# INSTRUCTIONS–PARTS LIST

# 309153

**Rev. A**

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

**INSTRUCTIONS**

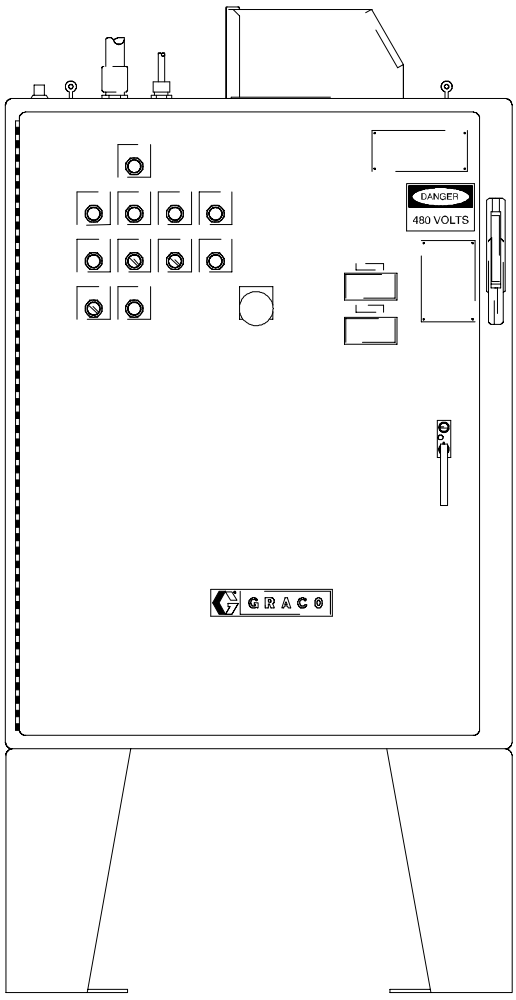
*First choice when quality counts.™*

# Gear Meter Repair Kit for 617517

**Part No. 243793**

## Table of Contents






TI0705


**GRACO INC. P.O. BOX 1441 MINNEAPOLIS, MN 55440–1441**

# Symbols

### Warning Symbol

**⚠ WARNING**

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

### Caution Symbol

**⚠ CAUTION**

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

- Disconnect the power before servicing and before you remove the cover.
- Do not touch electrical components; you could get an electric shock or damage the circuits.
- 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. Use only genuine Graco parts and accessories. Modifying parts can cause a malfunction and result in serious bodily injury.
- Check equipment daily. Repair or replace worn or damaged parts immediately.
- Connect to a proper electrical power source.
- Comply with all applicable local, state, and national fire, electrical, and safety regulations.
- Use only alarm and control devices that are compatible with the electrical requirements of this unit.

# Notes

# Installation

## Board Removal

1. Disconnect Power Source
2. Remove guard over DCMC, PTFB, and I'FACE Boards
3. Confirm all wires running to the boards are labeled. If not, label the wires per drawing 617517 Rev A
4. Disconnect all wires and remove the DCMC, PTFB, and I'FACE Boards

## New Board Preparation

1. Set new control board jumpers per Table 1, control board jumper locations locations. See figs. 1 and 2.

| Jumper | Setting | Location |
|---|---|---|
| J1A | 230V | A |
| J1B | 230V | B |
| J2 | 10A | C |
| J3 | 180V | D |
| J4 | Factory Setting | E |
| J5 | AFB | F |
| J6 | NTCL | G |
| J7 | SPD | H |
| J8 | S/LT | J |

Table 1 – Control Board Jumper Settings

2. Drill and tap (10–32 UNF) the lower left hand mounting hole to be located approximately 2" up from the horizontal 2"x 4" wireway and 2" to the right of the 3"x 4" vertical wireway. Locate the remaining holes using the mounting pattern shown in Fig. 3 Control Board Mounting Hole Locations.

**⚠ CAUTION**

**Protect all electrical components during the drilling and tapping process from metal chips produced. Enclosure should be free of metal chips after installation.**

3. Mount the control board with the supplied 10–32 x 1.00" cap screws.

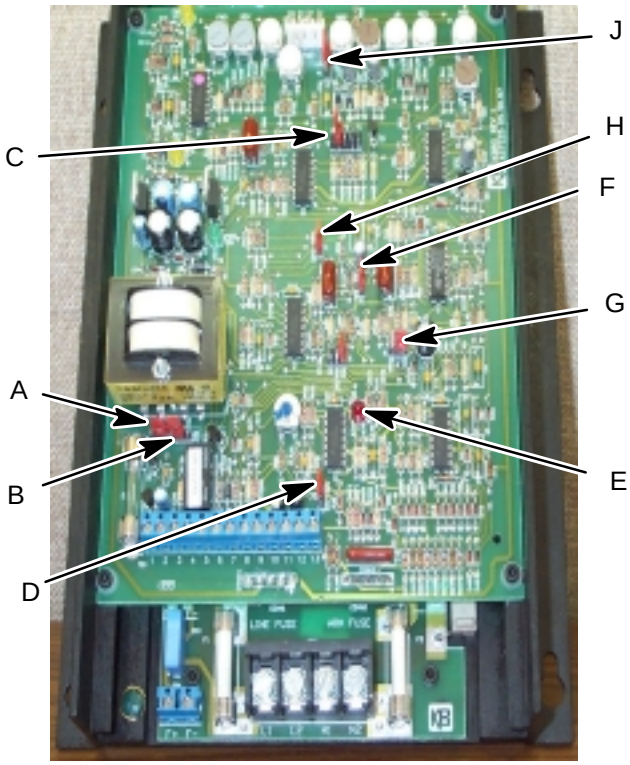



Fig. 1 Control Board Jumper Locations Photo

# Installation

## Control Board Jumper Locations Drawing

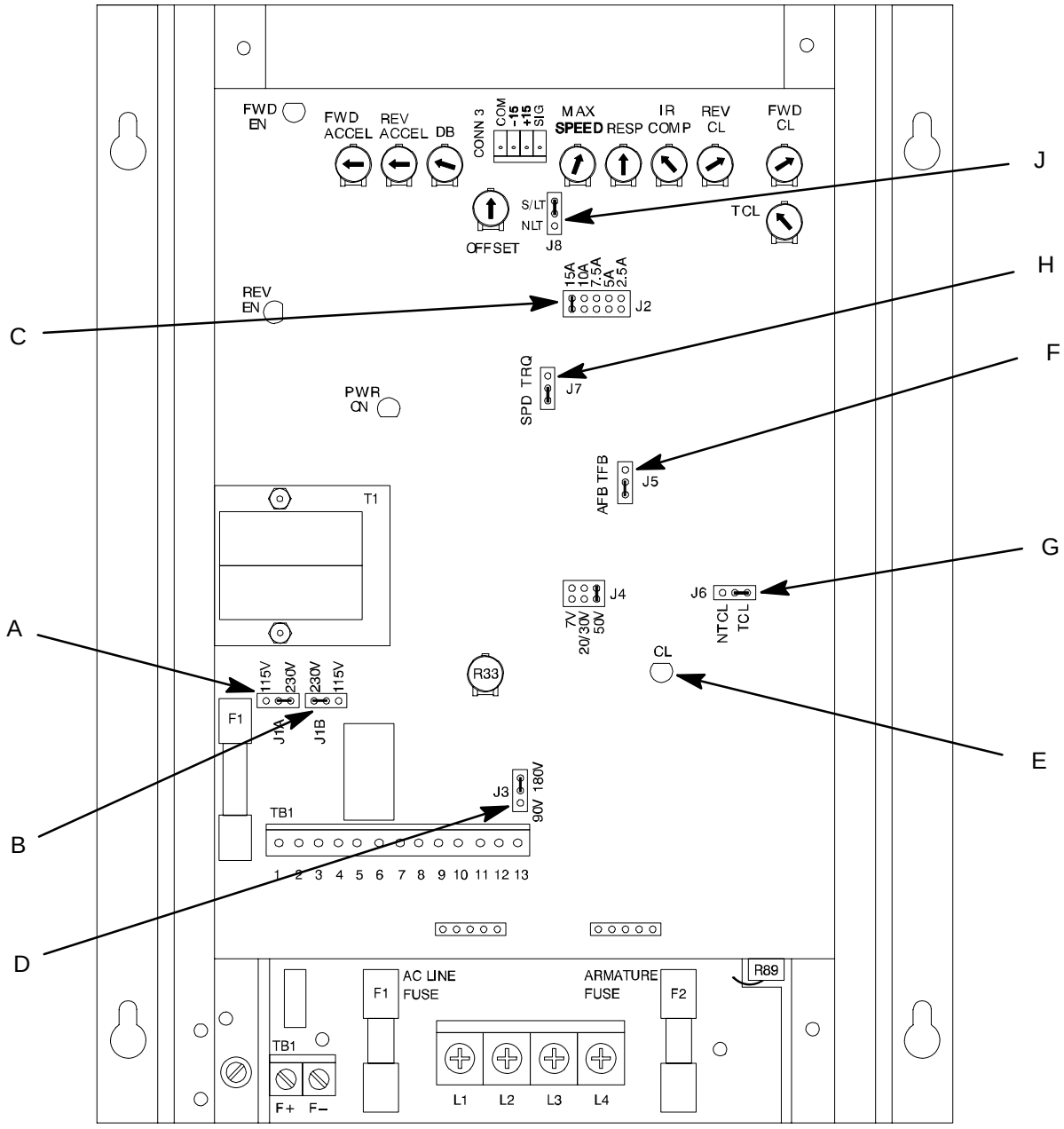



Fig. 2

# Installation

## Control Board Mounting Hole Locations

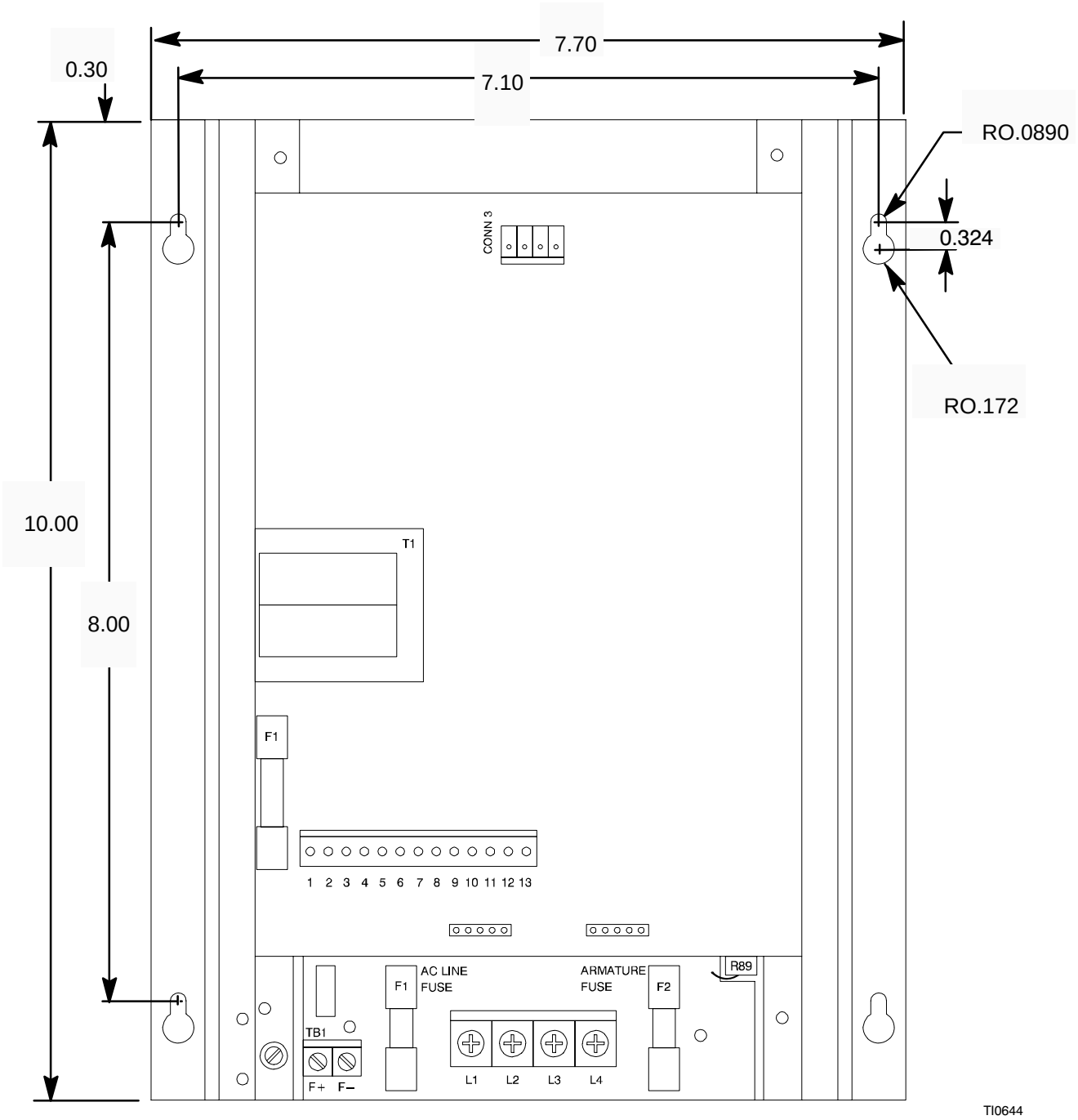



Fig. 3

# Installation

## Installation

1. Connect wires to the new board per Table 2, also see fig. 4, Control Board Wire Locations

| Wire Number | Location | Wire Number | Location |
|---|---|---|---|
| 2T1 | L1 | 3031 | 8 |
| 2T2 | L2 | 3051 | 9 |
| 3052 | M1 | 3103 | 10 |
| 3032 | M2 | 3104 | 12 |
| | | 3105 | 13 |

Table 2 – Wire Locations

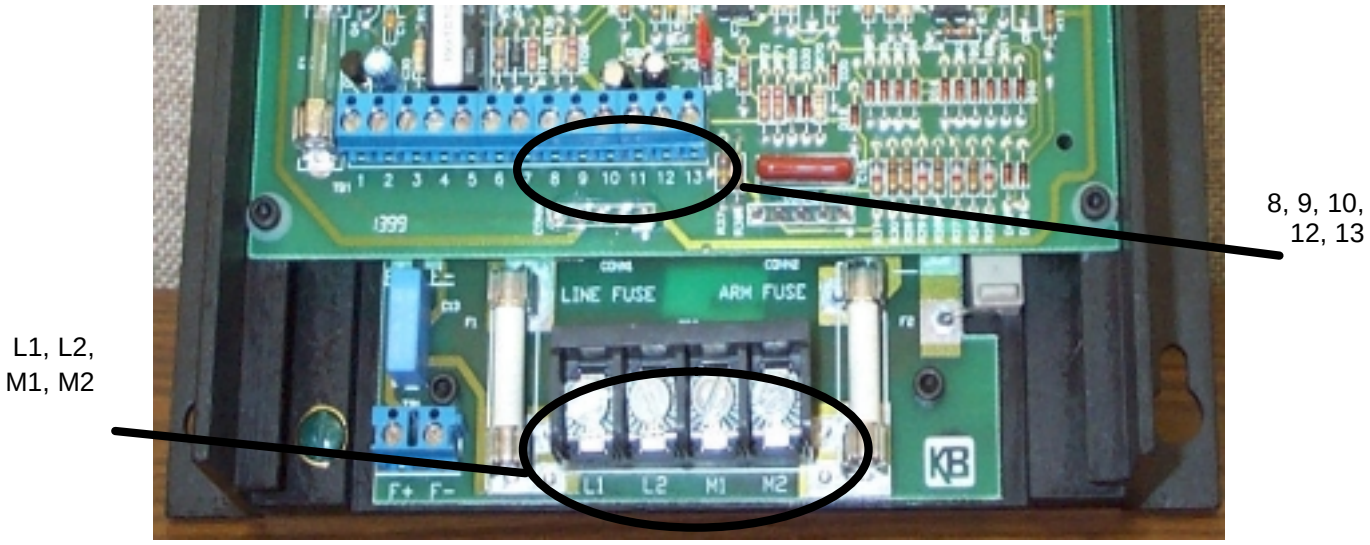



Fig. 4 Control Board Wire Locations

2. Adjust wire lengths as required. Relabel shortened wires as necessary.
3. Connect a jumper between locations 5 and 7 on the new control board.
4. Add a ground wire (P/N 240656) from the ground screw on the control board to the terminal strip ground.
5. Remove the following wires per table 3, Wires to Remove.
6. Verify that all wire terminals are tight and the wires are secured in place.
7. Verify that all loose wires are accounted for (reconnected or removed).

| Wire Number | Description |
|---|---|
| 1083 * | PTFB 120V Supply |
| 3071 | DCMC Inhibit |
| 3072 | Board Interconnection (DCMC Common) |
| 3072 | Board Interconnection (PTFB Sig Common) |
| 3073 | Board Interconnection (Speed Signal) |
| 3074 | Board Interconnection (+15 V Supply) |
| 3081 | PTFB Supply |
| 3101 | Board Interconnection (Pulse In PTFB–I'Face) |
| 3102 | Speed Sensor Signal |
| 3106 | PTFB Inhibit |

Table 3 – Wires to remove

*** Only disconnect the 1083 wire supplying the Pulse Tach Feedback Board. The 1083 power wires supplying the readout and other devices should remain.**

# Installation

## Tachometer display setup

1. Connect the wire labeled Spare 1 to the #3 position of the tach display (TD321), and the terminal block in position 3102. See fig. 5, Tach Display Connections. Relabel the wire 3102

2. Renumber 3101 (from the I'FACE Pulse Out to the Read out) to 3121. Use this wire to make the connection from the readout location #5 to the terminal block location 3121.

3. Move DIP Switch #3 (on side of unit) to the On position

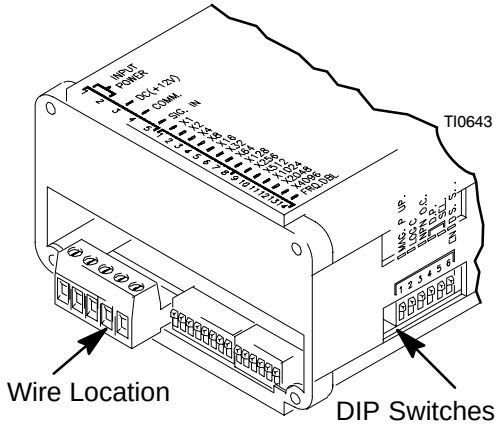



Fig. 5 Tach Display Connections

## Testing and Calibration

**NOTE:** Before re–connecting either the 480VAC or 120VAC power cord and plug to the receptacle, verify that the main power conductors (480 VAC or 120 VAC) are connected to the control panel are properly terminated and secured.

1. Connect required supply voltage to control panel (i.e.120VAC, 240VAC or 480VAC).

**NOTE:** If transformer is supplied, verify the required primary supply voltage.

2. Turn the Motor Off – On selector switch (SS125) to the OFF position.

3. Operate the main disconnect switch (switch ON).

   a. Verify that Power ON/Gnd Connected lamp is illuminated.

   b. Press the START PB (PB1131) and verify that the Control Active lamp is illuminated.

   c. Verify that both the Tach Display (TD321) and the Pressure display (PD166) are powered up (ON).

   d. Verify that the Material Pressure Below Min (1000PSI) lamp is illuminated.

4. Verify that the Pressure Display (PD166) is set so that it will display the "Input" value and not the Totalized pressure value.

   a. Press the Down arrow key on PD166 and verify that it reads INPUT. This will change the display to only display the input pressure value and not a totalized sum.

5. Press the Fault Reset pushbutton (PB158)

6. Press the "Start" pushbutton (PB1131).

7. Verify that the "Control Active" Lamp (LT117) is energized.

8. Turn the Speed Signal selector switch (SS135) to the POT position.

9. Turn the Dispense selector switch (SS169) to the Manual position.

10. Verify that the Material Outlet Pressure below min light is illuminated.

11. Turn the Motor Off–ON selector switch (SS125) to the ON position.

# Installation

## Calibration of Max motor RPM:

1. Motor Calibration:
   a. Press the Dispense PB and verify that the motor is rotating counter clockwise when viewed from the pump shaft end.
2. Set Speed Pot #1 at approximately 30% range or 300.
3. Set the RPM/Current switch to RPM if the switch is included on the panel.
4. Press and hold the Dispense pushbutton (PB169).
   a. Verify that the Tach Display (TD321) is displaying a general speed value.
   b. Release the Dispense pushbutton and adjust Speed Pot #1 to 100% (999).
5. Press and hold the Dispense pushbutton (PB169).
6. View the motor speed on the Tach Display (TD321) and adjust the max speed to 1800 RPM with the Max Speed pot on the BC200 Motor Control board. Release the Dispense PB when completed. See fig. 6, Control Board Max Speed Control Location.

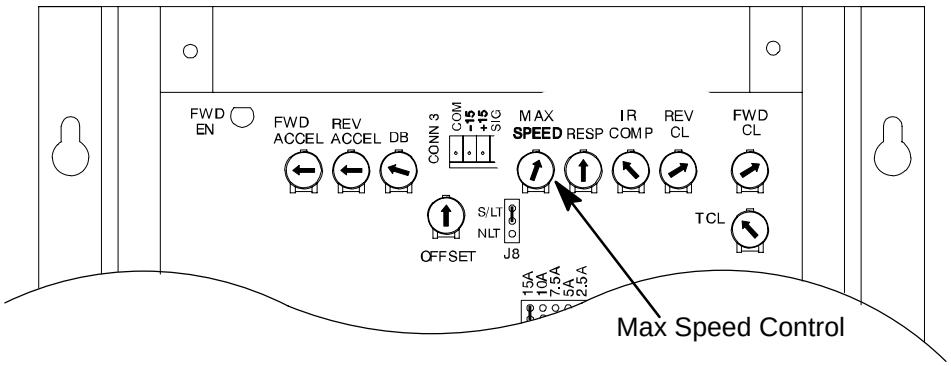



Fig. 6 Control Board Max Speed Control Location TI0686

7. After the max speed is calibrated, press the Dispense pushbutton (PB169).
   a. Verify that solenoid 202 (Disengage Brake/Engage Clutch) operates.
   b. Verify that solenoid 206 (Open Dispense gun) operates.
   c. Measure the voltage at terminal 2123 (pos) and 1083 (neg.). It should be120VAC.
   d. Verify the Pressure display is operating correctly.
   e. Remove the Dispense signal by releasing pushbutton (PB169).
8. With the motor running (item 15), press the E–stop (PB1132) on the Main Control panel.
   a. Verify that the system shuts down.
   b. Perform the same operation as above, but this time activate the E–stop on the junction box to shut down the system.
9. Verify that the system shuts down.

## Final Installation

1. Replace all original safety guards and wireway covers.

# 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 procedures 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**

*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.*

**Sales Offices:** Minneapolis, Detroit
**International Offices:** Belgium, Korea, Hong Kong, Japan

**GRACO INC. P.O. BOX 1441 MINNEAPOLIS, MN 55440–1441**
**www.graco.com**
PRINTED IN USA 309153 August 2000