

INSTRUCTIONS-PARTS LIST



307-821



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

INSTRUCTIONS

First choice when quality counts.™

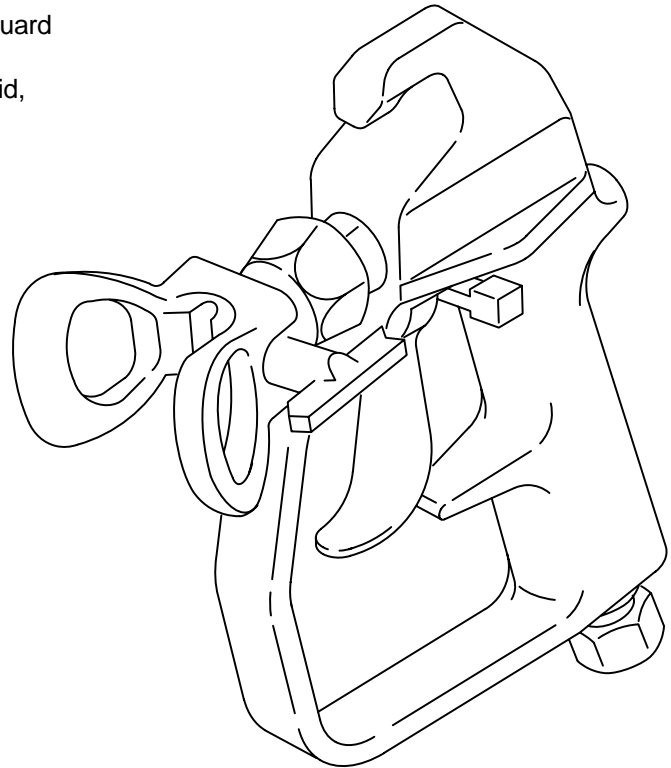
Rev. F
Supersedes D
and PCN E

BLACK MAX® Airless Spray Gun

3600 psi (24.8 MPa, 248 bar) Maximum Working Pressure

Model 220-730, Series D

Includes gun, Reverse-A-Clean IV DripLess™ Tip Guard (part no. 220-422), a SwitchTip™ spray tip (part no. 221-413) for use with medium viscosity fluid, such as latex, and an inlet fluid filter.



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

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

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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



INSTRUCTIONS

EQUIPMENT MISUSE HAZARD

Equipment misuse can cause the equipment to rupture or malfunction 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 not sure, call your Graco distributor.
- Do not alter or modify this equipment.
- Check equipment daily. Repair or replace worn or damaged parts immediately.
- Do not exceed the maximum working pressure of the lowest rated system component. This product has a 3600 psi (24.8 MPa, 248 bar) **Maximum Working Pressure**.
- Use fluids and solvents which are compatible with the equipment wetted parts. Refer to the **Technical Data** section of all equipment manuals. Read the fluid and solvent manufacturer's warnings.
- Do not use 1,1,1-trichloroethane, methylene chloride, other halogenated hydrocarbon solvents or fluids containing such solvents in pressurized aluminum equipment. Such use could result in a chemical reaction, with the possibility of explosion.
- Do not use hoses to pull equipment.
- Route hoses away from traffic areas, sharp edges, moving parts, and hot surfaces. Do not expose Graco hoses to temperatures above 66°C (150°F) or below -40°C (-40°F).
- Comply with all applicable local, state, and national fire, electrical, and safety regulations.
- The wallet-sized warning card provided with this gun should be kept with the operator at all times. The card contains important information on reducing the risk of a fluid injection, and treatment information if a fluid injection injury occurs. Extra cards are available free of charge; contact your Graco distributor.

! WARNING



INJECTION HAZARD

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



- Fluid injected into the skin might look like just a cut, but it is a serious injury. **Get immediate medical attention.**
- Do not point the gun at anyone or at any part of the body.
- Do not put your hand or fingers 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.
- Always have the tip guard and the trigger guard on the 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 9 if the spray tip clogs and before cleaning, checking or servicing the equipment.
- Tighten all fluid connections before operating the equipment.
- Check the hoses, tubes, and couplings daily. Replace worn or damaged parts immediately. Do not repair high pressure couplings; you must replace the entire hose.
- Fluid hoses must have spring guards on both ends, to help protect them from rupture caused by kinks or bends near the couplings.



RECOIL HAZARD

Due to the high pressure fluid emitted, a strong recoil action may occur when you trigger this gun. If you are unprepared, your hand could be forced back toward your body or you could lose your balance and fall, resulting in serious injury.

WARNING



FIRE AND EXPLOSION HAZARD

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



- If there is any static sparking or you feel an electric shock while using this equipment, **stop spraying immediately**. Do not use the equipment until you identify and correct the problem.
- Provide fresh air ventilation to avoid the buildup of flammable fumes from solvents or the fluid being sprayed.
- Keep the spray area free of debris, including solvent, rags, and gasoline.
- Electrically disconnect all equipment in the spray area.
- Extinguish all open flames or pilot lights in the spray area.
- Do not smoke in the spray area.
- Do not turn on or off any light switch in the spray area while operating or if fumes are present.
- Do not operate a gasoline engine in the spray area.
- Ground the equipment and the object being sprayed. Refer to your pump instruction manual.




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.

Installation

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 4

To reduce the risk of static sparking, ground the sprayer and all other spray equipment used or located in the spray area. Check your local electrical code for detailed grounding instructions for your area and type of equipment. Be sure to ground all of this spray equipment:

- *Pump or sprayer:* as instructed in your separate pump or sprayer manual.
- *Air compressor or hydraulic power supply:* according to local code and manufacturer's recommendations.
- *Fluid hoses:* use only grounded hoses with a maximum of 500 ft (150 m) combined hose length to ensure grounding continuity.
- *Spray gun:* obtain grounding through connection to a properly grounded fluid hose and sprayer.
- *Object being sprayed:* according to local code.
- *Fluid supply container:* according to local code.
- *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.
- *To maintain grounding continuity when flushing or relieving pressure,* always hold a metal part of the gun firmly to the side of a grounded metal pail, then trigger the gun.

Installation

Gun

1. This gun includes an inlet filter suitable for latex paint. Contact your Graco distributor to order a stain/enamel filter. To install, screw out the filter cap. Push the filter into the fluid tube. Reinstall the gasket with the lips facing into the gun. Reinstall the cap and tighten with a wrench. See Fig 1.
2. Connect a grounded fluid hose from your pump or sprayer to the gun's 1/4-18 npt(m) inlet.
3. Remove the RAC IV DripLess tip guard from the gun (Model 220-730 only).
4. Flush and then prime the pump or sprayer as instructed in the separate pump or sprayer manual. Relieve fluid pressure and engage the gun safety lever.
5. *If you have a RAC IV DripLess Tip Guard and SwitchTip, refer to the installation instructions below.*

For any other type of tip guard, refer to the instructions supplied with it for installation and operation.

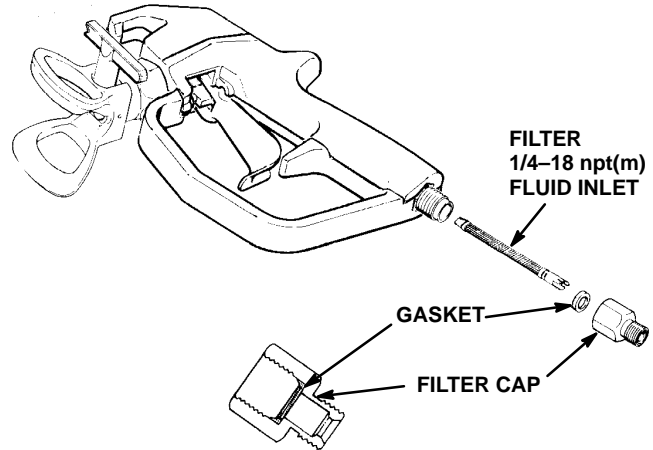


Fig 1

Installation

Reverse-A-Clean IV and SwitchTip

WARNING

Failure to install or use the RAC IV tip guard assembly correctly may result in an undirected spray of paint into the eyes or on the skin of the operator. Be sure you:

- Use the appropriate gasket for the solvent used. See page 8.
- Fully insert the SwitchTip into the guard.
- Fully tighten the guard onto the gun nozzle using a wrench.
- Turn the SwitchTip handle so it is parallel to the gun nozzle. See Fig. 2.
- When replacing a worn spray tip, always install a new gasket and seat.

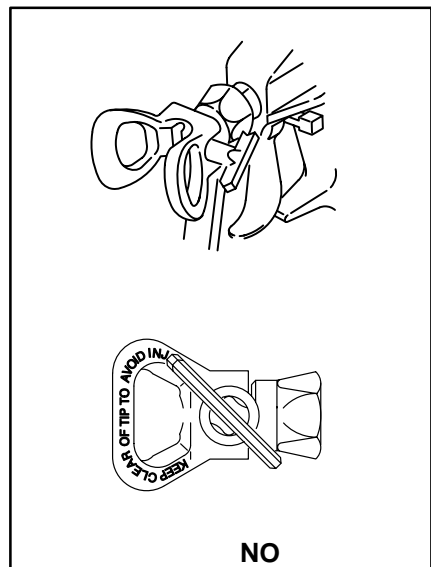
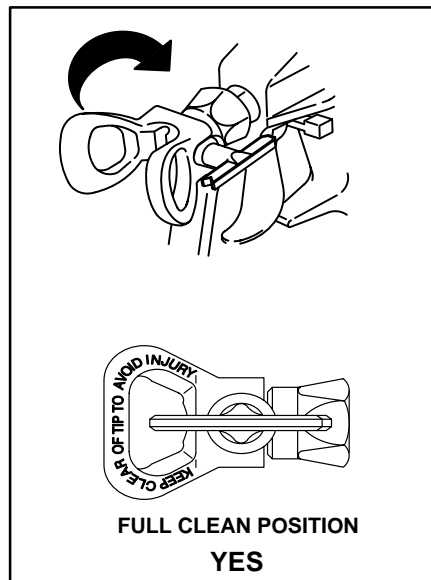
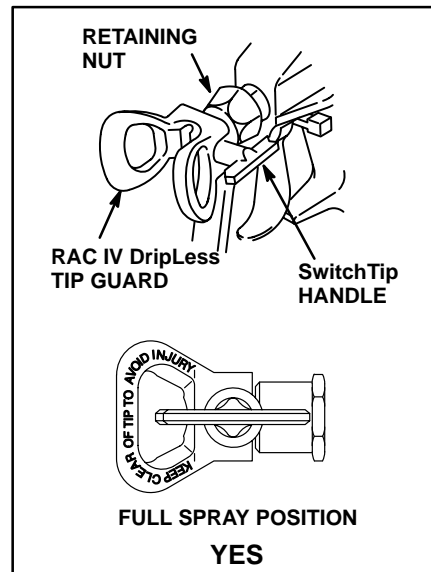


Fig 2

Installation

A black and yellow gasket are supplied with each SwitchTip. The solvent you use determines which gasket to use with the RAC IV. The new flat-backed seat accepts either gasket. If you have an older RAC IV which you plan to use with this gun, you must install the new style seat.

When to use the black rubber gasket

The black rubber gasket is for use ONLY with latex and oil-based paints, stoddard solvents, mineral spirits, turpentine and water. When using this gasket, the SwitchTip can be removed and replaced without using tools.

When to use the yellow plastic gasket

The yellow plastic gasket can be used with the same fluids as the black rubber gasket AND with most other solvents. When using this gasket, you must loosen the RAC IV retaining nut to remove the SwitchTip.

NOTE: The spray tip supplied with this gun is for use with medium viscosity fluid, such as latex paint. See **AVAILABLE TIPS**, page 12, or contact your Graco distributor to help you select the right tip for your job.

Install the SwitchTip in the tip guard. The flange on the cylinder fits into the slots at the base of the tip guard. See Fig 3.

Place the seat on the end of a pencil, curved side out. Guide the seat into the retaining nut and turn it until it straddles the cylinder. Drop in the appropriate gasket and press it down. If using the yellow plastic gasket, be sure the flat side faces out.

Screw the RAC IV retaining nut snugly onto the gun, holding the orange tip guard in the desired position. Finish tightening with a wrench.

⚠ WARNING

To reduce the risk of fluid splashback in to the eyes or on the skin:

USE THE BLACK RUBBER GASKET ONLY with latex and oil-based paints, stoddard solvents, mineral spirits, turpentine, and water. Never use it with any other solvents.

USE THE YELLOW PLASTIC GASKET with the same solvents as the black rubber gasket and with lacquer thinner, trichlorethylene, MEK, acetone, brush cleaner, xylol, and any unknown solvents.

⚠ CAUTION

Never use a wrench to turn the plastic tip guard, to avoid damage to the guard.

To install the RAC IV and SwitchTip

⚠ WARNING

Always follow the **Pressure Relief Procedure Warning** on page 9 before installing, cleaning or changing tips.

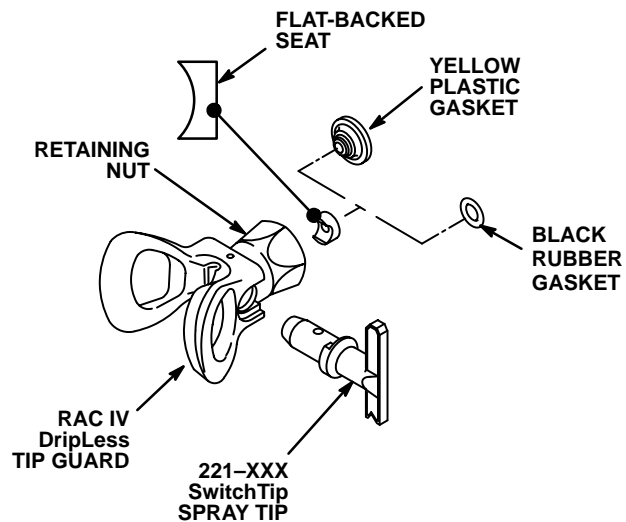



Fig 3

Operation

Pressure Relief Procedure

⚠ WARNING



INJECTION HAZARD
The system pressure must be manually relieved to prevent the system from starting or spraying accidentally. Fluid under high pressure can be injected through the skin and cause serious injury. To reduce the risk of an injury from injection, 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 tips.

1. Shut off the power to the pump or sprayer. For an air powered pump, also close the bleed-type master air valve. For an electric sprayer, also unplug it.
2. 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.
3. Engage the gun safety lever.
4. Open the pump or sprayer drain valve or other fluid relief valve.

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 of hose end coupling to relieve pressure gradually, then loosen completely. Now clear the tip or hose.

Operation

Gun

1. *Be sure you know how to operate the trigger safety lever.* Set the lever in the “ON SAFE” position **whenever** you stop spraying. To set the safety lever, point the gun down so the trigger falls forward, then flip the safety lever to the right or left so it is perpendicular to the trigger. This is the “SAFE” or inoperative position. To release the safety lever, flip the lever to the center, so it is parallel to the trigger. This is the “OFF SAFE” or spraying position. See Fig 4.

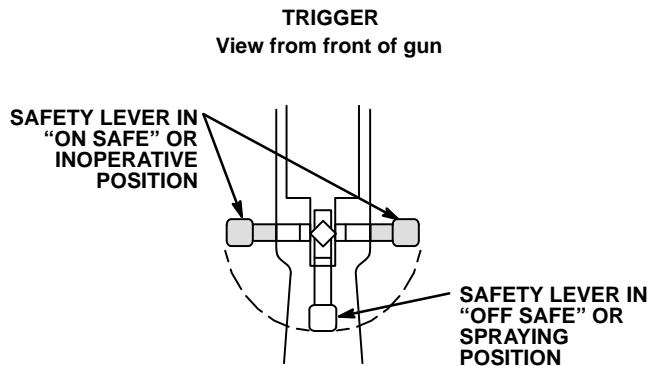


Fig 4 _____

! WARNING

To reduce the risk of a serious fluid injection injury, do not operate the gun with the tip guard, gun body, or trigger safety lever removed.

2. *Always use the lowest pressure necessary to obtain good atomization.* Higher pressures cause premature wear of the tip, gun and pump or sprayer.

Reverse-A-Clean

Be sure the arrow of the cylinder handle is in the **FULL SPRAY** position before operating the gun.

! WARNING

Keep clear of the nozzle. High pressure fluid from leaks or spray can penetrate the skin and cause extremely serious injury, including the need for amputation. The tip guard provides extra protection against fluid injection, but does not prevent it. Never cut off the tip guard.

! CAUTION

The openings in the tip guard are designed to reduce paint buildup on the guard while spraying. Any damage to the sharp edges of the tip guard openings causes paint to collect at that area. To reduce the risk of damage, do not hang the gun by the tip guard.

To Clear a Clogged SwitchTip

If the SwitchTip clogs while spraying, engage the gun safety latch. Turn the arrow handle to the **FULL SPRAY** position. Disengage the safety latch and trigger the gun into a waste container. Fluid pressure should force out the clog. Engage the safety latch and return the arrow to the **FULL SPRAY** position. See Fig 5.

If the SwitchTip is still clogged, shut off the power to the pump/sprayer. **VERY SLOWLY** loosen the retaining nut to relieve pressure gradually. Clean or replace the tip.

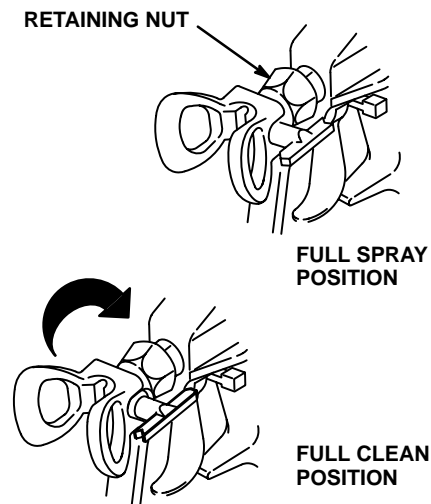


Fig 5 _____

Maintenance

WARNING

To reduce the risk of serious injury whenever you are instructed to relieve pressure, always follow the **Pressure Relief Procedure** on page 9.

Gun

Flush the gun thoroughly at the end of each work shift. First, **relieve the pressure** and remove the SwitchTip.

CAUTION

To avoid damaging the packings, never soak the gun in solvent.

Reverse-A-Clean and SwitchTip

Change the seat and gasket whenever a SwitchTip wears out. These parts wear at about the same rate. Packages of five seats and gaskets are available from your Graco distributor.

Service

Most parts for this gun are not sold individually.

If just the joint between the filter cap and fluid tube are leaking, order and replace the seal, 183-023.

If your gun is leaking elsewhere, order repair kit 218-588; instructions are included with the kit.

If the gun handle or trigger safety lever is damaged, order repair kit 220-781.

Available Tips

NOTE: Shaded part numbers are the most commonly used contractor tip sizes.

$$\frac{3 \times 2 = 6}{6 + 2 = 8} \quad 6-8 \text{ in. fan pattern}$$

The SwitchTip part number is marked on the handle. For example, consider part no. 221-**327**. Important tip information is contained in the last three digits. A size **327** tip has a 6-8 in. fan pattern width and a 0.027 in. equivalent diameter orifice. To determine this information:

Convert the next two digits (27) to a measurement in thousandths of an inch by adding 0.0:

0.027 in. orifice

Double the first digit (3) and add 2 to give the approximate fan pattern width:

Remembering how to translate the tip size enables you to quickly select the right tip for your job.

ORIFICE SIZE	PART NUMBERS ACCORDING TO FAN WIDTH AT 12" (in inches)								
	(in inches)	4-6	6-8	8-10	10-12	12-14	14-16	16-18	16-18
0.005 0.009			221-405		221-609				
0.011 0.013	221-211 221-213	221-311 221-313	221-411 221-413	221-511 221-513	221-611 221-613				
0.015 0.017	221-215 221-217	221-315 221-317	221-415 221-417	221-515 221-517	221-615 221-617		221-817		
0.019 0.021	221-219	221-319 221-321	221-419 221-421	221-519 221-521	221-619 221-621	221-721	221-819 221-821		
0.023 0.025		221-325	221-423 221-425	221-523 221-525	221-623 221-625	221-723 221-725			
0.027 0.029		221-327	221-427 221-429	221-527 221-529	221-627 221-629	221-729	221-827		
0.031 0.033			221-431	221-531	221-631		221-831 221-833		
0.035 0.039			221-435 221-439	221-535	221-635	221-735	221-835	221-935	
0.043 0.045			221-443	221-543					
0.051 0.055			221-451 221-455	221-551 221-555	221-655				
0.063 0.065				221-563	221-665				

Graco Standard Warranty

Graco warrants all equipment 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

The parties acknowledge that they have required that the present document, as well as all documents, notices and legal proceedings entered into, given or instituted pursuant hereto or relating directly or indirectly hereto, be drawn up in English. Les parties reconnaissent avoir convenu que la rédaction du présente document sera en Anglais, ainsi que tous documents, avis et procédures judiciaires exécutés, donnés ou intentés à la suite de ou en rapport, directement ou indirectement, avec les procédures concernées.

Graco Phone Number

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

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Graco reserves the right to make changes at any time without notice.*

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

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