

Instructions – Parts List



AIR-OPERATED Valve Assembly

310503 Rev.H

This air-operated, air-closed valve can be used to control material flow of adhesive and sealant materials, such as two-part methacrylic adhesives, and other materials which are compatible with the wetted parts of the valve (see the Technical Data on page 9). Alternate seal materials are available for the valve; contact Graco Technical Assistance for information.

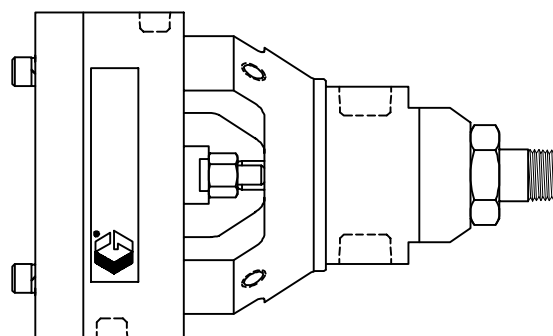
Part No. 918497

150 psi (10.2 bar) Maximum Working Air Pressure

5000 psi (344 bar) Maximum Working Fluid Pressure

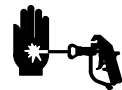
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Read warnings and instructions.

WARNING



SKIN INJECTION HAZARD

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

- If a fluid injection occurs, get emergency medical care at once. Do not treat as a simple cut. Tell the doctor exactly what fluid was injected.
- Give the doctor this information: Injection into the skin is a traumatic injury. Treat the injury surgically as soon as possible. Do not delay treatment to research toxicity. Toxicity is a concern with some exotic coatings injected directly into the blood stream. Consultation with a plastic surgeon or reconstructive hand surgeon may be advisable.
- Do not point the dispense gun at anyone or any part of the body.
- Do not put hand or fingers over the dispense tip.
- Do not stop or deflect fluid leaks with your hand, body, glove or rag.
- Always have the tip guard and the trigger guard on the gun when dispensing.
- Follow the **Pressure Relief Procedure** on page 5 if the spray tip clogs and before cleaning, checking or servicing the equipment.
- Tighten all fluid connections before each use.
- Check the hoses, tubes and couplings daily. Replace worn or damaged parts immediately. Permanently coupled hoses cannot be repaired.
- Handle and route hoses and tubes carefully. Keep hoses and tubes away from moving parts and hot surfaces. Do not use the hoses to pull equipment. Do not expose Graco hoses to temperatures above 180°F (82°C) or below -40°F (-40°C).



PLURAL COMPONENT FLUID HAZARD

Before using this equipment:

- Determine all facts relating to the materials used, including any of the potential hazards relating to toxic fumes, fires, explosions, reaction times, and exposure of human beings to the individual components or their resultant mixtures.
- Read and follow the fluid and solvent manufacturer's literature regarding the use of protective eyewear, facemask, gloves, clothing, respirator and other equipment.



TOXIC FLUID HAZARD

Improper handling of hazardous fluids or inhaling toxic fumes can cause extremely serious injury, even death, due to splashing in the eyes, ingestion, or bodily contamination.

- 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.
- Wear appropriate clothing, gloves, eyewear and respirator.
- Pipe and dispose of the exhaust air safely. See your separate pump manual for further information.

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 **Ground the System** on page 5.
- If there is any static sparking while using the equipment, **stop dispensing immediately**. Identify and correct the problem.
- Provide fresh air ventilation to avoid the buildup of flammable fumes from solvent or material.
- Do not smoke in the dispense area.
- Extinguish all open flames or pilot lights in the dispense area.
- Do not turn on or off any light switch in the dispense area.
- Keep the dispense area free of debris, including solvent, rags and gasoline.



MOVING PARTS HAZARD

Moving parts, such as an air motor piston, can pinch or amputate fingers.

- Keep clear of any moving parts when starting or operating the equipment.



HOT SURFACE HAZARD

- The surfaces of equipment which dispense hot materials can become heated enough to cause burns if touched. When working with such equipment, wear appropriate protective gloves and clothing. Allow hot surfaces time to cool, if possible, before servicing.



INSTRUCTIONS

EQUIPMENT MISUSE HAZARD

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

- This equipment is for professional use only.
- Read all instruction manuals, tags, and labels before operating the equipment.
- Use the equipment only for its intended purpose. If you are uncertain about usage, call Graco Technical Assistance at 1-313-416-3425.
- Do not alter or modify this equipment. Use only genuine Graco parts and accessories.
- Check equipment daily. Repair or replace worn or damaged parts immediately.
- **(918497) Do not exceed the 5000 psi (344 bar) maximum working pressure at 150 psi (10.2 bar) maximum incoming air pressure** of the equipment, or the maximum working pressure of any accessory used with it.
- Do not lift pressurized equipment.
- Use fluids or solvents that are compatible with equipment wetted parts. See the **Technical Data** section of all equipment manuals. Read the fluid and solvent manufacturer's warnings.
- Fluid hoses must have spring guards on both ends to protect it from rupture caused by kinks or bends at or close to the couplings.
- Comply with all applicable local, state and national fire, electrical and other safety regulations.

Installation

Installing the Valve Assembly

Note: The valve assembly includes only the dispense valve. See **Accessories** for available air and fluid fittings.

CAUTION

Due to the weight of the valve, in some applications additional support fixtures for the valve assembly may be required. Call Graco distributor for consultation on your application requirements.

Note: These valves require a minimum air inlet pressure of 45 psi (3.1 bar) to operate, for use with fluids pressurized to the **MAXIMUM WORKING FLUID PRESSURE** (918497 maximum is 5000 psi). Air inlet pressure requirement is 110 psi at maximum fluid pressure, and proportionately lower for less fluid pressure.

Valve Orientation

Fig. 1. The valve has three fluid ports one at the valve tip (A), and two ports at opposing sides (B and C). Use any of the ports as either a fluid inlet or outlet, according to the orientation required for the application, but tip port (A) must be one of the ports used. Using the tip port (A) as the fluid outlet, if possible, is recommended.

Note: If one of the valve's side fluid ports is used as the fluid inlet, as recommended, fluid pressure in the valve will tend to support the valve *closed* status, once the valve closing has been air-actuated.

If the valve tip port is used as the inlet, fluid pressure in the valve will tend to support the valve *open* status.

Valve Installation

1. Connect inlet port (A, B, or C) to 3/8 NPT fluid supply line.

Note: Secure all fittings to avoid leaking.

2. Connect outlet port (A, B, or C) to 3/8 NPT fluid outlet connection.

3. Install valve port plug (C19257) in unused side port.

4. Connect 1/8 NPT air control lines to each of two valve air ports (OPEN and CLOSE), as required:

a. Connect air "open" supply line to valve air port marked OPEN.

b. Connect air "close" supply line to valve air port marked CLOSE.

WARNING



FIRE AND EXPLOSION HAZARD

Fluid dispensing can cause a static charge to build, which can spark, and cause electrical shock, or explosions. Always ground the dispensing equipment before operating. Refer to the **FIRE AND EXPLOSION HAZARD** on page 3.

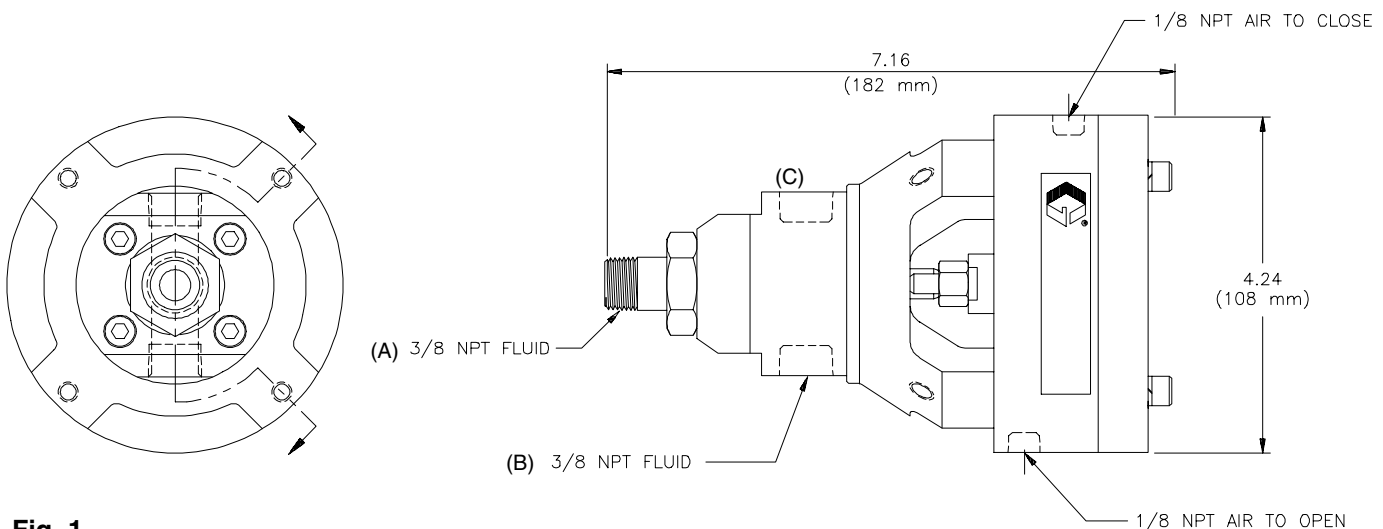


Fig. 1

Installation


Ground the System

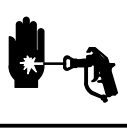
To reduce the risk of static sparking, ground the valve and all other dispensing equipment used or located in the dispensing area. Check your local electrical code for detailed grounding instructions for your area and type of equipment. Be sure to ground all of this dispensing equipment:

1. *Pump*: connect ground wire and clamp to true earth ground as shown in separate pump manual.
2. *Valve*: connect to ground through grounded material lines to valve.
3. *Fluid and air hoses*: use only grounded material and air hoses.
4. *Dispense gun*: obtain grounding through the connection of the hose, or cable.
5. *Air compressor*: follow manufacturer's recommendations.
6. *Object being sprayed*: according to local code.
7. *Fluid supply container*: according to local code.

Operation

Pressure Relief Procedure





PRESSURIZED EQUIPMENT HAZARD

The equipment remains pressurized until pressure is manually relieved. A pressurized system can start or spray accidentally. To reduce the risk of serious injury from accidental spray from the gun, splashing fluid, or moving parts, follow this procedure whenever you:

- Are instructed to relieve pressure,
- Stop spraying,
- Check, clean or service system equipment,
- Or install or clean fluid nozzles.

1. Shut off power to dispense meter, if applicable.
2. Shut off air to supply pump.
3. Close bleed-type master air valve (required in system).
4. Hold metal part of the valve firmly to the side of a grounded metal pail, and trigger the dispense valve to relieve pressure.

If you suspect that the dispense needle or hose is completely clogged, or that pressure has not been fully relieved after following the steps above:

VERY SLOWLY loosen the needle retaining nut or hose coupling and relieve pressure gradually, then loosen completely. Now clear the needle or hose.

Valve Operation

Valve operation has two valve conditions – either full-open, or full-closed. There are no mechanical adjustments.

Be sure air supply lines are correctly connected to valve OPEN and valve CLOSE air ports.

To open valve:

1. Apply air pressure to OPEN air port on valve, and remove air pressure from CLOSE air port on valve.
2. Maintain air pressure to OPEN air port to keep valve open.

To close valve:

1. Apply air pressure to CLOSE air port on valve, and remove air pressure from OPEN air port on valve.
2. Maintain air pressure to CLOSE air port to keep valve closed.

Troubleshooting

PROBLEM	CAUSE	SOLUTION
Valve fails to open or close as required.	Actuating air line is leaking, improperly connected or pressure too low.	Check air line connections and air regulator setting.
	Material or debris in valve is blocking valve stem movement.	Check valve interior for materials or debris impeding valve stem movement. Remove impeding material.
Fluid leaks	Worn seals.	Replace seals.

Service

⚠ WARNING



PRESSURIZED FLUID HAZARD

To reduce the risk of serious bodily injury, such as fluid injection or splashing fluid in the eyes or on the skin, ALWAYS

follow the **Pressure Relief Procedure** on page 5 before servicing any part of the system.

Removing Valve from Air and Material Lines

Valve must be removed from air and material lines for servicing.

1. Turn off air supply to valve and bleed off pressure.
2. Remove material pressure from system (follow **Pressure Relief Procedure**, page 5).
3. Disconnect air lines from valve air ports.
4. Disconnect material lines from valve fluid ports.

Valve Servicing

Note: Repair kit 517476 is available to service the dispense valve. For the best results, use all the parts in the kit, even if the old parts look good.

1. Fig. 2. Unscrew tip assembly (20) and remove.
2. Remove O-ring (30). Lightly coat new O-ring with (C26335) synthetic grease or equivalent. Install new O-ring.

3. Remove four socket head cap screws (140) and lock washers (150). Carefully separate cylinder (130) from frame (110).
4. Unscrew stem assembly (40) from stem coupler (120).
5. Push stem assembly (40) through tip of valve.
6. Unthread and remove retaining plug (100).
7. Carefully remove seal cartridge assembly (60–90, 210) from valve body (50).
8. Remove and replace seal (70), O-ring (80), backup ring (210), and stem bearing (90), lightly coating new seal, backup ring, and O-ring with grease (C26335) prior to replacement.
9. Reinstall seal cartridge assembly (items 60 thru 90 and 210) into valve body (50).
10. Coat retaining plug with an anaerobic sealant (200) and reinstall into valve body.
11. Reinstall stem (40) into valve body (50), being careful not to damage seal (70).
12. Screw stem (40) into stem coupler (120).
13. Reinstall tip assembly (20).
14. Carefully mount cylinder (130) onto frame (110), reinstalling four socket head cap screws (140) and lock washers (150).
15. Reconnect air and fluid lines to valve.

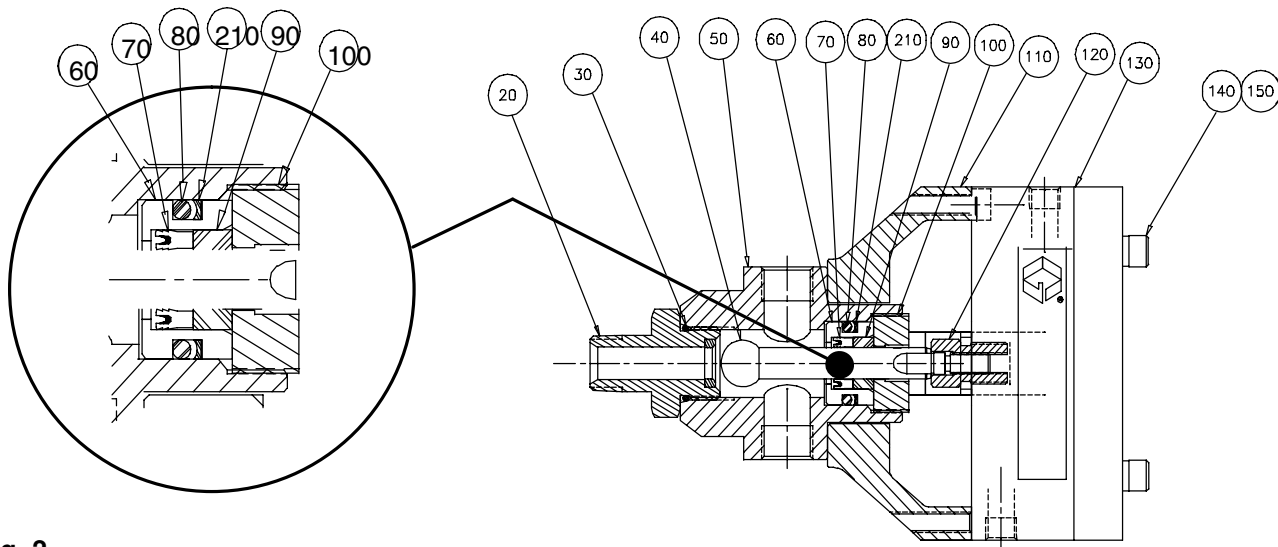
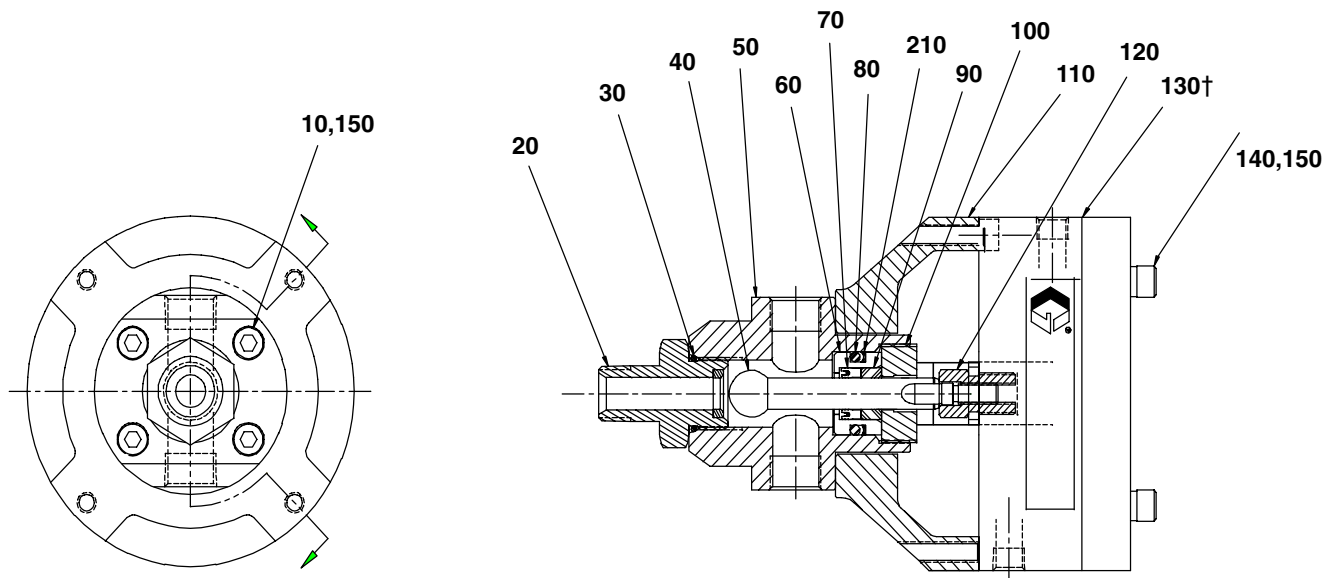


Fig. 2

Parts



Ref. No.	Part No.	Description	Qty.	Ref. No.	Part No.	Description	Qty.
10	101885	SCREW, cap skt hd, 1/4-20, 1-3/4"	4	120	C07697	COUPLER, stem	1
20	C07703	TIP ASSEMBLY	1	130†	C07707	CYLINDER, air	1
30*	C07711	O-RING, -910 EP	1	140	107218	SCREW, cap sk t hd, 1/4-20, 2-3/4"	4
40	C07706	STEM ASSEMBLY	1	150	105510	LOCKWASHER, 1/4 hi-collar	8
50	617719	BODY, valve	1	210*	C20847	RING, back-up, -210	1
60	617581	CARTRIDGE, seal	1	Note: C26335 GREASE, synthetic, 14 OZ.			
70*	617538	SEAL, .375 I.D., uhmwpe/ss	1	(not shown) recommended for lubrication during servicing.			
80*	C20183	O-RING, -210 ep	1	Note: 070269 SEALANT, anaerobic			
90*	C07699	BEARING, stem	1	(not shown) required for thread locking during reassembly			
100	617529	PLUG, retaining	1				
110	617528	FRAME	1				

* These parts are included in Repair Kit 517476, which may be purchased separately.

† Repair Kit 241975 for Air Cylinder C07707 may be purchased separately.

Accessories

Air Line Fittings (0.25" Plastic Tube, Push-in)

Part No.	Description
C19405	x 1/8 npt Male, Straight
597151	x 1/8 npt Male, 90° Elbow

Fluid Line Fittings

Part No.	Description	Part No.	Description
C19257	3/8 npt Hex Socket Plug, s.s.	C20684	same as C20685, Zinc-plated Steel
C20483	3/8 npt Hex Nipple, Zinc-plated Steel		
C20484	3/8 npt Hex Nipple, s.s.		
C20998	3/8x#8-37° SAE (3/4-16) Male Adapter s.s.		
C20585	same as C20998, Zinc-plated Steel		
C20685	3/8x#6-37° SAE (9/16-18) Male Adapter s.s.		
			<u>3/8 Npt Male X 3/8 Nps Fem. Union Swivel:</u>
		155665	Straight, Zinc-plated Steel
		235207	Straight, s.s.
		161889	45° Elbow, Zinc-plated Steel

Technical Data

Maximum Working Fluid Pressure . . .	5000 psi (344 bar)	Air Ports	1/8" npt(f)
Maximum Working Air Pressure . . .	150 psi (10.2 bar)	Weight	5.6 lbs. (2.55 kg)
Operating Temperature Range	–20° to 250°F (–30° to 120°C)	Wetted Parts	303 stainless steel (tip, body, cartridge), chrome-plated 17–4 pH stainless steel (stem), tungsten carbide (ball, seat), UHMWPE, 301 SST (3–Lip Seal) EP Rubber
Fluid Ports	(2) 3/8" npt(f) (1) 3/8" npt(m)		

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 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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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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