

# DataTrak<sup>®</sup> Kits

313541M  
EN

*Provides pump diagnostics and material usage information for spray packages. For professional use only.*

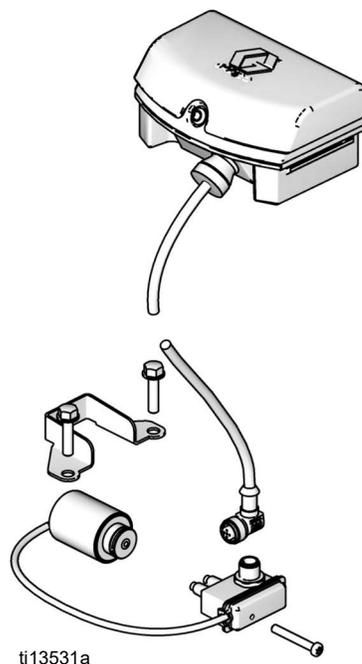
See page 3 for model information, including agency approvals.



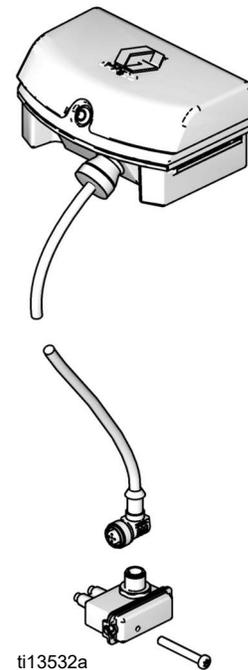
## Important Safety Instructions

Read all warnings and instructions in this manual and in your spray package manual. Save these instructions.

### DataTrak with Runaway Protection



### DataTrak with Cycle Count only



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# Related Manuals

| Part No.      | Description                          |
|---------------|--------------------------------------|
| <b>312797</b> | Merkur® Non-Heated Spray Packages    |
| <b>312798</b> | Merkur® Electrostatic Spray Packages |
| <b>312799</b> | Merkur® Bellows Spray Packages       |
| <b>313255</b> | Merkur® Heated Spray Packages        |
| <b>334645</b> | Xtreme XL Packages                   |
| <b>3A5423</b> | XL™ 6500 and 3400 Air Motors         |
| <b>334644</b> | XL™ 10000 Air Motor                  |
| <b>312796</b> | NXT® Air Motor                       |

## Models

| NXT Air Motors (MxxLNO & MxxLT0) |        |                         |                                  |
|----------------------------------|--------|-------------------------|----------------------------------|
| Air Valve                        |        | DataTrak Conversion Kit |                                  |
| Part No.                         | Series | Part No.                | Description                      |
| 24A353                           | A      | 24A575                  | DataTrak with Runaway Protection |
|                                  |        | 24A592                  | DataTrak with Cycle Count Only   |
| 24A354                           | A      | 24A575                  | DataTrak with Runaway Protection |
|                                  |        | 24A592                  | DataTrak with Cycle Count Only   |

| XL Air Motors (XL65xx & XL34xx) |        |                         |                                  |
|---------------------------------|--------|-------------------------|----------------------------------|
| Air Valve                       |        | DataTrak Conversion Kit |                                  |
| Part No.                        | Series | Part No.                | Description                      |
| 17V344                          | A      | 24X550                  | DataTrak with Runaway Protection |
|                                 |        | 24X552                  | DataTrak with Cycle Count Only   |
| 17V344                          | B      | 19C374                  | DataTrak with Runaway Protection |
|                                 |        | 19C375                  | DataTrak with Cycle Count Only   |

| XL 1000 Air Motor (24X856) |        |                         |                                  |
|----------------------------|--------|-------------------------|----------------------------------|
| Air Valve                  |        | DataTrak Conversion Kit |                                  |
| Part No.                   | Series | Part No.                | Description                      |
| 17V344                     | A      | 24X550                  | DataTrak with Runaway Protection |
|                            |        | 24X552                  | DataTrak with Cycle Count Only   |
| 17V344                     | B      | 19C374                  | DataTrak with Runaway Protection |
|                            |        | 19C375                  | DataTrak with Cycle Count Only   |

## DataTrak Replacement Parts Kits

| Kit    | Description                      | Approvals                                                                                                                                                                                                                                                                                             |
|--------|----------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 24A575 | DataTrak with Runaway Protection |   <br>Ex ia IIA T3 Ga<br>ITS13ATEX27862X |
| 24A576 | DataTrak with Runaway Protection |                                                                                                                                                                                                                                                                                                       |
| 25A592 | DataTrak with Cycle Count        |                                                                                                                                                                                                                                                                                                       |
| 24X550 | DataTrak with Runaway Protection |   <br>Ex ia IIA T3 Ga<br>ITS13ATEX27862X |
| 24X552 | DataTrak with Cycle Count        |                                                                                                                                                                                                                                                                                                       |
| 19C374 | DataTrak with Runaway Protection |                                                                                                                                                                                                                                                                                                       |
| 19C375 | DataTrak with Cycle Count        |                                                                                                                                                                                                                                                                                                       |

# Installation



## WARNING




**SPECIAL CONDITIONS FOR SAFE USE**

Equipment must comply with the following conditions to avoid a hazardous condition which can cause fire or explosion.

- All label and marking material must be cleaned with a damp cloth (or equivalent).
- The electronic monitoring system is required to be grounded. See **Grounding** instructions in your spray package manual.

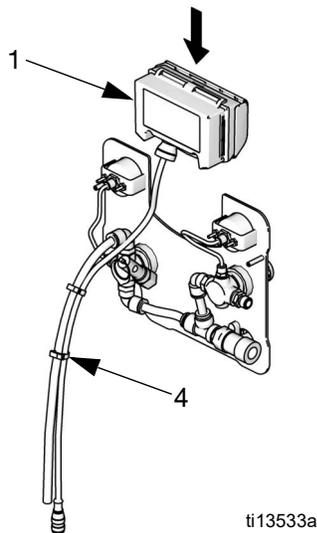
## NXT Air Motor Installation

### Prepare to Install

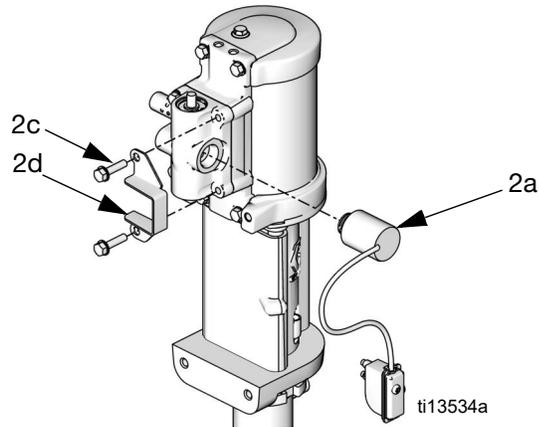
1. Relieve the pressure. Follow instructions in your spray package manual.
2. Disconnect the air line to the motor.

### Install the Kit

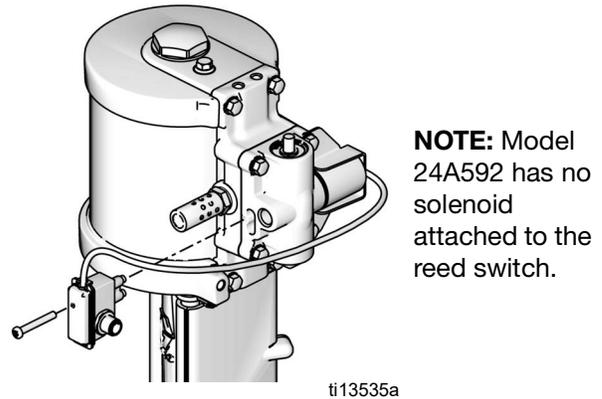
1. Remove the insert from the air control panel.
2. Install the DataTrak module (1) on the air control panel. Use the hose clips (4) provided to attach the DataTrak cable to the pump air line.



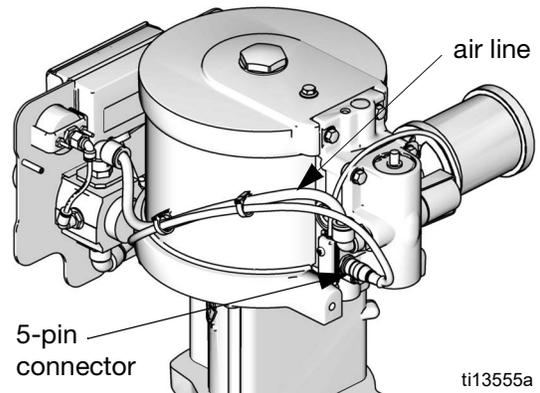
3. **Models 24A575 and 24A576 only:** Attach the solenoid (2a) and bracket (2d) to the air valve. Use the same screws (2c) that attach the air valve to the manifold, as shown.



4. Use the screw provided to attach the reed switch just behind the air inlet. Remove the muffler, if needed, for easier access. Rotate the air inlet fitting as needed so the wrench flat clears the reed switch.



5. Connect the DataTrak cable to the 5-pin connector on the reed switch. Reconnect the air line to the motor.

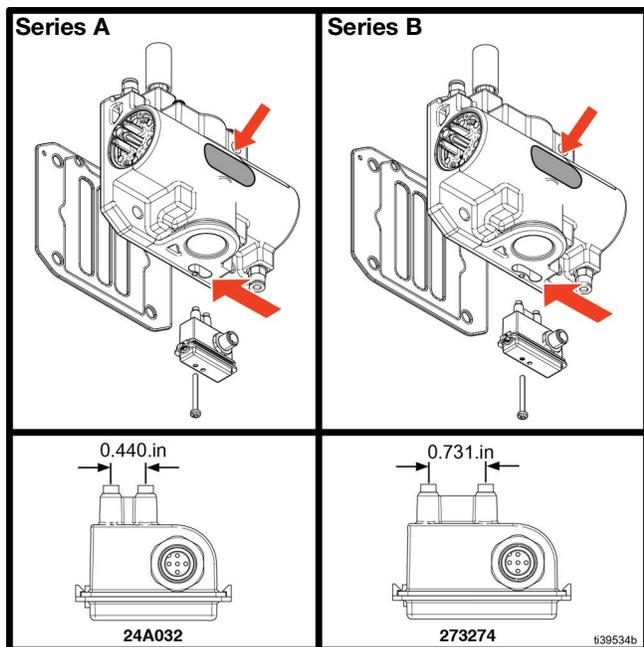


# XL Air Motor Installation

## Check Air Valve Compatibility

The reed switch size varies between kit models. Install a kit that is compatible with your air valve series. See **Models**, page 3, for air valve part numbers.

**NOTE:** The series is indicated on the Air Valve Label.

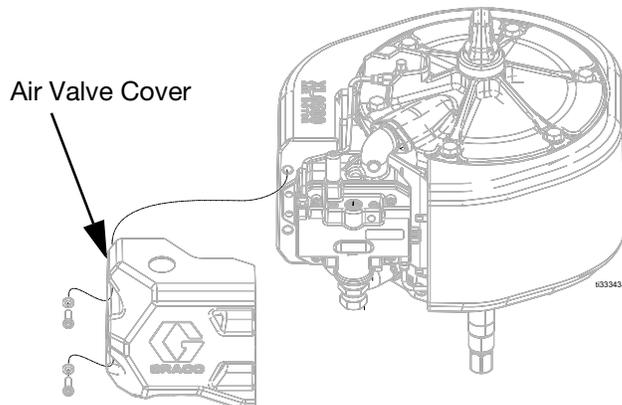


## Prepare to Install

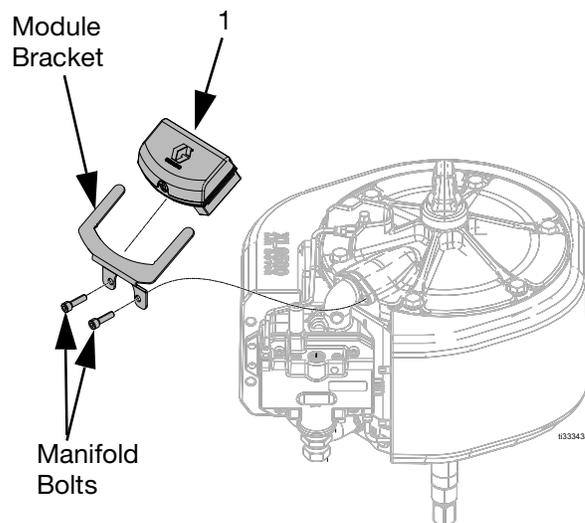
1. Relieve the pressure. Follow instructions in your spray package manual.
2. Disconnect the air line to the motor.

## Install the Kit

1. Remove the air valve cover.

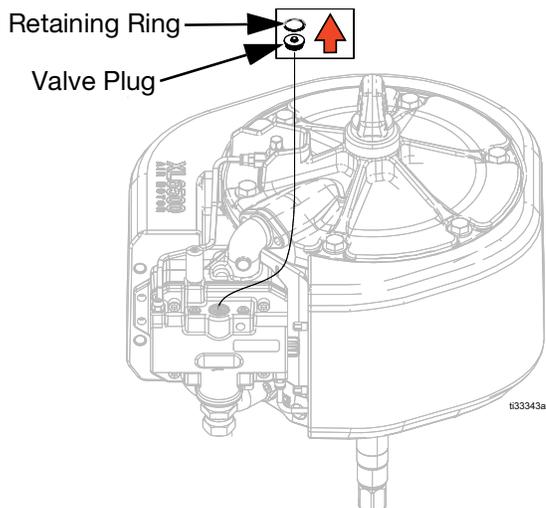


2. Remove the top exhaust manifold bolts, then use the bolts to attach the module bracket and DataTrak module (1).



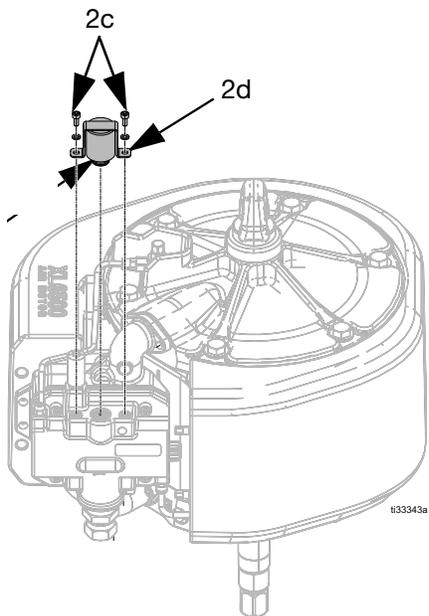
Installation

3. **Model 24X550 and 19C374 only:** Remove the retaining ring and valve plug from the air valve.



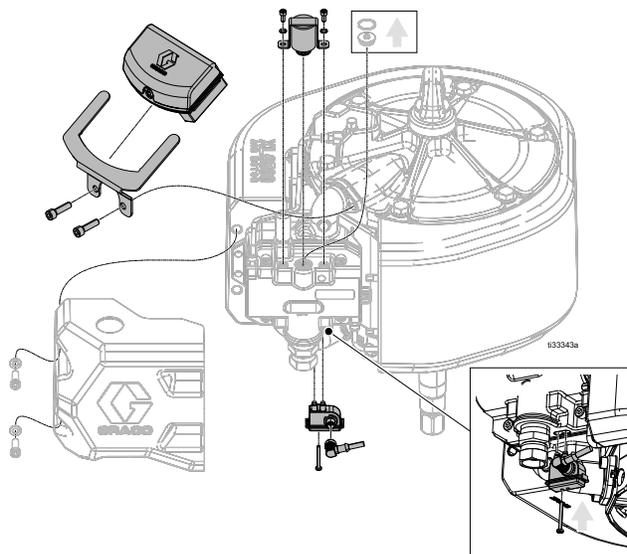
**Model 24X550 and 19C374 only:** Attach the solenoid (2a) and bracket (2d) to the air valve. Use the same screws (2c) that attach the air valve to the manifold, as shown in FIG. 1.

**NOTE:** Models 24X552 and 19C375 have no solenoid attached to the reed switch.

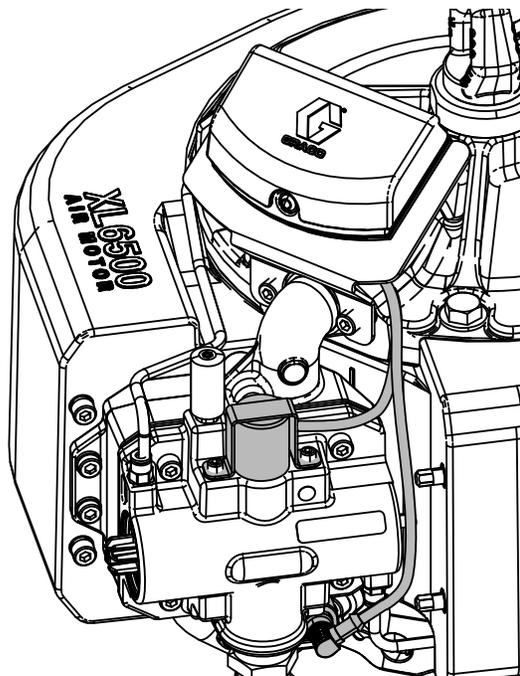


**FIG. 1: Solvent Installation**

4. Use the screw provided to attach the reed switch just behind the air inlet. Attach the DataTrak cable to the 5 pin connector on the reed switch. Remove the muffler, if needed, for easier access. Rotate the air inlet fitting as needed so the wrench flat clears the reed switch.



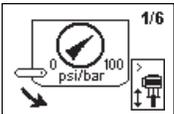
5. The DataTrak should be assembled as shown in FIG. 2.



**FIG. 2: DataTrak Assembly**

# Check DataTrak Operation

## Models 24A575, 24A576, 24X550, and 19C374 (with Runaway Solenoid)

1. Enable runaway  and set the runaway limit. Graco recommends setting runaway to 60.
2. Run the air motor at a speed slower than the runaway limit.
3. Check for proper reed switch operation.
  - a. The DataTrak pump icon should move when the air motor changes direction.
  - b. The Grand Totalizer and Batch Totalizer should increase by 1 for every air motor cycle.
4. Check for proper runaway operation.
  - a. Run the air motor at a speed faster than the runaway limit.
  - b. After 5 consecutive cycles, the DataTrak should stop the air motor and display the runaway diagnostic screen. 
  - c. Follow the runaway reset instructions in your spray package manual.
  - d. After resetting, turn on the air supply. The air motor should run. Shut off the air until ready to pump.
5. Configure the DataTrak as needed, see page 9.

## Model 24A592, 24X552, and 19C375 (Without Runaway Solenoid)

1. Run the air motor to check for proper reed switch operation.
  - a. The DataTrak pump icon should move when the air motor changes direction.
  - b. The Grand Totalizer and Batch Totalizer should increase by 1 for every air motor cycle.
2. Configure the DataTrak as needed, see page 9. Be sure to disable runaway monitoring.

# DataTrak Controls and Indicators

## Key for FIG. 3

- AA Runaway Limit, in cycles per minute (user settable; 00=OFF)
- AB Lower Displacement (user settable)
- AC Flow Rate Units (user settable to  $\updownarrow$ /min, gpm [US], gpm [Imperial], oz/min [US], oz/min [Imperial], l/min, or cc/min)
- AD LED (fault indicator when lit)
- AE Display
- PF Prime/Flush Key (Enables Prime/Flush mode. While in Prime/Flush mode, runaway protection is disabled and the batch totalizer [BT] will not count.) LED will flash while in Prime/Flush mode.

- RK Reset Key (Resets faults. Press and hold for 3 seconds to clear the batch totalizer.) Push to toggle between flow rate and cycle rate. With runaway protection enabled, push to extend and retract the solenoid pin.
- CF Cycle/Flow Rate
- BT Batch Totalizer
- GT Grand Totalizer
- RT Runaway Toggle (enable/disable)
- UT E1 Toggle
- DT E2 Toggle
- ST E5 Toggle

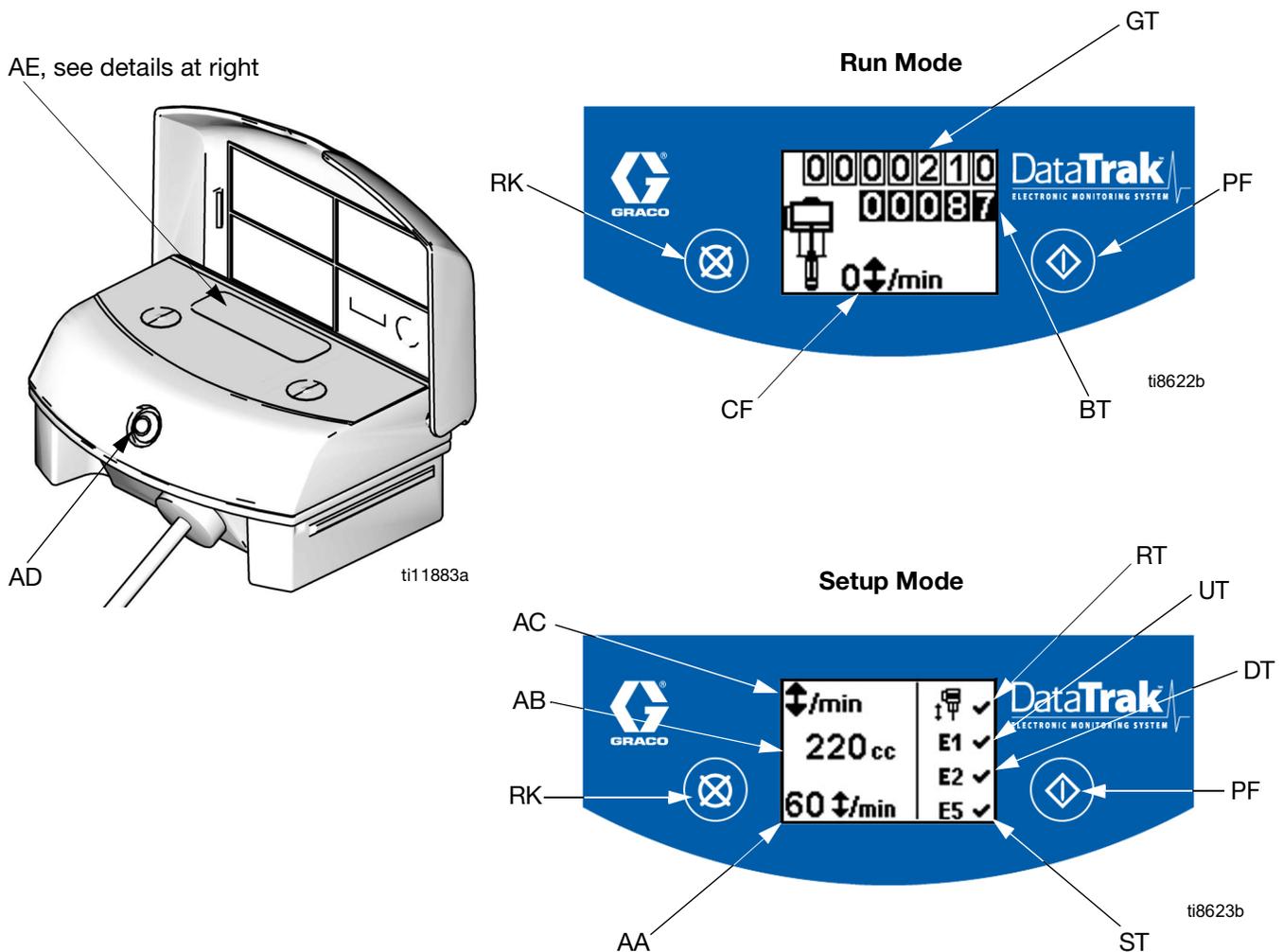


FIG. 3. DataTrak Controls and Indicators

# DataTrak Operation

The display (AE) will turn off after 1 minute to save battery life. Press any key to wake up the display.

## NOTICE

To prevent damage to the softkey buttons, do not press the buttons with sharp objects such as pens, plastic cards, or fingernails.

## Setup Mode

1. See FIG. 3. Press and hold  for 5 seconds until Setup menu appears.
2. To enter settings for runaway (if equipped), lower size, and flow rate units, and to enable runaway, E1, E2, and E5 error options, press  to change the value, then  to save the value and move the cursor to the next data field. See page 11 for a description of E1, E2, and E5 error codes.

Graco recommends setting runaway (if equipped) to 60 . All DataTrak modules are shipped with runaway protection not enabled.

When runaway, E1, E2, and E5 error options are enabled, a ✓ will appear on the setup screen. See FIG. 3.

3. Move the cursor to the E5 error enable option field, then press  once more to exit Setup mode.

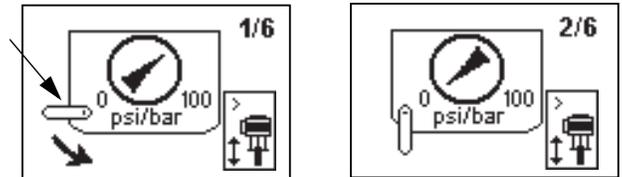
## Run Mode

### Runaway

DataTrak is available with and without runaway protection. Packages with M02xxx air motors ship without a runaway solenoid. All other DataTrak packages are equipped with a runaway solenoid.

1. See FIG. 3. If pump runaway occurs, the runaway solenoid will actuate, stopping the pump. The LED (AD) will flash and the display (AE) will indicate a runaway condition (see Table 1 on page 11). The display will cycle through six instruction screens.

2. Runaway Screens 1 and 2: To reset the runaway solenoid, close the master air valve (E). Wait for air to completely bleed off the air motor.



3. Runaway Screens 3 and 4: After the air is bled off, push the solenoid release button (J) down to reset the air valve. The button will pop back up when the air valve is repressurized.

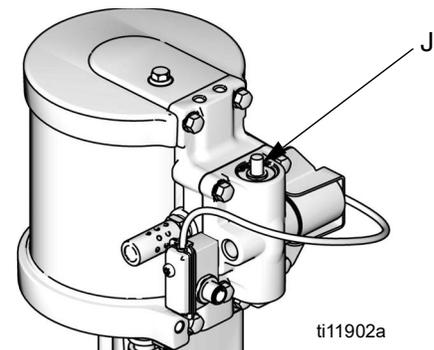
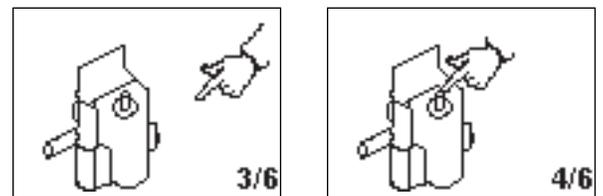
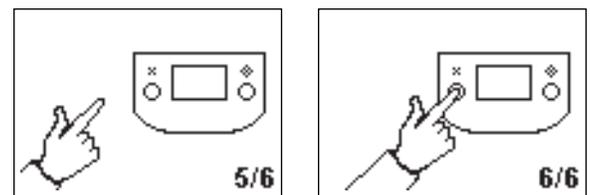


FIG. 4. Solenoid Release Button

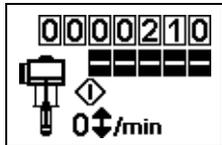
4. Runaway Screens 5 and 6: Press  to clear the diagnostic code and reset the runaway solenoid.



5. Open master air valve (E) to restart pump. To disable runaway monitoring, go to setup mode and set runaway value to 0 (zero) or toggle (RT) off  (see FIG. 3).

## Prime/Flush

1. See FIG. 3. To enter Prime/Flush mode, press any key to wake up the display, then press . The Prime/Flush symbol will appear in the display and the LED will flash



2. While in Prime/Flush mode, runaway protection is disabled and the batch totalizer (BT) will not count. The grand totalizer (GT) continues to count.
3. To exit Prime/Flush mode, press any key to wake up the display, then press . The Prime/Flush symbol will disappear from the display and the LED will stop flashing.

## Counter/Totalizer

See FIG. 3. The last digit of the batch totalizer (BT) represents tenths of gallons or liters. To reset the totalizer, press any key to wake up the display, then press and hold  for 3 seconds.

- If AC is set to gallons or ounces, BT and GT display gallons.
- If AC is set to liters or cc, BT and GT display liters.
- If AC is set to cycles, BT and GT display cycles.

Press  to toggle between flow rate units and cycles. A letter under the BT display indicates that both BT and GT are displaying gallons (g) or liters (l). No letter means both BT and GT are displaying cycles.

## Display

See FIG. 3. The display (AE) will turn off after 1 minute of inactivity in Run mode or 3 minutes in Setup mode. Press any key to wake up the display.

DataTrak will continue to count cycles when display is off.

The display (AE) may turn off if a high-level static discharge is applied to the DataTrak. Press any key to wake up the display.

## Diagnostics

DataTrak can diagnose several problems with the pump. When the monitor detects a problem, the LED (AD, FIG. 3) will flash and a diagnostic code will appear on the display. See Table 1 on page 11.

To acknowledge the diagnosis and return to the normal operating screen, press  once to wake up the display, and once more to clear the diagnostic code screen.

**Table 1: Diagnostic Codes**

| Symbol                                 | Code | Code Name                                                  | Diagnosis                                   | Cause                                                                                                                                                                                                                                                                                                              |
|----------------------------------------|------|------------------------------------------------------------|---------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p>1/6 2/6<br/>3/6 4/6<br/>5/6 6/6</p> |      | Runaway<br>(DataTrak only)                                 | Pump running faster than set runaway limit. | <ul style="list-style-type: none"> <li>Increased air pressure.</li> <li>Increased fluid output.</li> <li>Exhausted fluid supply.</li> </ul>                                                                                                                                                                        |
| <p><b>E1</b></p>                       | E-1  | Diving Up                                                  | Leak during upstroke.                       | Worn piston valve or packings.                                                                                                                                                                                                                                                                                     |
| <p><b>E2</b></p>                       | E-2  | Diving Down                                                | Leak during downstroke.                     | Worn intake valve.                                                                                                                                                                                                                                                                                                 |
| <p><b>E3</b></p>                       | E-3  | Low Battery                                                | Battery voltage too low to stop runaway.    | Low battery. Replace battery; see page 12.                                                                                                                                                                                                                                                                         |
| <p><b>E4</b></p>                       | E-4  | Service Component 1 (units with runaway protection only)   | Problem with stopping runaway.              | <ul style="list-style-type: none"> <li>Damaged solenoid.</li> <li>Damaged valve carriage.</li> <li>Runaway (RT, FIG. 3) protection may be enabled with pump that is not equipped with a runaway solenoid valve. Enter setup screen and disable runaway protection.</li> </ul>                                      |
| <p><b>E4</b></p>                       | E-4  | Disconnected Solenoid (units with runaway protection only) | Solenoid is disconnected.                   | <ul style="list-style-type: none"> <li>Solenoid unplugged.</li> <li>Damaged solenoid wires.</li> </ul>                                                                                                                                                                                                             |
|                                        |      |                                                            | Solenoid is not engaging piston cup (112).  | <ul style="list-style-type: none"> <li>Bracket and solenoid not tight against air valve housing.</li> </ul>                                                                                                                                                                                                        |
| <p><b>E5</b></p>                       | E-5  | Service Component 2                                        | Problem with sensing valve movement.        | <ul style="list-style-type: none"> <li>Sensors unplugged.</li> <li>Sensors mounted incorrectly.</li> <li>Damaged sensors.</li> <li>Damaged valve carriage.</li> </ul>                                                                                                                                              |
| <p><b>E6</b><br/>Fuse<br/>250mA</p>    | E-6  | Blown Fuse                                                 | Fuse is blown. Replace fuse; see page 13.   | <ul style="list-style-type: none"> <li>Faulty solenoid or solenoid wiring.</li> <li>Extreme temperatures (above 140°F [60°C]).</li> <li>Runaway (RT, FIG. 3) protection may be enabled with pump that is not equipped with a runaway solenoid valve. Enter setup screen and disable runaway protection.</li> </ul> |

## Replace DataTrak Battery or Fuse


WARNING



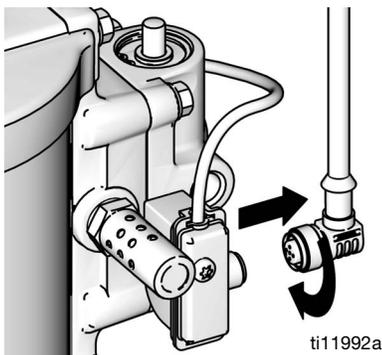
**FIRE AND EXPLOSION HAZARD**

To reduce the risk of fire and explosion, the battery and fuse must be replaced in a non-hazardous location.

Use only an approved replacement battery, shown in TABLE 2:, and an approved fuse, shown in TABLE 3:. Use of an unapproved battery or fuse will void Graco's warranty and Intertek and Ex approvals.

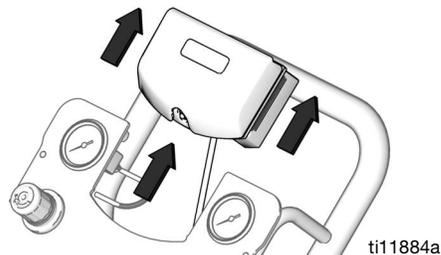
### Replace Battery

1. Unscrew cable from the back of the reed switch assembly. See FIG. 5.
2. Remove the cable from the two cable clips.

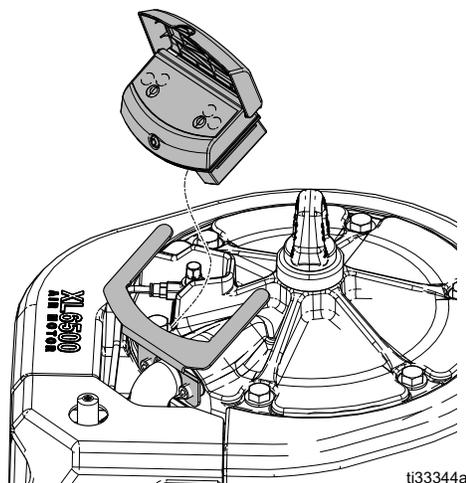


**FIG. 5. Disconnect DataTrak**

3. Remove DataTrak module from bracket. See FIG. 6. Take module and attached cable to a non-hazardous location.



**FIG. 6. Remove DataTrak from Murker Air Motor**



**FIG. 7. Remove DataTrak from XL Air Motor**

4. Remove two screws on back of module to access battery.
5. Disconnect the used battery and replace with an approved battery. See Table 2:.

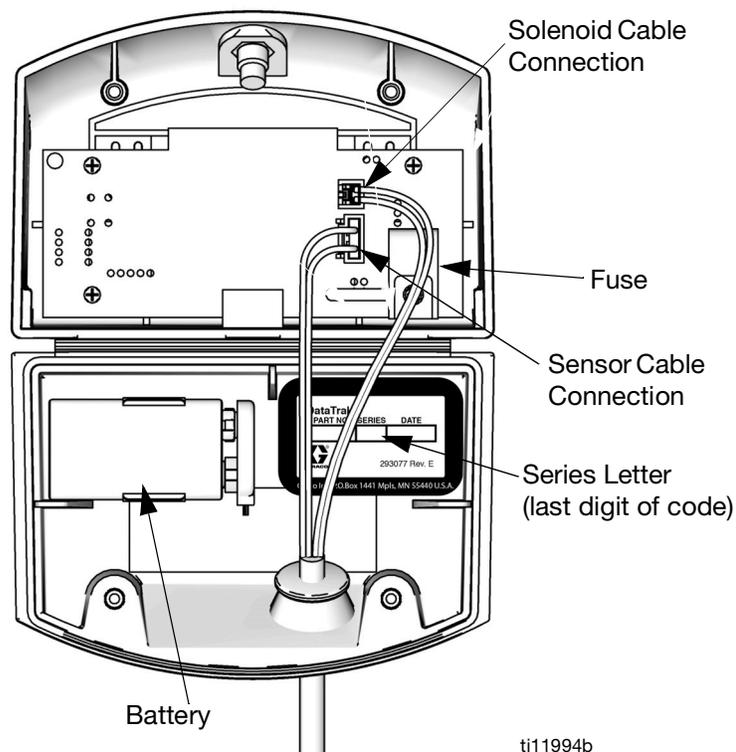
| <b>Table 2: Approved Batteries</b> |
|------------------------------------|
| Energizer alkaline # 522           |
| Varta alkaline # 4922              |
| Ultralife lithium # U9VL           |
| Duracell alkaline # MN1604         |

## Replace Fuse

1. Remove the screw, metal strap, and plastic holder.
2. Pull the fuse away from the board.
3. Replace with an approved fuse from TABLE 3:

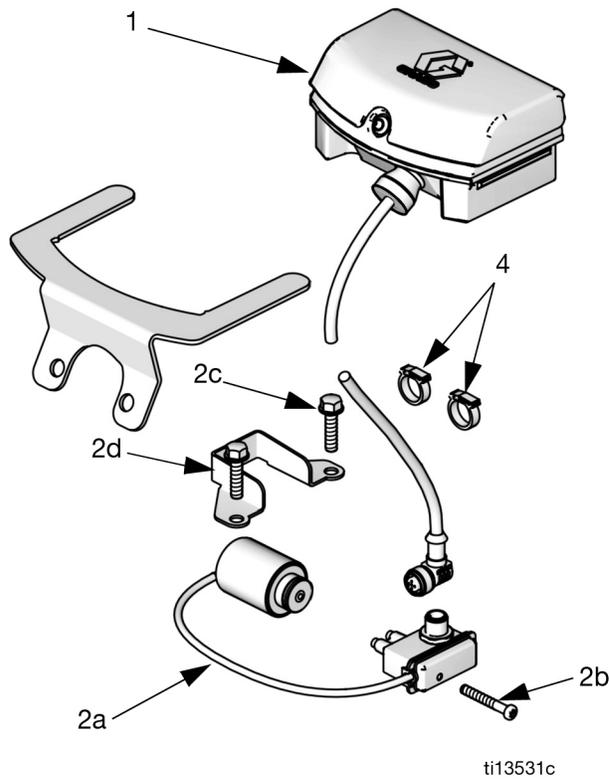
| <b>DataTrak Part Number</b> | <b>Series*</b> | <b>Fuse Required</b> |
|-----------------------------|----------------|----------------------|
| 289822                      | A or B         | 24C580               |
|                             | C and later    | 24V216               |
| All other part numbers      | A              | 24C580               |
|                             | B and later    | 24V216               |

\* FIG. 8 shows where to find the Series letter.



**FIG. 8. DataTrak Battery and Fuse Location**

# Parts



| Ref | Part   | Description                   | 24A575 | 24A576 | 24X550 | 19C374 | 24A592 | 24X552 | 19C375 |
|-----|--------|-------------------------------|--------|--------|--------|--------|--------|--------|--------|
| 1   | 24B563 | DATATRAK, module              | 1      | 1      | 1      | 1      | 1      | 1      | 1      |
| 2   | 24B565 | REED SWITCH with solenoid kit | 1      |        |        |        |        |        |        |
|     | 24B566 | REED SWITCH with solenoid kit |        | 1      | 1      |        |        |        |        |
|     | 19C795 | REED SWITCH with solenoid kit |        |        |        | 1      |        |        |        |
|     | 25C373 | REED SWITCH kit               |        |        |        |        | 1      | 1      |        |
|     | 19C796 | REED SWITCH kit               |        |        |        |        |        |        | 1      |
| 2b  | 15V719 | SCREW, #8-32 x 1.50           | 1      | 1      | 1      | 1      | 1      | 1      | 1      |
| 2c  | 15R553 | SCREW, M6 x 25                | 2      | 2      | 2      | 2      |        |        |        |
| 2d* | ----   | BRACKET, solenoid             | 1      | 1      | 1      | 1      |        |        |        |
| 4   | 24A544 | CLAMP, hose (10 pack)         | 2      |        |        |        | 2      |        |        |
|     | 24A548 | CLAMP, hose (10 pack)         |        | 2      | 2      | 2      |        | 2      | 2      |
| 5▲  | 15V262 | LABEL, warning (not shown)    | 1      | 1      | 1      | 1      | 1      | 1      | 1      |
| 6   | 17R738 | BRACKET, datatrak mount       |        |        | 1      | 1      |        | 1      | 1      |

\* Reed switch kits may come with extra solenoid brackets, discard other brackets that don't fit your motor.

▲ Replace Warning labels, signs, tags, and cards are available at no cost.

# 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](http://www.graco.com).

For patent information, see [www.graco.com/patents](http://www.graco.com/patents).

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

**Toll Free Phone Number:** 1-800-328-0211

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**Graco Headquarters:** Minneapolis

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