

NXT[®] Air Motor for FRP

3A2315D

ΕN

For use with composites in hazardous or non-hazardous locations. For professional use only.

Model M07LNL

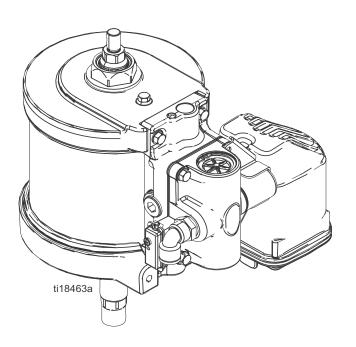
100 psi (0.7 MPa, 7.0 bar) Maximum Working Pressure



Important Safety Instructions

Read all warnings and instructions in this manual and in your system manual. Save all instructions.

See **Technical Data** on page 25 for model information.



Contents

Related Manuals
Warnings 3
Component Identification 5
Accessories 6
Installation 7
Assemble the Air Motor
Install Air Motor in System
Grounding 7
Troubleshooting 8
Repair 9
Preventive Maintenance Schedule 9
Pressure Relief Procedure
Replace Pilot Valves 9
Repair Air Valve10
Repair Air Motor14
Parts 18
Air Valve Parts
Kits and Accessories
Dimensions
Mounting Hole Diagrams24
Technical Data
Performance Chart
Graco Standard Warranty
Grace Information 26

Related Manuals

Manuals are available at www.graco.com.

Manual	Description
3A2012	FRP Proportioner
3A2313	U-Cup Displacement Pump
313541	DataTrak [™] Upgrade Kit
313840	DataTrak [™] Operation

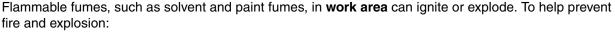
Warnings

The following warnings are for the setup, use, grounding, maintenance, and repair of this equipment. The exclamation point symbol alerts you to a general warning and the hazard symbol refers to procedure-specific risk. Refer back to these warnings. Additional, product-specific warnings may be found throughout the body of this manual where applicable.

WARNING



FIRE AND EXPLOSION HAZARD

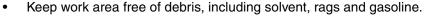


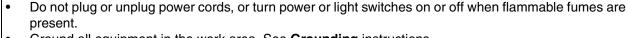






• Eliminate all ignition sources; such as pilot lights, cigarettes, portable electric lamps, and plastic drop cloths (potential static arc).





- Ground all equipment in the work area. See Grounding instructions.
- Use only grounded hoses.
- Hold gun firmly to side of grounded pail when triggering into pail. Do not use pail liners unless they are antistatic or conductive.
- Stop operation immediately if static sparking occurs or you feel a shock. Do not use equipment until you identify and correct the problem.
- Keep a working fire extinguisher in the work area.



EQUIPMENT MISUSE HAZARD

Misuse can cause death or serious injury.



- Do not operate the unit when fatigued or under the influence of drugs or alcohol.
- Do not exceed the maximum working pressure or temperature rating of the lowest rated system component. See **Technical 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. For complete information about
 your material, request MSDS from distributor or retailer.
- Do not leave the work area while equipment is energized or under pressure.
- Turn off all equipment and follow the **Pressure Relief Procedure** when equipment is not in use.
- Check equipment daily. Repair or replace worn or damaged parts immediately with genuine manufacturer's replacement parts only.
- Do not alter or modify equipment. Alterations or modifications may void agency approvals and create safety hazards.
- Make sure all equipment is rated and approved for the environment in which you are using it.
- Use equipment only for its intended purpose. Call your distributor for information.
- Route hoses and cables away from traffic areas, sharp edges, moving parts, and hot surfaces.
- Do not kink or over bend hoses or use hoses to pull equipment.
- Keep children and animals away from work area.
- Comply with all applicable safety regulations.

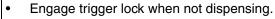
WARNING



SKIN INJECTION HAZARD



High-pressure fluid from dispensing device, 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 dispensing device at anyone or at any part of the body.
- Do not put your hand over the fluid outlet.
- Do not stop or deflect leaks with your hand, body, glove, or rag.
- Follow the Pressure Relief Procedure when you stop dispensing and before cleaning, checking, or servicing equipment.
- Tighten all fluid connections before operating the equipment.
- Check hoses and couplings daily. Replace worn or damaged parts immediately



PRESSURIZED EQUIPMENT HAZARD

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

- Follow the Pressure Relief Procedure when you stop spraying/dispensing and before cleaning, checking, or servicing equipment.
- Tighten all fluid connections before operating the equipment.
- Check hoses, tubes, and couplings daily. Replace worn or damaged parts immediately.



MOVING PARTS HAZARD

Moving parts can pinch, cut or amputate fingers and other body parts.



- Keep clear of moving parts.
- Do not operate equipment with protective guards or covers removed.
- Pressurized equipment can start without warning. Before checking, moving, or servicing equipment, follow the Pressure Relief Procedure and disconnect all power sources.



PERSONAL PROTECTIVE EQUIPMENT

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

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

Component Identification

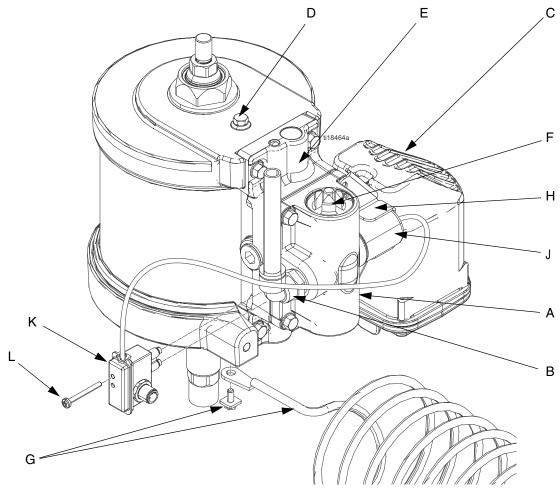


Fig. 1: NXT Air Motor components

Key:

- A Air valve
- B Air inlet, 1/2 in. npt(f)
- C Muffler
- D Pilot valve
- E Manifold
- F Solenoid release button (for models with DataTrak runaway protection accessory kit)
- G Ground screw and ground wire
- H Solenoid bracket (for models with DataTrak runaway protection accessory kit)
- J Solenoid (for models with DataTrak runaway protection accessory kit)
- K Reed switch (for models with DataTrak runaway protection accessory kit)
- L Screw for reed switch (for models with DataTrak runaway protection accessory kit)

Accessories

Bleed-type master air valve









Trapped air can cause the pump to cycle unexpectedly, which could result in serious injury from splashing or moving parts.

- Required in your system to relieve air trapped between it and the air motor when the valve is closed.
- Be sure the valve is easily accessible from the pump and located downstream from the air regulator.

Air regulator

Adjusts air pressure to the motor and fluid outlet pressure of pump. Locate it close to the pump. Install a gauge to read air pressure.

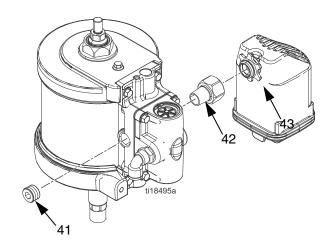
Air filter

Removes harmful dirt and moisture from compressed air supply.

Installation

Assemble the Air Motor

The air motor is shipped from the factory with the muffler and plug uninstalled. Prior to using the air motor, the plug and muffler must be installed.

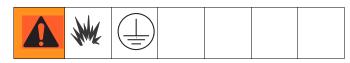


- 1. Apply thread sealant to male threads of plug (41).
- 2. Connect muffler to fitting.
- Install muffler and fitting into side of air valve as shown.
- 4. Install plug into air valve as shown.

Install Air Motor in System

- 1. See system manual for how to install air motor in system.
- 2. Ground the air motor. See Grounding instructions.

Grounding



See Fig. 2. Verify that the ground screw (GS) is attached and tightened securely to the air motor. Connect the other end of the ground wire (U) to a true earth ground.

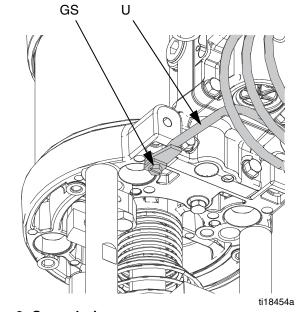


Fig. 2: Ground wire

Troubleshooting



Relieve the pressure before checking or servicing the equipment.

NOTICE

Check all possible problems and causes before disassembling the pump.

Problem	Cause	Solution
Air motor will not run.	DataTrak solenoid engaged (DataTrak models with runaway protection).	Push solenoid release button (118).
		Remove solenoid and manually move pin.
	Damaged air valve (21).	Replace or service air valve (21). See page 10.
	Damaged pilot valve (23).	Replace pilot valves (23). See page 9.
Air continuously exhausting around air motor piston rod.	Damaged seals (2, 4).	Replace piston rod seals (2, 4). See page 14.
Air continuously exhausting from muffler.	Damaged air valve plate (105) or cup (113).	Replace or service air valve (21). See page 10.
Air motor "bounces" at top of stroke.	Damaged bottom pilot valve.	Replace bottom pilot valve (23). See page 9.
Air motor "bounces" at bottom of stroke.	Damaged top pilot valve.	Replace top pilot valve (23). See page 9.
Icing inside motor.	Air motor operating at high pressure or high cycle rate.	Reduce pressure, cycle rate, or duty cycle of motor.
		Reduce dew point of compressed air in moisture coalescing filter.

Repair

Preventive Maintenance Schedule

The operating conditions of your system determine how often maintenance is required. Establish a preventive maintenance schedule by recording when and what kind of maintenance is needed, and then determine a regular schedule for checking your system.

Pressure Relief Procedure





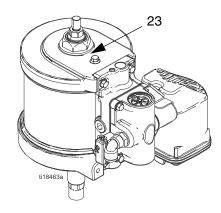




- Trapped air can cause the pump to cycle unexpectedly, which could result in serious injury from skin injection or moving parts.
- Do not lift or move motor while pressurized.
- 1. Engage the trigger lock.
- 2. Close the bleed-type master valve.
- 3. Disengage the trigger lock.
- 4. Hold a metal part of the gun firmly to a grounded metal pail. Trigger the gun to relieve pressure.
- 5. Engage the trigger lock.
- Open all fluid drain valves in the system, having a
 waste container ready to catch drainage. Leave
 drain valve(s) open until you are ready to spray
 again.
- 7. If you suspect the spray tip or hose is clogged or that pressure has not been fully relieved after following the steps above, VERY SLOWLY loosen tip guard retaining nut or hose end coupling to relieve pressure gradually, then loosen completely. Clear hose or tip obstruction.

Replace Pilot Valves

- 1. Stop the pump at the middle of its stroke.
- 2. Perform Pressure Relief Procedure on page 9.
- 3. Disconnect the air line to the motor.
- 4. Use a 10 mm wrench to remove the old pilot valves (23) from the top and bottom covers.



5. Lubricate and install the new pilot valves (23). Torque to 95-105 in-lb (10.7-11.9 N•m).

Repair Air Valve



Replace Complete Air Valve

- 1. Stop the pump at the middle of its stroke.
- 2. Perform Pressure Relief Procedure on page 9.
- 3. Disconnect the air line to the motor.
- For motors with DataTrak: Use a T25 Torx to remove screw (L) and disconnect the reed switch (K) from the air valve (21).

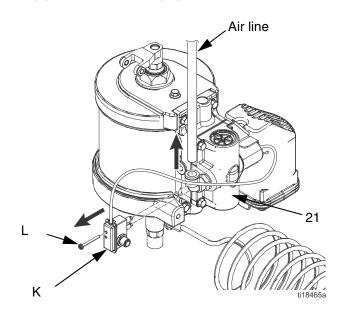


Fig. 3: Reed switch assembly & air line removal

For motors with DataTrak: If equipped with a runaway protection solenoid, use a 10 mm hex to remove two screws (22) then remove the solenoid bracket (H). Pull the solenoid (J) out of the air valve (21).

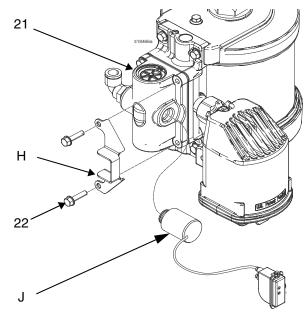


Fig. 4: Solenoid removal

- 6. Remove screws (22). Remove the air valve (21) and gasket (20).
- 7. To repair the air valve, go to **Disassemble the Air Valve**, step 1 at right. To install a replacement air valve, continue with step 8.
- 8. Align the new air valve gasket (20) on the manifold, then attach the air valve (21).
- For motors with DataTrak: If equipped with a runaway protection solenoid, remember to reattach the solenoid bracket and the solenoid.
- For motors with DataTrak: Use screw to attach the reed switch assembly to the new air valve. Be sure the sensor cables are connected properly (see pump or package manual).
- 11. Reconnect the air line to the motor.

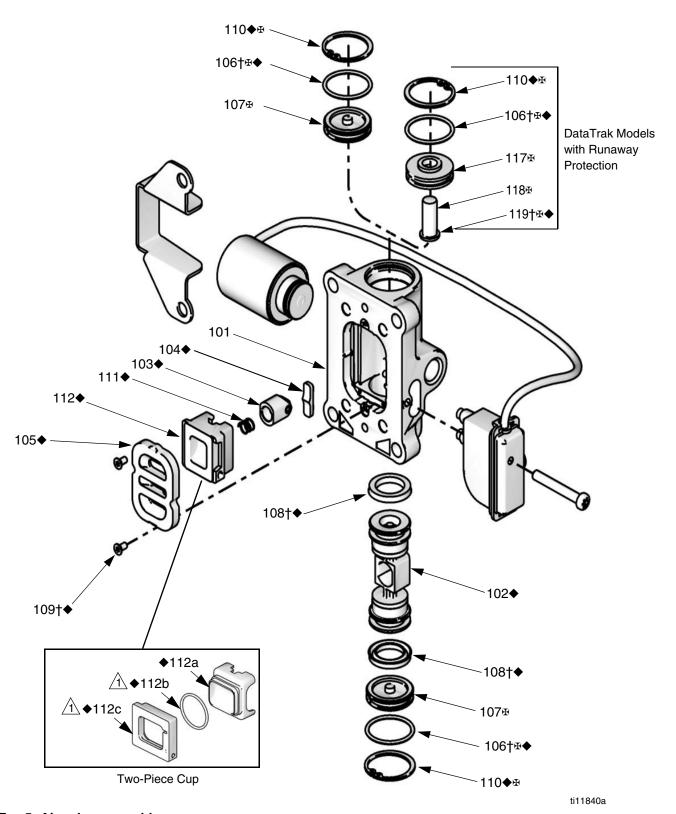


Fig. 5: Air valve assembly

Replace Seals or Rebuild Air Valve

Various air valve repair kits are available. See air valve parts list beginning on page 20 to identify the correct kit numbers for your air motor and to see what is included in each kit.

Disassemble the Air Valve

See Fig. 8 on page 13 for view of disassembled air valve.

- Perform steps 1-5 under Replace Complete Air Valve, page 10.
- 2. Use a 2 mm or 5/64 hex key to remove two screws (109). Remove the valve plate (105).
- 3. Remove the two-piece cup assembly (113) and spring (111).
- 4. Remove the snap ring (110) from each end. Use the piston to push the end caps (107, 117) out of the ends. Remove end cap o-rings (106, 119).
- 5. Remove the piston (102). Remove the u-cup seals (108) from each end and the detent assembly (103) and detent cam (104) from the center.

Reassemble the Air Valve

- 1. Lubricate detent cam (104) and install into housing (101).
- 2. Lubricate the u-cups (108) and install on the piston (102) with lips facing toward the center of the piston.

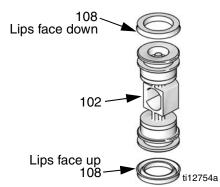


Fig. 6: Air valve u-cup installation

- 3. Lubricate both ends of the piston (102) and install it in the housing (101).
- 4. Lubricate and install the detent assembly (103) into the piston (102).

- 5. Standard models (No DataTrak): Lubricate new o-rings (106) and install on the end caps (107). Install the end caps into the housing (101). DataTrak models with runaway protection solenoid: Lubricate and install new o-ring (106) on bottom end cap (107). Lubricate and install new o-ring (119) and runaway reset button (118) on top end cap (117). Install the end caps (107, 117) into the housing.
- 6. Install a snap ring (110) on each end to hold end caps in place.
- 7. Install the spring (111).

NOTICE

In the following step, when assembling the cup body and cup base, note that they can only go together one way. The cup body (113a) and cup base (113c) both have a right angle edge in one corner. To prevent damaging the o-ring, do not force these parts together in the wrong orientation. See Fig. 7.

8. See Fig. 7. Lubricate and install the cup o-ring (113b) on the cup body (113a), then assemble the cup body to the cup base (113c). Lubricate and install the cup assembly. Align the small round magnet with the reed switch hole.

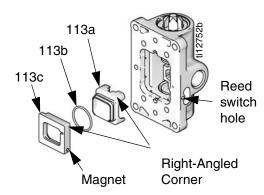


Fig. 7: Two-piece cup installation

9. Install the valve plate (105). Tighten the screws (109) to hold it in place.

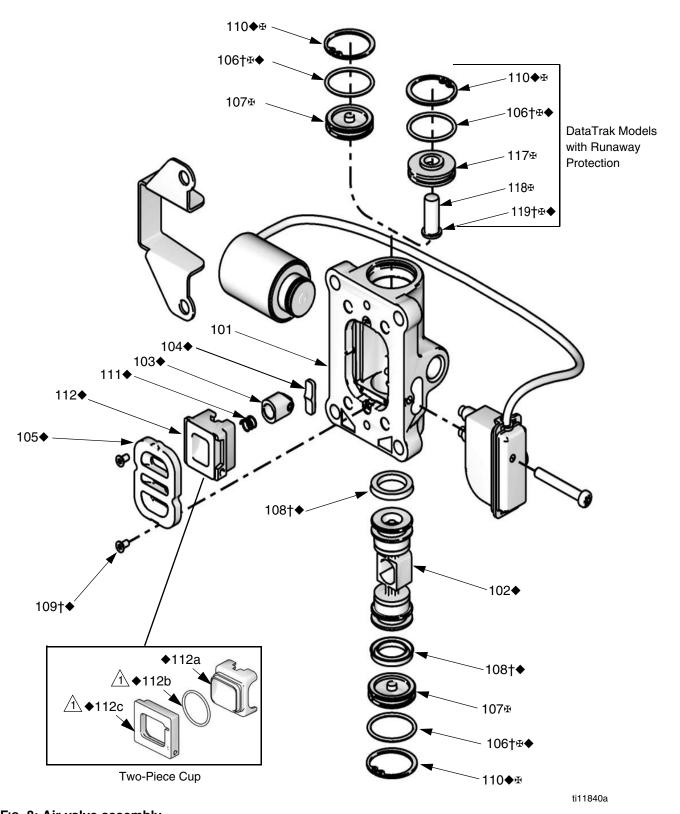


Fig. 8: Air valve assembly

Repair Air Motor









Air Motor Seal Kit 16N238 is available. See air motor parts list beginning on page 18 to identify the parts that are included in the kit. For best results, use all parts in the kit.

See system manual for instructions to remove the air motor from the system.

Disassemble the Air Motor

See Fig. 9 on page 15.

- 1. Clamp the air motor upside down in a vise by the flats of the top bushing (16).
- 1. If servicing the air valve:
 - a. For motors with DataTrak: Use a T25 Torx to remove screw (L) and disconnect the reed switch (K) from the air valve (21). See Fig. 3, page 10.
 - b. For motors with DataTrak: If equipped with a runaway protection solenoid, use a 10 mm hex to remove two screws (22) then remove the solenoid bracket (H). Pull the solenoid (J) out of the air valve (21). See Fig. 4, page 10.
 - Use a 10 mm socket wrench to remove four screws (22). Remove the air valve (21) and gasket (20).
 - d. Remove the muffler(s).
- 2. Remove four screws (22) and remove the manifold (19) and two gaskets (18).
- 3. If repairing or replacing the pilot valves, use a 10 mm socket wrench to remove the pilot valves (23) from the top and bottom cover.
- 4. Use a 17 mm socket to remove the tie bolts (15).



- 5. Remove the bottom cover (14).
- 6. Remove the shield (13) from around the cylinder. Remove the cylinder (12).
- 7. Slide the piston assembly (8, 9) straight up off the top cover (1).

NOTICE

Do not attempt to take apart the piston assembly (8, 9). It has been assembled with permanent threadlocker and factory torque. The repair kit comes fully assembled.

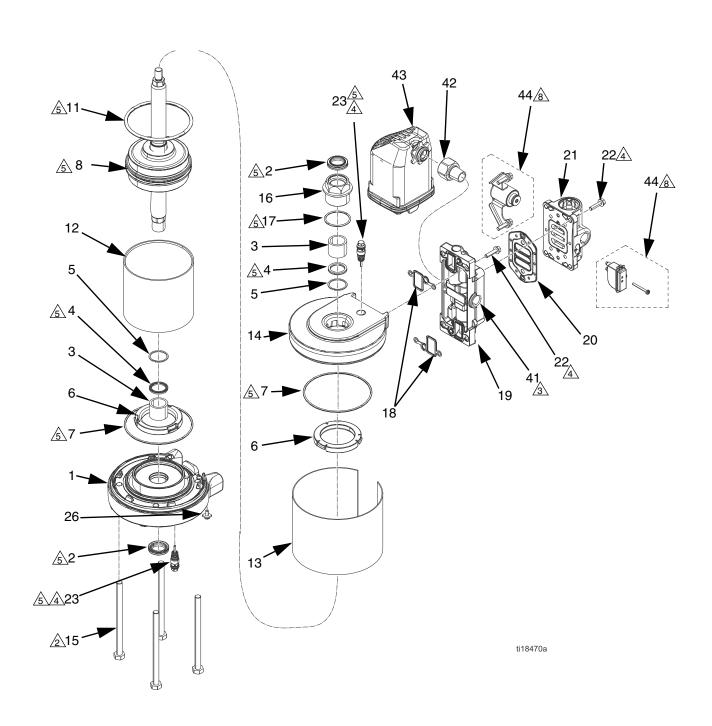
- 8. Remove o-ring (11) from around the piston (8).
- 9. Remove retaining rings (5), seals (2, 4), and o-ring (7) from both the top cover (1) and bottom cover (14).
- 10. If bushing (16) or bushing o-ring (17) need to be replaced, unscrew top cover (1) from bushing (16).

Reassemble the Air Motor

See Fig. 9 on page 15.

NOTE: For easier reassembly clamp top bushing upside down in a vise. Allow clearance for rod to go through bushing.

- 1. Lubricate then install o-ring (17) onto bushing (16).
- 2. Install top cover (1) onto bushing (16).
- 3. Install seals (2, 4) and retaining rings(5) into bushing (16).
- 4. Lubricate and install the o-ring (7) on the top cover (1).
- 5. Install the upper bumper (6) on the top cover (1).
- 6. Lubricate the inside of the cylinder (12). Lower the cylinder (12) onto the top cover (1).
- 7. Lubricate and install the o-ring (11) around the piston (8).
- 8. Slide the piston assembly (8, 9) down into the cylinder (12). Be sure the o-ring (7) stays in place.



Torque to 30-40 ft-lb (41-54 N•m).

Apply thread sealant.

Torque to 95-105 in-lb (10.7-11.9 N•m).

Apply lubricant.

Sold separately. Part of DataTrak upgrade kit. See **Kits and Accessories** on page 22.

Fig. 9

- 9. Install the shield (13) around the cylinder (12) and in the groove on the top cover (1).
- 10. See Fig. 10. Lubricate and install new flanged u-cup seal (2) in the bottom of the bearing in the bottom cover (14). The u-cup must face up and the flange must face down. Install bearing (3) into bottom cover. Lubricate and install new u-cup seal (4) into the top of the bearing (3). Lips must face up.

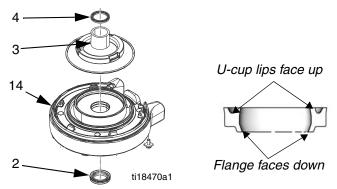


Fig. 10: Air motor u-cup installation

- 11. Lubricate and install the o-ring (7) on the bottom cover (14).
- 12. Install the piston bumper (6) on the bottom cover (14).

13. See Fig. 11. Carefully place the bottom cover (14) on the cylinder (12), sliding the rod through the bearing. The surfaces where the manifold (19) connects to the top and bottom covers must align. Be sure the shield (13) is in the groove on both the top and bottom covers.

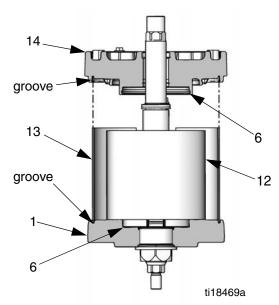
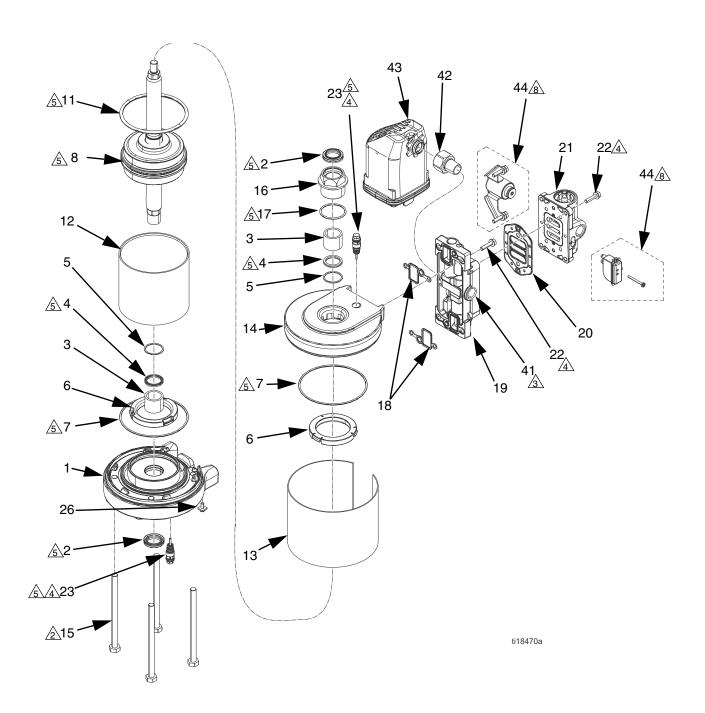


Fig. 11: Align shield in grooves on covers

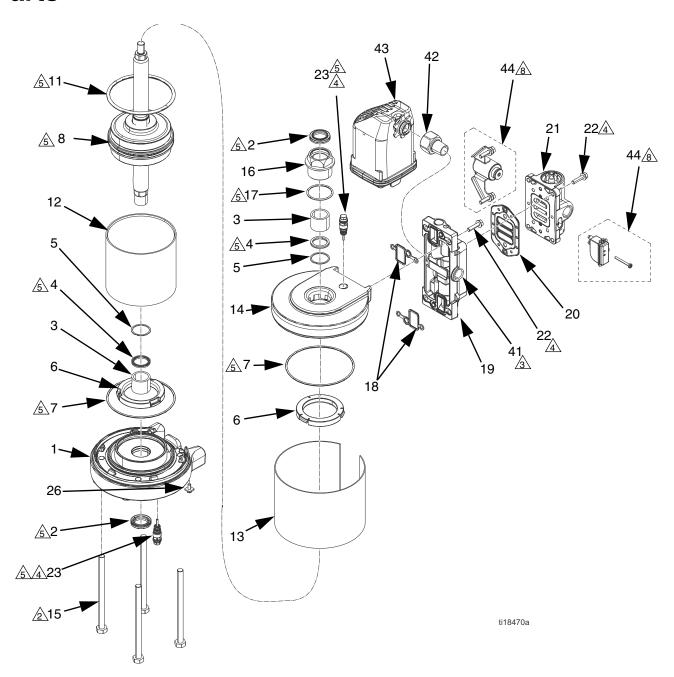
- 14. Install the tie bolts (15) hand tight.
- 15. Install two gaskets (18) on the manifold (19). Use four screws (22) to install the manifold (19). Torque bolts to 95-105 in-lb (10.7-11.9 N•m).
- The manifold is reversible for ease of placement of muffler or remote exhaust.
- 16. Align the air valve gasket (20) on the manifold, then use four screws (22) to attach the air valve (21). Torque bolts to 95-105 in-lb (10.7-11.9 N•m).
- 17. Tighten the tie bolts (15) halfway. Work in a crisscross pattern. Check that the shield remains in the grooves on both covers. Continue tightening the bolts in pattern to 30-40 ft-lb (41-54 N•m)
- 18. Lubricate and install pilot valves (23) in top and bottom cover. Torque to 95-105 in-lb (10.7-11. N•m).
- 19. Reinstall muffler(s).



- Torque to 30-40 ft-lb (41-54 N•m).
- Apply thread sealant.
- ⚠ Torque to 95-105 in-lb (10.7-11.9 N•m).

- Apply lubricant.
- Sold separately. Part of DataTrak upgrade kit. See **Kits and Accessories** on page 22.

Parts



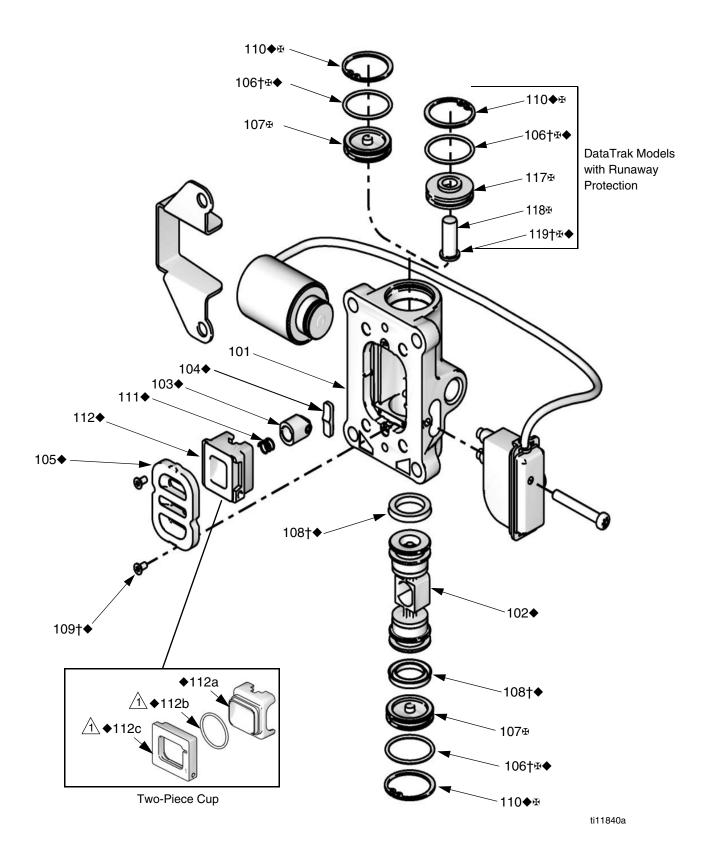
- Torque to 30-40 ft-lb (41-54 N•m).
- Apply thread sealant.
- 4 Torque to 95-105 in-lb (10.7-11.9 N•m).

- Apply lubricant.
- Sold separately. Part of DataTrak upgrade kit. See **Kits and Accessories** on page 22.

Ref	Part	Description	Qty
1†	24C398	COVER, lower, 4.5 (also includes: 2, 3,	1
		4, 5, 6, 7, 23, 26)	
2*†‡		SEAL, rod, h-wiper, 1.000 in. ID	2
3†‡		BEARING, 1.0 in.	2
4*†‡		SEAL, u-cup, 1.0 in.	2
5*†‡		RING, retaining	2
6†✿	24A914	BUMPER KIT; (pack of 2)	1
7*†✿		PACKING, o-ring	2
8	16N496	PISTON/ROD ASSEMBLY	1
11*		PACKING, o-ring	1
12	15M781	CYLINDER, motor, 4.5 x 2.5	1
13	16M562	GUARD, shroud, 4.5 motor, blue	1
14 \$	16N849	COVER, motor, double ended, 4.5 in.	1
		(also includes: 6, 7, 23)	
15	15M316	SCREW, hex, M10 x 150	4
16‡	16N847	BUSHING, motor, double ended, 4.5 in.	1
		(also includes: 2, 3, 4, 5, 17)	
17‡	16N846	PACKING, o-ring	1
18*◆		GASKET, manifold, medium	2
19◆	24A580	MANIFOLD, motors (also includes:	1
00+ 4*		18 [2x], 20, 22 [4x])	
20*◆*		GASKET, air valve, medium	1
21*		VALVE, air	1
22◆≉⊕		SCREW, M6 x 25, thread forming	8
23†🌣	24A366	VALVE, pilot	2
26†	116343	SCREW, ground	1
29★▲	15W719	LABEL, warnings, Spanish/French	1
41	100361	PLUG	1
42	16M355	FITTING	1
43	24D642	MUFFLER	1
44	24B566	KIT, switch and solenoid (DataTrak	1
		equipped models only)	

- --- Not for sale.
- ★ Not shown. Shipped loose.
- * Included in Air Motor Seal Kit 16N238.
- ◆ Included in Manifold Kit 24A580.
- † Included in Lower Cover Kit 24C398. Kit includes one bumper, not two.
- ✿ Included in Top Cover Kit 16N849. Kit includes one bumper, not two.
- ‡ Included in Top Bushing Kit 16N847.
- Air Valve Kits: 24A352 Standard Air Valve
 24A354 DataTrak with Runaway Protection Air Valve
 NOTE: Both air valve kits also include gasket (20), and four screws (22)
- Not sold separately. Included with manifold kit 24A580, DataTrak switch and solenoid kit 24B566, and also included with both air valve kits 24A352 and 24A354.
- ▲ Replacement Warning labels, signs, tags, and cards are available at no cost.

Air Valve Parts



Air valve parts are not sold individually. The table below shows possible kit options for each part. See page 22 to order the correct kit(s), or full replacement air valves, for your motor.

Ref.	Description	Qty.	Air Valve Repair Kit	Air Valve Seal Kit	Air Valve End Cap Kit	Other
101	HOUSING	1				
102◆	AIR VALVE PISTON	1	V			
103◆	DETENT PISTON ASSEMBLY	1	✓			
104◆	DETENT CAM	1	~			
105◆	PLATE, air valve	1	✓			
106†⊕◆	O-RING	2	V	~	✓	
107₽	CAP				V	
	Standard	2				
	Compatible with DataTrak with runaway protection	1				
108†◆	U-CUP	2	~	~		
109†◆	SCREW	2	V	-		Screws Kit 24A359 (pack of 10)
110◆₩	SNAP RING	2	~		✓	
111♦	DETENT SPRING	1	V			
112♦	CUP	1	~			
117₽	CAP (for DataTrak models with runaway protection)	1			V	
118≇	BUTTON, solenoid release (for DataTrak models with runaway protection)	1			V	
119†⊕◆	O-RING (for DataTrak models with runaway protection)	1	~	-	V	
22	SCREW, M6 x 25 (see page 18)	4				See Manifold Assembly (15, Air Motor Parts table) or Solenoid Assembly (25, Air Motor Parts table)
20*†◆	AIR VALVE GASKET (see page 18)	1	•	V		See Air Motor Seal Kit (page 22) or Manifold Assembly (15, Air Motor Parts table

[†] Included in Air Valve Seal Kit. See page 22.

[◆] Included in Air Valve Repair Kit. See page 22.

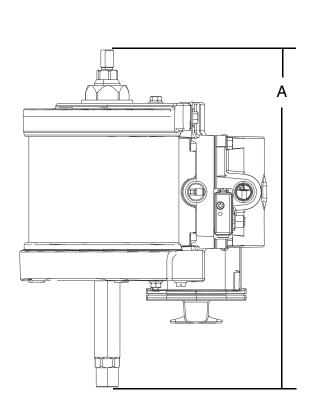
[₱] Included in Air Valve End Cap Kit. See page 22.

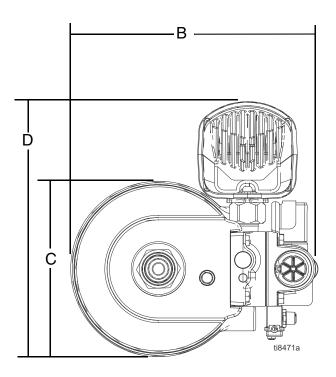
Kits and Accessories

Kit Description	M07LNL
Complete Air Valve Replacement Kit – Standard (No DataTrak or DataTrak with cycle count only)	24A352
Complete Air Valve Replacement Kit – Compatible with DataTrak with Runaway Protection	24A354
* Air Motor Seal Kit	16N238
◆ Air Valve Repair Kit	24A538
† Air Valve Seal Kit	24A536
 Air Valve End Cap Kit – Standard (No DataTrak or DataTrak with cycle count only, Air Valves 24A351 and 24A352) 	24A361
	24A363
Screws Kit — Includes ten screws (109)	24A359
DataTrak with Runaway Protection Upgrade Kit Kit contains 24A354 and 24A576: 24A354 - Smart Air Valve Kit 24A576 - DataTrak Repair Kit with Runaway Protection	16M881

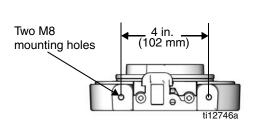
Dimensions

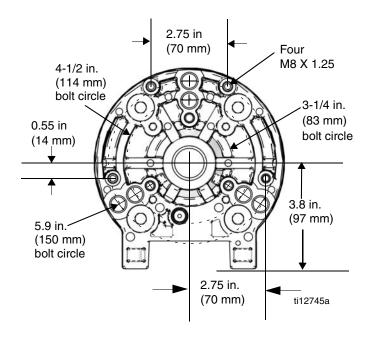
Α	В	С	D
13.2 in. (335 mm)	9.8 in. (249 mm)	6.8 in. (173 mm)	11.3 in. (287 mm)





Mounting Hole Diagrams



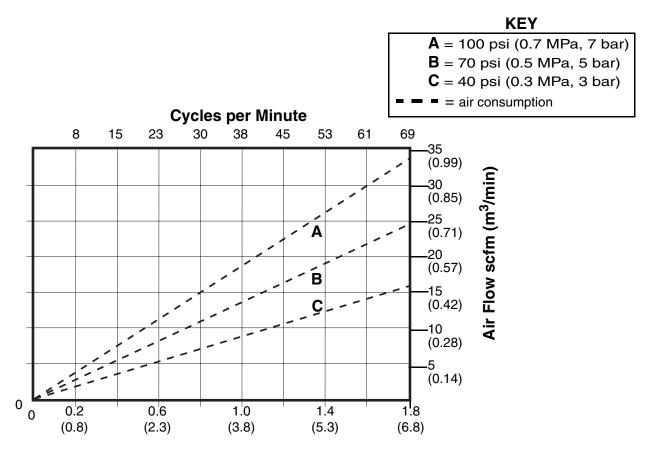


Technical Data

Maximum air inlet pressure	
Stroke length	
Air motor displacement	
Piston Diameter	4.5 in. (114 mm)
Air inlet size	1/2 in.
Maximum motor speed	70 cycles per minute
(Do not exceed maximum recommended speed of fluid	
pump, to prevent premature pump wear.)	
Weight	13.3 lb (6.0 kg)
Sound data	
Sound power*	88.9 dBA
Sound pressure**	82.67 dBA

^{*} Sound power at 100 psi (0.7 MPa, 7.0 bar), 20 cycles per minute. Sound power measured per ISO-9614-2.

Performance Chart



Fluid Flow gpm (lpm) tested in No. 10 weight oil

^{**} Sound pressure was tested 3.28 feet (1 m) from equipment.

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.

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 Information

For the latest information about Graco products, visit www.graco.com.

TO PLACE AN ORDER, contact your Graco distributor or call to identify the nearest distributor.

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

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.

For patent information, see www.graco.com/patents.

Original instructions. This manual contains English. MM 3A2315

Graco Headquarters: Minneapolis International Offices: Belgium, China, Japan, Korea

GRACO INC. AND SUBSIDIARIES • P.O. BOX 1441 • MINNEAPOLIS MN 55440-1441 • USA

Copyright 2012, Graco Inc. All Graco manufacturing locations are registered to ISO 9001.