Parts

INSTRUCTIONS-REPAIR

308842

Rev. H

KEEP FOR REFERENCE.
Read this and all related manuals for important warnings and instructions.

INSTRUCTIONS

GRACO

First choice when quality counts.™

ULTRA®*MAX* 795 and 1095 Airless Paint Sprayers

3000 psi (210 bar, 21 MPa) Maximum Working Pressure

230 VAC CE

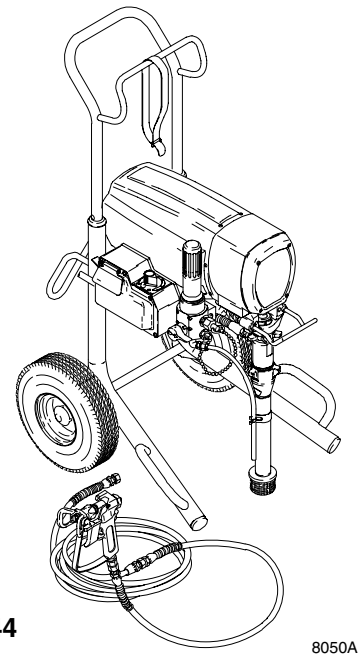
Model	Series	Description
232144	A	Ultra Max 795 Hi-boy with RAC IV tip, gun and hose
232145	A	Ultra Max 795 Lo-boy with RAC IV tip, gun and hose
232154	A	Ultra Max 1095 Hi-boy with RAC IV tip, gun and hose

110 VAC CE

Model	Series	Description
232148	A	Ultra Max 795 Hi-boy with RAC IV tip, gun and hose
232158	A	Ultra Max 1095 Hi-boy with RAC IV tip, gun and hose

100 VAC

Model	Series	Description
232156	A	Ultra Max 1095 Hi-boy
232157	A	Ultra Max 1095 Lo-boy



Model 232144

8050A

All models are not available in all countries

U.S. PATENT NO. 4,323,741; 4,397,610 PATENTED 1983, CANADA AND OTHER PATENTS PENDING

Related Manuals

Operator 308840
Displacement Pump 308798
Spray Gun 307614
Spray Tip 308644
PC Board 308816

Table of Contents

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

Graco Inc. is registered to I.S. EN ISO 9001

Component Identification and Function

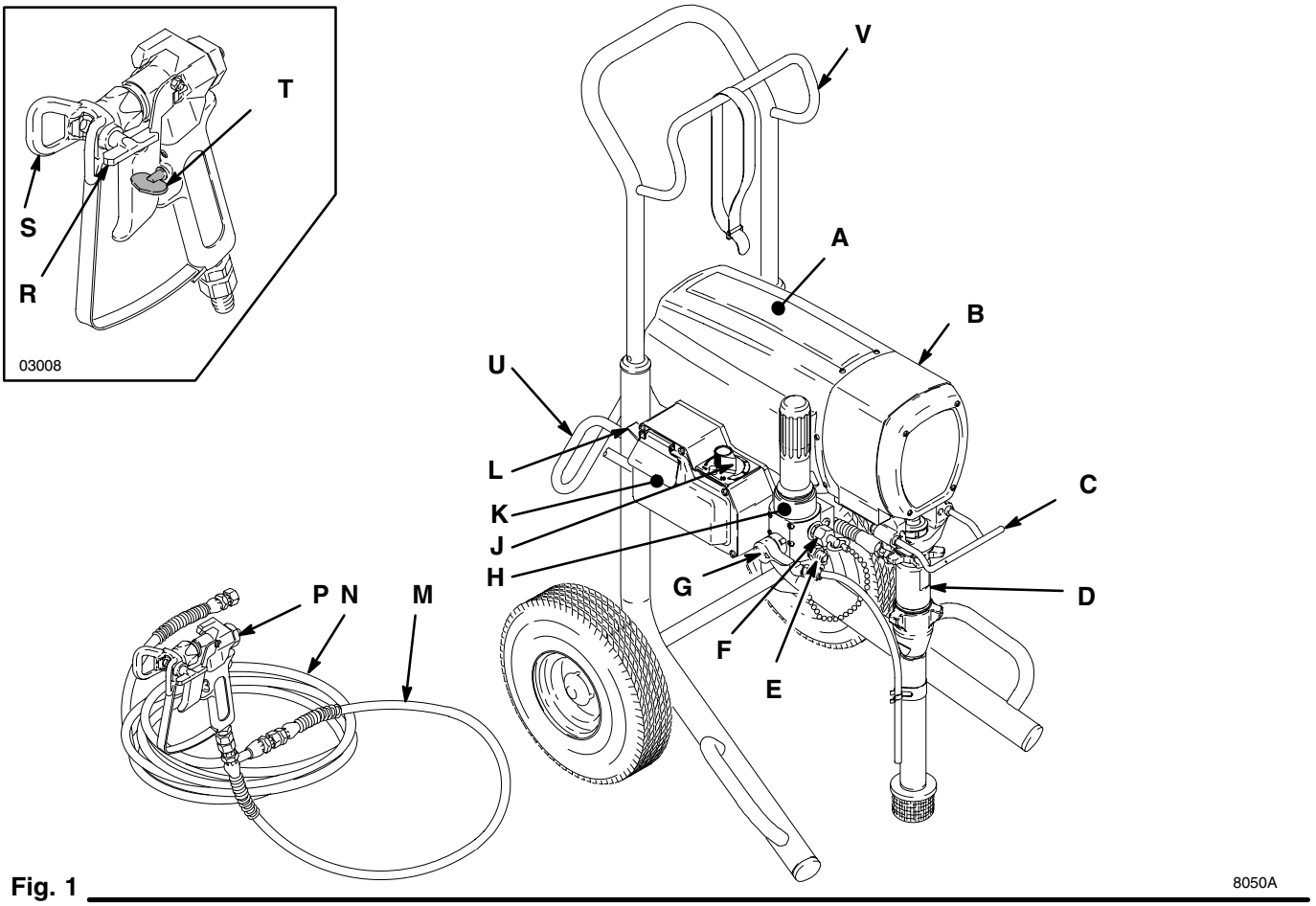


Fig. 1

A	Motor	DC motor, permanent magnet, totally enclosed, fan cooled
B	Drive Assembly	Transfers power from DC motor to displacement pump
C	Pail Hanger	Container for fluid to be sprayed may be hung here
D	Displacement Pump	Transfers fluid to be sprayed from source through spray gun
E	Primary Fluid Outlet	Single spray gun is connected here
F	Secondary Fluid Outlet	Second spray gun is connected here
G	Pressure Drain Valve	Relieves fluid outlet pressure when open
H	Fluid Filter	Final filter of fluid between source and spray gun
J	Pressure Adjusting Knob	Controls fluid outlet pressure
K	Pressure Control	Controls motor speed to maintain fluid outlet pressure at displacement pump outlet. Works with pressure adjusting knob.
L	ON/OFF Switch	Power switch that controls VAC main power to sprayer
M	3 ft (0.9 m) Hose	3/16 in. ID, grounded, nylon hose used between 50 ft hose and spray gun to allow more flexibility when spraying
N	50 ft (15 m) Main Hose	1/4 in. ID, grounded, nylon hose with spring guards on both ends
P	Contractor Gun	High pressure spray gun with gun safety latch
R	RAC IV Switch Tip	Uses high pressure fluid to clear tip clogs without removing tip from spray gun
S	RAC IV Tip Guard	Reverse-A-Clean (RAC) tip guard reduces risk of injection injury
T	Spray Gun Safety Latch	Gun safety latch inhibits accidental triggering of spray gun
U	Power Cord Rack	Holds wrapped power cord for storage
V	Spray Hose Rack	Holds wrapped spray hose for storage

General Repair Information

⚠ CAUTION

To reduce risk of pressure control malfunction:

- Use needle nose pliers to disconnect a 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.

Tool List

Phillips screwdriver
Small flat blade screwdriver
Needle nose pliers
Plastic mallet or 20 oz (max) hammer
12 in. adjustable wrench
Adjustable, open-end wrench
Torque wrench
1/4 in. hex key wrench
3/16 in. hex key wrench
5/8 in. socket wrench
3/8 in. open end wrench
1/2 in. open end wrench
3/4 in. open end wrench
7/8 in. open end wrench
High quality motor oil
Bearing grease

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

⚠ WARNING

ELECTRIC SHOCK 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, gaskets, screws and washers 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 Guide, pages 4 – 8, for other possible solutions.

⚠ WARNING

EXPLOSION HAZARD
Motor and drive housing are very hot during operation and could burn skin if touched. Flammable materials spilled on hot, bare motor could cause fire or explosion. Have motor shield in place during operation to reduce risk of burns, fire or explosion.

⚠ CAUTION

Do not run sprayer dry for more than 30 seconds to avoid damaging pump packings.

4. **Install motor shield before operation** of sprayer and replace if damaged. Motor shield directs cooling air around motor to prevent overheating. It can also reduce risk of burns, fire or explosion; see preceding **WARNING**.

Pressure Relief Procedure

⚠ WARNING

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,
- or install or clean spray tip.

1. Lock gun safety latch.
2. Turn ON/OFF switch to OFF.
3. Unplug power supply cord.
4. Unlock gun safety latch. Hold metal part of gun firmly to grounded metal pail. Trigger gun to relieve pressure.
5. Lock gun safety latch.
6. Open pressure drain valve. Leave pressure drain 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. Now clear tip or hose obstruction.

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. Models 232144, 145, 154 require a 230 VAC, 50 Hz, 10A circuit with a grounding receptacle. Models 232148, 158 require a 110 VAC, 50/60 Hz, 15A circuit with a grounding receptacle. Models 232156, 157 require a 100 VAC, 50/60 Hz, 15A circuit with a grounding receptacle. See Fig. 2.
2. Do not alter ground prong or use adapter.

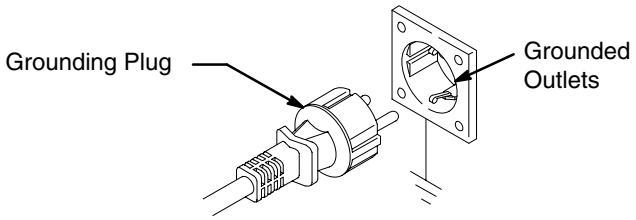
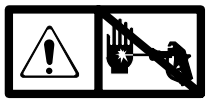


Fig. 2 **Model 232144, 145, 154**

3. A 12 AWG, 3 wires with grounding prong, 300 ft (90 m) extension cord may be used. Long lengths reduce sprayer performance.

Troubleshooting



Relieve pressure**;** page 3.

MOTOR WON'T OPERATE

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*
Basic Fluid Pressure Problems	1. Pressure control knob setting. Motor will not run if at minimum setting (fully counterclockwise).	1. Slowly increase pressure setting to see if motor starts.
	2. For clogged spray tip or fluid filter. Refer to separate gun, tip, or fluid filter instruction manual.	2. Relieve pressure, refer to separate gun, tip, or fluid filter instruction manual for cleaning.
Basic Mechanical Problems	1. For frozen or hardened paint in pump (64). Use a screwdriver and carefully rotate fan at back of motor by hand. See page 9.	1. Thaw sprayer if water or water-based paint has frozen in sprayer. Place sprayer in warm area to thaw. Do not start sprayer until thawed completely. If paint hardened (dried) in sprayer, replace pump packings. See page 17 (**Displacement Pump Repair**).
	2. Displacement pump connecting rod pin (66). Pin must be completely pushed into connecting rod (63) and retaining spring (68) must be firmly in groove of connecting rod. See Fig. 12.	2. Push pin into place and secure with spring retainer.
	3. For motor damage. Remove drive housing assembly (67). See page 15. Try to rotate fan by hand.	3. Replace motor (73) if fan won't turn. See page 16.
Basic Electrical Problems	1. Pressure control safety circuit.	2. Turn pressure control ON/OFF switch to OFF to RESET. If pressure control safety continues to trip, see ELECTRICAL SHORT on page 8.
	2. Electrical supply. Meter must read: 210–250 VAC for models 232144, 145, 154. 100–120 VAC for models 232148, 158. 90–110 VAC for models 232156, 157.	2. Reset building circuit breaker; replace building fuse. Try another outlet.
	3. Extension cord for damage. Check extension cord continuity with volt meter.	3. Replace extension cord.
	4. Sprayer power supply cord (79) for damage such as broken insulation or wires.	4. Replace power supply cord.

Troubleshooting

MOTOR WON'T OPERATE (Continued)

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*
Basic Electrical Problems (continued)	1. That motor leads are securely fastened and properly mated.	1. Replace loose terminals; crimp to leads. Be sure terminals are firmly connected. Clean circuit board terminals. Securely reconnect leads.
	2. For loose motor brush lead connections and terminals. See page 9.	2. Tighten terminal screws. Replace brushes if leads are damaged. See page 9.
	3. Brush length which must be 1/2 in. minimum. See page 9. **NOTE:** Brushes do not wear at the same rate on both sides of motor. Check both brushes.	3. Replace brushes. See page 9.
	4. For broken or misaligned motor brush springs. Rolled portion of spring must rest squarely on top of brush. See page 9.	4. Replace spring if broken. Realign spring with brush. See page 9.
	5. Motor brushes for binding in brush holders. See page 9.	5. Clean brush holders. Remove carbon with small cleaning brush. Align brush leads with slot in brush holder to assure free vertical brush movement.
	6. Motor armature commutator for burn spots, gouges and extreme roughness. See page 9.	6. Remove motor and have motor shop resurface commutator if possible. See page 16.
	7. Motor armature for shorts using armature tester (growler) or perform spin test. See page 9.	7. Replace motor. See page 16.
	8. Motor control board (104) by performing motor control board diagnostics on page 12. If diagnostics indicate, substitute with a good board. **CAUTION:** Do not perform this check until motor armature is determined to be good. A bad motor armature can burn out a good board.	8. Replace with new pressure control board (104). See page 12.
Refer to wiring diagram on page 23 to identify test points (TP).	1. Power supply cord (79). Connect volt meter between TP1 (neutral) and TP2. Plug in sprayer. Meter must read: 210–250 VAC for models 232144, 145, 154. 100–120 VAC for models 232148, 158. 90–110 VAC for models 232156, 157. Unplug sprayer.	1. Replace power supply cord.
	2. ON/OFF switch (80). Connect volt meter between TP1 and TP3 terminal on ON/OFF switch. Plug in sprayer and turn ON. Meter must read: 210–250 VAC for models 232144, 145, 154. 100–120 VAC for models 232148, 158. 90–110 VAC for models 232156, 157. Turn off and unplug sprayer. Reconnect TP3	2. Replace ON/OFF switch. See page 11.
	3. Motor thermal cutoff switch. Turn sprayer OFF. Check for continuity between TP4 and TP5 with ohmmeter.	3. If thermal switch is open (no continuity), allow motor to cool. If switch remains open after motor cools, replace motor. If thermal switch closes after motor cools, correct cause of overheating.
	4. All terminals for damage or loose fit.	4. Replace damaged terminals and reconnect securely.

Troubleshooting

LOW OUTPUT

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*
Low Output	1. For worn spray tip.	1. Follow **Pressure Relief Procedure Warning,** then replace tip. See your separate gun or tip manual.
	2. Verify pump does not continue to stroke when gun trigger is released. Plug in and turn on sprayer. Prime with paint. Trigger gun momentarily, then release and lock safety latch. Relieve pressure, turn off and unplug sprayer.	2. Service pump. See page 17.
	3. Electrical supply with volt meter. Meter must read: 210–250 VAC for models 232144, 145, 154. 100–120 VAC for models 232148, 158. 90–110 VAC for models 232156, 157.	3. Reset building circuit breaker; replace building fuse. Repair electrical outlet or try another outlet.
	4. Extension cord size and length; must be at least 12 gauge wire and no longer than 300 ft.	4. Replace with a correct, grounded extension cord.
	5. Leads from motor to pressure control circuit board (104) for damaged or loose wires or connectors. Inspect wiring insulation and terminals for signs of overheating.	5. Be sure male terminal blades are centered and firmly connected to female terminals. Replace any loose terminal or damaged wiring. Securely reconnect terminals.
	6. For loose motor brush leads and terminals. See page 9.	6. Tighten terminal screws. Replace brushes if leads are damaged. See page 9.
	7. For worn motor brushes which must be 1/2 in. minimum. See page 9.	7. Replace brushes. See page 9.
	8. For broken and misaligned motor brush springs. Rolled portion of spring must rest squarely on top of brush.	8. Replace spring if broken. Realign spring with brush. See page 9.
	9. Motor brushes for binding in brush holders. See page 9.	9. Clean brush holders, remove carbon dust with small cleaning brush. Align brush lead with slot in brush holder to assure free vertical brush movement.
	10. Stall pressure.	10. Replace with new pressure control board (104). See page 12.
	11. Motor armature for shorts by using an armature tester (growler) or perform spin test. See page 9.	12. Replace motor. See page 16.
	12. Motor control board (104) by performing motor control board diagnostics on page 12. If diagnostics indicate, substitute with a good board. **CAUTION:** Do not perform this check until motor armature is determined to be good. A bad motor armature can burn out a good board.	11. Replace with new pressure control board (104). See page 12.

Troubleshooting

NO OUTPUT

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*
Motor runs and pump strokes	1. Paint supply.	1. Refill and reprime pump.
	2. For clogged intake strainer.	2. Remove and clean, then reinstall.
	3. For loose suction tube or fittings.	3. Tighten; use thread sealant or sealing tape on threads if necessary.
	4. To see if intake valve ball and piston ball are seating properly. See page 17.	4. Remove intake valve and clean. Check balls and seats for nicks; replace if necessary. See page 17. Strain paint before using to remove particles that could clog pump.
	5. For leaking around throat packing nut which may indicate worn or damaged packings. See page 17.	5. Replace packings. See page 17. Also check piston valve seat for hardened paint or nicks and replace if necessary. Tighten packing nut/wet-cup.
Motor runs but pump does not stroke	1. Displacement pump connecting rod pin (66). See page 17.	1. Replace pin if missing. Be sure retainer spring (68) is fully in groove all around connecting rod. See page 17.
	2. Connecting rod assembly (63) for damage. See page 14.	2. Replace connecting rod assembly. See page 14.
	3. Be sure crank in drive housing rotates; plug in sprayer and turn on briefly to check. Turn off and unplug sprayer. See page 15.	3. Inspect drive housing assembly for damage and replace if necessary. See page 15.

EXCESSIVE PRESSURE FLUCTUATIONS

TYPE OF PROBLEM	WHAT TO CHECK *If is OK, go to next check*	WHAT TO DO *When is not OK refer to this column*
Spray pattern variations.	1. Be sure leads to motor control board are firmly connected. Be sure all male terminal blades are centered and firmly connected to female terminals. See Fig. 17.	1. Reconnect securely. See Fig. 17.
	2. Maximum working pressure.	2. Replace pressure control board (104). See page 12.
	3. Motor control board (104) by performing motor control board diagnostics on page 12. If diagnostics indicate, substitute with a good board. **CAUTION:** Do not perform this check until motor armature is determined to be good. A bad motor armature can burn out a good board.	3. Replace with a new pressure control board (104). See page 12.
	4. Check LOW OUTPUT section, page 6.	

Troubleshooting

MOTOR IS HOT AND RUNS INTERMITTENTLY

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*
Motor is hot and runs intermittently.	1. Determine if sprayer was operated at high pressure with small tips, which causes low motor RPM and excessive heat build up.	1. Decrease pressure setting or increase tip size.
	2. Be sure ambient temperature where sprayer is located is no more than 90°F and sprayer is not located in direct sun.	2. Move sprayer to shaded, cooler area if possible.
	3. Determine if sprayer was turned on, pressurized, but not operating for long periods of time.	3 Turn off sprayer whenever you stop spraying for a while and relieve fluid pressure.

ELECTRICAL SHORT

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*
Building circuit breaker opens as soon as sprayer switch is turned on. **CAUTION** Any short in any part of the motor power circuit will cause the control circuit to inhibit sprayer operation. Correctly diagnose and repair all shorts before checking and replacing control board.	1. All electrical wiring for damaged insulation, and all terminals for loose fit or damage. Also wires between pressure control and motor. See page 16.	1. Repair or replace any damaged wiring or terminals. Securely reconnect all wires.
	2. For missing inspection plate gasket (see page 16), bent terminal forks or other metal to metal contact points which could cause a short.	2. Correct faulty conditions.
	3. Motor armature for shorts. Use an armature tester (growler) or perform spin test. See page 9. Inspect windings for burns.	3. Replace motor. See page 16.
	4. Motor control board (104) by performing motor control board diagnostics on page 12. If diagnostics indicate, substitute with a good board. **CAUTION:** Do not perform this check until motor armature is determined to be good. A bad motor armature can burn out a good board.	4. Replace with a new pressure control board (104). See page 12.
Building circuit breaker opens as soon as sprayer is plugged into outlet and sprayer is NOT turned on.	1. Basic Electrical Problems on page 4.	1. Perform necessary procedures.
	2. ON/OFF switch (80) See page 11. *Be sure sprayer is unplugged!* Disconnect wires from switch. Check switch with ohmmeter. Reading must be infinity with ON/OFF switch OFF, and zero with switch ON.	2. Replace ON/OFF switch. See page 11.
	3. For damaged or pinched wires in pressure control. See page 12.	3. Replace damaged parts. See page 12.
Sprayer quits after sprayer operates for 5 to 10 minutes.	1. Basic Electrical Problems on page 4.	1. Perform necessary procedures.
	2. Electrical supply with volt meter. Meter must read: 210–250 VAC for models 232144, 145, 154. 100–120 VAC for models 232148, 158. 90–110 VAC for models 232156, 157.	2. If voltage is too high, do not operate sprayer until corrected.
	3. Tightness of pump packing nut. Over tightening tightens packings on rod, restricts pump action, and damages packings.	3. Loosen packing nut. Check for leaking around throat. Replace pump packings, if necessary. See page 17.

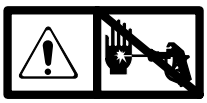
.

Spin Test

Setup

Electric Shock Hazard; page 3.

To check armature, motor winding and brush electrical continuity:

1.  Relieve pressure**;** page 3.
2. Remove drive housing; page 15.
3. Fig. 3. Remove pressure control cover (82). Disconnect motor leads (F) and (G).
4. Fig. 4. Remove motor shield (54), fan cover (A) and inspection covers (B).

Armature Short Circuit Test

Quickly turn motor fan by hand. If no electrical shorts, motor coasts two or three revolutions before complete stop. If motor does not spin freely, armature is shorted. Replace motor; page 16.

Armature, Brushes, and Motor Wiring Open Circuit Test (Continuity)

1. Connect red and black motor leads together with test lead. Turn motor fan by hand at about two revolutions per second.
2. If uneven or no resistance, check for: broken brush springs, brush leads, motor leads; loose brush terminal screws, motor lead terminals; worn brushes. Repair as needed; page 9.
3. If still uneven or no resistance, replace motor; page 16.

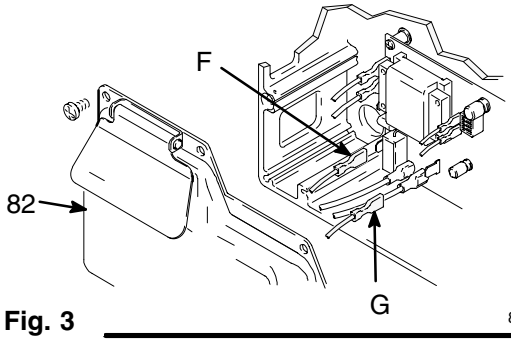
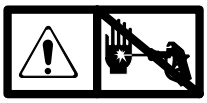


Fig. 3 8051A

Motor Brush Replacement

NOTE: Replace brushes worn to less than 1/2 in. Brushes wear differently on each side of motor, check both sides. Brush Repair Kit 220853 is available. Spring clip, 110816, may be purchased separately.

Motor Brush Removal

1. Read **General Repair Information**; page 3.
2.  Relieve pressure**;** page 3.
3. Fig. 4. Remove motor shield (54). Remove inspection covers (B) and gaskets on each side of motor.

(Continued on page 10)

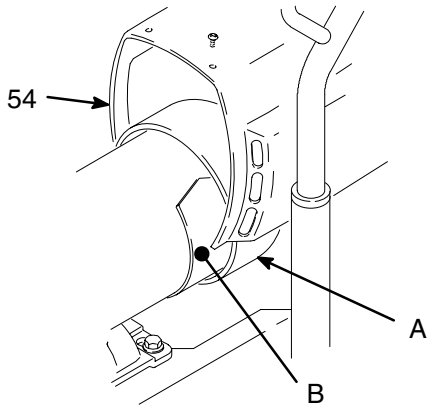


Fig. 4 7703B

Motor Brush Replacement

4. Fig. 5. Push in 110816 spring clip (A) to release hooks (B) from brush holder (C). Pull out spring clip.

5. Fig. 5. Loosen terminal screw (D). Pull brush lead (E) away, leaving motor lead (F) in place. Remove brush (G) and spring (H).

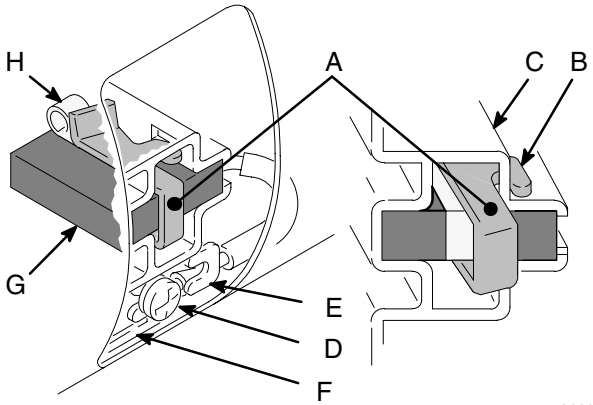


Fig. 5

6. Inspect commutator for excessive pitting, burning or gouging. A black color on commutator is normal. Have commutator resurfaced by a qualified motor repair shop if brushes wear too fast.

Motor Brush Installation

⚠ CAUTION

When installing brushes, follow all steps carefully to avoid damaging parts.

7. Fig. 6. Install new brush (G) with lead in long slot (J) of brush holder (C).

8. Fig. 5. Slide brush lead (E) under washer of terminal screw (D) and tighten screw. Be sure motor lead (F) is connected at terminal screw.

9. Fig. 6.Place spring (H) on brush (G).

10. Fig. 6. Install spring clip (A). Push down to hook short slots (K) in brush holder (C).

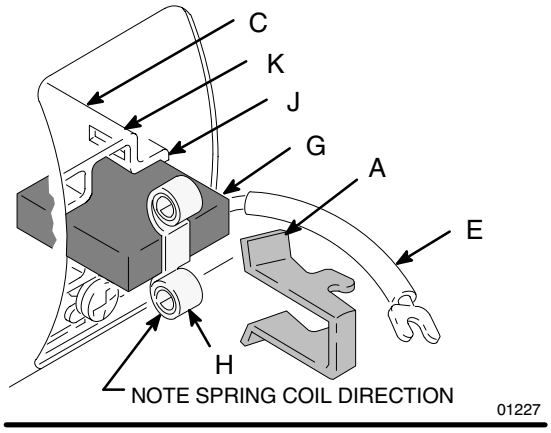


Fig. 6

11. Repeat for other side.

12. Test brushes.

    a. Remove pump connecting rod pin.

    b. With sprayer OFF, turn pressure control knob fully counterclockwise to minimum pressure. Plug in sprayer.

    c. Turn sprayer ON. Slowly increase pressure until motor is at full speed.

⚠ CAUTION

Do not run sprayer dry for more than 30 seconds while checking brushes to avoid damaging displacement pump packings.

13. Install brush inspection covers and gaskets.

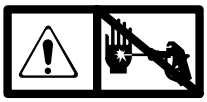
14. Break in brushes.

    a. Operate sprayer 1 hour with no load.

    b. Install connecting rod pin.

On/Off Switch Replacement

1. Read **General Repair Information** on page 3.

2.  Relieve pressure**;** page 3.

3. Fig. 7. Remove pressure control cover (82).

4. Remove display connector (B) from plug (C)

5. Disconnect four wires (A) from ON/OFF switch (80).

6. Press in on two retaining tabs on each side of ON/OFF switch (80) and remove.

7. Install new ON/OFF switch (80) so tabs of switch snap into place on inside of pressure control housing.

8. Connect four wires (A) to ON/OFF switch.

9. Install display connector (B) in plug (C)

10. Install pressure control cover (82).

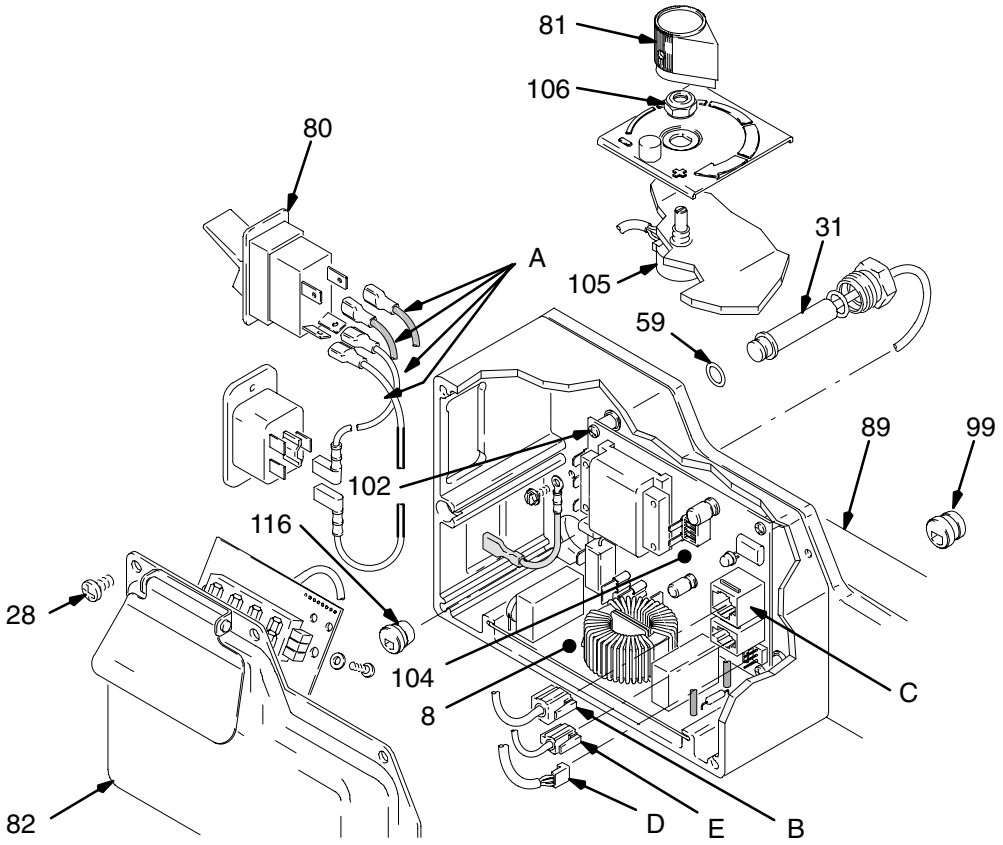
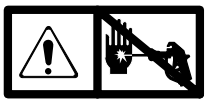


Fig. 7 8052B

Pressure Control Repair

Motor Control Board

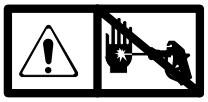
Removal

1.  Relieve pressure; page 3.
2. Fig. 7. Remove five screws (28) and cover (82).
3. Fig. 17. Disconnect at motor control board (104):
   - Filter board (8).
   - Six motor leads: two yellow, two violet, black (+) and red (–).
   - Lead (D) from potentiometer.
   - Lead (E) from transducer.
4. Remove four screws (102) and circuit board (104).

Installation

1. Fig. 7. Install motor control board (104) with four screws (102).
2. Connect to motor control board (104):
   - Lead (E) to transducer.
   - Lead (D) to potentiometer.
   - Six motor leads: two yellow, two violet, black (+) and red (–).
   - Filter board (8).
3. Bundle and tie all loose wires so none lay in contact with inductor coil on filter board. See **CAUTION**, Fig. 17.
4. Install cover (82) with five screws (28).

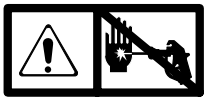
Motor Control Board Diagnostics

1.  Relieve pressure; page 3.
2. Remove five screws (28) and cover (82). See Fig. 7.
3. Turn ON/OFF switch ON.
4. Observe LED operation and reference following table:

LED BLINKS	SPRAYER OPERATION	INDICATES	WHAT TO DO
Once	Sprayer runs	Normal operation	Do nothing
Twice	Sprayer runs	Normal operation	Do nothing
Two times repeatedly	Sprayer shuts down and LED continues to blink two times repeatedly	Run away pressure. Pressure greater than 4500 psi (310 bar, 31 MPa).	Replace motor control board. See preceding Motor control board removal procedure.
Three times repeatedly	Sprayer shuts down and LED continues to blink three times repeatedly	Pressure transducer is faulty or missing	Replace pressure transducer
Four times repeatedly	Sprayer shuts down and LED continues to blink four times repeatedly	Line voltage is too high	Lower line voltage to 230 VAC for models 232144, 145, 154 and to 110 VAC for models 232148, 158
Five times repeatedly	Sprayer shuts down and LED continues to blink five times repeatedly	Locked rotor. Motor can not turn because of some mechanical condition.	Clear obstruction and replace broken parts preventing motor from turning

Pressure Control Repair

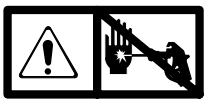
Digital Display Messages

1. Lift lid on pressure control cover and view display.
2. Observe display and reference following table:
3.  No display does not mean that sprayer is not pressurized. Relieve pressure before repairing; page 3.

DISPLAY	SPRAYER OPERATION	INDICATION	ACTION
No Display	Sprayer stops. Power is not applied. Sprayer may be pressurized.	Loss of power	Check power source
3000 **psi** 210 **bar** 21 **MPa**	Sprayer is pressurized. Power is applied. (Pressure varies with tip size and pressure control setting.)	Normal operation	Spray
E-02	Sprayer stops. Power is applied.	Pressure greater than 4500 psi (310 bar, 31 MPa).	Replace pressure control board
E-03	Sprayer stops. Power is applied.	Pressure transducer faulty	Replace
E-04	Sprayer stops. Power is applied.	Line voltage too high	Set voltage to: 230 VAC for models 232144, 145, 154 110 VAC for models 232148, 158 100 VAC for models 232156, 157
E-05	Sprayer stops. Power is applied.	Locked rotor. Motor can not turn	Repair or replace
- - - -	Sprayer stops. Power is applied.	Pressure less than 200 psi (14 bar, 1.4 MPa)	Increase pressure

Pressure Control Transducer

Removal

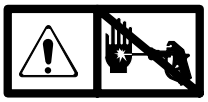
1.  Relieve pressure; page 3.
2. Fig. 7. Remove five screws (28) and cover (82).
3. Disconnect lead (E) from motor control board (104).
4. Remove strain relief bushing (116).
5. Remove pressure control transducer (31) and packing o-ring (59) from control housing plate (89).

Installation

1. Fig. 7. Install packing o-ring (59) and pressure control transducer (31) in control housing plate (89). Torque to 30–35 ft-lb.
2. Install strain relief bushing (116).
3. Connect lead (E) to motor control board (104).
4. Install cover (82) with five screws (28).

Pressure Adjust Potentiometer

Removal

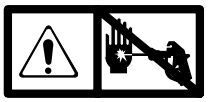
1.  Relieve pressure; page 3.
2. Fig. 7. Remove five screws (28) and cover (82).
3. Disconnect lead (D) from motor control board (104).
4. Remove potentiometer knob (81), sealing shaft nut (106) and pressure adjust potentiometer (105).

Installation

1. Fig. 7. Install pressure adjust potentiometer (105), sealing shaft nut (106) and potentiometer knob (81).
2. Connect lead (D) to motor control board (104).
3. Install cover (82) with five screws (28).

Bearing Housing and Connecting Rod Replacement

1. Read **General Repair Information** on page 3.

2.  Relieve pressure**;** page 3.

3. Stop sprayer at bottom of stroke to get crank (E) in lowest position.To lower crank manually, carefully rotate blades of fan with a screwdriver.

4. Fig. 8. Remove front cover (49). Unclip drain hose (36) from pump. Unscrew pump suction tube (39) pump intake valve (213). Disconnect pump hose (70).

5. Push up retaining spring (68). Push pin (66) out rear.

6. Loosen locknut (47). Unscrew displacement pump (64).

7. Remove four screws and lockwashers (25,23).

8. Tap lower rear of bearing housing (22) with a plastic mallet to loosen from drive housing (67). Pull bearing housing and connecting rod assembly (63) straight off drive housing.

9. Remove pail bracket assembly (F) and install it on new bearing housing.

10. Inspect crank (E) for excessive wear and replace parts as needed. Evenly lubricate inside of bronze bearing (B) with high quality motor oil. Pack roller bearing (C) with bearing grease.

11. Assemble connecting rod (63) and bearing housing (22).

12. Clean mating surfaces of bearing and drive housings (22, 67).

13. Align connecting rod (63) with crank (E) and drive housing locating pins (G) with bearing housing (22) holes. Push bearing housing onto drive housing or tap into place with plastic mallet.

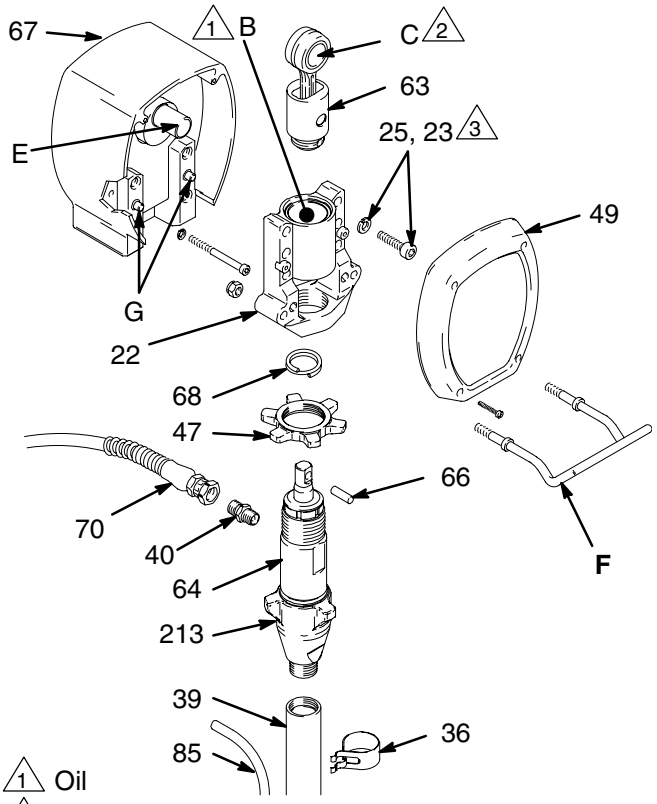
⚠ CAUTION

Do not use bearing housing screws (25) to align or seat bearing housing; this may cause bearing and drive housing misalignment and result in premature bearing wear.

14. Install screws and lockwashers (25, 23). Tighten screws evenly to 175 in-lb (19 N·m).

15. Install pump; page 17.

16. Fig. 8. Install remaining parts.



1 Oil
2 Pack with bearing grease
3 Torque to 175 in-lb (19 N·m)

Fig. 8 7698B

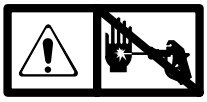
Drive Housing Replacement

⚠ CAUTION

Do not drop gear cluster (51) when removing drive housing (67). Gear cluster may stay engaged in motor front end bell or drive housing.

Do not lose thrust balls (90) or drop thrust balls between gears. If thrust balls are caught between gears and not removed, serious damage will occur to drive housing. If thrust balls are not in place at each end of gear cluster, bearings will wear prematurely.

1. Read **General Repair Information** on page 3.

2.  Relieve pressure**;** page 3.

3. Fig. 9. Remove front cover (49) and motor shield (54). Unclip drain hose (85) from pump.

4. Remove four bearing housing screws (25) and lockwashers (23).

5. Tap lower rear of bearing housing (22) with plastic mallet to loosen from drive housing (67). Pull bearing housing and connecting rod straight off drive housing.

6. Remove two drive housing screws (26) and lockwashers (20).

7. Remove two lower screws (16) and lockwashers (20) and then two upper screws (16) and lockwashers (20) from front of motor (73).

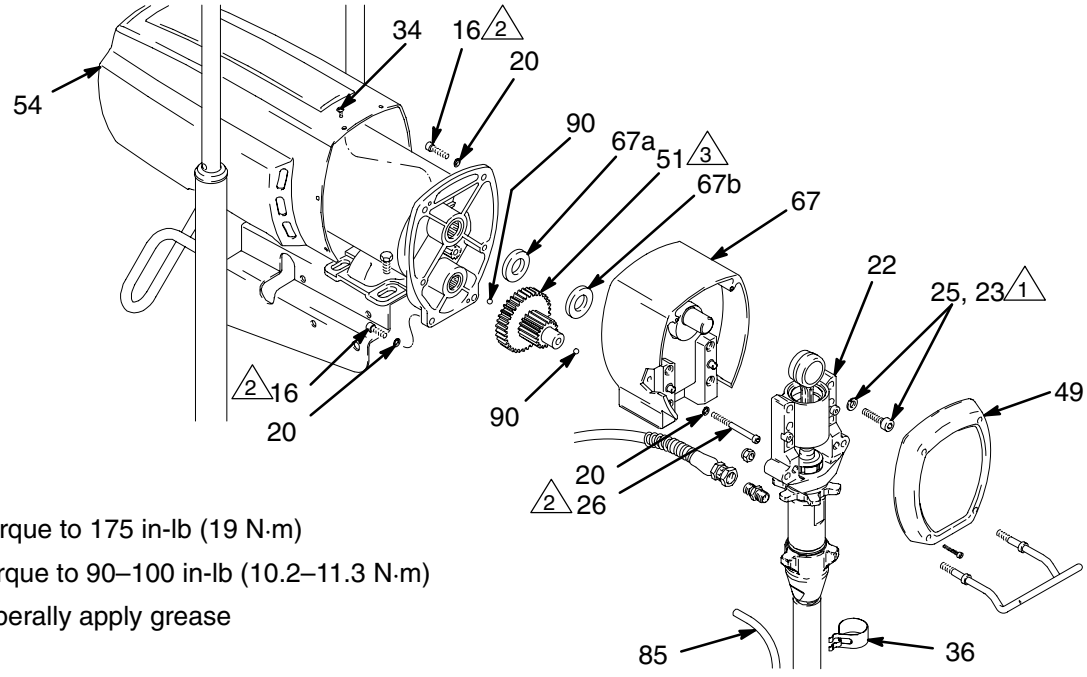
8. Tap drive housing (67) with plastic mallet to loosen from front of motor (73); pull drive housing straight off.

9. Apply approximately 4 oz of bearing grease to gear cluster (51). Grease is supplied with drive housing replacement kit. Be sure thrust balls (90) are in place.

10. Place bronze-colored washer (67b) then silver-colored washer (67a) on shaft protruding from big gear in drive housing (67).

11. Align gears and push new drive housing straight onto front of motor and locating pins.

12. Continue reassembling sprayer.

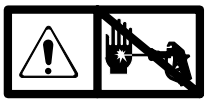


△1 Torque to 175 in-lb (19 N·m)
△2 Torque to 90–100 in-lb (10.2–11.3 N·m)
△3 Liberally apply grease

Fig. 9 7699B

Motor Replacement

1. Read **General Repair Information** on page 3.

2.  Relieve pressure**;** page 3.

3. Fig. 10. Remove motor shield (54).

4. Fig. 7. Remove pressure control cover (82). Disconnect six motor leads: two yellow, two violet, black (+) and red (–).

⚠ CAUTION

Always pull the motor leads one at a time to avoid loosening the terminals, which could result in a bad connection and poor sprayer performance.

5. Fig. 7. Remove strain relief (99) and pull motor wires bundle through pressure control opening.

6. Remove front cover (49).

7. Remove two drive housing screws (26).

8. Remove two lower screws (16) and lockwashers (20) and then two upper screws (16) and lockwashers (20) from front of motor (73).

9. Tap drive housing (67) with a plastic mallet to loosen it from front of motor (73), and then pull drive housing straight off.

⚠ CAUTION

Do not drop gear cluster (51) when removing drive housing (67). Gear cluster may stay engaged in motor front end bell or drive housing.

Do not lose thrust balls (90) or drop thrust balls between gears. If thrust balls are caught between gears and not removed, serious damage will occur to drive housing. If thrust balls are not in place at each end of gear cluster, bearings will wear prematurely.

10. While supporting motor (73) to keep sprayer from tipping, remove four motor mounting screws (8). Lift off motor.

11. Install new motor (73).

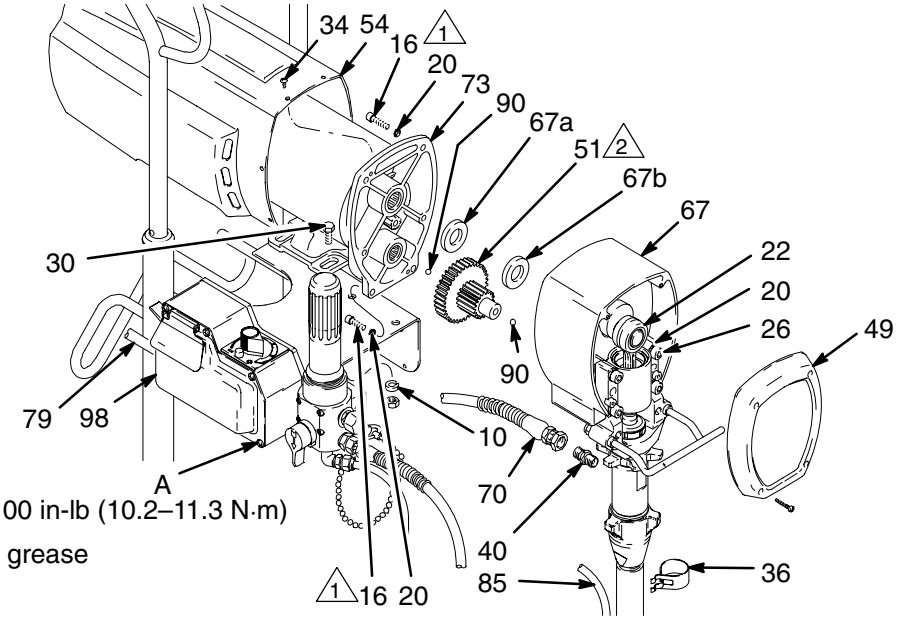
12. Liberally apply approximately 4 ounces of bearing grease to gear cluster (51). Grease is supplied with drive housing replacement kit. Be sure thrust balls (90) are in place.

13. Place bronze-colored washer (67b) and then silver-colored washer (67a) on shaft protruding from big gear in drive housing (67).

14. Align gears and push drive housing (67) straight onto front of motor (73) and locating pins.

15. Fig. 7. Continue assembling sprayer. Feed motor wires through opening in pressure control. Connect six motor leads: two yellow, two violet, black (+) and red (–), to pressure control printed circuit board. Install pressure control cover (A).

16. Bundle and tie all loose wires so none lay in contact with inductor coil on filter board. See **CAUTION**, Fig. 17.



1 Torque to 90–100 in-lb (10.2–11.3 N·m)

2 Liberally apply grease

Fig. 10

8054A

Displacement Pump Repair

See manual 308798 for pump repair instructions.

Removing pump

1. Flush pump. Relieve pressure. Fig. 11. Cycle pump with piston rod (222) in its lowest position.
2. Fig. 11. Remove suction tube and hose.

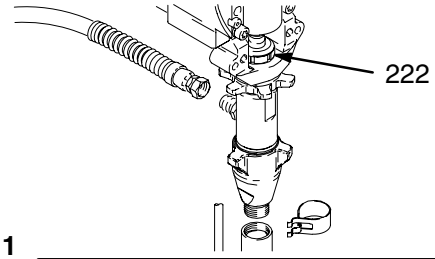


Fig. 11 7672B

3. Fig. 12. Use screwdriver: push retaining spring up and push out pin.

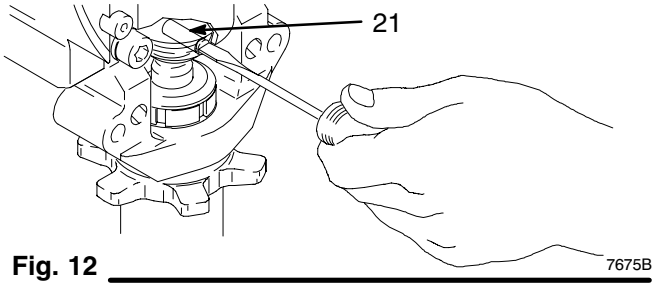


Fig. 12 7675B

4. Fig. 13. Loosen locknut by hitting firmly with a 20 oz (maximum) hammer. Unscrew pump.

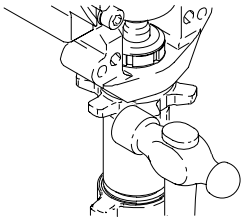


Fig. 13 7673B

Installing pump

⚠ WARNING

If 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 locknut loosens during operation, the threads of the bearing housing will be damaged.

1. Fig. 14. Pull piston rod out 1.5 in. Screw in pump until holes in bearing cross link and piston rod align.

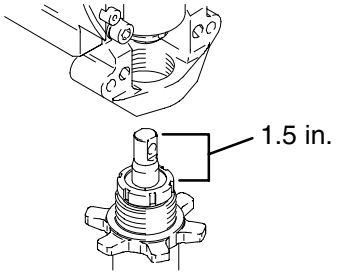


Fig. 14 7676B

2. Fig. 12. Push pin (21) into hole. And push retaining spring into groove all the way around connecting rod.

Fig. 15. Screw jam nut down onto pump until stops. Screw pump up into bearing housing until it is stopped by jam nut. Back off pump and jam nut to align pump outlet to back. 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).

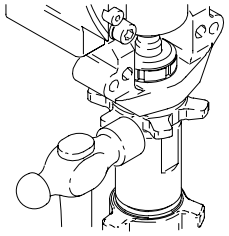


Fig. 15 7673B

Fig. 16. Fill packing nut with Graco TSL, through one of the slits, until fluid flows onto the top of seal.

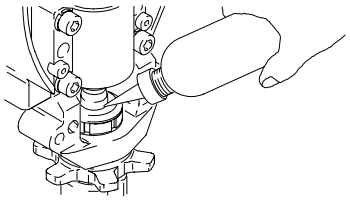
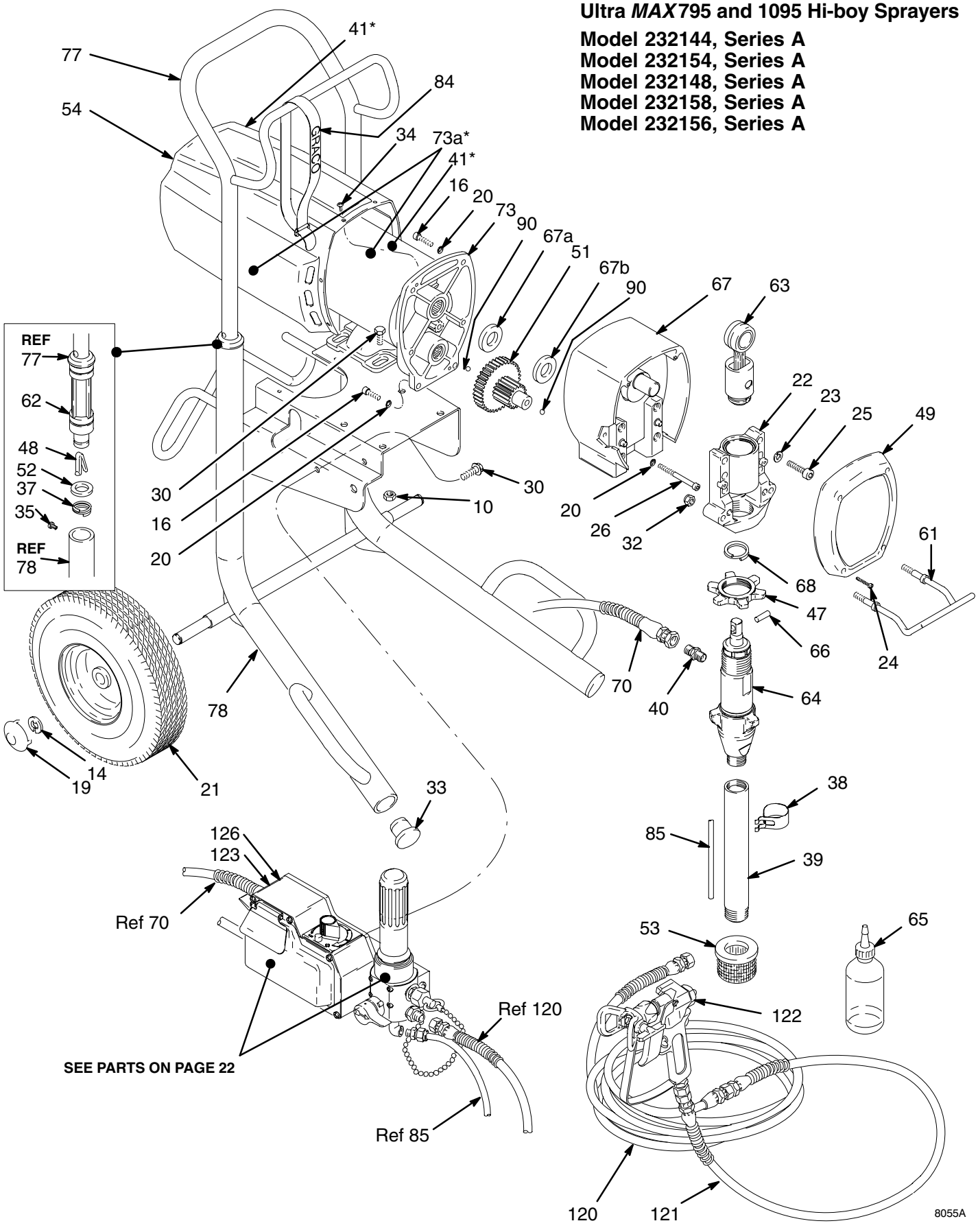


Fig. 16 7677B

Parts Drawing – Sprayer

Ultra *MAX*795 and 1095 Hi-boy Sprayers

Model 232144, Series A
Model 232154, Series A
Model 232148, Series A
Model 232158, Series A
Model 232156, Series A



SEE PARTS ON PAGE 22

Parts List – Sprayer

Ultra *MAX* 795 and 1095 Hi-boy Sprayers

Model 232144, Series A; Model 232154, Series A
Model 232148, Series A; Model 232156, Series A; Model 232158, Series A

REF NO.	PART NO.	DESCRIPTION	QTY
10	110996	NUT, heavy hex, 5/16–18 unc–2a	4
14	101242	RING, retaining	2
16	100644	SCREW, socket hd, 1/4–20 x 0.75 in.	4
19	104811	HUBCAP	2
20	105510	LOCKWASHER, spring, 1/4 in.	6
21	106062	WHEEL, semi–pneumatic	2
22	**240523**	**BEARING HOUSING**	**1**
23	106115	LOCKWASHER, spring, 3/8 in.	4
24	114406	SCREW, filh, no. 8–32 x1 in.	4
25	107210	CAPSCREW, sch, 3/8–16 x 1–1/2 in.	4
26	107218	CAPSCREW, sch, 1/4–20 x 2.75 in.	2
30	111801	SCREW, serrated flange, hex hd, 5/16–18 x 1/2”	7
32	112746	NUT, hex	2
33	108691	PLUG, tubing	2
34	108865	SCREW, pan head, no. 8 x 3/8 in.	6
35	109032	SCREW, pnhd, 10–32 x 1/4 in.	4
37	110243	RING, retaining	2
38	192691	CLIP, spring	1
39	192641	TUBE, intake	1
40	162453	NIPPLE, 1/4 npt(m) x 1/4 npsm	2
41		LABEL, DANGER	2
	187791▲	English	2
	189702▲	Japanese	2
47	192723	NUT, hex	1
48	112827	BUTTON, snap	2
49		COVER, housing	1
	188154	Ultra Max 795	1
	179899	Ultra Max 1095	1
51	**179961**	**GEAR REDUCER**	**1**
52	183350	WASHER	2
53	**181072**	**STRAINER**	**1**
54		**SHIELD, motor**	**1**
		includes 41	
	240317	**Ultra Max 795**	**1**
	240313	**Ultra Max 1095**	**1**
61	192719	HANGER, pail	1
62	192027	SLEEVE	2
63	**218034**	**CONNECTING ROD**	**1**
64	**239923**	**DISPLACEMENT PUMP**	**1**
		see manual 308798 for parts	
65	206994	THROAT SEAL LIQUID, 8 OZ	1
66	176818	PIN, straight, hdls, 0.3125 in. dia x 1.023 in.	1
67		**DRIVE HOUSING**	**1**
		includes 67a and 67b	
	239931	**Ultra Max 795, Model 232144, 148**	**1**
	239929	**Ultra Max 1095, Model 232154, 158**	**1**
	218032	**Ultra Max 1095, Model 232156**	**1**
67a	178967	.WASHER, silver–colored	1
67b	107089	.WASHER, bronze–colored	1
68	176817	SPRING, retaining	1
70	239984	HOSE, grounded, nylon,1/4 in. ID cpld 1/4 npsm (f), 25 in. (635 mm), spring guards both ends	1
73		**MOTOR, ELECTRIC**	**1**
		includes 41	
	240994*	**Ultra Max 795, Model 232144**	**1**
	240566*	**Ultra Max 1095, Model 232154**	**1**
	240015*	**Ultra Max 795, Model 232148**	**1**
	240034*	**Ultra Max 1095, Model 232158, 156**	**1**
77	239998	HANDLE, cart	1
78	239980	FRAME**,** sprayer	1
84	114271	STRAP, retaining	1
85	240144	HOSE, drain	1
90	100069	BALL, steel, 1/4 in. dia.	2
120†	238361	HOSE, grounded, nylon, 1/4 in. ID, cpld 1/4 npsm(f), 50 ft (15 m) spring guards both ends	1
121†	238358	HOSE**,** grounded, nylon, 3/16 in. ID, cpld 1/4 npsm(f), 3 ft (.9 m), spring guards both ends	1
122†	222667	SPRAY GUN	1
		see manual 307614 for parts	
123†	192838▲	LABEL, WARNING, French	1
126		LABEL, WARNING	1
	187975▲	English	1
	189699▲	Japanese	1

▲*Extra Danger and Warning tags and labels available free.*

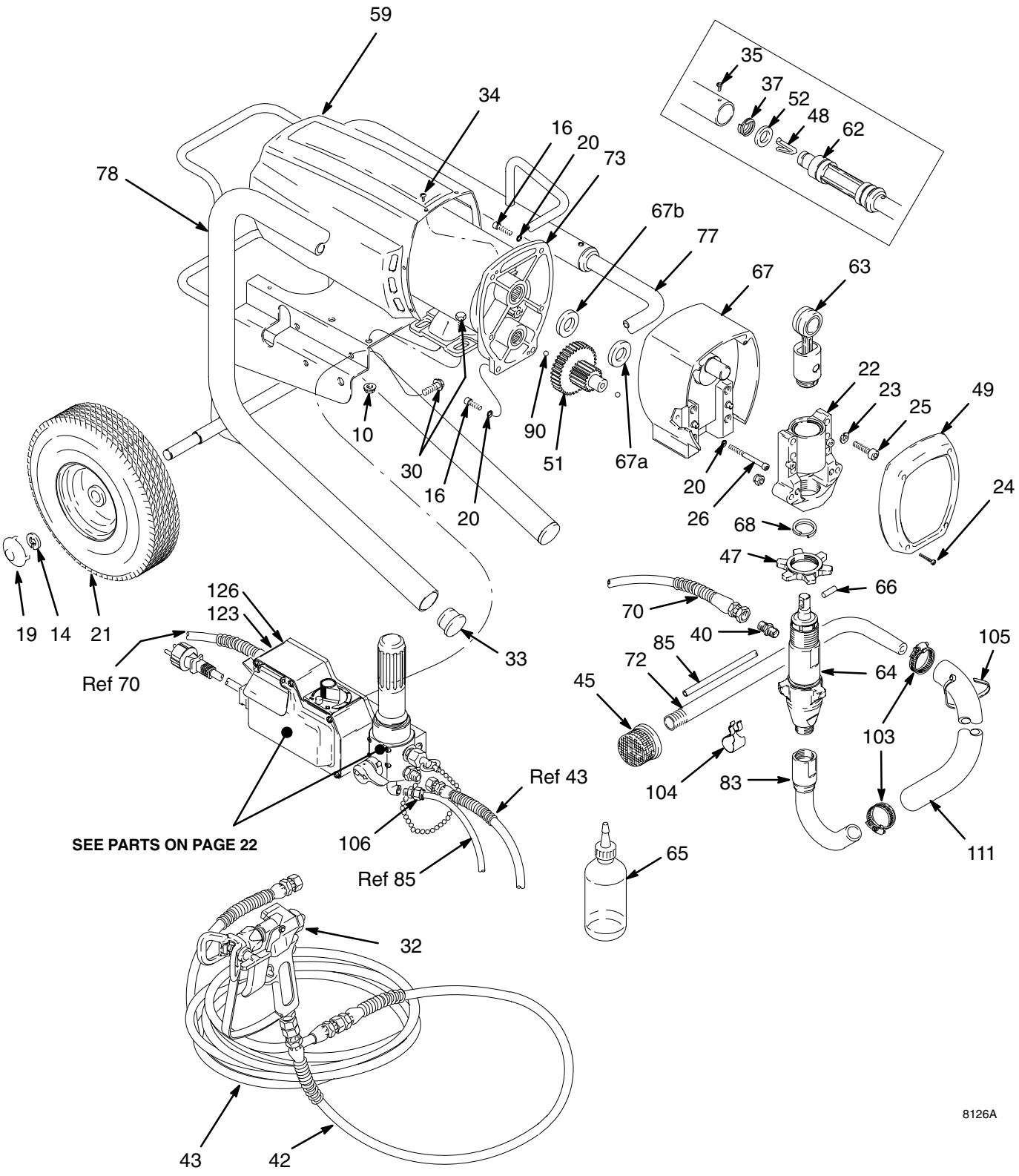
**Motor Brush Repair Kit 220853 is available. Order separately.*

†*Not part of Model 232156*

Parts Drawing – Sprayer

Ultra *MAX* 795 and 1095 Lo-Boy Sprayers

Model 232145, Series A
Model 232157, Series A



Parts List – Sprayer

Ultra *MAX* 795 and 1095 Lo-Boy Sprayers

Model 232145, Series A; Model 232157, Series A

REF NO.	PART NO.	DESCRIPTION	QTY
10	110996	NUT, flange head, hex	1
14	101242	RING, retaining	2
16	100644	SCREW, socket head, 1/4–20 x 3/4 in.	4
19	104811	HUBCAP	2
20	105510	LOCKWASHER, spring, 1/4 in.	6
21	106062	WHEEL, semi–pneumatic	2
22	240523	HOUSING, bearing	1
23	106115	LOCKWASHER, spring, 3/8 in.	4
24	114406	SCREW, self tap, filnd	1
25	107210	CAPSCREW, sch, 3/8–16 x 1–1/2 in.	4
26	107218	CAPSCREW, sch, 1/4–20 x 2–3/4 in.	4
30	111801	SCREW, cap, flange hd	7
32†	222667	SPRAY GUN *see manual 307614 for parts*	1
33	108691	PLUG, tubing	2
34	108865	SCREW, pan head, no. 8 x 3/8 in.	6
35	109032	SCREW, pnhd, 10–32 x 1/4 in.	4
37	110243	RING, retaining	2
40	162453	NIPPLE, 1/4 npt(m) x 1/4 npsm	2
41		LABEL, WARNING	2
	187791	English	2
	189702	Japanese	2
42†	238358	HOSE, grounded, nylon, 3/16 in. ID, cpld 1/4 npsm(f), 3 ft (.9 m), spring guards both ends	1
43†	238361	HOSE, grounded, nylon, 1/4 in. ID, cpld 1/4 npsm(f), 50 ft (15 m) spring guards both ends	1
45	181072	STRAINER	1
47	192723	NUT, retaining	1
48	112827	BUTTON, snap	2
49	188154	COVER, housing	1
50	193347	COVER, display, painted	1
51	179961	REDUCER, gear	1
52	183350	WASHER	1
59		SHIELD, motor	1
	240317	Ultra MAX 795	1
	240313	Ultra MAX 1095	1
62	192027	SLEEVE, cart	2
63	218034	KIT, rod, connecting	1
64	239923	PUMP, displacement *see manual 308798 for parts*	1
65	206994	THROAT SEAL LIQUID, 8 OZ	1
66	176818	PIN, straight, hdls, 0.3125 in. dia x 1.023 in.	1
67		**DRIVE HOUSING** *includes replaceable items 67a and 67b*	**1**
	239931	**Ultra Max 795, Model 232145**	**1**
	218032	**Ultra Max 1095, Model 232157**	**1**
67a	178967	.WASHER, silver–colored	1
67b	107089	.WASHER, bronze–colored	1
68	176817	SPRING, retaining	1
70	239984	HOSE, grounded, nylon,1/4 in. ID cpld 1/4 npsm (f), 29 in. (715 mm), spring guards both ends	1
72	170957	TUBE, suction	1
73		**MOTOR, ELECTRIC**	**1**
	240994*	**Ultra Max 795, Model 232145**	**1**
	240034*	**Ultra Max 1095, Model 232157**	**1**
77	193247	HANDLE, cart	1
78	240512	FRAME, cart	1
83	240513	SWIVEL, inlet tube	1
85	192727	HOSE, drain	1
90	100069	BALL	1
103	101818	CLAMP, hose	1
104	192691	CLIP, spring	1
105	103473	STRAP, tie	3
106	205473	COUPLING, hose	1
111	170706	HOSE, suction	1
123†	192838▲	LABEL, WARNING, French	1
126		LABEL, WARNING	1
	187975▲	English	1
	189699▲	Japanese	1

▲*Extra Danger and Warning tags and labels available free.*

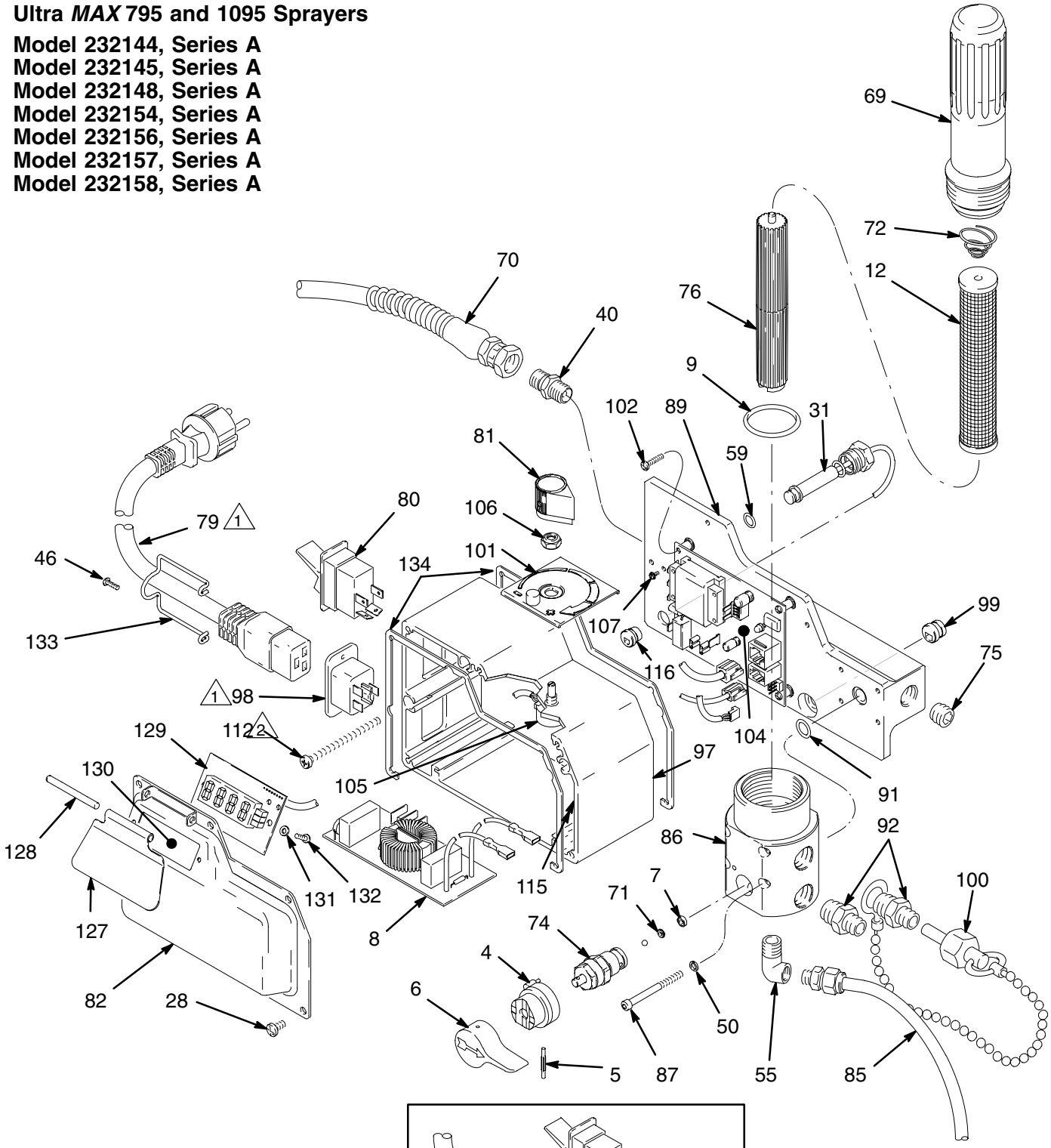
**Motor Brush Repair Kit 220853 is available. Order separately.*

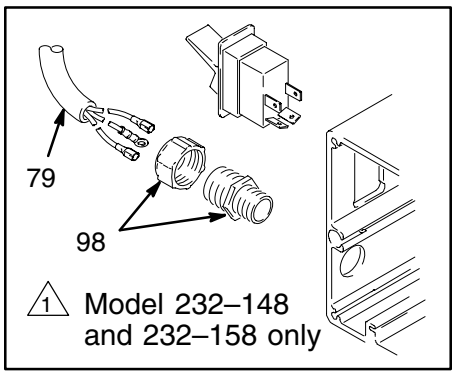
†*Not part of Model 232157*

Parts Drawing – Sprayer

Ultra *MAX* 795 and 1095 Sprayers

Model 232144, Series A
Model 232145, Series A
Model 232148, Series A
Model 232154, Series A
Model 232156, Series A
Model 232157, Series A
Model 232158, Series A





Parts List – Sprayer

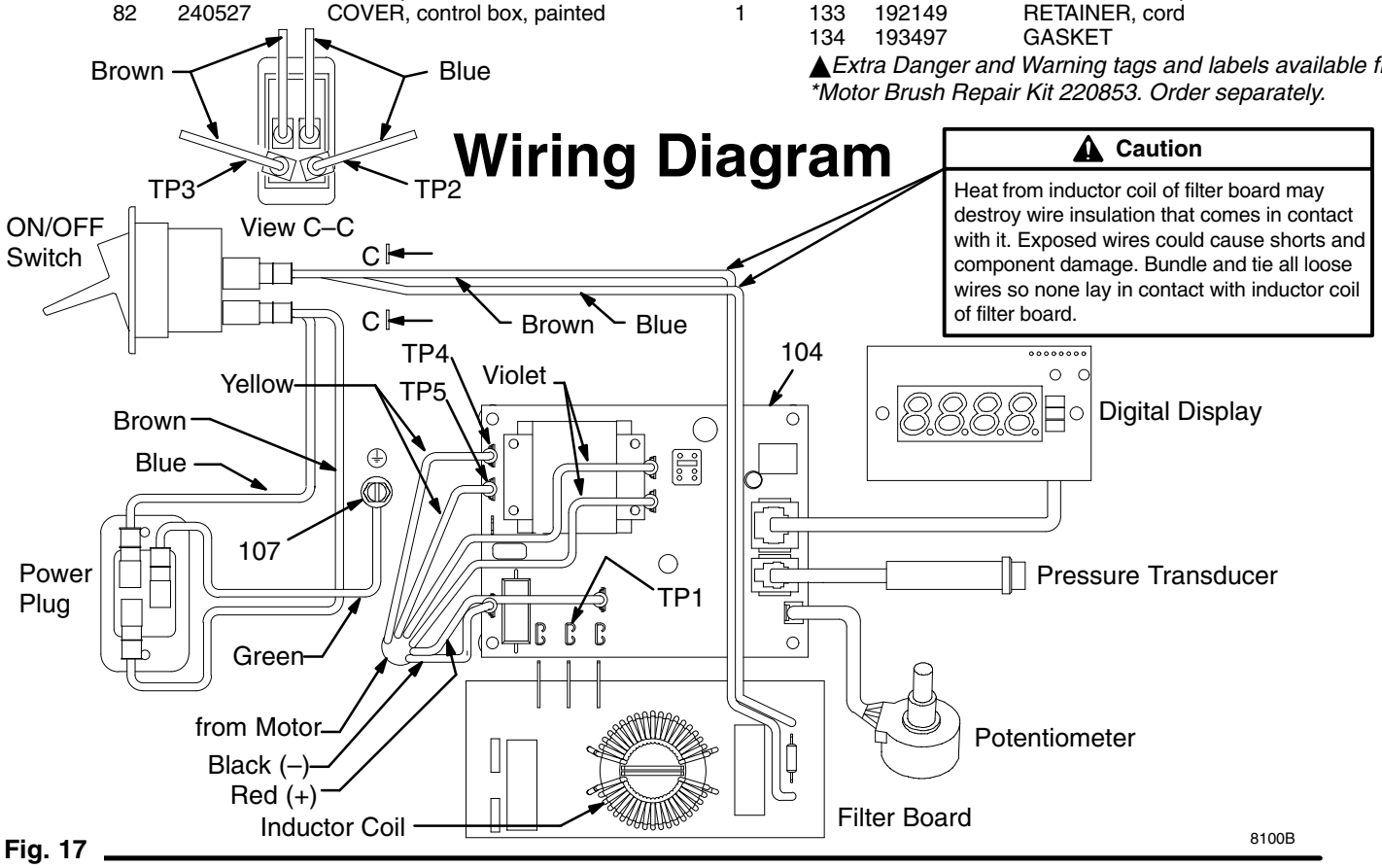
Ultra *MAX* 795 and 1095 Sprayers

Models 232144, Series A; 232145, Series A; 232148, Series A
Models 232154, Series A; 232158, Series A; 232157, Series A; 232156, Series A

REF NO.	PART NO.	DESCRIPTION	QTY
4	224807	ASSEMBLY, cam, drain valve	1
5	111600	PIN, grooved	1
6	187625	HANDLE, valve, drain	1
7	111699	GASKET, seat, valve	1
8		BOARD, filter	1
	240557	Models 232144, 145, 154	1
	240723	Models 232148, 158	1
9	104361	O-RING, packing	1
12	167025	STRAINER, mesh, 60	1
28	114392	SCREW, mach, panhd	5
31	**240314**	**TRANSDUCER, pressure control *includes item 59***	**1**
46	114528	SCREW, mach, panhd	2
50	100020	WASHER, lock spring	4
55	112538	ELBOW, 90°, street, reducing	1
59	111457	O-RING, packing	1
69	**240315**	**BOWL, filter; includes item 72**	**1**
71	187615	VALVE, seat	1
72	171941	SPRING, compression	1
74	235014	ASSEMBLY, drain valve	1
75	100721	PLUG, pipe	1
76	186075	SUPPORT, filter	1
79		CORD SET, power (see note, page 22)	1
	240539	Continental Europe (CEE 7/7)	1
	240540	Italy	1
	239050	United Kingdom	1
	240543	None (Bare End)	1
	240721	Japan	1
	241879	Australia	1
80		SWITCH, rocker, (dpst)	1
	114518	Model 232144, 145, 148, 154, 158	1
	114277	Model 232156, 157	1
81	114273	KNOB, potentiometer	1
82	240527	COVER, control box, painted	1
85	240144	HOSE, drain	1
86	**240316**	**HOUSING, filter; *includes item 9***	**1**
87	107183	CAPSCREW	4
89	192726	PLATE, housing, control	1
91	107505	PACKING, o-ring	1
92	164672	ADAPTER	2
97		HOUSING, control box	1
	193239	Model 232144, 145, 154	1
	192694	Model 232148, 158, 156, 157	1
98		BUSHING, strain relief	1
	113799	Model 232144, 145, 154	1
	114284	Model 232148, 158, 156, 157	1
99	114689	BUSHING, strain relief	1
100	240131	CAP, for secondary outlet	1
101	192831	PLATE, instruction	1
102	114420	SCREW, mach, pnhd	4
104		**BOARD, PC**	**1**
	240561	**Model 232144, 145, 154**	**1**
	240168	**Model 232148, 158, 156, 157**	**1**
105	236352	POTENTIOMETER, pressure adjust	1
106	112382	NUT, shaft, sealing	1
107	114391	SCREW, ground	1
112	114393	SCREW	3
115▲		LABEL, warning	1
	193051	English	1
	193520	Japanese	1
116	114652	BUSHING, strain relief	1
127	193347	COVER, display, painted	1
128	164736	PIN, cross	1
129	**240544**	**BOARD, circuit, display**	**1**
130	193348	LABEL, graphic, display	1
131	103739	WASHER, lock, int	1
132	114512	SCREW, mach, panhd, 4–40 x 3/8	1
133	192149	RETAINER, cord	1
134	193497	GASKET	2

▲*Extra Danger and Warning tags and labels available free.*
**Motor Brush Repair Kit 220853. Order separately.*

Wiring Diagram



⚠ Caution

Heat from inductor coil of filter board may destroy wire insulation that comes in contact with it. Exposed wires could cause shorts and component damage. Bundle and tie all loose wires so none lay in contact with inductor coil of filter board.

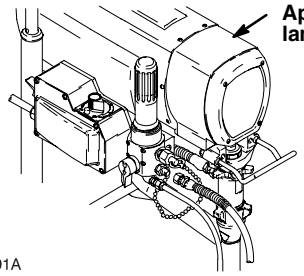
Fig. 17

Accessories

DANGER LABELS

An English language DANGER label is on your sprayer. If you have painters who do not read English, order one of the following labels to apply to your sprayer. The drawing shows the best placement of these labels for good visibility.

Order the labels from your Graco distributor.



7691A

French	185955
Spanish	185962
German	186042
Greek	186046
Korean	186050

Technical Data

Power Requirements
Model 232144, 145, 154 . . . . . 230 VAC, 50 Hz, 1 phase, 10A minimum or 4000W generator
Model 232148, 158 . . . . . 110 VAC, 50 Hz, 1 phase, 15A minimum or 4000W generator
Model 232156, 157 . . . . . 100 VAC, 50/60 Hz, 1 phase, 15A minimum or 4000W generator
Motor
Ultra Max 795 . . . . . 1.0 HP with latex at 2000 psi (138 bar, 13.8 MPa)
Ultra Max 1095 . . . . . 1.2 HP with latex at 2000 psi (138 bar, 13.8 MPa)
Working Pressure Range 0–3000 psi (0–210 bar, 0–21 MPa)
Cycles/Gallon (liter)
Ultra Max 795 . . . . . 244 (64.6)
Ultra Max 1095 . . . . . 200 (53)
Maximum Delivery Rating
Ultra Max 795 . . . . . 0.8 gpm (3 lpm)
Ultra Max 1095 . . . . . 1.1 gpm (4.1 lpm)
Tip Size
Ultra Max 795 . . . . . one gun – 0.028; two guns – 0.019 with latex at 2000 psi (138 bar, 13.8 MPa)
Ultra Max 1095 . . . . . one gun – 0.032; two guns – 0.021 with latex at 2000 psi (138 bar, 13.8 MPa)
Power Cord . . . . . 14 AWG (1.5 mm^2), 3 wire, 15 ft (4.5 m)
Inlet Paint Strainer . . . . . 16 mesh (975 micron) stainless steel screen, reusable
Outlet Paint Filter . . . . . 60 mesh (238 micron) stainless steel screen, reusable
Pump Inlet Size . . . . . 3/4 npt(m)
Fluid Outlet Size
Filter . . . . . 3/8 npt(f)
Filter with standard 3/8 npt(f) to 1/4 npsm adapter 1/4 npsm
Sound Data
Sound Power Level . . . . . 100 dB(A)*
Sound Pressure Level . . . . . 90 dB(A)*
* Measured while spraying waterbase paint – specific gravity 1.36 through a 0.019 tip at 3000 psi (207 bar). Per ISO 3744
Basic Sprayer Wetted Parts: . . . . . zinc-plated carbon steel, polyurethane, polyethylene, stainless steel, Delrin®, chrome plating, leather, V-Max™ UHMWPE, aluminum, stainless steel, tungsten carbide

NOTE: Delrin® is a registered trademark of the DuPont Co.

Dimensions

Weight
Ultra Max 795 . . . . . 101 lb (46 kg)
Ultra Max 1095 . . . . . 107 lb (49 kg)
Height . . . . . 28.5 in. (724 mm)
Length . . . . . 25.5 in. (648 mm)
Width . . . . . 20.5 in. (521 mm)

Graco Phone Number

TO PLACE AN ORDER, contact your Graco distributor.

All written and visual data contained in this document reflect the latest product information available at the time of publication. Graco reserves the right to make changes at any time without notice.

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

www.graco.com

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