Instructions-Parts

FUSION™

310648P

EN

Solvent Purge Plural Component Gun

For use with non-flammable foam and polyurea. For professional use only. Not for use in explosive atmospheres.

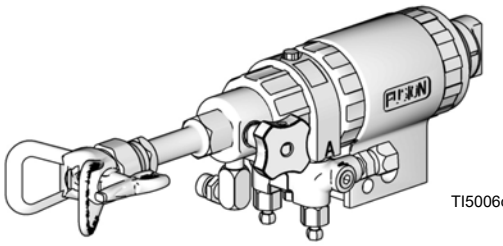
Important Safety Instructions
Read all warnings and instructions in this manual.
Save these instructions.

248597, Series A
Solvent Purge Manual Spray Gun

248647, Series B
Machine Mount Spray Valve with Manual Solvent Purge

248603, Series A
Standard Mechanical Purge Conversion Kit

3500 psi (24.2 MPa, 242 bar) Maximum Fluid Working Pressure
80-130 psi (0.55-0.9 MPa, 5.5-9.1 bar) Air Inlet Pressure Range
200°F (94°C) Maximum Fluid Temperature
3500 psi (24.2 MPa, 242 bar) Maximum Solvent Working Pressure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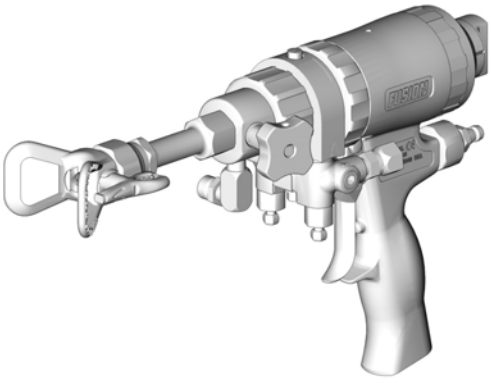
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PROVEN QUALITY. LEADING TECHNOLOGY.

Contents

Manual Conventions

Warning

WARNING

A warning alerts you to possible serious injury or death if you do not follow instructions.

Symbols, such as fluid injection (shown), alert you to a specific hazard and direct you to read the indicated hazard warnings on pages 4-5.

Caution

CAUTION
A caution alerts you to possible equipment damage or destruction if you do not follow instructions.

Note

A note indicates additional helpful information.

Component Labels

Depending on chemistry and material manufacturer, individual fluid components have different labels. Sometimes (A) is the ISO or hardener. Sometimes (A) is the RESIN or filled side. For the purpose of these valves and this manual, (A) refers to the ISO, or hardener, which will most often be the minor volume side. (B) refers to the RESIN side, which normally contains the fillers and is the major volume side.

⚠ WARNING

PERSONAL PROTECTIVE EQUIPMENT

Always wear appropriate personal protective equipment and cover all skin when spraying, servicing equipment, or when in the work area. Protective equipment helps prevent serious injury, including long-term exposure; inhalation of toxic fumes, mists or vapors; allergic reaction; burns; eye injury and hearing loss. This protective equipment includes but is not limited to:

- A properly fitting respirator, which may include a supplied-air respirator, chemically impermeable gloves, protective clothing and foot coverings as recommended by the fluid manufacturer and local regulatory authority.
- Protective eyewear and hearing protection.

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 Sheet (SDS) for handling instructions and to know the specific hazards of the fluids you are using, including the effects of long-term exposure.
- When spraying, servicing equipment, or when in the work area, always keep work area well ventilated and always wear appropriate personal protective equipment. See **Personal Protective Equipment** warnings in this manual.
- Store hazardous fluid in approved containers, and dispose of it according to applicable guidelines.

FIRE AND EXPLOSION HAZARD

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

- Use equipment only in well ventilated area.
- Eliminate all ignition sources, such as pilot lights, cigarettes, portable electric lamps, and plastic drop cloths (potential static arc).
- Do not plug or unplug power cords or turn lights on or off when flammable fumes are present.
- Keep the work area free of debris, including solvent, rags, and gasoline.
- Ground equipment and conductive objects. See **Grounding**, page 9.
- Hold gun firmly to side of grounded pail when triggering into pail.
- Use only grounded hoses.
- If there is static sparking or you feel a shock, **stop operation immediately.** Do not use equipment until you identify and correct the problem.
- Keep a fire extinguisher in the work area.

⚠ WARNING

SKIN INJECTION HAZARD

High-pressure fluid from gun, hose leaks, or ruptured components will pierce skin. This may look like just a cut, but it is a serious injury that can result in amputation. **Get immediate surgical treatment.**

- Do not point the gun at anyone or at any part of the body.
- Do not put your hand over the spray tip.
- Do not stop or deflect leaks with your hand, body, glove, or rag.
- Do not “blow back” fluid; this is not an air spray system.
- Follow **Pressure Relief Procedure**, page 19, when you stop spraying and before cleaning, checking, or servicing equipment.
- Use lowest possible pressure when flushing, priming, or troubleshooting.
- Engage piston safety lock when not spraying.
- Tighten all fluid connections before operating the equipment.
- Check hoses, tubes, and couplings daily. Replace worn or damaged parts immediately. High pressure hose cannot be recoupled; replace the entire hose.

BURN HAZARD

Equipment surfaces and fluid that’s heated can become very hot during operation. To avoid severe burns, do not touch hot fluid or equipment. Wait until equipment/fluid has cooled completely.

EQUIPMENT MISUSE HAZARD

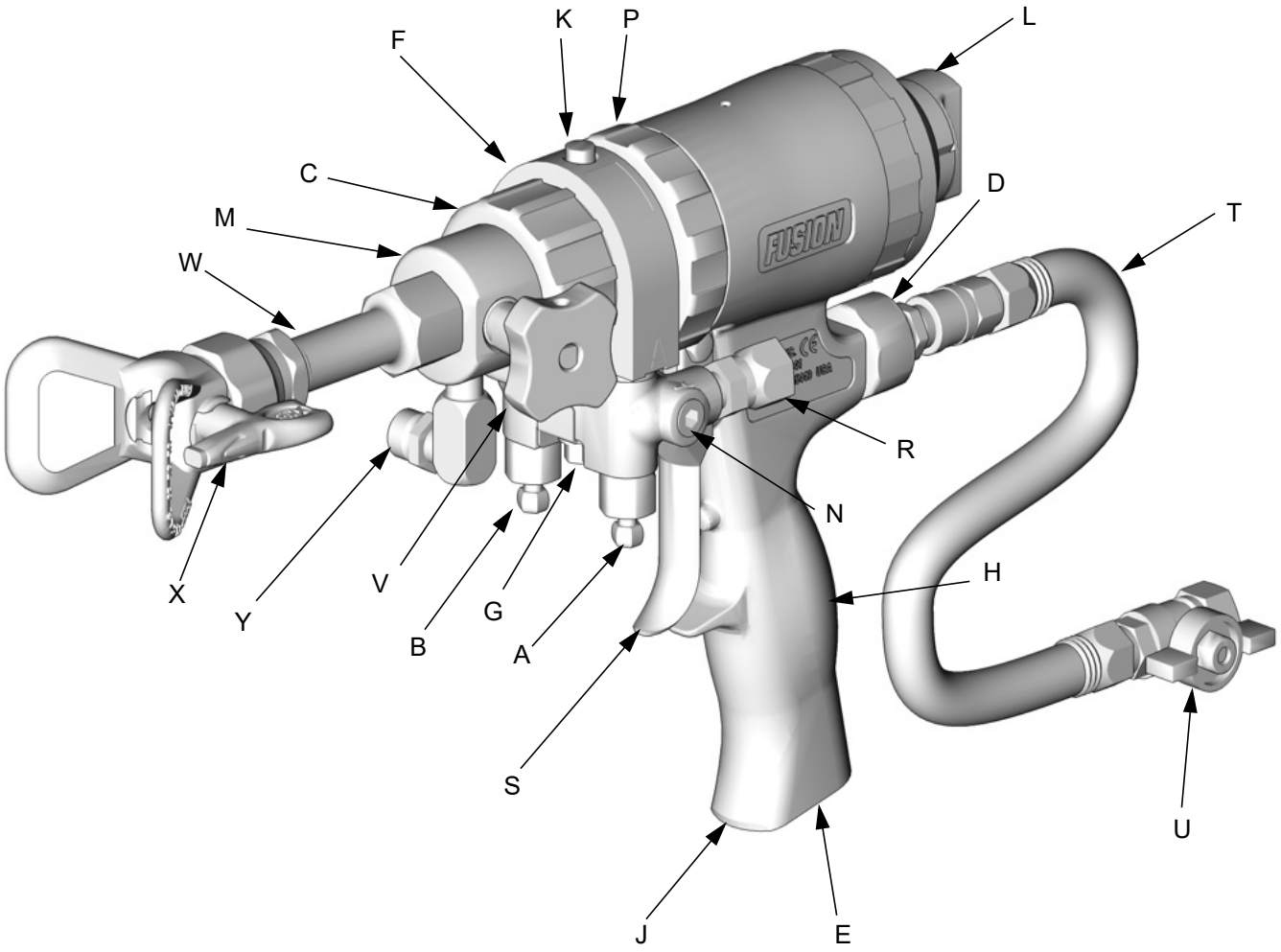
Misuse can cause serious injury or death.

- For professional use only.
- Use equipment only for its intended purpose. Call your Graco distributor for information.
- Read manuals, warnings, tags, and labels before operating equipment. Follow instructions.
- Check equipment daily. Repair or replace worn or damaged parts immediately.
- Do not alter or modify equipment. Use only Graco parts and accessories.
- Do not exceed the maximum working pressure or temperature rating of the lowest rated system component. See **Technical Data** in all equipment manuals.
- Use fluids and solvents that are compatible with equipment wetted parts. See **Technical Data** in all equipment manuals. Read fluid and solvent manufacturer’s warnings.
- Route hoses and cables away from traffic areas, sharp edges, moving parts, and hot surfaces.
- Do not kink or overbend hoses or use hoses to pull equipment.
- Comply with all applicable safety regulations.

PRESSURIZED ALUMINUM PARTS HAZARD

Do not use 1,1,1-trichloroethane, methylene chloride, other halogenated hydrocarbon solvents or fluids containing such solvents in pressurized aluminum equipment. Such use can cause serious chemical reaction and equipment rupture, and result in death, serious injury, and property damage.

Overall View



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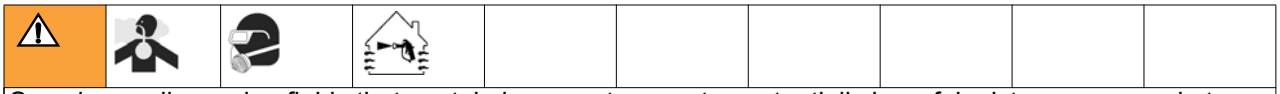
Key:

A A Side Fluid Valve (ISO)
B B Side Fluid Valve (RESIN)
C Air Cap
D Air Line Quick Coupler
E Muffler
F Fluid Housing
G Gun Fluid Manifold
H Handle
J Optional Air Inlet
K Cleanoff Air Valve
L Piston Safety Lock
M Solvent Purge Assembly
N Optional Fluid Inlets (A Side Shown)
P Lock Ring
R Fluid Inlet Swivels (A Side Shown)
S Trigger
T Gun Air Whip Hose
U Air Valve
V Solvent Purge Valve
W Static Mixer
X RAC tip
Y Solvent Fluid Inlet

Important Isocyanate (ISO) Information

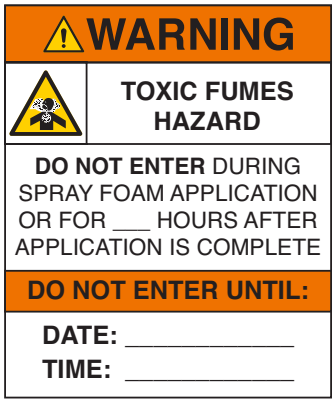
Isocyanates (ISO) are catalysts used in two component materials.

Isocyanate Conditions



Spraying or dispensing fluids that contain isocyanates creates potentially harmful mists, vapors, and atomized particulates.

- Read and understand the fluid manufacturer's warnings and Safety Data Sheet (SDS) to know specific hazards and precautions related to isocyanates.
- Use of isocyanates involves potentially hazardous procedures. Do not spray with this equipment unless you are trained, qualified, and have read and understood the information in this manual and in the fluid manufacturer's application instructions and SDS.
- Use of incorrectly maintained or mis-adjusted equipment may result in improperly cured material.which could cause off gassing and offensive odors. Equipment must be carefully maintained and adjusted according to instructions in the manual.
- To prevent inhalation of isocyanate mists, vapors and atomized particulates, everyone in the work area must wear appropriate respiratory protection. Always wear a properly fitting respirator, which may include a supplied-air respirator. Ventilate the work area according to instructions in the fluid manufacturer's SDS.
- Avoid all skin contact with isocyanates. Everyone in the work area must wear chemically impermeable gloves, protective clothing and foot coverings as recommended by the fluid manufacturer and local regulatory authority. Follow all fluid manufacturer recommendations, including those regarding handling of contaminated clothing. After spraying, wash hands and face before eating or drinking.
- Hazard from exposure to isocyanates continues after spraying. Anyone without appropriate personal protective equipment must stay out of the work area during application and after application for the time period specified by the fluid manufacturer. Generally this time period is at least 24 hours.
- Warn others who may enter work area of hazard from exposure to isocyanates. Follow the recommendations of the fluid manufacturer and local regulatory authority. Posting a placard such as the following outside the work area is recommended:



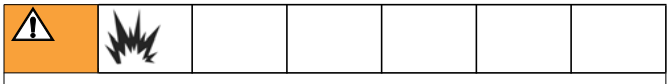
For all applications except spray foam

Spraying or dispensing fluids that contain isocyanates creates potentially harmful mists, vapors, and atomized particulates.

- Read and understand the fluid manufacturer's warnings and Safety Data Sheet (SDS) to know specific hazards and precautions related to isocyanates.
- Use of isocyanates involves potentially hazardous procedures. Do not spray with this equipment unless you are trained, qualified, and have read and understood the information in this manual and in the fluid manufacturer's application instructions and SDS.
- Use of incorrectly maintained or mis-adjusted equipment may result in improperly cured material. Equipment must be carefully maintained and adjusted according to instructions in the manual.
- To prevent inhalation of isocyanate mists, vapors, and atomized particulates, everyone in the work area must wear appropriate respiratory protection. Always wear a properly fitting respirator, which may include a supplied-air respirator. Ventilate the work area according to instructions in the fluid manufacturer's SDS.

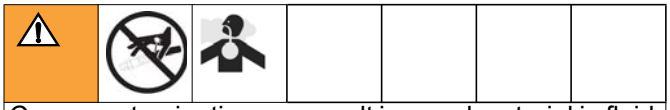
Avoid all skin contact with isocyanates. Everyone in the work area must wear chemically impermeable gloves, protective clothing and foot coverings as recommended by the fluid manufacturer and local regulatory authority. Follow all fluid manufacturer recommendations, including those regarding handling of contaminated clothing. After spraying, wash hands and face before eating or drinking.

Material Self-ignition



Some materials may become self-igniting if applied too thick. Read material manufacturer's warnings and Safety Data Sheet (SDS).

Keep Components A and B Separate



Cross-contamination can result in cured material in fluid lines which could cause serious injury or damage equipment. To prevent cross-contamination:

- **Never** interchange component A and component B wetted parts.
- Never use solvent on one side if it has been contaminated from the other side.

Moisture Sensitivity of Isocyanates

Exposure to moisture (such as humidity) will cause ISO to partially cure, forming small, hard, abrasive crystal that become suspended in the fluid. Eventually a film will form on the surface and the ISO will begin to gel, increasing in viscosity.

NOTICE

Partially cured ISO will reduce performance and the life of all wetted parts.

- Always use a sealed container with a desiccant dryer in the vent, or a nitrogen atmosphere. **Never** store ISO in an open container.
- Keep the ISO pump wet cup or reservoir (if installed) filled with appropriate lubricant. The lubricant creates a barrier between the ISO and the atmosphere.
- Use only moisture-proof hoses compatible with ISO.
- Never use reclaimed solvents, which may contain moisture. Always keep solvent containers closed when not in use.
- Always lubricate threaded parts with an appropriate lubricant when reassembling.

NOTE: The amount of film formation and rate of crystallization varies depending on the blend of ISO, the humidity, and the temperature.

Foam Resins with 245 fa Blowing Agents

Some foam blowing agents will froth at temperatures above 90°F (33°C) when not under pressure, especially if agitated. To reduce frothing, minimize preheating in a circulation system.

Changing Materials

NOTICE

Changing the material types used in your equipment requires special attention to avoid equipment damage and downtime.

- When changing materials, flush the equipment multiple times to ensure it is thoroughly clean.
- Always clean the fluid inlet strainers after flushing.
- Check with your material manufacturer for chemical compatibility.
- When changing between epoxies and urethanes or polyureas, disassemble and clean all fluid components and change hoses. Epoxies often have amines on the B (hardener) side. Polyureas often have amines on the B (resin) side.

Grounding

WARNING


Read warnings, page 4.

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

Solvent line must be Graco approved grounded hose.

Primary ground is through the grounded solvent supply hose.

Ensure that solvent supply pump is properly grounded.

Ensure continuity from the spray tip to grounded solvent hose when using static mixers and tips other than supplied with gun.

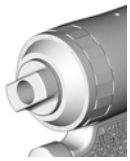
Piston Safety Lock

Engage piston safety lock whenever you stop spraying, to avoid accidental triggering.

⚠ WARNING

Read warnings, page 5.

To engage piston safety lock: push knob in and turn clockwise. When engaged, piston safety lock allows some purge rod movement but shuts off fluid flow and gun cannot spray.



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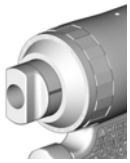
To disengage piston safety lock: push knob in and turn counterclockwise until it pops out.



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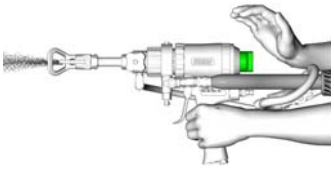
Loss of Air Pressure

In event of loss of air pressure while gun is triggered, gun will continue to spray. To shut off gun, do one of the following:

- Push hard or hit end of safety lock, to engage piston safety lock.



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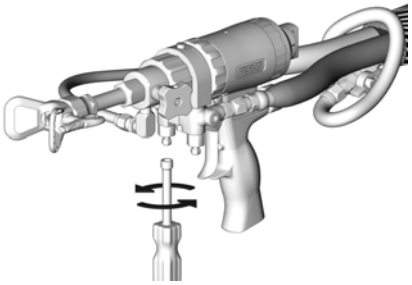
- Close fluid valves A and B.



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Conversion Kit 248603

A Standard Mechanical Purge Gun can be converted into a Solvent Purge Gun with this kit.

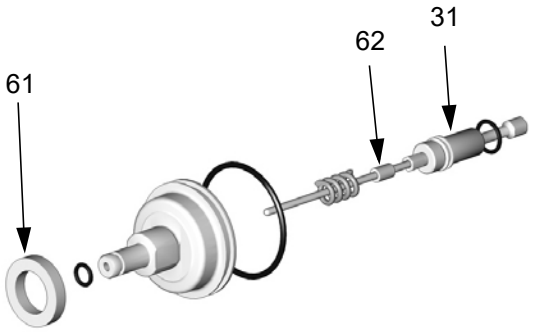
1. Relieve pressure. See manual 309856.

2. **Flush Gun**, page 24.

3. Disassemble front end of gun. Refer to manual 309856.

4. Disassemble the piston and purge rod assembly from the gun, see **Piston and Purge Rod** in manual 309856.

5. Remove purge rod (31) from assembly and place spacer (62) onto purge rod.



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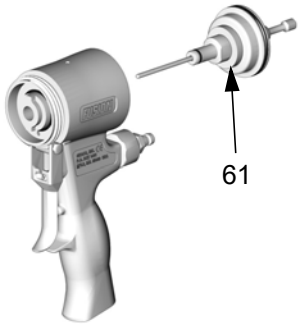
6. Reassemble purge rod and piston assembly until positive stop on purge rod spacer (62).

7. Liberally lubricate piston o-rings. Install spacer (61) onto piston assembly. Reinstall piston. Shaft is keyed for proper assembly. Push firmly to seat piston. Rotate piston/purge rod assembly clockwise with nut driver until piston is fully seated.



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Spacer (61) is optional. For more forward travel of piston, remove spacer.

8. Install piston safety lock assembly until bottomed out.

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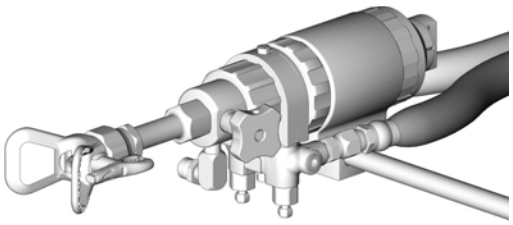
9. Reassemble the fluid housing onto the front end of the gun. See **Reassemble Front End**, page 32, steps 1 through 6.

Mounting an Automatic Gun

Mounting to a rod

1. To mount the gun on a 1/2 in. diameter rod, insert the bar (A) through the hole in the gun body as shown.

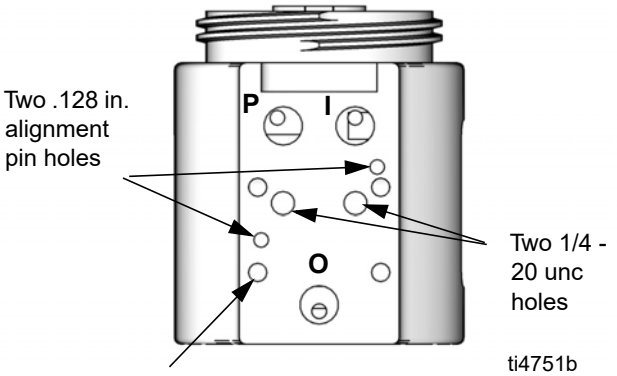


ti5007b

2. Secure the gun to the bar by tightening 1/4 in. - 20 mounting screws.

Mounting to a stationary support robotic arm

To mount gun to stationary support or robot arm, see mounting hole dimensions, page 53.



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I - Activation
P - Purge/Clean-off
O - Deactivation

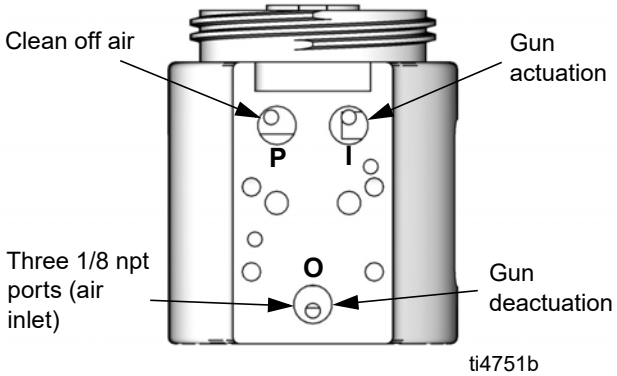
Connecting Airline and Accessories

1. On the gun air supply line, install an air pressure regulator.

- A minimum of 80 psi (0.55 MPA, 5.5 bar) air pressure must be supplied to the gun for proper operation.
- A four-way air valve, which exhausts cylinder air in both directions, is required.

2. On the gun air supply line, install a bleed-type air shutoff valve downstream of the gun air regulator.

3. On the main air line, install a bleed-type air shutoff valve.



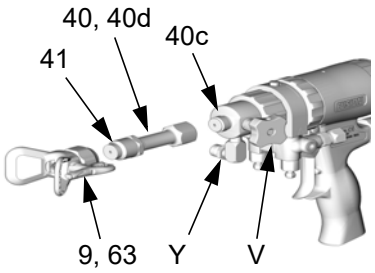
ti4751b

I - Activation
P - Purge/Clean-off
O - Deactivation

Setup

1. Read **Hand Drilling of Mix Modules**, page 15, before performing setup procedure.

2. Assemble gaskets (40c), static mixer assembly (40), o-ring (40d), adapter (41), and RAC tip and guard (9, 63) assembly to fluid housing on front end of gun.



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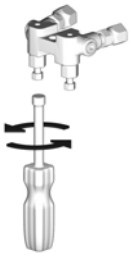
- Solvent purge knob (V) and inlet (Y) can be rotated in any direction.

3. Close fluid valves A and B.



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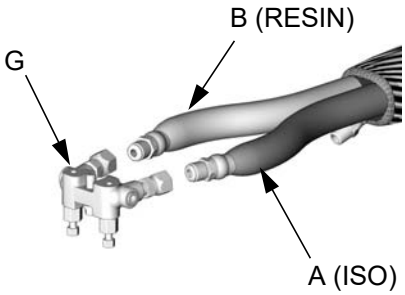
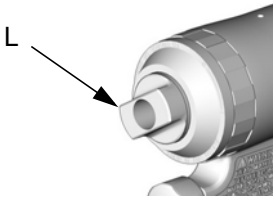
4. Connect A (ISO) and B (RESIN) fluid hoses to fluid manifold (G).



TI2417A

5. Engage piston safety lock (L), page 10.



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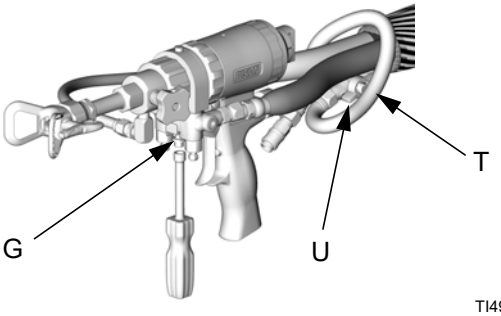
6. Connect gun air whip hose (T) and air valve (U) to main air hose. Attach fluid manifold (G) to gun.



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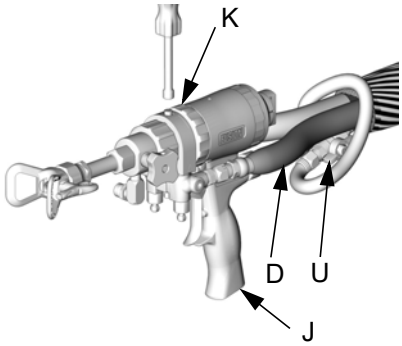
To change position of fluid manifold or use optional fluid inlets, see pages 21 and 22.

7. Connect air line to quick coupler (D). Turn on air. Open air valve (U). Air valve (K) should be screwed tight. There is no clean off air to adjust on the solvent purge gun.



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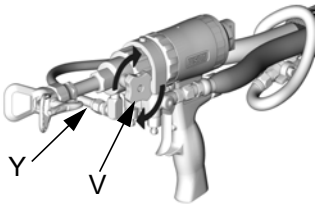
To use optional air inlet (J), see page 22.

8. To adjust purge rod position, follow piston and purge rod disassembly instruction on page 39.

9. Attach Graco approved grounded fluid supply hose to solvent inlet (Y).
Make sure solvent purge valve (V) is closed before pressurizing the solvent hose.



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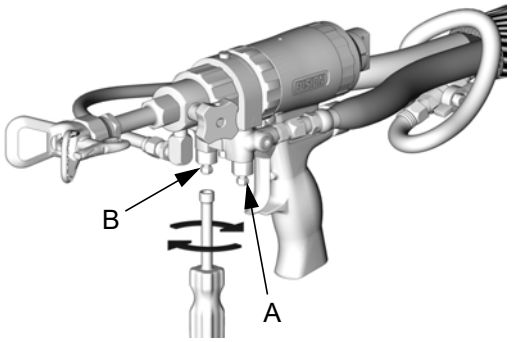
To avoid getting mixed coating material in the solvent purge valve and line.

- Pressurize the solvent line before triggering the gun.
- Have an adequate solvent supply before spraying.
- Keep air purged out of solvent hose.
- Install an accessory check valve at purge valve inlet.
- Never trigger gun with solvent valve open.

10. Turn on proportioner.

11. Open B (RESIN) fluid valve. Then open A (ISO) fluid valve.



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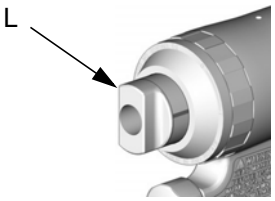
12. Disengage piston safety lock (L), page 10.



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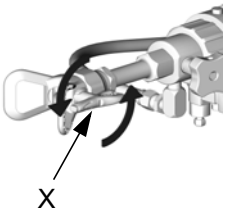
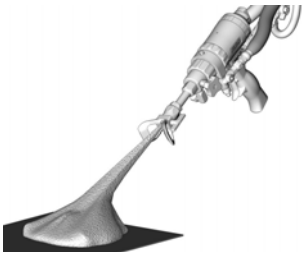
13. Turn RAC tip (X) to spray position.



TI5096b

14. Test spray onto cardboard. Adjust pressure, temperature, or orifice size to get desired results. If applying materials that are greater than 1:1 ratio, follow the instructions for increasing orifice size, see **Drilling of Mix Modules**, page 15.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15. Apply layer of lubricant over front of gun and lock ring, or use gun cover to prevent overspray buildup and ease disassembly.

16. Gun is ready to spray.

Hand Drilling of Mix Modules

To balance pressure and flow at the mix gun

Graco only makes 1:1 ratio mix modules. When applying a material that is different than 1:1 it is necessary to modify the mix module to allow more material through the larger part side.

The actual size of the orifice required is dependent on many factors such as material viscosity, shear, ratio tip size, etc. For example, a 2:1 material by volume does not necessarily require the diameter on the larger part side to be doubled.

Check Valve Filter Option

See **Check Valve Filter Screens**, page 52. Gun is shipped with 80 mesh filters on both the A and B check valves. 40 mesh (quantity 2) and 60 mesh (quantity 2) filters are included with the gun. For wider ratio materials it is advisable to decrease the filter size on the larger part side to decrease pressure drop.

Tools required

- Assorted Drill Bit Kit 119386
- Pin Vise 117661

Two XF1313 Polycarbolloy mix modules are included with the gun. Additional mix modules are available, see page 50.

Larger Modules XF3535, XF4747, XF5757 are available but not included with gun.

1. Follow **Pressure Relief Procedure**, page 19.

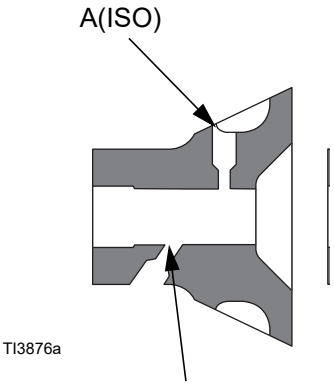
2. **Flush Gun**, page 24.

3. Remove Polycarballoy Mix Module, see page 34.

4. Locate the larger part side (typically the B [RES] port at rear of Polycarballoy Mix Module).

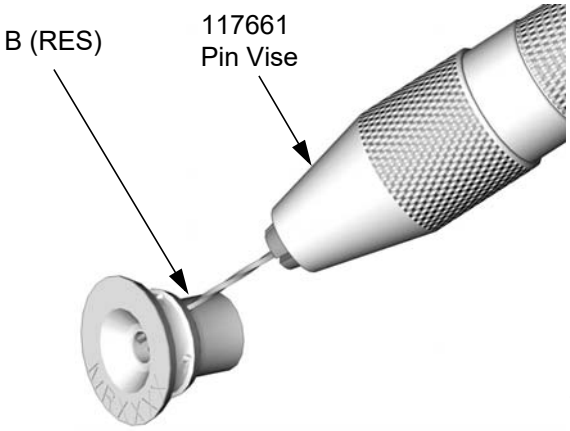
Polycarballoy Mix Module cross section.

NOTE: View is not to scale.



Mix Module XF1313

5. Open up resin porting to raise ISO pressure. Starting with the smallest drill bit size, drill into port. For drill bit sizes, see **Drill Bit Table**, page 16.



When drilling, be careful not to allow bit to come in contact with ID of mix module.

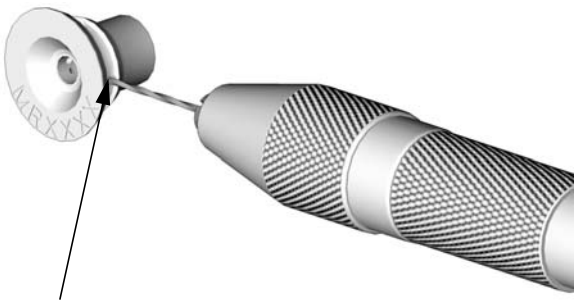
The largest drill size that can be used on the XF1313 mix module is #56. To get more flow, order a larger mix module: XF3535, XF4747, XF5757

6. Reassemble gun, page 34.

7. Check pressure gauges. A (ISO) and B (RES) gauges should balance at the required pressure, flow, and temperature operation points.

8. If ISO gauge still reads lower than the RESIN, repeat steps 1 through 7. Use the next drill bit size for drilling the B (RES) port on the mix module.

9. If you get the system pressure balanced but do not have enough flow at the gun, drilling port A (ISO) may be necessary. Drill port A (ISO) out to next size. Repeat steps 1 through 8 to bring the pressure gauges back into balance.



10. Repeat drilling until system pressures are balanced.

11. After system pressures are balanced, record the final drill bit sizes for each port in the chart below. Use this information when it is time to replace the Polycarballoy Mix Module.

Module Port	Drill Bit Size
A	
B	

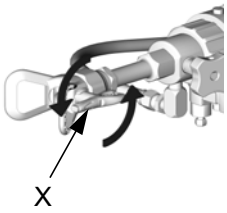
Drill Bit Table

Drill Bit Sizes		
# size	**Diameter (in.)**	**Diameter (mm)**
81	0.013	0.33
80	0.0135	0.34
79	0.0145	0.37
78	0.016	0.41
77	0.018	0.46
76	0.02	0.51
75	0.021	0.53
74	0.0225	0.57
73	0.024	0.61
72	0.025	0.64
71	0.026	0.66
70	0.028	0.71
69	0.0292	0.74
68	0.031	0.79
67	0.032	0.81
66	0.033	0.84
65	0.035	0.89
64	0.036	0.92
63	0.037	0.94
62	0.038	0.97
61	0.039	0.99
60	0.04	1.02
58	0.042	1.07
56	0.0465	1.18

Operation

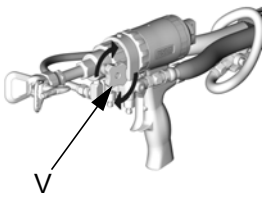
Spraying

1. To spray, turn RAC tip (X) to spray position.



TI5096b

2. Close solvent purge knob (V).



TI5004b

3. Trigger gun to spray.

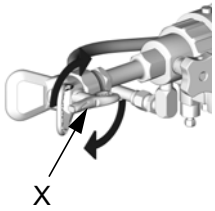
WARNING

Read warnings page, 4.

Flushing with Solvent Purge Assembly

1. Detrigger the gun and engage safety lock.

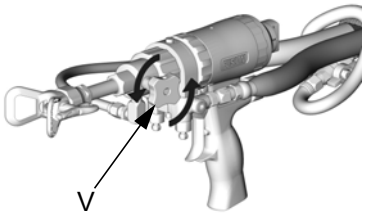
2. Turn RAC tip (X) to clean position.



TI5097b

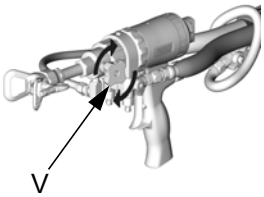
3. Hold gun into a grounded metal pail, holding a metal part of fluid manifold firmly to side of pail.

4. Open the solvent purge knob (V) to introduce solvent to the static mixer assembly.



TI5110b

5. When static mixer and tip are clean, close solvent purge knob (V).



TI5004b

- For more thorough static mixer cleaning, remove the spray tip.
- Minimize the amount of flushing time. Do not atomize solvent.

Shutdown

Daily Shutdown

1. Follow **Pressure Relief Procedure**, page 19.

2. **Flush Gun**, page 24.

Shutdown for More than a Day

1. Follow **Pressure Relief Procedure**, page 19.

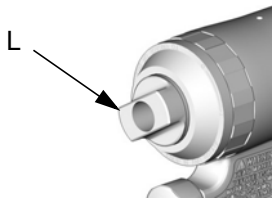
2. **Flush Gun**, page 24.

Pressure Relief Procedure

⚠ WARNING

Read warnings, page 5. Relieve pressure before cleaning or repairing gun.

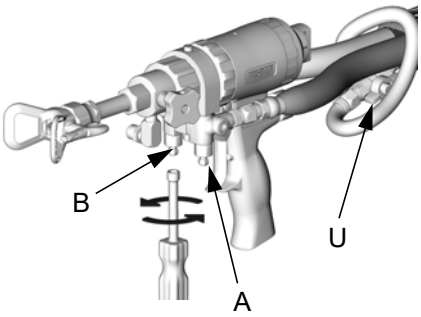
1. Engage piston safety lock (L), page 10.



TI3850a

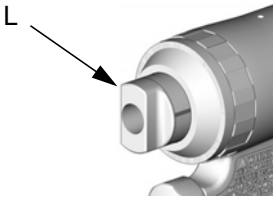
Air supply is required for gun actuation. Do not disconnect gun air supply until fluid pressure is relieved.

2. Close fluid valves A and B. Leave air valve (U) open.



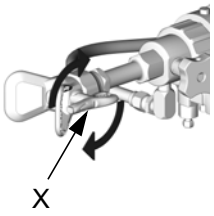
TI5005b

3. Disengage piston safety lock (L), page 10.



TI3849a

4. Turn RAC tip (X) to clean position.

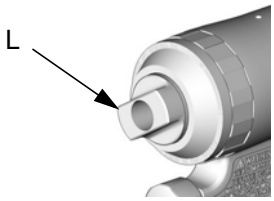


TI5097b

5. Trigger gun onto cardboard or into waste container to relieve pressure.

TI5009a

6. Engage piston safety lock (L), page 10.

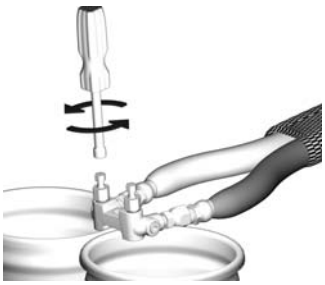


TI3850a

⚠ WARNING

If fluid in the hose and proportioner is still under pressure, follow the Pressure Relief Procedure in the proportioner manual.

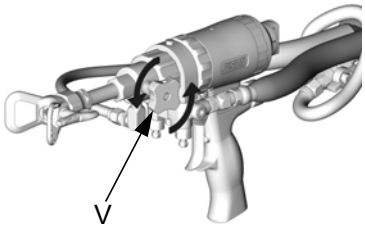
To relieve pressure in the hose after the gun is removed, place the fluid manifold over containers, facing away from you. Very carefully open the fluid valves. Under high pressure, fluid will spray sideways from the fluid ports.



TI2484A

7. Flush static mixer and tip, see **Flushing with Solvent Purge Assembly**, page 17.

8. Shut off air to solvent supply. Open solvent purge knob (V) and relieve pressure in the solvent line.



TI5110b

Optional Configurations

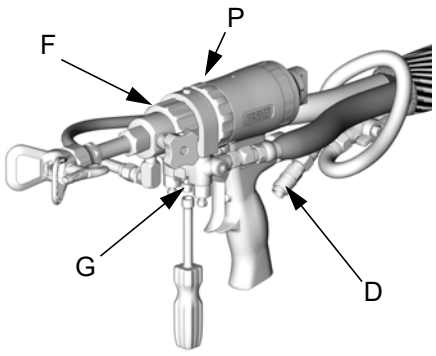
Optional Fluid Manifold Position

Fluid manifold is mounted to bottom of gun, with A side on left, viewed from operator's position at back of gun. If desired, manifold may be moved to top of gun. Doing this will reposition A side parts (fluid inlet, check valve, and fluid housing A side) to right.

CAUTION
To prevent cross-contamination of gun's wetted parts, do not interchange A component (isocyanate) and B component (resin) parts.

1. Follow **Pressure Relief Procedure**, page 19.

2. Disconnect air (D) and remove fluid manifold (G).



3. Unscrew lock ring (P) until front end of gun is loose.

4. Rotate fluid housing (F) 180° and retighten lock ring very securely.

5. Attach fluid manifold. Connect air. Return gun to service.

Optional Hose Position

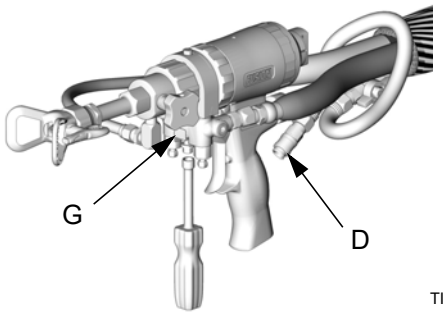
Fluid inlet swivels and air quick disconnect fitting point to rear. If desired, these positions can be changed so hoses travel downward.

Fluid Hoses

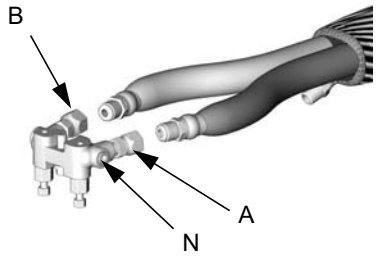
CAUTION
To prevent cross-contamination of gun's wetted parts, do not interchange A component (ISO) and B component (RESIN) parts.

1. Follow **Pressure Relief Procedure**, page 19. Also relieve system pressure and flush both fluid hoses, see proportioner manual.

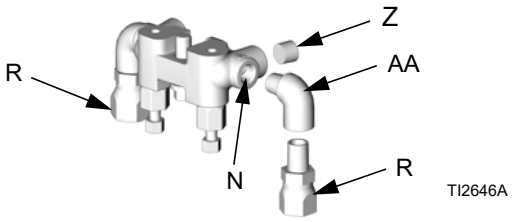
2. Disconnect air (D) and remove fluid manifold (G).



3. Disconnect fluid hoses from inlet swivels (A, B). Remove swivels. Remove plugs from optional inlets (N).



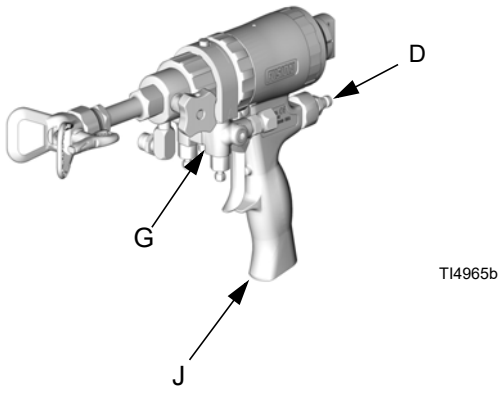
4. Apply thread sealant to plugs (Z), elbows (AA), and male threads of swivels (R). Install elbows (V) in optional inlets (N), facing down. Install swivels (A, B) in elbows. Be sure to install A swivel (smaller) in A side. Install plugs (Z) where swivels had been. Torque all parts to 235-245 in-lb (26.6-27.7 N•m).



5. Connect appropriate hoses to A and B swivels.

Air Hose

1. Remove fitting (D) and plug (J). Reverse positions. Apply thread sealant and torque to 125-135 in-lb (14-15 N•m).

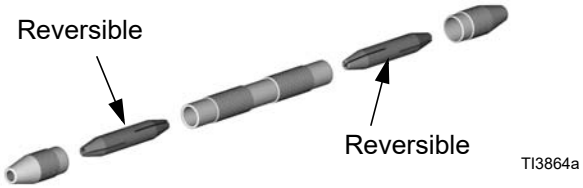


2. Attach fluid manifold (G). Connect air. Return gun to service.

Maintenance

Supplied Tool Kit

- Hex Nut Driver; 5/16
- Screwdriver; 1/8 blade
- #81, 60, 58, and 56 drill bits.
- 117661 Pin Vise; dual reversible chucks



- Drill Bit Kit 119386.

Keep Gun Clean

Keep gun clean with accessory gun cover 244915.

Applying a light coat of lubricant will make cleaning easier. Lubricate threads and outside of lock ring (11) to ease disassembly. Use Fusion Gun Lubricant 118665.

As Needed

1. **Clean Outside of Gun**, page 24.
2. **Clean Air Cap**, page 24.
3. **Clean Muffler**, page 24.
4. **Clean Fluid Manifold**, page 24.
5. **Clean Slip-Fit Polycarballoy Mix Module**, page 25.

Daily

Follow **Shutdown**, page 18.

Weekly to Monthly

1. Clean **Check Valves**, page 38. Check o-rings and screens.
2. Check that piston safety lock threaded connection is tight, page 41.

Flush Gun

If it is necessary to flush the mix module, use following procedure.

WARNING

Read warnings, page 4.

1. Follow **Pressure Relief Procedure**, page 19.
2. Flush with a compatible solvent.
3. Flush into a grounded metal pail, holding a metal part of fluid manifold firmly to side of pail. Use the lowest possible fluid pressure when flushing.

Solvent Flush Kits 248139 and 248229 are available as accessories.

Clean Outside of Gun

Wipe off outside of gun with compatible solvent.

CAUTION

Use N Methyl Pyrrolidone (NMP), Dynasolve CU-6, Dzolv, or equivalent to soften cured material when cleaning the outside of gun. **Do not use as flushing solvents.**

Clean Air Cap

Soak air cap in compatible solvent. If necessary, clean gently with stiff brush.

Clean Spray Tip

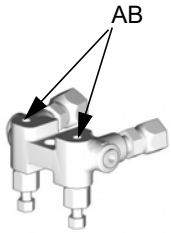
Clean spray tip with a solvent soaked brush. Clean front of tip frequently to reduce fluid build up. Clean tip and tip guard at the end of each work day.

Clean Muffler

A partially plugged muffler will slow gun actuation. Remove and clean muffler with compatible solvent.

Clean Fluid Manifold

Clean fluid manifold sealing faces with compatible solvent and a brush whenever removed from gun. Be sure to clean the two fluid ports (AB) in the top mating surface. Do not damage the flat sealing surfaces. Cover with Fusion Lubricant 118665 if left exposed, to seal out moisture.



TI2411-1

Clean Mixer

The center mix element can be pressed out, front to back, even if fully cured. The mix element can then be cleaned with a wire brush.

Clean Slip-Fit Polycarballoy Mix Module

1. Follow **Pressure Relief Procedure**, page 19.

2. **Flush Gun**, page 24.

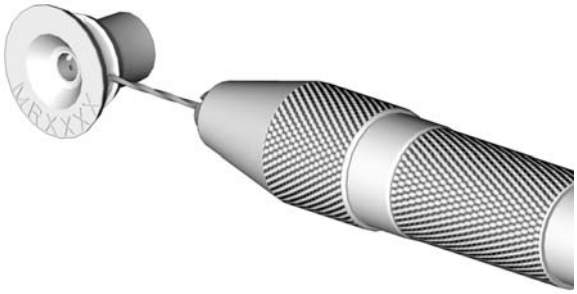
3. Remove mix module, page 34.

CAUTION
To avoid damaging mix module, do not force drill bits when cleaning impingement ports. Some ports are offset or angled.

4. See FIG. 1 and FIG. 2. Clean mix module impingement ports (IP) with appropriate size drill (supplied). See identification chart under **Drill Bit Kits**, page 51. See the recorded drill bit size from step 11 page 16.

- Component B (RES) impingement ports, at rear of mix module, are angled toward front of gun. See FIG. 2.
- When cleaning do not scratch the sealing edges and ports.

5. Reassemble, page 34.



TI3863a

FIG. 1. Cleaning Component A (ISO) Ports

TI3862a

FIG. 2. Cleaning Component B (Resin) Ports

Troubleshooting

1. Follow **Pressure Relief Procedure**, page 19, before checking or repairing gun.

2. Check all possible problems and causes before disassembling gun.

CAUTION
To prevent cross-contamination of the gun's wetted parts, do not interchange A component (isocyanate) and B component (resin) parts.

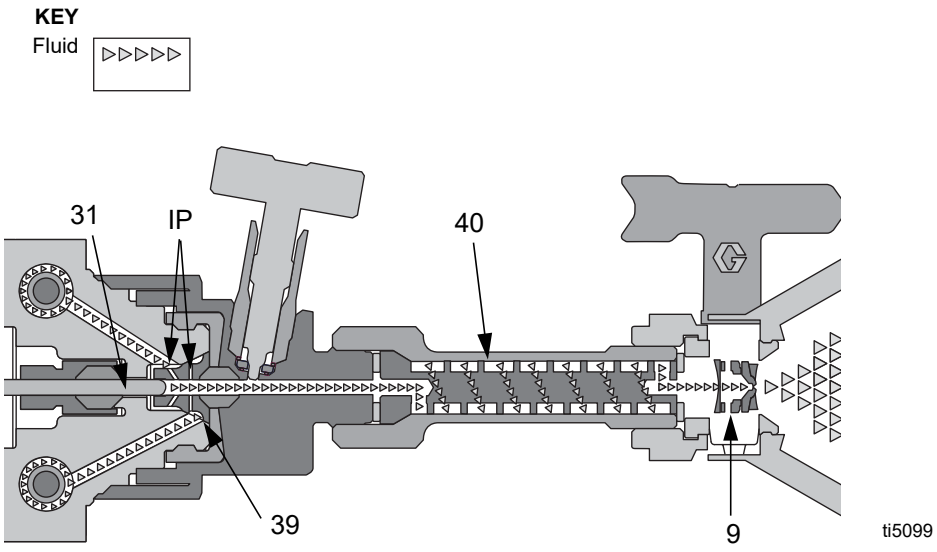
PROBLEM	CAUSE	SOLUTION
Gun does not fully actuate when triggered.	Piston safety lock engaged.	Disengage piston safety lock, page 10.
	Plugged muffler (22).	Clean, page 24.
	Damaged air valve o-rings (24).	Replace, page 41.
Fluid does not spray when gun is fully actuated.	Closed fluid valves (12b).	Open.
	Plugged impingement ports.	Clean, page 25.
	Plugged check valves (36).	Clean, page 38.
Gun actuates slowly or with delayed action.	Plugged muffler (22).	Clean, page 24.
	Damaged piston o-rings (16, 19).	Replace, page 39.
	Dirty air valve, or damaged o-rings (24).	Clean air valve or replace o-rings, page 41.
	Mix module nut (25) too tight.	Loosen nut, then retighten, page 33.
	Loose lock ring (11).	Tighten, use tool if necessary**Conversion Kit 248603**, page 11.
Purge rod will not actuate.	No air pressure.	Connect air supply.
	Low air pressure.	Set air pressure above 80 psi (0.56 MPa, 5.6 bar).
	Buildup on purge rod (31).	Clean purge rod.
Pressure imbalance.	Plugged impingement ports.	Clean, page 25. Reinstall mix module, page 34.
	Plugged check valves (36).	Clean, page 38.
	Viscosities not equal.	Adjust temperature to compensate. See Drilling of Mix Modules, page 15.
	Ratio not equal.	See Drilling of Mix Modules, page 15.

PROBLEM	CAUSE	SOLUTION
Fluid does not shut off when fluid valves are closed.	Damaged fluid valves (12b).	Replace.
Air leakage around fluid housing.	Damaged or missing o-ring (20).	Replace.
Air leakage from piston safety lock.	Damaged or missing o-rings (18).	Replace, page 39.
Burst of air from muffler when gun is triggered.	Normal.	No action required.
Steady air leakage from muffler.	Damaged air valve o-rings (24).	Replace, page 41.
	Damaged piston o-rings (16, 19).	Replace, page 39.
Air leakage from front air valve.	Damaged air valve o-rings (24).	Replace, page 41.
Component B (resin) leak from fluid housing.	Worn rear rod seal.	**Adjust Rear Rod Seal**, page 37.
Cross Contamination of A and B components.	Worn out mix module.	Replace.
	Sealing surface OD not clean.	Clean sealing surface on fluid housing.
Air leakage from holes on solvent purge assembly.	Cleanoff air valve open.	Close cleanoff air valve tightly. Cleanoff air valve should never be open when using solvent purge gun.
Fluid leakage from holes on solvent purge assembly.	Mix module nut is only handtight.	Tighten mix module nut 1/12 with wrench.

Theory of Operation

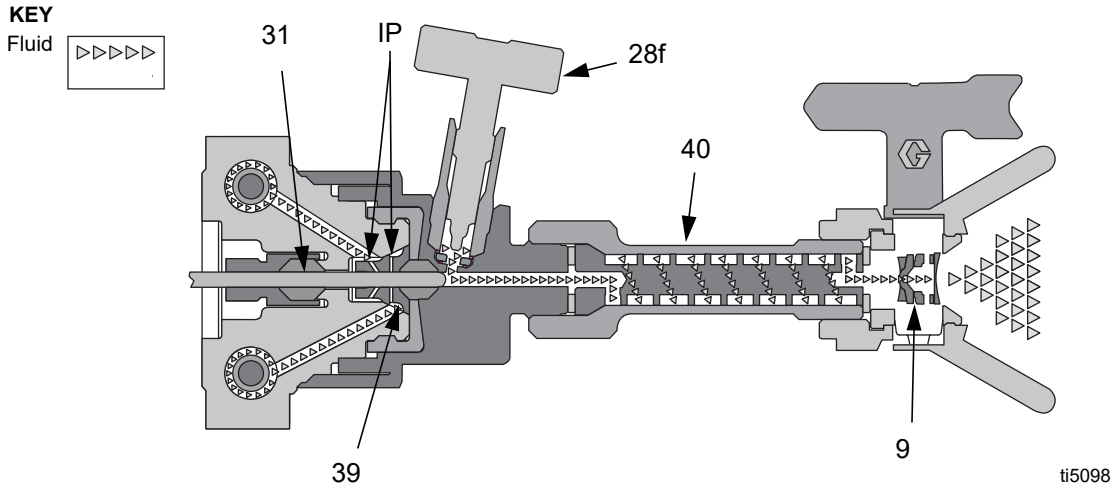
Gun Triggered (Fluid Spraying)

Purge rod (31) moves back, opening impingement ports (IP). Components A and B combine in mix module (39). Fluid mixes in static mixer chamber (40) and sprays from RAC tip (9).

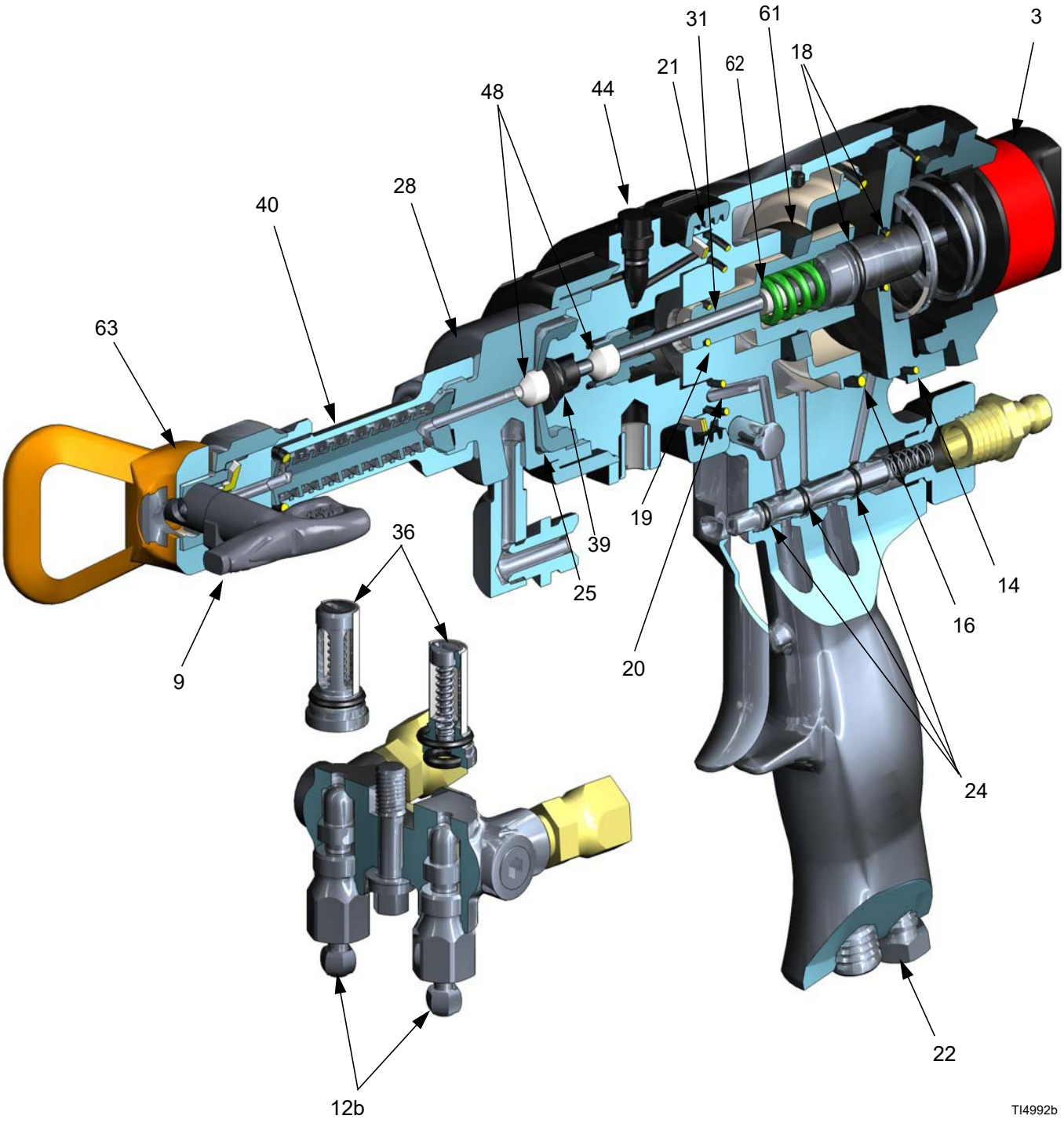


Gun Detriggered (Mechanical and Solvent Purging)

Purge rod (31) moves forward, closing impingement ports (IP) and shutting off fluid flow. Rod pushes through mix module (39), forcing out excess fluid and restoring proper orifice diameter. Solvent purge knob (28f) is opened, allowing solvent to flush out static mixer (40) and tip (9).



Cutaway View



Repair

Tools Required

Tools needed for complete gun repair:

- adjustable wrench
- flat head screwdriver (included)
- channel-lock pliers (2 pair)
- 5/16 hex nut driver (included)
- o-ring pick
- medium-strength Loctite®
- solvent or alcohol

Lubrication

Liberally lubricate all o-rings, seals, and threads with Fusion Gun Lubricant, 118665. Lubricate threads and outside of lock ring (11).

Disassemble Front End

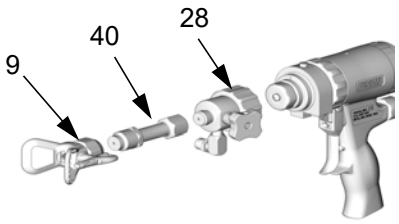
⚠ WARNING

Read warnings, page 5. Proper attachment of front end is critical. Do not operate gun if front end is loose or lock ring is not snug against handle.

1. Follow **Pressure Relief Procedure**, page 19.

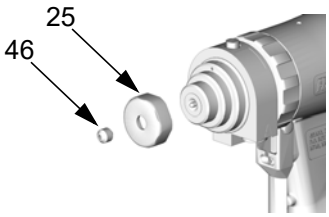
2. **Flush Gun**, page 24.

3. Remove RAC tip (9), static mixer (40) and solvent purge assembly (28).



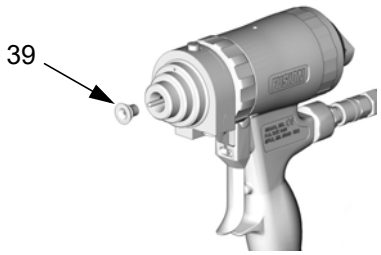
TI5002b

4. Remove mix module nut (25), using a wrench. Remove front seal (46).



TI4986a

5. Remove mix module (39).

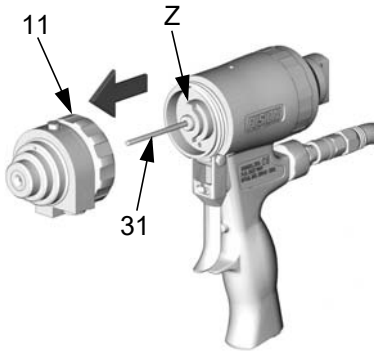


Ti3846a

CAUTION
If lock ring (11) is stuck due to material buildup, do not force it by turning entire front end. Locating tabs (Z) may break off. Soak front of gun in solvent to soften cured material and free lock ring.

CAUTION
To prevent damage to purge rod (31), always pull front end straight off handle (1).

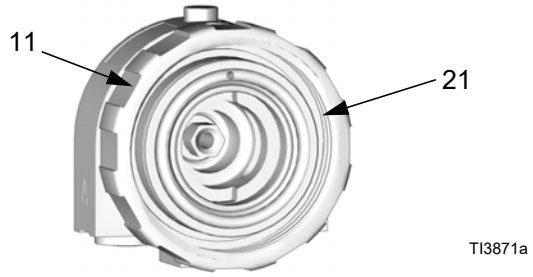
6. Unscrew lock ring (11) to remove front end and mix module. Pull front end straight off handle.



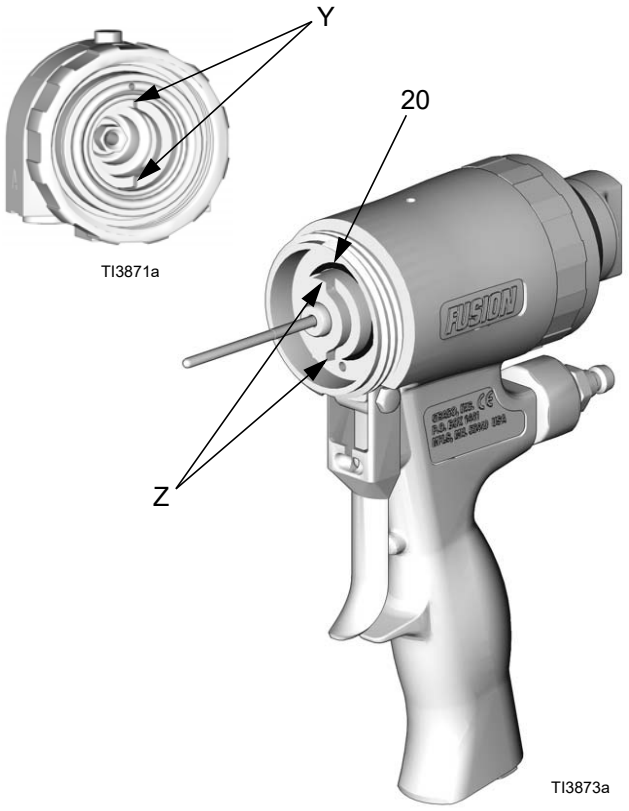
TI3865b

Reassemble Front End

1. Check that o-rings (20, 21) are in position. Liberally lubricate o-rings, threads of lock ring (11) and handle (1), and outside of lock ring.

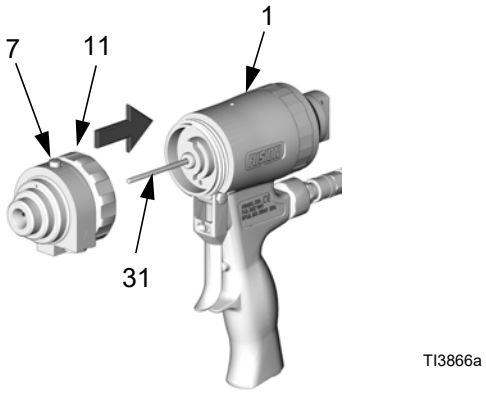


2. Orient front end as required for desired fluid manifold mounting (bottom mounting shown). Align slots (Y) to engage tabs (Z).

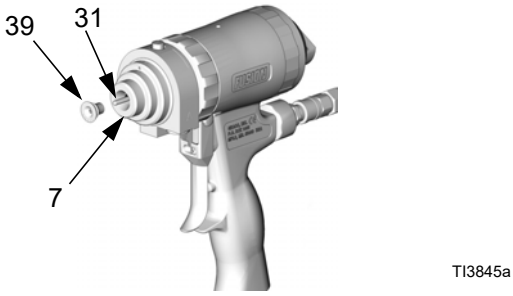


CAUTION
To prevent damage to purge rod (31), always slide front end straight onto purge rod.

3. Carefully slide front end straight onto purge rod (31). Screw lock ring (11) onto handle (1) as far as possible by hand. Push on front end to ensure it is properly seated. Continue screwing lock ring onto handle until tightened very securely. When properly assembled, lock ring is snug against handle.

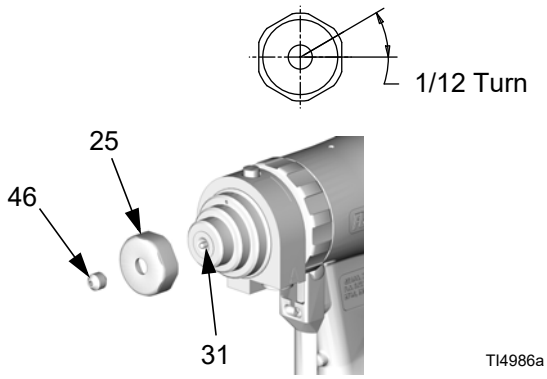


4. Push mix module (39) onto rod (31) as far as possible.

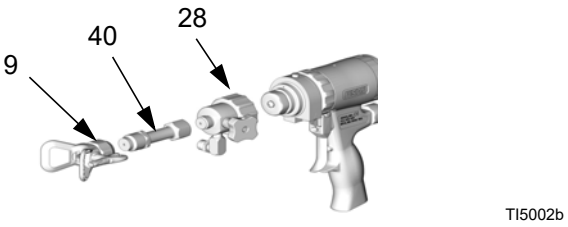


CAUTION
Do not overtighten mix module nut (25). Overtightening can deform impingement holes and cause slow gun actuation.

5. Lubricate all threads and reassemble mix module nut (25) **fingertight**. Tighten additional 1/12 turn with wrench. Install front seal (46) on rod (31).



6. Reinstall solvent purge assembly (28). Lubricate all threads. Install static mixer (40) and RAC tip (9). Tighten with wrench.



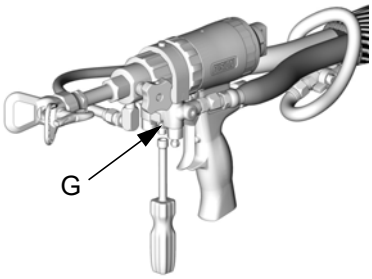
Slip-Fit Polycarballoy Mix Module

See page 50 for available Slip-Fit Polycarballoy Mix Module sizes.

1. Follow **Pressure Relief Procedure**, page 19.

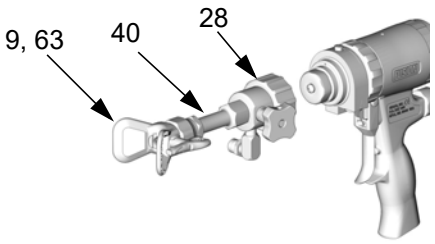
2. **Flush Gun**, page 24.

3. Remove fluid manifold (G). Leave air connected.



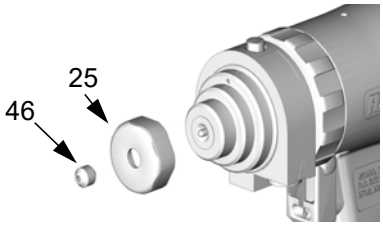
TI4972b

4. Remove RAC tip and guard (9, 63), static mixer (40), and solvent purge assembly (28).



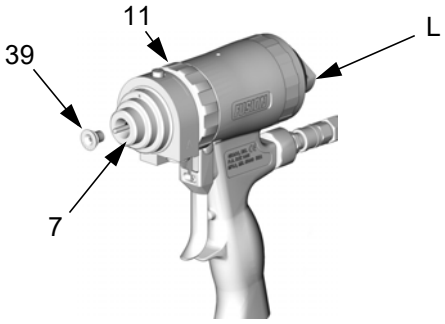
TI5032b

5. Remove mix module nut (25), using a wrench. Remove front seal (46).



TI3843a

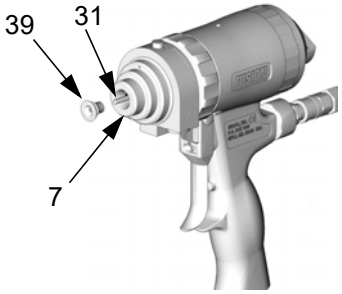
6. Disengage piston safety lock (L), page 10. Trigger and detrigger gun once to release mix module (39) from fluid housing (7). Remove mix module. Engage piston safety lock.



TI3845a

If mix module (39) does not protrude from fluid housing (7), slightly loosen then retighten lock ring (11), to allow gripping of edge for removal.

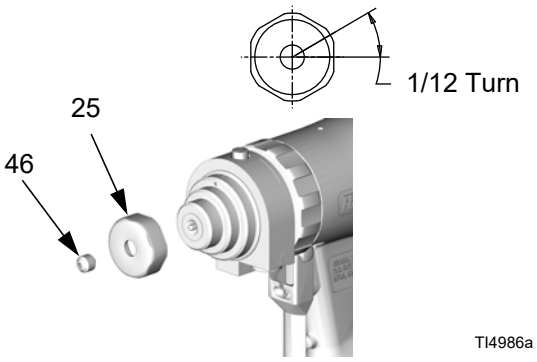
7. Push mix module (39) onto rod (31) as far as possible.



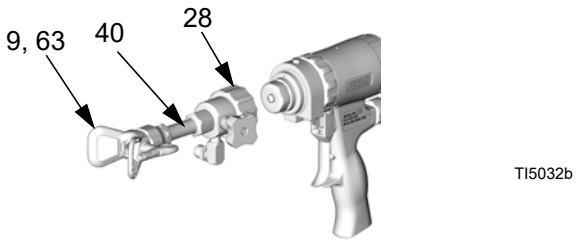
TI3845a

CAUTION
Do not overtighten mix module nut (25). Overtightening can deform impingement holes and cause slow gun actuation.

8. Lubricate all threads and reassemble mix module nut (25) **fingertight**. Tighten additional 1/12 turn with wrench. Install front seal (46) on rod (31).



9. Reinstall solvent purge assembly (28). Lubricate all threads. Install static mixer (40) and RAC tip and guard (9, 63). Tighten with wrench.



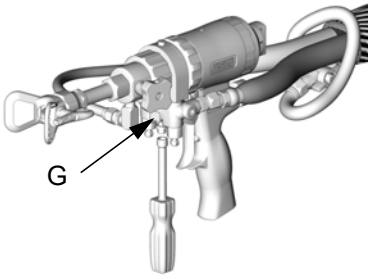
10. Attach fluid manifold. Return gun to service.

Rear Rod Seal

1. Follow **Pressure Relief Procedure**, page 19.

2. **Flush Gun**, page 24.

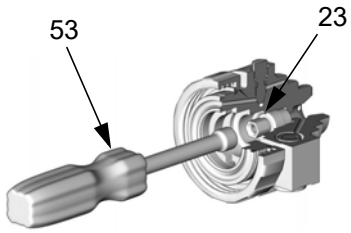
3. Remove fluid manifold (G). Leave air connected.



TI4972b

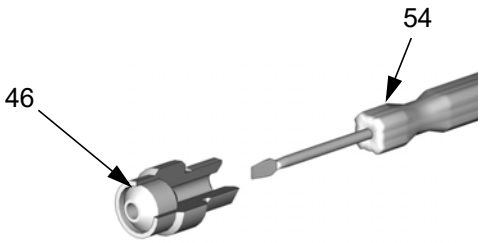
4. **Disassemble Front End**, page 30.

5. Remove rear rod seal nut (23) with nut driver (53).



TI3869a

6. Push out rear seal (46) with screwdriver (54).



TI3872a

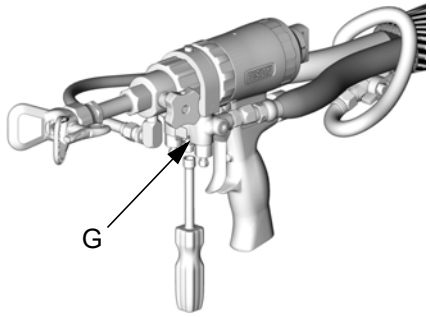
7. Reassemble new rear seal (46) in rear rod seal nut (23). Lubricate threads and install in fluid housing (7) with nut driver.

8. **Reassemble Front End**, page 32.

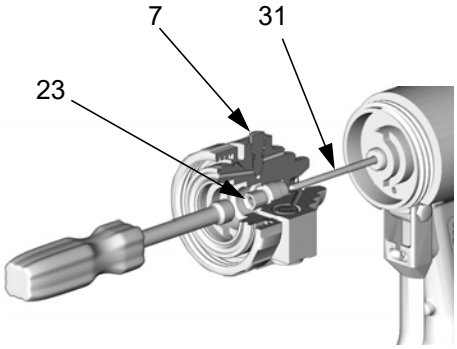
9. Attach fluid manifold. Connect air. Return gun to service.

Adjust Rear Rod Seal

1. Follow **Pressure Relief Procedure**, page 19.
2. **Flush Gun**, page 24.
3. Remove fluid manifold (G). Leave air connected.



4. **Disassemble Front End**, page 30.
5. Assemble fluid housing (7) backwards onto lubricated purge rod (31). Adjust rear rod seal nut (23) with nut driver until drag is felt when sliding on rod.



6. Remove fluid housing (7) from rod (31).
7. **Reassemble Front End**, page 32.
8. Attach fluid manifold. Return gun to service.

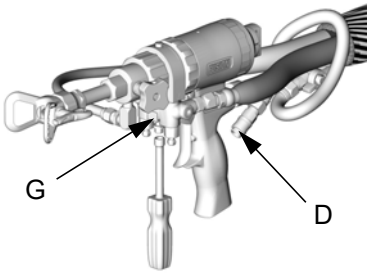
Check Valves

Before disassembling, press on ball (36c) to test check valve for proper movement and spring action.

1. Follow **Pressure Relief Procedure**, page 19.

2. **Flush Gun**, page 24.

3. Disconnect air (D) and remove fluid manifold (G). Clean and inspect check valve mating surfaces and fluid ports.



TI4968b

CAUTION

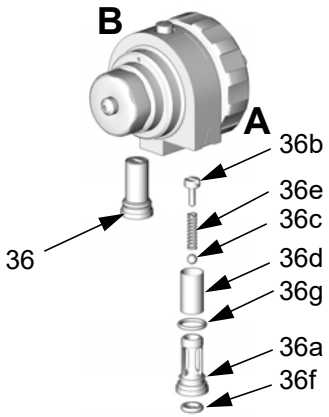
To prevent cross-contamination of the check valves, do not interchange A component and B component parts. The A component check valve is marked with an A.

4. Pry out check valves (36) at notch.

WARNING

Read warnings, page 4. Damaged check valve o-rings (36f, 36g) may result in external leakage. Replace o-rings if any damage is seen.

5. Slide filter (36d) off. Clean and inspect parts. Thoroughly inspect o-rings (36f, 36g). If necessary, remove screw (36b) and disassemble check valve.



TI4987a

Check valve filters are available, see Check Valve Filter Option page 15.

6. Reassemble check valves. Screw (36b) should be flush (within 1/16 in. or 1.5 mm) of housing (36a) surface. Liberally lubricate o-rings (36f, 36g) and carefully reinstall in fluid housing.

7. Attach fluid manifold. Connect air. Return gun to service.

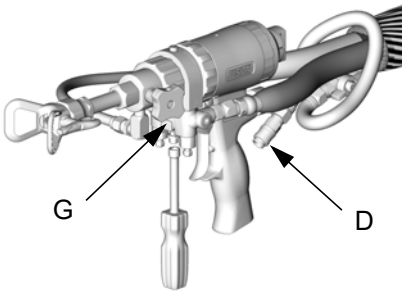
Piston and Purge Rod

Spacer (61) is optional. For more forward travel of piston, remove spacer. Using spacer (61) eliminates “spitting” when gun is closed. Removing spacer (61) allows purge rod to travel further for more efficient purging.

1. Follow **Pressure Relief Procedure**, page 19.

2. **Flush Gun**, page 24.

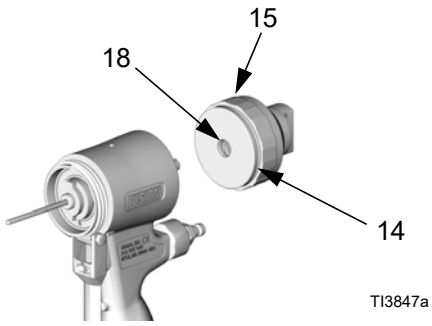
3. Disconnect air (D) and remove fluid manifold (G).



TI4968b

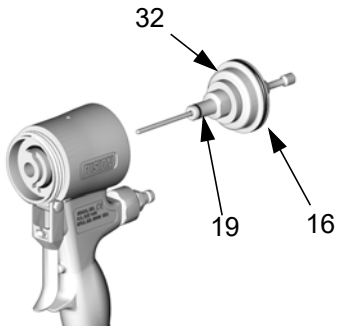
4. **Disassemble Front End**, page 30.

5. Unscrew purge rod stop (15) to remove piston safety lock assembly. Inspect o-rings (14, 18) in place.



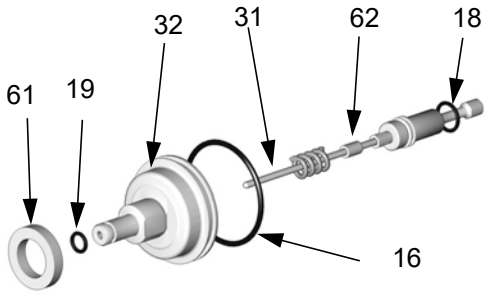
TI3847a

6. Pull purge rod to remove piston (32). Inspect piston o-ring (16) and shaft o-ring (19).



TI4988a

7. Inspect purge rod (31) for scratches or damage. Unscrew rod from piston with nut driver. Inspect o-ring (18). Liberally lubricate with Fusion Gun Lubricant. To reassemble, thread purge rod (31) into piston (32) until rod stops. Spacer (62) acts as a positive stop.



TI3848a

8. Liberally lubricate piston o-rings. Install spacer (61) onto piston assembly. Reinstall piston. Shaft is keyed for proper assembly. Push firmly to seat piston. Rotate piston/purge rod assembly clockwise with nut driver until piston is fully seated.

TI4988a

9. Install piston safety lock assembly until bottomed out.

TI3847a

10. **Reassemble Front End**, page 32.

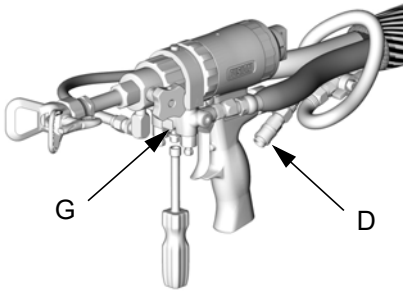
11. Attach fluid manifold. Connect air. Return gun to service.

Piston Safety Lock

1. Follow **Pressure Relief Procedure**, page 19.

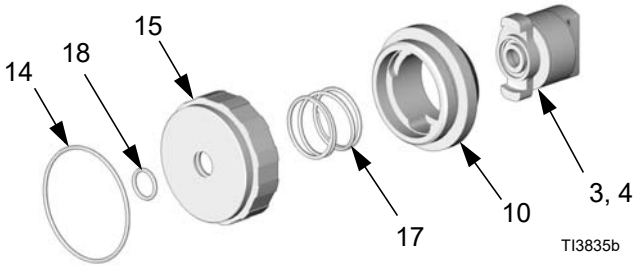
2. **Flush Gun**, page 24.

3. Disconnect air (D) and remove fluid manifold (G).



TI4968b

4. Unscrew cap (10) from stop (15), using two pair of channel-lock pliers. Inspect spring (17), safety actuator (3), bushing (4), and o-rings (14, 18).



TI3835b

5. Lubricate o-rings (14, 18) and piston safety lock actuator (3), and reassemble. Use Fusion Gun Lubricant 118665. Clean threads with solvent or alcohol. Apply medium-strength Loctite® or equivalent to threads on stop (15) and cap (10), and reassemble.

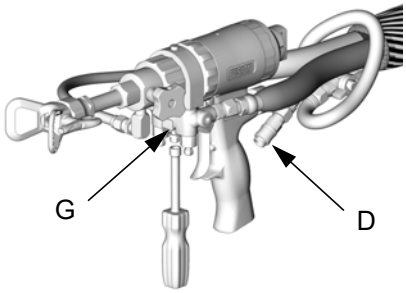
6. Attach fluid manifold. Connect air. Return gun to service.

Air Valve

1. Follow **Pressure Relief Procedure**, page 19.

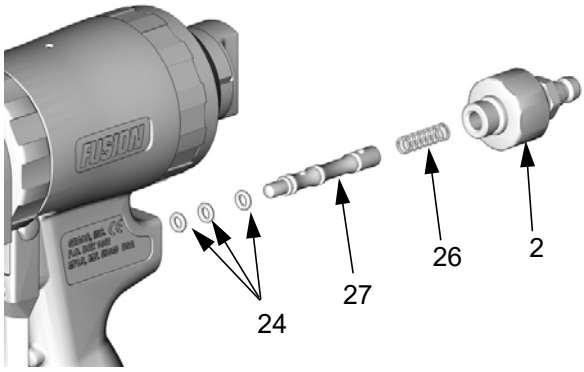
2. **Flush Gun**, page 24.

3. Disconnect air (D) and remove fluid manifold (G).



TI4968b

4. Unscrew air valve plug (2) and remove spring (26). Using small screwdriver (54), push spool (27) out from front. Inspect o-rings (24).



TI4990a

5. Liberally lubricate o-rings and reassemble. Use Fusion Gun Lubricant 118665. Torque plug (2) to 125-135 in-lb (14-15 N•m).

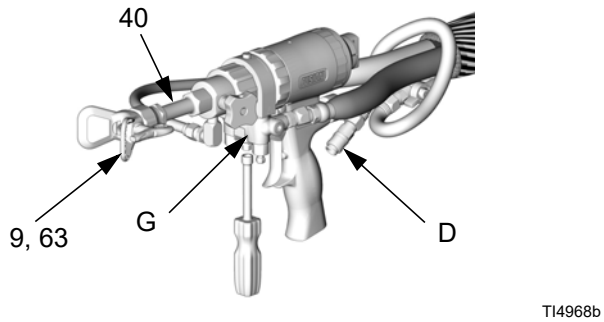
6. Attach fluid manifold. Connect air. Return gun to service.

Solvent Purge Assembly

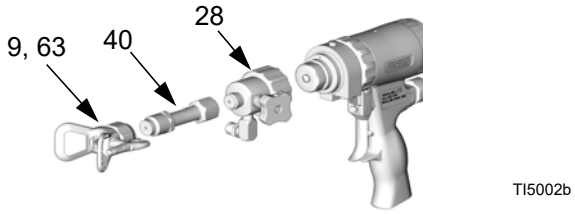
1. Follow **Pressure Relief Procedure**, page 19.

2. **Flush Gun**, page 24.

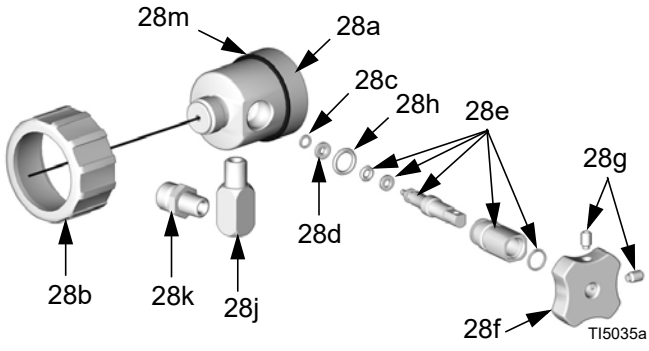
3. Disconnect air (D) and remove fluid manifold (G).



4. Disassemble RAC tip and guard (9, 63), static mixer (40), and solvent purge assembly (28) from front end of gun.



5. Disassemble Solvent Purge Assembly (28a-m). Inspect parts for damage, replace if necessary.



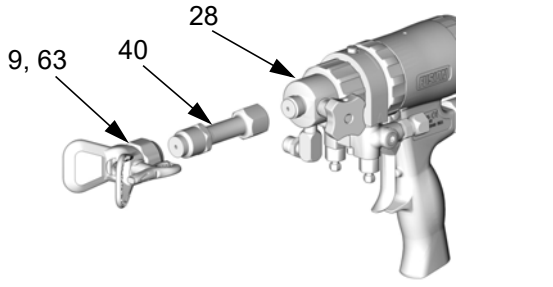
6. Reassemble air cap (28b) to housing (28a), then install (28c) and (28d) into housing (28a).

7. Assemble (28e). Lubricate packings. Slide (28h) over assembled (28e) into groove and lubricate.

8. Assemble knob (28f) onto (28e). Assemble screws (28g) and tighten with a 3/32 in. allen wrench.

9. To position correctly, turn knob (28f) fully counter clockwise to the open position. Screw assembly (28e) into housing (28a). Tighten using the wrench flats on (28e).

10. Reassemble RAC tip and guard (9, 63) and static mixer (40) to solvent purge assembly (28). Tighten with wrench.



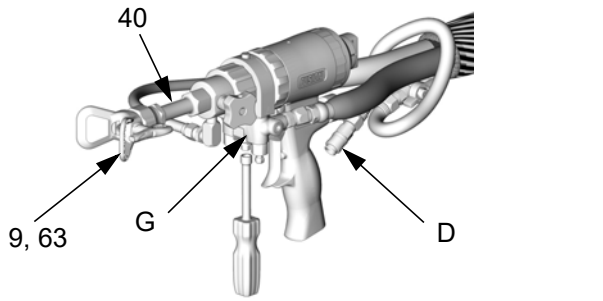
11. Attach fluid manifold. Connect air. Return gun to service.

Static Mixer Assembly

1. Follow **Pressure Relief Procedure**, page 19.

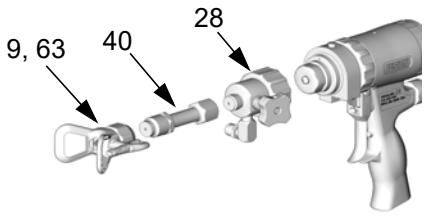
2. **Flush Gun**, page 24.

3. Disconnect air (D) and remove fluid manifold (G).



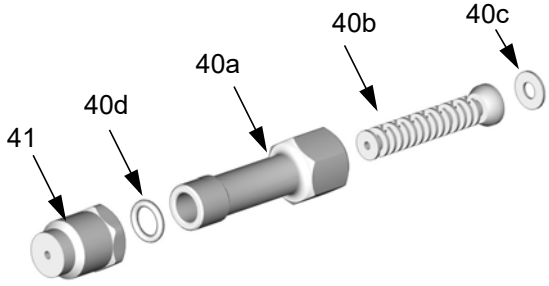
TI4968b

4. Disassemble RAC tip, guard (9, 63) and static mixer (40) from solvent purge assembly (28).



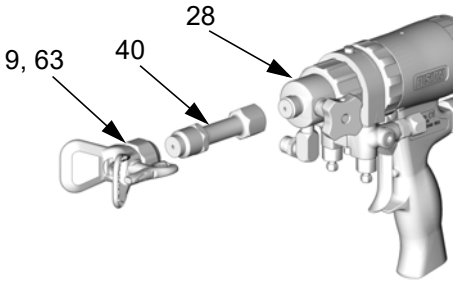
TI5002b

5. Disassemble static mixer housing (40a), mixer (40b), gasket (40c), packing (40d), and adapter (41). Inspect parts for damage, replace if necessary.



6. Reassemble static mixer assembly (40a-e).

7. Reassemble RAC tip, guard (9, 63) and static mixer (40) from solvent purge assembly (28).

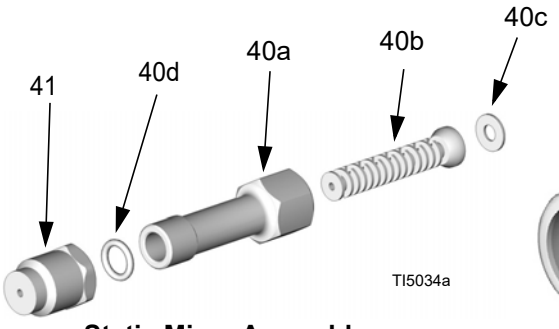


TI5033b

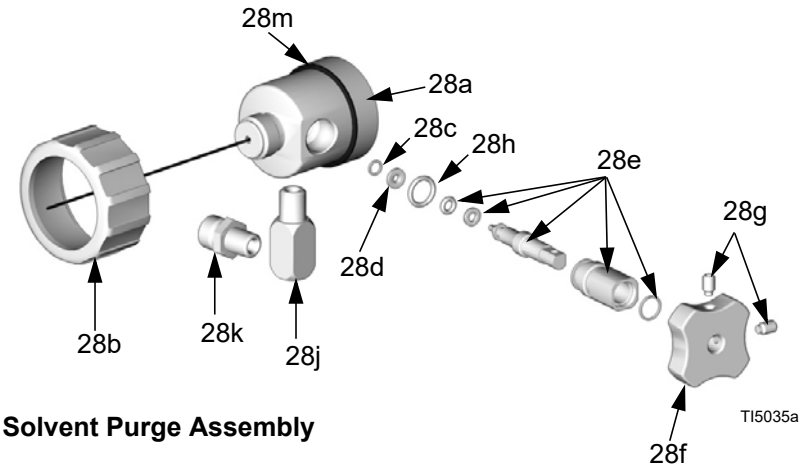
8. Attach fluid manifold. Connect air. Return gun to service.

Parts

248597 and 248647 Solvent Purge Plural Component Spray Guns, and 248603 Conversion Kit



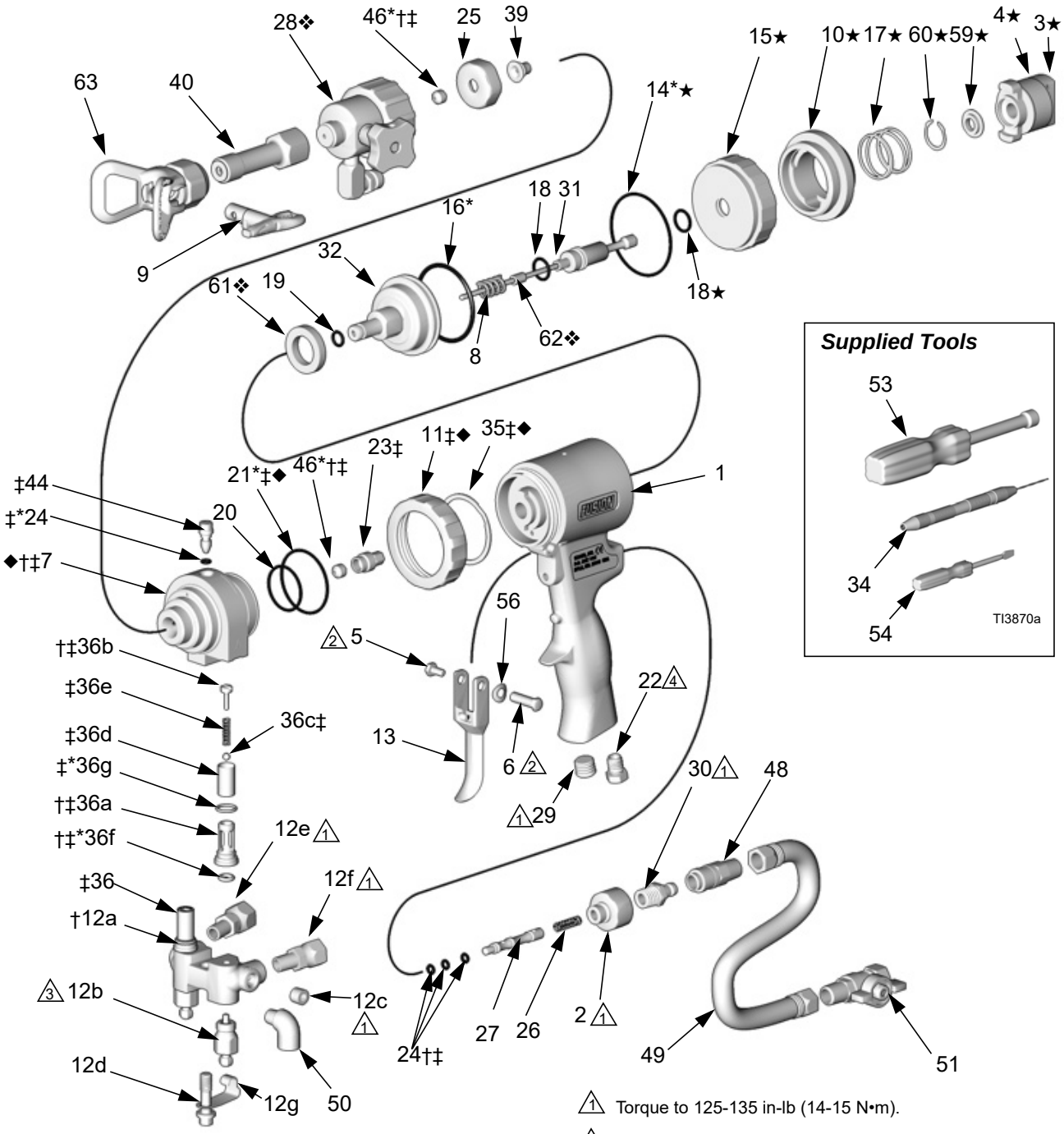
Static Mixer Assembly



Solvent Purge Assembly

Ref.	Part No.	Description	Qty.
28❖	248643	SOLVENT PURGE ASSY.; includes items 28a-28m	1
28a	15E111	. HOUSING	1
28b	15E130	. CAP, air	1
28c	113618	. GASKET, FFR	1
28d	15E137	. SEAT	1
28e	248641	. KIT, retainer	1
28f	15E114	. KNOB	1
28g	101366	. SCREW, set	2
28h	248648	. PACKING KIT, includes 6 o-rings	1
28j	191892	. ELBOW, 90°	1
28k	191872	. ADAPTER	1
28m	119796	. GASKET	1
40	248642	STATIC MIXER; includes items 40a-40d	1
40a	15E125	. HOUSING	1
40b	15E126	. MIXER, static 3 in.	1
40c	166969	. GASKET	1
40d	104892	. PACKING, o-ring	1

248597 Solvent Purge Manual Spray Gun



1 Torque to 125-135 in-lb (14-15 N•m).

2 Torque to 20-30 in-lb (2.3-3.4 N•m).

3 Torque to 32-40 ft-lb (43-54 N•m).

4 Torque to 35-45 in-lb (4-5 N•m).

248597 Solvent Purge Manual Spray Gun

Ref. No.	Part No.	Description	Qty
1	248002	HANDLE	1
2	15B208	PLUG, air valve	1
3★	15C374	ACTUATOR; safety	1
4★	15C390	BUSHING, safety	1
5	203953	SCREW; 10-24 x 3/8 in. (10 mm)	1
6	192272	PIN	1
7†‡◆		HOUSING, fluid	1
8	118145	SPRING, purge rod	1
9	XHD521	TIP, spray, RAC	1
10★	15C373	CAP, rear	1
11‡◆	15B215	RING, lock	1
12	246012	MANIFOLD, fluid; includes 12a-12g	1
12a†		. MANIFOLD	1
12b	246356	. VALVE, fluid	2
12c	100139	. PLUG, pipe; 1/8-27 npt	2
12d	15B221	. BOLT; 5/16-24	1
12e	117634	. SWIVEL, B side; 1/8 npt(m) x no. 6 JIC(f)	1
12f	117635	. SWIVEL, A side; 1/8 npt(m) x no. 5 JIC(f)	1
12g	15B993	. SPRING, ring, lock	1
13	15B209	TRIGGER	1
14*★	248136	O-RING, rod stop; package of 6	1
15★	15C372	STOP, purge rod	1
16*	248135	O-RING, piston; package of 6	1
17★	118144	SPRING, piston safety lock	1
18★	248095	O-RING, purge rod; package of 6	1
19	248096	O-RING, piston shaft; package of 6	1
20	248138	O-RING, housing, small; package of 6	1
21‡◆*	248132	O-RING, housing, large; package of 6	1
22	119626	MUFFLER	1
23‡	15C378	NUT, rod seal, rear	1
24‡*	246354	O-RING; package of 6	1
25	15C377	NUT, mix module	1
26	117485	SPRING, air valve	1
27	15B202	SPOOL, air valve	1
28❖		SOLVENT PURGE ASSY.; includes items 28a-j; see page 45 for parts	1
29	100721	PLUG, pipe; 1/4-18 npt	1
30	117509	QUICK-DISCONNECT, male, air; 1/4 npt(m)	1
31	248001	ROD, purge; includes 1 of item 18	1
32	15C371	PISTON	1
34	117661	VISE, pin; dual reversible chucks	1
35‡◆	116550	RING, retaining	1
36‡	246731	VALVE, check, A side; includes 36a-36g	1
	246352	VALVE, check, B side; includes 36a-36g	1
36a‡†		. HOUSING	1
36b‡†	15B214	. SCREW; 5/16-18 x 1/2 in. (13 mm)	1
36c‡	104396	. BALL; carbide	1
36d‡		. SCREEN; see page 52	1
36e‡	117490	. SPRING	1
36f‡*	248133	. O-RING, check valve face; package of 6	1
36g‡*	248129	. O-RING, check valve housing; package of 6	1
37▲	222385	TAG, warning; not shown	1
39		MODULE, mix, flat, direct impingement; see page 50	1
40		STATIC MIXER; includes items 40a-40d; see page 45 for parts	1
41	15E244	ADAPTER, static mixer; see page 45	1
44‡	15C382	VALVE, cleanoff air	1
46†‡*	248003	SEAL KIT, purge rod; includes 4 seals	1
48	117510	COUPLER, air line	1
49	15B772	HOSE, air; 1/4 npsm (fbe); 18 in. (0.46 m)	1
50	112307	ELBOW, street;1/8 npt (m x f)	2
51	15B565	VALVE, ball; 1/4 npt (m x f)	1
53	117642	NUT DRIVER, hex; 5/16	1
54	118575	SCREWDRIVER; 1/8 blade	1
56	15C480	WASHER, wave	1
57■	118665	LUBRICANT, Fusion Gun; 4 oz (113 gram)	1
59★	15D329	STOP, rod	1
60★	115452	RING, retaining	1
61❖	15E132	SPACER, piston	1
62❖	15E133	SPACER, purge rod	1
63	XHD001	GUARD, tip	1
64	119386	DRILL BIT KIT, not shown	1

* *These parts are only available in repair kits. To select a kit, refer to Gun Repair Kits on page 52.*

† *These parts are not available singly.*

‡ *These parts are included in Front End Replacement Kit 246875 (includes 1 of items 24 and 46).*

★ *These parts are included in Safety Stop Assembly 248028 (includes 1 of item 18).*

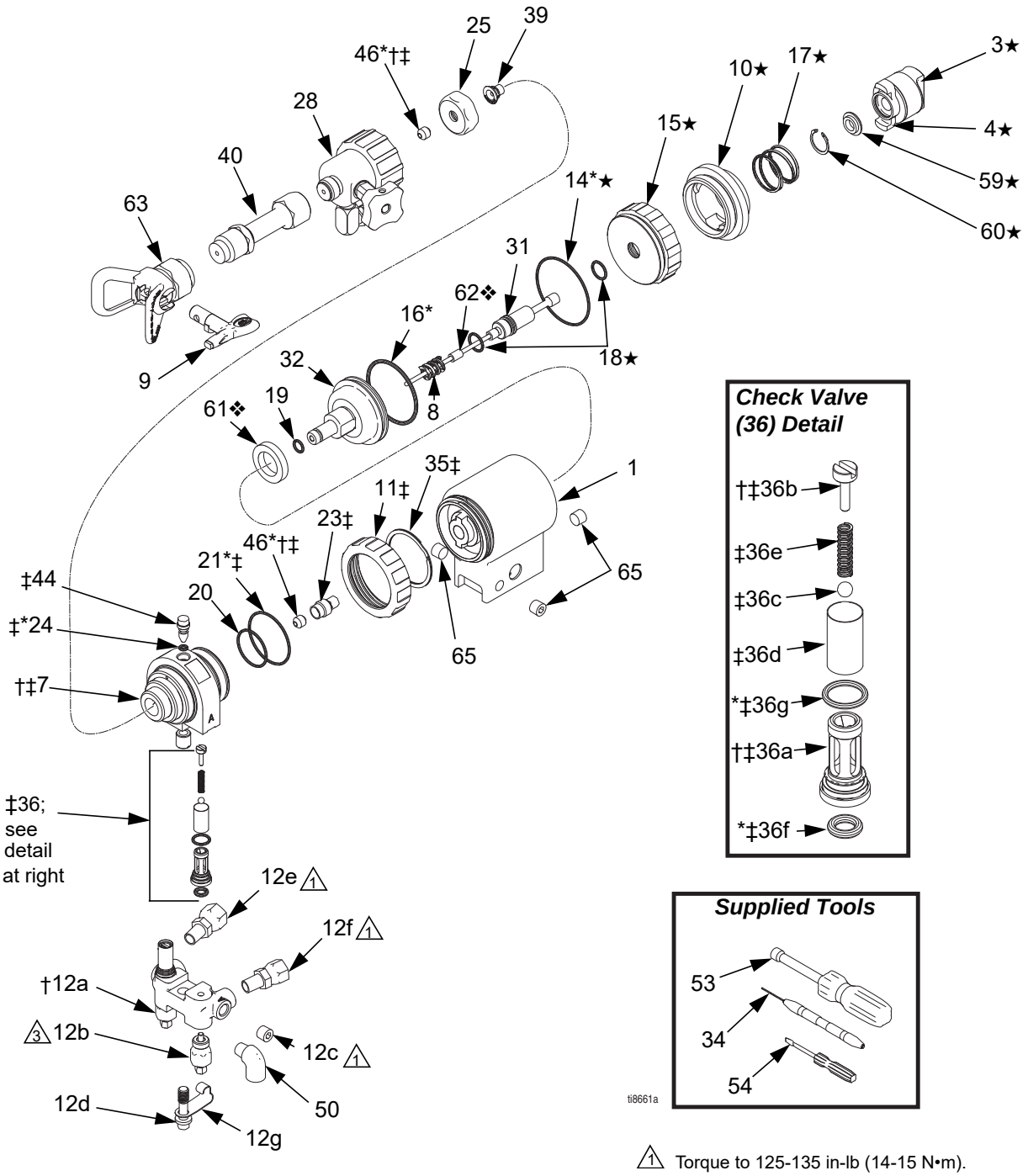
▲ *Replacement Danger and Warning labels, tags, and cards are available at no cost.*

■ *Available in 248279 Kit, package of 10.*

◆ *Available in Fluid Housing Assembly Kit 248004.*

❖ *Available in Solvent Purge Conversion Kit 248603.*

248647 Machine Mount Spray Valve with Manual Solvent Purge



1 Torque to 125-135 in-lb (14-15 N•m).

3 Torque to 32-40 ft-lb (43-54 N•m).

248647 Machine Mount Spray Valve with Manual Solvent Purge

Ref. No.	Part No.	Description	Qty
1	16H942	BODY, mechanical purge	1
3★	15C374	ACTUATOR; safety	1
4★	15C390	BUSHING, safety	1
7†‡◆		HOUSING, fluid	1
8	118145	SPRING, purge rod	1
9	XHD521	TIP, spray, RAC	1
10★	15C373	CAP, rear	1
11‡◆	15B215	RING, lock	1
12	246012	MANIFOLD, fluid; includes 12a-12g	1
12a†		. MANIFOLD	1
12b	246356	. VALVE, fluid	2
12c	100139	. PLUG, pipe; 1/8-27 npt	2
12d	15B221	. BOLT; 5/16-24	1
12e	117634	. SWIVEL, B side; 1/8 npt(m) x no. 6 JIC(f)	1
12f	117635	. SWIVEL, A side; 1/8 npt(m) x no. 5 JIC(f)	1
12g	15B993	. SPRING, ring, lock	1
14*★	248136	O-RING, rod stop; package of 6	1
15★	15C372	STOP, purge rod	1
16*	248135	O-RING, piston; package of 6	1
17★	118144	SPRING, piston safety lock	1
18★	248095	O-RING, purge rod; package of 6	1
19	248096	O-RING, piston shaft; package of 6	1
20	248138	O-RING, housing, small; package of 6	1
21‡◆*	248132	O-RING, housing, large; package of 6	1
23‡	15C378	NUT, rod seal, rear	1
24‡*	246354	O-RING; package of 6	1
25	15C377	NUT, mix module	1
28❖		SOLVENT PURGE ASSY.; includes items 28a-j; see page 45 for parts	1
31	248001	ROD, purge; includes 1 of item 18	1
32	15C371	PISTON	1
34	117661	VISE, pin; dual reversible chucks	1
35‡◆	116550	RING, retaining	1
36‡	246731	VALVE, check, A side; includes 36a-36g	1
	246352	VALVE, check, B side; includes 36a-36g	1
36a‡†		. HOUSING	1
36b‡†	15B214	. SCREW; 5/16-18 x 1/2 in. (13 mm)	1
36c‡	104396	. BALL; carbide	1
36d‡		. SCREEN; see below	1
36e‡	117490	. SPRING	1
36f‡*	248133	. O-RING, check valve face; package of 6	1
36g‡*	248129	. O-RING, check valve housing; package of 6	1
37▲	222385	TAG, warning; not shown	1
39		MODULE, mix, flat, direct impingement, see page 50	1
40		STATIC MIXER; includes items 40a-40d; see page 45 for parts	1
41	15E244	ADAPTER, static mixer; see page 45	1
44‡	15C382	VALVE, cleanoff air	1
46†‡*	248003	SEAL KIT, purge rod; includes 4 seals	1
50	112307	ELBOW, street;1/8 npt (m x f)	2
53	117642	NUT DRIVER, hex; 5/16	1
54	118575	SCREWDRIVER; 1/8 blade	1
57■	118665	LUBRICANT, Fusion Gun; 4 oz (113 gram)	1
59★	15D329	STOP, rod	1
60★	115452	RING, retaining	1
61❖	15E132	SPACER, piston	1
62❖	15E133	SPACER, purge rod	1
63	XHD001	GUARD, tip	1
64	119386	DRILL BIT KIT, not shown	1
65	100139	PLUG, 1/8 NPT	3

* *These parts are only available in repair kits. To select a kit, refer to Gun Repair Kits, page 52.*

† *These parts are not available singly.*

‡ *These parts are included in Fluid Housing Assembly Kit 246875 (includes 1 of items 24 and 46).*

★ *These parts are included in Safety Stop Assembly 248028 (includes 1 of item 18).*

◆ *Available in Fluid Housing Assembly Repair Kit 248004.*

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

■ *Available in 248279 Kit, package of 10.*

Slip-Fit Polycarballoy Mix Module Kits

Slip-Fit Polycarballoy Mix Module Part Numbering Code

Example Part No.	First Two Digits	Second Two Digits	Last Two Digits
XR3535	**XR**=Mechanical purge direct impingement, round pattern	**35**=Component A impingement port size (.035 in.).***	**35**=Component B impingement port size (.035 in.).***
XF3535	**XF**=Mechanical purge direct impingement, flat pattern		

*** Some modules have multiple impingement ports (see below). Size is given as the equivalence of a single port.

Direct Impingement Flat Pattern Guns

Slip-Fit Polycarballoy Mix Module Kit (includes drill bits)	No. of Impingement Ports	Impingement Port Drill Bit Size, nominal**	Counterbore Drill Bit Size, nominal**
XF1313	1	#81	#67
XF1818	1	#77	#67
XF2323	1	#74	N/A
XF2929	1	#69	N/A
XF3535	2	#73	N/A
XF4747	2	#67	N/A
XF5757	3	#67	N/A

For further information, see identification chart under **Drill Bit Kits, page 51.

For further information, see identification chart under **Drill Bit Kits, page 51.

Gun and Palm Grips

Applicator's comfort level with a spray gun is an essential part of the spray foam and polyurea installation process. The applicator's fatigue level can dramatically affect the pattern and productivity of a project. 3M™ Gripping Material Technology is designed to:

- Reduce fatigue
- Provide comfort
- Give thermal protection

Gun Grips can be used alone to provide a strong secure grip, or in combination with the Palm Grips to maximize the comfort and anti-fatigue properties and minimize the applicator's grip strength.

Gun Grip Kit

Graco Gun Grips are designed to be used on Fusion® A, CS, or Probler® P2 Guns.

Kit Part No.	Qty in Kit
17G542	10 Pack
17G543	50 Pack
17G544	100 Pack

Palm Grip Kit

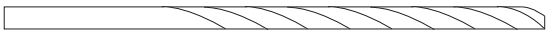
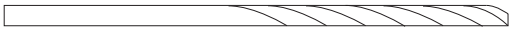
Palm Grips are designed to adhere to any disposable/removable glove.

Kit Part No.	Qty in Kit
17G545	10 Pack
17G546	50 Pack
17G547	100 Pack

Drill Bit Kits

For cleaning gun ports and orifices and sizing mix module orifices. Illustrations are actual size, for comparison.

Not all sizes are used with your gun.

Kit Part No.	Qty in Kit	Drill Bit Size			Illustration
		nominal	in.	mm	
246623	3	#32	0.116	2.90	
246810	3	7/64	0.109	2.77	
246813	3	#39	.099	2.51	
246812	3	#43	.089	2.26	
246624	3	3/32	.094	2.39	
246625	3	#44	.086	2.18	
246811	3	2 mm	.079	2.00	
246626	6	#50	.070	1.78	
246627	6	#53	.060	1.52	
246809	6	#54	.055	1.40	
246628	6	#55	.052	1.32	
246814*	6	#56	.046	1.18	
246629*	6	#58	.042	1.07	
246808*	6	#60	.040	1.02	
246807†	6	#67	.032	0.81	
246630†	6	#69	.029	0.74	
246815†	6	#73	.024	0.61	
276984†	6	#74	.023	0.57	
246631†	6	#76	.020	0.51	
246816†	6	#77	.018	0.46	
246817*	6	#81	.013	0.33	

* Included with gun, one each.

† Included with gun in Drill Bit Kit 119386. Includes one of each.

Gun Repair Kits

Read the chart left to right and top to bottom to find the quantity of each part in the kits.

Ref. No.	Bulk O-ring Kits, (qty)	246351 Check Valve O-ring Kit	248887 Solvent Purge Gun Complete O-ring Kit
14	248136 (6)		1
16	248135 (6)		1
18	248095 (6)		2
19	248096 (6)		1
20	248138 (6)		1
21	248132 (6)		1
24	246354 (6)		4*
28c			1
28h	248648 (6)		1
36f	248133 (6)	2	2
36g	248129 (6)	2	2
40c			1
40d			1
46	248003 (4)		2
*248647 only requires one #24. There will be three spares when ordering the 248887 solvent purge gun complete o-ring kit.			

Check Valve Filter Screen Kits (10 per kit)

80 mesh filter screen is standard with gun.

246357 40 mesh (.015 in., 375 micron)

246358 60 mesh (.010 in., 238 micron)

246359 80 mesh (.007 in., 175 micron)

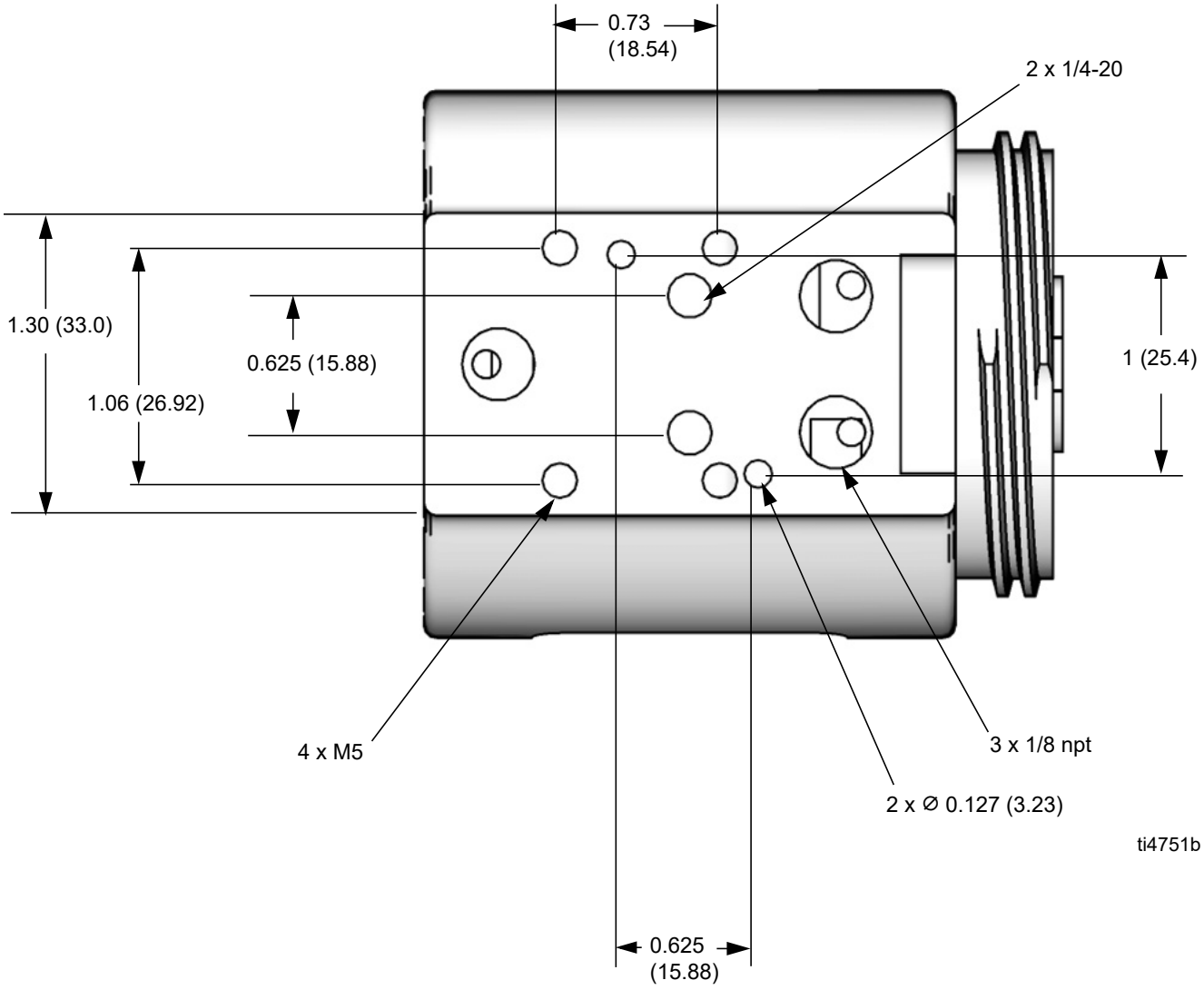
Drill Bit Kit

Drill Bit Kit 119386

20 piece drill bit set #61 - #80.

Model 248647 Mounting Dimensions

Measurement Definition
in. (mm)



Technical Data

Category	Data
Maximum Fluid Working Pressure	3500 psi (24.2 MPa, 242 bar)
Minimum Air Inlet Pressure	80 psi (0.55 MPa, 5.5 bar)
Maximum Air Inlet Pressure	130 psi (0.9 MPa, 9 bar)
Maximum Fluid Temperature	200° F (94° C)
Air Inlet Size	1/4 npt Quick Disconnect Nipple
Solvent Inlet Size	1/4-18 NPSM
A Component (ISO) Inlet Size	-5 JIC; 1/2-20 UNF female swivel in 1/8 npt (f) port
B Component (Resin) Inlet Size	-6 JIC; 9/16-18 UNF female swivel in 1/8 npt (f) port
Sound Pressure	70 dB(A), at 100 psi (0.7 MPa, 7 bar)
Sound Power, measured per ISO 9416-2	79.9 dB(A), at 100 psi (0.7 MPa, 7 bar)
Length	9 in. (228 mm)
Height	8.1 in. (206 mm)
Width	3.5 in. (89 mm)
Weight	3.7 lb (1.68 kg)
Wetted Parts	Aluminum, stainless steel, carbon steel, chemically resistant o-rings, ultra-high molecular weight polyethylene (UHMWPE), Polycarballoy™, Nylon

Static Mixer 248642	Data
Inlet Thread	11/16-16 female straight thread
Outlet thread	11/16-16 male straight thread
Length	2.84 in. (72.2 mm)
Maximum Working Pressure	3500 psi (24.2 MPa, 242 bar)
Wetted Parts	303 stainless steel, Acetal plastic gaskets.

Disposable Static Mixer Adapter 15E244	Data
Inlet Thread	11/16-16 female straight thread
Outlet thread	7/8-14 male straight thread with tapered bell
Usage	Allows the use of disposable mixers, jackets, and RAC assemblies.

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.

In no event will Graco be liable for indirect, incidental, special or consequential damages resulting from Graco supplying equipment hereunder, or 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.

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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.

Original instructions. This manual contains English. MM 310648

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Revision P, February 2016