

ProMix™ Easy

311004F

ENG

Self-contained, single color, electronic plural component paint proportioner, with carbon steel UltraMix™ Pump and cart. For professional use only.

250 psi (1.7 MPa, 17 bar) Maximum Fluid Working Pressure

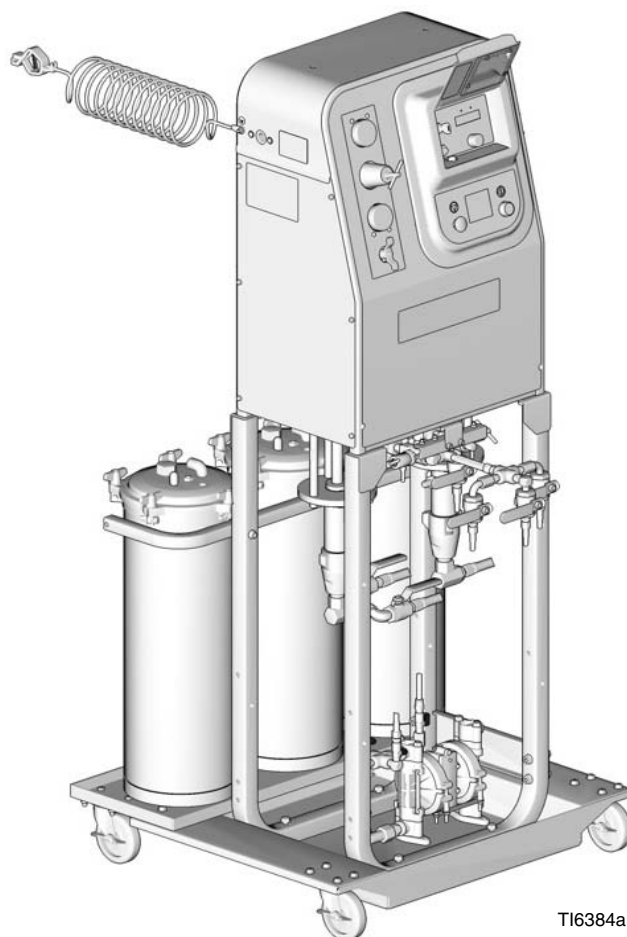


Important Safety Instructions

Read all warnings and instructions in this manual.
Save these instructions.

See page 3 for model information, including maximum working pressure.

Model 249320 Clear Coat System Shown



T16384a



Conforms to FM std 3600 & 3610 for use in
Class I Div 1 Group D T3 Hazardous Locations



CAN/CSA 22.2 No. 157-92
& No. 1010.1-92



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ProMix Easy Models

Approved for Hazardous Location Class I, Div 1, Group D (North America)			
ProMix Easy Part No.	Series	Description and Approvals	Maximum Working Pressure psi (MPa, bar)
249320	A	Clear coat system; cart mount, UltraMix carbon steel pumps, and remote mix manifold	250 (1.7, 17)
249321	A	Primer system; cart mount, UltraMix carbon steel pumps, and remote mix manifold	250 (1.7, 17)
258961	A	Primer system; cart mount, UltraMix carbon steel pumps, standard mix manifold, and automatic flush valves	250 (1.7, 17)





Related Manuals







Manual	Description
311003	ProMix Easy Operation Manual
310655	Dispense Valve
310662	Displacement Pumps
310671	UltraMix Pumps
310673	Circulation Kits
310674	Mounting Kits
310675	AC Power Supply
310678	TSL Pump Kits
310800	Auto Flush Kit
310700	Gun Air Regulator Kits

Manual	Description
312414	AirPro™ Pressure Feed Airspray Gun
309623	Data Download Kits
308034	Turbine Alternator Repair Kit
308167	Low Volume Air Regulators
308369	Pressure Tanks
308371	Agitators
308375	Pressure Tank Bottom Outlet Kit
308553	Husky® 307 AODD Pumps
307212	Fluid Pressure Regulators

Warnings

The following general warnings are related to the safe setup, use, grounding, maintenance and repair of this equipment. Additional more specific warnings may be found throughout the text of this manual where applicable.

 WARNING	
	<p>FIRE AND EXPLOSION HAZARD</p> <p>Flammable fumes, such as solvent and paint fumes, in work area can ignite or explode. To help prevent fire and explosion:</p> <ul style="list-style-type: none"> • Use equipment only in well ventilated area. • Eliminate all ignition sources; such as pilot lights, cigarettes, portable electric lamps, and plastic drop cloths (potential static arc). • Keep work area free of debris, including solvent, rags and gasoline. • Do not plug or unplug power cords, or turn power or light switches on or off when flammable fumes are present. • Ground all equipment in work area. See Grounding instructions. • Use only grounded hoses. • Hold gun firmly to side of grounded pail when triggering into pail. • If there is static sparking or you feel a shock, stop operation immediately. Do not use equipment until you identify and correct the problem. • Keep a fire extinguisher in the work area.
	<p>PRESSURIZED EQUIPMENT HAZARD</p> <p>Fluid from the gun/dispense valve, leaks, or ruptured components can splash in the eyes or on skin and cause serious injury.</p> <ul style="list-style-type: none"> • Follow Pressure Relief Procedure in this manual, when you stop spraying and before cleaning, checking, or servicing equipment. • Tighten all fluid connections before operating the equipment. • Check hoses, tubes, and couplings daily. Replace worn or damaged parts immediately.
	<p>EQUIPMENT MISUSE HAZARD</p> <p>Misuse can cause death or serious injury.</p> <ul style="list-style-type: none"> • Do not exceed the maximum working pressure or temperature rating of the lowest rated system component. See Technical Data in all equipment manuals. • Use fluids and solvents that are compatible with equipment wetted parts. See Technical Data in all equipment manuals. Read fluid and solvent manufacturer's warnings. • Check equipment daily. Repair or replace worn or damaged parts immediately. • Do not alter or modify equipment. • For professional use only. • Use equipment only for its intended purpose. Call your Graco distributor for information. • Route hoses and cables away from traffic areas, sharp edges, moving parts, and hot surfaces. • Do not kink or overbend hoses or use hoses to pull equipment. • Comply with all applicable safety regulations.

 WARNING	
	<p>MOVING PARTS HAZARD</p> <p>Moving parts can pinch or amputate fingers and other body parts.</p> <ul style="list-style-type: none"> • Keep clear of moving parts. • Do not operate equipment with protective guards or covers removed. • Pressurized equipment can start without warning. Before checking, moving, or servicing equipment, follow the Pressure Relief Procedure in this manual. Disconnect power or air supply.
	<p>TOXIC FLUID OR FUMES HAZARD</p> <p>Toxic fluids or fumes can cause serious injury or death if splashed in the eyes or on skin, inhaled, or swallowed.</p> <ul style="list-style-type: none"> • Read MSDS's to know the specific hazards of the fluids you are using. • Store hazardous fluid in approved containers, and dispose of it according to applicable guidelines.
  	<p>PERSONAL PROTECTIVE EQUIPMENT</p> <p>You must wear appropriate protective equipment when operating, servicing, or when in the operating area of the equipment to help protect you from serious injury, including eye injury, inhalation of toxic fumes, burns, and hearing loss. This equipment includes but is not limited to:</p> <ul style="list-style-type: none"> • Protective eyewear • Clothing and respirator as recommended by the fluid and solvent manufacturer • Gloves • Hearing protection

Pressure Relief Procedure (Models 249320 and 249321)

WARNING




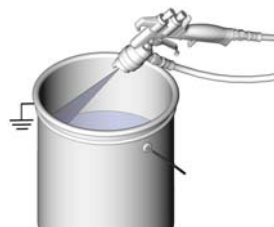
Relieve pressure from fluid manifold to gun whenever you stop spraying and before servicing gun or removing spray tip.

In addition, relieve pressure from pump to fluid manifold at end of day and before cleaning, checking, or servicing pump, manifold, or fluid line accessories or transporting equipment.

Read warnings, page 4.

Fluid Manifold to Gun

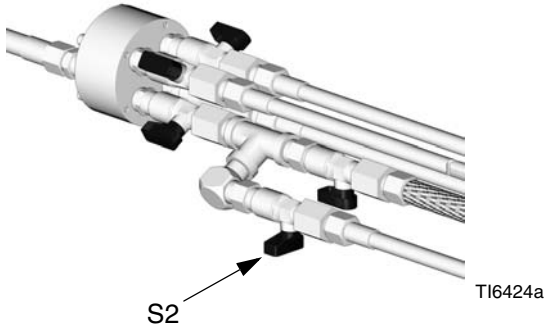
1. Press .
2. Close all valves at mix manifold.
3. Hold a metal part of the gun firmly to a grounded metal pail. Trigger gun to relieve pressure.



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Pump to Fluid Manifold

1. Open all fluid valves at mix manifold. Leave solvent valve (S2) closed.



2. Open all fluid outlet valves.

3. Turn function knob to pressure relief/park

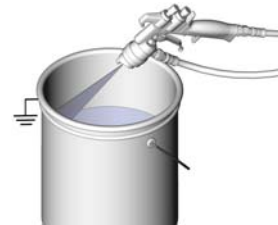


4. Press . Indicator A comes on, and Pump A pressurizes.

Pump air supply pressure must be sufficient to cause pumps to stroke to bottom-most position when function knob to is set to pressure relief/park



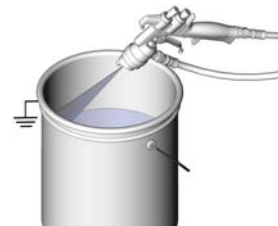
5. Hold a metal part of the gun firmly to a grounded metal pail. Trigger gun to relieve component A pressure. Indicator A will stay on for 5 sec after Pump A reaches Park position, then go off.



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6. Indicator B comes on and Pump B pressurizes.

7. Hold a metal part of the gun firmly to a grounded metal pail. Trigger gun to relieve component B pressure. Indicator B will stay on for 5 sec after Pump B reaches Park position, then go off.



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If both pumps are not parked after 1 min, Alarm 26 will sound.

Pressure Relief Procedure (Model 258961)

WARNING

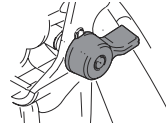


Relieve pressure from fluid manifold to gun whenever you stop spraying and before servicing gun or removing spray tip.

In addition, relieve pressure from pump to fluid manifold at end of day and before cleaning, checking, or servicing pump, manifold, or fluid line accessories or transporting equipment.

Read warnings, page 4.

5. Engage trigger lock.



Fluid Manifold to Gun

1. Engage trigger lock.



2. Press .

3. Disengage trigger lock.

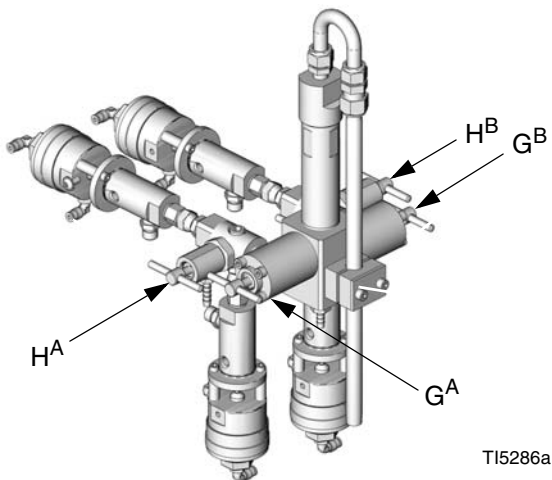


4. Hold a metal part of the gun firmly to a grounded metal pail. Trigger gun to relieve pressure.



Pump to Fluid Manifold

1. Close shutoff valves G^A and G^B .
2. Place waste container under sampling valves H^A and H^B .



3. Turn function knob to pressure relief/park



4. Press . Indicator A comes on, and Pump A pressurizes.

5. Open sampling valve A slowly to bleed off pressure. Indicator A will stay on for 5 sec after Pump A reaches Park position, then go off.



Pump air supply pressure must be sufficient to cause pumps to stroke to bottom-most position when function knob to is set to pressure relief/park



6. Indicator B comes on and Pump B pressurizes.
7. Open sampling valve B slowly to bleed off pressure. Indicator B will stay on for 5 sec after Pump B reaches Park position, then go off.



If both pumps are not parked after 1 min, Alarm 26 will sound.

8. Close sampling valves A and B before restarting system.

Maintenance

Preventive Maintenance Schedule

Establish a preventive maintenance schedule, based on the pump's repair history.

Dispense Valve

See dispense valve manual 310655.

Pump

See applicable pump manual 310671 or 310662.

Turbine Alternator

Replace bearings every 2000 hours. See page 20.

Air Filters

Drain and clean as necessary. See page 16.

Pump Test

See ProMix Easy Operation manual. If pumps fail test, see **Icing**, page 10.

Wet Cup

Check pump wet-cups daily. Keep filled with Graco Throat Seal Liquid (TSL), Part No. 206995.

Storage

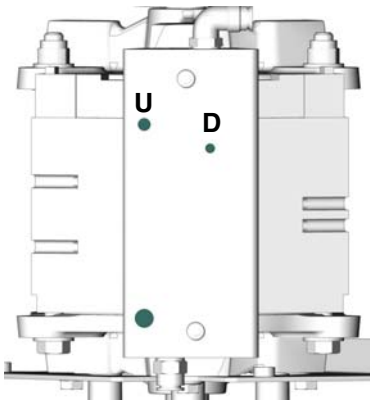
Before storing the pump, always flush it, see ProMix Easy Operation manual. Relieve the pressure, page 6.

Icing


If you experience icing at the pump air manifold:




- Reduce pump input air pressure below 80 psi (0.56 MPa, 5.6 bar), if required spray pressure allows.
- Reduce moisture in compressed air supply, or use heated air.

If icing persists, see table below.

Problem	Solution	 TI5294a
Pump slows on both up and down stroke.	Turn D port bleed screw 60° (1/6 turn) counter-clockwise, to bleed 1 cfm air to melt ice.	
Pump slows on down stroke.	Turn D port bleed screw 60° (1/6 turn) counter-clockwise, to bleed 1 cfm air to melt ice. If icing continues, turn screw to 90° (1/4 turn) to increase air flow to 2 cfm. If necessary, increase air flow to 3 cfm by turning screw to 270° (3/4 turn). Do not exceed 3 cfm (3/4 turn maximum).	
Pump slows on up stroke.	Turn U port bleed screw 90° (1/4 turn) counter-clockwise, to bleed 1 cfm air to melt ice. If icing continues, turn screw to 120° (1/3 turn) to increase air flow to 2 cfm. If necessary, increase air flow to 3 cfm by turning screw to 180° (1/2 turn). Do not exceed 3 cfm (1/2 turn maximum).	

Troubleshooting


WARNING




Read warnings, page 4-5.



If an alarm code displays, see page 14.

Problem	Cause	Solution
Display not lit. No electric power.	Air valve not turned on.	Turn on main air valve to system.
	Air supply pressure too low.	Increase pressure to 60 psi (0.42 MPa, 4.2 bar) or greater.
	Air supply filters plugged.	Clean filter bowls; replace filter elements. Page 16.
	Turbine air regulator set too low.	Adjust to proper setting.
	Turbine alternator failure.	Repair or replace turbine. Page 20.
	Power supply not connected to main board.	Check power connections to main board. See Electrical Schematic , page 24.
	Main board not connected to display board.	Check electrical connections between display and main board. See Electrical Schematic , page 24, and Main Control Board Schematic , page 25.
	Display board failure.	Replace display board. Page 19.
Pumps do not run.	Air pressure to pumps too low.	Increase pressure to 50 psi (0.35 MPa, 3.5 bar).
	Solenoid valve stuck.	Actuate solenoid manually, if it does not operate, replace solenoid. Page 21.
	Dispense valve(s) not opening.	Service or replace valve(s). See 310655.
Pump test volume is not correct.	Air pressure to pumps too low	Increase pressure to 50 psi (0.35 MPa, 3.5 bar).
	Sensors not functioning properly.	Check position of sensors. See ProMix Easy Operation manual, and applicable pump manual. Check board calibration and recalibrate if necessary. See ProMix Easy Operation manual. Replace sensors. See pump manual 310671.
	Pump cavitating excessively.	Check for air in siphon lines caused by loose fitting or use of agitator. Material too viscous. Use heater.

Problem	Cause	Solution
Paint does not cure consistently.	Ratio not set correctly.	Check that correct ratio is set and set by volume. See ProMix Easy Operation manual.
	Material not mixing correctly.	Test pump. Page 10. Make sure mixer is clean; flush as needed. See ProMix Easy Operation manual.
	Pump not operating correctly.	Observe whether pumps are loading and checking correctly, if not, clean and repair pump. See displacement pump manual 310662.
Poor spray pattern.	Fluid pressure too low.	Increase pump pressure.
	Spray tip dirty or worn.	Relieve pressure. Clean or replace tip. Follow gun manual instructions.
	Fluid A or B filters plugged.	Clean filters on siphon tube in tank.
	Mixer or hoses partially plugged.	Inspect parts for cured material. Clean or replace.
System runs erratically.	Air filter(s) clogged. Replace elements.	Clean. Replace element(s). See page 16.
	Air supply hoses undersized.	Replace hoses with appropriate size.
	Air compressor undersized.	Use larger air compressor.
	Air supply pressure tank undersized.	Use larger pressure tank.
Air supply relief valve opens.	Turbine air regulator set too high.	Lower setting to 23-25 psi (172-241 kPa, 1.7-2.4 bar).
Turbine alternator makes high-pitched whining noise.	Turbine bearings worn. (Setting turbine air regulator too high, wears bearings.)	Replace bearings. Page 20.
Display shows 88888 or unit reboots unexpectedly.	Turbine is not supplying enough power to board.	Increase turbine regulator setting to 23-25 psi (172-241 kPa, 1.7-2.4 bar).
		Check turbine and electrical control exhaust air for restrictions.
		Replace turbine bearings. Page 20.
ProMix Easy does not start when start button is pressed.	Faulty start switch or wire harness.	Check start switch and wiring harness continuity; switch is normally open circuit. See Electrical Schematic , page 24.
	Faulty stop switch or wiring harness.	Check stop switch and wiring harness continuity; stop switch is normally closed circuit. See Electrical Schematic , page 24.
	Bad I/O port on display board.	Replace board. Page 19.
	Bad I/O port on main board.	Replace board. Page 18.
Dispense valves leaking.	Loose or worn packings.	Tighten packing nut. If leak continues, replace packings. See 310655.

Problem	Cause	Solution
Flow rate too low, or no flow.	Inadequate air supply.	Use larger CFM compressor.
	Air pressure to pumps too low.	Increase pressure.
	Fluid A or B filters plugged.	Clean filters on siphon tube in tank.
	Mixer or hoses partially plugged.	Inspect parts for cured material. Clean or replace.
	Insufficient dispense valve travel.	Increase travel. See 310655.
	Shutoff valves are not fully open.	Ensure that shutoff valves are fully open and sampling valves are closed.
	Fluid regulator on remote mix manifold is set to high pressure position.	Set regulator to lower pressure position.
Pump stops after 12 cycles.	Knob is set to Run pump A  or B  independently.	Turn knob to spray  if spraying material.

Alarms

* Indicates error where audible alarm sounds once briefly.

** Indicates error where audible alarm sound pulses.

Code	Alarm	Active	Problem	Cause
Startup Errors				
01	Sensor Error A*	Always	No signal from pump A sensor	Loose cable, failed sensor or cable, failed magnet assembly
02	Sensor Error B*	Always	No signal from pump B sensor	Loose cable, failed sensor or cable, failed magnet assembly
03	Communication Error*	Always	Loss of communication between main and display boards	Loose cable, failed board
Operating Errors				
04	not used			
05	not used			
06	Pump Error A**	Spray Test Batch	Pump does not stall after top change over Pump cavitating excessively	Intake valve leak Air in siphon lines caused by loose fitting or use of agitator Empty fluid supply
07	Pump Error B**			
08	Sensor Code Error	Always	Sensor values reverted to default	Sensor value data corrupt; board needs replacement and /or recalibration
09	not used			
10	not used			
11	Sensor Reading Low A*	Spray Test Batch	Pump stroke travels beyond sensor range at top change over	Sensor or bracket loose Sensor magnet dirty
12	Sensor Reading Low B*			
13	Sensor Reading High A*	Spray Test Batch	Pump stroke travels beyond sensor range at bottom change over	Sensor or bracket loose Sensor magnet dirty
14	Sensor Reading High B*			
21	Pot Life Error	Spray first, then Always	Pot life timer timed out	Not enough material sprayed after last reset

Code	Alarm	Active	Problem	Cause
	Operating Errors (continued)			
22	not used			
23	not used			
24	not used			
25	not used			
26	Park Timeout	Park	Pumps not at bottom of stroke	Sampling valves closed, or gun not triggered.
	Testing Error			
15	Piston packing/ball A*	Test	Pump does not completely stall in up stroke	Piston packing or ball check failure
16	Piston packing/ball B*			
17	Inlet Ball A*	Test	Pump does not completely stall in downstroke	Intake valve ball check failure
18	Inlet Ball B*			
19	Dispense Valve A*	Test	Pump does not completely stall in both up and down strokes	Throat packing or dispense valve failure
20	Dispense Valve B*			
27	Pump Calibration Timeout A	Run A	Pump doesn't run through calibration.	Sampling valves closed.
28	Pump Calibration Timeout B	Run B		

Repair

Flush before repairing equipment, if possible. See Pro-Mix Easy Operation manual.

**WARNING**





Read warnings, page 4.

Follow **Pressure Relief Procedure (Models 249320 and 249321)**, page 6, if service time may exceed pot life time, before servicing fluid components, and before transporting equipment to a service area.

Replacing Air Filter Element

There are 2 air filters on the unit: the 5 micron air manifold filter (7) and 40 micron pump air filter (9). Replace element as needed. Order 15D909 5 micron filter and 15D890 40 micron filter.

**WARNING**



Removing the bowl of a pressurized air filter could cause serious injury. Do not service air filter until air line is depressurized.

1. Close main air shutoff valve on air supply line and on unit.
2. Remove left side plate (21).
3. Unlock filter bowl guard and remove.
4. Unscrew filter bowl.



5. Remove and replace element.
6. Screw filter bowl on securely.
7. Reassemble.

User Interface

Removal

1. Close main air shutoff valve on air supply line and on unit.
2. Remove side panels (21).
3. Remove fasteners (45). Gently pull user interface (11) away from pneumatic control (10).

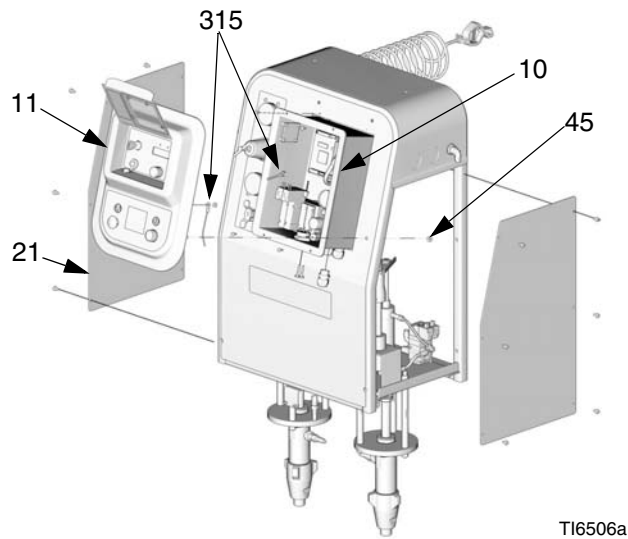


FIG. 1

4. To completely remove user interface (11), disconnect ground wire (315), and wires (416 and 406) from main control board (301). See **Electrical Schematic**, page 24.

Software Upgrades

CAUTION

To avoid damaging circuit board, wear a grounding strap.

1. Remove User Interface cover. See above.
2. Use a chip remover (D) to remove software chip (C). FIG. 2.

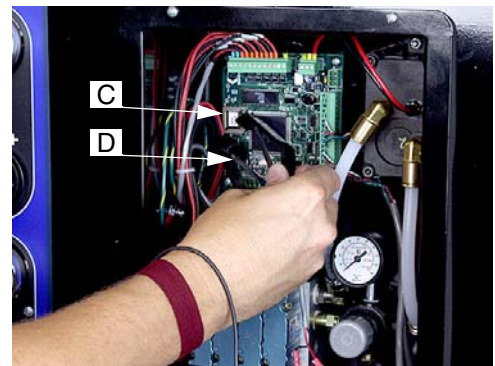


FIG. 2

3. Install new chip (beveled corner down).
4. Reassemble.
5. Recalibrate main circuit board. See ProMix Easy Operation Manual.

Replacing Main Circuit Board

CAUTION
To avoid damaging circuit board, wear a grounding strap.

1. Remove User Interface cover. See page 17.
2. Disconnect all wire connectors from board (301). FIG. 3.
3. Remove four screws (302) and replace board (301).
4. Reassemble. Refer to **Electrical Schematic**, page 24.
5. Recalibrate system. See ProMix Easy Operation Manual.

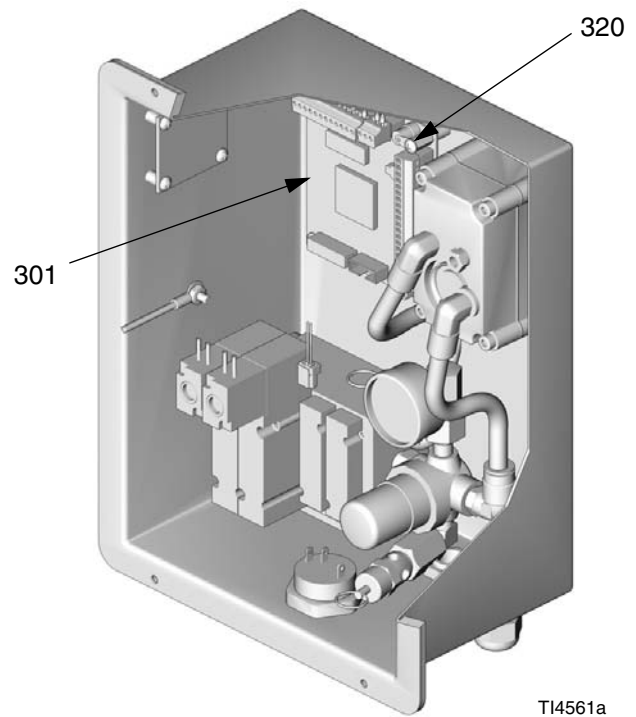


FIG. 3

Replacing Display Circuit Board

CAUTION

To avoid damaging circuit board, wear a grounding strap.

1. Remove User Interface cover. See page 17.
2. Disconnect wires from display board (410). FIG. 4.
3. Remove two screws (411).
4. Loosen setscrew (419) from knob (405) and remove knob assembly. Remove jam nut (N).
5. Remove and replace display board (410).
6. Reassemble. Refer to **Electrical Schematic**, page 24.

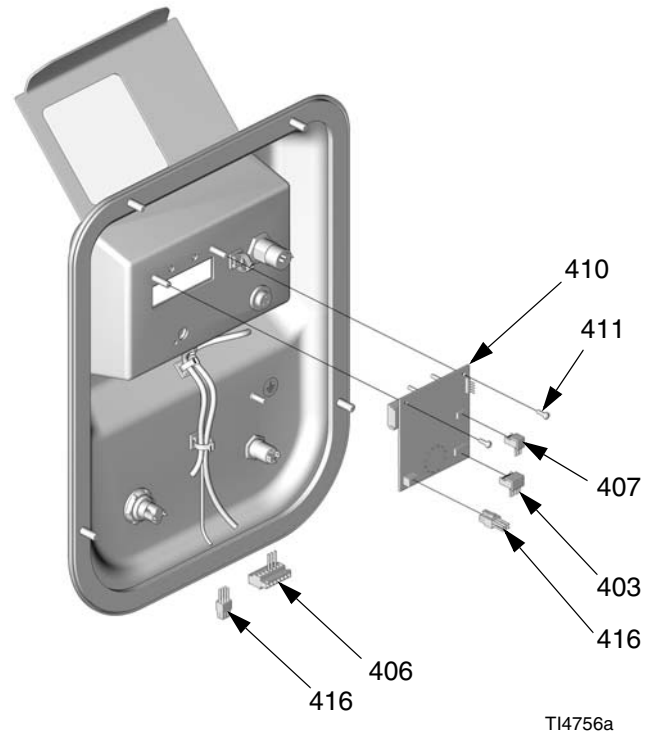
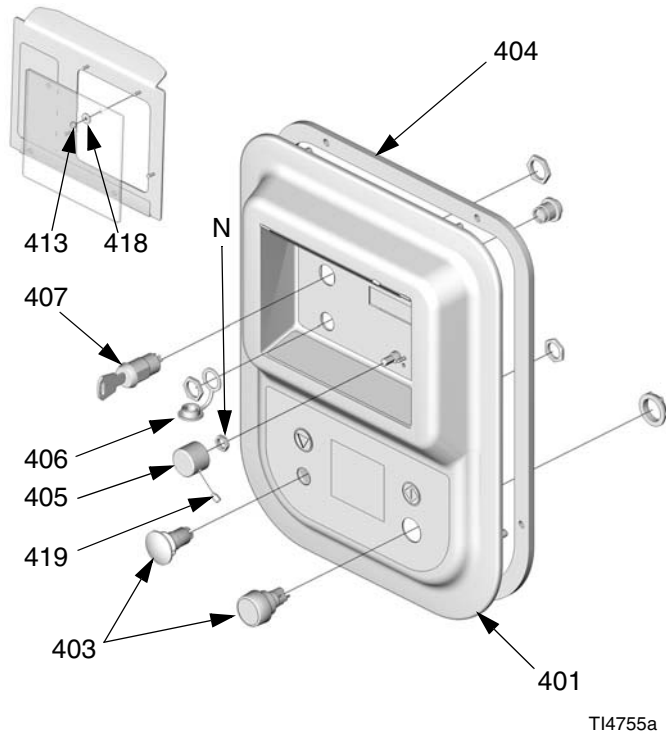


FIG. 4

Pneumatic Control

Alternator Repair

Turbine Alternator Repair Kit 223688 is available to replace turbine bearings.

1. Remove User Interface cover. See page 17.

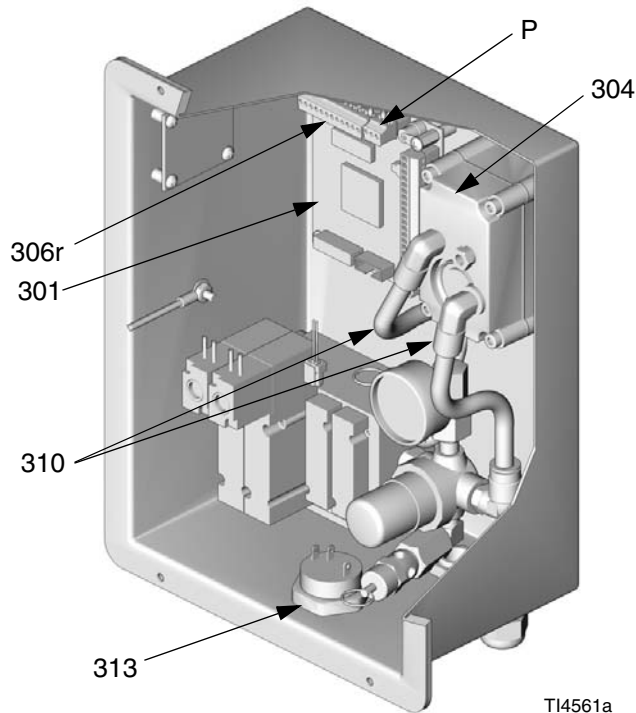


FIG. 5

2. Disconnect power supply wires (P). FIG. 5.
3. Disconnect two air lines (310) from alternator (304). FIG. 6.
4. Remove top nut (305) and loosen bottom nut. Slide alternator up and off bottom nut.
5. Remove four screws (304d) to separate alternator housings. FIG. 7.
6. Disconnect turbine (304e) from board (A). Follow instructions in turbine kit manual 308034 to remove and repair turbine.
7. Replace gasket (304a) if damaged. Place between housings before securing with screws (304d).
8. Reassemble. Refer to **Electrical Schematic**, page 24.



- Lightly lubricate turbine o-ring before installing turbine in housing.
- Connect alternator red wire to + side and black wire to – side of main circuit board.
- Connect turbine to 3-pin connector on main circuit board.

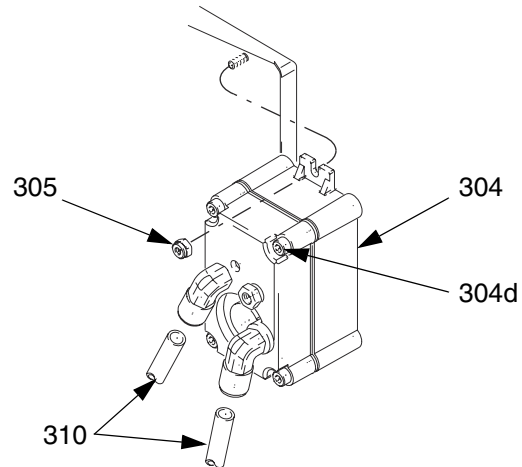
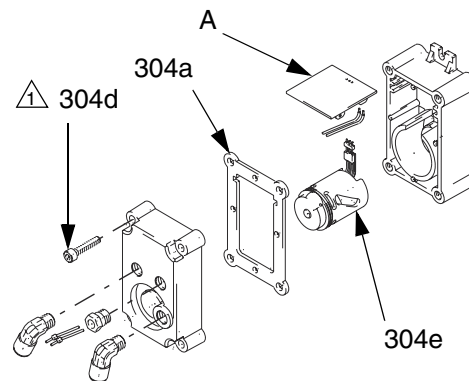


FIG. 6




 Torque to 20 in-lbs (2 N•m)

FIG. 7

Replacing Solenoids

Follow this procedure to replace a single solenoid.

1. Remove User Interface cover. See page 17.
2. Disconnect two solenoid wires (V) from main board. FIG. 8.
3. Disconnect dispense valve pilot lines (A1, A2, B1, B2). FIG. 8.
4. Remove two screws (S).
5. Remove and replace solenoid (306b).



From left to right, solenoid functions are as follows:

- Component A
- Component B

6. Reassemble. Solenoid wires are polarized (red +, black -). Refer to **Electrical Schematic**, page 24.

Replacing Alternator Regulator

1. Remove User Interface cover. See page 17.
2. Remove two screws (309) from the back of the control box.

3. Disconnect supply and exhaust air lines (310). FIG. 5, page 20.
4. Disconnect solenoid wires 12 position Phoenix connector (306r) from main board.
5. Remove solenoid module (306) with regulator (306e). FIG. 8.
6. Unscrew and replace regulator (306e).
7. Reassemble. Refer to **Electrical Schematic**, page 24.



Make sure gaskets (306j, 306k) are in place when reinstalling solenoid module.

8. Set regulator to 24 psi (160 kPa, 1.6 bar).

Replacing Alarm

1. Remove User Interface cover. See page 17.
2. Disconnect alarm wires from main board.
3. Unscrew alarm (313) and replace. FIG. 5, page 20.
4. Reassemble. Refer to **Electrical Schematic**, page 24.

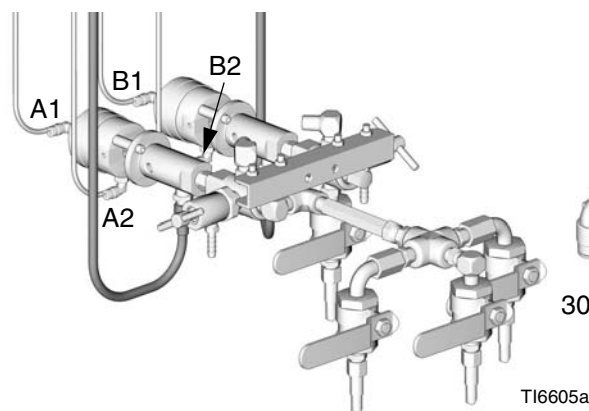
Dispense Valve Pilot Lines

A1 (off), clear tube

A2 (on), black tube

B1 (off), green tube

B2 (on), red tube



1. Set regulator pressure to 24 psi (160 kPa, 1.6 bar).
2. Safety relief valve (306t) is required on all IS units.

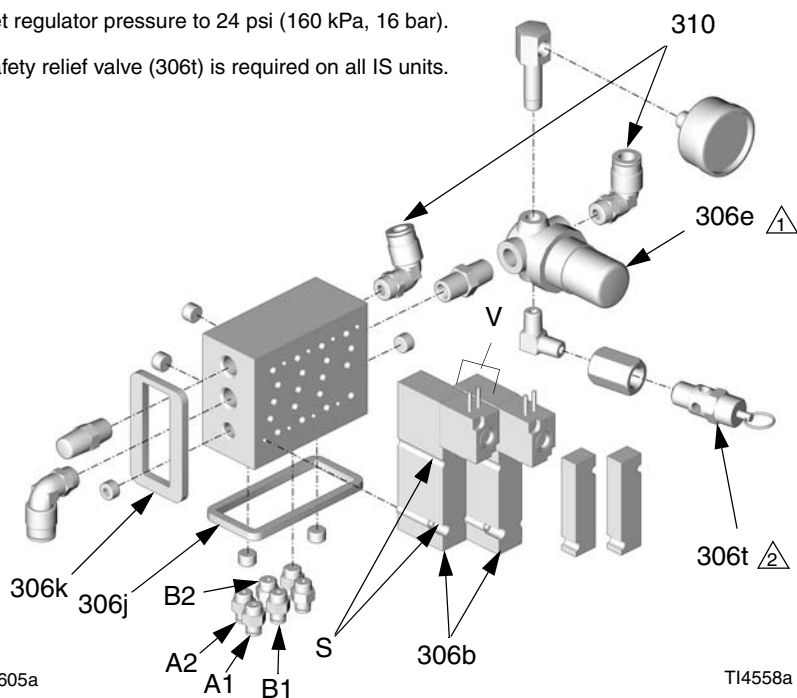


FIG. 8

Dispense Valve Assembly/Mix Manifold Assembly

See the **Parts** drawing for your model.

**WARNING**

Read warnings, page 4.

1. Follow **Pressure Relief Procedure (Models 249320 and 249321)**, page 6, or **Pressure Relief Procedure (Model 258961)**, page 8.
2. Label all air and fluid lines, and disconnect from fittings on manifold assembly.
3. Remove fasteners.
4. Remove mix manifold (2).
5. To repair mix manifold, see manual 310654. To repair dispense valves, see manual 310655.
6. Reassemble.

Pump Assembly

See the **Parts** drawing for your model.

**WARNING**

Read warnings, page 4.

1. Follow **Pressure Relief Procedure (Models 249320 and 249321)**, page 6, or **Pressure Relief Procedure (Model 258961)**, page 8.
2. Remove side plates (21).
3. Remove wire harnesses from sensor and solenoids. Refer to **Electrical Schematic**, page 24.
4. Disconnect fluid inlet and outlet lines from pump lower. Disconnect air supply from pump.
5. Label all tubing and disconnect from fittings on pump assembly.
6. Remove mounting hardware and slide pump out of frame.
7. Repair as instructed in pump manuals 310671, 310672, or 310662.
8. Reassemble.

Remote Mix Manifold and Fluid Regulator (249320 and 249321 only)

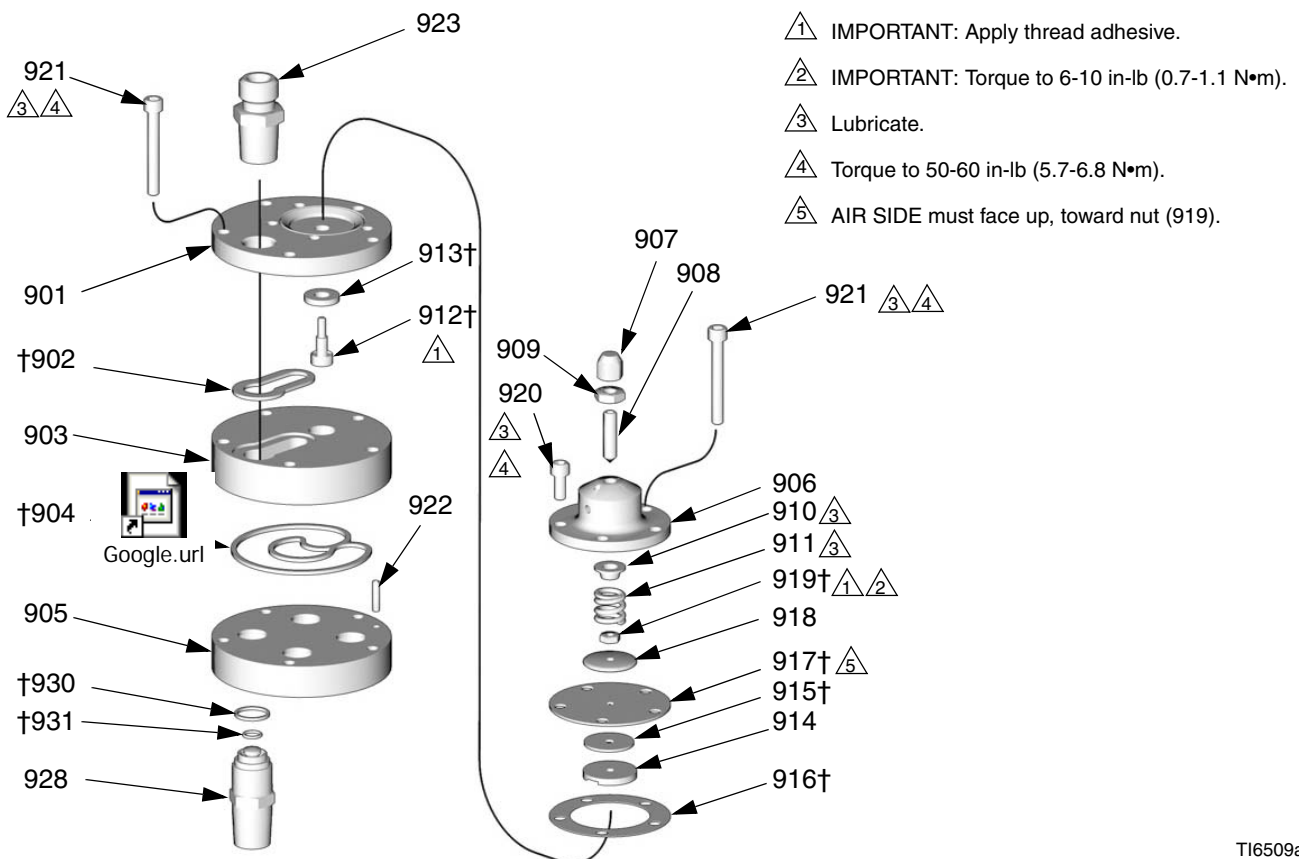
Repair Kit 244012 is available. Order the kit separately. Parts included in the kit are marked with a symbol, for example (902†).

WARNING



Read warnings, page 4.

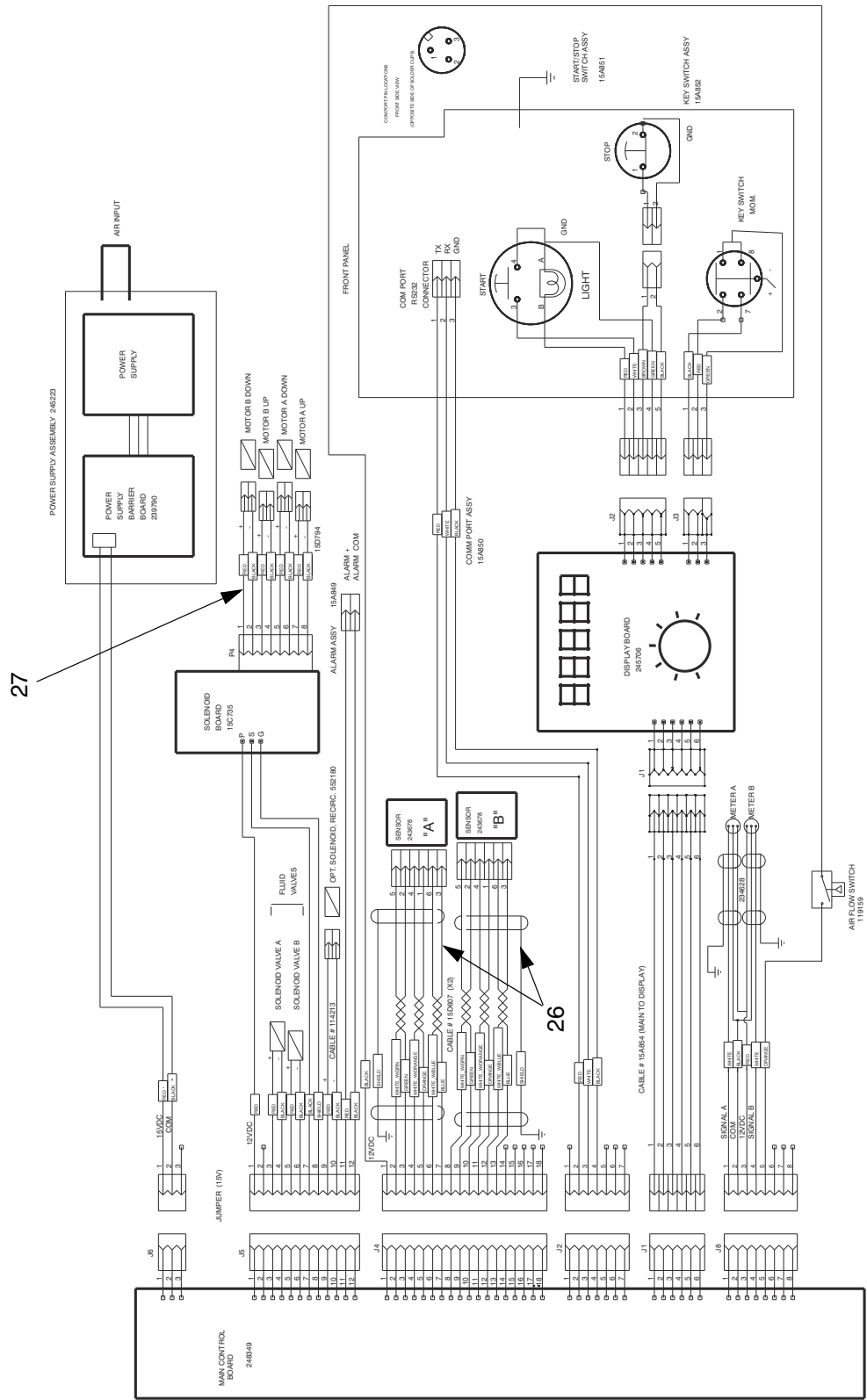
- Follow **Pressure Relief Procedure (Models 249320 and 249321)**, page 6.
- Remove the four short screws (920) and one long screw (921) holding the fluid regulator housing (906) to the regulator mounting plate (901). Remove the fluid regulator housing, spring (911), and retainer (910). See FIG. 9.
- Remove the remaining long screws (921) holding the regulator mounting plate (901), mix manifold housing (903), and base (905) together. Separate the three parts.
- Remove the two gaskets (902, 904) from the mix manifold housing (903).
- Hold the nut (919) with a wrench and unscrew the valve stem (912). Disassemble the acetal washer (918), diaphragm (917), large gasket (916), small gasket (915), and metal washer (914).
- Clean all parts and replace any damaged parts.
- Place the gaskets (902†, 904†) in the grooves of the mix manifold housing (903). Align the indexing pin on the base (905) with the small hole in the housing (903), and assemble the two parts.
- Reassemble the diaphragm assembly in the reverse order, following the notes in FIG. 9. Be sure the AIR SIDE of the diaphragm (917†) faces up toward the nut (919†).
- Reassemble the remaining parts in the reverse order, following the notes in FIG. 9.



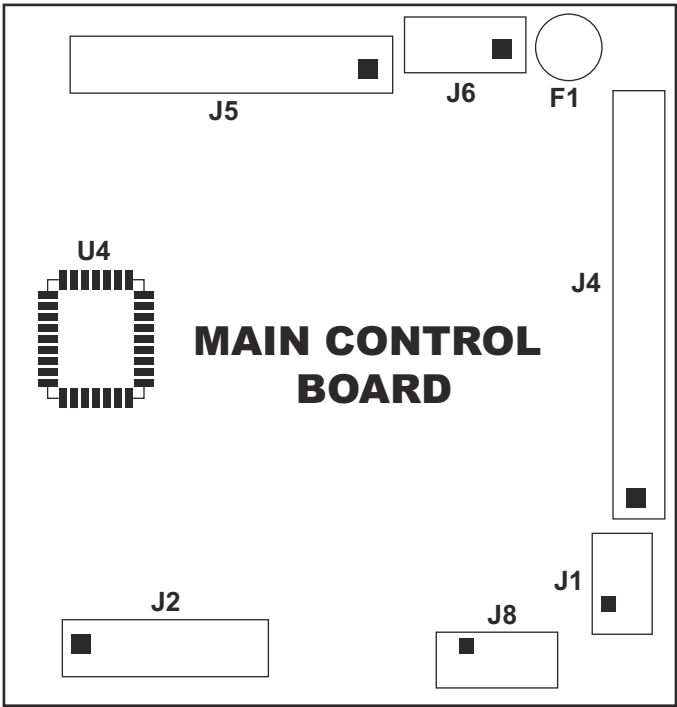
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FIG. 9. Mix Manifold and Fluid Regulator (249320 and 249321 only)

Electrical Schematic



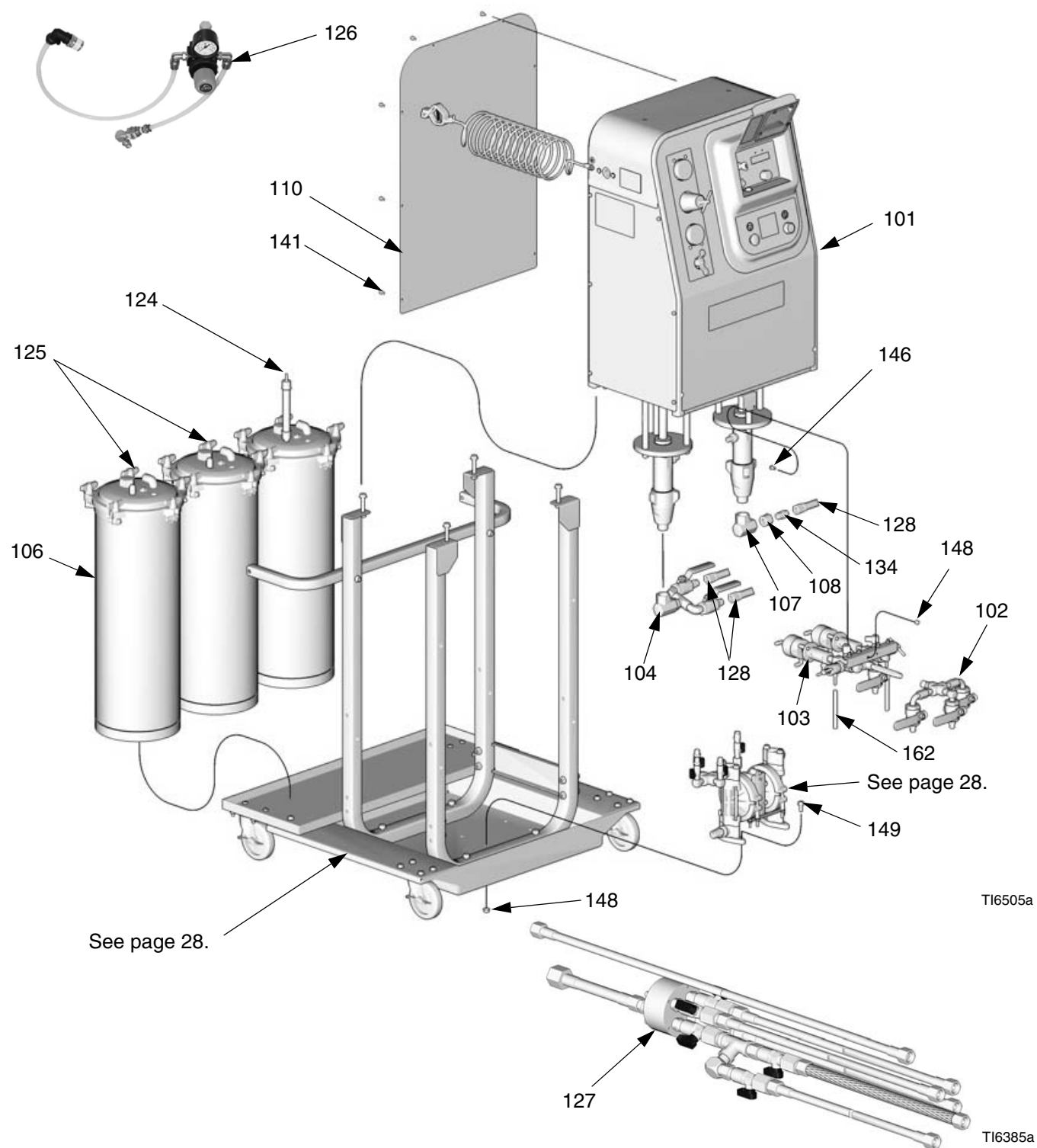
Main Control Board Schematic



Parts

Part No. 249320 Clear Coat System, Series A (shown)

Part No. 249321 Primer System, Series A



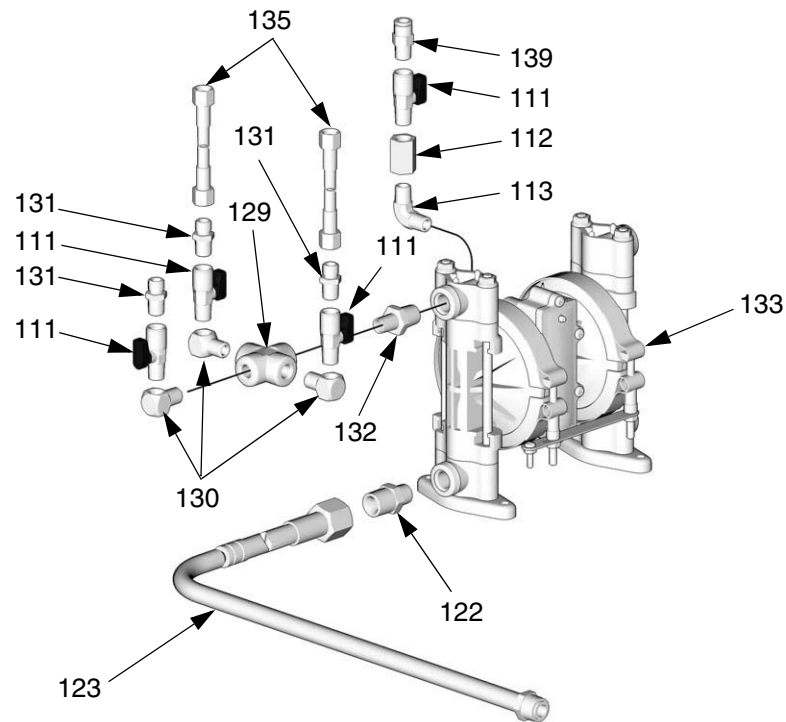
Part No. 249320 Clear Coat System, Series A**Part No. 249321 Primer System, Series A**

Ref. No.	Part No.	Description	Qty.	Ref. No.	Part No.	Description	Qty.
101	249302	PROPORTIONER; see page 34	1		205169	HOSE, fluid; 3/8 npsm (fbe); nylon; 3/8 in. (10 mm) ID; 36 in. (915 mm); primer system	2
102	249328	OUTLET VALVE ASSEMBLY; clear coat system only; see page 45	1	129*	102959	CROSS, pipe; 1/4 npt(f)	1
103	249326	DISPENSE VALVE ASSEMBLY; clear coat system; see page 46	1	130*	100840	ELBOW, street; 1/4 npt(m) x 1/4 npsm(f)	3
	249387	DISPENSE VALVE ASSEMBLY; primer system; see page 47	1	131*	162453	NIPPLE; 1/4 npt x 1/4 npsm	3
104	249329	PUMP INLET VALVE ASSEMBLY; clear coat system only; see page 45	1	132*	165198	NIPPLE, reducing; 3/8 npt x 1/4 npt	1
105*	15F685	TRAY, feed tank	1	133*	D32911	PUMP, double diaphragm, solvent; see 308553	1
106	249338	TANK, feed; clear coat system	3	134	162485	NIPPLE; 3/8 npt x 3/8 npsm	4
	249338	TANK, feed; primer system	2	135*	243803	HOSE, fluid; 1/4 npsm (fbe); 1/4 in. (6 mm) ID; nylon; 3 ft (0.9 m)	2
107	156589	UNION, adapter, 90°; 3/4 npt(f) x 3/4 npsm(f); clear coat system	1	136*	111194	SCREW, cap; 3/8-16 x 2 in. (51 mm)	12
	156589	UNION, adapter, 90°; 3/4 npt(f) x 3/4 npsm(f); primer system	2	137*	112958	NUT, hex, flange hd; 3/8-16	14
108	100505	BUSHING, pipe; 3/4 npt(m) x 3/8 npt(f); clear coat system	1	138*	15F676	LEG, stand	2
	100505	BUSHING, pipe; 3/4 npt(m) x 3/8 npt(f); primer system	2	139*	C19413	CONNECTOR; 1/4 npt(m) x 3/8 in. (10 mm) OD tube	1
109*	15E043	BASE	1	140	15F709	STRAP, feed tank (not shown)	2
110	15D986	PLATE, rear	1	141	119291	SCREW, self-tapping	10
111*	116698	VALVE, ball; 1/4 npt(m) x 1/4 npt(f)	4	142†	206966	HOSE, fluid; 1/4 npsm (fbe); PTFE; 1/4 in. (6 mm) ID; 18 in. (457 mm)	2
112*	113093	CONNECTOR, pipe; 1/4 npt (fbe)	1	145†	119798	CONNECTOR, tee; 3/8 in. (10 mm) OD tube	1
113*	110249	ELBOW, 90°; 1/4 npt (mbe)	1	146	113796	SCREW, cap, hex flanged hd; 1/4-20 x 3/4 in. (19 mm)	2
115*	15E041	SUPPORT, bracket	1	148	115942	NUT, hex, flange hd; 1/4-20	6
116*	116261	CASTER	4	149	100021	SCREW, cap, hex hd; 1/4-20 x 1 in. (25 mm)	4
117	106115	WASHER, lock; 3/8	8	157	buy locally	TUBE; nylon; 3/8 in. (10 mm) OD; see pages 36 and 40	4.5 ft
118*	110963	SCREW, cap; 5/16-18 x 3/4 in. (19 mm)	24	158†	115841	ELBOW; 1/4 npt(m) x 3/8 in. (10 mm) OD tube	1
119*	110996	NUT, hex, flanged; 5/16-18	24	159†	104641	FITTING, bulkhead	1
120*	116935	SCREW, cap; 3/8-16 x 3 in. (76 mm)	2	160†	113319	FITTING, air; 1/4 npt(m) x 3/8 in. (10 mm) OD tube	1
121*	15F783	BRACKET, tank	1	161†	C38211	ELBOW; 1/2 npt(m) x 3/8 in. (10 mm) OD tube fitting	1
122*	159239	NIPPLE; 1/2 npt x 3/8 npt	1	162	116750	TUBE; nylon; 1/4 in. (6 mm) ID	2
123*	243832	HOSE, siphon, solvent pump	1	* These parts are shown on page 28.			
124	198421	TUBE, dryer; package of 4	1	† These parts are shown on page 34.			
125	114174	MUFFLER; clear coat system	2				
	114174	MUFFLER; primer system	1				
126	248588	KIT, air regulator, gun; see 310700	1				
127	249333	HOSES/MANIFOLD; clear coat system; see page 48	1				
	249386	HOSES/MIX MANIFOLD; primer system; see page 49	1				
128	205169	HOSE, fluid; 3/8 npsm (fbe); nylon; 3/8 in. (10 mm) ID; 36 in. (915 mm); clear coat system	3				

Part No. 249320 Clear Coat System, Series A, Detail Views

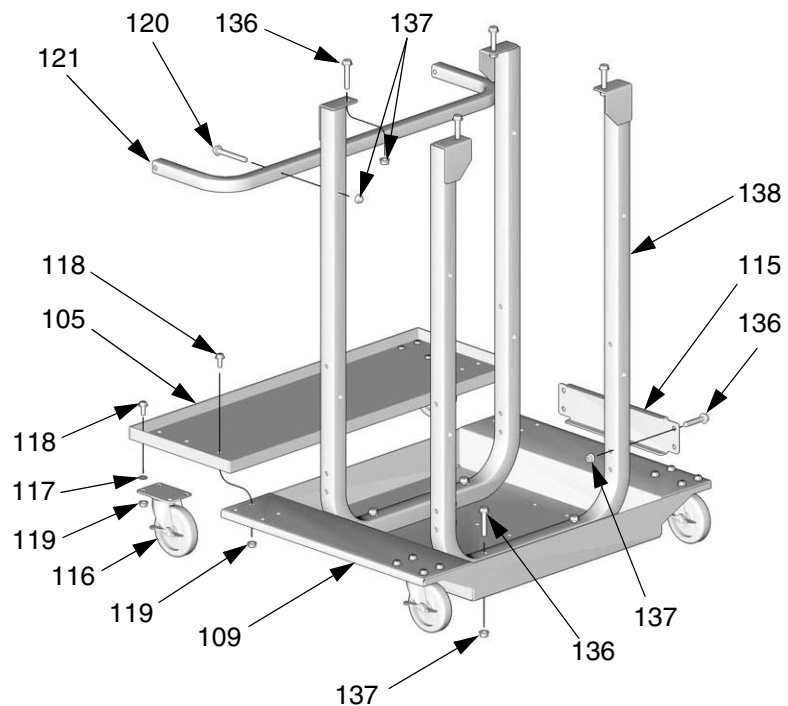
Part No. 249321 Primer System, Series A, Detail Views

Solvent Pump Detail



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Base and Stand Detail

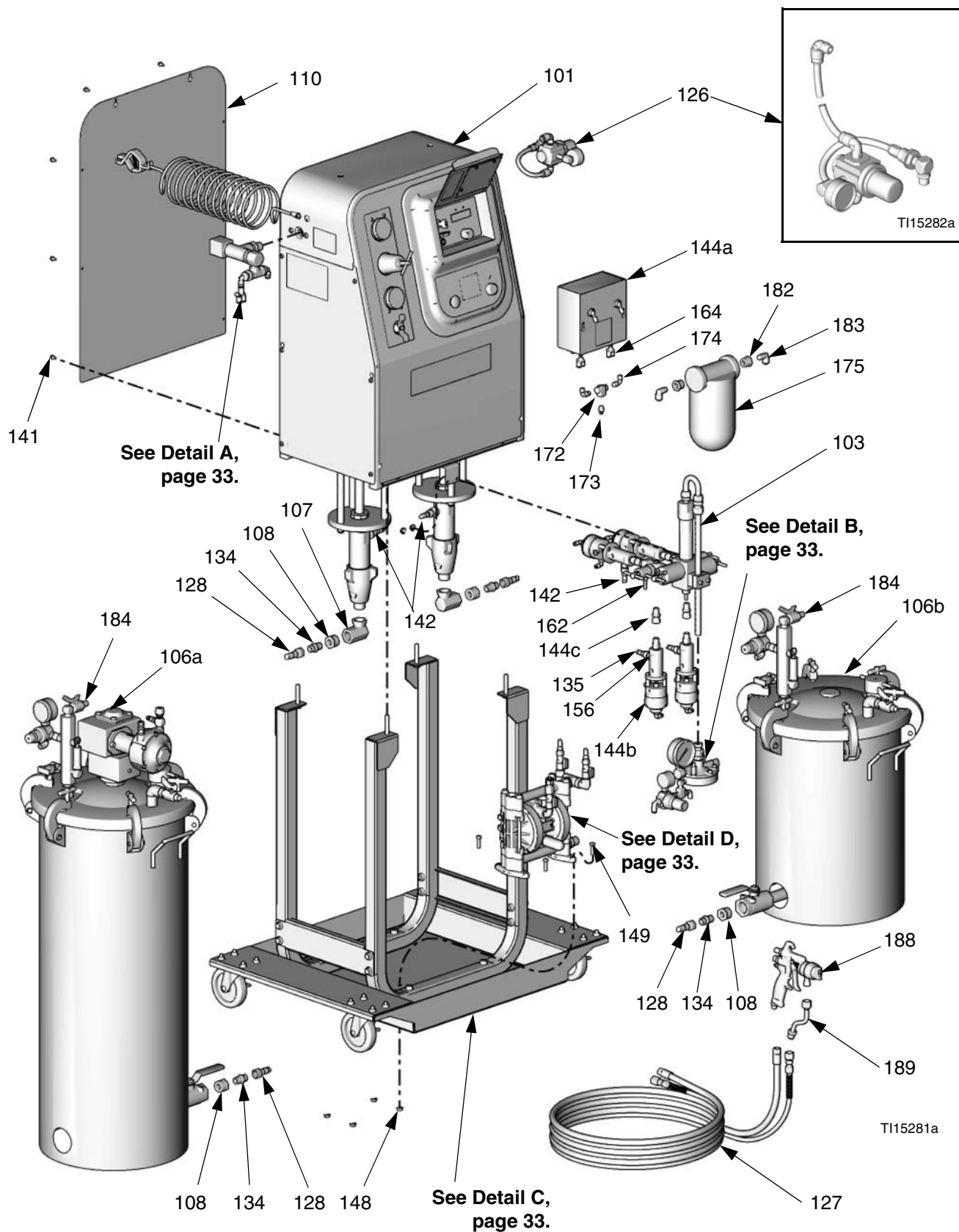


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A series of horizontal lines for writing, consisting of 25 lines in total.

Part No. 258961 Primer System, Series A (shown)



Part No. 258961 Primer System, Series A

Ref. No.	Part No.	Description	Qty.	Ref. No.	Part No.	Description	Qty.
101	249302	PROPORTIONER; see page 34	1	136*	111194	SCREW, cap; 3/8-16 x 2 in. (51 mm)	16
103	234593	MIX MANIFOLD; see manual 310654	1	137*	112958	NUT, hex, flange hd; 3/8-16	16
106a	24E253	TANK, feed, component A; 15 gal. (57 l); with agitator and bottom outlet kit; see manual 308369	1	138*	15E039	LEG, stand	2
106b	24E256	TANK, feed, component B; 5 gal. (19 l); with bottom outlet kit; see manual 308369	1	139*	115821	CONNECTOR; 1/4 npt(f) x 3/8 in. (10 mm) OD tube	1
107	156589	UNION, adapter, 90°; 3/4 npt(f) x 3/4 npsm(f); clear coat system	2	141	119291	SCREW, self-tapping	8
108	100505	BUSHING, pipe; 3/4 npt(m) x 3/8 npt(f); clear coat system	4	142†	206966	HOSE, fluid; 1/4 npsm (fbe); PTFE; 1/4 in. (6 mm) ID; 18 in. (457 mm)	2
109*	15E043	BASE	1	144	249076	AUTO FLUSH KIT; see manual 310800; includes items 144a-144c	1
110	15D986	PLATE, rear	1	144a	15E933	CONTROL BOX, auto flush	1
111*	116698	VALVE, ball; 1/4 npt(m) x 1/4 npt(f)	3	144b	287222	VALVE, flush; see manual 310655	2
113*	110249	ELBOW, 90°; 1/4 npt (mbe)	1	144c	155570	UNION, swivel; 1/4 npt(f) x 1/4 npsm(f)	2
115*	15E041	SUPPORT, bracket	2	145†	119798	CONNECTOR, tee; 3/8 in. (10 mm) OD tube	1
116*	116261	CASTER	4	148†	115942	NUT, hex, flange hd; 1/4-20	7
118*	110963	SCREW, cap; 5/16-18 x 3/4 in. (19 mm)	16	149	100021	SCREW, cap, hex hd; 1/4-20 x 1 in. (25 mm)	4
119*	110996	NUT, hex, flanged; 5/16-18	16	155*	113777	TEE; 3/8 npt(m) x 3/8 npt(f) x 3/8 npt(f)	2
122*	159239	NIPPLE; 1/2 npt x 3/8 npt	1	156*	162453	NIPPLE; 1/4 npt x 1/4 npsm	4
123*	243832	HOSE, siphon, solvent pump	1	157	590385	TUBE; nylon; 3/8 in. (10 mm) OD; see pages 38 and 40	11.5 ft
126	248588	KIT, air regulator, gun; see 310700	1	162	116750	TUBE; nylon; 1/4 in. (6 mm) ID	2
127	258997	HOSE BUNDLE; 3/8 in. (10 mm) ID air hose, 1/4 npsm (fbe); 3/16 in. (5 mm) ID fluid hose, 3/8 npsm (fbe); 26 ft (8 m)	1	163*	114109	ELBOW; 1/4 npt(m) x 1/4 in. (6 mm) OD tube	1
128	205398	HOSE, fluid; 3/8 npsm (fbe); nylon; 3/8 in. (10 mm) ID; 6 ft (1.83 m)	2	164	514896	TEE; 5/32 in. (4 mm) OD tube	2
130*	121858	ELBOW; 3/8 npt x 1/4 npt (mbe)	2	165†	112925	SCREW, cap, button hd; 1/4-20 x 3/8 in. (10 mm)	2
133*	D31211	PUMP, double diaphragm, solvent; see 308553	1	166†	C19038	WASHER, lock; 1/4	2
134	162485	NIPPLE; 3/8 npt x 3/8 npsm	4	* These parts are shown on page 33.			
135*	243803	HOSE, fluid; 1/4 npsm (fbe); 1/4 in. (6 mm) ID; nylon; 3 ft (0.9 m)	2	‡ These parts are shown on pages 30 and 33.			

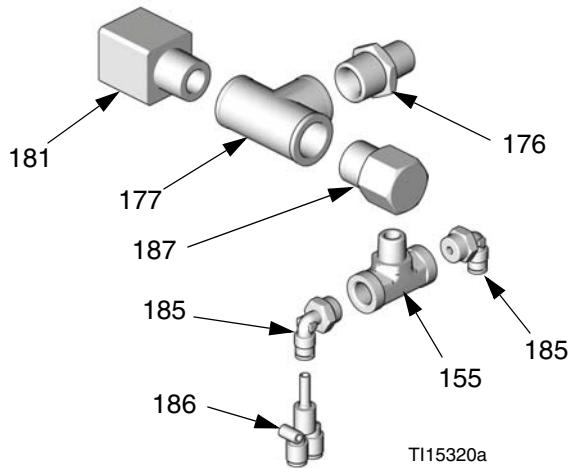
† These parts are shown on page 34.

Ref. No.	Part No.	Description	Qty.	Ref. No.	Part No.	Description	Qty.
167*	187874	GAUGE, fluid pressure	1	184	114112	CONNECTOR; 1/4 npt(f) x 1/4 in. (6 mm) OD tube	2
168*	110207	ELBOW; 1/8 npt (mbe)	1	185*	114153	ELBOW; 3/8 npt(m) x 1/4 in. (6 mm) OD tube	2
169*	151519	NIPPLE, reducing; 1/4 npt x 1/8 npt	1	186*	114158	FITTING, Y-adapter; 1/4 in. (6 mm) OD tube	1
170*	244375	REGULATOR, fluid pressure; see manual 307212	1	187*	157619	ELBOW, street; 3/4 npt(m) x 3/8 npt(f)	1
171*	164259	ELBOW, street; 3/8 npt(m) x 1/4 npt(f)	1	188	289541	GUN, airspray, AirPro; see manual 312414	1
172‡	593538	VALVE, shuttle; 1/8 npt(f)	2	189	280569	TUBE, extension, gun fluid inlet	1
173	114263	CONNECTOR; 1/8 npt(m) x 5/32 in. (4 mm) OD tube	1	190	598095	TUBE; nylon; 5/32 in. (4 mm) OD; 55 ft clear; see pages 38 and 40	1
174‡	598140	ELBOW; 1/8 npt(m) x 5/32 in. (4 mm) OD tube	3	191	buy locally	TUBE; nylon; 1/4 in. (6 mm) OD; natural; see pages 38 and 40	25 ft
175	106493	DRYER, air; 1/2 npt(f)	1	192	buy locally	TUBE; nylon; 5/32 in. (4 mm) OD; red; see pages 38 and 40	50 ft
176*	157191	ADAPTER; 3/4 npt(m) x 1/2 npt(m)	1	193	buy locally	TUBE; nylon; 5/32 in. (4 mm) OD; green; see pages 38 and 40	51 ft
177*	166466	TEE, pipe; 3/4 npt(f)	1	* These parts are shown on page 33.			
178*	118758	BUSHING; 3/8 npt(m) x 1/4 npt(f)	1	‡ These parts are shown on pages 30 and 33.			
179*	114342	ELBOW; 1/4 npt(mbe)	1	† These parts are shown on page 34.			
180*	110147	REGULATOR, air; with gauge; see manual 308167	1				
181*	166590	ELBOW, street; 3/4 npt (mxf)	1				
182	100206	BUSHING, pipe; 1/2 npt(m) x 1/4 npt(f)	2				
183	114370	ELBOW; 1/4 npt(m) x 1/4 in. (6 mm) OD tube	2				

Part No. 258961 Primer System, Series A, Detail Views

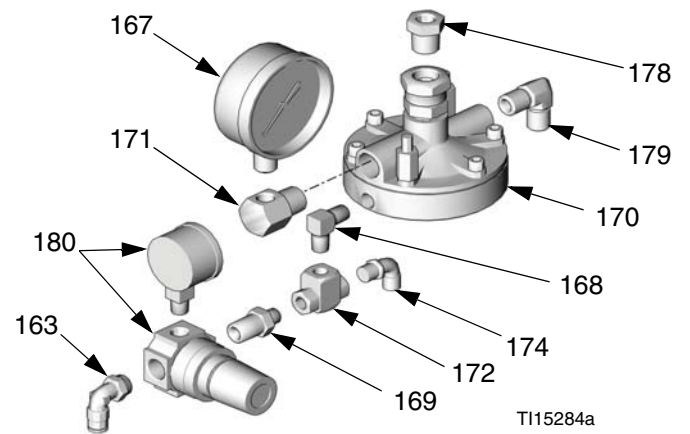
Detail A

Air Inlet Manifold Assembly



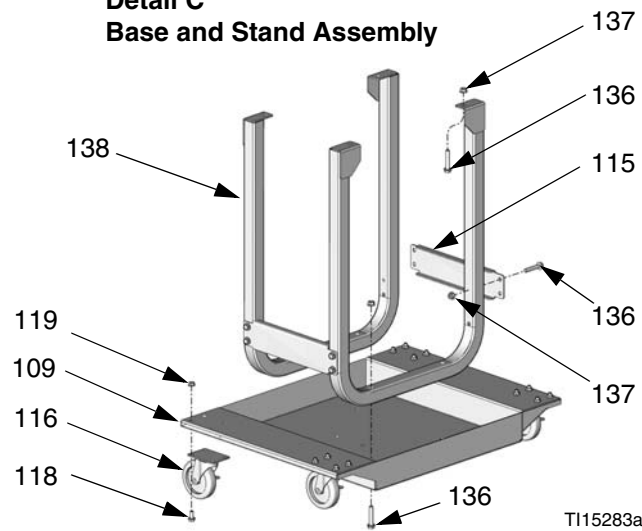
Detail B

Fluid Regulator Assembly



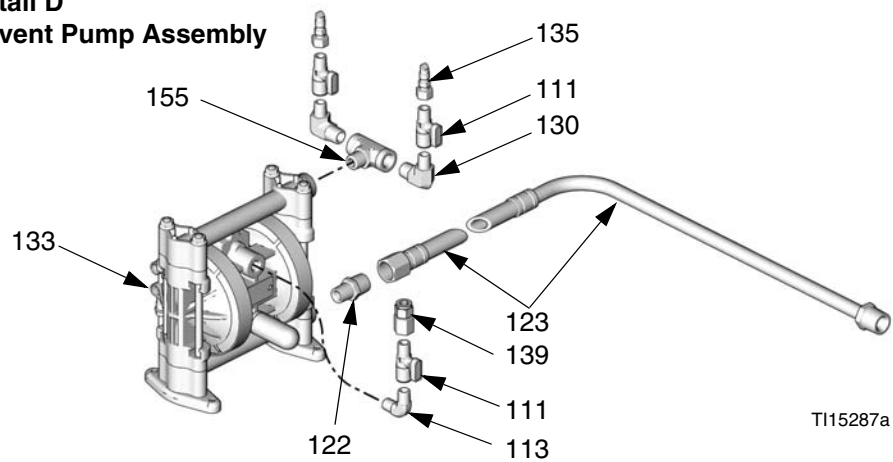
Detail C

Base and Stand Assembly

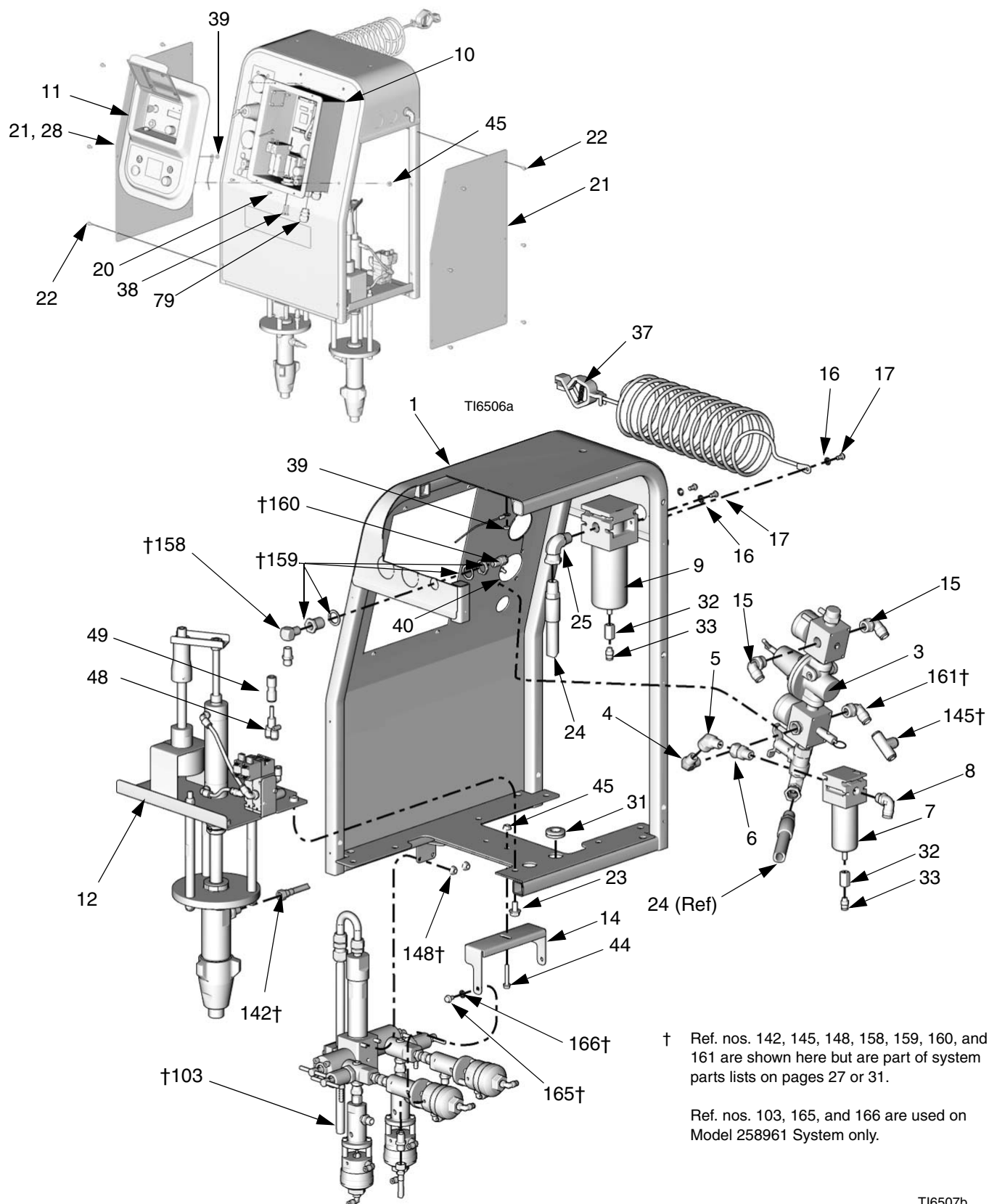


Detail D

Solvent Pump Assembly



Part No. 249302 Proportioner, Series A



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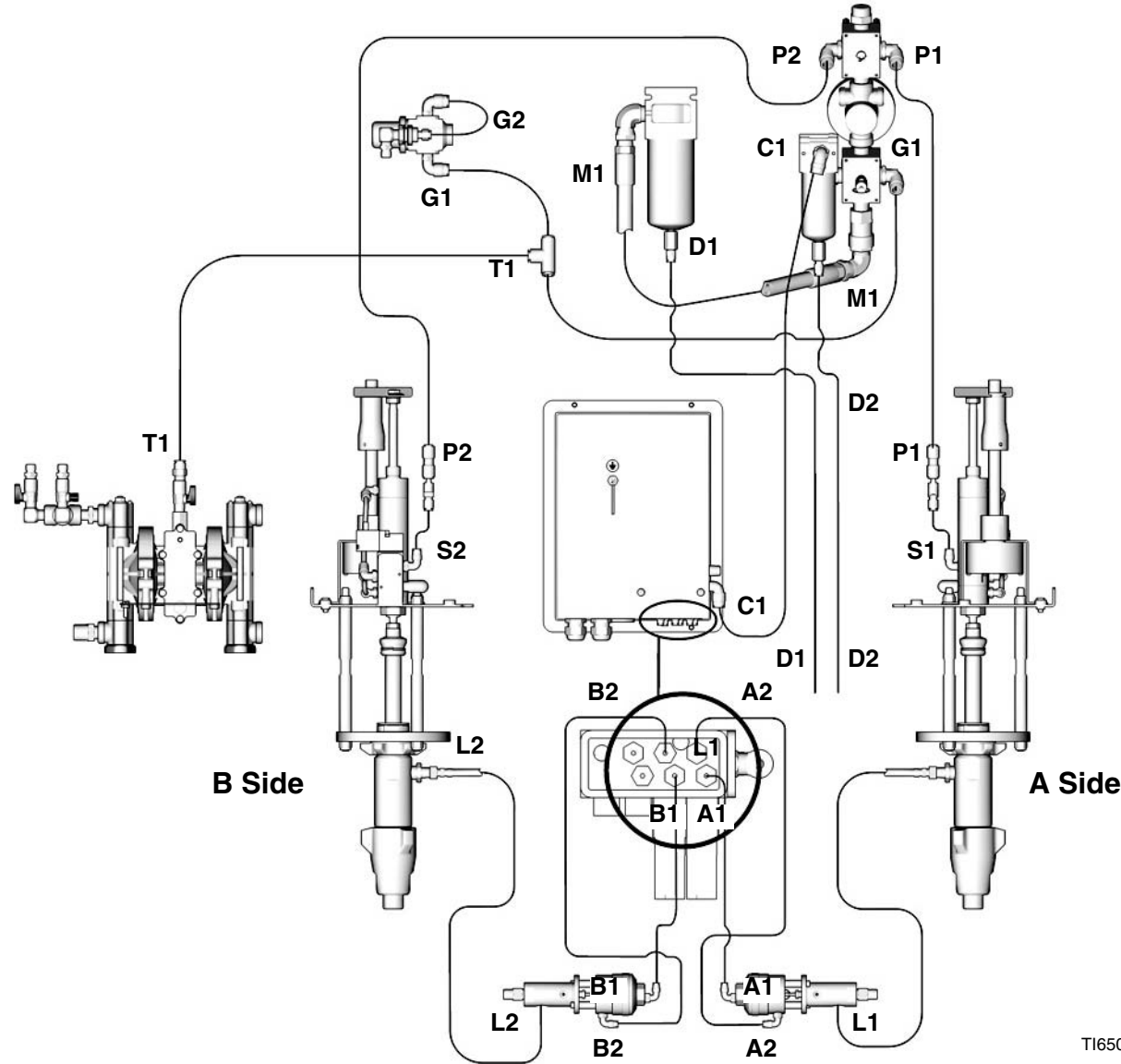
Part No. 249302 Proportioner, Series A

Ref. No.	Part No.	Description	Qty.	Ref. No.	Part No.	Description	Qty.
1	15D771	FRAME, wall mount	1	56	598095	TUBE; nylon; 5/32 in. (4 mm) OD; 2 ft clear; see pages 36 and 40	2 ft
3	287230	CONTROL, air; see page 41	1	57	buy locally	TUBE; nylon; 5/32 in. (4 mm) OD; black; see pages 36 and 40	2 ft
4	109544	ELBOW, pipe; 3/8 npt (mbe)	1	58	buy locally	TUBE; nylon; 5/32 in. (4 mm) OD; red; see pages 36 and 40	2 ft
5	116756	ELBOW, street, 45°; 3/8 npt (mx) f)	1	59	buy locally	TUBE; nylon; 5/32 in. (4 mm) OD; green; see pages 36 and 40	2 ft
6	155665	UNION, adapter; 3/8 npsm(f) x 3/8 npt(m)	1	60	buy locally	TUBE; nylon; 3/8 in. (10 mm) OD; see pages 36 and 40	6.7 ft
7	117629	FILTER, air; 5 micron	1	63	162453	NIPPLE; 1/4 npsm x 1/4 npt	2
8	114316	ELBOW; 3/8 npt(m) x 3/8 in. (10 mm) OD tube fitting	1	70	buy locally	TUBE; nylon; 1/4 in. (6 mm) OD; see pages 36 and 40	4.2 ft
9	15D795	FILTER, air; 40 micron	1	79	195889	BUSHING, strain relief	2
10	248270	PNEUMATIC CONTROL see page 42	1	▲ Replacement Danger and Warning labels, tags, and cards are available at no cost.			
11	234620	USER INTERFACE; see page 44	1				
12	248570	PUMP, UltraMix, cst; see 310671	2				
14	15D873	BRACKET, support, fluid manifold	1				
15	C38211	ELBOW; 1/2 npt(m) x 3/8 in. (10 mm) OD tube fitting	2				
16	C19038	WASHER, lock; 1/4	5				
17	112925	SCREW, cap, button hd; 1/4-20 x 3/8 in. (10 mm)	5				
20	103196	SCREW, machine, phillips; 8-32 x 7/16 in. (11 mm)	4				
21	15D767	PLATE, side	2				
22	119291	SCREW, self-tapping	12				
23	113802	SCREW, hex hd, flanged; 3/8-16 x 5/8 in. (16 mm)	8				
24	220598	HOSE, air; nitrile; 1/2 in. (13 mm) ID; 1/2 npt (mbe); 18 in. (457 mm); see also pages 36 and 40	1				
25	C19024	ELBOW, swivel; 1/2 npt(m) x 1/2 npsm(f)	1				
26	15D607	CABLE, sensor; see Electrical Schematic , page 24	2				
27	15D794	HARNESS, connector; see Electrical Schematic , page 24	2				
28▲	290331	LABEL, warning	1				
31	101765	GROMMET	2				
32	100451	COUPLING; 1/8 npt (fbe)	2				
33	115671	CONNECTOR; 1/8 npt(m) x 1/4 in. (6 mm) OD tube	2				
37	244524	GROUND WIRE	1				
38	113279	PLUG, tube fitting; 5/32 in. (4 mm) OD tube	2				
39	113505	NUT, keps, hex hd; 10-24	2				
40	551787	SCREW, cap, button hd; 10-32 x 3/8 in. (10 mm)	4				
44	114104	SCREW, machine; 1/4-20 x 1-1/2 in. (38 mm)	1				
45	115942	NUT, hex, flange hd; 1/4-20	7				
48	114158	FITTING, Y-adapter; 1/4 in. (6 mm) OD tube	2				
49	115743	ADAPTER; 3/8 in (10 mm) tube x 1/4 in. (6 mm) tube	2				

Tube and Hose Connections, All Models

See FIG. 10. Find the keys on the drawing to ensure proper connections.

Key	Description	Ref. No. (see pages 27, 31, 32, and 35)	Length, in. (mm)
A1	Dispense Valve A OFF	56	24 (610)
A2	Dispense Valve A ON	57	24 (610)
B1	Dispense Valve B OFF	59	24 (610)
B2	Dispense Valve B ON	58	24 (610)
C1	Air to Pneumatic Control (10)	60	8 (203)
D1	Air Filter (9) Drain Tube	70	24 (610)
D2	Air Filter (7) Drain Tube	70	18 (457)
G1	Gun Air Regulator (74) Input	60	31 (787)
G2	Gun Air Regulator (74) Output	60	30 (762)
L1	Fluid Line, Pump A to Dispense Valve A	142	18 (457)
L2	Fluid Line, Pump B to Dispense Valve B	142	18 (457)
M1	Air Filter (9) to Air Control (3)	24	18 (457)
P1	Pump A Input Air	60	17 (432)
P2	Pump B Input Air	60	21 (533)
S1	Pump A Solenoid Inputs (2 tubes)	70	2 (51)
S2	Pump B Solenoid Inputs (2 tubes)	70	2 (51)
T1	Solvent Pump Air Supply	157	54 (1372)



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FIG. 10. Tube and Hose Connections, All Models

Tube and Hose Connections, Model 258961 Only

See FIG. 11. Find the keys on the drawing to ensure proper connections. Connections shown apply only to Model 258961. For connections which apply to all models, see FIG. 10.

Key	Description	Ref. No. (see pages 31 and 32)	Length, ft. (m)
This Key applies to Model 258961 only			
CB	Solenoid to Control Box	190	30 (9.1)
DB	Air Supply to Air Dryer	191	8 (2.4)
FA2	Flush Valve A OFF	192	25 (7.6)
FA3	Flush Valve A ON	193	25 (7.6)
FA4	Control Box to Shuttle Valve	193	0.5 (0.15)
FB2	Flush Valve B OFF	192	25 (7.6)
FB3	Flush Valve B ON	193	25 (7.6)
FB4	Control Box to Shuttle Valve	193	0.5 (0.15)
GA	Gun Air Supply	127	26 (7.9)
GF	Gun Fluid Supply	127	26 (7.9)
P3	Tank A to Pump A	128	6 (1.8)
P4	Tank B to Pump B	128	6 (1.8)
R1	Air Supply to Fluid Regulator	191	5 (1.5)
R2	Air Signal from Control Box to Fluid Regulator	190	25 (7.6)
SA	Solvent Pump to Flush Valve A	135	5 (1.5)
SB	Solvent Pump to Flush Valve B	135	5 (1.5)
TA	Tank A Air Supply	191	5 (1.5)
TB	Air Dryer to Tank B	191	5 (1.5)

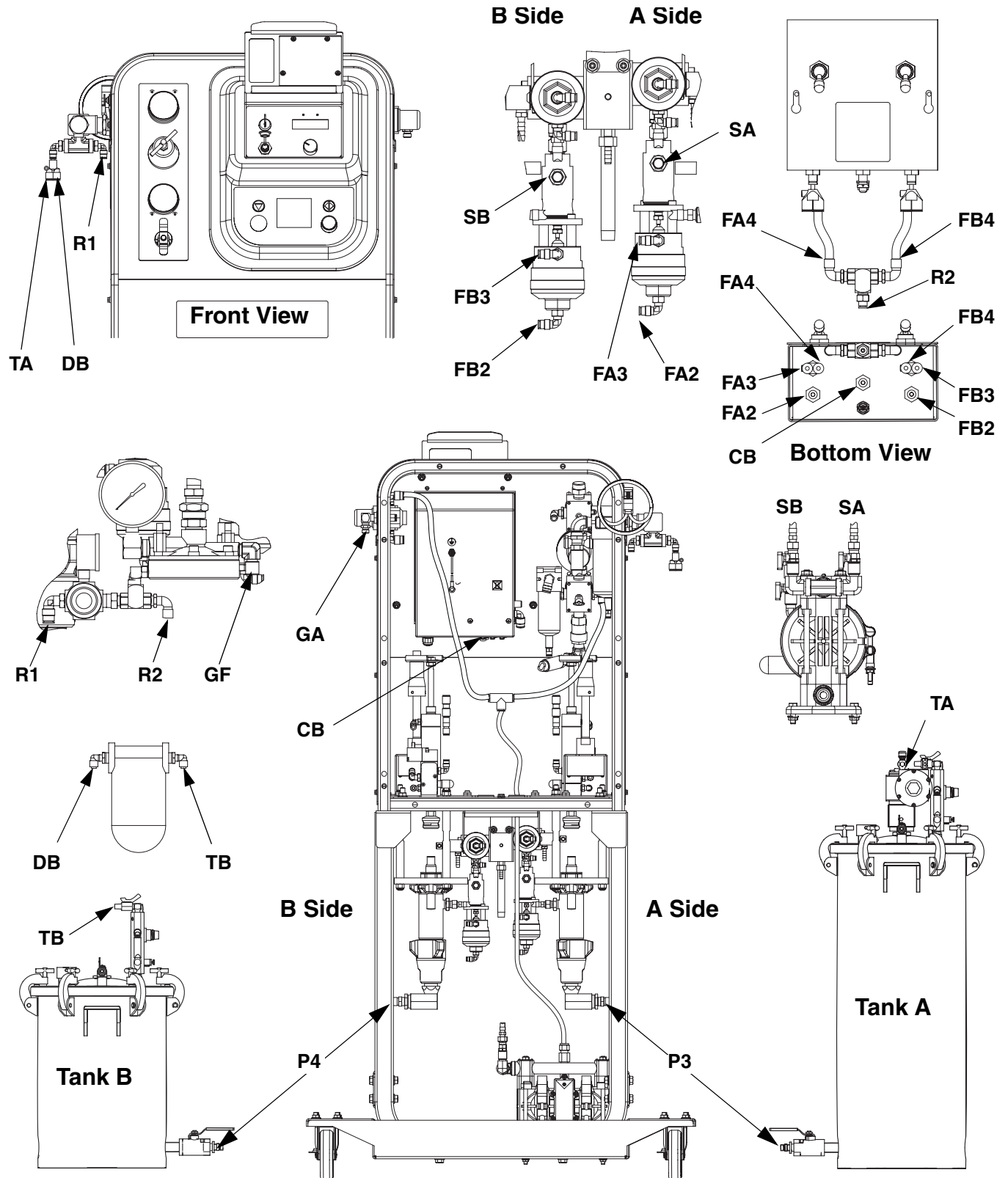
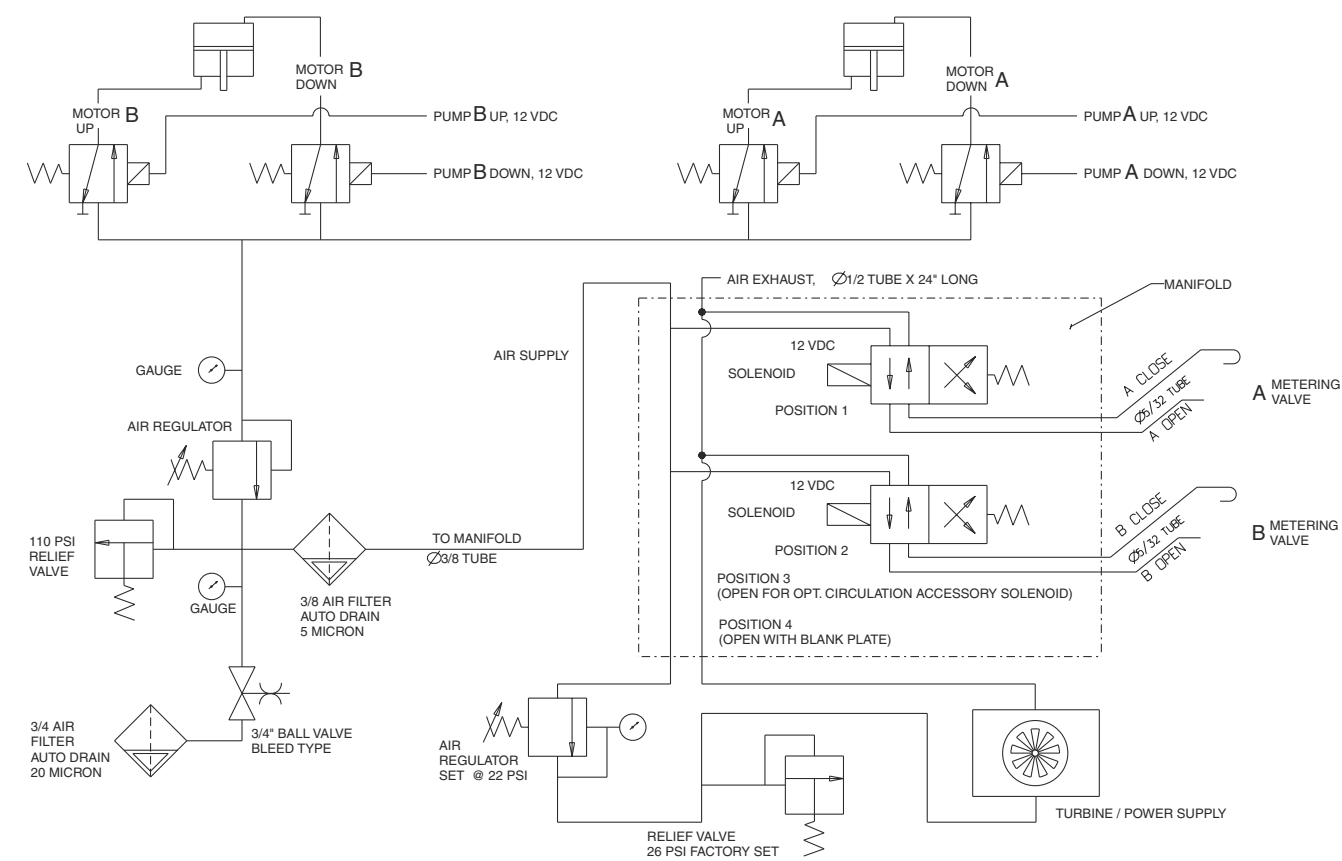


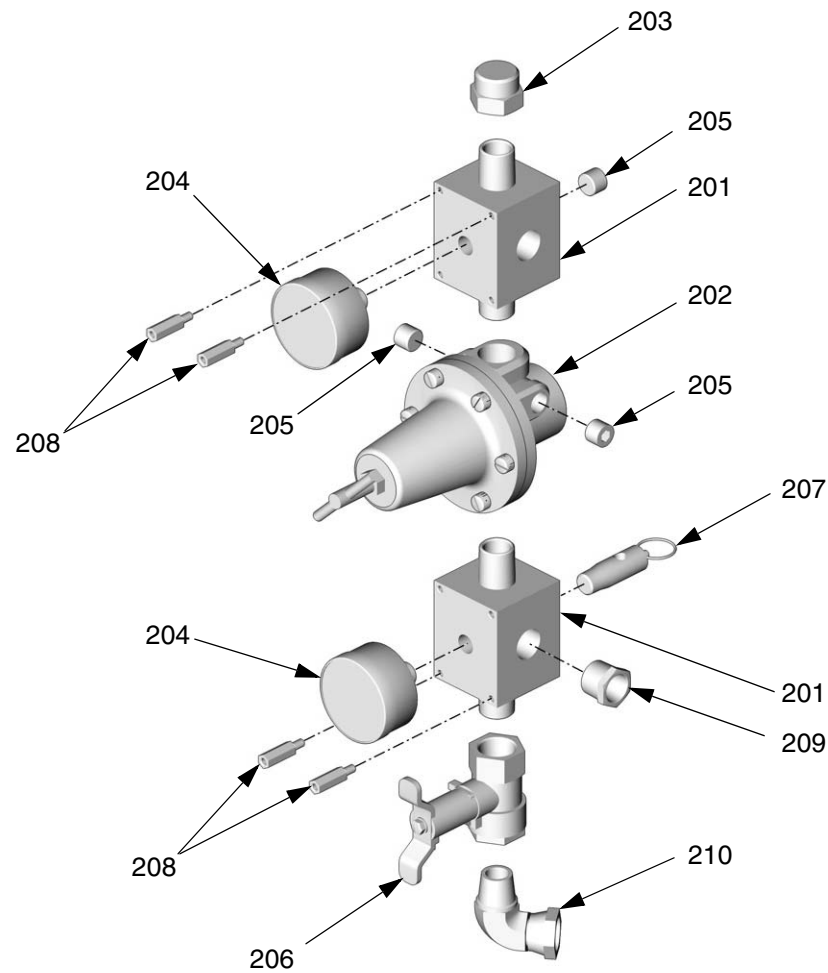
FIG. 11. Tube and Hose Connections, Model 258961 only

Pneumatic Schematic



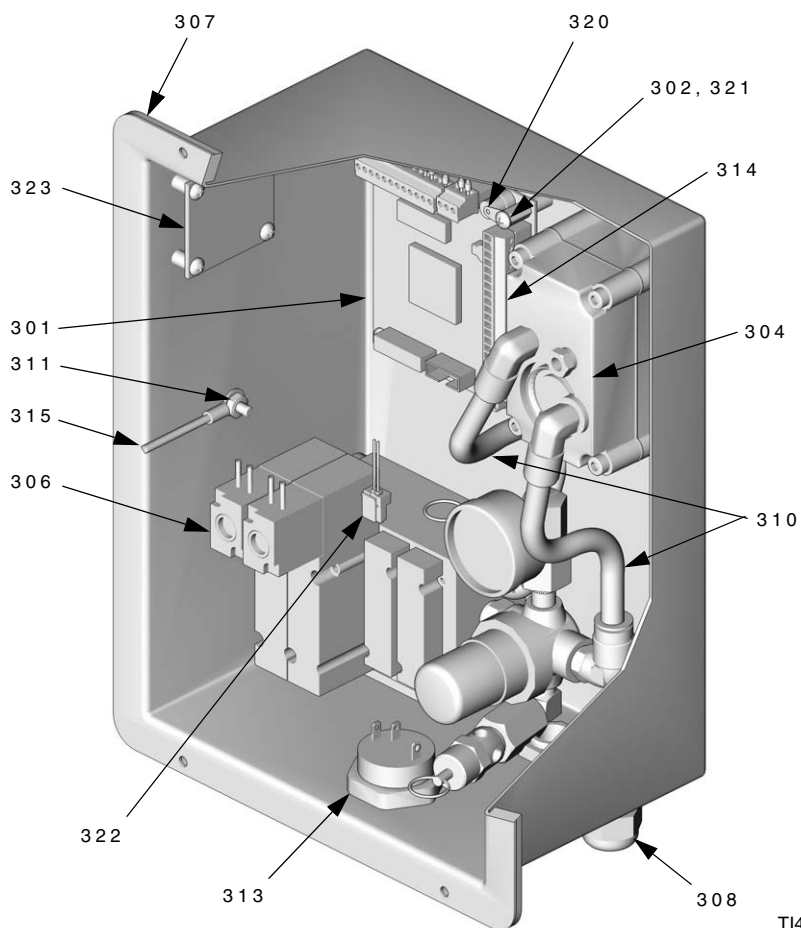
287230 Pump Air Control

Ref. No.	Part No.	Description	Qty.	Ref. No.	Part No.	Description	Qty.
201	15D814	MANIFOLD, air	2	207	113498	VALVE, safety relief; 110 psi (0.8 MPa, 8 bar)	1
202	206197	REGULATOR, air; 1/2 npt(f) inlet and outlet; see manual 308168	1	208	119246	STANDOFF	4
203	119240	CAP, pipe, 1/2 in. (13 mm)	1	209	100081	BUSHING, pipe; 1/2 npt(m) x 3/8 npt(f)	1
204	101689	GAUGE, air pressure	2	210	C19024	ELBOW, swivel; 1/2 npt(m) x 1/2 npsm(f)	1
205	112678	PLUG; 1/4 npt	3				
206	118762	VALVE, ball, bleed-type; 1/2 npt(fbe)	1				

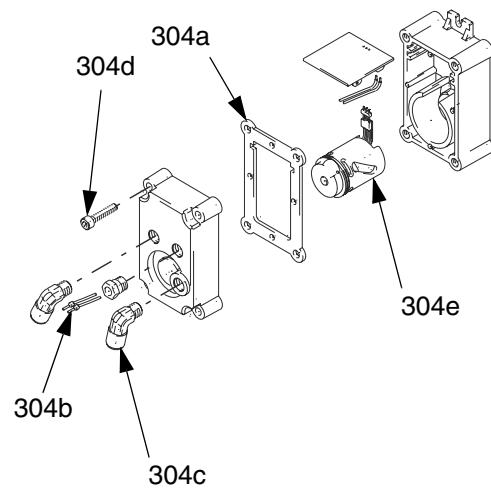


TI4601a

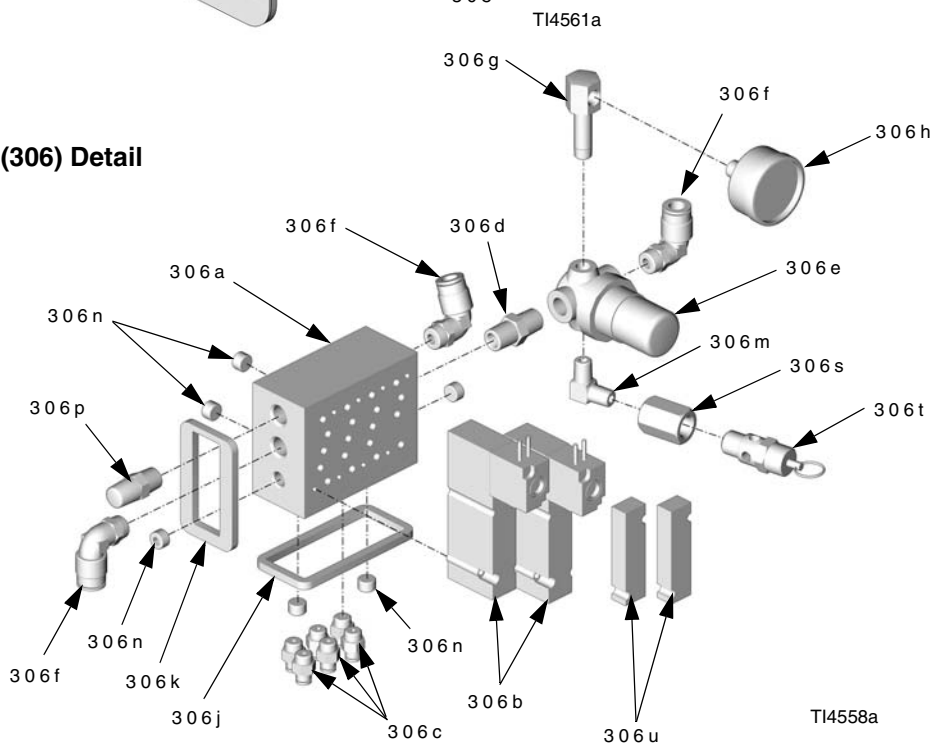
248270 Intrinsically Safe Pneumatic Control



Alternator Module (304) Detail



Solenoid Module (306) Detail

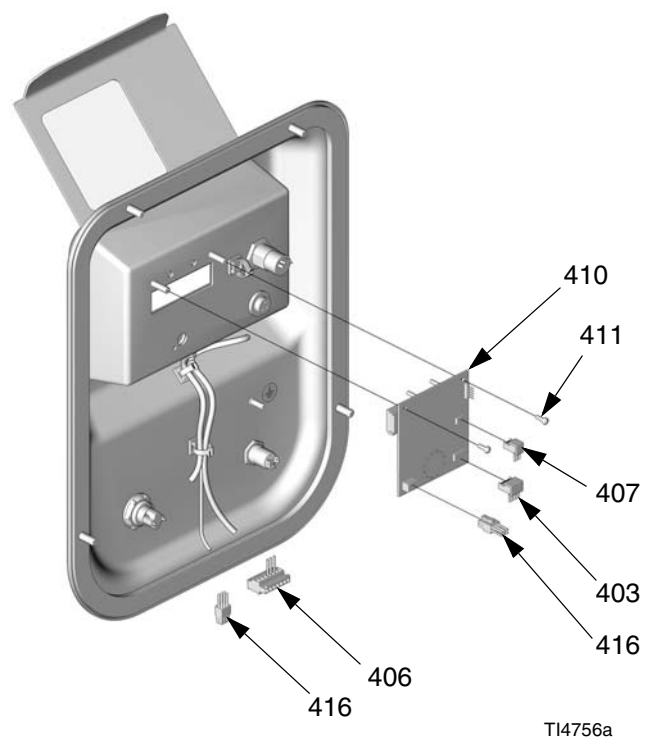
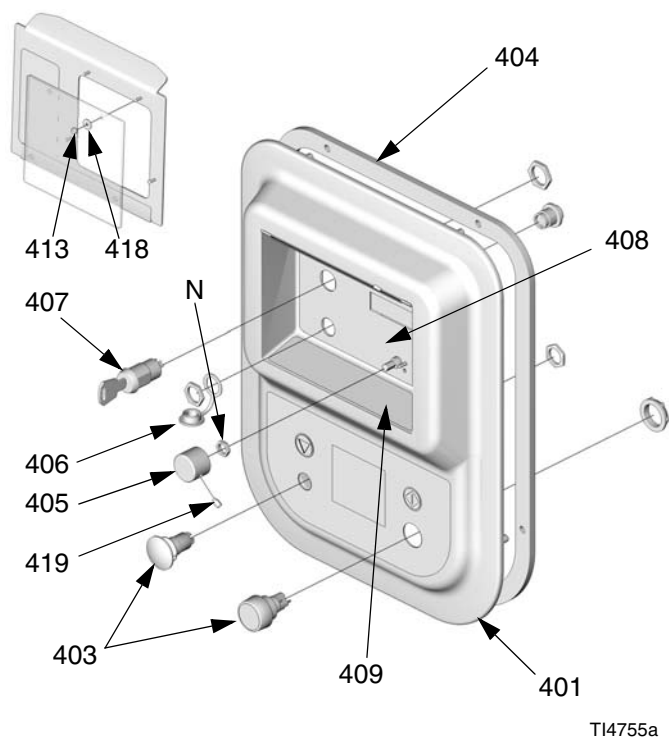


248270 Intrinsically Safe Pneumatic Control, continued

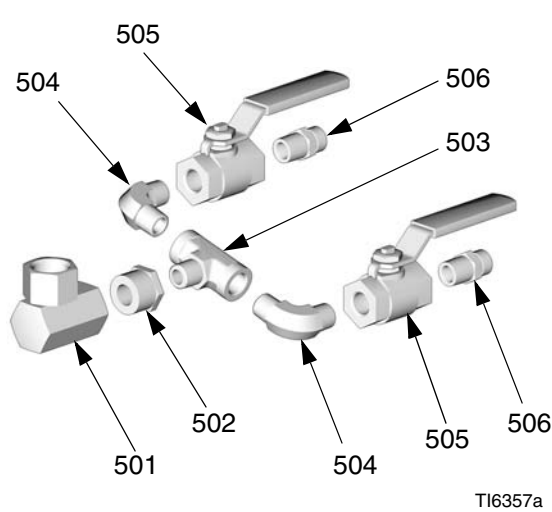
Ref.	No.	Part No.	Description	Qty.
	301	248349	CIRCUIT BOARD, main	1
	302	100035	SCREW, machine, phillips; 8-32 x 5/16 in. (8 mm)	8
	304	245854	MODULE, alternator; includes items 304a-304e	1
	304a	193154	• GASKET; LDPE foam	1
	304b	15A853	• WIRE HARNESS	1
	304c	111225	• ELBOW; 1/8 npt(m) x 3/8 in. (10 mm) tube fitting	2
	304d	114380	• SCREW; M5 x 25	4
	304e	222319	• TURBINE ALTERNATOR	1
	305	109466	NUT, lock, w/nylon insert; 8-32	2
	306	248268	MODULE, solenoid, IS; includes items 306a-306u	1
	306a	15A822	• MANIFOLD	1
	306b	117356	• VALVE, 12 VDC, IS	2
	306c	114263	• FITTING; 1/8 npt x 5/32 in. (4 mm) tube	6
	306d	156971	• NIPPLE; 1/4 npt	1
	306e	115243	• AIR REGULATOR; 1/4 npt	1
	306f	115841	• ELBOW; 1/4 npt x 3/8 in. (10 mm) tube fitting	3
	306g	160701	• ELBOW, street; 1/8 npt(m x f)	1
	306h	108190	• GAUGE	1
	306j	15A798	• GASKET, neoprene	1
	306k	15A799	• GASKET, neoprene	1
	306m	110207	• ELBOW; 1/8 npt (mbe)	1
	306n	104765	• PLUG, pipe; 1/8 ptf	6
	306p	517449	• MUFFLER	1
	306q	112512	• WIRE FERRULE, orange (not shown)	8
	306r	117369	• CONNECTOR, 12 position	1
	306s	150278	• ADAPTER, 1/4 x 1/8 npt	1
	306t	117480	• SAFETY RELIEF VALVE, 26 psi (179 kPa, 1.8 bar)	1
	306u	552183	• PLATE	2
	307	15A800	GASKET; neoprene	1
	308	114421	BUSHING, strain relief	2
	309	106084	SCREW, machine; M5 x 0.8; 10 mm	2
	310	590385	TUBE, poly-flo	1 ft
	311	113505	NUT, keps; 10-24	1
	312	104029	CLAMP, ground	1
	313	15A849	HARNESS, wire, alarm	1
	314	117442	CONNECTOR, plug, 18 position	1
	315	15B090	WIRE, grounding, door	1
	317	111307	WASHER, lock, external tooth; M5	1
	318	065213	WIRE, copper	3 ft
	320	118132	TERMINAL, lug, lockwasher	1
	321	118129	SPACER	1
	322	114213	HARNESS, connector	1
	323	246899	CIRCUIT BOARD	1
	324	112512	FERRULE, wire	2

234620 User Interface

Ref. No.	Part No.	Description	Qty.	Ref. No.	Part No.	Description	Qty.
401	15B062	DISPLAY	1	411	112546	SCREW, machine; 4-40 x 3/8 in. (10 mm)	2
403	15A851	HARNESS, wire	1	412	15A856	PANEL, display	1
404	15A801	GASKET; neoprene	1	413	C27076	NUT, lock, w/nylon insert; 4-40	4
405	15D853	KNOB, control	1	414	111907	MOUNT, tie wrap	3
406	15A850	HARNESS, wire	1	416	15A854	HARNESS, wire, display	1
407	15A852	HARNESS, wire, switch	1	418	188438	WASHER; 0.120 in.	4
408	15D796	LABEL, control, upper	1	419	101366	SCREW, set; socket hd; 10-24 x 5/16 (8 mm)	1
409	15D798	LABEL, control, lower	1				
410	245706	CIRCUIT BOARD, display; includes jam nut (N)	1				

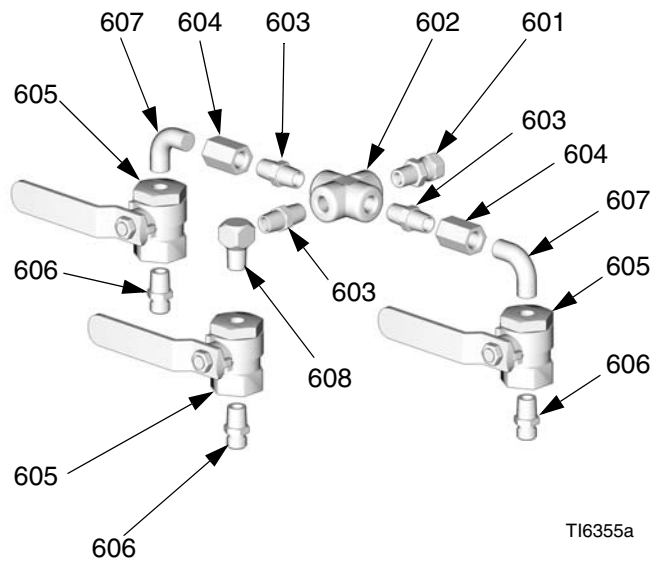


249329 Pump Inlet Valve Assembly, for 249320 Clear Coat System only

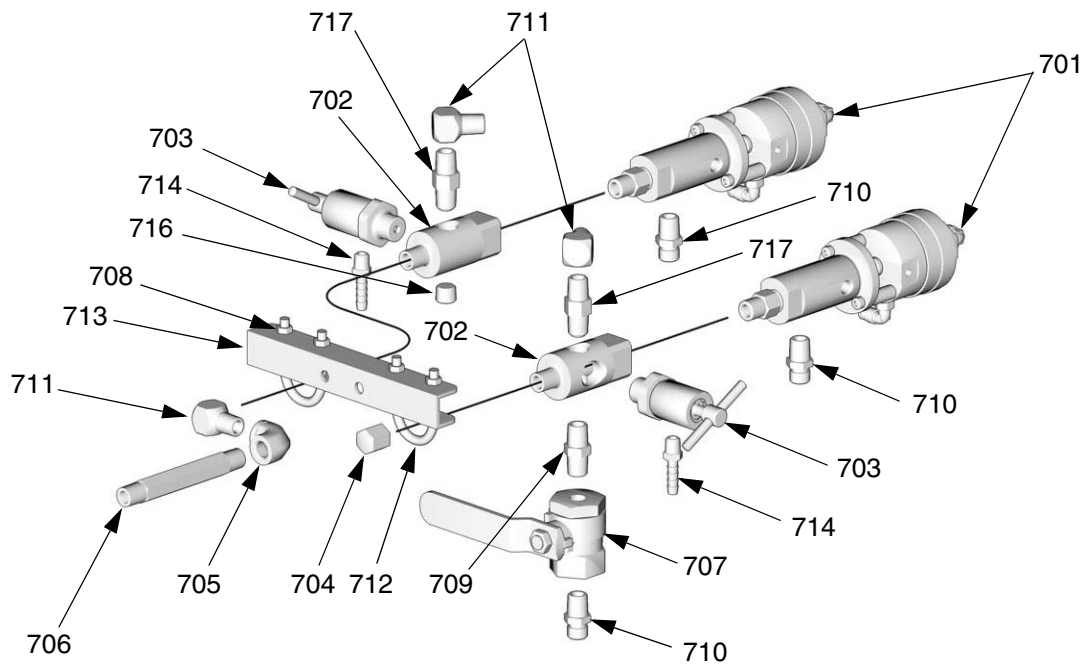


Ref. No.	Part No.	Description	Qty.
501	156589	UNION, swivel, 90°; 3/4 npt(f) x 3/4 npsm(f)	1
502	100505	BUSHING, pipe; 3/4 npt(m) x 3/8 npt(f)	1
503	113777	TEE; 3/8 npt(m) x 3/8 npt(f)	1
504	109544	ELBOW, 90°; 3/8 npt (mbe)	2
505	512149	VALVE, ball; 3/8 npt (fbe)	2
506	162485	NIPPLE; 3/8 npt x 3/8 npsm	2

249328 Pump Outlet Valve Assembly, for 249320 Clear Coat System only



Ref. No.	Part No.	Description	Qty.
601	156823	UNION, swivel, straight; 1/4 npt(m) x 1/4 npt(f)	1
602	102959	CROSS, pipe; 1/4 npt(f)	1
603	156971	NIPPLE; 1/4 npt	3
604	113093	CONNECTOR, pipe; 1/4 npt (fbe)	2
605	512148	VALVE, ball; 1/4 npt (fbe)	3
606	162453	NIPPLE; 1/4 npt x 1/4 npsm	3
607	110249	ELBOW, 90°; 1/4 npt (mbe)	2
608	100840	ELBOW, street, 90°; 1/4 npt (mx f)	1

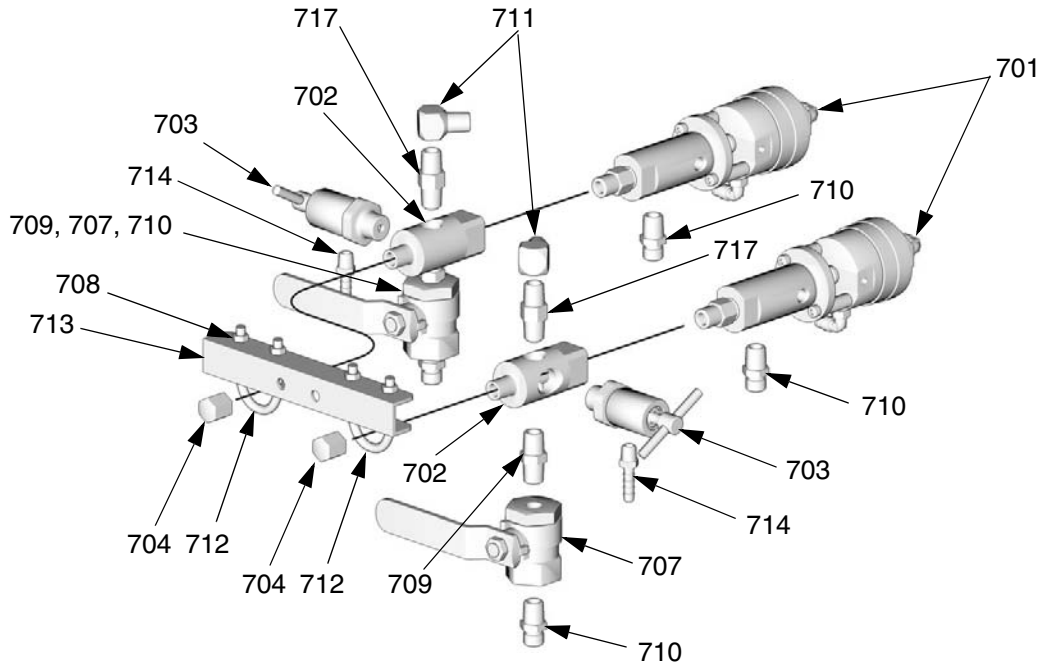
249326 Dispense Valve Assembly, for 249320 Clear Coat System

T16359a

Ref.

No.	Part No.	Description	Qty.
701	287222	VALVE, dispense; see 310655	2
702	15D336	HOUSING, ratio	2
703	245143	VALVE, pressure relief	2
704	115781	PLUG, cap; 1/4 npt	1
705	516010	ELBOW, 90°; 1/4 npt (fbe)	1
706	177021	NIPPLE, long; 1/4 npt	1
707	512148	VALVE, ball; 1/4 npt (fbe)	1
708	104123	WASHER, lock	4
709	156971	NIPPLE; 1/4 npt	1
710	162453	NIPPLE; 1/4 npt x 1/4 npsm	3
711	100840	ELBOW, street, 90°; 1/4 npt (mxf)	3
712	106285	U-BOLT, with 2 nuts; 1/4-20	2
713	15F381	BRACKET, dispense	1
714	116746	FITTING, barbed	2
716	101970	PLUG, pipe, headless	1
717	501867	VALVE, check	2

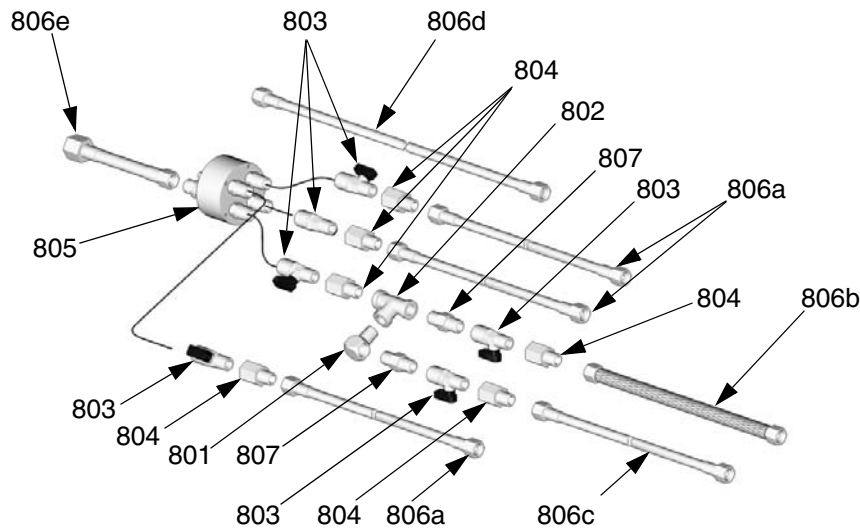
249387 Dispense Valve Assembly, for 249321 Primer System



TI6552a

Ref. No.	Part No.	Description	Qty.
701	287222	VALVE, dispense; see 310655	2
702	15D336	HOUSING, ratio	2
703	245143	VALVE, pressure relief	2
704	115781	PLUG, cap; 1/4 npt	2
707	512148	VALVE, ball; 1/4 npt (fbe)	2
708	104123	WASHER, lock	4
709	156971	NIPPLE; 1/4 npt	2
710	162453	NIPPLE; 1/4 npt x 1/4 npsm	4
711	100840	ELBOW, street, 90°; 1/4 npt (mxf)	2
712	106285	U-BOLT, with 2 nuts; 1/4-20	2
713	15F381	BRACKET, dispense	1
714	116746	FITTING, barbed	2
717	501867	VALVE, check	2

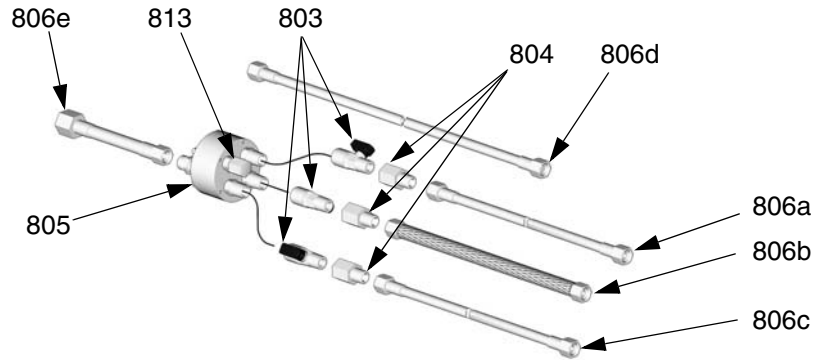
249333 Hose Bundle and Remote Mix Manifold, for 249320 Clear Coat System



TI6386a

Ref. No.	Part No.	Description	Qty.
801	100840	ELBOW, street, 90°; 1/4 npt (mxf)	1
802	104984	TEE; 1/4 npt(f)	1
803	116698	VALVE, ball; 1/4 npt(m) x 1/4 npt(f)	6
804	15F741	FITTING, adapter; 1/4 npt(m) x 1/4 npt(f)	6
805	244022	MANIFOLD, mix, remote; see page 50	1
806	249293	HOSE SET; includes items 806a-806e, and protective cover	1
806a		HOSE, component A; 35 ft (10.7 m)	3
806b		HOSE, component B; 35 ft (10.7 m)	1
806c		HOSE, solvent; 35 ft (10.7 m)	1
806d		HOSE, air; 41 ft (12.5 m)	1
806e	249288	HOSE, whip; with static mixer; 5 ft (1.52 m)	1
807	501867	CHECK VALVE; 1/4 npt (mbe)	2

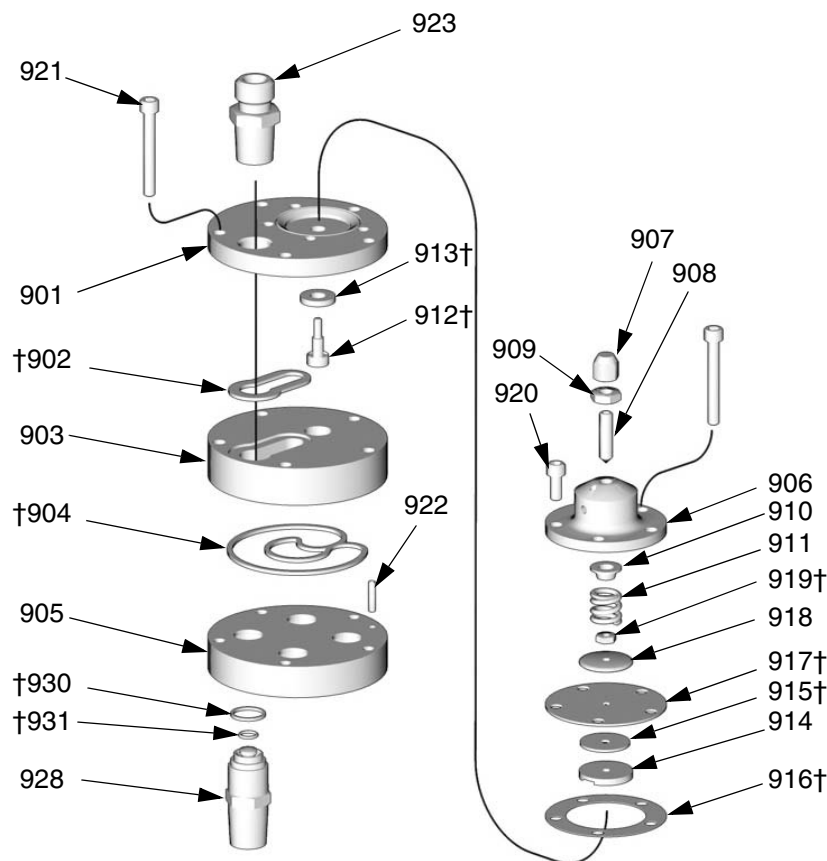
249386 Hose Bundle and Remote Mix Manifold, for 249321 Primer System



TI6409a

Ref. No.	Part No.	Description	Qty.
803	116698	VALVE, ball; 1/4 npt(m) x 1/4 npt(f)	3
804	15F741	FITTING, adapter; 1/4 npt(m) x 1/4 npt(f)	3
805	244022	MANIFOLD, mix, remote; see page 50	1
806	249385	HOSE SET; includes items 806a-806e, and protective cover	1
806a		HOSE, component A; 35 ft (10.7 m)	1
806b		HOSE, component B; 35 ft (10.7 m)	1
806c		HOSE, solvent; 35 ft (10.7 m)	1
806d		HOSE, air; 41 ft (12.5 m)	1
806e	249288	HOSE, whip; with static mixer; 5 ft (1.52 m)	1
813	115781	PLUG, cap; 1/4 npt(f)	1

244022 Remote Mix Manifold (249320 and 249321 only)



TI6509a

Ref. No.	Part No.	Description	Qty.
901	196340	PLATE, mounting, regulator	1
902†	196343	GASKET, mix manifold, outlet	1
903	196341	HOUSING, mix manifold	1
904†	196342	GASKET, mix manifold, inlet	1
905	196339	BASE, mix manifold	1
906	168877	HOUSING, regulator	1
907	170303	NUT, cap	1
908	102433	SCREW, set, socket hd; 10-32 x 3/4 in. (19 mm)	1
909	100166	NUT, hex; 10-32	1
910	167244	RETAINER, spring	1
911	167245	SPRING, compression	1
912†	168872	STEM, valve	1
913†	169597	SEAT, valve	1
914	168879	WASHER, backup	1
915†	178322	GASKET	1
916†	178320	GASKET, non-metallic	1
917†	178321	DIAPHRAGM, regulator	1
918	168881	WASHER, acetal	1
919†	102980	NUT, hex; 4-40	1
920	103229	SCREW, cap, socket hd; 8-32 x 3/8 in. (10 mm)	4
921	115968	SCREW, cap, socket hd; 8-32 x 1-1/4 in. (31 mm)	5

Ref. No.	Part No.	Description	Qty.
922	102411	PIN, spring	1
923	162453	NIPPLE; 1/4 npt x 1/4 npsm	1
928	115966	CHECK VALVE; includes item 931	4
930†	196512	GASKET; acetal	4
931†	111504	PACKING, o-ring, check valve	4

† These parts are included in Repair Kit 244012, which may be purchased separately.

Technical Data

Mix ratio range	0.1:1-10:1 (in 0.1 increments)
Ratio tolerance range	up to +/- 1%
Flow rates	
Minimum	0.02 qt/min (0.02 lpm)*
Maximum	1 gpm (3.8 lpm)
Pump size	54 cc/cycle
Pump cycle length	
(one cycle = one upstroke and one downstroke)	6 in. (152 mm)/cycle
Fluid viscosity range	50-2000 cps (heavier viscosities can be mixed with use of optional heaters, heated hoses, and hardware)
Fluid filtration	40 mesh standard
Maximum fluid working pressure	250 psi (1.7 MPa, 17 bar)
Air supply pressure range	70-110 psi (490-800 kPa, 4.9-8 bar)
Maximum air consumption at 100 psi (0.7 MPa, 7 bar)	20 scfm (0.56 m ³ /min)
Ambient temperature range	
Operating	32-104° F (0-40° C)
Storage	30-160° F (-1-71° C)
Environmental Conditions Rating	Altitude up to 4000 meters
	Maximum relative humidity to 99% up to 40° C
	Pollution degree (1)
Sound pressure**	70.3 dBA
Sound power**	78.4 dBA
Wetted parts	
Pumps	See 310662
Dispense Valves	See 310655
PC Communications	RS-232

* Minimum flow rate is dependent on the material being sprayed and mixing capability. Test your material for specific flow rate.

** Tested in accordance with ISO 3744 at 100 psi (0.7 MPa, 7 bar) inlet air pressure.

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