Repair

ThermoLazer® 200/200TC/300TC and ThermoLazer ProMelt™ Pavement Marking Systems

3A1320K

EN

- For professional application of thermoplastic traffic marking compound materials (reflective beads applied simultaneously with screeding) -
- For outdoor use only (not to be operated in rain or damp conditions) -

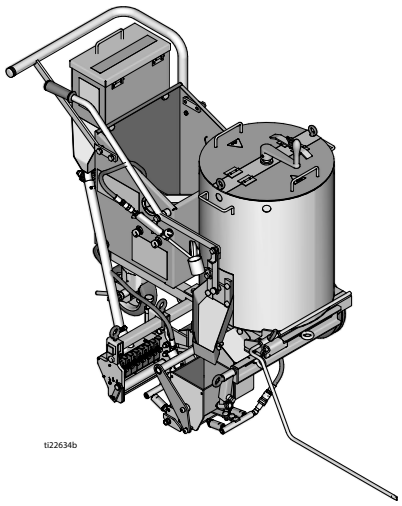
Fuel: LP Gas (Propane Vapor)
*Burner capacities: See **Technical Data**, page 47*
Material capacity (max): 200-300 lb (91-136 kg)

IMPORTANT SAFETY INSTRUCTIONS
Read all warnings and instructions in this manual. Save these instructions.

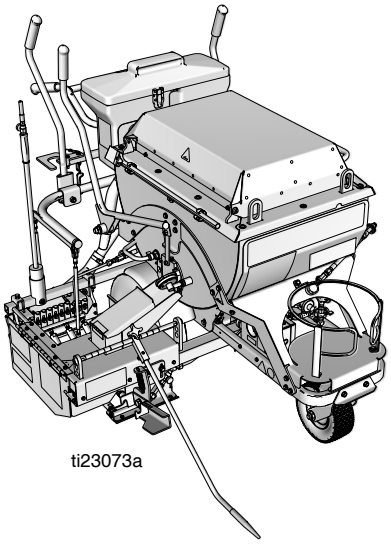
Related Manuals:

Operation	3A1319
Parts	3A1321
Double Bead	3A0004
SmartDie™ II	3A1738
FlexDie™	3A1738

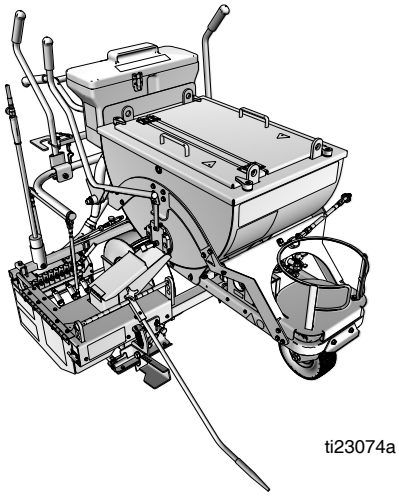
ThermoLazer 200/200TC



ThermoLazer ProMelt



ThermoLazer 300TC



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PROVEN QUALITY. LEADING TECHNOLOGY.

System Chart

SmartDie II used on ThermoLazer 300TC/ProMelt only.

Smart Die II Part No.	Smart Die Description
17A173	2 in. (5 cm)
24H431	3 in. (8 cm)
24H426	4 in. (10 cm)
17J250	4.75 in. (12 cm)
24H432	5 in. (13 cm)
24H427	6 in. (15 cm)
24H433	7 in. (18 cm)
24H428	8 in. (20 cm)
24H434	9 in. (22.5 cm)
24H429	10 in. (25 cm)
24H430	12 in. (30 cm)
‡17A174	16 in. (40 cm)
24H437	3-3-3 in. (8-8-8 cm)
24H435	4-3-4 in. (10-8-10 cm)
24H436	4-4-4 in. (10-10-10 cm)
24J785	4-6-4 in. (10-15-10 cm)
‡17A175	6-4-6 in. (15-10-15 cm)
‡17R378	5-5-5 in. (13-13-13 cm)

‡ Requires 16” (40 cm) Conversion Bead System Kit for 300TC/ProMelt Only.
- 17B190 Kit, accy, 16” (40 cm) Single Drop Bead System
- 17B189 Kit, accy, 16” (40 cm) Double Drop Bead Box (requires 17B190 to be installed)

FlexDie used on ThermoLazer 200/200TC only.

FlexDie Part No.	FlexDie Description
16Y661	2 in. (5 cm)
16Y662	3 in. (8 cm)
16Y320	4 in. (10 cm)
16Y663	5 in. (12 cm)
16Y190	6 in. (15 cm)
16Y664	7 in. (18 cm)
16Y326	8 in. (20 cm)
16Y665	9 in. (22.5 cm)
16Y332	10 in. (25 cm)
16Y207	12 in. (30 cm)
16Y338	3-3-3 in. (8-8-8 cm)
16Y352	4-3-4 in. (10-8-10 cm)
16Y666	4-2-4 in. (10-5-10 cm)
16Y363	4-4-4 in. (10-10-10 cm)

Contents

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 symbols refer to procedure-specific risks. When these symbols appear in the body of this manual or on warning labels, refer back to these Warnings. Product-specific hazard symbols and warnings not covered in this section may appear throughout the body of this manual where applicable.

⚠ WARNING

FIRE AND EXPLOSION HAZARD

Flammable fumes and liquids, such as propane gas, gasoline and combustible fuel, in **work area** can ignite or explode. To help prevent fire and explosion:

- Do not use equipment unless fully trained and qualified.
- Do not allow open containers of flammables within 25 ft (7.6 m) of equipment. Do not operate equipment within 10 ft (3 m) of any structure, combustible material, or other gas cylinders.
- Shut off all burners when adding fuel to equipment.
- Close the tank shut-off valve immediately if you smell propane gas; extinguish all open flames. If gas odor continues, keep away from equipment and immediately call the fire department.
- Follow lighting instructions for the burner and torch.
- Do not heat thermoplastic traffic marking compound material above its maximum temperature rating.
- Fire extinguisher equipment shall be present and working.
- Keep work area free of debris, including solvent, rags and gasoline.

EQUIPMENT MISUSE HAZARD

Misuse can cause death or serious injury.

- Do not leave equipment unattended.
- Keep children and animals away from work area.
- Do not exceed the maximum working pressure or temperature rating of the lowest rated system component. See **Technical Data** in all equipment manuals.
- Check equipment daily. Repair or replace worn or damaged parts immediately with genuine manufacturer's replacement parts only.
- Do not alter or modify equipment.
- Use equipment only for its intended purpose. Call your Graco distributor for information.
- Do not fill material beyond maximum capacity.
- Route gas lines, hoses, wires and cables away from traffic areas, sharp edges, moving parts, and hot surfaces.
- Do not kink or overbend gas lines.
- Do not override or defeat safety devices.
- Do not operate the unit when fatigued or under the influence of drugs or alcohol.

BURN HAZARD

Equipment surfaces and fluid that is heated can become very hot during operation. To avoid severe burns:

- Do not touch hot fluid or equipment.

CARBON MONOXIDE HAZARD

Exhaust contains poisonous carbon monoxide, which is colorless and odorless. Breathing carbon monoxide can cause death. Do not operate in an enclosed area.

TOXIC FLUID OR FUMES HAZARD

Toxic fluids or fumes can cause serious injury or death if splashed in the eyes or on skin, inhaled, or swallowed.

- Read MSDS to know the specific hazards of the materials you are using.

⚠ WARNING

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:

- Clothing and respirator as recommended by the fluid, material, and solvent manufacturer.
- Gloves, shoes, overalls, face shield, hat, etc. rated for elevated temperatures of at least 500° F (260° C).

CALIFORNIA PROPOSITION 65

Exhaust from this product contains a chemical known to the State of California to cause cancer, birth defects or other reproductive harm.

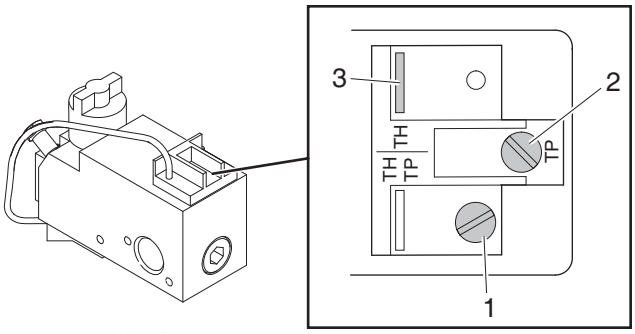
This product contains a chemical known to the State of California to cause cancer, birth defects or other reproductive harm. Wash hands after handling.

Kettle Gas Safety Valve, Kettle Temperature Control, and Kettle Thermopile Diagnosis

The gas safety valve, temperature control and thermopile can be checked by using a millivolt meter. Before checking, make certain all electrical connections are clean and tight.

Connect millivolt meter to appropriate terminals (see **Terminal Connections**).

Terminal Connections



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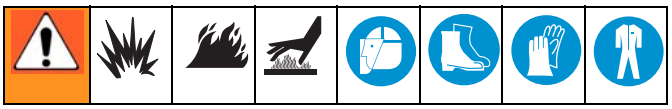
Step	Part(s) to Be Checked	Terminal Connections	Status of Temperature Control Contacts	Desired Meter Reading	Diagnosis
1	Gas safety valve	2 and 3	Closed	Greater than 100 mV	If mV reading > 100 mV and the automatic valve (main burners) does not come on, replace the gas safety valve. If mV reading < 100mV, proceed with diagnostic steps 2 and 3.
2	Temperature control	1 and 2	Closed	Less than 80 mV	If reading > 80 mV: • Clean and tighten electrical connections at temperature control and gas safety valve. • Check valve to make sure wires are in good condition. Replace as required. • Rapidly change temperature setting on temperature control to see if cycling cleans the contacts. If the preceding fails to give mV reading < 80 mV, replace temperature control.
3	Gas safety valve magnet and thermopile	1 and 2	Open	Greater than 325 mV	If mV reading < 325 mV: • Clean and tighten all electrical connections. • Adjust pilot burner to increase millivolt output (see page 18). If the preceding fails to give mV reading > 325 mV, replace thermopile. Check valve magnet after obtaining correct mV output for thermopile: • Ignite pilot burner only and allow the mV reading to stabilize. • Shut pilot burner (turn gas safety valve knob OFF). Note the mV reading where magnet drops out. If magnet unlocks at mV reading < 120 mV, the magnet is OK. **NOTE:** When magnet unlocks a click can be heard and mV reading may fluctuate slightly.

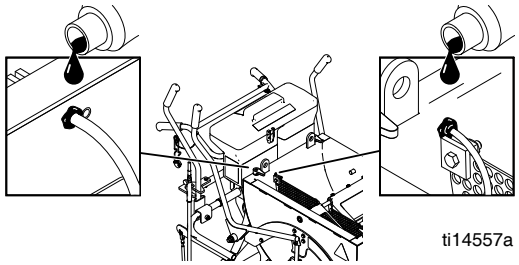
Kettle Temperature Control

Replacement



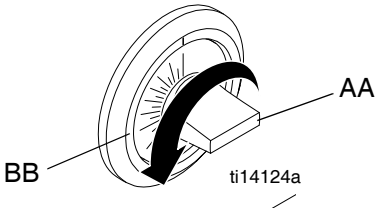
When replacing temperature control, keep in mind that the temperature probe is an integral part of the assembly. Do not make any sharp bends in the capillary tubing. Bends should be 0.25 in. (0.64 cm) in radius or greater.

Be sure to seal capillary tubing with high temperature mortar at kettle outlet.



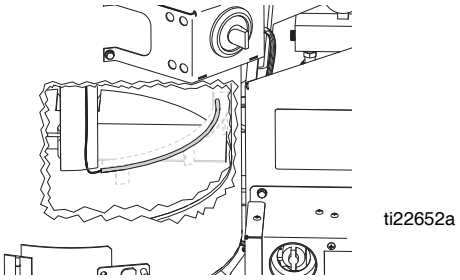
Removal

1. Empty kettle and clean all material out. Make sure stud (318), nut (124), clip (41) and probe (162) are completely free of material.
2. Use screwdriver to loosen hose clamps (160) and disconnect hoses (189) from bead hopper (43).
3. Use wrench to remove four bolts (139) and remove bead hopper (43).
4. Pull temperature capillary tube (162) and grommet (350) free of heat shield (270).
5. Remove temperature control knob (AA) by hand.

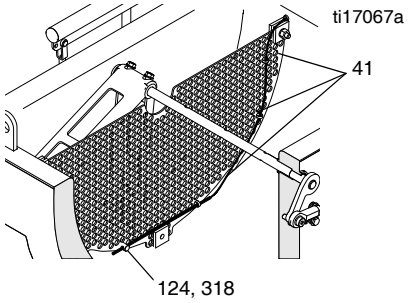


6. Remove temperature control plastic 4-way insert from shaft. Insert behind knob (AA).
7. Use screwdriver to remove two screws on temperature control slip-fit overlay ring (BB). Overlay ring (BB) is attached to temperature control enclosure (205).
8. Use screwdriver to remove four screws (221) and remove temperature control enclosure (205) from handle bar mounting plate (122).
9. Use screwdriver to disconnect wires (242 and 243 for ThermoLazer), (243 and 360 for ThermoLazer ProMelt).
10. Use wrench and extension to remove nut (124) from temperature probe (162).
11. Use needle-nosed pliers to remove clip (41) from probe (162).
12. Pull probe (162) through nut and clamp openings.
13. Use flat screwdriver or a small chisel to chip away mortar on inside and outside of kettle until probe freely passes through.
14. Pull probe (162) completely out of kettle (14) and remove from temperature control enclosure (205).

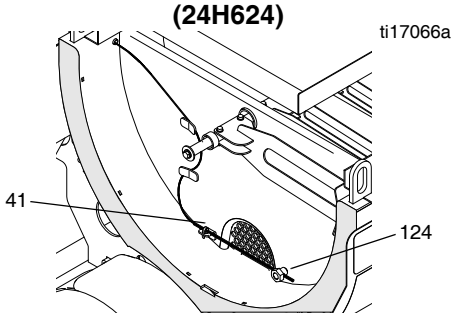
ThermoLazer 200TC



ThermoLazer 300TC (24H622, 24H625)



ThermoLazer ProMelt (24H624)



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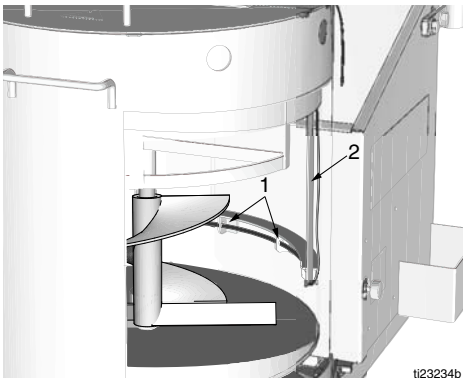
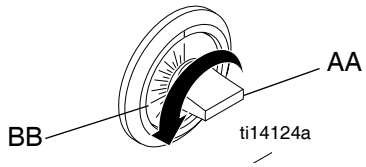
Installation (ThermoLazer 200TC)

1. Route tube through clips (1).
2. Route wire inside bracket (2) on inner wall of kettle.



3. Install temperature control (162) to temperature control enclosure (205) with two screws supplied with temperature control. Install overlay ring (BB) parallel with temperature probe.



4. Route wires and probe capillary tubing so they will not be pinched when installing temperature control enclosure (205) to ThermoLazer handle bar mounting plate (122).

   NOTE: For best results, keep probe capillary tubing in spiral coil.

5. Install in bracket, then attach bracket to kettle.
6. Install plastic 4-way insert on temperature control shaft.
7. Install temperature control knob (AA) on temperature control shaft.

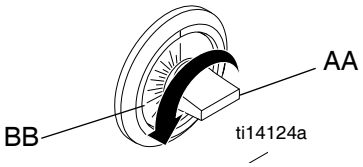
Installation (ThermoLazer 300TC/ProMelt)

1. Route new probe (162) through grommet (350).
2. Route probe:
   a. Between tube, lock (71) and bracket, handle, mount, and tube (19).
   b. Through slotted hole in heat shield (270). Insert grommet (350) in heat shield hole.
   c. Through kettle (14) probe opening.
3. **ThermoLazer:** Route probe through stud (318). Insert stud through screen (150) and tighten* stud (318) to screen (150) with nut (124). Secure probe (162) to screen (150) with three clips (41). Use needle-nose pliers to secure probe inside clips (41).
   **Torque stud (318) to 7-15 in-lb./079-1.69 N•m.*

   ProMelt: Route probe (162) through Z-clips (2) welded to kettle (14). Route probe through stud welded to kettle. Tighten* nut (124) to stud securing probe. Secure probe to angle clip welded to kettle with clip (41). Use needle-nose pliers to secure probe inside clip(41).
   **Torque nut (124) to 7-15 in-lb./079-1.69 N•m.*

   NOTE: Make sure probe cannot come into contact with material agitator once installed.
4. Apply high temperature mortar to inside and outside of kettle opening contact points **after** the probe is installed and locked into position by the nut and clamps.
5. **ThermoLazer:** Route wires (242, 243) through handle bar mounting plate (122). Use screwdriver to connect and tighten wires (242, 243) to temperature control (162).

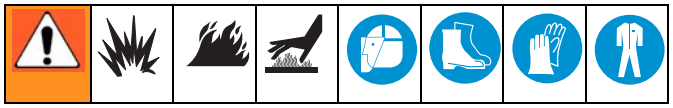
   ProMelt: Route wires (243, 360) through handle bar mounting plate (122). Use screwdriver to connect and tighten wires (243, 360) to temperature control (122).
6. Install temperature control (162) to temperature control enclosure (205) with two screws supplied with temperature control. Install overlay ring (BB) parallel with temperature probe.



7. Route wires and probe capillary tubing so they will not be pinched when installing temperature control enclosure (205) to ThermoLazer handle bar mounting plate (122).

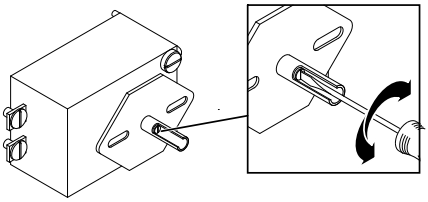
   NOTE: For best results, keep probe capillary tubing in spiral coil.
8. Install temperature control enclosure (205) to ThermoLazer handle bar mounting plate (122) with four screws (221).
9. Install plastic 4-way insert on temperature control shaft.
10. Install temperature control knob (AA) on temperature control shaft.
11. Install bead hopper (43) and use wrench to install and tighten four bolts (139).
12. Connect hoses (189) to bead hopper (43) and use screw driver to tighten hose clamps (160)

Calibration



To Check Kettle Temperature Control Calibration:

1. Move unit to an area with no wind.
2. Turn temperature control to 400° F (204° C).
3. Agitate material for 4 to 5 minutes.
4. After control has reached steady state temperature and burners do not cycle more than once per minute, insert remote calibrated temperature probe in material and directly adjacent kettle temperature control probe.
5. Compare temperature of remote calibrated temperature probe to temperature setting on temperature control.
6. If the temperature control setting is lower than the remote calibrated temperature setting on temperature probe, turn adjusting screw clockwise. Every 1/4 in. turn will change temperature 35° F (19.4° C).



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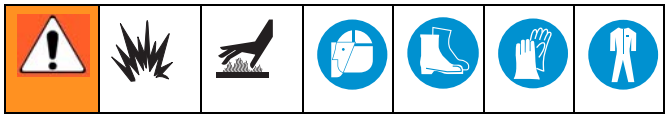
7. If the temperature control setting is higher than the remote calibrated temperature probe, turn adjusting screw counterclockwise--every 1/4 in. turn will change temperature 35° F (19.4° C).
8. Recheck calibration by turning temperature control to 410° F (210° C) and repeat steps 3-7.

Kettle Thermometer

Replacement



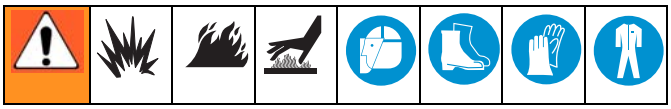
NOTE: The thermometer can only be replaced while the material inside the kettle is warm. If material inside the kettle is cold, it will adhere to the probe and cause it to separate from the thermometer once it is unscrewed.

1. Empty material from kettle until material level is just below the thermometer probe (162) (approximately 1 inch of material).
2. Unscrew thermometer (38) from kettle coupling. **NOTE:** Look inside the kettle to make sure the probe is rotating at the same rate as the thermometer as you unscrew it. If the probe is sticking, use the hand torch to heat the probe and material so that the probe can rotate freely.

Installation

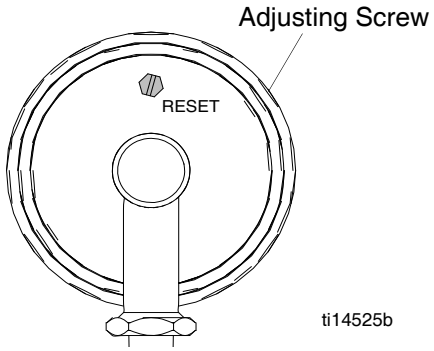
1. Apply pipe sealant to thermometer (38) threads.
2. Install new thermometer into kettle coupling and tighten. **NOTE:** Make sure the face of the thermometer is position toward the front of the unit for optimal viewing (an approximately 15 degree angle).

Calibration



To Check Kettle Thermometer Calibration:

1. Move ThermoLazer to an area with no wind.
2. Turn temperature control to 400° F (204° C).
3. Agitate material for 4 to 5 minutes.
4. After control has reached steady state temperature and burners do not cycle more than once per minute, insert remote calibrated temperature probe in material and directly adjacent kettle temperature control probe.
5. Compare temperature of remote calibrated temperature probe to thermometer.
6. If kettle thermometer is lower than the remote calibrated temperature probe, turn adjusting screw counterclockwise.

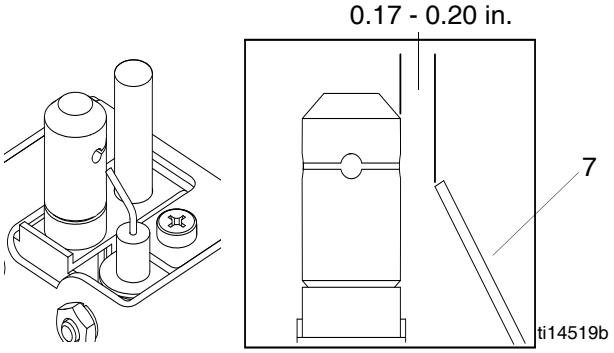


7. If the kettle thermometer is higher than the remote calibrated temperature probe, turn adjusting screw clockwise.

Adjust Kettle Pilot Igniter Electrode Gap

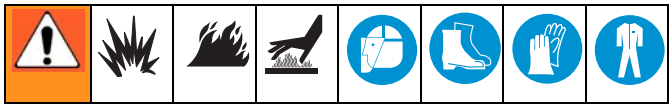
(ThermoLazer 300TC/ProMelt only)

1. Loosen screw (231).
2. Rotate ignitor electrode (7) until gap of 0.17 to 0.20 in. (0.43 to 0.51 cm) is achieved.
3. Retighten screw (231).



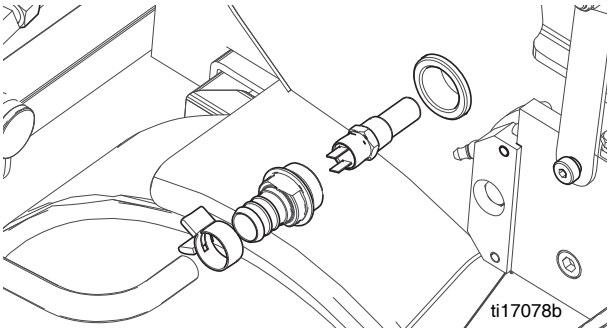
Kettle Over-Temperature Switch Replacement

(ProMelt only)



Removal

1. Unscrew switch fitting from kettle. **NOTE:** To keep wire sleeve from twisting, counter-rotate sleeve when turning switch fitting.
2. Disconnect wire leads from switch terminals.



3. Unscrew switch and remove.

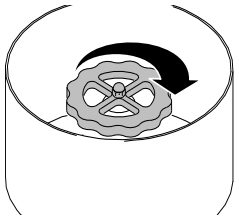
Installation

1. Apply anti-seize (LPS-04110 or equal) to switch (339).
2. Install switch and torque to 120 - 140 in-lb (13.6 - 15.8 N•m).
3. Apply anti-seize (LPS-04110 or equal) to switch fittings (343).
4. Connect wire leads (359 and 360) to switch.
5. Install switch fitting and torque to 180 - 200 in-lb (20.3 - 22.6 N•m). **NOTE:** To keep wire sleeve from twisting, counter-rotate sleeve when turning switch fitting.

Thermopile Replacement

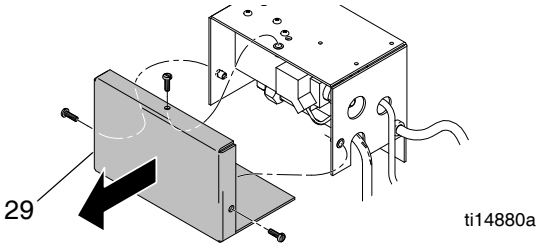
Removal

1. Shut off gas valve on LP-tank and disconnect hose.

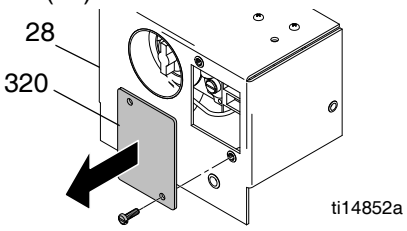


2. Remove gas safety valve enclosure back cover (29).

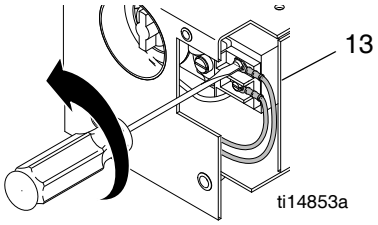
ThermoLazer 300TC/ProMelt Shown



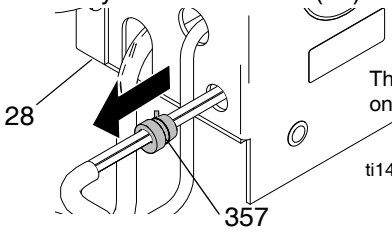
3. Remove cover (320) from gas safety valve enclosure (28).



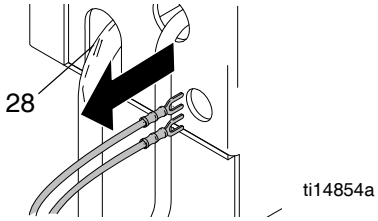
4. Disconnect thermopile wires from gas safety valve (13).



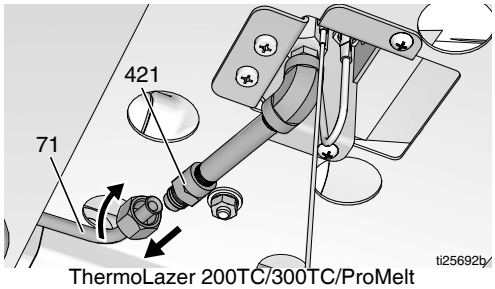
5. Remove wire strain relief fitting (357) from gas safety valve enclosure (28).



6. Pull thermopile wire out of gas safety valve enclosure (28).

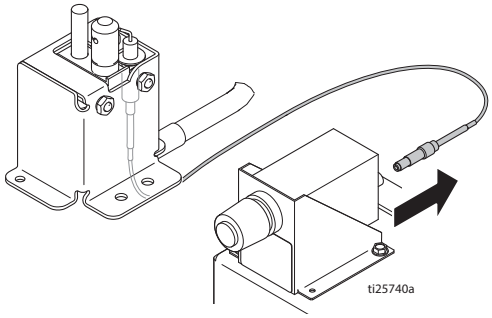


7. Disconnect gas pilot line (71) from flared adapter (421). Only rotate the nut on gas pilot line (71), while keeping flared adapter (421) stationary.

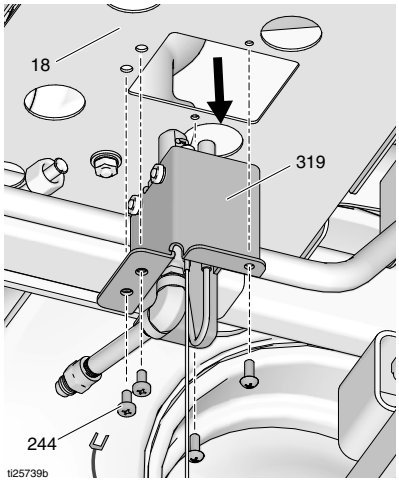


ThermoLazer 200TC/300TC/ProMelt

8. **Thermolazer 300TC/ProMelt only:** Disconnect electrode lead (217) from pulse fire igniter (126). Pull electrode out of wire sleeving.

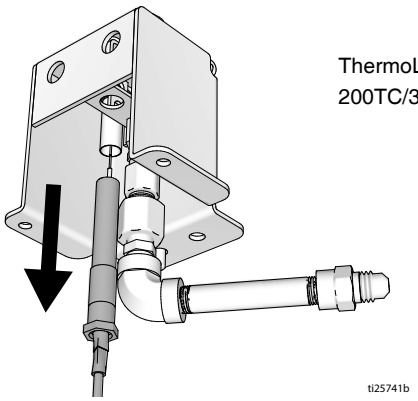


9. Remove gas pilot mounting housing (319) from gas burner mounting plate (18). Disconnect ground lead wire (244).



ThermoLazer 300TC/ProMelt Shown

10. Remove thermopile (7).

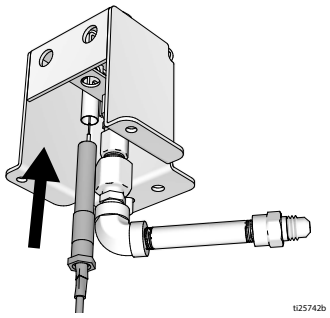


ThermoLazer 200TC/300TC/ProMelt

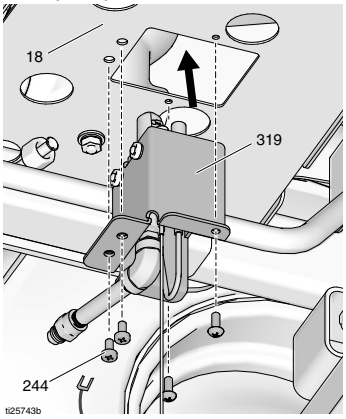
11. Pull thermopile out of wire sleeving.

Installation

1. Replace thermopile (7).

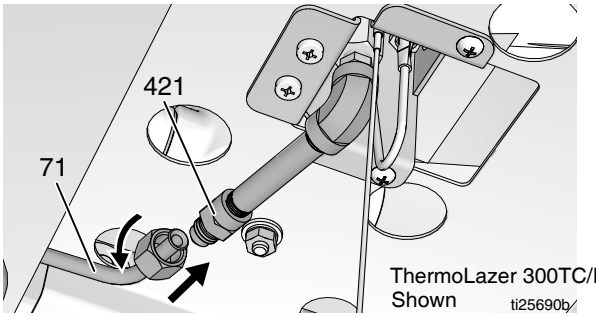


2. Install gas pilot mounting plate (319) to gas burner mounting plate (18). Connect ground lead wire (244).



ThermoLazer 300TC/ProMelt Shown

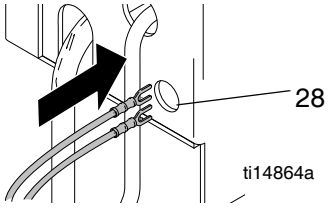
3. Connect gas pilot line (71) to flared adapter (421).



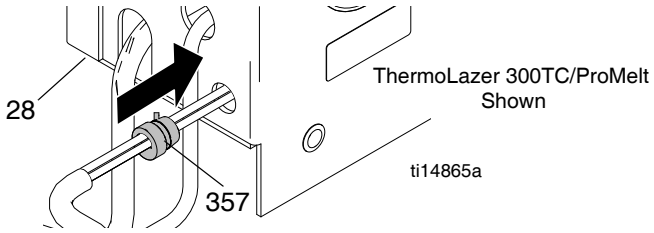
ThermoLazer 300TC/ProMelt Shown

4. Pull thermopile through wire sleeving.

5. Guide thermopile wire into gas safety valve enclosure (28).

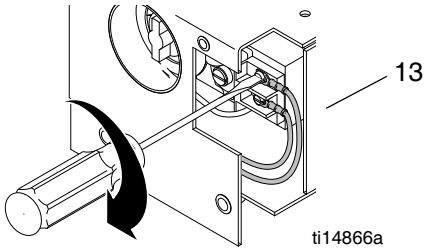


6. Replace wire strain relief fitting (357) on gas safety valve enclosure (28).

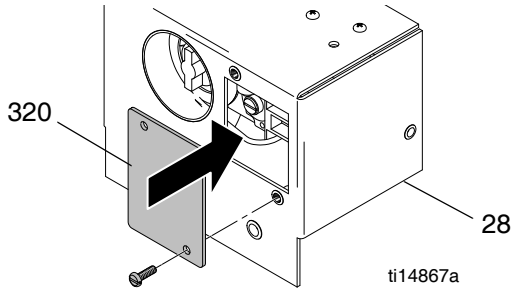


ThermoLazer 300TC/ProMelt Shown

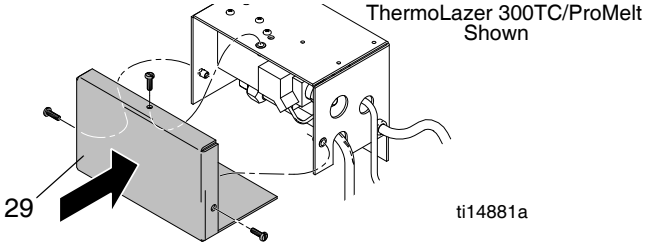
7. Connect thermopile wires to gas safety valve (13). See **Wiring Diagram** and **Parts** manual 3A1321 for additional details.



8. Replace cover (320) on gas safety valve enclosure (28).



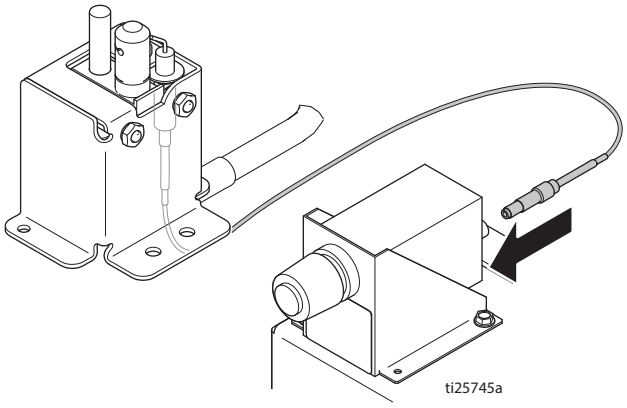
9. Replace gas safety enclosure back cover (29).



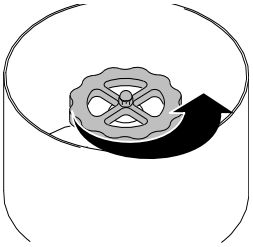
ThermoLazer 300TC/ProMelt Shown

10. **ThermoLazer 300TC/ProMelt Only:** Pull electrode wire through wire sleeving.

11. **ThermoLazer 300TC/ProMelt Only:** Connect electrode lead to pulse fire igniter.



12. Reconnect hose and turn LP-gas tank valve ON.



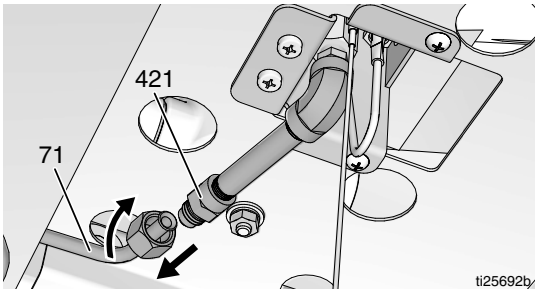
13. Check for gas leaks at final assembly (see **Operation** manual).

Removal and Installation of Electrode

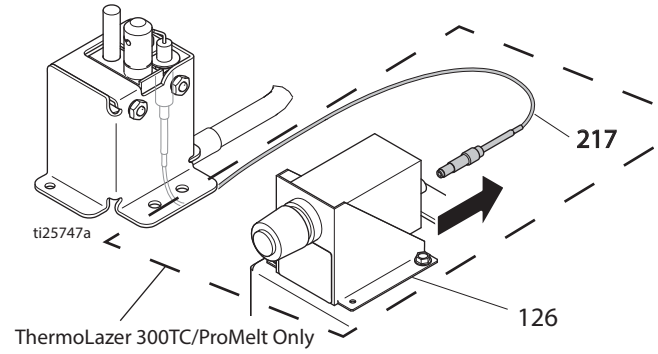
(ThermoLazer 300TC/ProMelt only)

Removal

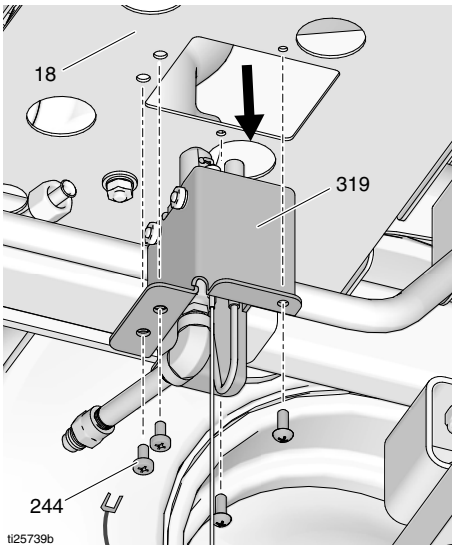
1. Disconnect gas pilot line (71) from flared adapter (421). Only rotate the nut on gas pilot line (71), while keeping flared adapter (421) stationary.



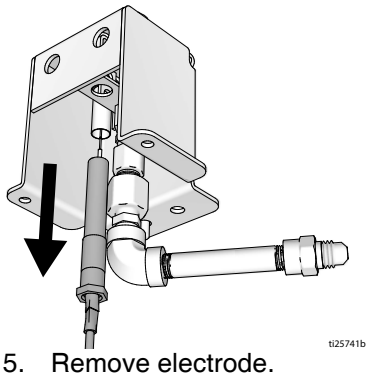
2. Disconnect electrode lead (217) from pulse fire igniter (126). Pull electrode out of wire sleeving.



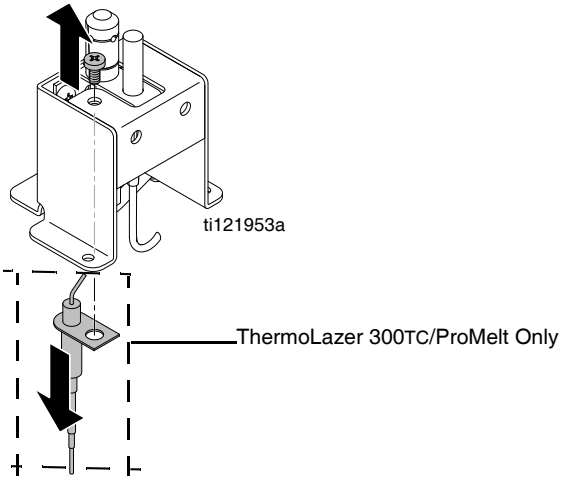
3. Remove gas pilot mounting housing (319) from gas burner mounting plate (18). Disconnect ground lead wire (244).



4. Remove thermopile (7).

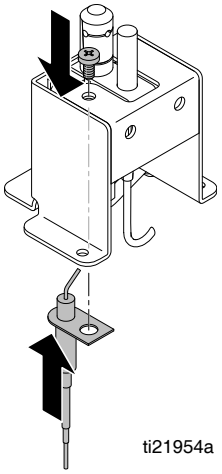


5. Remove electrode.

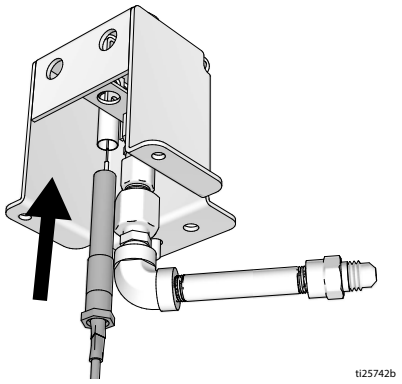


Installation

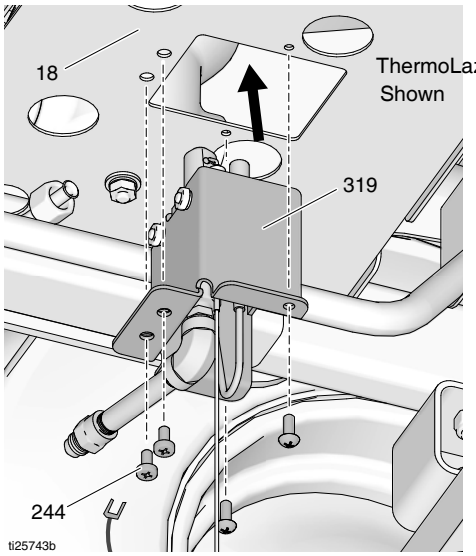
1. Replace electrode. (See **Operation Manual** for correct spacing between electrode and pilot burner).



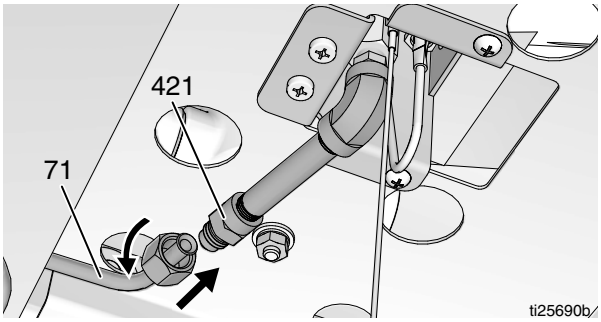
2. Replace thermopile (7).



3. Install gas pilot mounting plate (319) to gas burner mounting plate (18). Connect ground lead wire (244).

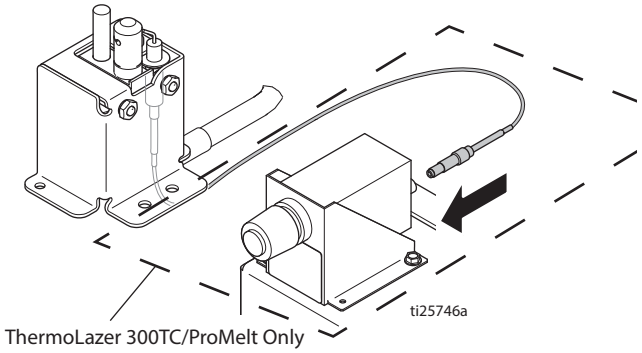


4. Connect gas pilot line (71) to flared adapter (421).

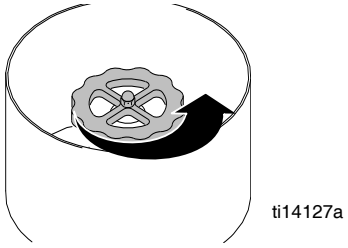


5. Pull electrode wire through wire sleeving.

6. Connect electrode lead to pulse fire igniter.



7. Reconnect hose and turn LP-gas tank valve ON.



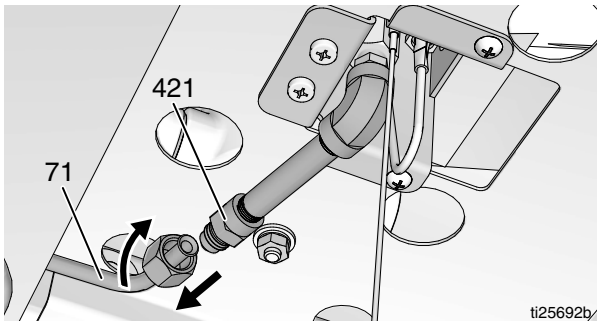
8. Check for gas leaks at final assembly (see **Operation** manual).

Pilot Burner

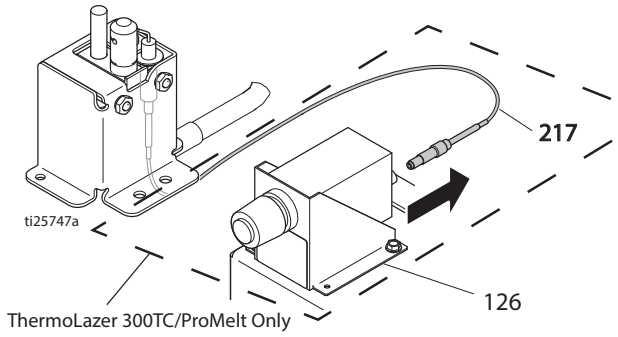
(ThermoLazer 200TC/300TC/ProMelt)

Removal

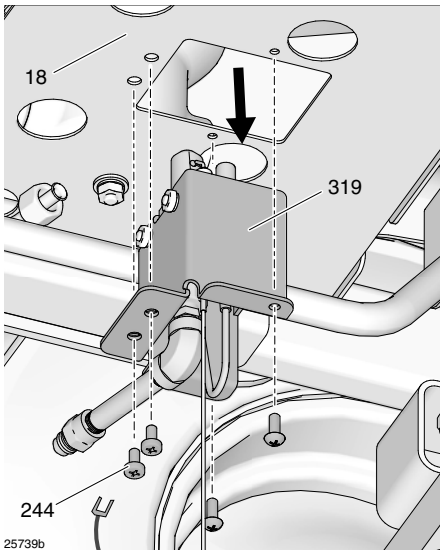
1. Disconnect gas pilot line (71) from flared adapter (421). Only rotate the nut on gas pilot line (71), while keeping flared adapter (421) stationary.



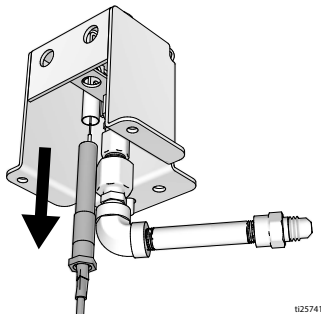
2. **ThermoLazer 300TC/ProMelt only:** Disconnect electrode lead (217) from pulse fire igniter (126). Pull electrode out of wire sleeving.



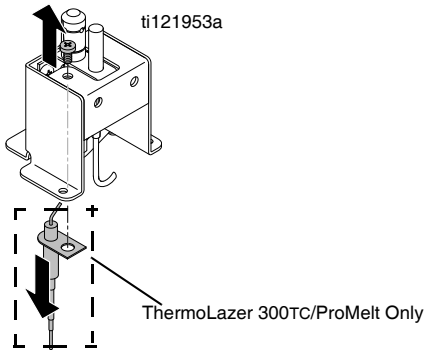
3. Remove gas pilot mounting housing (319) from gas burner mounting plate (18).
   ThermoLazer 300TC/ProMelt only: Disconnect as ground lead wire (244).



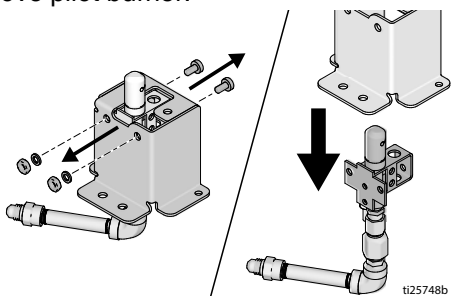
4. Remove thermopile (7).



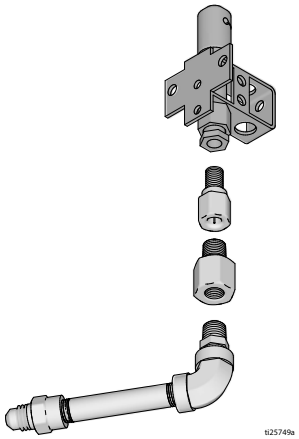
5. **ThermoLazer 300TC/ProMelt only:** Remove electrode.



6. Remove pilot burner.

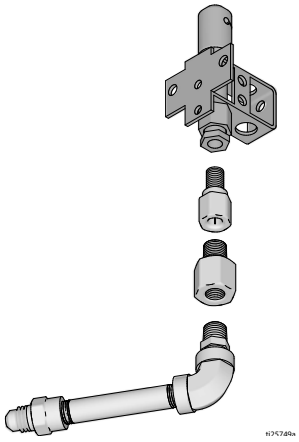


7. Remove pilot burner fittings.

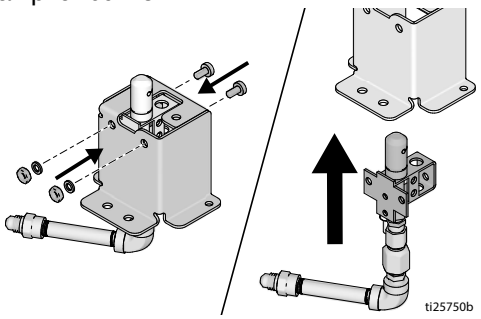


Installation

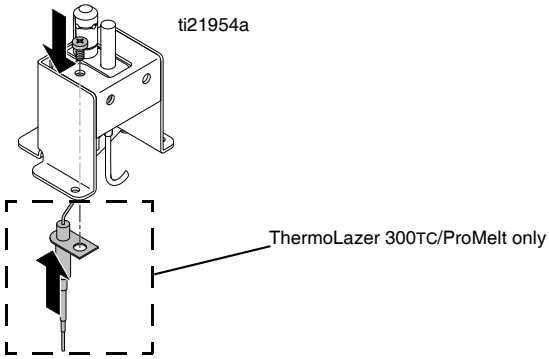
1. Install pilot burner.



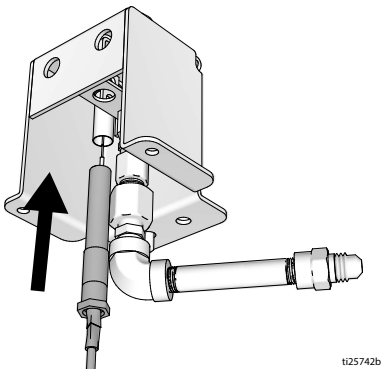
2. Install pilot burner.



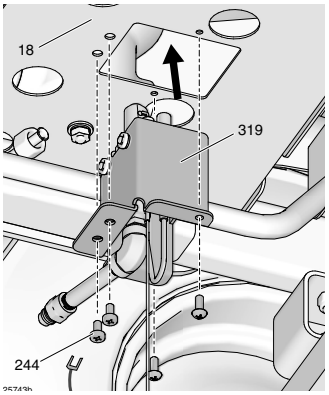
3. **ThermoLazer 300TC/ProMelt only:** Install electrode.



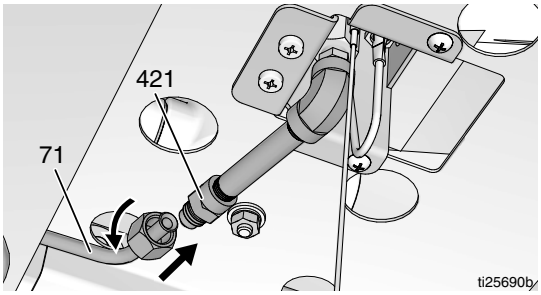
4. Install thermopile.



5. Install gas pilot mounting plate (319) to gas burner mounting plate (18).
   ThermoLazer 300TC/ProMelt only: Connect ground lead wire (244).

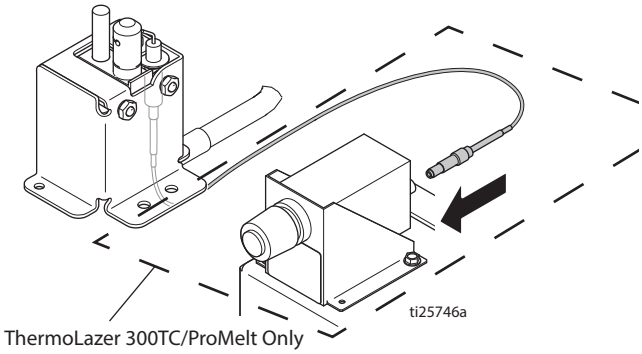


6. Connect gas pilot line (71) to flared adapter (421).

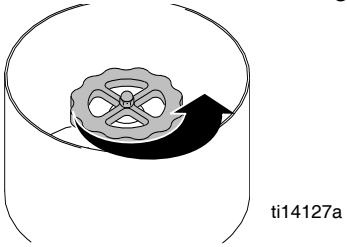


7. **ThermoLazer 300TC/ProMelt only:** Pull electrode wire through wire sleeving.

8. **ThermoLazer 300TC/ProMelt only:** Connect electrode lead to pulse fire igniter.



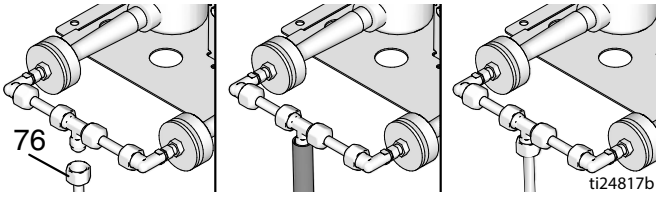
9. Reconnect hose and turn LP-gas tank valve ON



10. Check for gas leaks at final assembly (see Operation manual).

Cleaning Kettle Main Burner Gas Lines

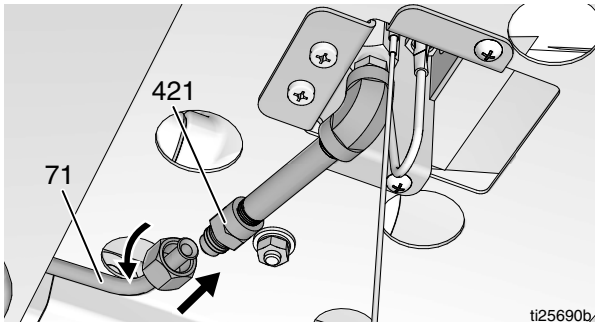
1. Disconnect gas tubing line (76) from gas tube fitting tee (165).
2. Insert rubber hose over gas tubing tee (165) and force air into tubing at 30 psi (2.1 bar).
3. Reconnect gas tubing line (76) to gas tube fitting tee (165).



ThermoLazer 300TC/ProMelt shown

Cleaning Kettle Pilot Burner Gas Lines

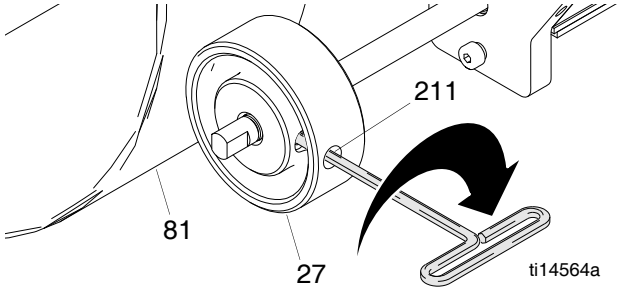
1. Disconnect gas pilot line (71) from flared adapter (421). Only rotate the nut on gas pilot line (71), while keeping flared adapter (421) stationary.
2. Insert rubber hose over flared adapter (421) and force air into tubing at 30 psi (2.1 bar).
3. Reconnect gas line (71) to flared adapter (421).



Securing Bead Dispenser Wheel

To properly dispense beads, drive wheel (27) must be in direct contact with tire (89). If drive wheel (27) becomes loose and/or starts to slip, use allen wrench to tighten set screw (211).

NOTE: To ensure proper contact between drive wheel (27) and tire (81), make sure air pressure is always at 60 psi (4.14 bar).



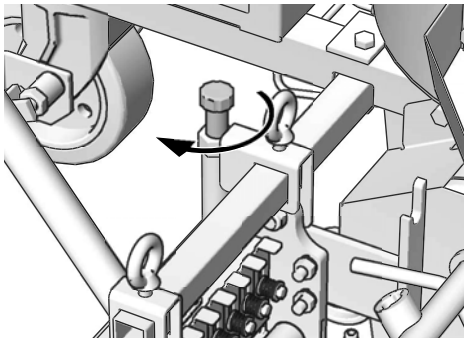
Bead Dispense Tension Adjustment

(ThermoLazer 200TC only)

When screed box is down, turn bolt/knob clockwise to increase spring force.

Make sure bead dispense wheel engaged unit wheel.

Put screed box in STO position. Make sure bead wheel does not contact unit wheel. If it does, turn knob to decrease spring force.

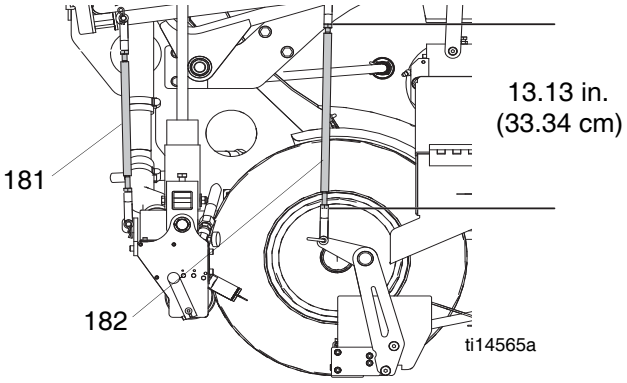


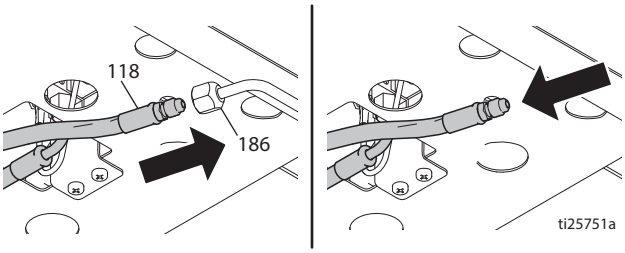
Linkage Rod Adjustment

(ThermoLazer 300TC/ProMelt only)

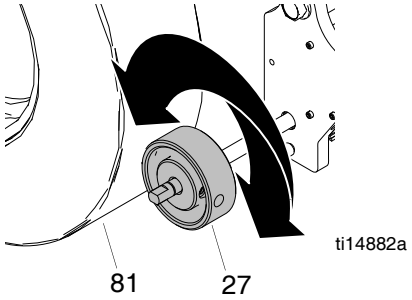
Adjustments can be made to linkage rods by removing clevis cotter hairpin (268), clevis pin from clevis (179), loosening nuts (128), and then turning clevis as required to lengthen or shorten rod connectors.

To ensure proper application of beads and thermoplastic, make sure screed box linkage rod (182) measures 13.13 in. (33.34 cm). Be sure to measure where nut (128) meets clevis (179) when checking for proper linkage rod length.

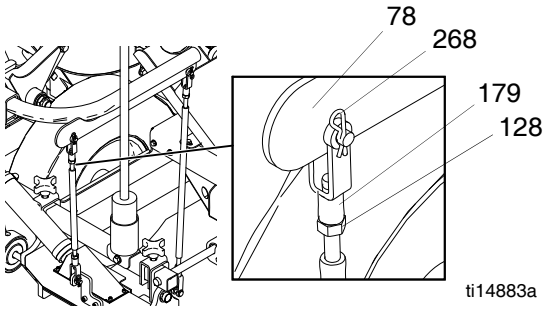




rotate the bead box wheel by hand.



2. If the wheel does not cause the ThermoLazer tire to rotate both forward and backwards, loosen nuts (128), remove clevis cotter hair pin (268), remove clevis pin from clevis (179), and rotate the clevis (179) one turn counterclockwise.



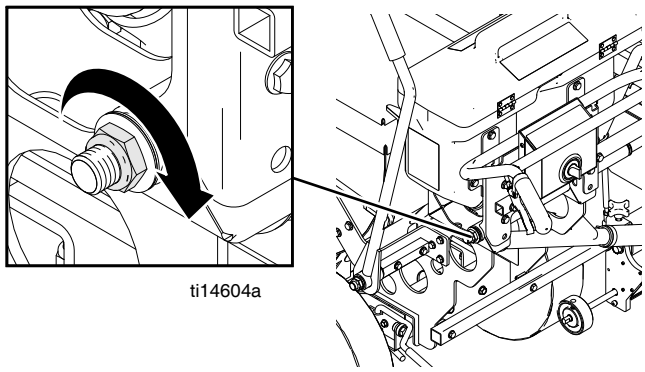
3. Reconnect clevis to deployment bar and again rotate bead box wheel to see if adjustments cause ThermoLazer to move forward and backwards.
4. Continue to rotate clevis 1/2 turn counterclockwise until rotating bead box wheel causes ThermoLazer to move forward and backwards.
5. Lock nut (128) to clevis when final adjustment has been made.

NOTE: Linkage rod (182): If converting from SmartDie to SmartDie II, use Die Link Kit 24J714.

Screed Box/Bead Dispenser Box Actuator

(ThermoLazer 300TC/ProMelt only)

If the screed box/bead dispenser box actuator does not remain in the “down and locked” position, adjust the 3/4-16 lock nut by turning clockwise 1/4 to 1/2 turn or until the actuator does not freely rotate.

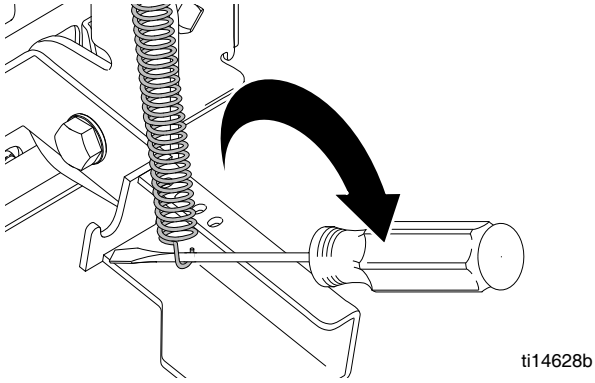


Screed Box Pivot Arm Loading

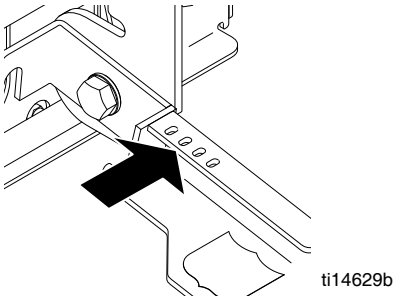
(ThermoLazer 300TC/ProMelt only)

Preload screed box pivot arm to ensure gate closes fully before lifting screed box off the ground. If screed box leaks when closing and lifting, increase loading.

1. Unhook bottom of box pivot arm spring (199).



2. Move bottom of box pivot arm spring to desired hole and reconnect. Moving the spring in will decrease loading, while moving the spring out will increase loading.



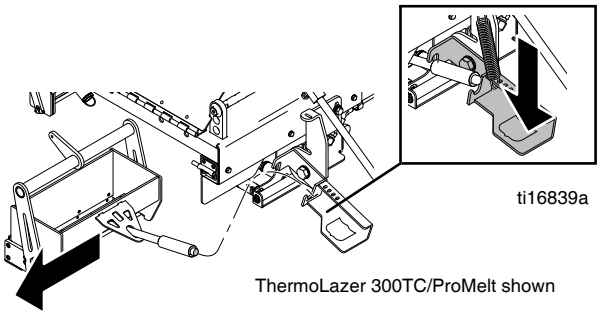
Carbide Runner Replacement on Smart Die II (300TC/ProMelt)

(1 on each side)

NOTICE

Carbide runners need to be replaced one side at a time. If both runners are removed, adjustment will be lost and screed box will need to be reassembled by a Graco approved technician.

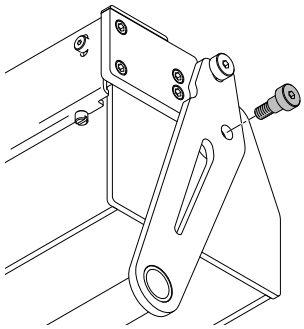
1. Remove screed box.



ti16839a

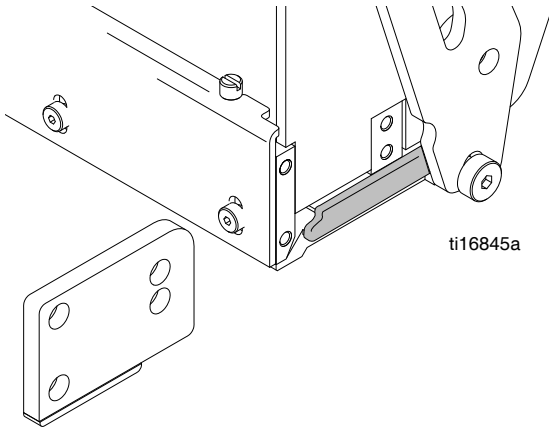
ThermoLazer 300TC/ProMelt shown

2. Use allen wrench to loosen and remove upper pivot bolt (511) to free yoke (502).



ti16843a

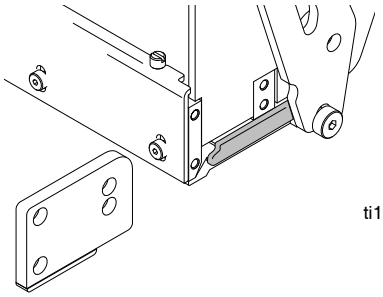
3. Turn unit upside-down and use an allen wrench to remove four screws (513) and plate, die runner (504).



ti16845a

Installation

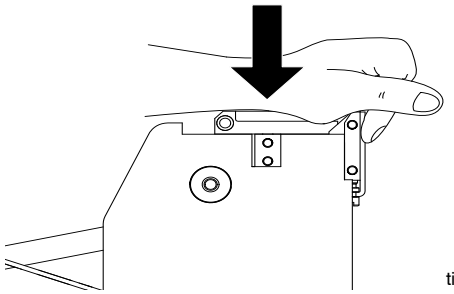
1. Apply grease to groove where carbide runner sits.



ti16845a

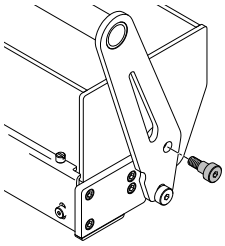
2. Replace plate, die runner (504) with new plate, die runner. See **Parts** manual 3A1321.

3. While applying pressure to shear bar (506) directly over support bar (509), use allen wrench to replace and tighten four screws (513). There should be no gap between the shear bar and support bar when applying pressure.



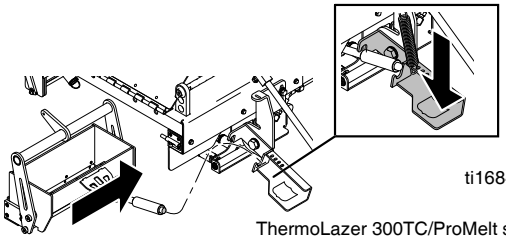
ti17068a

4. Use allen wrench to replace and tighten pivot bolt (511) on yoke (502).



ti16843a

5. Install screed box.



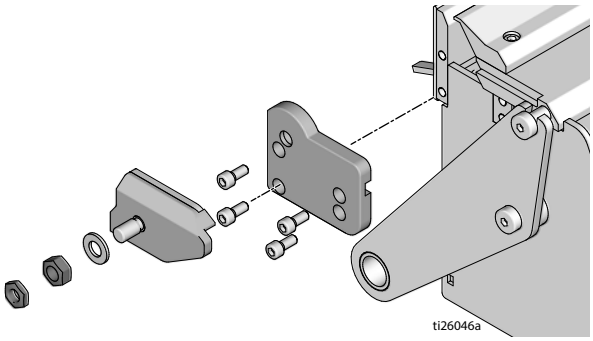
ti16846a

ThermoLazer 300TC/ProMelt shown

Carbide Runner Replacement on FlexDie (200/200TC)

Removal

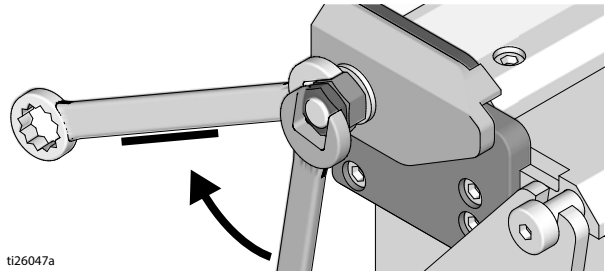
1. Remove screed box.
2. Turn the die upside down, then use 5/8 wrench to loosen nut 17D593 and 105327.
3. Remove die runner 17D502 and 17D504.



Installation

1. Apply grease to inside surface of carbide runner.
2. Replace die runner with new die runner.
3. Use two 5/8 wrenches to tighten the nuts.
   a. Tighten the nut 105327 to make the die runner just touch the pivot table.
   b. Hold the wrench which is on 105327, use another 5/8 wrench to tighten nut 17D593.

   NOTE: Make sure die runner can rotate freely after the nuts are tight.
4. Install screed box.

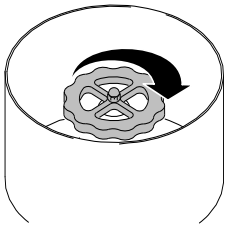


Kettle Gas Regulator Replacement

ThermoLazer 200/200TC

Removal

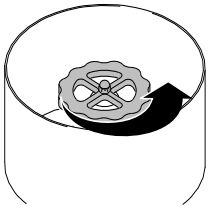
1. Close propane tank valve.



2. Disconnect gas supply hose (a) from propane tank.
3. Disconnect gas supply hose (a) from manifold (e).

Installation

1. Apply pipe sealant and connect gas supply hose (a) to manifold (e).
2. Connect gas supply hose (a) to propane tank (a).
3. Open propane tank valve.



4. Check for leaks.
5. Verify gauge PSI. Gauge should read 3 PSI ± 1. If higher than 4 PSI, slightly open torch valve and recheck.

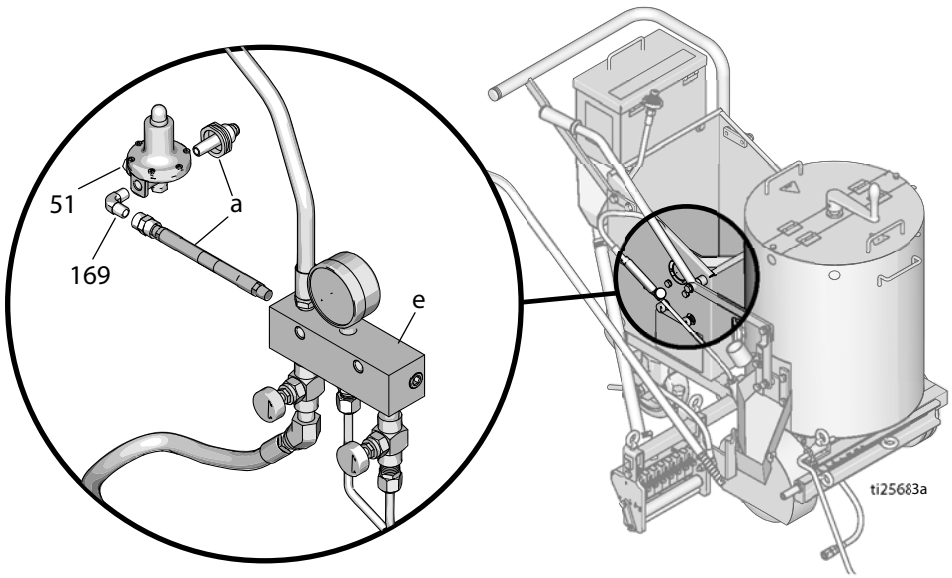
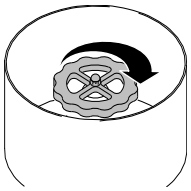


FIG. 1

ThermoLazer 300TC

Removal

1. Close manual gas shut-off valve on propane tank.



2. Disconnect gas supply hose from propane tank.
3. Disconnect gas tube (118) from fitting (410).
4. Unscrew pipe subassembly (408, 409, 410, 415) from elbow (401).
5. Unscrew gas regulator (10) from pipe elbow (142).
6. Unscrew gas regulator (10) from fitting (64).

Installation

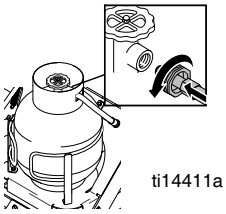
1. Apply pipe sealant to fitting (64) and screw into new gas regulator (10). Turn connection until gas tight.

   NOTE: Make sure OUT connection of regulator is connected to the fitting (64). **See FIG. 2**

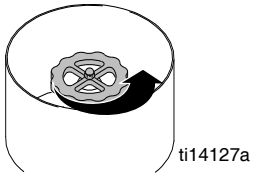
2. Apply pipe sealant to pipe elbow (142) and screw into new gas regulator (10). Turn connection until gas tight.

   NOTE: Make sure IN connection of regulator is connected to the pipe elbow (142). **See FIG. 2**

3. Apply pipe sealant to fitting (408) and screw into elbow (401).
4. Connect gas tube (118) to fitting (410). Turn connection until gas tight.
5. Connect gas supply hose to propane tank.



6. Open manual gas shut-off valve on propane tank.



7. Check gas lines for gas leaks (see **Operation** manual).

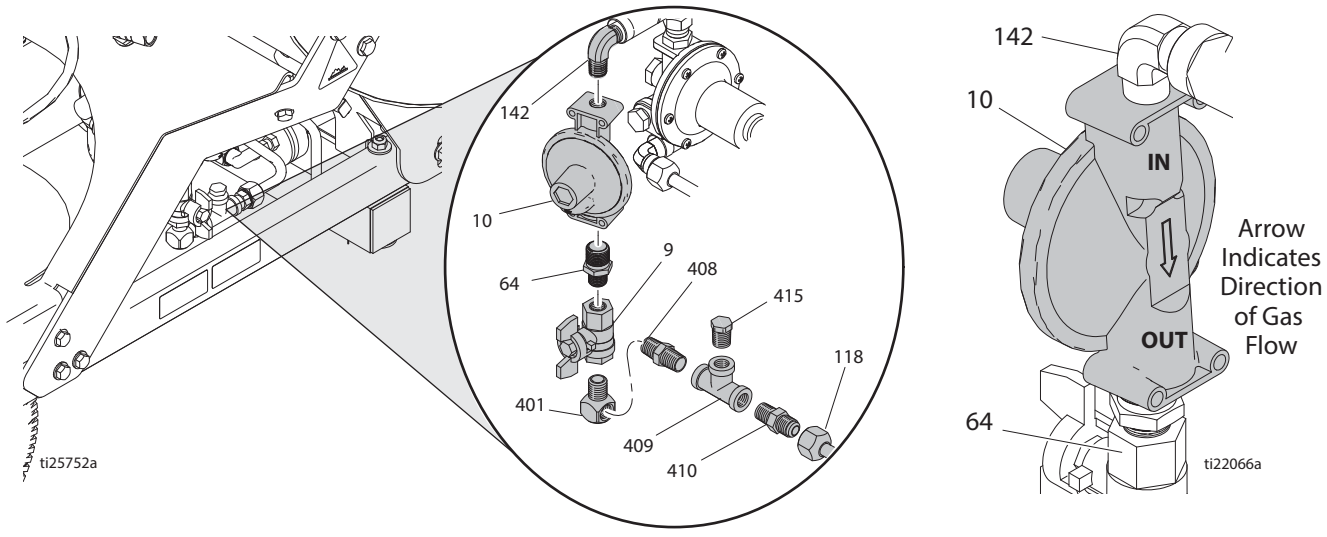
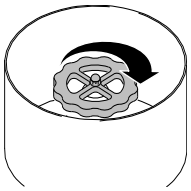


FIG. 2

ThermoLazer ProMelt

Removal

1. Close manual gas shut-off valve on propane tank.



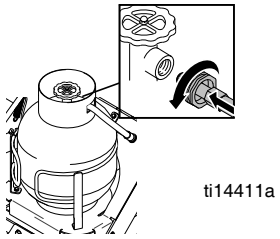
2. Disconnect gas supply hose from propane tank.
3. Unscrew gauge (402) from tee (409).
4. Disconnect gas tube (118) at fitting (410).
5. Unscrew pipe subassembly (408, 409, 410) from elbow (401).
6. Unscrew union swivel (323) from pipe elbow (142).
7. Unscrew gas regulator (10) from fitting (64).

Installation

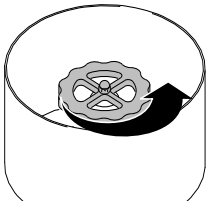
1. Apply pipe sealant to fitting (64) and screw into gas regulator (10). Turn connection until gas tight.

   NOTE: Make sure OUT connection of regulator is connected to fitting (64). **See FIG. 3**
2. Screw union swivel fitting (323) onto pipe elbow (142). Turn connection until gas tight.
3. Add pipe sealant to fitting (408) and screw pipe subassembly (408, 409, 410) into elbow (401). Turn connection until gas tight.

   NOTE: Make sure IN connection of regulator is connected to the pipe elbow (142). **See FIG. 3**
4. Apply pipe sealant to bushing (406). Screw gauge (402) into tee (409). Turn connection until gas tight.
5. Connect gas tube (118) to fitting (151). Turn connection until gas tight.
6. Connect gas supply hose to propane tank.



7. Open manual gas shut-off valve on propane tank.



8. Check gas lines for gas leaks (see **Operation** manual).

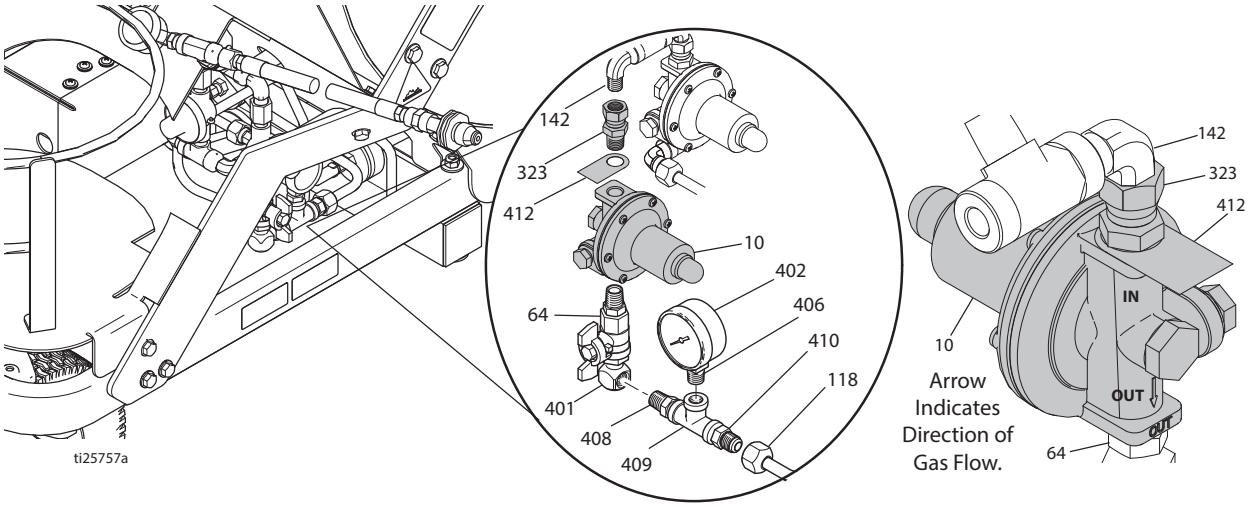


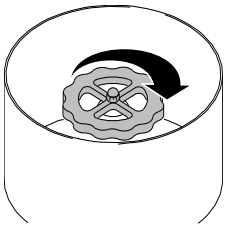
FIG. 3

Torch and Screed Burners Gas Regulator Replacement

(ThermoLazer 300TC/ProMelt)

Removal

1. Close manual gas shut-off valve on propane tank.



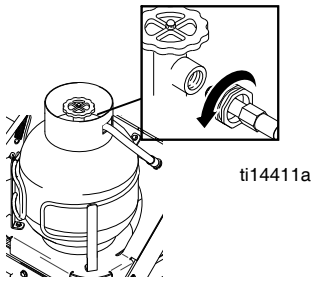
2. Disconnect gas supply hose from propane tank.
3. Disconnect gas line at downstream tube elbows (161).
4. Unscrew swivel union (323) from upstream pipe elbow (142).
5. Unscrew gas regulator (152) from fitting (323).
6. Unscrew and remove gas regulator (152) from upstream pipe elbow (142).

Installation

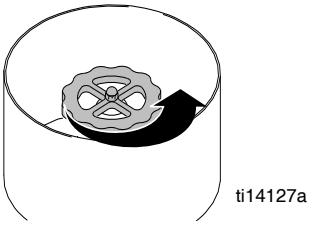
1. Apply pipe sealant to downstream pipe tee (12). Screw pipe tee (12) with elbow (161) to gas regulator (152). Turn connection until gas tight.
2. Apply pipe sealant to fitting (323) and screw into gas regulator (152). Turn connection until gas tight.

   NOTE: Make sure IN connection of regulator is connected to fitting (323). **See FIG. 7**
3. Screw swivel union (323) onto upstream pipe elbow (142); which is now connected to gas regulator (152). Turn connection until gas tight.

   NOTE: Make sure IN connection of regulator is connected to the upstream pipe elbow (142). **See FIG. 7**
4. Connect gas line at downstream tube elbows (161). Turn connection until gas tight.
5. Connect gas supply hose to propane tank.



6. Open manual gas shut-off valve on propane tank.



7. Check gas lines for gas leaks (see **Operation** manual).

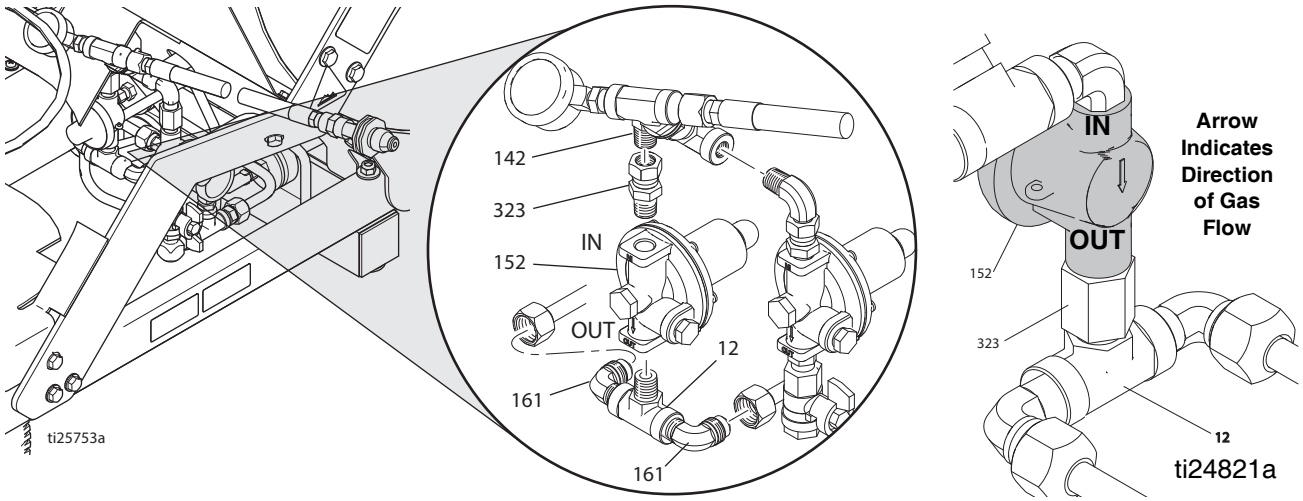


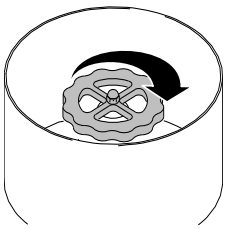
FIG. 7

Rear Screed Burner Assembly

(ThermoLazer 300TC/ProMelt)

Removal

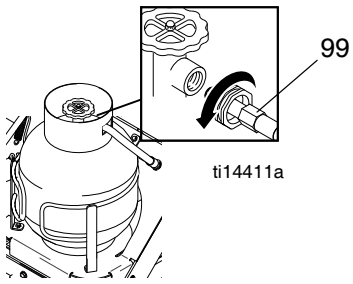
1. Close manual gas shut-off valve on propane tank.



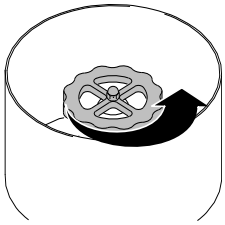
2. Disconnect gas supply hose (99) from propane tank.
3. Disconnect gas tube (373) at valve fitting (151). **See FIG. 4.**
4. Remove burner gas train mounting bracket fasteners (104, 109). Unscrew six screws (115). **See FIG. 4.**
5. Remove burner assembly.
6. Remove snap rings (75) from gas manifold. **See FIG. 4.**

Installation

1. Install burner manifold in mounting bracket (104, 109). Secure with snap rings (75). **See FIG. 4.**
2. Install burner assembly with mounting bracket to bead dispenser.
3. Connect burner hose (98) to valve fitting (151).
4. Connect gas supply hose (99) to propane tank.



5. Open manual shut-off valve on propane tank.



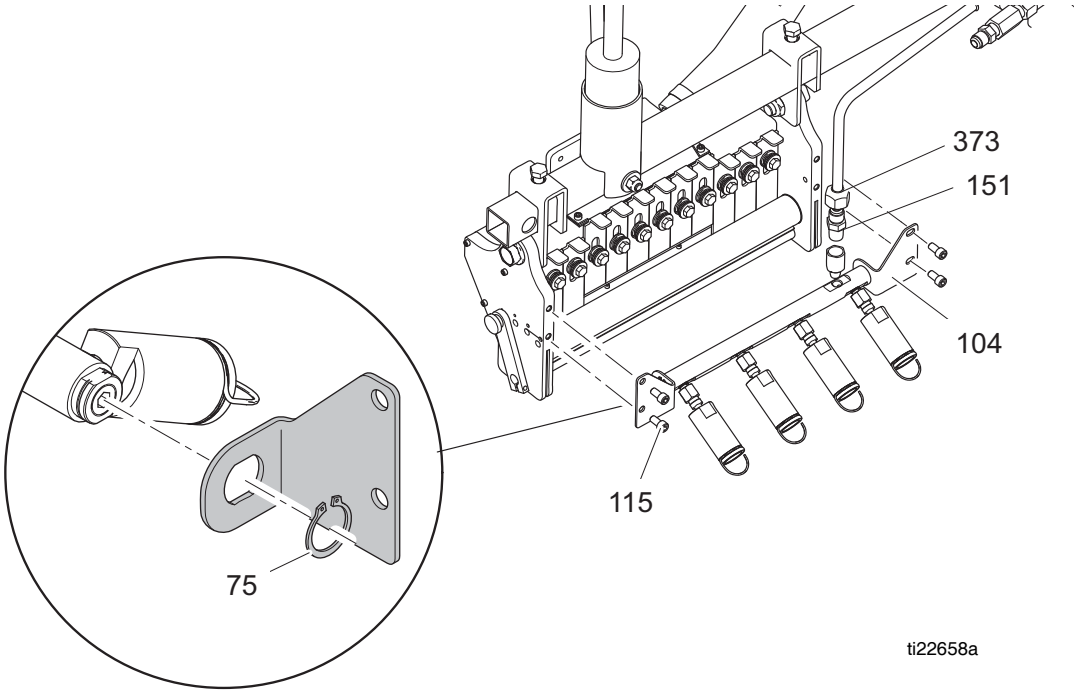


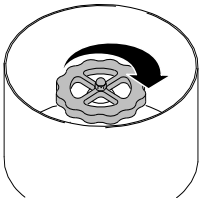
FIG. 4

Front Screed Burner Assembly

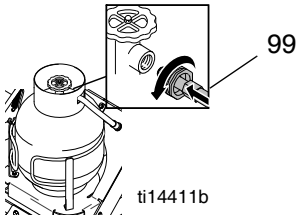
(ThermoLazer 300TC/ProMelt)

Removal

1. Close manual gas shut-off valve on the propane tank.

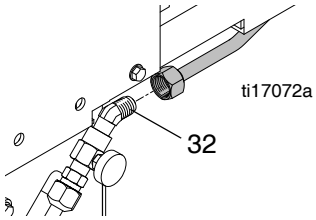


2. Disconnect gas supply hose from propane tank.

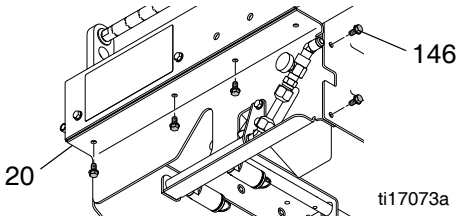


3. Remove screed box from screed housing (see **Operation** manual).

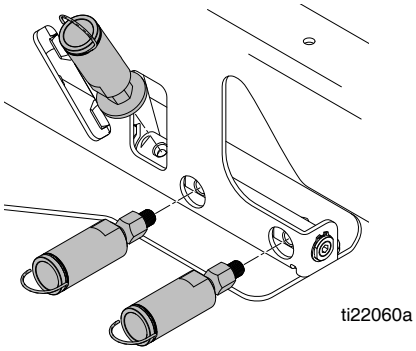
4. Disconnect gas tubing at 45° elbow (32).



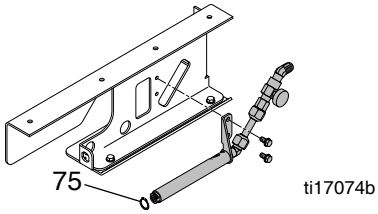
5. Unscrew front screed housing fasteners (146) and remove front housing (20).



6. Remove screed burners.



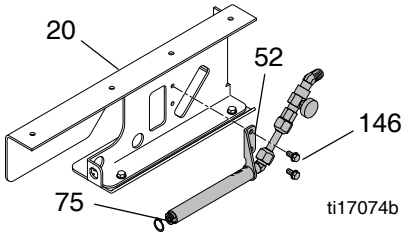
7. Remove gas manifold snap ring (75).



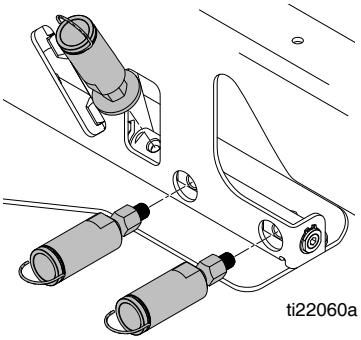
8. Unscrew gas manifold (less burners) mounting bracket fasteners (146) and remove burner assembly (less burners) from front screed housing (20).

Installation

1. Install gas manifold (less screed burners) in bracket support manifold (52) and screw gas manifold mounting bracket to front screed housing (20) with fasteners (146).

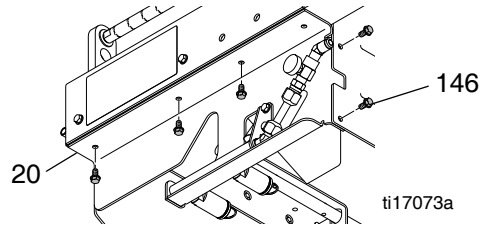


2. Install screed burner.

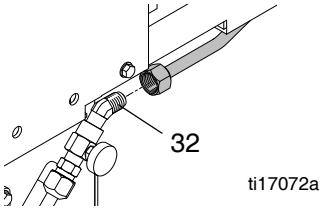


3. Install gas manifold snap ring (75).

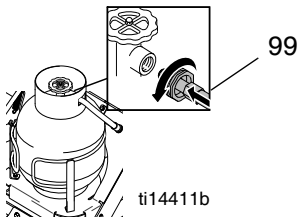
4. Install front screed housing (20) to screed housing. Secure with fasteners (146).



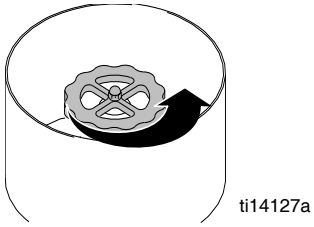
5. Connect gas tubing to 45° elbow (32).



6. Connect gas supply hose (99) to propane tank.



7. Open manual gas shut-off valve on propane tank.



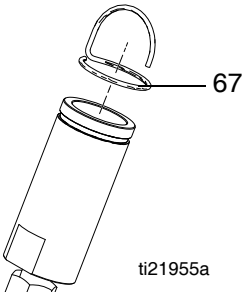
Screed Burner

(ThermoLazer 300TC/ProMelt)

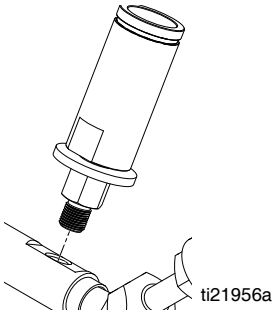
Vertical front screed burner (1)

Removal

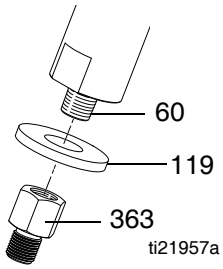
1. Remove screed burner flame indicator (67).



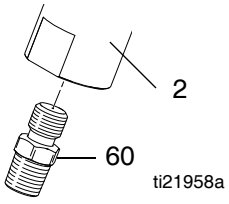
2. Unscrew screed burner and orifice from gas manifold.



3. Unscrew adapter fitting (363) from orifice fitting (60). Remove washer from orifice (119).

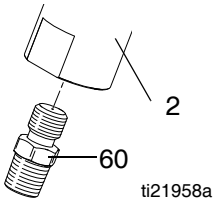


4. Unscrew orifice fitting (60) from screed burner (2).

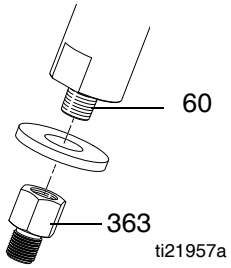


Installation

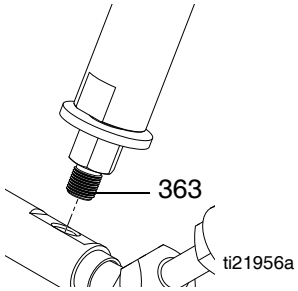
1. Apply high-temperature thread sealant to 3/8-16 threads of orifice (60) and screw into burner (2). **NOTE:** The orifice end with the smallest hole should be screwed into the screed burner.



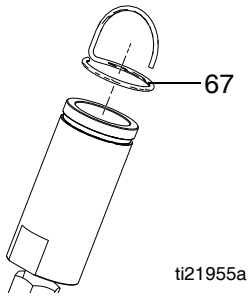
2. Apply pipe sealant to 1/8 in. NPT thread of orifice fitting (60) and screw on adapter fitting (363). Install washer on orifice (60).



3. Apply pipe sealant to 1/8 in. NPT thread of adapter fitting (363) and screw into gas manifold.



4. Install screed burner flame indicator (67).

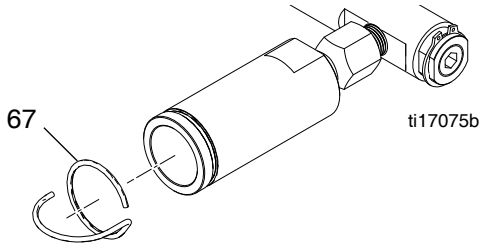


Screed Burner

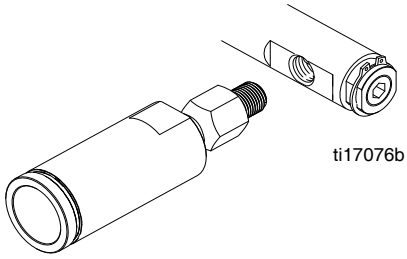
Horizontal screed burner(s)

Removal

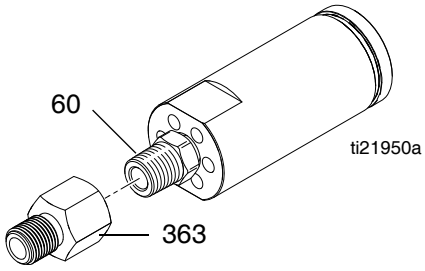
1. Remove screed burner flame indicator (67).



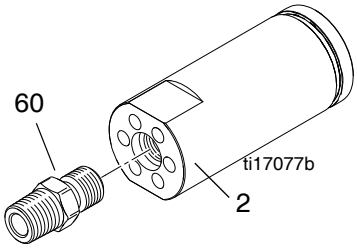
2. Unscrew screed burner and orifice from gas manifold.



3. Unscrew adapter fitting (363) from orifice fitting (60).

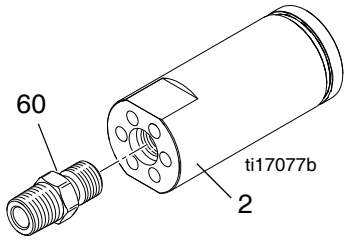


4. Unscrew orifice fitting (60) from screed burner (2).

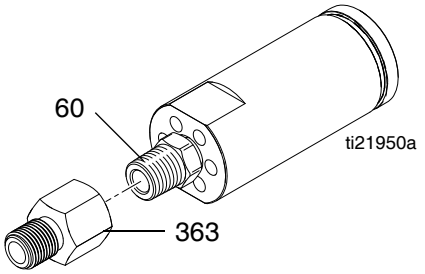


Installation

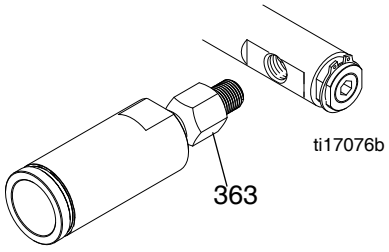
1. Apply high-temperature thread sealant to 3/8-16 threads of orifice (60) and screw into burner (2). **NOTE:** The orifice end with the smallest hole should be screwed into the screed burner.



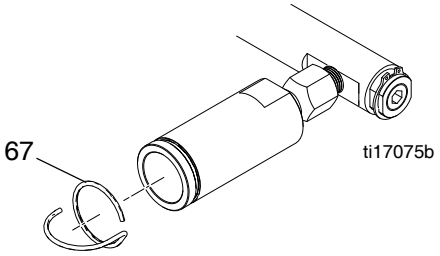
2. Apply pipe sealant to 1/8 in. NPT thread of orifice fitting (60) and screw on adapter fitting (363).



3. Apply pipe sealant to 1/8 in. NPT thread of adapter fitting (363) and screw into gas manifold.



4. Install screed burner flame indicator (67).



Main Gas Filter

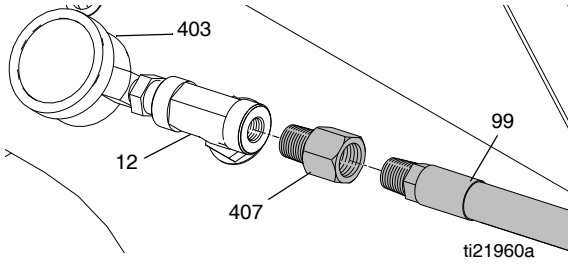
(ThermoLazer 300TC/ProMelt)

Removal

1. Unscrew filter fitting (403) from tee (12).
2. Unscrew fitting (407) from hose (99).

Install

1. Apply pipe sealant to 1/4 in. NPT of hose (99) and screw on filter fitting (407).
2. Apply pipe sealant to 1/4 in. NPT of filter fitting (403) and screw into tee (12).
3. Check gas lines for leaks. (See **Operation** Manual).



Screed Burner Filter

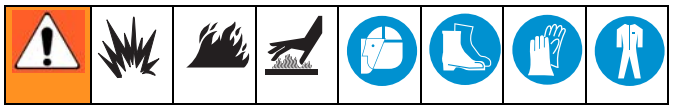
Removal

1. See Screed Burner Removal, page 32.

Install

1. See Screed Burner Install, page 32.

Troubleshooting



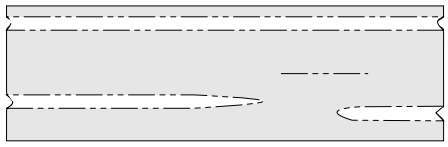
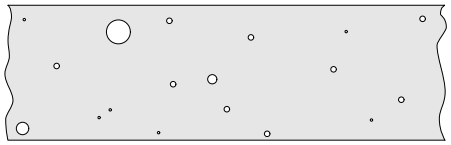
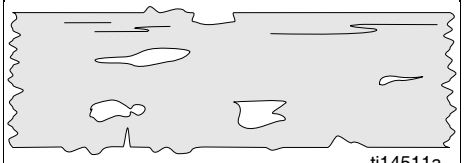
Problem	Cause	Solution
Kettle pilot burner does not ignite or does not remain ignited	Low or empty LP-gas tank	Replace with full tank.
	Gas supply hose not connected to tank	Connect gas supply hose.
	LP-gas tank shut-off valve closed	Open LP-gas tank shut-off valve.
	Manual gas shut-off valve closed	Open manual gas shut-off valve.
	Gas lines leaking or disconnected	Check for gas leaks. Connect and tighten fittings.
	Kettle gas safety valve knob not in correct position	Turn knob to “PILOT” position and fully push in (see **Operation** manual).
	Not providing adequate time for thermopile to heat up	See **Operation** manual.
	Kettle pilot igniter has weak battery	Replace part (see **Parts** manual).
	Kettle pilot electrode gap incorrect	Adjust gap (see page 11).
	Incorrect flame length and/or gas pressure	Adjust flame and pressure (see Repair manual).
	Strong wind blowing flame out	Move ThermoLazer out of strong winds. Make sure burner view ports are closed.
	Burner and/or gas lines plugged	Unplug holes and lines. Isolate all gas regulators if clearing line with forced air (see page 6).
	Kettle gas safety valve not functioning correctly	Replace part if it fails diagnostic test (see page 6).
	Thermopile not functioning correctly	Replace part if it fails diagnostic test (see page 12).
	Kettle pilot electrode ground wire not correctly connected	Clean connections and retighten. Replace ground wire if damaged.
	Kettle pilot electrode lead wire has a short	Replace part (see **Parts** manual).
	Kettle pilot igniter not functioning correctly	Replace part (see **Parts** manual).
	Kettle burner regulator not functioning correctly	Replace part (see **Parts** manual).
Kettle burners shut off before material is melted	Material level is low	Add material to kettle. Once material level is up to thermometer, this condition will be corrected.
ProMelt Only	Over temperature safety switch not functioning correctly	Replace part (see **Parts** manual).

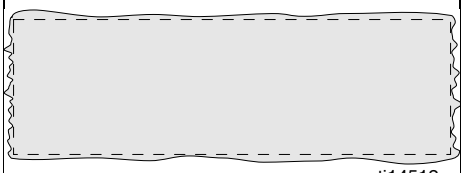
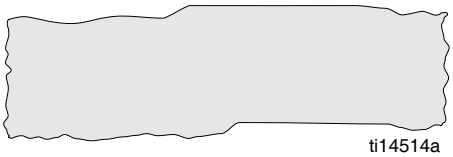
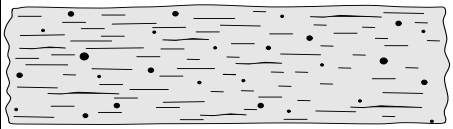
Problem	Cause	Solution
Kettle main burners do not ignite or are not burning correctly	Kettle gas safety valve knob not at correct position	Turn knob to ON position (see **Operation** manual).
	Kettle temperature control dial set at a lower temperature than material temperature	Turn kettle temperature control dial to temperature 25° F (13.9° C) higher than material temperature.
	Kettle gas safety valve not functioning correctly	See **Repair** manual and replace part if it fails diagnostic testing.
	Burner and/or gas lines plugged	Unplug holes and lines. Isolate all gas regulators if clearing line with forced air (see page 20).
	Kettle temperature control not functioning correctly	Replace part (see **Parts** manual).
	Gas lines have been disconnected	Connect and tighten hose fittings. Check for gas leaks.
	Incorrect flame length and/or gas pressure	Adjust flame and pressure (see page 18).
	Kettle gas safety valve knob not at correct position	Replace part (see **Parts** manual).
Kettle main burners do not shut off	Kettle temperature control dial is not turned to a setting lower than material temperature	Turn kettle temperature control dial to a setting 25° F (13.9° C) (minimum) lower than material temperature.
	Kettle temperature control not functioning correctly	Replace part (see **Parts** manual).
	Kettle gas safety valve not functioning correctly	Replace part if it fails diagnostic testing (see page 6).
Kettle main burner does not turn on	Kettle temperature control dial is not turned to a setting higher than material temperature	Turn kettle temperature control dial to a setting 25° F (13.9° C) (minimum) higher than material temperature.
	Kettle temperature control not functioning correctly	Replace part (see **Parts** manual).
	Kettle gas safety valve not functioning correctly	Replace part if it fails diagnostic test (see page 6).
	Over temperature safety switch not functioning correctly	Replace part (see **Parts** manual).
Thermometer not matching material temperature in kettle	Material has not reached temperature control set point	Allow time for material to reach operating temperature.
	Material not fully agitated	Agitate material.
	Cool or windy ambient conditions	Move ThermoLazer out of cool windy conditions. Discharge material and check thermometer.
	Thermometer calibrated incorrectly	Calibrate thermometer (see page 10).
	Kettle temperature control calibrated incorrectly	See Repair manual and replace part if it can not be calibrated (see **Parts** manual).
	Thermometer not functioning correctly	Replace part (see **Parts** manual).
	Kettle temperature control not functioning correctly	Replace part (see **Parts** manual).
	Kettle gas safety valve not functioning correctly	Replace part if it fails diagnostic test (see page 6).
	Incorrect flame length and/or gas pressure	Adjust flame and pressure (see page 18).

Problem	Cause	Solution
Screed box burner does not ignite, does not remain ignited, or can not change heat output	Empty LP-gas tank	Replace with full tank.
	LP-gas tank shut-off valve closed	Open LP-gas tank shut-off valve.
	Gas supply hose not connected to tank	Connect gas supply hose.
	Gas lines leaking or disconnected	Check for gas leaks. Connect and tighten fittings.
	Burner regulator/flow flame adjusting valve not functioning correctly	Replace part (see **Parts** manual).
	Burner orifice plugged	Clean or replace part (see **Parts** manual).
	Burner assembly not functioning correctly.	Replace part (see **Parts** manual).
Torch does not ignite	Empty LP-gas tank	Replace with full tank.
	LP-gas tank shut-off valve closed	Open LP-gas tank shut-off valve.
	Torch manual gas shut-off valve closed	Open manual shut-off valve.
	Gas supply hose not connected to tank	Connect gas supply hose.
	Gas lines leaking or disconnected	Check for gas leaks. Connect and tighten fittings.
	Torch assembly not functioning correctly	Replace part (see **Parts** manual).
Agitator crank handle is hard to move	Material is cold	Allow time for material to reach operating temperature.
	Bushings are worn	Replace bushings (see **Parts** manual).
	Linkage ball rod ends need lubrication	Add grease.
	Foreign material lodged between agitator and kettle	Remove material in kettle and **CAREFULLY** dislodge and remove foreign material.
ControlFlow™ gate valve difficult to open or close	Cold material temperature	Heat material to operating temperature. Make sure thermometer is free to move.
	Gate sticking in guides	Check for excess material in guides. Apply heat as required and remove excess material. Add grease to lubricate guides.
	Bushings are worn	Replace bushings (see **Parts** manual).
ControlFlow gate valve leaking	Gate not completely closed	Close gate completely.
	Foreign material lodged in gate opening	**CAREFULLY** dislodge and remove foreign material.
Screed box leaking	Foreign material in screed box discharge opening	**CAREFULLY** dislodge and remove foreign material.
	Dirty screed box	**CAREFULLY** clean box. All moving parts need to be free of debris.
	Incorrect deployment rod linkage length	Adjust length (see page 21).
	Incorrectly adjusted screed box/bead dispenser box actuator	Adjust lever (see page 21).
	Worn screed box shear bar	Replace gate (see **Parts** manual).
	Worn screed box shear bar stop	Replace trough (see **Parts** manual).
Excessive material buildup when starting and stopping extruding	Screed box not adjusted to ground	See **Operation** manual.
	Screed box open when ThermoLazer is stationary	Synchronize ThermoLazer and screed box motion.
	Foreign material in screed box discharge opening	**CAREFULLY** dislodge and remove foreign material.
	Dirty screed box	**CAREFULLY** clean box. All moving parts need to be free of debris.

Problem	Cause	Solution
Beads not discharging or discharging unevenly	Low bead level in bead hopper	Fill bead hopper.
	Bead dispenser doors closed	Open doors as required to obtain desired flow pattern width.
	Bead dispenser drive wheel not engaged	Secure bead dispenser wheel (see page 21).
	Bead dispenser drive wheel slipping	Tighten. Check air pressure (see page 21).
	Debris in discharge opening of bead dispenser	Remove debris.
	Debris on ThermoLazer tire or bead dispenser wheel	Remove debris.
	Moisture in beads	Remove wet beads. Dry hopper, bead hoses and bead dispenser. Fill hopper with dry beads.
Beads not discharging at required flow rate	Bead dispenser flow rate lever not correctly set	Rotate flow rate lever to correct position.
	Bead dispenser drive wheel slipping	Tighten wheel and check tire pressure (see page 21).
	Bead dispenser doors not fully open	Open door fully.
	Moisture in beads	Remove wet beads. Dry hopper, bead hoses and bead dispenser. Fill hopper with dry beads.
	Moisture on road surface	Allow road surface moisture to dry.
	Rough road surface	Smooth road surface.
	Bead Dispenser low on material	Add material to bead hopper.
Hard pushing when screed box is on ground	Screed box not adjusted correctly	See **Operation** manual.

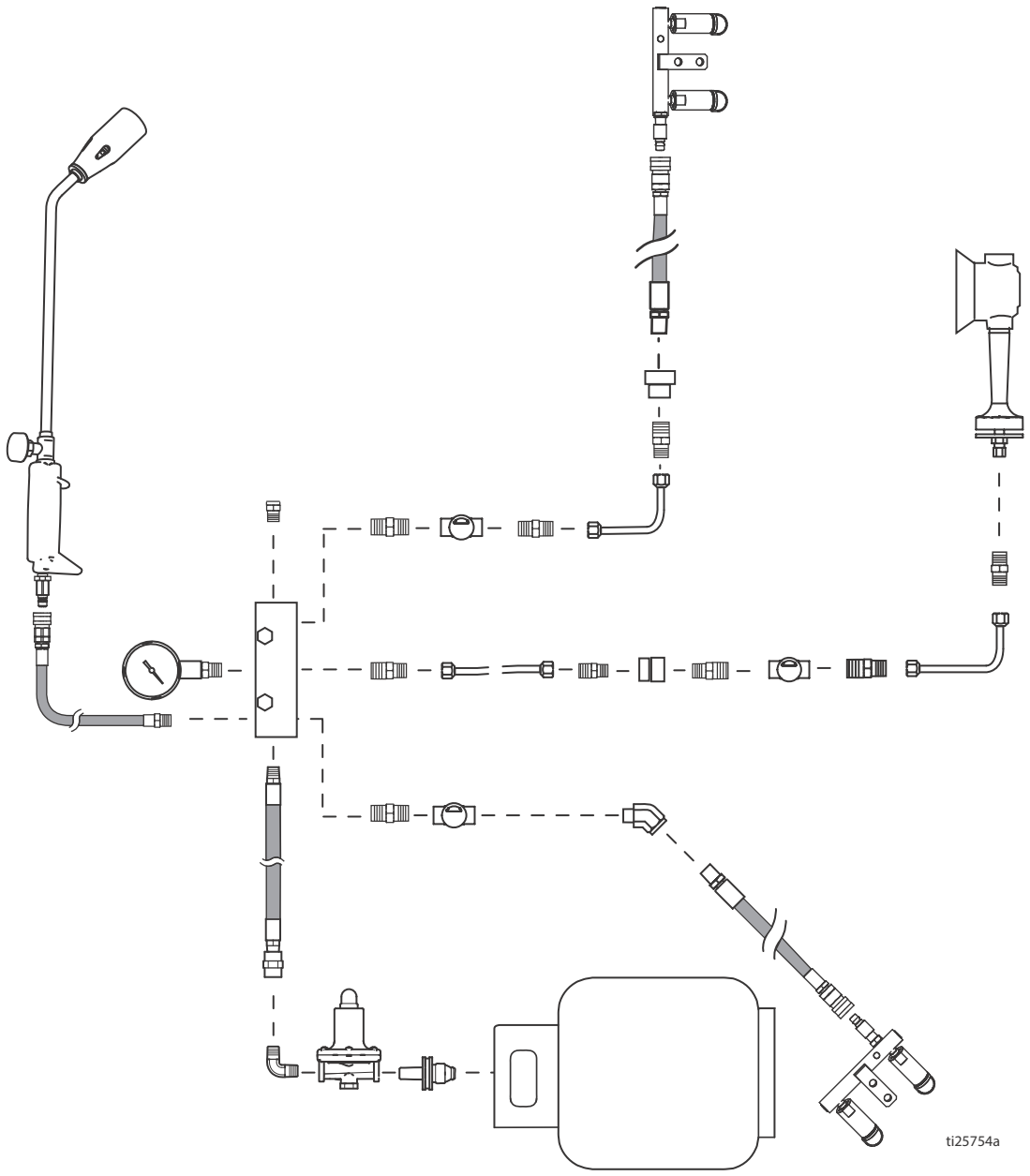
Applying Material

Problem	Cause	Solution
Ragged line edges when extruding	Dirty screed box	**CAREFULLY** clean box. Discharge opening and screed box plate runners need to be free of debris.
	Cold material temperatures	Heat material as required.
	Marking speed too fast	Slow ThermoLazer speed.
Rough material surface when extruding	Overheated material	Reduce heat.
	Moisture on road surface	Allow road surface moisture to dry.
	Rough road surface	Smooth road surface.
	Screed box low on material	Add material to screed box.
EXAMPLES:		
Correct line application will produce a full straight line with sharp edges; correct color, thickness and width; a firm bond to the surface; and have uniform reflectivity.  ti14507a		
Insufficient adhesion (material bulges at beginning of line)  ti14508a	• Material temperature too low • ThermoLazer speed too fast • Debris on road • Surface temperature too cold	• Raise material temperature. • Decrease speed of ThermoLazer. • Clear debris from road. • Wait for temperature of surface to raise.
Rough and bumpy line  ti14509a	• Debris on surface • Crust from overheated material • Debris caught in screed box • Material not covering road high spot	• Clear debris from surface. • Lower material temperature. • Clean debris from screed box. • Adjust screed box line thickness.
Gas bubbles in line  ti14510a	• Moisture or solvent on surface • Material is overheated	• Remove solvent from surface. • Lower temperature of material.
Ragged edges and gaps in line  ti14511a	• Material temperature is too low • ThermoLazer speed is too fast	• Raise material temperature. • Wait for change in ambient conditions to remove moisture. • Reduce ThermoLazer speed.

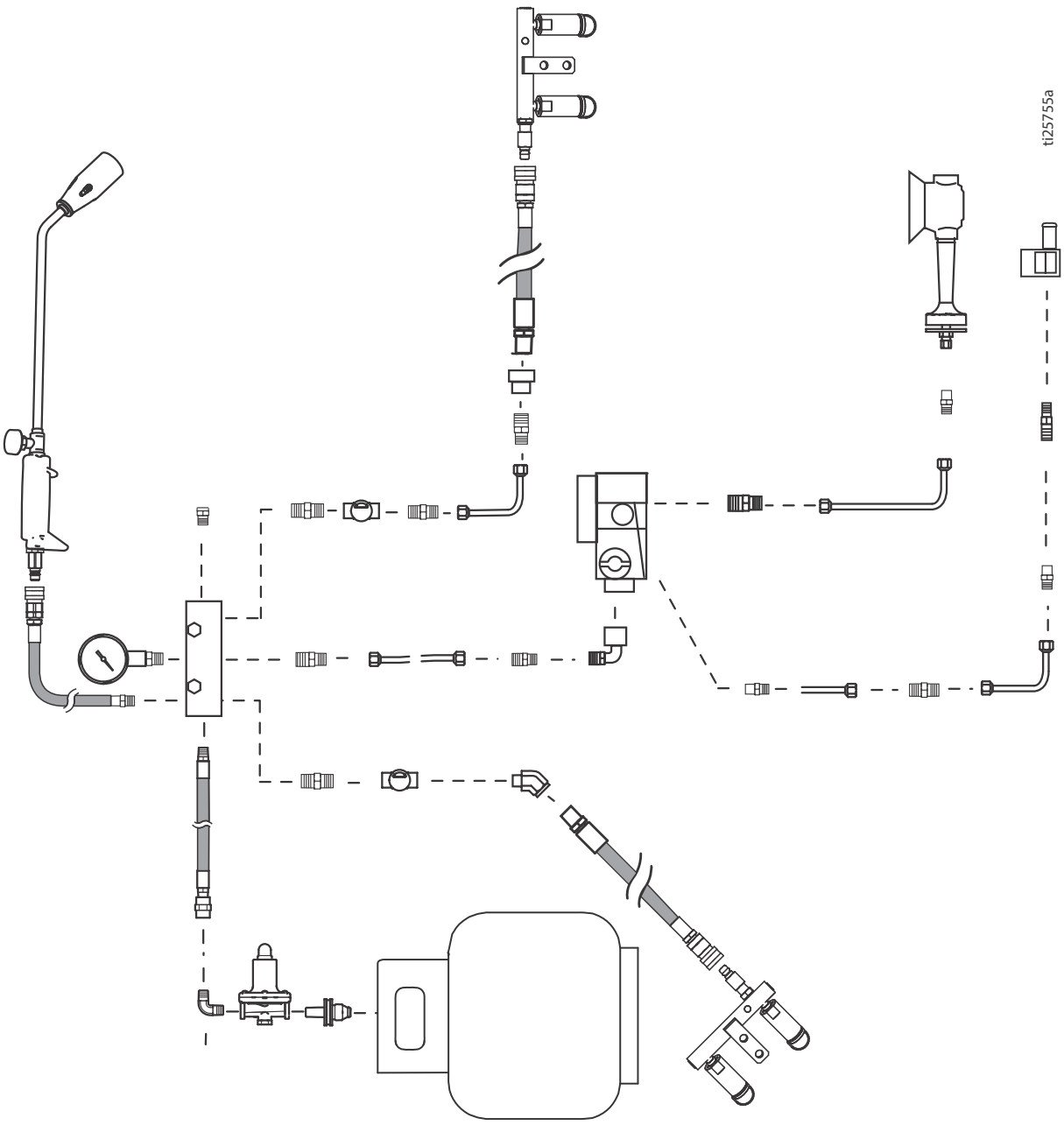
Problem	Cause	Solution
Swollen rounded line  ti14512a	• Material temperature is too high	• Lower material temperature.
Material shadows on sides  ti14513a	• Uneven road surface • Screed box is not evenly riding on substrate	• Apply to even road surfaces. • Remove debris from screed box lever rod. • Inspect/replace damaged screed box lever rod/lever arm.
Line is wavy  ti14514a	• Strong road surface camber • Incorrect ThermoLazer operation	• Apply so camber does not influence application. • Use correct application methods (for example, try locking swivel wheel).
Cracks in line  ti14515a	• Cracks in road surface • Temperature stress from overheating • Material applied too cold • Material applied too thin	• Repair cracks. • Lower temperature in material. • Increase material temperature. • Slow ThermoLazer speed to apply thicker material.
Rough edges and lines in surface  ti14516a	• Material temperature is too low • Material is overheated or scorched • Moisture in road surface	• Raise material temperature. • Lower material temperature. • Wait until road surface is dry.
Jagged line ends; material drips between lines  ti14517a	• Screed box does not fully close • Debris caught in screed box • Worn screed box shear bar • Worn screed box trough shear bar stop • Surface temperature too cold	• Clean screed box. • Clear debris from screed box. • Replace screed box gate. • Replace screed box trough. • Allow surface temperature to increase.

Piping Diagram

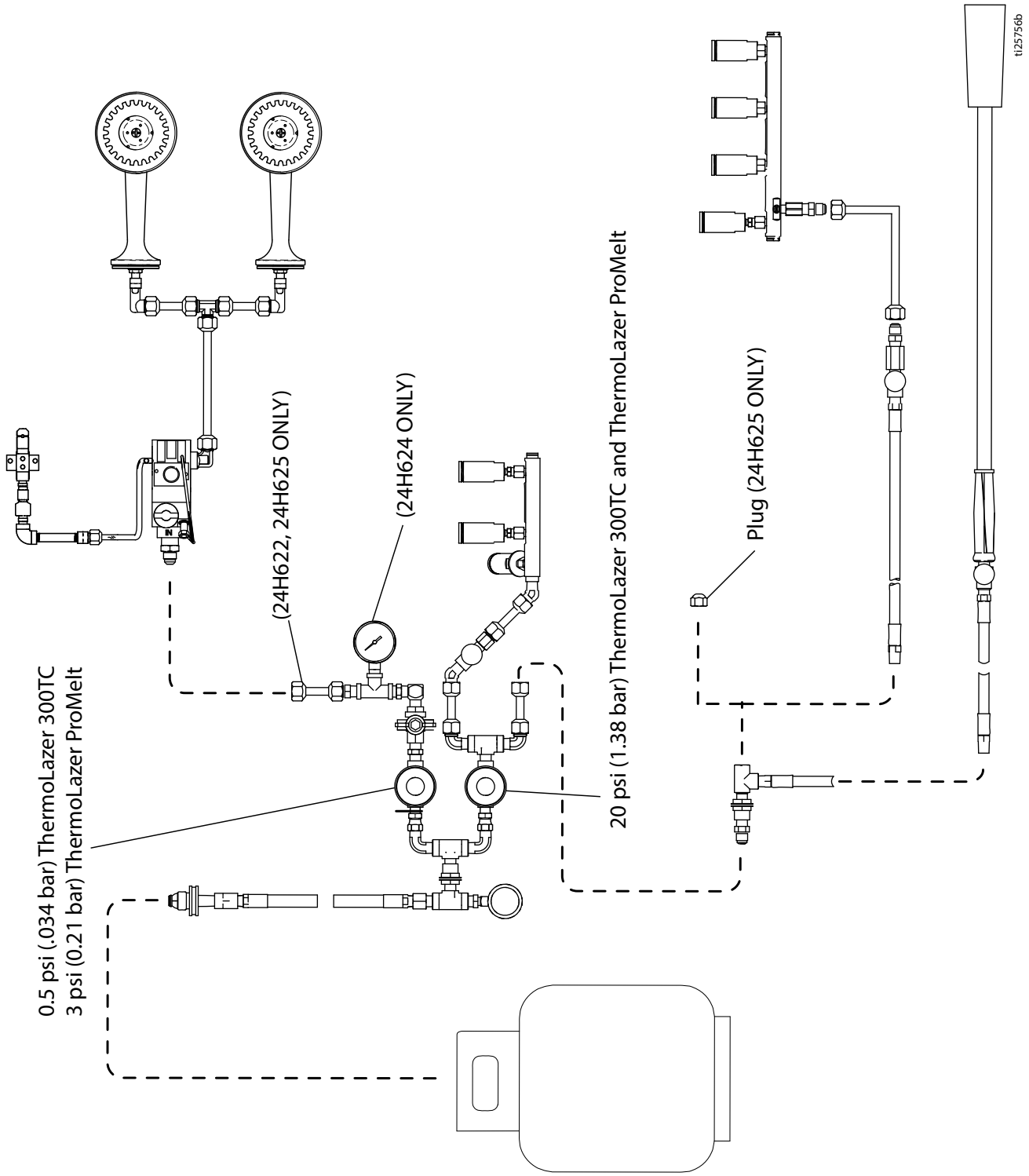
ThermoLazer 200



ThermoLazer 200TC

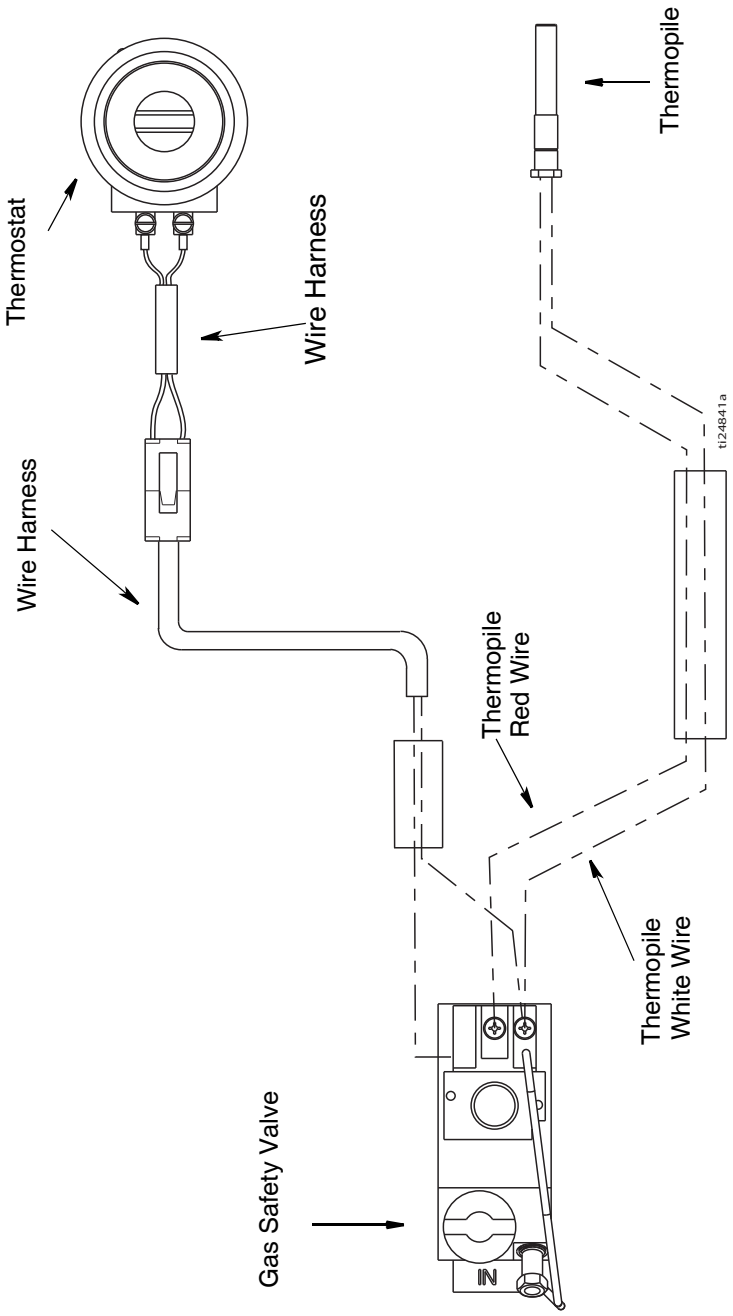


ThermoLazer 300TC/ProMelt

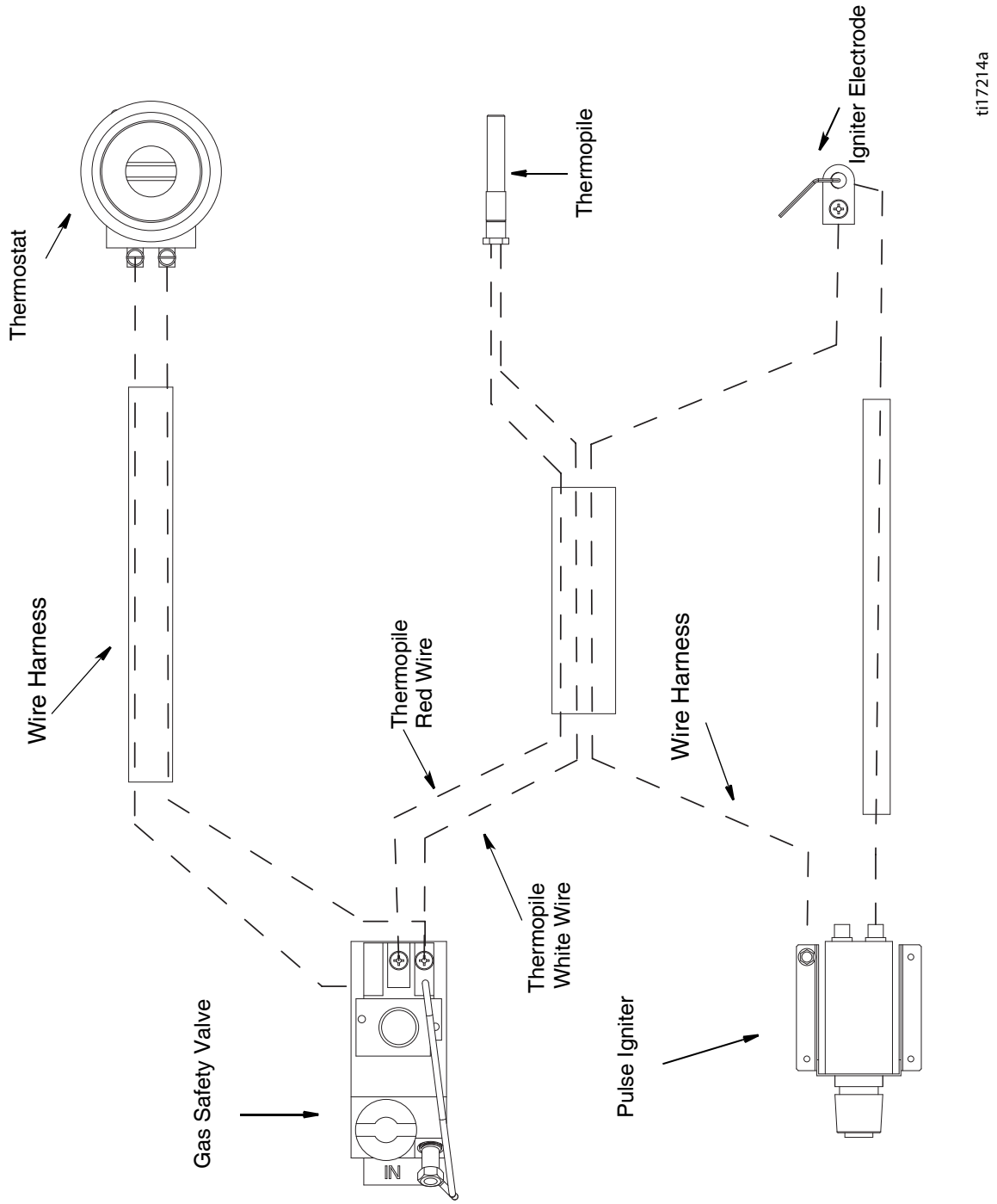


Wiring Diagram

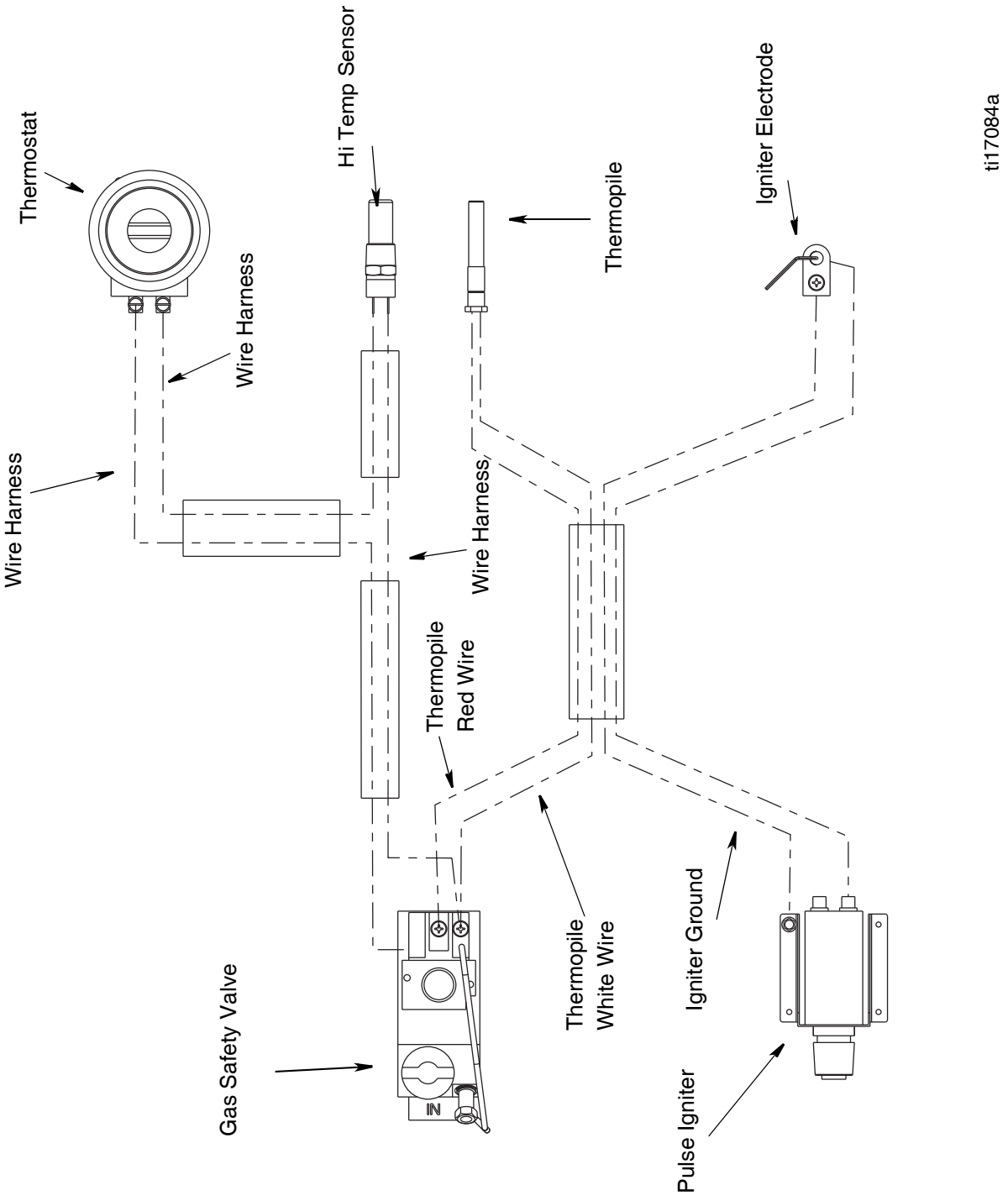
ThermoLazer 200TC



ThermoLazer 300TC



ThermoLazer ProMelt



Technical Data

		ThermoLazer 200/200TC	ThermoLazer 300TC		ThermoLazer ProMelt
		(24U280) (24U281)	with Rear Heat (24H622)	without Rear Heat (24H625)	(24H624)
	Fuel	Liquefied Petroleum Gas (LP-gas) (propane vapor)			
	Gas supply maximum pressure - psi (bar)	250 (17.24)			
Operating Pressure (psi - bar)	Kettle burners	3 (0.21)	0.5 (0.034)	0.5 (0.034)	3 (0.21)
	Torch	3 (0.21)	20 (1.38)	20 (1.38)	20 (1.38)
	Screed box front burners	3 (0.21)	20 (1.38)	20 (1.38)	20 (1.38)
	Screed box rear burners	3 (0.21)	20 (1.38)	N/A	20 (1.38)
Maximum Heating Capacity Btu/hr (kW)	Kettle burners (sum of burners)	(1) 30,000 (8.8)	(2) 30,000 (8.8)	(2) 30,000 (8.8)	(2) 100,000 (29.3)
	Torch	10,000 (2.93)	100,000 (29.3)	100,000 (29.3)	100,000 (29.3)
	Screed box front burner (sum of 3 burners)	27,000 (7.9)	27,000 (7.9)	27,000 (7.9)	27,000 (7.9)
	Screed box rear burner (sum of 4 burners)	36,000 (10.6)	36,000 (10.6)	N/A	36,000 (10.6)
	Total	103,000 (30.2)	193,000 (56.6)	157,000 (46.0)	263,000 (77.1)
Material Capacity lb (kg)	Gas	20 (9.1)	20 (9.1)		20,30 (9.1, 13.6)
	Main kettle	200 (91)	300 (136) - Thermoplastic traffic marking compound materials		
	Bead hopper	40 (18)	90 (40) - Type II glass bead		
	Maximum operating temperature - °F (°C)	450 (232)	450 (232)	450 (232)	480 (249)
	Front tire pressure - psi (bar)	N/A	45 (3.10)		
	Rear tire pressure - psi (bar)	N/A	60 (4.14)		
Physical	Weight - lb (kg)	260 (118)	300 (136)	295 (134)	350 (159)
	Length - in. (m)	44 (1.12)	72 (1.83)		
	Height - in. (m)	39 (1.00)	51 (1.3)		
	Width - in. (m)	33 (0.84)	48 (1.22)		
	Igniter battery	N/A	AA (1.5 V)		

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.

Graco Information

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

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

TO PLACE AN ORDER, contact your Graco distributor or call 1-800-690-2894 to identify the nearest distributor.

All written and visual data contained in this document reflects the latest product information available at the time of publication.
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For patent information see, www.graco.com/patents.

Original instructions. This manual contains English. MM 3A1320

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