

Instructions – Parts List



STAINLESS STEEL

307010 rev.L

Hydra-Clean® Spray Gun

1000 psi (6.9 MPa, 69 bar) Maximum Working Pressure

Model 208008, Series D

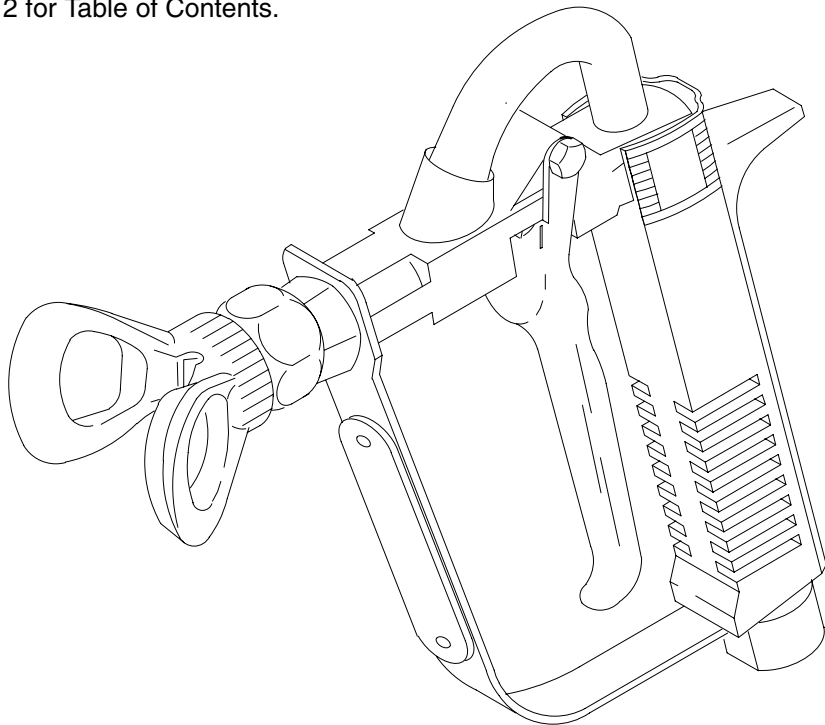
Spray tip not included, purchase separately. See page 12 for Tip Selection Chart.



Important Safety Instructions

Read all warnings and instructions in this manual.
Save these instructions.

See page 2 for Table of Contents.



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Symbols

Warning Symbol



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

Caution Symbol



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

! WARNING



EQUIPMENT MISUSE HAZARD

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

- This equipment is for professional use only.
- Read all instruction manuals, tags, and labels before operating the equipment.
- Use the equipment only for its intended purpose. If you are uncertain about usage, call your Graco distributor.
- Do not alter or modify this equipment. Use only genuine Graco parts and accessories.
- Check the equipment daily. Repair or replace worn or damaged parts immediately.
- Do not exceed the maximum working pressure of the lowest rated system component. This equipment has a **1000 psi (6.9 MPa, 69 bar) maximum fluid working pressure**.
- Route the hoses away from the traffic areas, sharp edges, moving parts, and hot surfaces. Do not expose Graco hoses to temperatures above 180°F (82°C) or below -40°F (-40°C).
- Do not use the hoses to pull the equipment.
- Use only Graco approved hoses. Do not remove hose spring guards, which help protect the hose from rupture caused by kinks or bends near the couplings.
- Use fluids or solvents that are compatible with the equipment wetted parts. See the **Technical Data** section of all the equipment manuals. Read the fluid and solvent manufacturer's warnings.
- Comply with all applicable local, state and national fire, electrical and other safety regulations.



TOXIC FLUID HAZARD

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

- Know the specific hazards of the fluid you are using.
- Store hazardous fluid in an approved container. Dispose of hazardous fluid according to all local, state and national guidelines.
- Always wear protective eyewear, gloves, clothing and respirator as recommended by the fluid and solvent manufacturer.

WARNING



FIRE AND EXPLOSION HAZARD

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

- Ground the equipment and the object being sprayed. See **Grounding** on page 4.
- Provide fresh air ventilation to avoid the buildup of flammable fumes from solvent or the fluid being sprayed.
- Extinguish all the open flames or pilot lights in the spray area.
- Electrically disconnect all the equipment in the spray area.
- Keep the spray area free of debris, including solvent, rags, and gasoline.
- Do not turn on or off any light switch in the spray area while operating or if fumes are present.
- Do not smoke in the spray area.
- Do not operate a gasoline engine in the spray area.
- If there is any static sparking while using the equipment, **stop spraying immediately**. Identify and correct the problem.



SKIN INJECTION HAZARD

Spray from the gun, hose leaks, or ruptured components can inject fluid into your body and cause an extremely serious injury, including the need for amputation. Splashing fluid in the eyes or on the skin can also cause a serious injury.

- Fluid injected into the skin might look like just a cut, but it is a serious injury. **Get immediate surgical treatment.**
- Do not point the spray gun at anyone or at any part of the body.
- Do not put hand or fingers over the spray tip.
- Do not stop or deflect fluid leaks with your hand, body, glove, or rag.
- Do not “blow back” fluid; this is not an air spray system.
- Always have the tip guard and the trigger guard on the spray gun when spraying.
- Be sure the gun trigger safety operates before spraying.
- Lock the gun trigger safety when you stop spraying.
- Follow the **Pressure Relief Procedure** on page 4 whenever you: are instructed to relieve pressure; stop spraying; clean, check, or service the equipment; and install or clean the spray tip.
- Tighten all the fluid connections before operating the equipment.
- Check the hoses, tubes, and couplings daily. Replace worn, damaged, or loose parts immediately. Permanently coupled hoses cannot be repaired; replace the entire hose.

Setup

Pressure Relief Procedure

WARNING



PRESSURIZED EQUIPMENT HAZARD

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

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

1. Lock the gun trigger safety.
2. Shut off the power supply to the pump and close any bleed-type master air valves in the air supply.
3. Unlock the gun trigger safety.
4. Hold a metal part of the gun firmly to the side of a grounded metal pail, and trigger the gun into the pail to relieve pressure.
5. Lock the gun trigger safety.
6. Open the pump fluid drain valve (required in the system), having a container ready to catch the drainage.
7. Leave the drain valve open until you are ready to spray again.

If you suspect that the spray tip or hose is completely clogged, or that pressure has not been fully relieved after following the steps above, very slowly loosen the tip guard retaining nut or hose end coupling to relieve pressure gradually, then loosen completely. Now clear the tip or hose.

Grounding

WARNING



FIRE AND EXPLOSION HAZARD

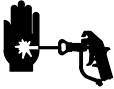
Proper electrical grounding is essential to reduce the risk of fire or explosion which can result in serious injury and property damage. Also read **FIRE OR EXPLOSION HAZARD** on page 3.

1. *Pump or Sprayer:* as instructed in your separate pump or sprayer manual.
2. *Air compressor or hydraulic power supply:* according to local code.
3. *Fluid hoses:* use only grounded hoses with a maximum of 500 feet (150 m) combined hose length to ensure grounding continuity.
4. *Spray gun:* obtain grounding through connection to a properly grounded fluid hose and sprayer or pump.
5. *Fluid supply container:* according to local code.
6. *Object being sprayed:* according to local code.
7. *All solvent pails used when flushing,* 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.
8. *To maintain grounding continuity when flushing or relieving pressure,* always hold a metal part of the gun firmly to the side of a metal pail, then trigger the gun.

Installation



WARNING



SKIN INJECTION HAZARD

To reduce the risk of serious injury, whenever you are instructed to relieve pressure, follow the **Pressure Relief Procedure** on page 4.

NOTE: Numbers and letters in parentheses in the text correspond to the reference numbers and letters in the text and drawings.



WARNING



SKIN INJECTION HAZARD

Be sure your system has a bleed-type master air valve (pneumatic pumps only) and a fluid drain valve. These two accessories help reduce the risk of serious injury, including fluid injection, splashing in the eyes, or on the skin, or injury from moving parts, if you are adjusting or repairing the pump or gun.

1. The bleed-type master air valve relieves air trapped between this valve and the pump after the air regulator is shut off. Trapped air can cause the pump to cycle unexpectedly.
2. The fluid drain valve assists in relieving fluid pressure in the displacement pump, hose, and gun; triggering the gun to relieve pressure may not be sufficient.

1. Connect a grounded fluid hose to the gun inlet.
2. With no tip installed, start the pump/sprayer. Flush it according to the instructions supplied with it. Prime the system with the fluid you are using.
3. **Relieve the pressure.**

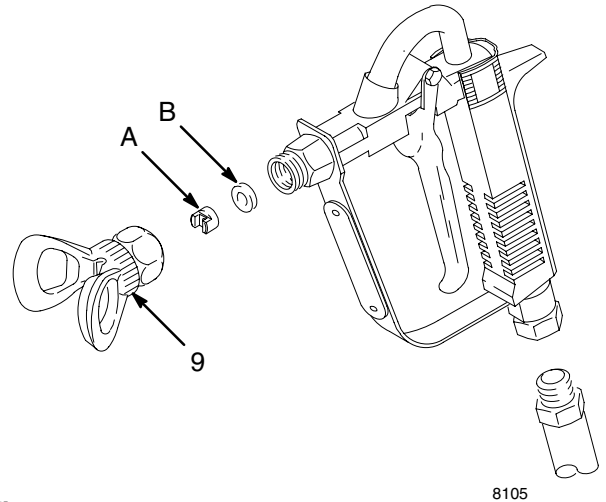


Fig. 1

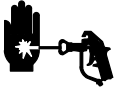
4. With the gun safety latch engaged, unscrew the tip guard (9) and install the tip (A) and gasket (B) in the nut of the tip guard. Screw the assembly firmly onto the gun. Tighten with a wrench. See Fig. 1.

NOTE: Failure to install the tip gasket (B) will result in leaking.

5. Strain the fluid you are spraying if it contains particles which could clog the spray tip.

Operation

⚠ WARNING



SKIN INJECTION HAZARD

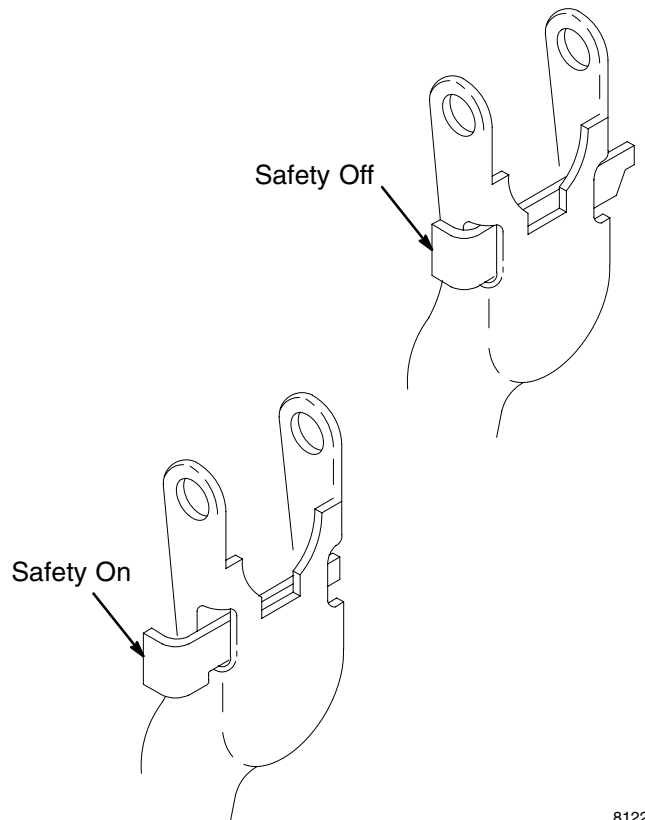
To reduce the risk of serious injury, whenever you are instructed to relieve pressure, follow the **Pressure Relief Procedure** on page 4.

Whenever you stop spraying for a moment, engage the gun safety latch. See Fig. 2.

⚠ WARNING

The wallet-sized warning card provided with this gun should be kept with the operator at all times. The card contains important treatment information should an injection injury occur. Additional cards are available at no charge from Graco Inc.

1. Start the pump. Adjust the fluid pressure so the spray is completely atomized. Always use the lowest pressure necessary to get the desired results. Higher pressure may not improve the spray pattern and will cause premature tip and pump wear.
2. If adjusting the pressure does not give a good spray pattern, try another tip size. Be sure to relieve pressure completely before changing tips.
3. Use a full-open, full-close trigger action. Hold the gun about 14 in. (350 mm) from and at right angles to the work surface. Do not swing the gun in an arc. Practice to find the best length and speed of stroke.



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Fig. 2

Operation

WARNING



SKIN INJECTION HAZARD

To reduce the risk of serious injury, whenever you are instructed to relieve pressure, follow the **Pressure Relief Procedure** on page 4.

Adjust the Spray Pattern

1. To adjust the spray pattern, **relieve the pressure**. Engage the safety latch and loosen the tip guard retaining nut. Turn the spray tip so the groove is horizontal for a horizontal spray pattern, and vertical for a vertical pattern. Tighten the nut.
2. The spray tip orifice size and spray angle determines the coverage and size of pattern. When more coverage is needed, use a larger spray tip rather than increasing fluid pressure.

WARNING



SKIN INJECTION HAZARD

To reduce the risk of a fluid injection injury, never use the gun with the tip guard or trigger guard removed.

CAUTION

Openings in the tip guard are designed to reduce paint buildup on the guard while spraying. Any damage to the sharp edges of the openings causes paint to collect at that area. To reduce the risk of damage, never hang the gun by the tip guard.

Cleaning and Clearing the Spray Tip

Clean off the front of the tip frequently during the day's operation and at the end of the work day. Always **relieve the pressure** and use a solvent soaked brush to clean the spray tip and to keep fluid buildup from drying and clogging the spray tip.

If the spray tip clogs while spraying, release the spray gun trigger, engage the trigger safety, shut off the pump, and **relieve the pressure**. Then, remove the air spray tip and blow out the obstruction with air from the front of the spray tip, or let the spray tip and gun nozzle soak long enough to dissolve the obstruction. If the obstruction will not dissolve, jar it out by tapping the back of the spray gun against a flat surface.

CAUTION

Never soak the entire gun in solvent. Prolonged exposure to solvent can ruin the packings.

Flushing the Gun

WARNING



SKIN INJECTION HAZARD

Before flushing, be sure the entire system and flushing pails are properly grounded. Refer to **Grounding** on page 4.

4. **Relieve the pressure** and remove the spray tip from the gun. Always use the lowest possible fluid pressure, and maintain firm metal-to-metal contact between the gun and the pail during flushing to reduce the risk of a fluid injection injury, static sparking, and splashing.

Relieve the pressure, remove the spray tip, and then flush the gun and spray system with a compatible solvent. Always flush the gun before the fluid being sprayed can dry in it.

Troubleshooting

If the gun leaks at the swivel (21), see **Swivel Repair**, below.

If the gun leaks at the nozzle, try adjusting the trigger free play. See **Needle Adjustment** on page 9. If the leakage is not stopped, the needle (10) or valve seat (8) may need to be replaced. See **Gun Repair** on page 10.

If the gun leaks at the packing nut (14), check the tightness of the packing nut. Remove the tip guard or nozzle extension. Insert a 0.125 in. (3.18 mm) diameter rod into the needle tip and tighten just enough to stop leakage. See Fig. 3. If leakage is not stopped, the packings or needle may need to be replaced. See **Gun Repair**, page 10.

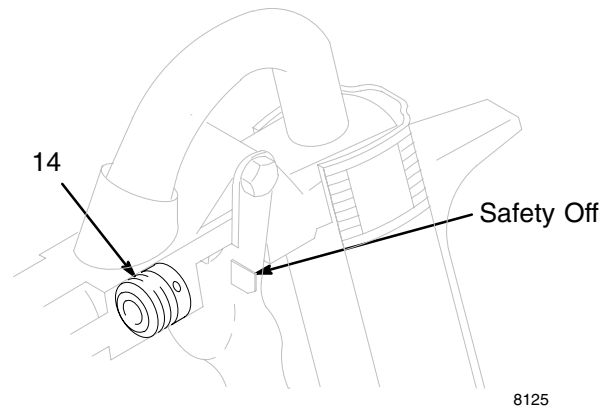


Fig. 3

Service



WARNING



SKIN INJECTION HAZARD

To reduce the risk of serious injury, whenever you are instructed to relieve pressure, follow the **Pressure Relief Procedure** on page 4.

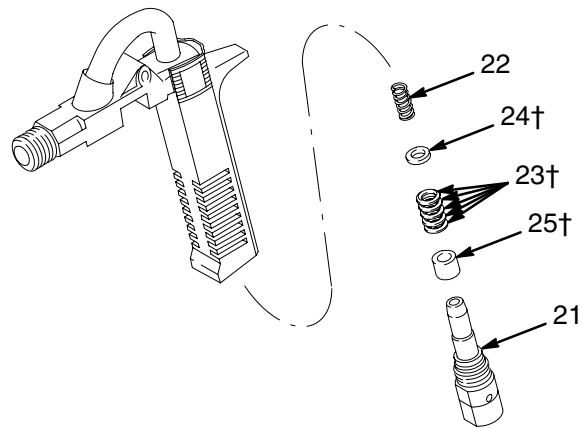
Swivel Repair

1. **Relieve the pressure.**
2. Unscrew the swivel stud (21) from the gun. Remove the spring (22), glands (24†, 25†), and packings (23†) from the swivel housing (26). See Fig. 4.
3. Clean all parts and inspect. The ball bearing in the swivel stud should rotate freely. Replace any worn or damaged parts.

NOTE: Repair kit 207308 is available for the swivel. Use all the parts in the kit for the best results.

4. Install the spring (22), male gland (24†) and five v-packings (23†) one at a time, make sure the lips of the v-packings face into the housing. Install the female gland (25†) and the swivel stud.

3. To adjust, remove the tip guard or nozzle extension. Release the safety latch. Squeeze the trigger and loosen the locknut (4). Insert the wrench (3) into the tip of the needle (10) and turn it in or out until the proper free play is obtained. Tighten the locknut (4).
4. Install the tip guard. Start the system. Trigger the gun and release; fluid flow should stop immediately. Now engage the trigger safety latch. Try to trigger the gun; no fluid should flow. **If the gun fails either test, relieve the pressure** and re-adjust the needle.



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Fig. 4

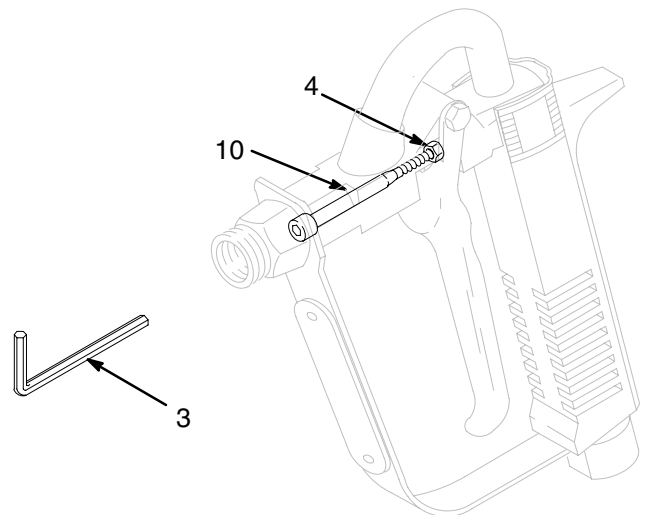
Needle Adjustment



WARNING

Proper adjustment of the needle is essential to be sure the trigger safety latch makes the gun inoperative when engaged. Improper adjustment may allow the gun to be triggered, even with the trigger safety latch engaged, resulting in serious injury, including fluid injection and splashing in the eyes or on the skin.

1. **Relieve the pressure.** Disconnect the hose.
2. With the trigger safety latch (29) engaged, squeeze the trigger. There should be about 0.125 in. (3.18 mm) free play at the end of the trigger. See Fig. 6 on page 10.



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Fig. 5

Service

⚠ WARNING



SKIN INJECTION HAZARD

To reduce the risk of serious injury, whenever you are instructed to relieve pressure, follow the **Pressure Relief Procedure** on page 4.

Procedure on page 4.

Gun Repair (See Fig. 6)

NOTE: Repair kit 208328 is available for the needle packings. Use all the parts in the kit for the best results.

1. **Relieve the pressure.** Disconnect the hose. Remove the tip guard (9) or nozzle extension.
2. Unscrew the seat housing (18) and valve seat (8*) from the gun body.
3. Using the wrench (3), loosen the packing nut (14). Then use the wrench (3) to unscrew the needle (10) from the adjusting nut.
4. Pull back the trigger (27) and remove the packing nut (14) and two glands (11*, 13*), four packings (12*) and locknut (4).
5. Clean and inspect all parts. Replace worn or damaged parts as needed. If using a repair kit, use all the parts in the kit during reassembly.
6. Lubricate the needle and slide it into the front of the gun body (2).
7. Lubricate the new packings and glands. One at a time, place these parts on the needle; the male gland (11*), four v-packings (12*) with the lips of the v-packings facing the front of the gun, and the female gland (13*).
8. Screw the packing nut (14) into the center of the gun body. Screw the locknut (4) onto the needle.
9. Be sure the spring (16) is in the gun body at the rear of the center opening. Then, install the adjusting nut (7). Using the wrench (3), insert through the front of the gun, screw the needle (10) into the adjusting nut until its end is flush with the valve body.
10. Press the new valve seat (8*) into the body. Screw on the seat housing.
11. Adjust the needle before operating the gun. See **Needle Adjustment** on page 9.
12. Be sure the tip guard and trigger guard are installed before using the gun.

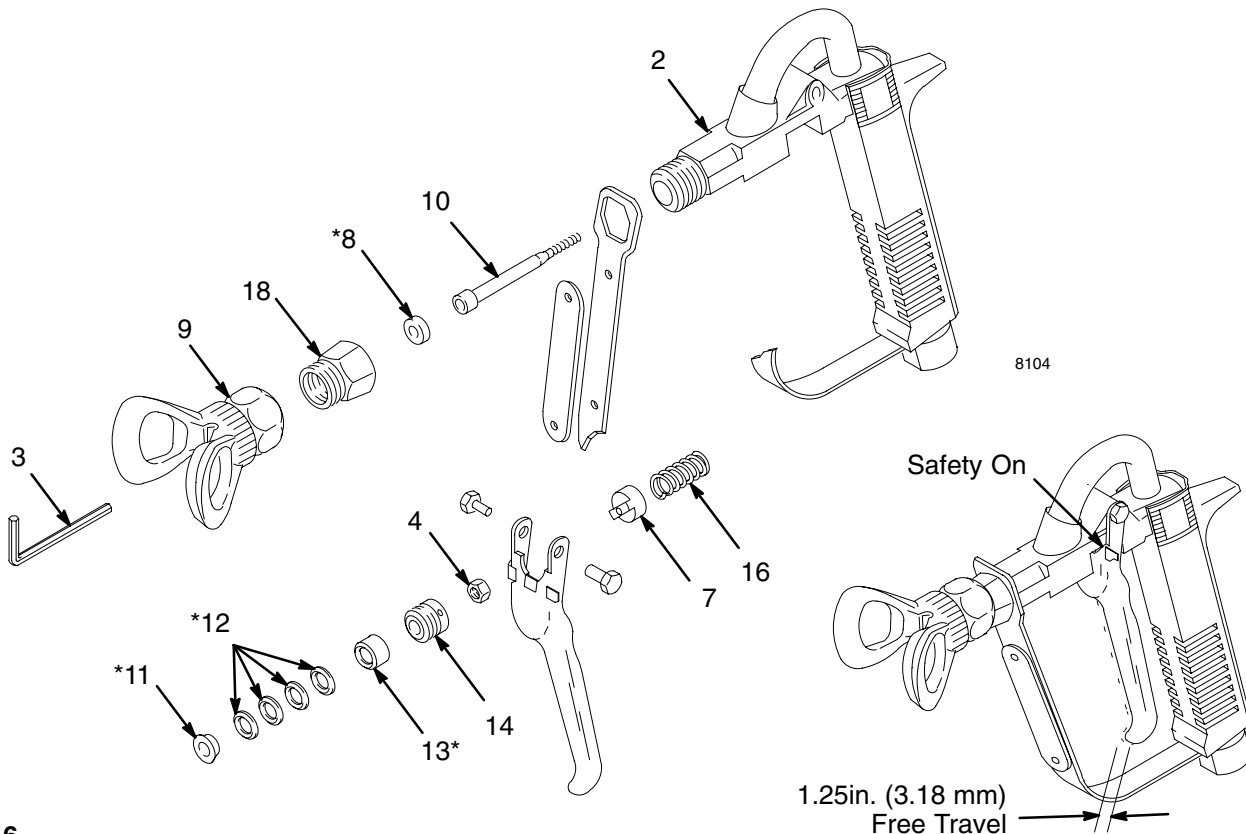
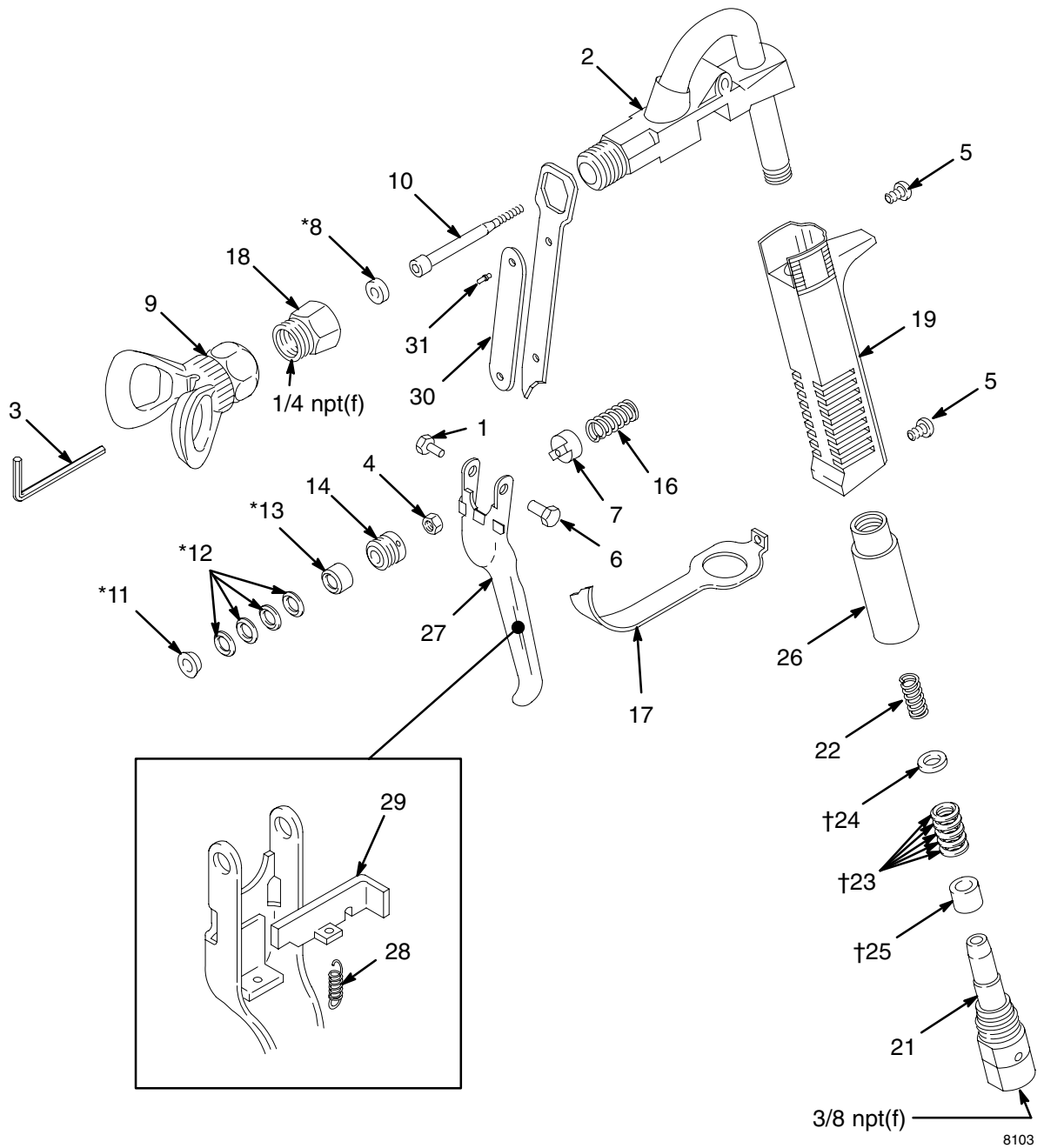


Fig. 6

Parts



Parts

Ref No.	Part No.	Description	Qty	Ref No.	Part No.	Description	Qty
1	203953	SCREW, hex hd cap; w/nylon locking pellet; no. 10–24 x 3/8	1	19	169581	GRIP, gun	1
2	208028	BODY, valve	1	21	206638	STUD, swivel	1
3	101690	WRENCH, hex key; for 0.125 in. (3.18 mm) hex socket in needle	1	22	165085	SPRING	1
4	102931	NUT, hex mach; no. 8–32	1	23†	166226	V-PACKING; PTFE	5
5	104836	SCREW, pan hd mach; no. 8–32 x 7/16; stainless steel	2	24†	166228	GLAND, male packing	1
6	160217	PIN, pivot	1	25†	166229	GLAND-BEARING, female packing	1
7	166808	NUT, adjusting	1	26	168762	HOUSING, swivel	1
8*	166811	SEAT, valve; PTFE	1	27	214660	TRIGGER ASSEMBLY	
9	220250	TIP, guard	1			Includes replacement items 28 & 29	1
10	166814	NEEDLE	1	28	104814	. SPRING, compression	1
11*	166815	GLAND, male packing	1	29	175017	. LATCH, trigger safety	1
12*	166816	V-PACKING; PTFE	4	30	175020	PLATE, warning	1
13*	166817	GLAND, female packing	1	31	102299	RIVET, blind	2
14	166818	NUT, packing	1	32‡	172479	TAG, warning (not shown)	1
16	166820	SPRING	1	33‡	179960	CARD, warning (not shown)	1
17	168761	GUARD, trigger	1			* Included in Repair Kit 208238.	
18	168766	HOUSING, seat	1			† Included in Repair Kit 207308	
						‡ Extra warning tags and cards available at no cost.	

Tip Selection Charts

Blasting Tips and Stainless Steel

Part No.	Number on Tip	Orifice Size in. (mm)	Flow Rate* at 500 psi (0.35 MPa, 35 bar) gpm (l/min.)
102446	0010ss (SST)	0.086 (2.18)	3.5 (13.2)
102450	0020ss (SST)	0.125 (3.18)	7.1 (27.0)

Stainless Steel

Part No.	Number on Tip	Orifice Size in. (mm)	Fan Width Angle at 40 psi (0.03 MPa, 3 bar)	Capacity* at 500 psi (0.35 MPa, 35 bar) gpm (l/min.)
160959	4001	0.26 (0.66)	40°	.35 (1.3)
160970	15015	0.031 (0.79)	15°	.53 (2.0)
160965	25015	0.031 (0.79)	25°	.53 (2.0)
160958	4002	0.036 (0.91)	40°	.71 (2.7)
160964	2503	0.043 (1.09)	25°	1.1 (4.2)
160963	2506	0.062 (1.57)	25°	2.1 (7.9)
103921	6540	0.065 (1.57)	40°	2.3 (8.0)
165477	2510	0.078 (1.98)	25°	3.5 (13.2)
165090	4010	0.078 (1.98)	40°	3.5 (13.2)
165089	2515	0.0937 (2.38)	25°	5.3 (20.1)
160968	1520	0.1093 (2.78)	15°	7.5 (28.4)
160962	2520	0.1093 (2.78)	25°	7.5 (28.4)
160956	4020	0.1093 (2.78)	40°	7.5 (28.4)

Technical Data

Maximum Working Pressure	1000 psi (6.9 MPa, 69 bar)
Wetted Parts	Stainless Steel, PTFE, Brass
Height	8.25 in. (209.6 mm)
Length	6.75 in. (171.5 mm)
Weight	1.25 lb (0.57 kg)
Inlet	3/8 npt(f) swivel

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 by an authorized Graco distributor 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.

FOR GRACO CANADA CUSTOMERS

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Graco Information

TO PLACE AN ORDER, contact your Graco distributor, or call one of the following numbers to identify the distributor closest to you:

1-800-328-0211 Toll Free
612-623-6921
612-378-3505 Fax

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MM 307010

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