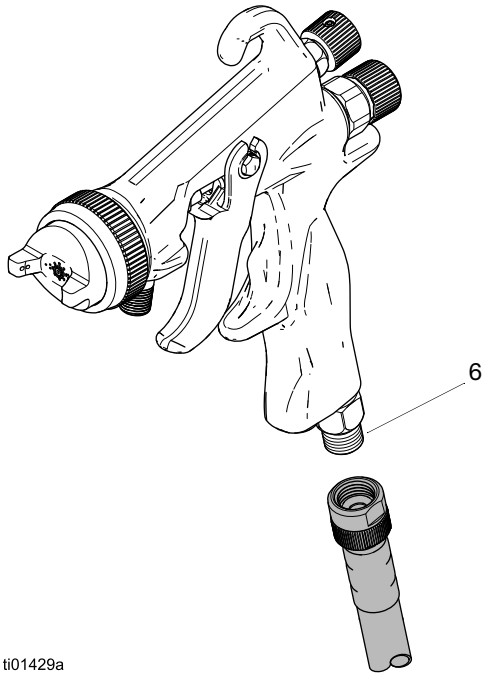


FIG. 2: Connect air hose to gun

2. Connect the other end of the gun air supply hose to the gun air pressure regulator or the air shutoff valve outlet.

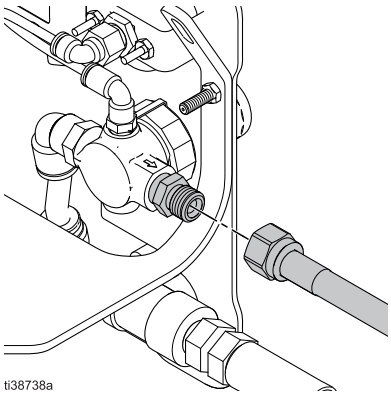


FIG. 3: Connect air hose to gun air pressure regulator

NOTE: Blow air through the gun fluid supply hose and flush it with a compatible solvent before connecting to the gun.

To avoid serious injury from splashing fluid, make sure quick connect fittings are fully hand-tightened when connected to the spray gun.

3. Connect the gun fluid supply hose to the fluid inlet fitting (1b).

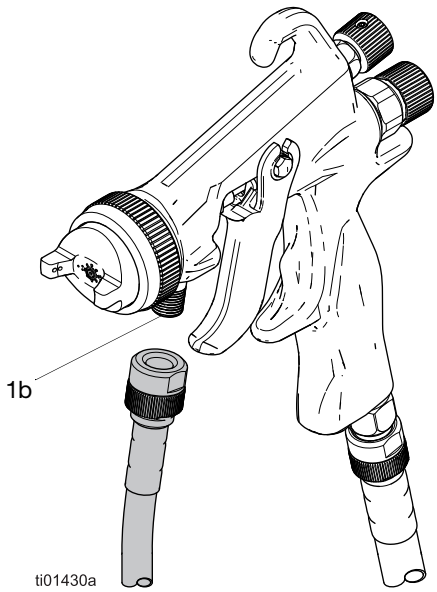


FIG. 4: Connect the gun fluid supply hose

4. Connect the other end of the gun fluid supply hose to the pump fluid outlet.

Position the Air Cap

Vertical Spray Pattern

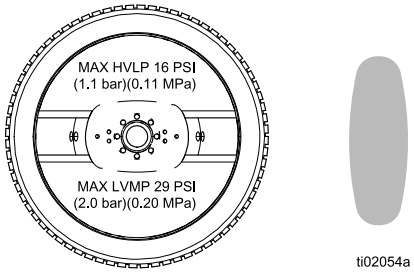


FIG. 5: Vertical Spray Pattern Position

Horizontal Spray Pattern

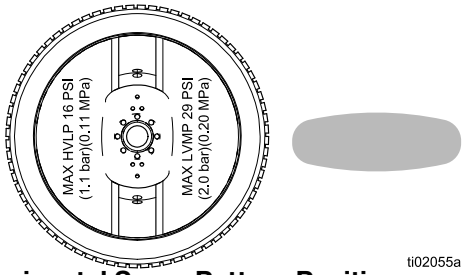


FIG. 6: Horizontal Spray Pattern Position

Adjust Spray Pattern

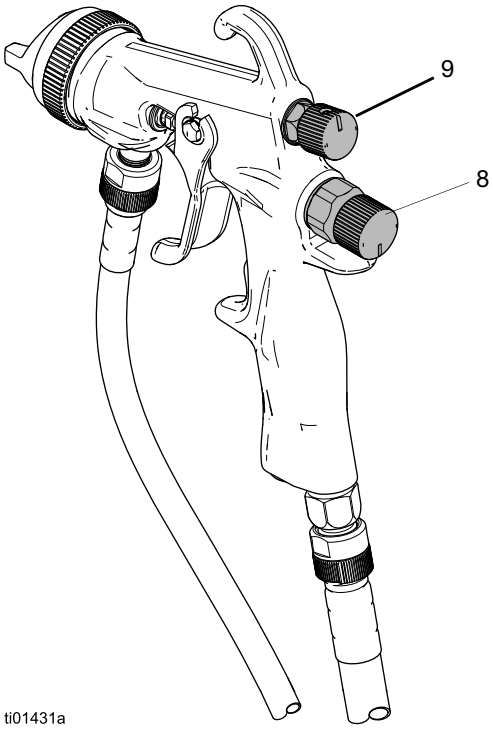


FIG. 7

Set Fluid Flow

1. Set the Fluid Pressure Regulator. Typical industrial flow rates will vary with regulator pressures from 5–30 psi (34–210 kPa, 0.3–2.1 bar).
2. Set the fluid control valve (8):
   a. Open the valve. Turn the fluid control valve (8) counterclockwise until the trigger movement is not restricted.
   b. Then turn another half turn.

NOTICE

Use caution when operating the fluid control valve (8) near the closed position. The needle tip may be damaged if forced too hard against the nozzle seat by the fluid control valve.

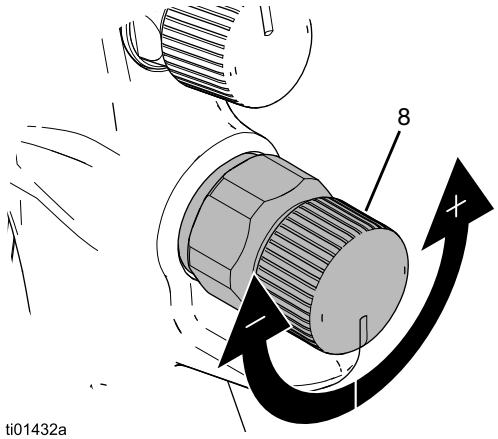


FIG. 8: Fluid Control Valve Adjustments

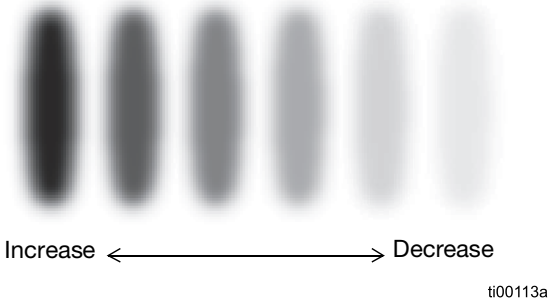
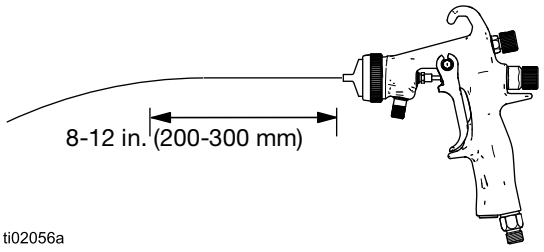


FIG. 9: Fluid Flow Coverage

3. Adjust the fluid flow with the air pressure regulator until the stream from the gun travels 8-12 in. (200-300 mm) before falling off. Typically, if fluid pressure is below 5 psi (.04 MPa, 0.4 bar) or above 20 psi (0.14 MPa, 1.4 bar), a change of nozzle size is recommended.



- **Adjust nozzle size:** Check fluid pressure and change nozzle if needed.
  - If the fluid pressure is too high at the desired flow rate, install a larger nozzle.
  - If the fluid pressure is too low at the desired flow rate, install a smaller nozzle.

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

Supply Air

Use the air pressure regulator to set the fan and atomizing air supply pressure. Use the **Recommended Starting Pressures** as a starting point.

Recommended Starting Pressures

Application and Technology	**Supply Air** psi (MPa, bar)
General Industry: HVLP	16 (0.11, 1.1)
General Industry: LVMP	25 (0.17, 1.7)

Set Spray Pattern

1. Adjust the fan control valve (9) to the fully open position.
2. Adjust the fluid control valve (8) to the fully open position.
3. Set the air pressure using the values found in the **Recommended Starting Pressures** table.
4. Test the spray pattern while keeping the gun at a consistent distance, about 6-8 in. (150-200 mm), from the test piece.
5. Adjust the fluid flow rate, input air pressure, and fan control valve (9) to achieve the desired atomization, fluid flow rate, and pattern size.

NOTE: For the best transfer efficiency, use the lowest setting needed to achieve desired finish quality.

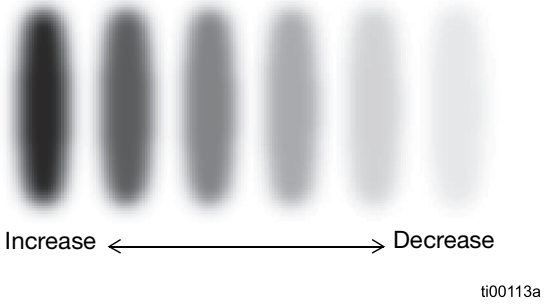


FIG. 10: Atomizing Air

Test Fan and Atomizing Air

Test the spray pattern while keeping the gun a consistent distance, about 6–8 in. (150–200 mm), from the test piece. Adjust atomizing and fan air as needed.

Adjust Atomizing Air

For the best transfer efficiency, use the lowest setting needed to achieve desired finish quality.

Increase the gun inlet pressure with the air pressure regulator in 5 psi (34 kPa, 0.3 bar) increments until you obtain the desired atomization.

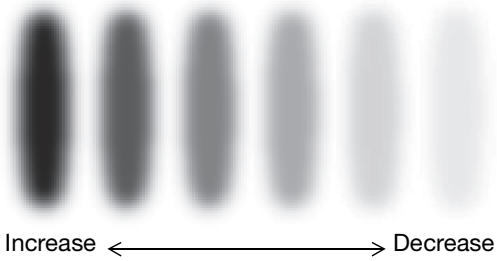


FIG. 11: Atomizing Air

Adjust Fan Air and Pattern Width

If the spray pattern is too wide or split, reduce the fan air pressure by adjusting the fan control valve (9).

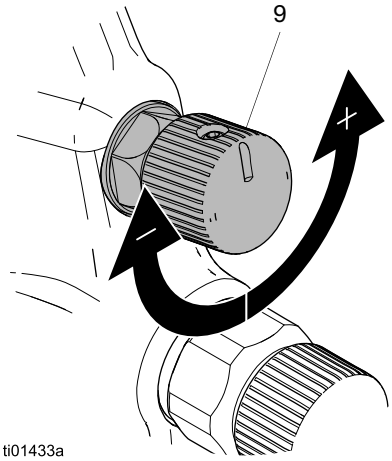


FIG. 12: Fan Air

To further control the spray pattern, use an alternate air cap.

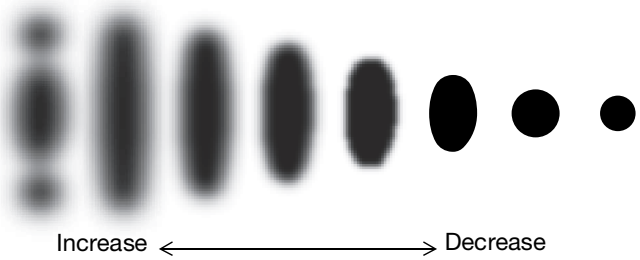


FIG. 13: Fan Air

HVLP Gun Limits

In some areas, an HVLP gun is required for compliance with environmental standards. To comply with HVLP requirements, the air pressure at the air cap must be less than 10 psi (0.07 MPa, 0.7 bar).

Operation

Pressure Relief Procedure

Follow the Pressure Relief Procedure whenever you see this symbol.

This equipment stays pressurized until pressure is manually relieved. To help prevent serious injury from pressurized fluid, such as splashing fluid, follow the Pressure Relief Procedure when you stop spraying and before cleaning, checking, or servicing the equipment.

1. Turn off the fluid and air supply to the gun.
2. Hold the metal fluid hose coupler firmly to a grounded metal pail. Trigger the gun to relieve pressure.

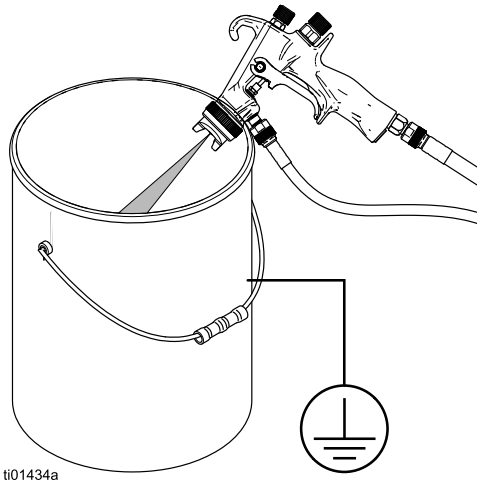


FIG. 14: Relieve gun pressure

Optional: Open all fluid drain valves in the system with a waste container ready to catch drainage.

3. If you suspect the nozzle or gun fluid supply hose is clogged or that pressure has not been fully relieved:
   a. VERY SLOWLY loosen the retaining ring or the hose end coupling to relieve pressure gradually.
   b. Loosen the nut or the coupling completely.
   c. Clear the obstruction in the hose or nozzle.

Spray Finishing Application

1. Maintain a distance of approximately 8 to 12 in. (200 to 300 mm) from the object being sprayed.
2. Hold the gun perpendicular to the surface.
3. Engage the trigger.
4. Spray smooth, even, and parallel strokes. Overlap each stroke by 50% for even coverage. **Do not arc the strokes.** Arcing causes uneven coverage. See FIG. 15.

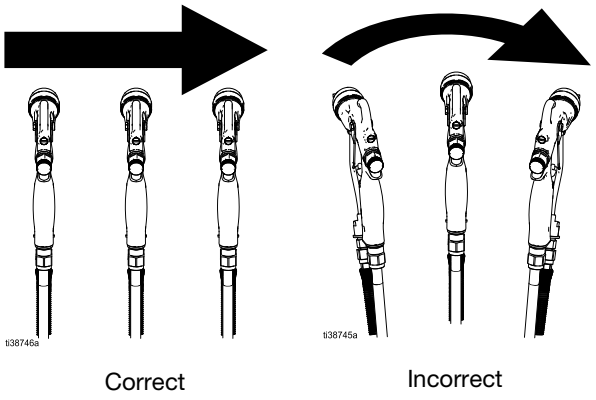


FIG. 15: Spray techniques

NOTE: This spray gun applies all coatings evenly without cross coating.

Maintenance

To reduce the risk of an injury from splashing fluid, follow the **Pressure Relief Procedure**, page 13, whenever you are instructed to relieve the pressure.

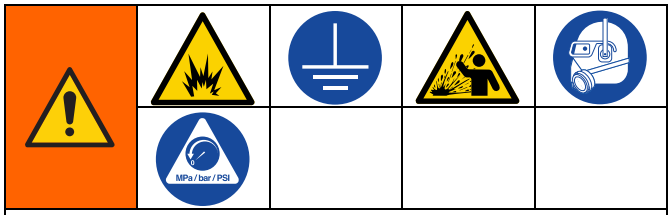
- Follow the **Daily Cleaning Procedure** every day.
- Flush before changing colors, before fluid can dry in the equipment, at the end of the day and before storing.
- Flush at the lowest pressure possible. Check connections for leaks and tighten as necessary.
- Flush with a fluid that is compatible with the fluid being dispensed and the equipment wetted parts.

NOTICE

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

- Clean the front of the air cap regularly to reduce buildup.
- Do not use any cleaning method which may allow solvent into the gun air passages. Solvent left in gun air passages could result in a poor quality paint finish.
  - Do not point gun up while cleaning.
  - Do not wipe the gun with a cloth soaked in solvent; wring out the excess.
  - Do not immerse the gun in solvent.

Flushing Procedure



To avoid fire and explosion, always ground equipment and waste container. To avoid static sparking and injury from splashing fluid, always flush at the lowest possible pressure.

1. Follow the **Pressure Relief Procedure**, page 13.
2. To flush the gun only, connect a solvent supply hose to the gun. To flush the gun and fluid hose, connect the fluid hose to solvent.
3. To maintain grounding continuity, hold the metal fluid hose coupler firmly to the side of a grounded metal solvent pail.
4. Starting with the lowest possible fluid pressure, trigger the gun into a grounded metal solvent pail.
5. Increase the fluid pressure slowly. Flush until clean solvent flows from the gun.

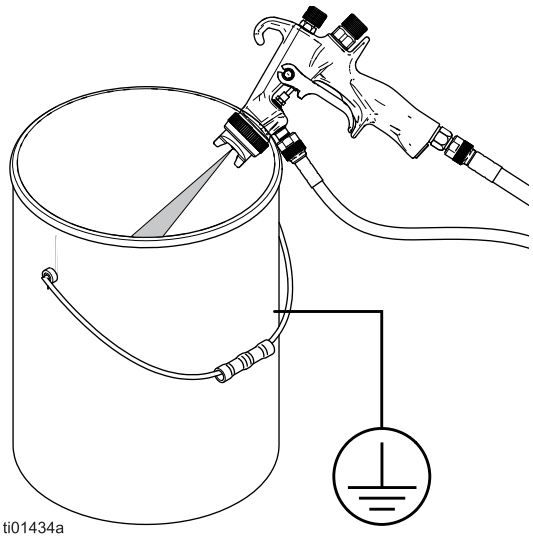


FIG. 16: Relieve gun pressure

6. De-trigger the gun.
7. Turn off the solvent supply.
8. Follow the **Pressure Relief Procedure**, page 13.

Daily Cleaning Procedure

1. Follow the **Pressure Relief Procedure**, page 13.
2. Flush the equipment. See **Flushing Procedure**, page 14.
3. Remove the air cap assembly (7).

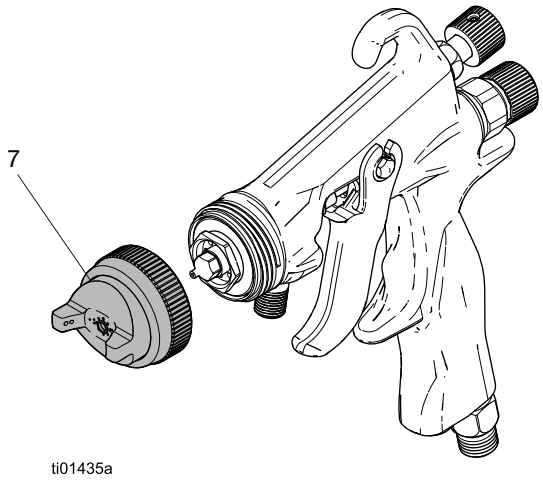


FIG. 17: Remove Air Cap Assembly

4. Dip the end of a soft-bristle brush into a compatible solvent. Do not continuously soak the brush's bristles.

NOTICE

Do not use metal tools to clean the air cap assembly parts. Metal tools may scratch the air cap and cause spray pattern distortion.

5. Clean the components. Replace seals as needed.
   a. Clean the parts with a soft-bristle brush.
   b. Use a soft tool, such as an unclogging needle or tooth pick, to clean the air inlet holes.

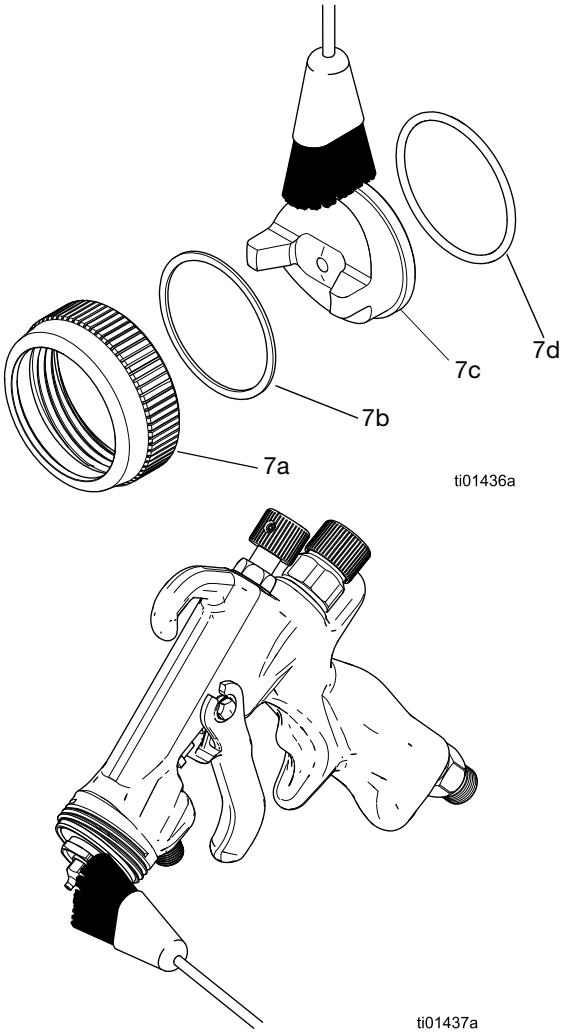


FIG. 18: Clean Air Cap Components

6. Dampen a soft cloth with solvent and wring-out the excess. Point the gun down and wipe off the outside of the gun.
7. Assemble and install the air cap assembly (7). See **Position the Air Cap**, page 10.

Recycling and Disposal

End of Product Life

At the end of the product's useful life, dismantle and recycle it in a responsible manner.

- Perform the **Pressure Relief Procedure**.
- Drain and dispose of fluids according to applicable regulations. Refer to the material manufacturer's Safety Data Sheet.
- Deliver remaining product to a recycling facility.

Troubleshooting

Follow **Pressure Relief Procedure**, page 13, before checking or repairing the equipment.

NOTE: Check all possible problems and causes before disassembling the equipment.

Spray Pattern Troubleshooting

Spray Pattern	Cause	Solution
Correct 	Normal pattern.	No action necessary.
Heavy Top or Bottom 	Dirty or damaged air cap or fluid nozzle.	Rotate air cap (7c) 180°. *If pattern follows air cap,* problem is in air cap. Clean and inspect. If pattern is not corrected, replace air cap. *If pattern does not follow the air cap,* the problem is with the fluid cartridge (2). Clean and inspect the cartridge. If the pattern is not corrected, replace fluid cartridge.
Heavy Top and Bottom, Split Pattern 	Pressure too high for viscosity of material being sprayed.	Reduce air pressure and increase material viscosity. Correct pattern by narrowing fan size with the fluid control valve (8).
	Air pressure controlling the fan pattern is too high.	Narrow the fluid pattern by adjusting the fan control valve (9). Reduction of air pressure to the gun may also be required.
Spray Pattern 	Dirty or distorted air horn holes.	Clean and inspect air cap (7c). If pattern is not corrected, replace air cap.

General Troubleshooting

Problem	Cause	Solution
Gun spitting.	Air getting into paint stream.	Check if fluid source is empty and fill. Tighten fluid cartridge (2). Check and tighten needle packing nut (2f). Check fluid cartridge (2) for damage.
Will not spray.	Fluid control valve (8) turned too far clockwise.	Adjust fluid control valve (8) counterclockwise.
	Fluid source empty.	Refill.
Excessive air blowing back.	Loose fluid cartridge (2).	Tighten fluid cartridge (2).
	Damaged fluid nozzle o-ring seal (2d, 2e).	Replace o-ring seal (2d, 2e).
Excessive air leak behind trigger.	Worn u-cups/air valve.	Repair gun (Kit 2007036). Be sure to use all included parts.
	Worn trigger (11).	Replace trigger (11). If leak persists repair gun (Kit 2007036).
Gun fluid pressure is too high with gun triggered (cannot achieve desired flow rate).	Using needle/nozzle kit with too small orifice.	Use needle/nozzle kit with larger orifice.
Using a low fluid pressure setting, the fluid flow is too high, making it necessary to restrict needle travel to reduce fluid flow.	Using needle/nozzle kit with too large orifice.	Use needle/nozzle kit with smaller orifice.
Fluid system will not operate at low enough pressure [below 10 psi (70 kPa, 0.7 bar)].	There is no fluid regulator, or air regulator is not sensitive enough at low pressure.	Add low pressure fluid regulator, or add more sensitive low pressure air regulator.
Fluid flow is fluttering while spraying.	Fluid filter clogged.	Check fluid filter.
	Fluid source empty.	Refill.
Fluid flow fades while spraying high viscosity fluids.	Air hose size is too restricted for higher air flow being used.	Use 5/16 in. (7.9 mm) I.D. air hose if the hose is 25 ft (7.6 m) long. If longer hose is needed, use a 3/8 in. (9.5 mm) I.D. hose.

Repair

To reduce the risk of an injury from splashing fluid, follow the **Pressure Relief Procedure**, whenever you are instructed to relieve the pressure.

Prepare Equipment for Service

1. Follow the **Pressure Relief Procedure**, page 13.
2. Follow the **Flushing Procedure**, page 14.
3. Turn off system air.

Fluid Cartridge Replacement

NOTICE

Use caution when tightening plastic components. Do not over torque.

Remove the Fluid Cartridge

1. **Prepare Equipment for Service**. See page 19.
2. Push the trigger quick release (13) on the side of the gun and remove the trigger (11).

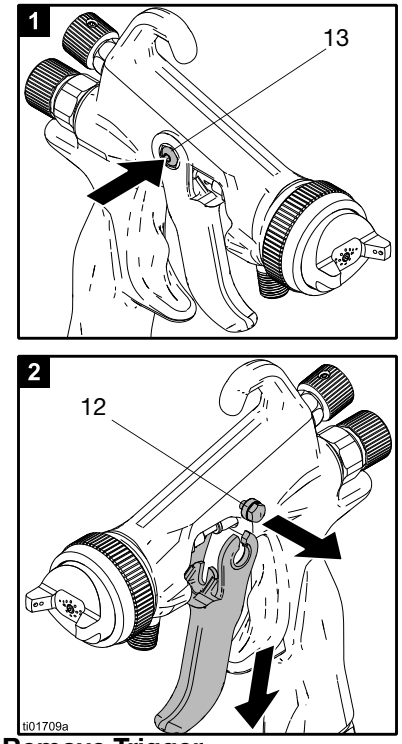


FIG. 19: Remove Trigger

3. Loosen the air cap retaining ring (7a) to remove the air cap assembly (7).
4. Use the hex fitting on the side of the trigger (11) to remove the fluid cartridge (2). See FIG. 21.

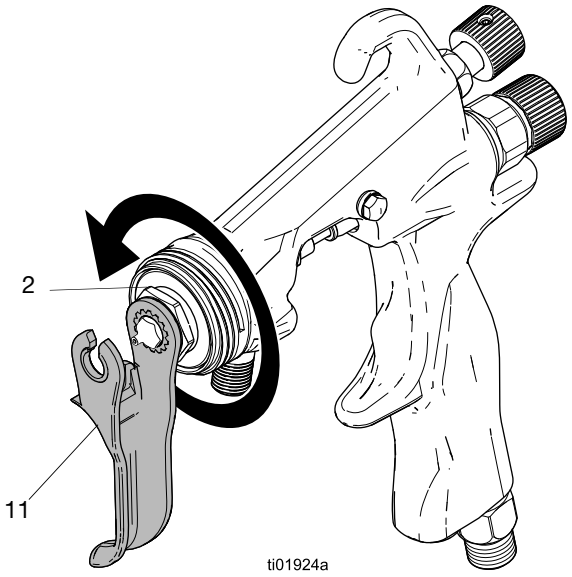
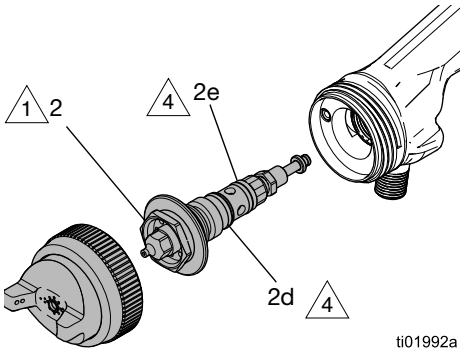


FIG. 20: Remove Fluid Cartridge

Install the Fluid Cartridge

Lubricate components with the recommended **Light-Weight Lubricant** on page 26.

1. Lubricate the o-ring seals (2d and 2e).
2. Use the hex fitting on the side of the trigger (11) to tighten the assembled fluid cartridge (2) into the gun body. Torque to 20 in-lb (2.3 N•m).



1 Torque to 20 in-lb (2.3 N•m)

4 Lubricate with recommended **Light-Weight Lubricant**

FIG. 21: Fluid Cartridge Assembly

3. Push the trigger quick release (13) on the side of the gun and reinstall the trigger (11). Make sure the washer (2h) on the needle is behind the trigger (11) when reinstalling. See FIG. 19.

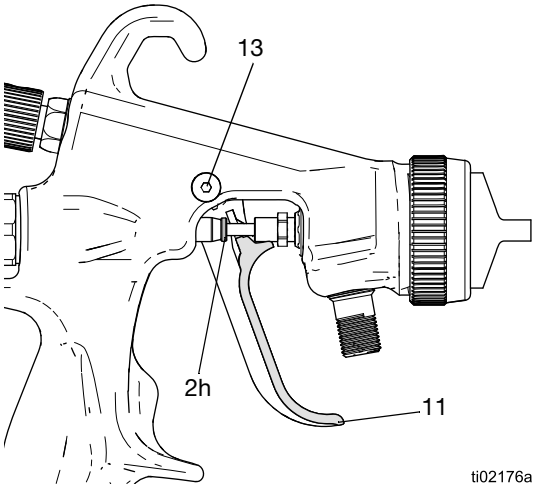


FIG. 22: Replace Trigger

Fluid Cartridge Repair

Disassemble the Fluid Cartridge

1. Remove the fluid cartridge (2) from the gun. See **Remove the Fluid Cartridge**, page 19.

2. Separate the fluid needle (2j) from the fluid cartridge (2).

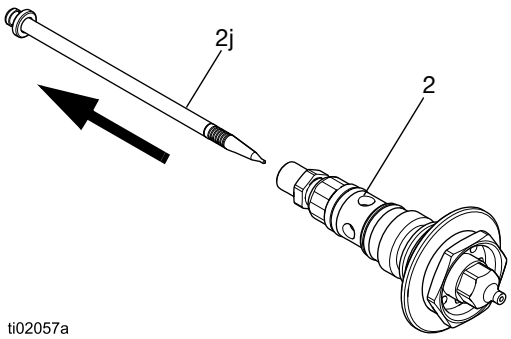


FIG. 23: Fluid Cartridge and Fluid Needle

3. Replace the needle tip as needed. Apply medium-strength threadlocker to the needle threads before installing the tip replacement.

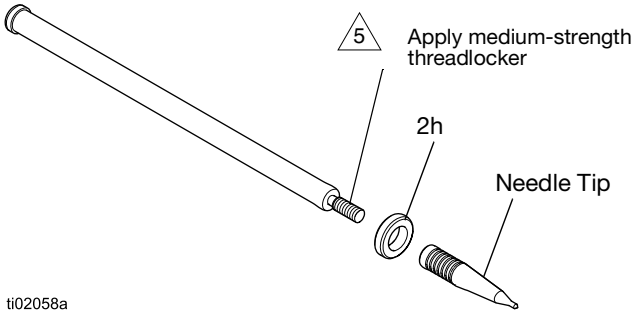


FIG. 24: Needle Assembly

4. Decouple the fluid nozzle (2a) and fluid insert (2b).

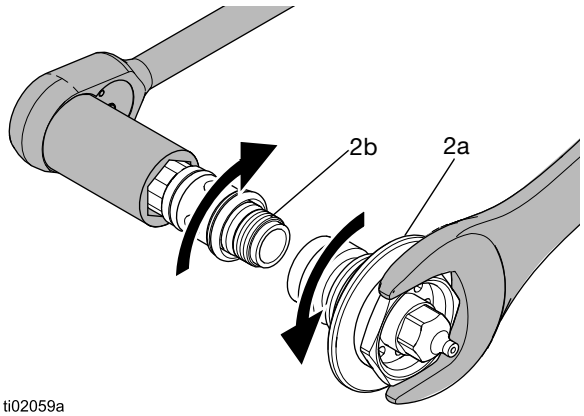


FIG. 25: Nozzle and Fluid Insert

5. Decouple the packing nut (2c) and the fluid insert (2b).

6. Remove the spreader (2g) and packing seal (2f) from the fluid insert (2b).

7. Use a pick to remove the fluid insert o-ring seals (2d and 2e).

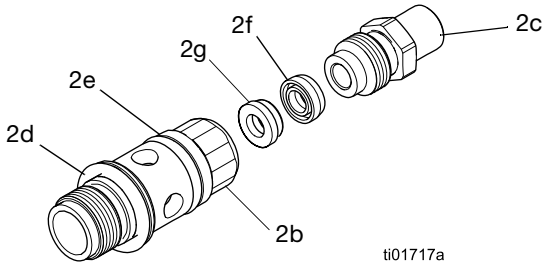


FIG. 26: Fluid Insert and Packing Nut

Assemble the Fluid Cartridge

Replace parts as needed and assemble the fluid cartridge. Lubricate components with the recommended **Light-Weight Lubricant** on page 26.

1. Replace the fluid insert o-ring seals (2e and 2d).
2. Install the nozzle (2a) onto the fluid insert (2b). Torque to 5 in-lb (0.5 N•m). See FIG. 27.

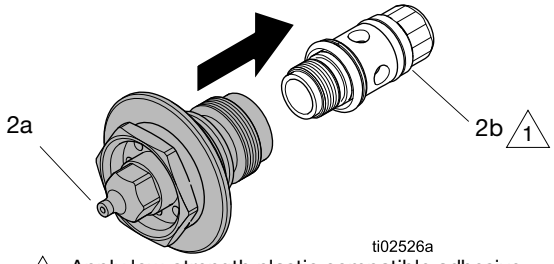
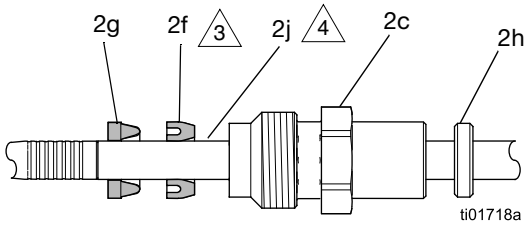


FIG. 27

3. Install the needle washer (2h) onto the needle (2j).
4. Assemble the spreader (2g), packing seal (2f), and packing nut (2c) into the fluid insert (2b), using the needle (2j) as an assembly guide. See FIG. 29. Note the spreader (2g) and packing seal (2f) orientation in FIG. 28. Apply lubricant to the metal shaft of the needle (2j).
5. Torque the packing nut (2c) to 2.5 in-lb (0.3 N•m).



4 Lubricate with recommended **Light-Weight Lubricant**.

3 The flat on the packing seal faces into the packing nut

FIG. 28: Spacer Orientation

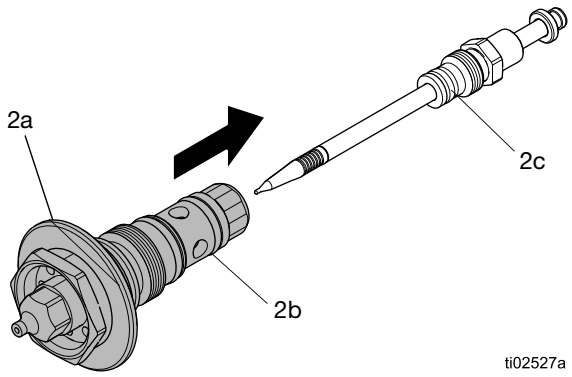


FIG. 29

6. Install the fluid cartridge. See **Install the Fluid Cartridge**, page 19.

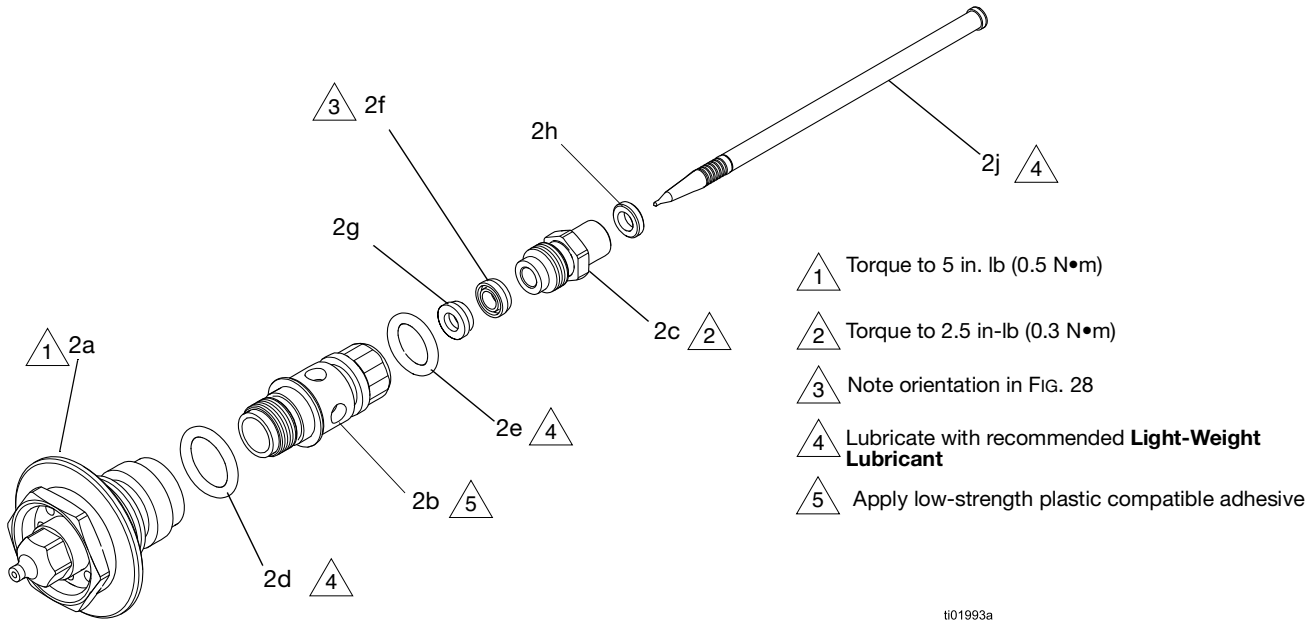


FIG. 30: Fluid Cartridge Assembly

Fluid Control Valve Repair

Remove the Fluid Control Valve

1. **Prepare Equipment for Service**. See page 19.
2. Use a wrench or a gun tool to remove the fluid adjustment housing (8).
3. Remove the spring (22), air valve stem (21), air adjustment valve (20), and the packing u-cup (5).

Install the Fluid Control Valve

Lubricate components with the recommended **Light-Weight Lubricant** on page 26.

1. Insert the packing u-cup (5), fluid adjustment valve (20), air valve stem (21), and spring (22) into the back of the gun.
2. Install the o-ring (25) onto the fluid adjustment housing (8).
3. Use a wrench or gun tool to tighten the fluid adjustment housing (8) into the gun body. Torque to 150 in-lb (16.9 N•m).

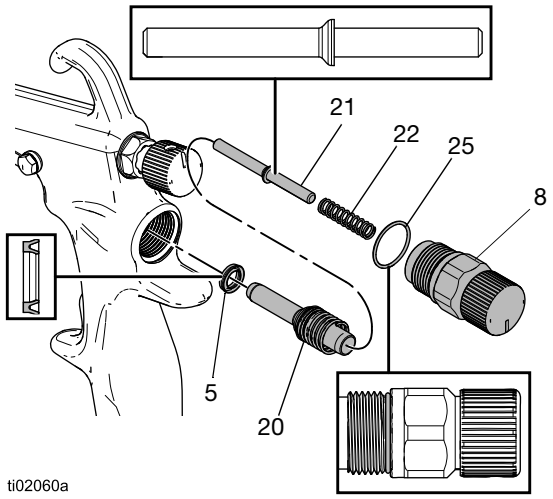


FIG. 31: Fluid Control Valve Assembly

Fan Control Valve Repair

Remove the Fan Control Valve

1. **Prepare Equipment for Service**. See page 19.
2. Use a wrench or a gun tool to remove the fan control valve assembly (9).

Install the Fan Control Valve

1. Install the o-ring (24) onto the fan control valve assembly (9).
2. Install the fan control valve assembly (9) into the gun body, with the valve turned fully counterclockwise to the outermost position. Torque to 85–90 in-lb (9.6-10.2 N•m).

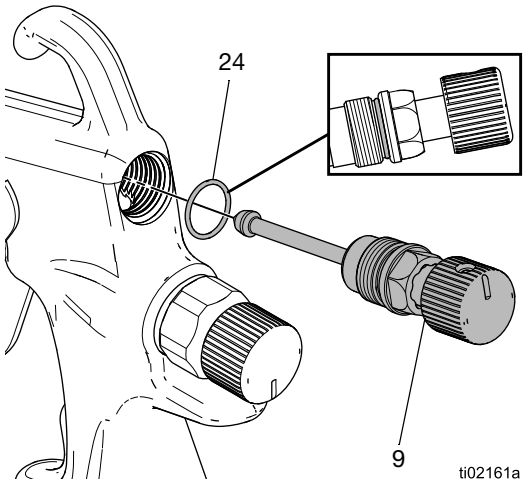
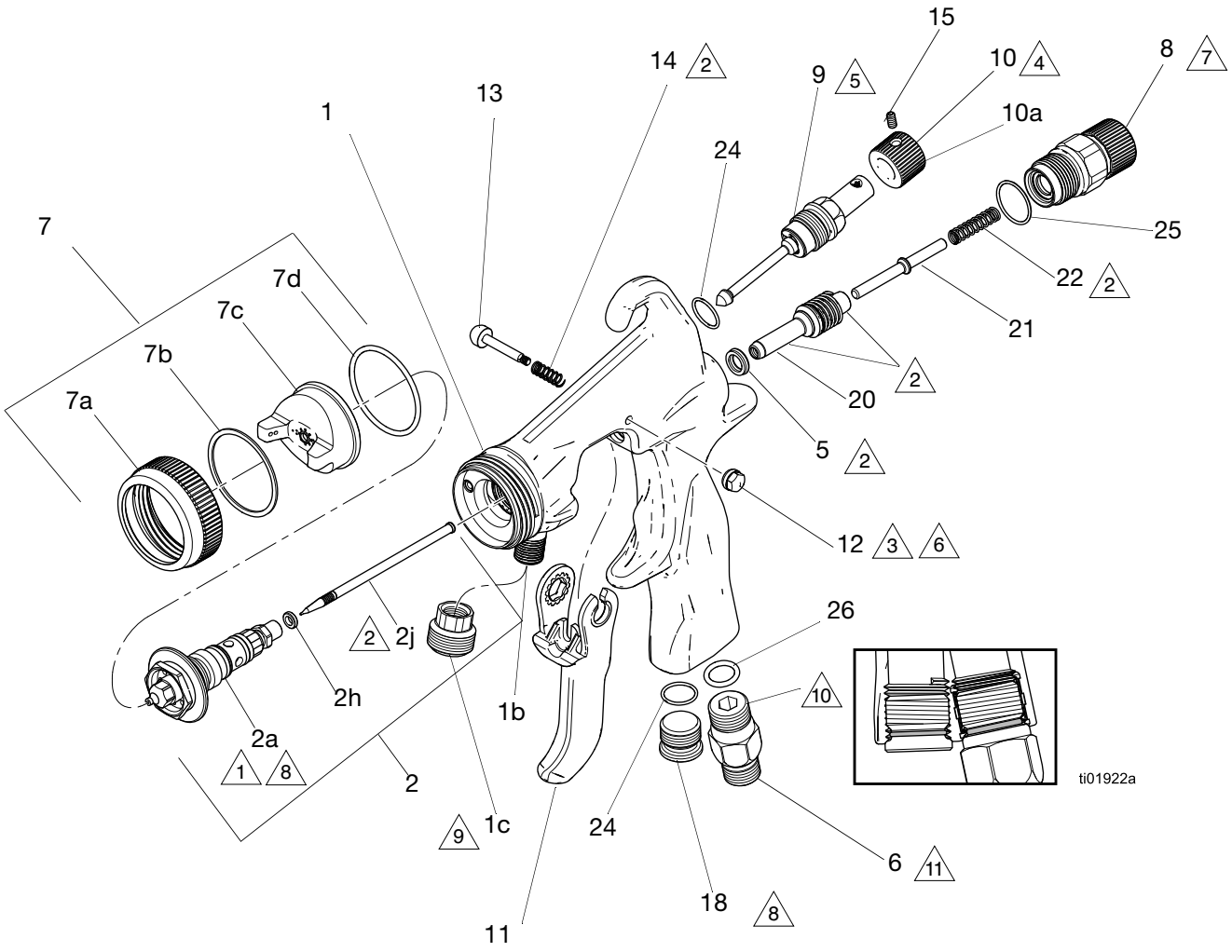


FIG. 32: Fan Control Valve Assembly

Parts



1 Remove trigger before installing cartridge (2).

2 Apply lubricant.

3 Apply low strength thread retainer.

4 Install with valve assembly turned fully counterclockwise to outermost position.

5 Torque to 85-90 in-lbs (9.6-10.2 N•m).

6 Torque to 15-20 in-lbs (1.7-2.2 N•m).

7 Torque to 150 in-lbs (16.9 N•m).

8 Torque to 20 in-lbs (2.3 N•m).

9 Included, not installed.

10 Apply medium strength thread retainer.

11 Torque to 100 in-lbs (11.3 N•m).

Ref.	Part	Description
1	---	BODY, gun
✺*1a	---	GASKET, fluid inlet
✺1b	---	FITTING, fluid inlet
✺*1c	---	ADAPTER, fluid inlet (included, not installed)
2	See **Spray Component Kits**, page 25	CARTRIDGE, fluid (includes 2a-2j)
2a		NOZZLE, fluid
2b		INSERT, fluid
❖2c		NUT
❖2d		O-RING
❖2e		O-RING
✓❖2f		PACKING, u-cup
✓❖2g		SREADER, u-cup
▲❖2h		WASHER, needle
▲2j		NEEDLE, fluid
5✓✿	---	PACKING, u-cup
6	289451	FITTING, air inlet
7	---	AIR CAP, assembly (includes 7a-7d)
✚7a	---	RING, retaining
✚◆✓✖7b	---	WASHER
✖7c	---	AIR CAP
✚◆✓✖7d	---	O-RING
8✿	2007037	HOUSING, fluid adjustment assembly
9†	---	VALVE, fan control
10	---	KNOB, fan adjust
‡†10a	---	KNOB, fan adjust, molded black
‡†*10b	---	KNOB, fan adjust, molded blue
‡†*10c	---	KNOB, fan adjust, molded white
‡†*10d	---	KNOB, fan adjust, molded red
11★	2007034	TRIGGER, quick release
12★	---	NUT, trigger
13★	---	PIN, trigger
14★	---	SPRING, trigger
15†	---	SETSCREW
18*	2004209	NUT, air plug
20✓✿	2004206	VALVE, air assembly
21✿	---	STEM, air valve
22✿	---	SPRING, fluid
23*✓	---	TOOL, seal installation
24	---	O-RING
25	---	O-RING
26	---	O-RING

✓ *Included in* **Gun Repair Kit***, page 25***.**

◆ *Included in* **Air Cap Seal Kit***, page 25***.**

✿ *Included in* **Air Section Repair Kit***, page 25***.**

★ *Included in* **Trigger Repair Kit***, page 25***.**

† *Included in* **Fan Adjustment Valve Repair Kit***, page 25***.**

‡ *Included in* **Fan Adjustment Knob Kit***, page 25***.**

✚ *Included in* **Retaining Ring Kit***, page 25***.**

✺ *Included in* **Fluid Inlet Fitting Kit***, page 25***.**

❖ *Included in* **Fluid Cartridge Repair Kit***, page 25***.**

✖ *Included in* **Air Cap Kit***, page 25***.**

▲ *Included in* **Needle***, page 25***.**

❊ *Included in* **Gun Body Seal Kit***, page 25*

* *Not Shown.*

Kits and Accessories

Repair Kits

See **Parts**, page 23.

Part	Description
2006038✓	Gun Repair Kit
289791◆	Air Cap Seal Kit
2007036✿	Air Section Repair Kit
2007035★	Trigger Repair Kit
2007038†	Fan Adjustment Valve Repair Kit
2007039‡	Fan Adjustment Knob Kit
2007033✚	Retaining Ring Kit
2007040✺	Fluid Inlet Fitting Kit
2006033❖	Fluid Cartridge Repair Kit
2008374❊	Gun Body Seal Kit

✓ *Includes one each of 2f, 2g, 7b, 7d, 20, and 23, and contains three of 5.*

◆ *Includes five of 7b and 7d.*

✿ *Includes one each of 5, 8, 20, 21, and 22.*

★ *Includes five each of 11, 12, 13, and 14.*

† *Includes one each of 9, 10, 10a, 10b, 10c, 10d, and 15.*

‡ *Includes one each of 10a, 10b, 10c, and 10d.*

✚ *Includes one each of 7a, 7b, and 7d.*

✺ *Includes one each of 1a, 1b, and 1c.*

❖ *Includes five each of 2c-2h.*

❊ *Includes five each of 25 and 26, and ten of 24.*

Hoses

Part	Description	Maximum Working Pressure psi (MPa, bar)
2005139	6 ft (1.8 m) Quick Connect Air Whip Hose, conductive	100 (0.7, 7.0)
2005140	25 ft (7.6 m) Quick Connect Air Whip Hose conductive	100 (0.7, 7.0)
2005144	6 ft (1.8 m) Quick Connect Fluid Whip Hose	300 (2.1, 21)
2005145	25 ft (7.6 m) Quick Connect Fluid Whip Hose	300 (2.1, 21)
2006235	25 ft (7.6 m) Quick Connect Fluid and Air Hose Bundle	Air Hose: 100 (0.7, 7.0) Fluid Hose: 300 (2.1, 21)

Spray Component Kits

Gun Model	Nozzle Size in. (mm)	Spray Technology	Air Cap Kit	Fluid Cartridge	Fluid Nozzle	Needle	PEEK Needle Tip (5 pack)
2007267	0.03 (0.8)	HVLP/LVMP	2005151	2007268	2007043	2006022*	288183
2005971	0.042 (1.1)			2007030	2007044	2006023*	288184
2005974✓							
2005972	0.055 (1.4)			2007031	2007045	2006024*	288185
2005975✓							
2005973	0.07 (1.8)			2007032	2007046	2006024*	288185
2005976✓							

* *Includes needle washer (2h).*

✓ *Models include 6 ft (1.8 m) quick connect fluid and air whip hoses.*

Additional Air Cap Kits

Part	Air Cap	Spray Type	Color/Construction	Compatible Nozzle Size in. (mm)
2005150	General Industry	Conventional	Black Plastic	0.030 (0.8), 0.042 (1.1), 0.055 (1.4), 0.070 (1.8)
2004530	Trim	HVLP	Green Metal	0.042 (1.1), 0.055 (1.4)
2004532	Wide Pattern	HVLP	Silver Metal	0.055 (1.4), 0.070 (1.8)
288864	Wood	HVLP	Pewter Metal	0.030 (0.8), 0.042 (1.1), 0.055 (1.4), 0.070 (1.8)

NOTE: Air cap kits include 7b, 7c, and 7d.

Optional Spray Component Kits

Nozzle Size in. (mm)	Fluid Nozzle	Needle	PEEK Needle Tip (5 pack)
0.02 (0.5)	2007042	2006021*	289350

**Includes needle washer (2h).*

Test Gauges

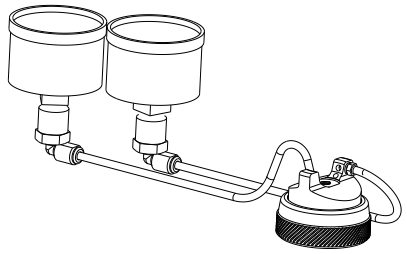


FIG. 33: Test Guage (2007041 shown)

Part	Description
2007041	HVLP Verification Kit

Air Inlet Valve Assembly

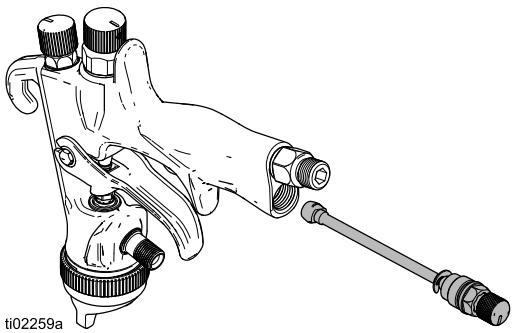


FIG. 34: Air Inlet Valve Assembly

Part	Description
2004208	Air Inlet Valve Assembly

Fluid Caps

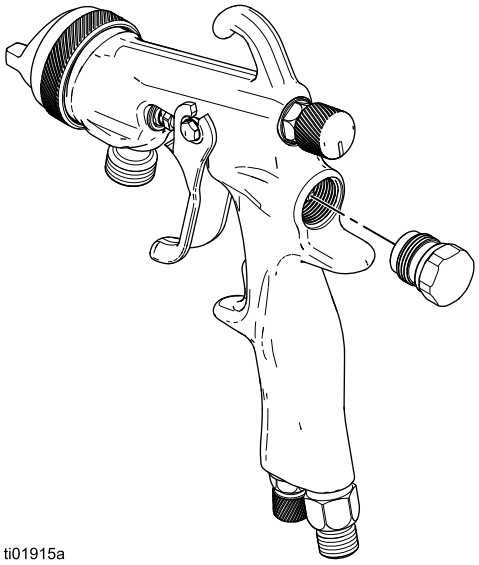


FIG. 35: Pressure Cap

Part	Description
2006039	Fluid Assembly Kit (non-adjustable)

Light-Weight Lubricant

Recommended lubricant for fluid seals and wear areas.

Part	Description
111265	Sanitary, non-silicone lubricant: 4 oz (113g)

Cups

ti01914a

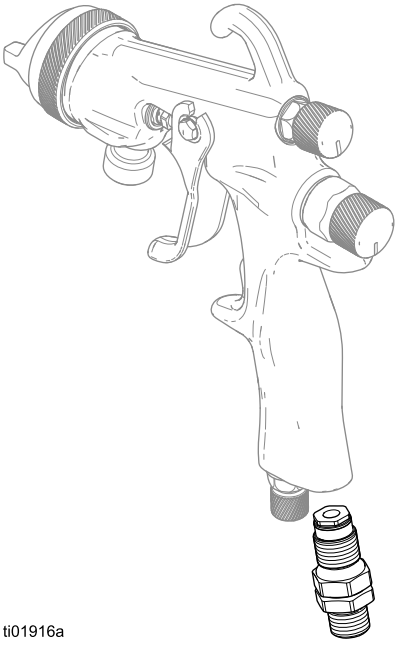
FIG. 36: Fluid Cup

Part	Description
239803	1 qt SST Pressure Cup with Double Air Regulator
239804	1 qt SST Pressure Cup with Remote Air Regulator
240266*	Disposable Polyethylene Cup Liners (40 pack)
235117	2 qt Pressure Cup with Regulator and Hose

* *For 1 qt siphon and pressure cups only.*

NOTE: Use with the fluid inlet adapter (1c).

Air Valves and Regulators



ti01916a

FIG. 37: Swivel Air Valve

Part	Description	Maximum Working Pressure psi (MPa, bar)
234784	Air Control Valve with Gauge	160 (1.1, 11)
235119	Gun Air Regulator Assembly	150 (1.0, 10.3
239655	Swivel Air Valve	100 (0.7, 7.0)

Technical Specifications

Stellair Air Spray Guns	US	Metric
Maximum working fluid pressure	300 psi	2.1 MPa, 21 bar
Maximum working air pressure	100 psi	0.7 MPa, 7 bar
Maximum fluid temperature	109°F	43°C
Air inlet size	1/4 NPSM	
Fluid inlet size	1/8 NPSM	
Materials of Construction	Stainless Steel, Carbide, Ultra High Molecular Weight Polyethylene, Chemically Resistant Fluoroelastomer, Engineered Plastic, PTFE, Polyamide	
Weight	0.46 lb	210 g

Sound Data

HVLP	
Measured at 17 psi (0.12 MPa, 1.2 bar) atomizing air and 29 psi (0.20 MPa, 2.0 bar) fan air pressure	
Sound Power	89.70 dBa
Sound Pressure	79.79 dBa
LVMP	
Measured at 29 psi (0.20 MPa, 2.0 bar) atomizing air and 33 psi (0.23 MPa, 2.3 bar) fan air pressure	
Sound Power	87.47 dBa
Sound Pressure	77.56 dBa
Sound power measured per ISO 3744.	

Air Consumption Data

Air Cap	Spray Type	Air Inlet Pressure psi (MPa, bar)	Air Consumption SCFM
General Industry	HVLP or LVMP	19 (0.13, 1.31)	8.1
	Conventional	36 (0.25, 2.5)	10.8
Wood	HVLP	22 (0.15, 1.5)	14.8
Trim	HVLP	14 (0.1, 1.0)	4.7
Wide Pattern	HVLP	24 (0.17, 1.7)	10.8

California Proposition 65

CALIFORNIA RESIDENTS

⚠ **WARNING:** Cancer and reproductive harm – www.P65warnings.ca.gov.

Graco Standard Warranty

Graco warrants all equipment referenced in this document which is manufactured by Graco and bearing its name to be free from defects in material and workmanship on the date of sale to the original purchaser for use. With the exception of any special, extended, or limited warranty published by Graco, 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.

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3B0140C, October 2024