

Electric Airless Sprayers

312537B

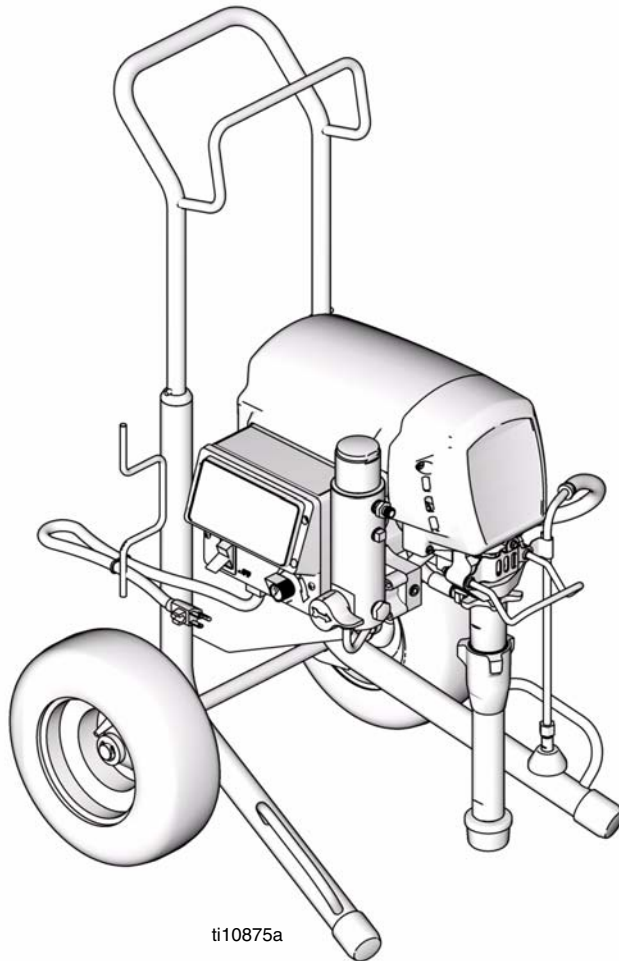
- For Portable Airless Spraying of Architectural Coatings and Paints -

Maximum Working Pressure: 3300 psi (227 bar, 22.7 MPa)



IMPORTANT SAFETY INSTRUCTIONS

Read all warnings and instructions. Save these instructions. Contact ASM Customer Service or your local ASM distributor to obtain a manual in your language.



Related Manuals



312538



312363 (English)
312364 (Spanish)
312365 (French)










310643





ASM Zip-Spray™ 2700 Plus 110V: 247558
ASM Zip-Spray™ 2700 Plus 240V: 247565
ASM Zip-Spray™ 3100 Plus 110V: 247559
ASM AllPro Mach 8600 Plus 110V: 247561
ASM AllPro Mach 11000 Plus 110V: 247562
ASM H2700 Plus 110V: 247564
ASM H2700 Plus 240V: 247563



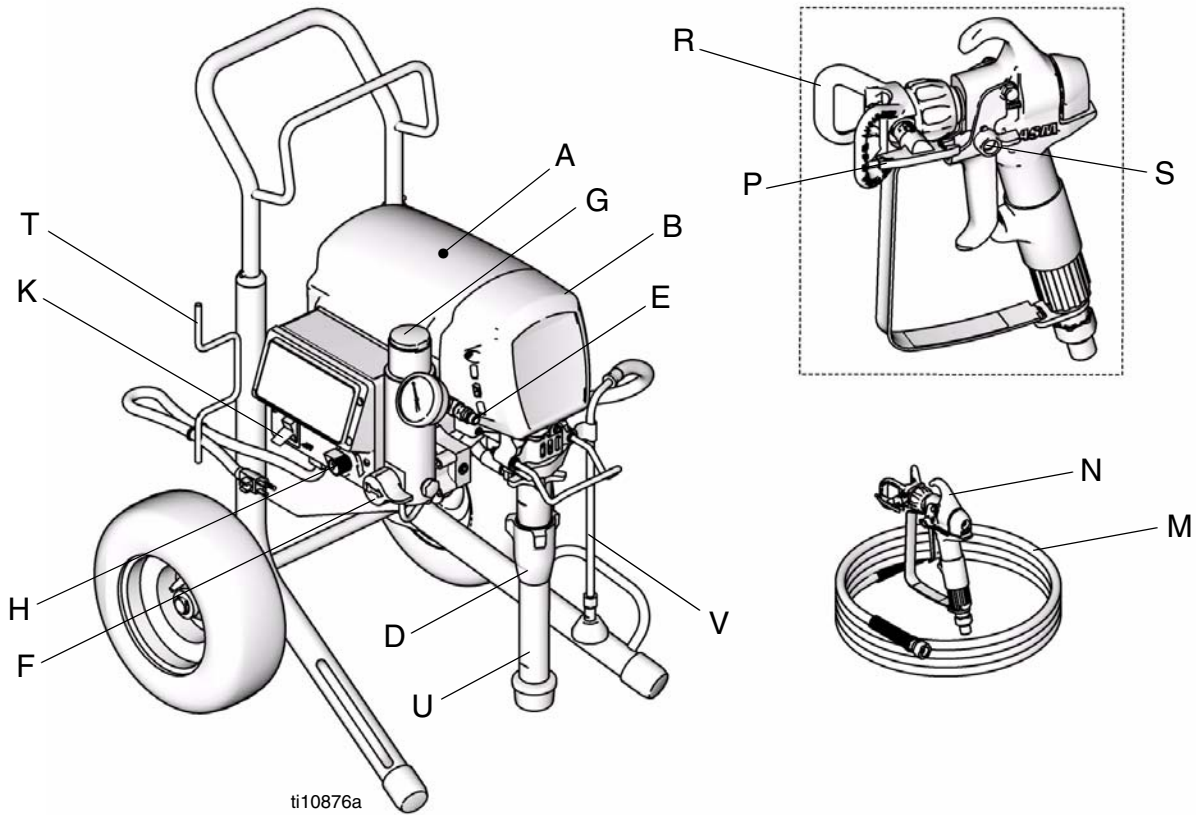
Warnings

The following are general warnings related to the setup, use, grounding, maintenance and repair of this equipment. Additional, more specific warnings may be found throughout the body of this manual where applicable. Symbols appearing in the body of the manual refer to these general warnings. When these symbols appear throughout the manual, refer back to these pages for a description of the specific hazard.

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 areas. • Eliminate all ignition sources; such as pilot lights, cigarettes, portable electric lamps, and plastic drop cloths (potential static arc). • When flammable liquid is used in or near sprayer or for flushing or cleaning, keep sprayer at least 20 feet (6 m) away from explosive vapors. • Keep work area free of debris, including solvent, rags and gasoline. • Do not plug or unplug power cords or turn lights on or off when flammable fumes are present. • Ground equipment and conductive objects in work area. See Grounding instructions. • Use only conductive 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>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>SKIN INJECTION HAZARD</p> <p>High-pressure fluid from gun, hose leaks, or ruptured components will pierce skin. This may look like just a cut, but it is a serious injury that can result in amputation. Get immediate surgical attention.</p> <ul style="list-style-type: none"> • Do not point gun at anyone or at any part of the body. • Do not put your hand over the spray tip. • Do not stop or deflect leaks with your hand, body, glove, or rag. • Do not spray without tip guard and trigger guard installed. • Engage trigger lock when not spraying. • Follow Pressure Relief Procedure in this manual, when you stop spraying and before cleaning, checking, or servicing equipment.

WARNING	
	<p>ELECTRIC SHOCK HAZARD</p> <p>Improper grounding, setup, or usage of the system can cause electric shock.</p> <ul style="list-style-type: none"> • Turn off and disconnect power cord before servicing equipment. • Use only grounded electrical outlets. • Use only 3-wire extension cords. • Ensure ground prongs are intact on sprayer and extension cords. • Do not expose to rain. Store indoors.
	<p>PRESSURIZED ALUMINUM PARTS HAZARD</p> <p>Do not use 1,1,1-trichloroethane, methylene chloride, other halogenated hydrocarbon solvents or fluids containing such solvents in pressurized aluminum equipment. Such use can cause serious chemical reaction and equipment rupture, and result in death, serious injury, and property damage.</p>
	<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. Read Technical Data in all equipment manuals. • Use fluids and solvents that are compatible with equipment wetted parts. Read Technical Data in all equipment manuals. Read fluid and solvent manufacturer's warnings. For complete information about your material, request MSDS from distributor or retailer. • Check equipment daily. Repair or replace worn or damaged parts immediately with genuine Graco replacement parts only. • Do not alter or modify equipment. • 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. • Keep children and animals away from work area. • Comply with all applicable safety regulations. • Keep children and animals away from work area. • Do not operate the unity when fatigued or under the influence of drugs or alcohol.
	<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 eye wear • Clothing and respirator as recommended by the fluid and solvent manufacturer • Gloves • Hearing protection

Component Identification and Function



ti10876a

A	Motor	DC Motor, brushless, fan cooled
B	Drive Assembly	Transfers power from DC motor to displacement pump
D	Displacement Pump	Transfers fluid to be sprayed from source through spray gun
E	Fluid Outlet	Fluid hose is connected here
F	Prime/Spray Valve	Used to prime and drain sprayer (also relieves fluid outlet pressure) when open
G	Filter	Final filter of fluid to spray gun
H	Pressure Control Knob	Controls fluid outlet pressure
K	ON/OFF Switch	Power switch that controls main power to sprayer
M	50 ft (15 m) Main Hose	1/4 in. ID, grounded, nylon hose with spring guards on both ends
N	Spray Gun	High pressure spray gun with gun safety latch
P	Spray Tip	Uses high pressure fluid to clear tip clogs without removing tip from spray gun
R	HandTite™ Tip Guard	Tip guard reduces risk of injection injury
S	Gun Safety Latch	Gun safety latch inhibits accidental triggering of spray gun. ASM 500 Series gun shown. Refer to your gun manual to properly set your gun safety latch
T	Cord Wrap	Holds wrapped power cord for storage
U	Suction Tube	Transfers fluid to be sprayed from source to pump
V	Drain Tube	Fluid outlet used to drain and prime sprayer
Z	Model/Serial Tag	Sprayer model and serial number information

General Repair Information

Pressure Relief Procedure



SKIN INJECTION HAZARD

System pressure must be manually relieved to prevent system from starting or spraying accidentally. Fluid under high pressure can be injected through skin and cause serious injury. To reduce risk of injury from injection, splashing fluid, or moving parts, follow Pressure Relief Procedure whenever you:

- are instructed to relieve pressure
 - stop spraying
 - check or service any system equipment
 - install or clean spray tip
1. Turn pressure control knob to zero.
 2. Turn ON/OFF switch to OFF.
 3. Unplug power supply cord.
 4. Hold metal part of gun firmly to grounded metal pail. Trigger gun to relieve pressure.
 5. Lock gun safety latch.
 6. Open prime valve. Leave prime valve open until ready to spray again.

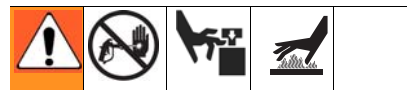
If suspected that spray tip or hose is completely clogged, or that pressure has not been fully relieved after following steps above, VERY SLOWLY loosen tip guard retaining nut or hose end coupling to relieve pressure gradually, then loosen completely. Then clear tip or hose obstruction.

CAUTION

To reduce risk of pressure control malfunction:

- Use needle-nose pliers to disconnect wire. Never pull on wire, pull on connector.
- Mate wire connectors properly. Center flat blade of insulated male connector in female connector.
- Route wires carefully to avoid interference with other connections of pressure control. Do not pinch wires between cover and control box.

1. Keep all screws, nuts, washers, gaskets, and electrical fittings removed during repair procedures. These parts are not normally provided with replacement assemblies.

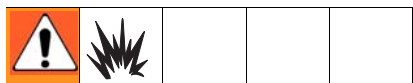


ELECTRIC SHOCK HAZARD MOVING PARTS HAZARD HOT SURFACE HAZARD

To reduce risk of serious injury, including electric shock, do not touch moving or electrical parts with fingers or tools while testing repair. Shut off and unplug sprayer when inspection is complete. Install all covers, guards, gaskets, screws, washers and shroud before operating sprayer.

2. **Test repair** after problem is corrected.
3. If sprayer does not operate properly, review repair procedure to verify procedure was done correctly. If necessary, see Troubleshooting, page 7, for other possible solutions.

Grounding

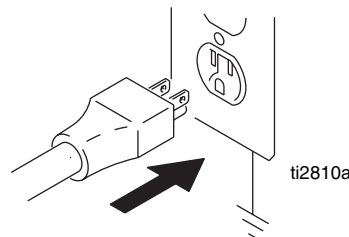


WARNING

Improper installation or alteration of grounding plug results in risk of electric shock, fire or explosion that could cause serious injury or death.

1. 100-200 Vac models require a 50/60 Hz, 15A circuit with a grounding receptacle. 220-240 Vac models require a 50/60 Hz, 10A circuit with a grounding receptacle.

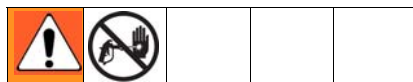
2. Do not alter ground prong or use adapter.



3. 120 Vac: A 12 AWG, 3 wires with grounding prong, 300 ft (90 m) extension cord may be used. 220-240 Vac: You may use a 3-wire, 1.0 mm (12 AWG) (minimum) extension cord up to 90 m long. Long lengths reduce sprayer performance.

Troubleshooting

Mechanical/Fluid Flow



Relieve pressure; page 5.

TYPE OF PROBLEM	WHAT TO CHECK If check is OK, go to next check	WHAT TO DO When check is not OK, refer to this column
Pump output is low	1. Spray tip worn	1. Follow Pressure Relief procedure Warning, then replace tip. See your separate gun or tip manual.
	2. Spray tip clogged	2. Relieve pressure. Check and clean spray tip.
	3. Paint supply	3. Refill and reprime pump.
	4. Intake strainer clogged	4. Remove and clean, then reinstall
	5. Intake valve ball and piston ball are not seating properly	5. Remove intake valve and clean. Check balls and seats for nicks; replace if necessary; see pump manual 310643. Strain paint before using to remove particles that could clog pump.
	6. Suction hose connections	6. Tighten any loose connections. Check for missing or damaged seals.
	7. Fluid filter, tip filter, or tip is clogged or dirty.	7. Clean filter; see operation manual.
	8. Prime valve leaking	8. Relieve pressure. Repair prime valve.
	9. Verify pump does not continue to stroke when gun trigger is released. (Prime valve not leaking.)	9. Service pump; see pump manual 310643.
	10. Leaking around throat packing nut which may indicate worn or damaged packings.	10. Replace packings; see pump manual. Also check piston valve seat for hardened paint or nicks and replace if necessary. Tighten packing nut/wet-cup.
	11. Pump rod damage	11. Repair pump. See pump manual 310643.
	12. Low stall pressure	12. Turn pressure knob fully clockwise. Make sure pressure control knob is properly installed to allow full clockwise position. If problem persists, replace pressure transducer.
	13. Piston packings are worn or damaged	13. Replace packings; see pump manual 310643.

TYPE OF PROBLEM	WHAT TO CHECK If check is OK, go to next check	WHAT TO DO When check is not OK, refer to this column
Pump output is low	14. O-ring in pump is worn or damaged	14. Replace o-ring; see pump manual 310643.
	15. Intake valve ball is packed with material	15. Clean intake valve; see pump manual 310643.
	16. Pressure setting is too low	16. Increase pressure; see pump manual 310643.
	17. Large pressure drop in hose with heavy materials	17. Use larger diameter hose and/or reduce overall length of hose. Use of more than 100 ft of 1/4 in. hose significantly reduces performance of sprayer. Use 3/8 in. hose for optimum performance (50 ft minimum).
Motor runs but pump does not stroke	1. Displacement pump pin (44) damaged or missing; see pump manual 310643.	1. Replace pump pin if missing. Be sure retainer spring (43) is fully in groove all around connecting rod; see pump manual 310643.
	2. Connecting rod assembly (85) damaged; see pump manual 310643.	2. Replace connecting rod assembly; see pump manual 310643.
	3. Gears or drive housing damaged, page 22.	3. Inspect drive housing assembly and gears for damage and replace if necessary; see pump manual 310643.
Excessive paint leakage into throat packing nut	1. Throat packing nut is loose	1. Remove throat packing nut spacer. Tighten throat packing nut just enough to stop leakage.
	2. Throat packings are worn or damaged	2. Replace packings; see pump manual 310643.
	3. Displacement rod is worn or damaged	3. Replace rod; see pump manual 310643.
Fluid is spitting from gun	1. Air in pump or hose	1. Check and tighten all fluid connections. Reduce engine speed and cycle pump as slowly as possible during priming.
	2. Tip is partially clogged	2. Clear tip; see gun manual 312363.
	3. Fluid supply is low or empty	3. Refill fluid supply. Prime pump; see pump manual 310643. Check fluid supply often to prevent running pump dry.
Pump is difficult to prime	1. Air in pump or hose	1. Check and tighten all fluid connections. Reduce engine speed and cycle pump as slowly as possible during priming.
	2. Intake valve is leaking	2. Clean intake valve. Be sure ball seat is not nicked or worn and that ball seats well. Reassemble valve.
	3. Pump packings are worn	3. Replace pump packings; see pump manual 310643.
	4. Paint is too thick	4. Thin the paint according to the supplier's recommendations.
No display, sprayer operates	1. Display is damaged or has bad connection	1. Check connections. Replace display.

Electrical

Symptom: Sprayer does not run or stops running.

Relieve pressure; page 5.

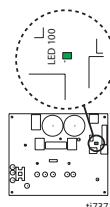


- Plug sprayer into correct voltage, grounded outlet
- Set power switch OFF for 30 seconds and then ON again. This ensures sprayer is in normal run mode.
- Turn pressure control knob clockwise 1/2 turn
- View control board status light:
 1. Remove four screws (38) and remove cover (96).



WARNING

To avoid electrical shock or moving parts hazards when covers are removed for troubleshooting, wait 30 seconds after unplugging power cord for stored electricity to dissipate. Keep clear of electrical and moving parts during troubleshooting procedures.



Use control board status light to troubleshoot problems: Turn ON/OFF switch OFF, remove control cover and then turn power back ON. Observe status light. Blinking LED total count equals error.

CONTROL BOARD STATUS LIGHT	SPRAYER OPERATION	INDICATION	WHAT TO DO
Never lights	Sprayer may be pressurized	No power to control board	<ol style="list-style-type: none"> 1. Verify required voltage is present. 2. Check wiring connections to control board. 3. Perform continuity check on power cord and switch. Replace power cord or switch as needed. 4. If steps 1 - 3 are ok, replace control board.
Blinks once and stops	Sprayer may be pressurized	No Run command to control board potentiometer, or transducer problem	<ol style="list-style-type: none"> 1. Make sure prime valve is open and there is no pressure in the system. 2. Turn pressure control knob clockwise. 3. Check potentiometer connection to control board. 4. Check pressure control knob alignment to potentiometer shaft. Turn shaft fully clockwise and attach knob in full ON position. 5. Unplug potentiometer. Short out center pin of control board potentiometer connector to each outer pin (one at a time). If sprayer runs, replace potentiometer, page 18. 6. Check transducer connection. 7. Disconnect and reconnect transducer plug to ensure good connection with control board socket. Check that transducer contacts are clean. 8. Open prime valve. Connect a known good transducer in place of the sprayer transducer. Set sprayer ON. Replace transducer if sprayer runs. Replace control board if sprayer does not run.

Electrical

CONTROL BOARD STATUS LIGHT	SPRAYER OPERATION	INDICATION	WHAT TO DO
Blinks 2X Repeatedly	Sprayer Stops	Control board is receiving excessive pressure signal from transducer. Transducer may be damaged or fluid flow path may be clogged.	<ol style="list-style-type: none"> 1. Check fluid path for clogs, such as a clogged filter. 2. Open prime valve and gun if running AutoClean. 3. Use airless paint spray hose with no metal braid, 1/4 in. x 50 ft minimum. Smaller hose or metal braid hose may result in high-[pressure spikes. 4. Replace transducer if fluid path is not clogged and proper hose is used.
Blinks 3X Repeatedly	Sprayer Stops	Transducer or transducer connection error	<ol style="list-style-type: none"> 1. Check transducer connection. 2. Disconnect and reconnect transducer plug to ensure good connection with control board socket. Check that transducer contacts are ok. 3. Open prime valve. Connect a known good transducer in place of the sprayer transducer. Set sprayer ON. Replace transducer if sprayer runs. Replace control board if sprayer does not run.
Blinks 5X Repeatedly	Sprayer Stops	Possible locked pump or drive. May be motor connection or wiring error.	<ol style="list-style-type: none"> 1. Check motor wiring connections. 2. Check for locked or frozen pump drive train. 3. If all motor wiring connections are OK and pump/drive train are not locked up, spin motor fan 1/4 turn. Restart sprayer. If sprayer runs, replace control board. If not, replace motor.
Blinks 6X Repeatedly	Sprayer Stops	Motor is too hot or motor/terminal device connection may be bad	<ol style="list-style-type: none"> 1. Check all wire connections from motor to control board. 2. If connections are all ok, allow sprayer to cool. If sprayer runs when cool, correct cause of overheating. Keep sprayer in cooler location with good ventilation. Make sure motor air intake is not blocked.

Electrical

CONTROL BOARD STATUS LIGHT	SPRAYER OPERATION	INDICATION	WHAT TO DO
Blinks 9X Repeatedly	Sprayer Stops	Motor sensor failure	Make sure motor sensor (resolver) is connected to the control board and check wiring for damage.
Blinks 10X Repeatedly	Sprayer Stops	High control board temperature	<ol style="list-style-type: none"> 1. Make sure the motor air intake is not blocked. 2. Make sure control board is properly connected to the back plate and that the conductive thermal paste is used on the power components. See page 12.
Blinks 11X Repeatedly	Sprayer Stops	Excessive motor speed	Check for damaged gears or disconnected pump.
Blinks 12X Repeatedly	Sprayer Stops	High current	<ol style="list-style-type: none"> 1. Check for locked or frozen pump or drive train. 2. Check for possible short circuits in wiring. 3. Check pressure output and replace transducer if pressure is excessive.
Blinks 13X Repeatedly	Sprayer will not start	Model not selected	Control board identity resistors must be properly clipped to identify model type; see Parts List, page 29.

After a fault, follow these steps to restart sprayer.

1. Correct fault condition.
2. Turn sprayer OFF.
3. Turn sprayer ON.

Pressure Control Board

100 - 120 Vac North American Motor Control Board

Removal



Relieve pressure; page 5. Wait 5 minutes before servicing.

1. Remove four screws (38) and cover (96).
2. Remove bottom two screws (39) and allow control panel (68) to hang down freely.
3. Disconnect control board power lead(s) (D) from ON/OFF switch (33) and motor control board (52).
4. Disconnect potentiometer connector (C) from motor control board.
5. Disconnect transducer connector (E) from motor control board.
6. Disconnect motor connectors (F, G, and H) from motor control board.
7. Remove nut (149) and screw (150) and disconnect ground wire (26). Disconnect coil connector (Y). Remove coil (148).
8. Remove top two screws (39) and control box (61).
9. Remove five screws (27), three screws (102) and motor control board.

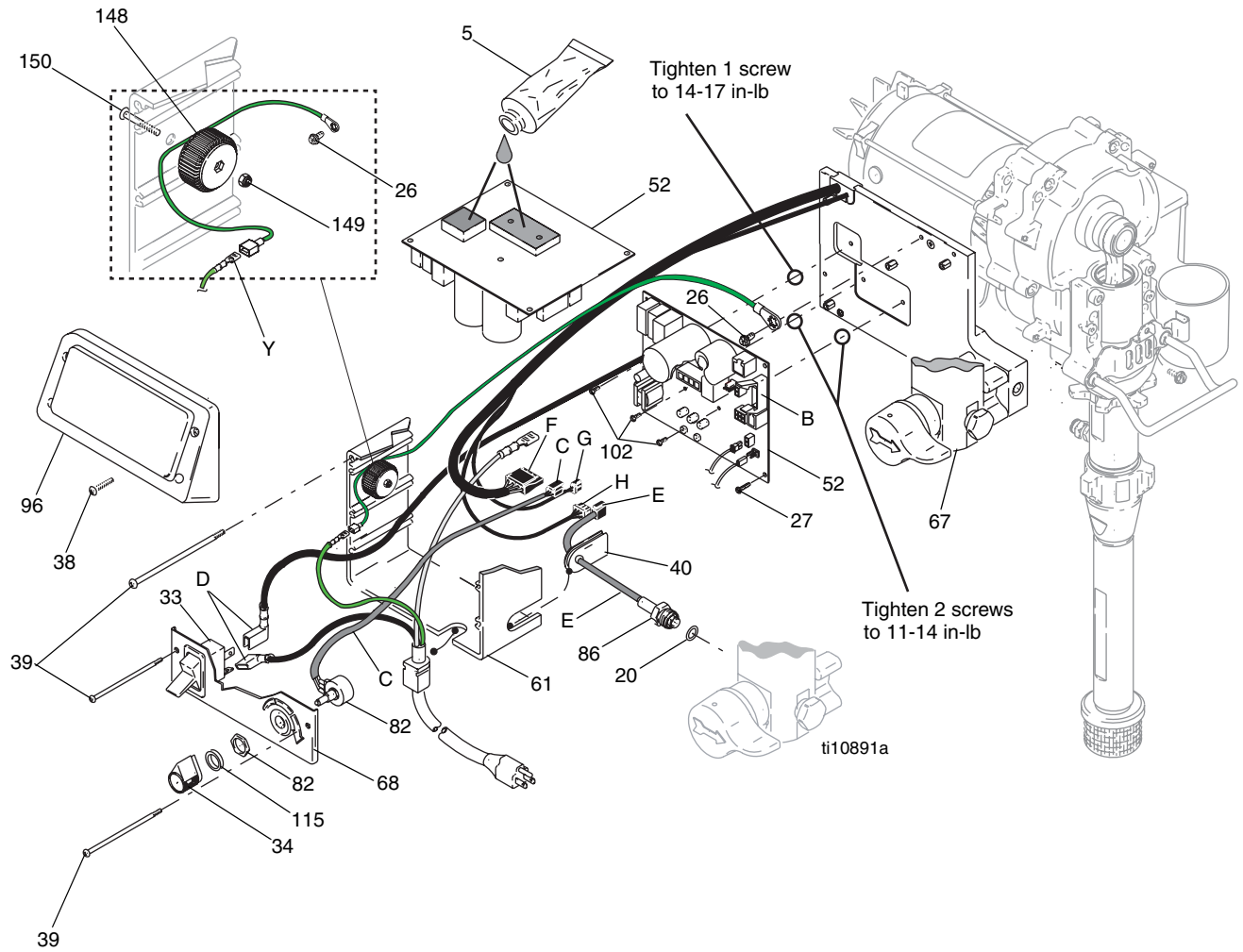
Installation

1. Apply small amount of thermal compound 110009 (5) to shaded component areas on rear of motor control board (52).

CAUTION
To reduce risk of motor control board failure, do not overtighten screws (102) which can damage the electric components.

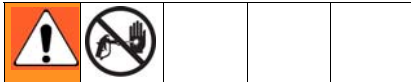
- | |
|--|
| CAUTION |
| To reduce risk of motor control board failure, do not overtighten screws (102) which can damage the electric components. |
2. Install motor control board (52) with five screws (27). Torque to 9-11 in-lb (1.02 - 1.24 N•m). Install and torque three screws (102) to values in illustration.
 3. Connect motor connectors, (F, G and H) to motor control board.
 4. Install control box (61) with top two screws (39).
 5. Install coil (148) and tighten screw (150) and nut (149). Tighten ground wire screw (26) and coil connector (Y).
 6. Connect transducer connector (E) to motor control board.
 7. Connect motor control board power lead(s) (D) to ON/OFF switch (33).
 8. Connect potentiometer connector (C) to motor control board.
 9. Install control panel (68) with two screws (39).
 10. Install cover (96) with four screws (38).

100 - 120 Vac
North American



240 Vac Motor Control Board

Removal



Relieve pressure; page 5. Wait 5 minutes before servicing.

1. Remove all four screws (38) and cover (96).
2. Remove bottom two screws (39). disconnect potentiometer connector (C) from motor control board (52). Disconnect power cord connectors (D) and filter board connectors (J) from ON/OFF switch (33) and remove control panel (68).
3. Disconnect motor control board power connectors (K) from filter board (132).
4. Remove top two screws (39) and control box (61).
5. Disconnect transducer connector (E) from motor control board.
6. Disconnect motor connectors (F, G and H) from motor control board.
7. Remove five screws (27), three screws (102) and motor control board.

Installation

1. Apply a small amount of thermal compound 110009 (5) to shaded areas on rear of motor control board (52).

CAUTION

To reduce risk of motor control board failure, do not overtighten screws (102) which can damage the electric components.
--

2. Install motor control board (52) with five screws (27). torque to 9-11 in-lb (1.02 - 1.24 N•m). Install and torque three screws (102) to values in illustration on page 15.
3. Connect motor connectors (F, G and H) to motor control board.
4. Connect transducer connector (E) to motor control board.
5. Connect motor control board power connectors (K) to filter board (132).
6. Install control box (61) with top two screws (39).
7. Connect filter board power connectors (J) and power cord connectors (D) to ON/OFF switch (33).
8. Connect potentiometer connector (C) to motor control board.
9. Install control panel (68) with two screws (39).
10. Install cover (96) with four screws (38).

240 Vac Filter Board



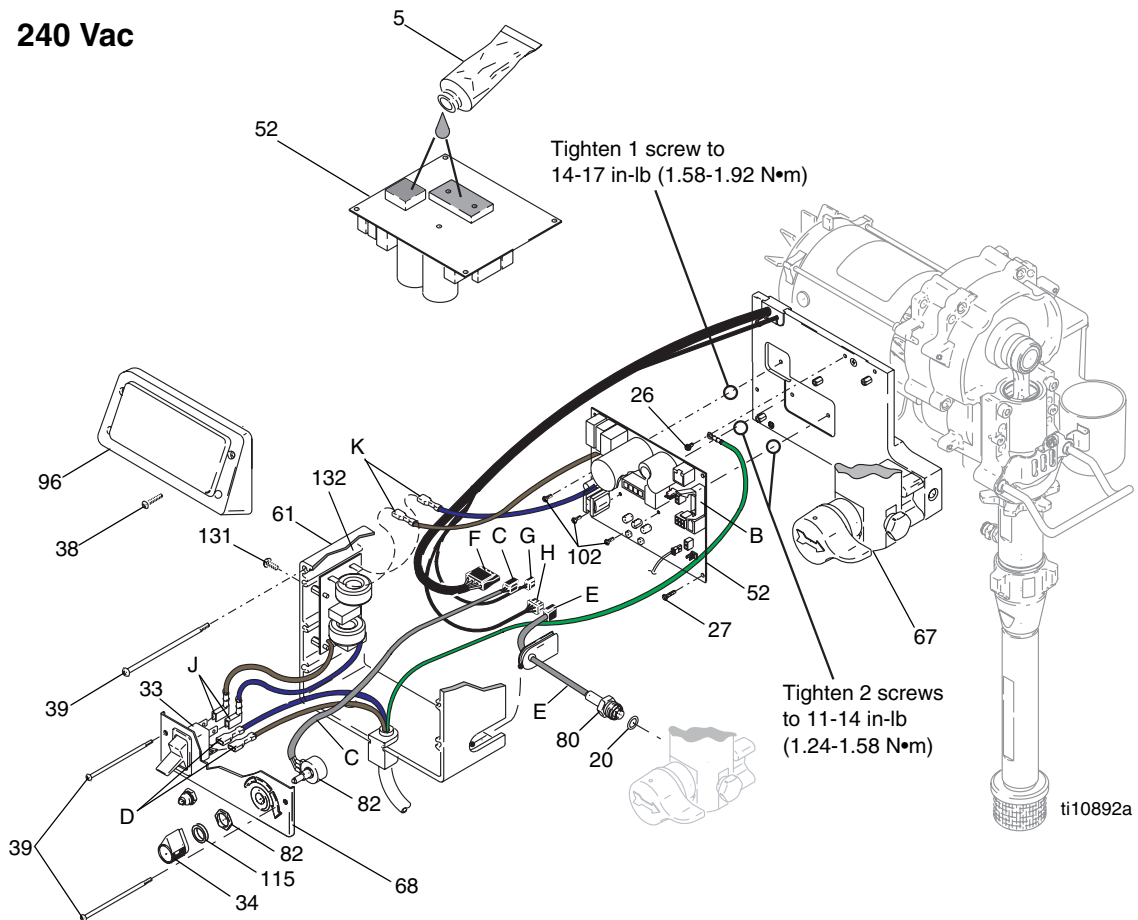
Relieve pressure; page 5.

Removal

1. Remove four screws (38) and cover (96).
2. Remove bottom two screws (39). disconnect potentiometer connector (C) from motor control board (52). Disconnect power cord connectors (D) and filter board connectors (J) from ON/OFF switch (33) and remove control panel (68).
3. Disconnect motor control board power connectors (K) from filter board (132).
4. Remove four screws (131) from filter board (132).

Installation

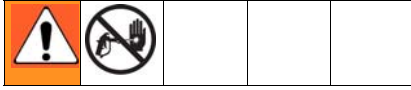
1. Install filter board (132) with four screws (131).
2. Connect motor control board power connectors (K) to filter board (132).
3. Connect filter board power connectors (J) to top two terminals of ON/OFF switch (33) and power cord connectors (D) to bottom two terminals of ON/OFF switch.
4. Connect potentiometer connector (C) to motor control board (52).
5. Install control panel (68) with two screws (39).
6. Install cover (96) with four screws (38).



110 Vac U.K. Motor Control Board

Removal

Relieve pressure; page 5.



Wait 5 minutes before servicing.

1. Remove four screws (38) and cover (96).
2. Remove bottom two screws (39).
Disconnect potentiometer connector (C) from motor control board (52). Disconnect filter board connector (J) and power cord connector (D) from ON/OFF switch (33). Remove control panel (68).
3. Disconnect motor control board power connectors (K) from filter board (132). Disconnect filter connector (L) from power cord connector (L).
4. Remove four screws (131) from filter board (132).

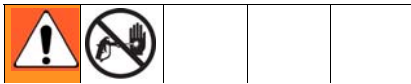
Installation

1. Connect motor control board power connectors (K) to filter board (132). Connect filter connector (L) to power cord connector (L).
2. Install filter board (132) with four screws (131).
3. Connect filter board power connector (J) and power cord connector (D) to ON/OFF switch (33).
4. Connect potentiometer connector (C) to motor control board (52).
5. Install control panel (68) with two screws (39).

110 Vac U.K. Filter Board

Removal

Relieve pressure; page 5.



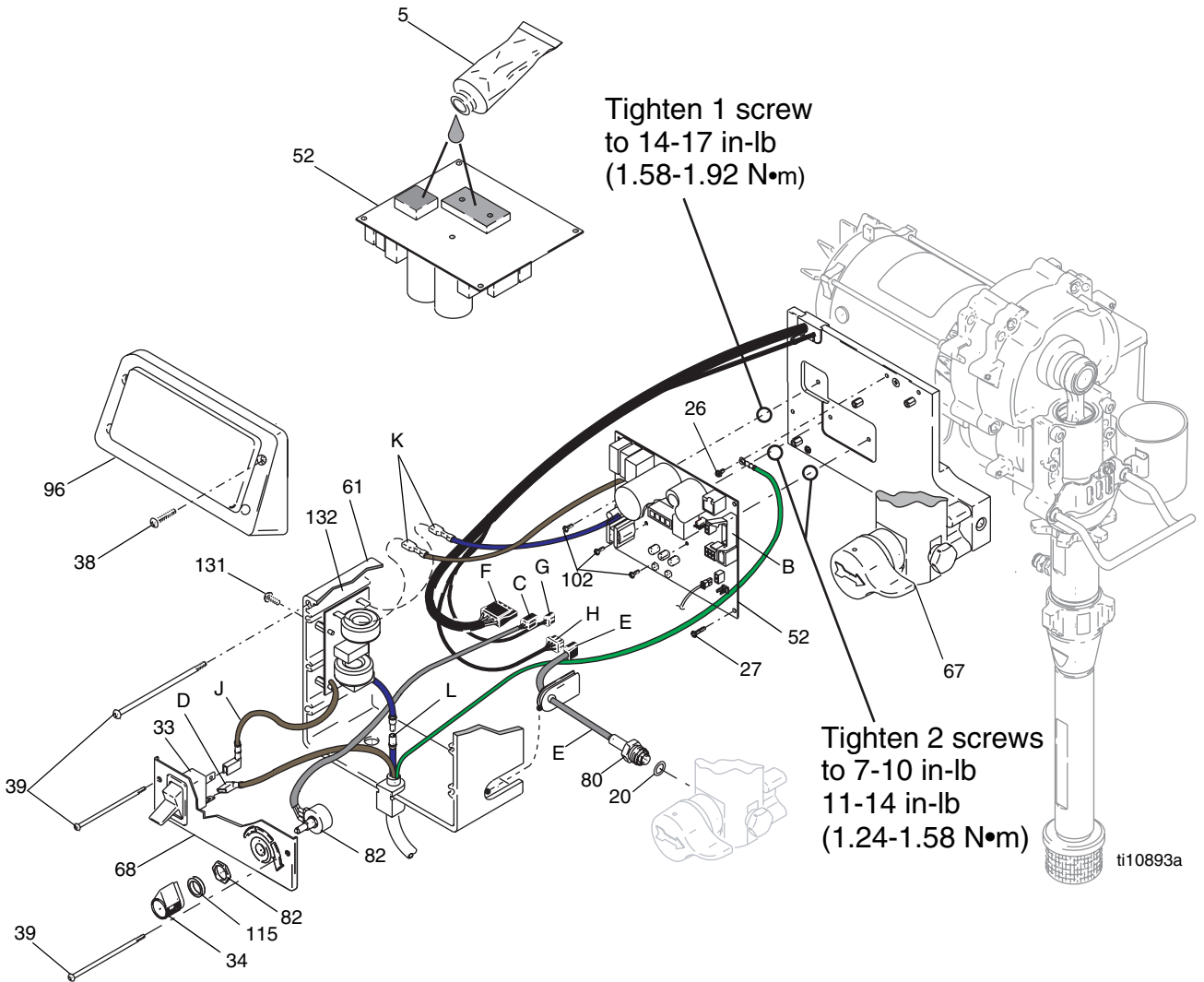
Wait 5 minutes before servicing.

1. Remove four screws (38) and cover (96).
2. Remove bottom two screws (39).
Disconnect potentiometer connector (C) from motor control board (52). Disconnect filter board connector (J) and power cord connector (D) from ON/OFF switch (33). Remove control panel (68).
3. Disconnect motor board control power connectors (K) from filter board (132). Disconnect filter connector (L) from power cord connector (L).
4. Remove four screws (131) from filter board (132).

Installation

1. Connect motor control board power connectors (K) to filter board (132). Connect filter connector (L) to power cord connector (L).
2. Install filter board (132) with four screws (131).
3. Connect filter board power connector (J) and power cord connector (D) to ON/OFF switch (33).
4. Connect potentiometer connector (C) to motor control board (52).
5. Install control panel (68) with two screws (39).
6. Install cover (96) with four screws (38).

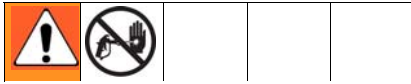
110 Vac U.K.



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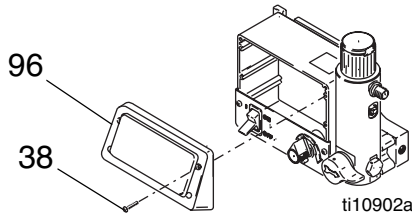
Pressure Adjust Potentiometer

Removal

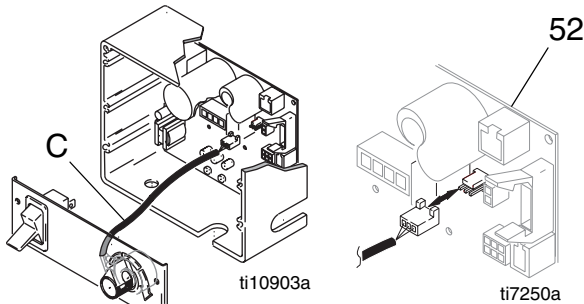


Relieve pressure; page 5. Wait 5 minutes before servicing.

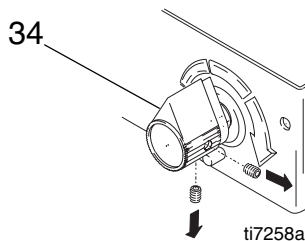
1. Remove four screws (38) and cover (96).



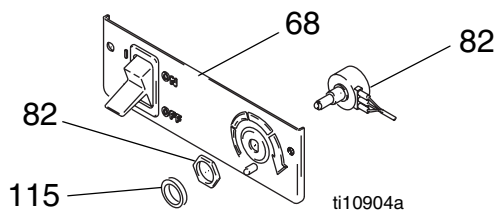
2. Disconnect potentiometer connector (C) from motor control board (52).



3. Remove pressure control knob (34) with a hex wrench.

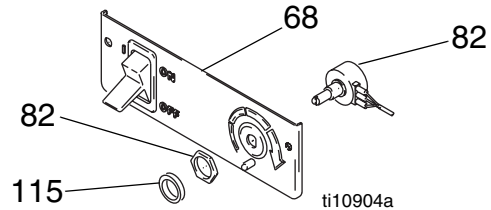


4. Remove gasket (115), nut and potentiometer (82) from control panel (68).

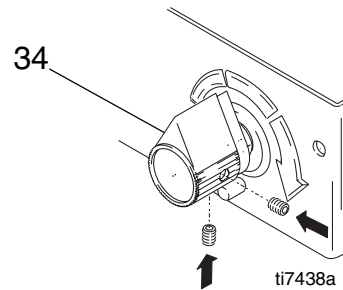


Installation

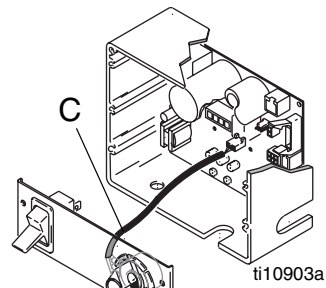
1. Install gasket (115), nut and potentiometer (82) on control panel (68). Torque nut to 30-35 in-lb (3.38 - 3.95 N•m).



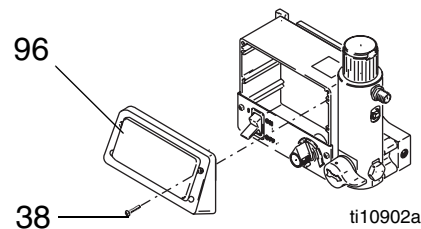
2. Install pressure control knob (34): Check pressure control knob alignment to potentiometer shaft. Turn shaft fully clockwise and attach knob in full ON position with a hex wrench.



3. Connect potentiometer connector (C) to motor control board.



4. Install cover (96) with four screws (38).



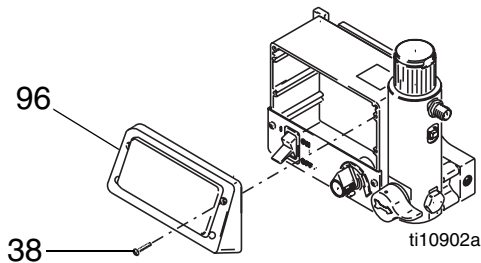
Pressure Control Transducer

Removal

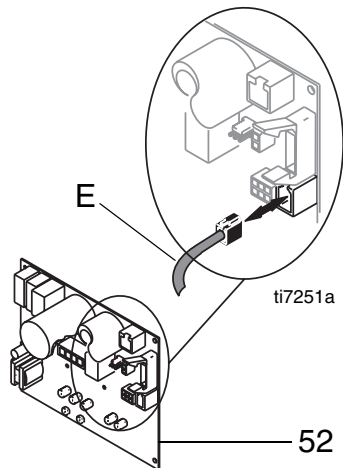


Relieve pressure; page 5. Wait 5 minutes before servicing.

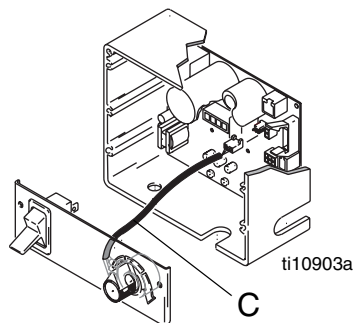
1. Remove four screws (38) and cover (96).



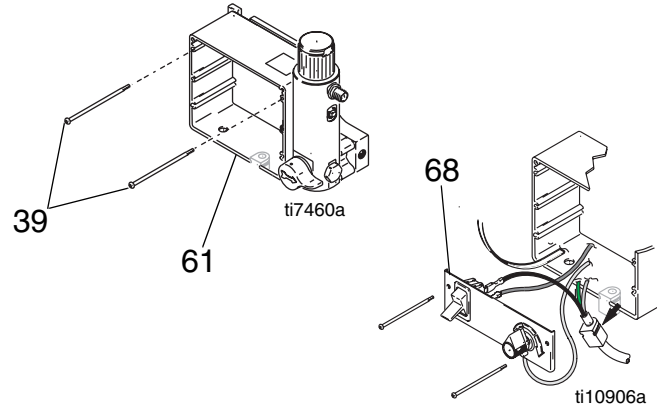
2. Disconnect transducer connector (E) from motor control board (52).



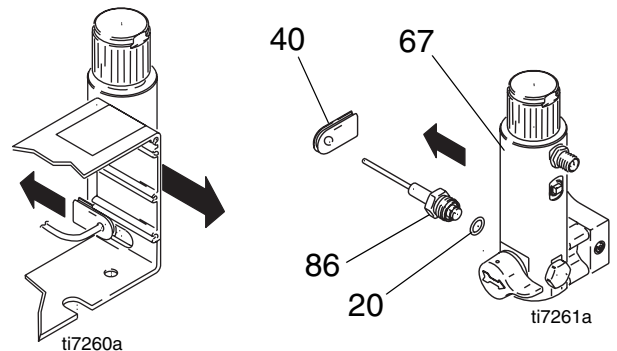
3. Disconnect potentiometer connector (C) from motor control board.



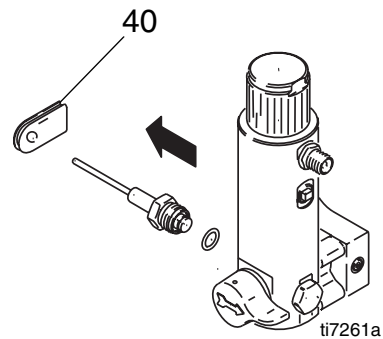
4. Remove four screws (39) and control box (61). Allow control panel (68) to hang down freely.



5. Remove grommet (40) from control box then remove transducer (86) and o-ring (20) from filter base (67).

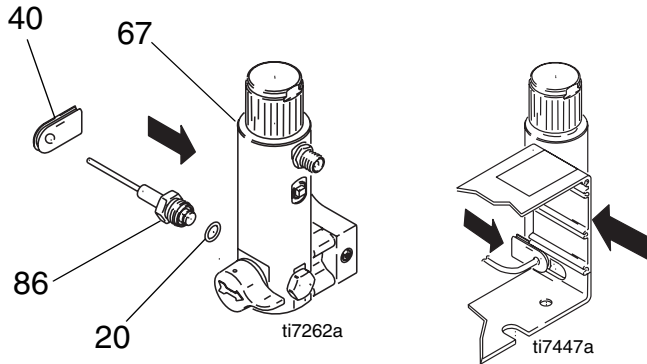


6. Remove grommet (40) from transducer and save for reuse.

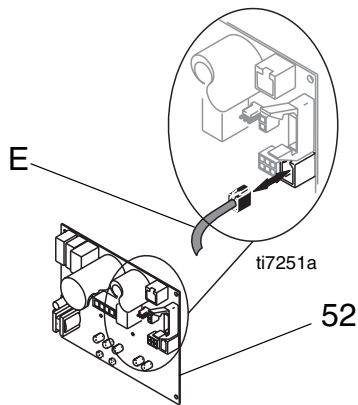


Installation

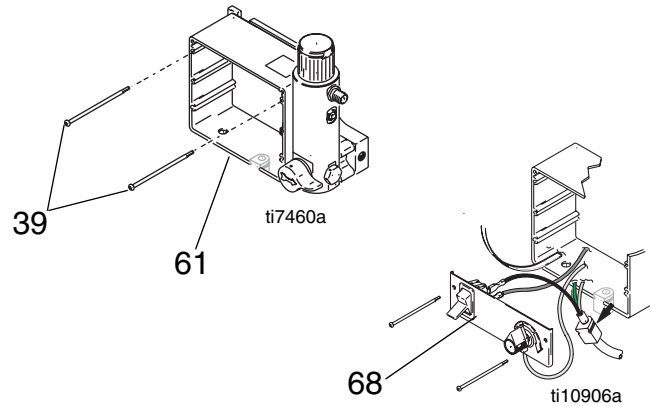
1. Install o-ring (20) and transducer (86) into filter base (67). Torque to 35-45 ft-lb (47-61 N•m). Install grommet (40) onto transducer (86) and into control box.



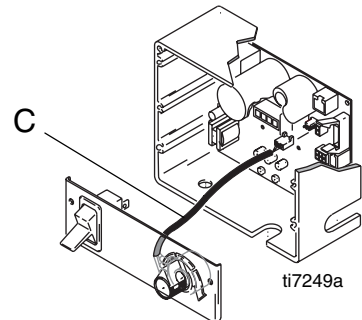
2. Connect transducer connector (E) to motor control board (52).



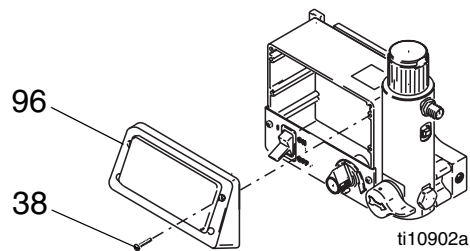
3. Install control box (61) and control panel (68) with four screws (39).



4. Connect potentiometer connector (C) to motor control board.



5. Install cover (96) with four screws (38).



Notes



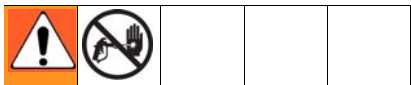
A series of horizontal lines forming a ruled writing area for notes.

Drive and Bearing Housing Replacement

CAUTION

Do not drop gear cluster (89) when removing drive housing (90). Gear cluster may stay engaged in motor front end bell or drive housing.

Disassembly



Relieve pressure; page 5.

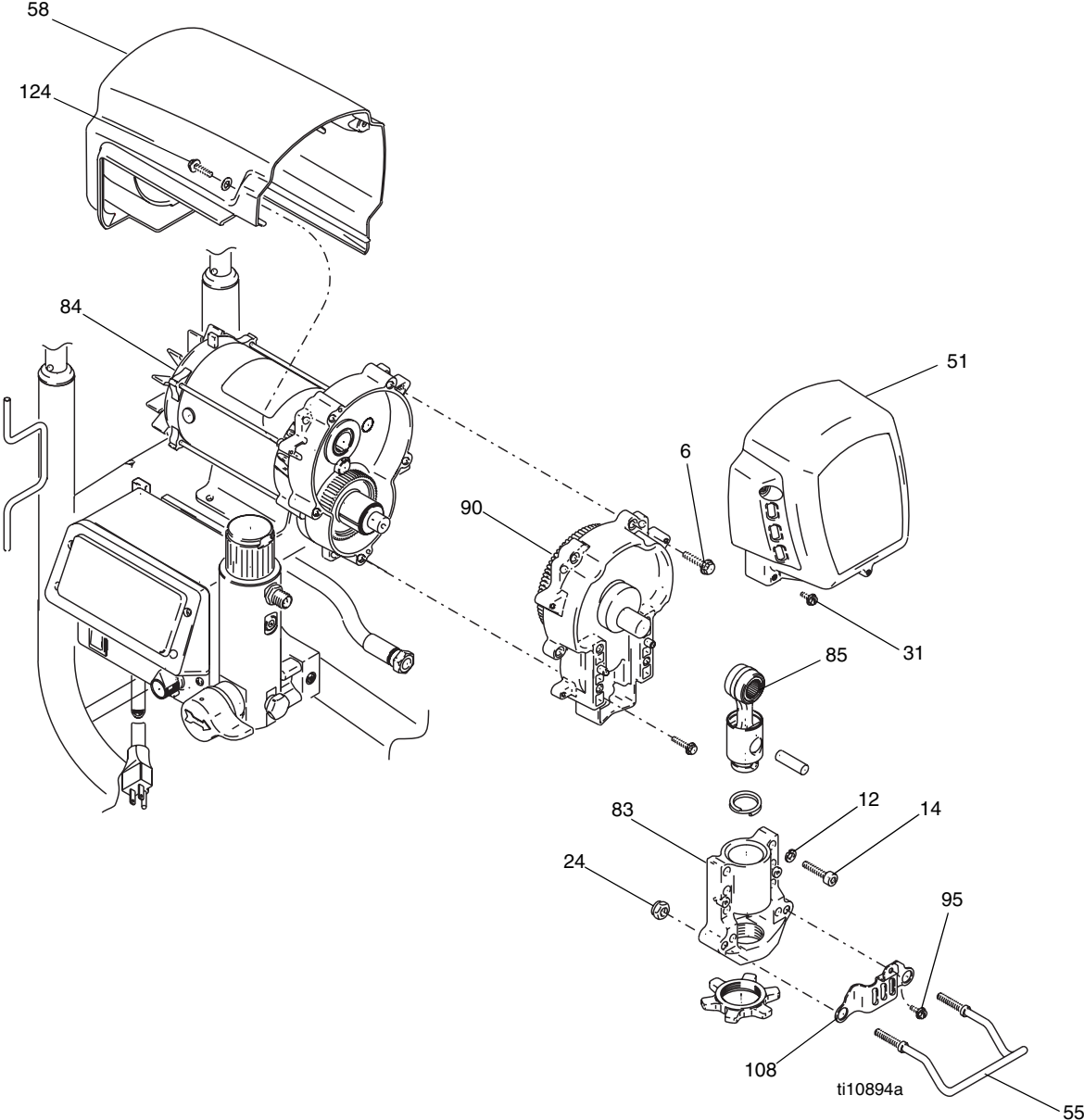
1. Remove screw (95), two nuts (24), pail hanger (55) and pump rod cover (108).
2. Remove pump (91); see **Displacement Pump Replacement**, page 26.
3. Remove two screws (124) and shroud (58).
4. Remove four screws (31) and front cover (51).
5. Remove four screws (14) and washers (12) to remove bearing housing (83) and connecting rod (85).
6. Remove five screws (6) and pull drive housing (90) off motor (84).

Assembly

Make sure gear (89) and thrust washers (28, 30, 90a, 36; see page 29) are in place. Brush grease onto gear teeth.

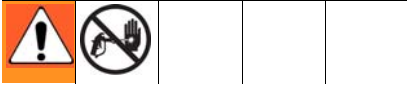
1. Push drive housing (90) onto motor (84) and install with five screws (6). Torque to 190-210 in-lb (21-23 N•m).
2. Install bearing housing (83) with four screws (14) and washers (12). Torque to 25-30 ft-lb (34-40 N•m).
3. Install front cover (51) with four screws (31).
4. Install shroud (58) with two screws (124).
5. Install pump (91); see **Displacement Pump Replacement**, page 26.
6. Install pump rod cover (108) and pail hanger (55) with screw (95) and two nuts (24).

Drive and Bearing Housing



Motor Replacement

Removal



Relieve pressure; page 5.

1. Remove pump (91); see **Displacement Pump Replacement**, page 26.

CAUTION

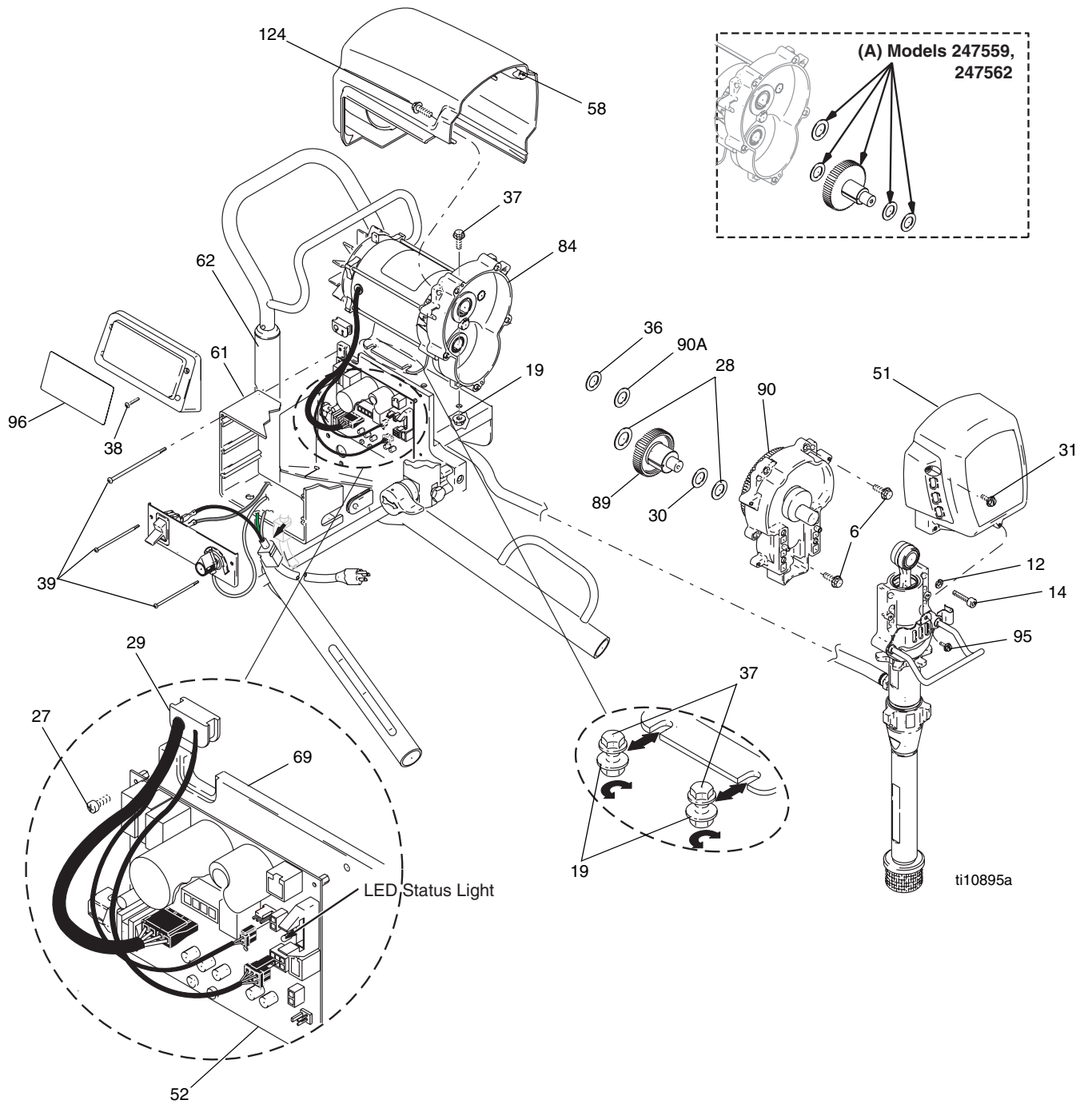
Do not drop gear cluster (89) when removing drive housing (90). Gear cluster may stay engaged in motor front end bell or drive housing.

2. Remove drive housing (90); see **Drive Housing Replacement**, page 22.
3. Remove four screws (38) and control cover (96).
4. Remove bottom two screws (39) and allow control panel (68) to hang down freely.
5. Disconnect all three motor connectors from motor control board (52).
6. Remove top two screws (39) and control housing (61).
7. Remove strain relief (29) from motor wires and power bar plate (69).
8. Remove two screws (37) and nuts (19) on side opposite control.
9. Loosen two nuts (19) on side near control and remove motor (84) from cart frame (62).

Installation

1. Slide new motor (84) under two screws (37) in cart frame (62) near control.
2. Install two screws (37) and nuts (19) on motor side opposite control.
3. Tighten all four screws (37) and nuts (19). torque nuts to 115-135 in-lb (13-15 N•m).
4. Install strain relief (29) onto motor wires and into power bar plate (69).
5. Install control housing (61) with top two screws (39).
6. Connect all three motor connectors to motor control board (52).
7. Install control panel (68) with two screws (39).
8. Install control cover (96) with four screws (38).
9. Install drive housing (90); see **Drive Housing Replacement**, page 22.
10. Install pump (91); see **Displacement Pump Replacement**, page 26.

Motor



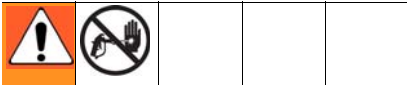
Displacement Pump Replacement

See pump manual 310643 for pump repair instructions.

See Parts List for applicable sprayer part number references.

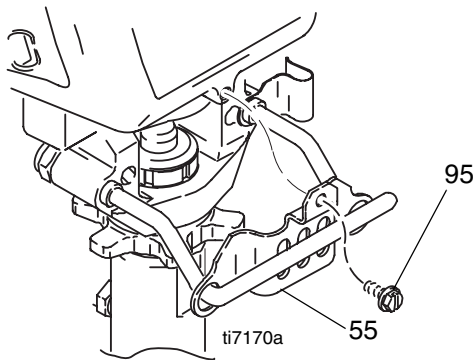
Removal

1. Flush pump.



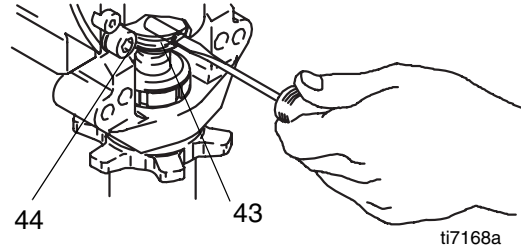
Relieve pressure; page 5.

2. Remove screw (95) and slide pump rod shield (55) forward.

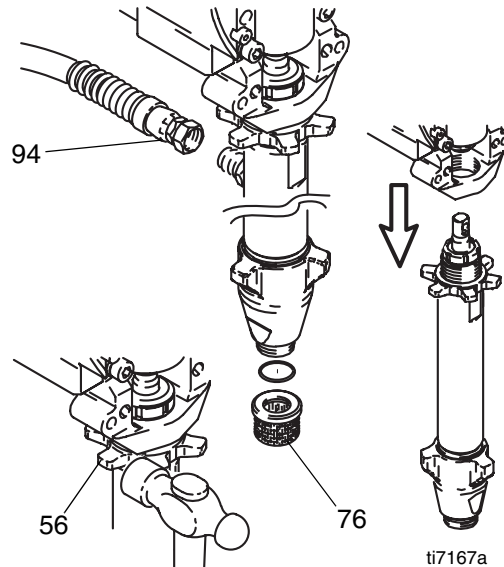


3. Cycle pump in JOG mode until pump pin (44) is in position to be removed. Turn power switch OFF and unplug power cord.

Push up retaining ring (43) and push pump pin (44) out.



4. Remove suction tube (76), hose (94) and any washers and o-rings.
5. Loosen pump jam nut (56). Unscrew pump.



Installation



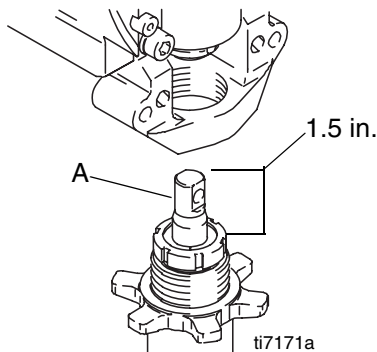
WARNING

If pump pin works loose, parts could break off due to force of pumping action. Parts could project through the air and result in serious injury or property damage.

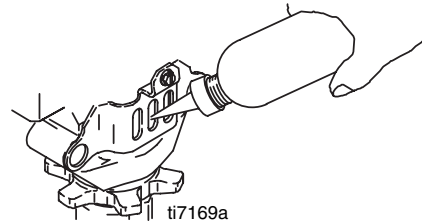
CAUTION

If the pump jam nut loosens during operation, the threads of the drive housing will be damaged.

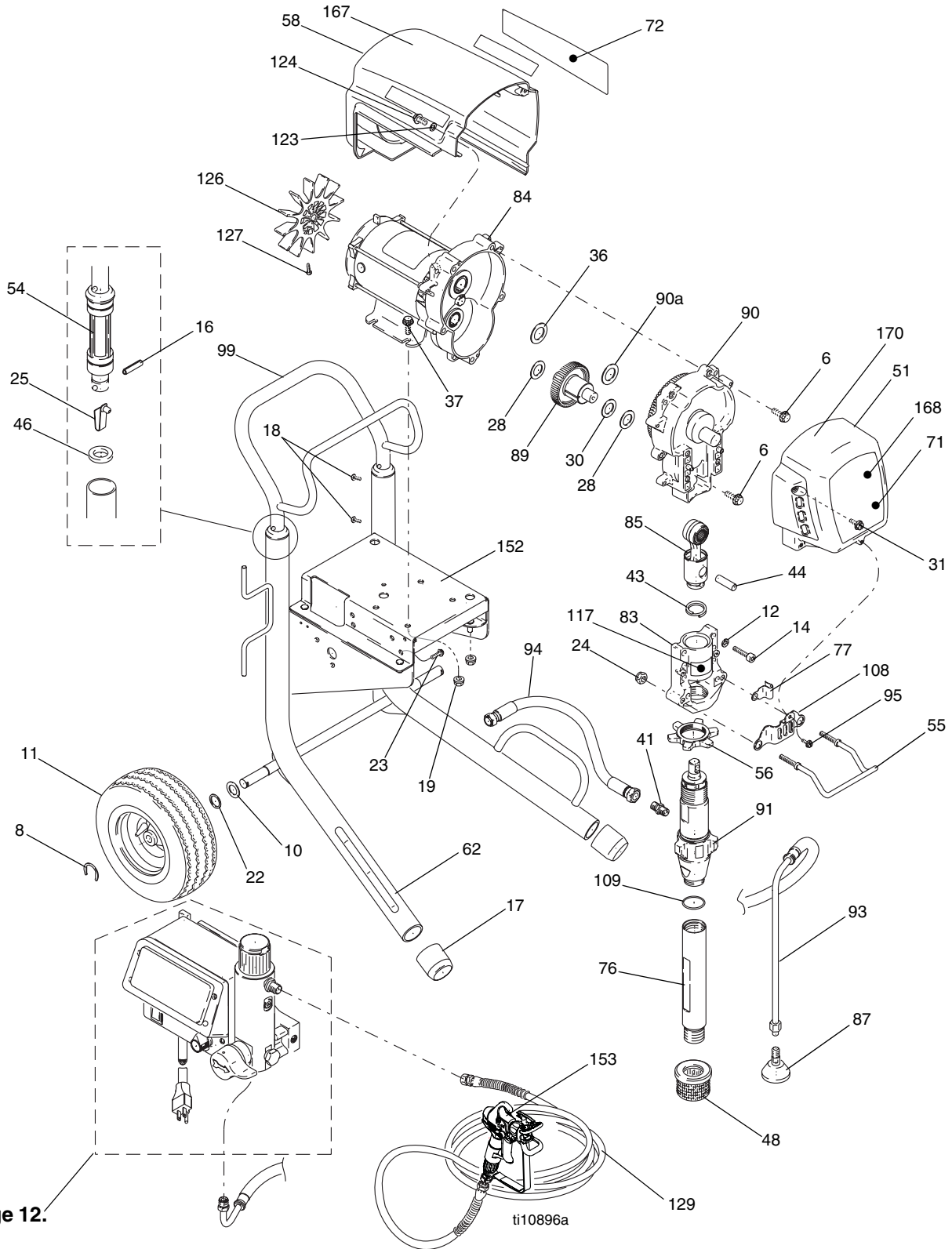
1. Extend pump piston rod 1.5 in. Apply grease to top of pump rod at (A) or inside connecting rod.



2. Install pump pin (44). Verify retaining spring (43) is in groove of connecting rod (85).
3. Push pump up until pump threads engage.
4. Screw in pump until threads are flush with drive housing opening. Align pump outlet to back.
5. Install washers, o-rings and suction tube (76) and hose (94).
6. Screw jam nut (56) up onto pump until nut stops. Tighten jam nut by hand, then tap 1/8 to 1/4 turn with a 20 oz (maximum) hammer to approximately 75 ± 5 ft-lb (102 N•m).
7. Install pump rod shield (55) with screw (95).
8. Fill packing nut with ASM Packing Seal until fluid flows onto top of seal.



Parts



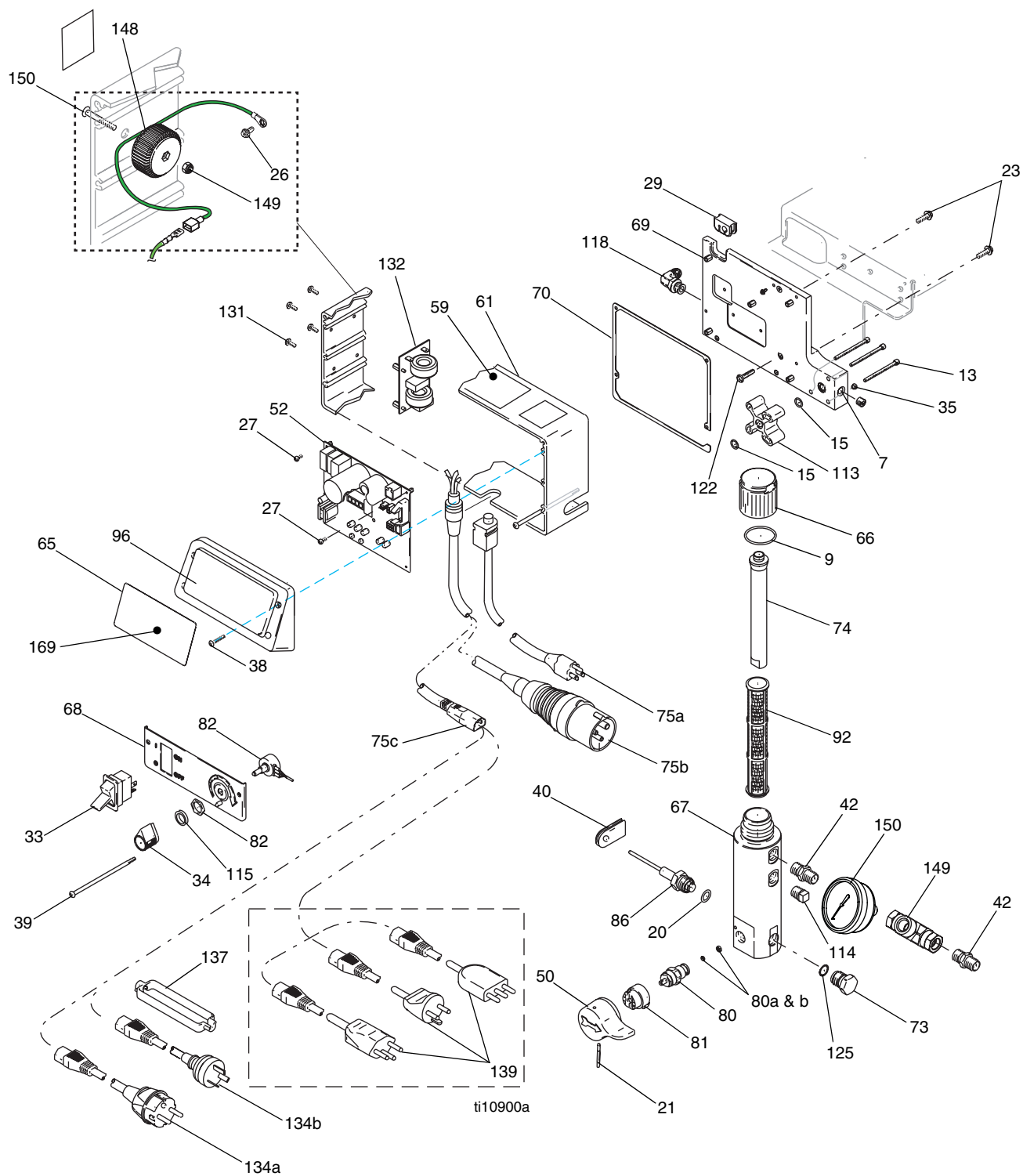
Parts List

Ref.	Part No.	Description	Qty	Ref.	Part No.	Description	Qty
6	15C753	SCREW, mach, torx, hex	5	83	246709	HOUSING, bearing (includes 55, 24)	1
8	15E891	CLIP, retaining	2	84		MOTOR, electric	
10	156306	WASHER, flat	2		289579	Models: 247558, 247561, 247564	1
11*		WHEEL, pneumatic			289580	Models: 247563, 247565	1
	119420	Models: 247558, 247559, 247561, 247562, 247565	2		289581	Models: 247559, 247562	1
	121296	Models: 247563, 247564	2	85	241008	ROD, connecting (includes 43)	1
12	106115	WASH, lock, spring	4	87		DEFLECTOR, threaded	
14	110141	SCREW, cap, socket hd	4		241920	Models: 247558, 247559, 247561, 247562, 247565	1
16	101354	PIN, spring, straight	2		287614	Models: 247563, 247564	1
17		CAP, leg		89	287289	GEAR, combination; includes 28, 30	1
	15C871	Models: 247558, 247559, 247561, 247562, 247565	2	90		HOUSING, drive, M1; includes 6, 36, 90a	
	277091	Models: 247563, 247564	2		287283	Models: 247558, 247561, 247563, 247564, 247565	1
18	109032	SCREW, mach, pnh	4		287284	Models: 247559, 247562	1
19	110996	NUT, hex, flanged	8	90a	107089	WASHER, race, thrust	1
22	116038	WASHER, wave spring	2	91	248204	PUMP, displacement (includes 109)	1
23	110963	SCREW, cap, flng hd	2	93		HOSE, return line (includes 87)	
24	112746	NUT, hex	2		244240	Models: 247558, 247559, 247561, 247562, 247565	1
25	112827	BUTTON, snap	2		287668	Models: 247563, 247564	1
28	114672	WASHER, thrust	2	94	15R559	HOSE, coupled, 1/4 x 15.75	1
30	114699	WASHER, thrust	1	95	114000	SCREW, control housing	1
31	118444	SCREW, machine, hex washer hd	4	99	245245	HANDLE, cart	1
36	116191	WASHER, thrust	1	108	15C859	SHIELD, pump rod	1
37	100057	SCREW, cap, hex hd	4	109	118494	PACKING, o-ring	1
41	162453	FITTING, (1/4 NPSM x 1/4 NPT)	1	117	187437	LABEL, torque	1
43	176817	SPRING, retaining	1	123	276980	GROMMET, cover	2
44	176818	PIN, str, hdls	1	124	119 250	SCREW, shoulder, hex, washer	2
46	183350	WASHER	2	126	15D088	FAN, motor	1
48	189920	STRAINER, (1-11 1/2 NPSM)	1	127	115477	SCREW, mach, torx, pan, hd	1
51	277185	COVER, drive, plastic	1	128▲	222385	TAG, WARNING (not shown)	1
54	192027	SLEEVE, cart	2	129	HSE1450	HOSE, cpld, 1/4 in. x 50 ft.	1
55	192719	HANGER, pail	1			Models: 247558, 247559, 247561, 247562, 247563, 247564, 247565	
56	192723	NUT, retaining	1	153	289316	GUN, contractor	1
58		SHIELD, motor, painted	1			Models: 247558, 247559, 247561, 247562, 247563, 247564, 247565	
	276928	Models: 247558, 247561, 247563, 247564, 247565	1			Models: 247558, 247559, 247561, 247562, 247563, 247564, 247565	
	276931	Models: 247559, 247562	1			Models: 247558, 247559, 247561, 247562, 247563, 247564, 247565	
62	288605	FRAME, cart	1	152	288899	SHELF, PEM assembly	1
71		LABEL, front		167	15R611	LABEL, shroud, top	1
	15R257	Models: 247558, 247565	1			Models: 247563, 247564	
	15R259	Model: 247559	1	168	15R612	LABEL, front	1
	15R226	Model: 247561	1			Models: 247563, 247564	
	15R228	Model: 247562	1	170	15R617	LABEL, crown	1
72		LABEL, side				Models: 247563, 247564	
	15R258	Models: 247558, 247565	1			Models: 247563, 247564	
	15R260	Model: 247559	1			Models: 247563, 247564	
	15R227	Model: 247561	1			Models: 247563, 247564	
	15R229	Model: 247562	1			Models: 247563, 247564	
	15R416	Models: 247563, 247564	1			Models: 247563, 247564	
76	248214	TUBE, intake (includes 109)	1				
77	197124	CLIP, spring	1				
79	245651	FLUID, starter kit (not shown)	1				

▲ Extra Danger and Warning tags and labels available free.

* 253132 KIT, repair, tube

Parts



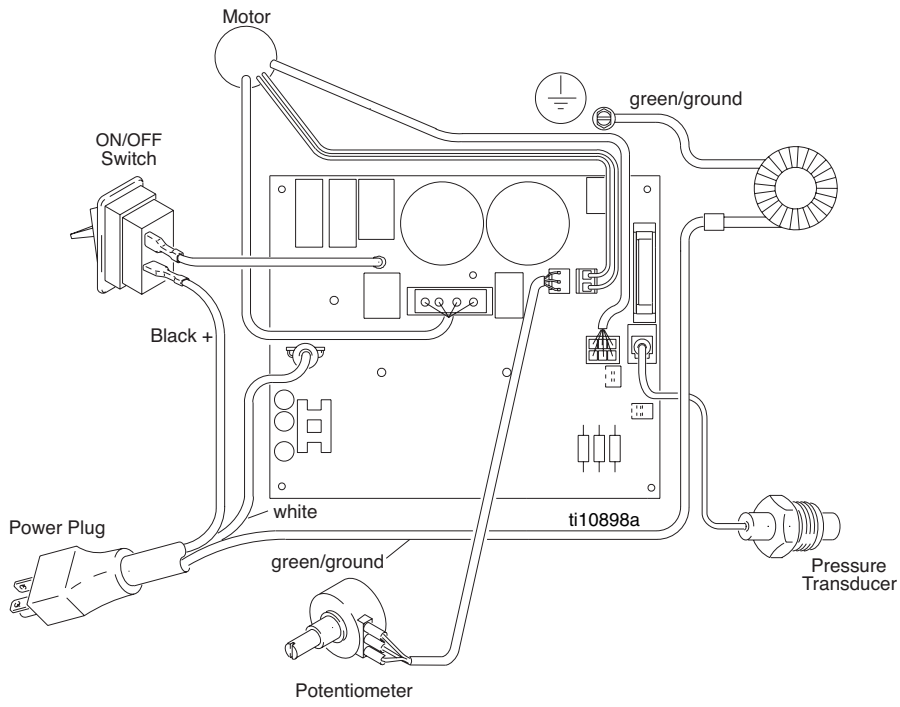
Parts List

Ref No.	Part No.	Description	Qty	Ref No.	Part No.	Description	Qty
7	100721	PLUG, pipe	1	67	15C838	BASE, filter	1
9	117285	PACKING, o-ring	1	68	15C947	PANEL, control	1
13	C19817	SCREW, cap, socket	3	69	15C840	PLATE, power bar	1
15	107505	PACKING, o-ring	2	70	15D036	GASKET, control box	1
20	111457	PACKING, o-ring	2	73	248314	PLUG, Autoclean (includes 125)	1
21	15C972	PIN, grooved	1	74	15C766	TUBE, diffusion	1
23	110963	SCREW, cap, flng	2	75		CORD, power	
26	114391	SCREW, grounding	1	75a	15H064	Models: 247558, 247559, 247561, 247562	1
27	113045	SCREW, sems, mach, phillips	5	75b	15D530	Model: 247564	1
29	15D087	GROMMET	1	75c	15D529	Models: 247563, 247565	1
33		SWITCH, rocker		80	235014	VALVE, prime (includes 80a, 80b)	1
	15C979	Models: 247558, 247559, 247561, 247562, 247564	1	80a	277364	GASKET, seat, valve	
	15D527	Models: 247563, 247565	1	80b	15E022	SEAT, valve	
34		KNOB, potentiometer		81	224807	BASE, valve	1
	116167	Models: 247558, 247559, 247561, 247562, 247565	1	82	236352	POTENTIOMETER, adjustment	1
	15F537	Models: 247563, 247564	1	86	244984	TRANSDUCER, pressure control (includes 20)	1
35	105510	WASHER, lock, spring	3	92		FILTER, fluid	1
38	116252	SCREW, #10 taptite phillips	4		244071	30 mesh	1
39	112381	SCREW, mach, pan hd	4		244067	60 mesh, original equipment	1
40	15D033	GROMMET, transducer	1		244068	100 mesh	1
42	164672	NIPPLE, adapter	1		244069	200 mesh	
47	186620	LABEL, symbol, ground	1	96	277110	COVER, control	1
50		HANDLE		101	15D160	STUD, board	5
	15C780	Models: 247558, 247559, 247561, 247562, 247565	1	102	114420	SCREW, mach, pmh, sems	1
	15F536	Models: 247563, 247564	1	113	15F844	SPACER, manifold	1
52		CONTROL, board (includes 27, 102)		114	104813	PLUG, pipe	1
	289577	Models: 247558, 247559, 247561, 247562, 247564	1	115	15C973	GASKET	1
	289578	Models: 247563, 247565	1	118	116793	FITTING, hydraulic	1
59▲		LABEL, warning		122	115478	SCREW, mach torx/slt	1
	15D523	Models: 247558, 247559, 247561, 247562	1	125	15D541	SEAL, washer	1
	243301	Models: 247563, 247564, 247565	1	132		FILTER, board	
60▲		LABEL, warning			248219	Model: 247564	1
	195833	Models: 247558, 247559, 247561, 247562	1		248220	Models: 247563, 247565	1
	195792	Model: 247565	1	134		CORD SET, adapter	
	195793	Models: 247563, 247564	1	134a	242001	Model: 247563	1
61		BOX, control		134b	242005	Model: 247565	1
	15G953	Models: 247558, 247559, 247561, 247562	1	137		RETAINER, plug, adapter	
	15D431	Models: 247563, 247564, 247565	1		195551	Models: 247563, 247565	1
65		LABEL, ctrl, box cover		139		CORD SET, Italy, Denmark, Switzerland	
	15R261	Models: 247558, 247559, 247565	1		287121	Model: 247563	1
	15R239	Models: 247561, 247562	1	148	287943	KIT, repair, coil (includes Nut & Screw)	1
66	287285	CAP, filter (includes 9, 74)	1	169	15F506	LABEL, side, control (Models: 247563, 247564)	1

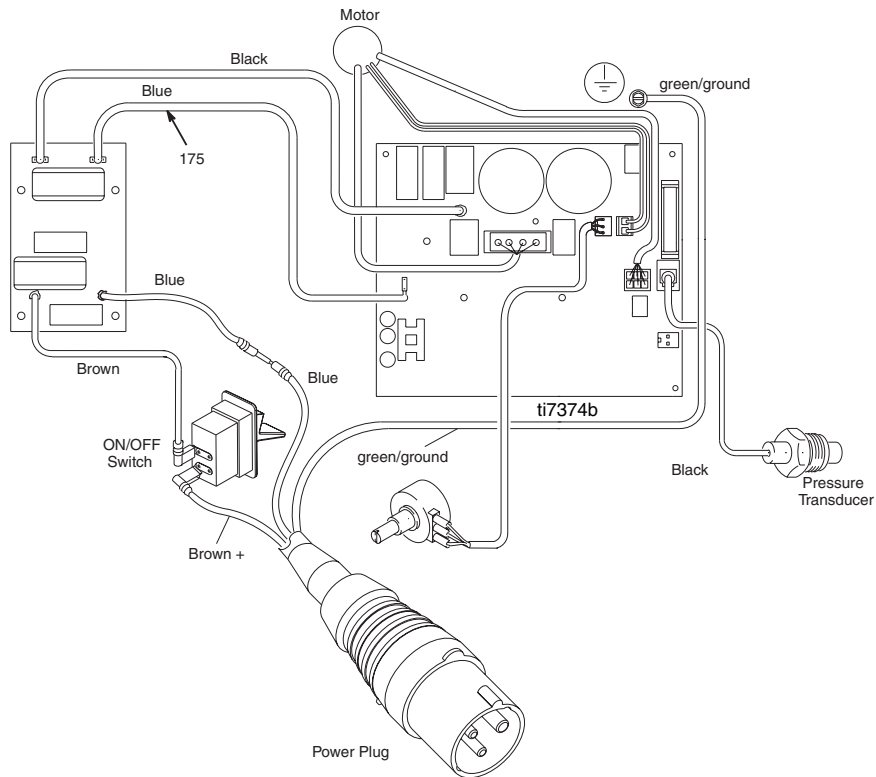
▲ Extra Danger and Warning tags and labels available free.

Wiring Diagram

Models: 247558, 247559, 247561, 247562

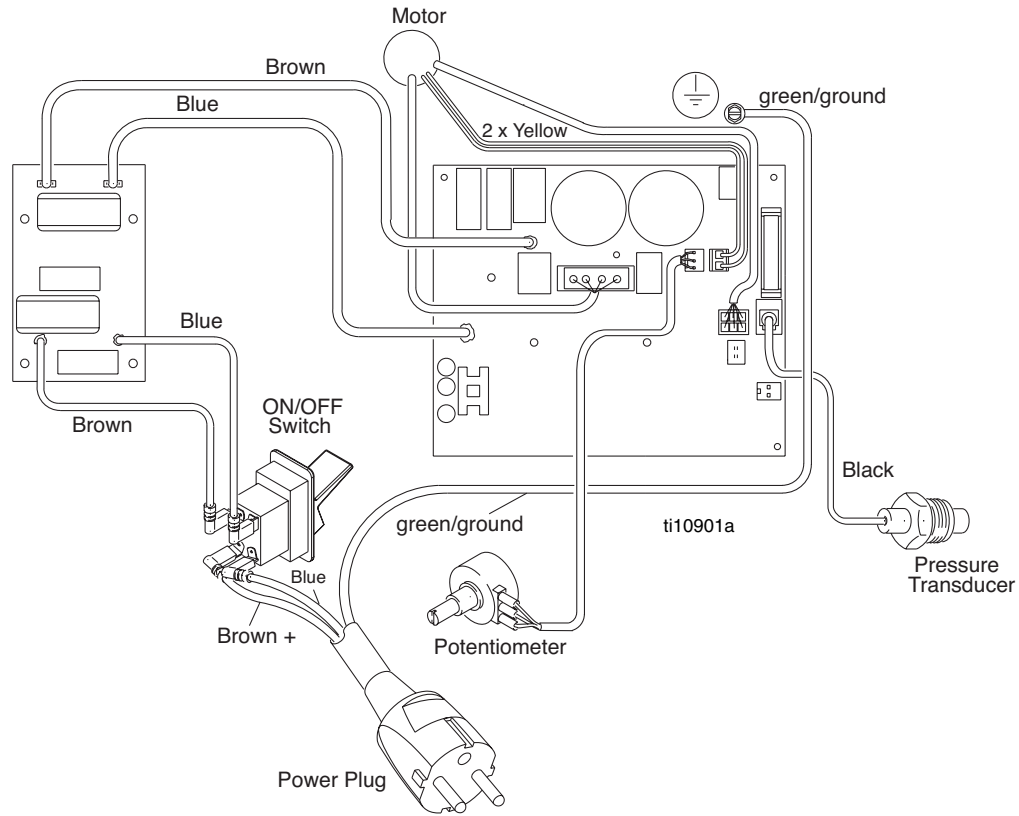


Model: 247564



Wiring Diagram

Model: 247563, 247565



Technical Data

Power requirements	100/120V AC, 50/60 hz, 14.9 A, 1 phase
(247558, 247561, 247563, 247564, 247565)	220-240V AC, 50/60 hz, 8.4 A, 1 phase
Generator required	5000 w minimum
Motor HP (W)	1.75 (1300)
Maximum working pressure	3300 psi (22.7 MPa, 227 bar)
Cycles per gallon (liter)	243 (64)
Maximum delivery gpm (lpm)	0.86 (3.3)
Maximum tip size	0.027
Fluid outlet npsm	1/4 in.
Weight	94 lb (43 kg)
Weight (with gauge)	95 lb (43.4 kg)

Power requirements	100-120V AC, 50/60 hz, 15.7 A, 1 phase
(247559, 247562)	220-240V AC, 50/60 hz, 10.8 A, 1 phase
Generator required	5000 w minimum
Motor HP (W)	2.00 (1490)
Maximum working pressure	3300 psi (22.7 MPa, 227 bar)
Cycles per gallon (liter)	195 (52)
Maximum delivery gpm (lpm)	1.10 (4.2)
Maximum tip size	0.031
Fluid outlet npsm	1/4 in.
Weight	98 lb (45 kg)

Dimensions

(247558, 247559, 247561, 247562, 247563, 247564, 247565)

Length	26.5 in. (67.3 cm)
Width	22.5 in. (57.2 cm)
Height (Handle down)	28.5 in. (72.4 cm)
Height (Handle up)	38.75 in. (98.4 cm)

Wetted parts zinc and nickel-plated carbon steel, nylon, stainless steel, PTFE, Acetal, leather, UHMWPE, aluminum, tungsten carbide

Noise level*

Sound power (ISO 3744)	91 dBa*
Sound pressure (ISO 3744)	82 dBa*

*Measured 3 feet (1 meter) from equipment.

ASM Standard Warranty

ASM warrants all equipment referenced in this document which is manufactured by ASM and bearing its name to be free from defects in material and workmanship on the date of sale by an authorized ASM distributor to the original purchaser for use. With the exception of any special, extended, or limited warranty published by ASM, ASM will, for a period of twelve months from the date of sale, repair or replace any part of the equipment determined by ASM to be defective. This warranty applies only when the equipment is installed, operated and maintained in accordance with ASM's written recommendations.

This warranty does not cover, and ASM 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-ASM component parts. Nor shall ASM be liable for malfunction, damage or wear caused by the incompatibility of ASM equipment with structures, accessories, equipment or materials not supplied by ASM, or the improper design, manufacture, installation, operation or maintenance of structures, accessories, equipment or materials not supplied by ASM.

This warranty is conditioned upon the prepaid return of the equipment claimed to be defective to an authorized ASM distributor for verification of the claimed defect. If the claimed defect is verified, ASM 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.

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ASM'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.

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In no event will ASM be liable for indirect, incidental, special or consequential damages resulting from ASM 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 ASM, or otherwise.

FOR ASM BRAZILIAN/CANADIAN/COLUMBIAN CUSTOMERS

The Parties acknowledge that they have required that the present document, as well as all documents, notices and legal proceedings entered into, given or instituted pursuant hereto or relating directly or indirectly hereto, be drawn up in English.

TO PLACE AN ORDER OR FOR SERVICE, contact your ASM distributor,
or call 1-800-854-4025 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.
ASM reserves the right to make changes at any time without notice.*

MM 312537

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ASM Company, 3500 N. 1st Avenue, Sioux Falls, SD 57104
www.asmcompany.com
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