

Pro Xp™ Electrostatic Air-Assisted Spray Gun

3A2495M
EN

For use in Class I, Div. I Hazardous Locations using Group D materials.
For use in Group II, Zone 1 Explosive Atmosphere Locations using Group IIA materials. For professional use only.

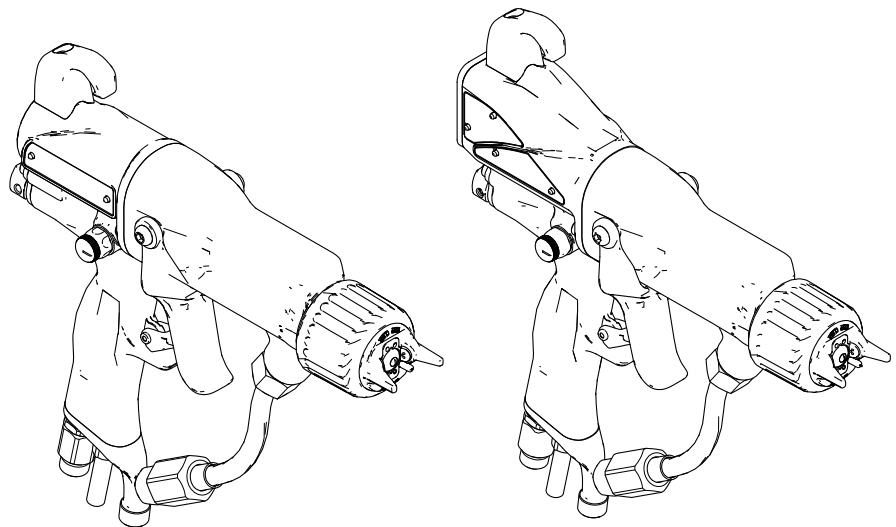


Important Safety Instructions

This equipment could present hazards if not operated according to the information in this manual. **Read all warnings and instructions in this manual before using the equipment. Save these instructions.**

*3000 psi (21 MPa, 210 bar) Maximum
Fluid Working Pressure
100 psi (0.7 MPa, 7 bar) Maximum Air
Working Pressure*

*See page 3 for model part numbers and
approval information.*



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Electrical Tests

Electrical components inside the gun affect performance and safety. Use the following procedures to test the condition of the power supply and gun body, and electrical continuity between components.

NOTICE

The gun body resistor cartridge is part of the body and is not replaceable. To avoid destroying the gun body, do not attempt to remove the body resistor.

Use megohmmeter Part No. 241079 (AA) with an applied voltage of 500 V. Connect the leads as shown.

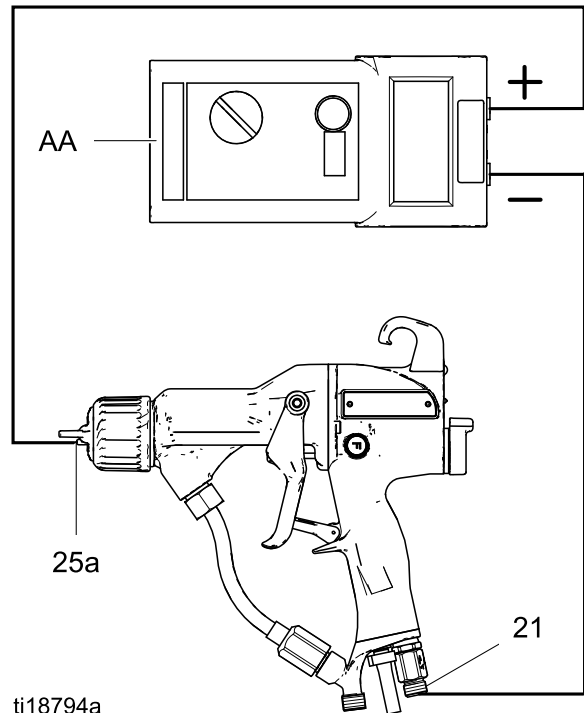
				
<p>Megohmmeter Part No. 241079 (AA-see Fig. 17) is not approved for use in a hazardous location. To reduce the risk of sparking, do not use the megohmmeter to check electrical grounding unless:</p> <ul style="list-style-type: none"> • The gun has been removed from the hazardous location; • Or all spraying devices in the hazardous location are turned off, ventilation fans in the hazardous location are operating, and there are no flammable vapors in the area (such as open solvent containers or fumes from spraying). <p>Failure to follow this warning could cause fire, explosion, and electric shock and result in serious injury and property damage.</p>				

Test Gun Resistance

1. Flush and dry the fluid passage.
2. Measure resistance between the electrode needle tip (25a) and the air swivel (21). The resistance should be:

- 106–150 megohms for 60 kV guns
- 150–195 megohms for 85 kV guns

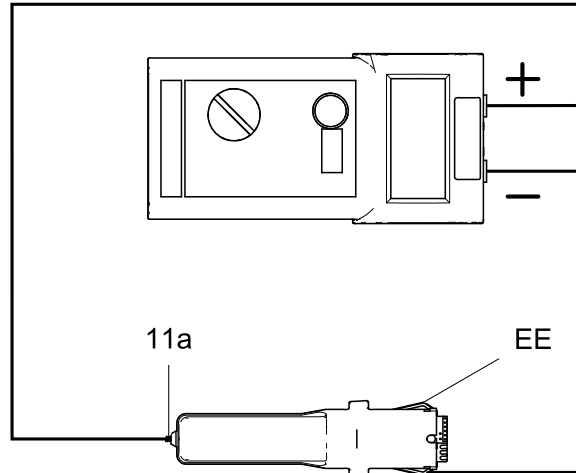
If outside this range, go to [Test Power Supply Resistance, page 34](#). If in range, see [Electrical Troubleshooting, page 38](#) for other possible causes of poor performance.



ti18794a
Figure 17 Test Gun Resistance

Test Power Supply Resistance

1. Remove the power supply (11). See [Power Supply Removal and Replacement, page 46](#).
2. Remove the alternator (15) from the power supply. See [Alternator Removal and Replacement, page 47](#).
3. Measure resistance from the power supply's ground strips (EE) to the spring (11a). The resistance should be:
 - 86–110 megohms for 60 kV guns
 - 130–160 megohms for 85 kV guns
4. If outside this range, replace the power supply. If in range, go to [Test Gun Barrel Resistance, page 35](#).
5. If you still have problems, refer to [Electrical Troubleshooting, page 38](#), for other possible causes of poor performance, or contact your Graco distributor.
6. Be sure the spring (11a) is in place before reinstalling the power supply.

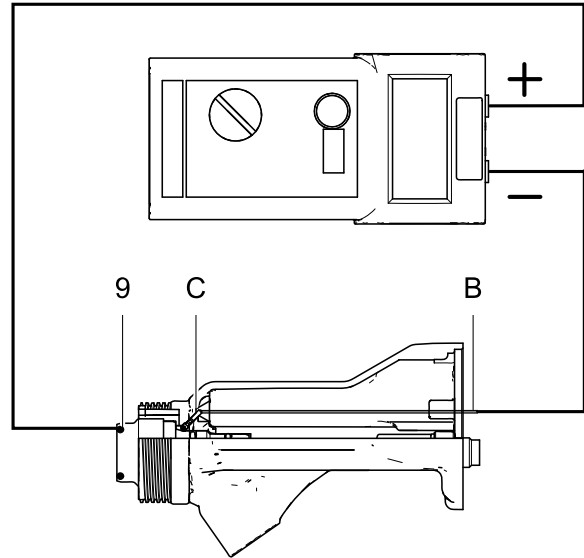


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Figure 18 Test Power Supply Resistance

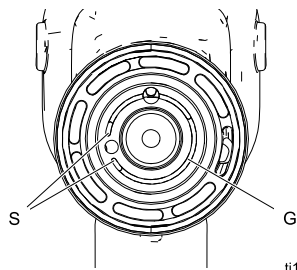
Test Gun Barrel Resistance

1. Insert a conductive rod (B) into the gun barrel (which was removed for the power supply test) and against the metal contact (C) in the front of the barrel.
2. Measure the resistance between the conductive rod (B) and the conductive ring (9). The resistance should be 10–30 megohms. If the resistance is incorrect, make sure the metal contact (C) in the barrel and the conductive ring (9) are clean and undamaged.
3. If the resistance is still outside the range, remove the conductive ring (9) and measure the resistance between the conductive rod (B) and the wire lead at the bottom of the conductive ring groove.
4. If the resistance is in range, replace the conductive ring (9) with a new one. Insert the ends of the conductive ring into the slots (S) at the front of the barrel, then press the ring firmly into the groove (G).



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Figure 19 Test Gun Barrel Resistance









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<p>The conductive ring (9) is a conductive (metal) contact ring, not a sealing o-ring. To reduce the risk of fire, explosion, or electric shock:</p> <ul style="list-style-type: none"> • Do not remove the conductive ring except to replace it. • Never operate the gun without the conductive ring in place. • Do not replace the conductive ring with anything but a genuine Graco part. 				

5. If the resistance is still outside the range, replace the gun barrel.

Troubleshooting

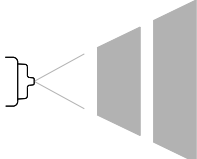

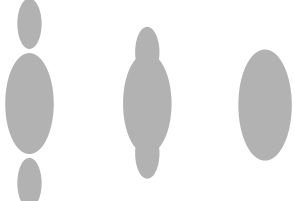
				
<p>Installing and servicing this equipment requires access to parts which may cause an electric shock or other serious injury if the work is not performed properly. Do not install or service this equipment unless you are trained and qualified.</p>				

				
<p>To reduce the risk of a skin injection injury, always follow the Pressure Relief Procedure, page 27, whenever you are instructed to relieve the pressure.</p>				

Check all possible remedies in the Troubleshooting Chart before disassembling the gun.

Spray Pattern Troubleshooting

NOTE: Some spray pattern problems are caused by the improper balance between air and fluid.

Problem	Cause	Solution
Fluttering or spitting spray. 	No fluid.	Refill supply.
	Air in fluid supply.	Check fluid source. Refill.
Irregular pattern.  <small>ti18798a</small>	Fluid buildup; partially plugged tip.	Clean. See Clean the Gun Daily, page 31 .
	Worn/damaged tip or air cap holes.	Clean or replace.
Pattern pushed to one side; air cap gets dirty.	Air cap holes plugged.	Clean. See Clean the Gun Daily, page 31 .
Tails in pattern.  <small>ti18797a</small>	Air pressure too low.	Open atomizing air adjustment valve.
	Fluid pressure too low.	Increase.
Fluid buildup on air cap/tip guard.	Air pressure too high.	Decrease.
	Fluid pressure too low.	Increase.
	Air cap holes plugged.	Clean. See Clean the Gun Daily, page 31 .

Gun Operation Troubleshooting

Problem	Cause	Solution
Excessive spray fog.	Atomizing air pressure too high.	Close atomizing air valve part way, or decrease air pressure as low as possible; minimum 45 psi (0.32 MPa, 3.2 bar) needed at gun for full voltage.
	Fluid too thin.	Increase viscosity or increase fluid flow rate.
"Orange Peel" finish.	Atomizing air pressure too low.	Open atomizing air valve more or increase gun air inlet pressure; use lowest air pressure necessary.
	Spray tip is too large.	Use smaller tip. See Spray Tip Selection Chart, page 62 .
	Poorly mixed or filtered fluid.	Remix or refilter fluid.
	Fluid too thick.	Reduce viscosity.
Fluid leaks from the fluid packing area.	Worn fluid needle packings or rod.	Replace packings. See Fluid Needle Replacement, page 45 .
Air leaks from the front of the gun.	Air valve is not seating properly.	Replace air valve. See Air Valve Repair, page 51 .
Fluid leakage from the front of the gun.	Worn or damaged fluid needle ball.	See Fluid Needle Replacement, page 45 .
	Worn fluid seat housing.	See Air Cap, Spray Tip, and Fluid Seat Housing Replacement, page 41 .
	Loose spray tip.	Tighten retaining ring.
	Damaged tip seal.	See Air Cap, Spray Tip, and Fluid Seat Housing Replacement, page 41 .
Gun does not spray.	Low fluid supply.	Add fluid if necessary.
	Damaged spray tip.	Replace.
	Dirty or clogged spray tip.	Clean. See Clean the Gun Daily, page 31 .
	Damaged fluid needle.	See Fluid Needle Replacement, page 45 .
Dirty air cap.	Damaged or plugged air cap.	Clean air cap. See Clean the Gun Daily, page 31 .
Excessive paint wrap back to operator.	Poor grounding.	See Grounding, page 17 .
	Incorrect distance from gun to part.	Should be 8–12 in. (200–300 mm).




Electrical Troubleshooting





Problem	Cause	Solution
Poor wrap.	ES On/Off switch is OFF (O).	Turn ON (I).
	Gun air pressure too low (ES indicator is amber).	Check air pressure to gun; minimum 45 psi (0.32 MPa, 3.2 bar) needed at gun for full voltage.
	Atomizing air pressure too high.	Decrease.
	Fluid pressure too high.	Decrease, or replace worn tip.
	Incorrect distance from gun to part.	Should be 8-12 in. (200-300 mm).
	Poorly grounded parts.	Resistance must be 1 megohm or less. Clean workpiece hangers.
	Faulty gun resistance.	See Test Gun Resistance, page 33 .
	Low fluid resistivity.	See Check Fluid Resistivity, page 26 .
	Fluid leaks from the fluid needle packings and causes a short.	See Fluid Needle Replacement, page 45 .
	Faulty alternator.	See Alternator Removal and Replacement, page 47 .
ES or Hz indicator is not lit.	ES On/Off switch is OFF (O).	Turn ON (I).
	No power.	Check power supply, alternator, and alternator ribbon cable. See Power Supply Removal and Replacement, page 46 and Alternator Removal and Replacement, page 47 .
Operator gets mild shock.	Operator not grounded or is near ungrounded object.	See Grounding, page 17 .
	Gun not grounded.	See Check Gun Electrical Grounding, page 25 , and Test Gun Resistance, page 33 .
Operator gets shock from workpiece.	Workpiece not grounded.	Resistance must be 1 megohm or less. Clean workpiece hangers.

Problem	Cause	Solution
Voltage/current display stays red (smart guns only).	Gun is too close to the part being sprayed.	Gun should be 8–12 in. (200–300 mm) from the part.
	Check fluid resistivity.	See Check Fluid Resistivity, page 26 .
	Dirty gun.	See Clean the Gun Daily, page 31 .
ES or Hz indicator is amber.	Alternator speed is too low.	Increase air pressure until indicator is green. To avoid over-atomization, use the atomizing air restrictor valve to reduce the atomizing air to the air cap.
ES or Hz indicator is red.	Alternator speed is too high.	Decrease air pressure until indicator is green, or install ES On-Off with Air Restrictor, which limits the air flow to the turbine.
Error display appears and Hz indicator is red (Smart guns only).	Smart module has lost communication with the power supply.	Check for good connections between Smart Module and power supply. See Smart Module Replacement, page 52 and Power Supply Removal and Replacement, page 46 .

Repair

Prepare the Gun for Service

				
Installing and repairing this equipment requires access to parts that may cause electric shock or other serious injury if the work is not performed properly. Do not install or service this equipment unless you are trained and qualified.				

				
To reduce the risk of injury, follow the Pressure Relief Procedure, page 27 , before checking or servicing any part of the system and whenever you are instructed to relieve the pressure.				

- Check all possible remedies in [Troubleshooting, page 36](#), before disassembling the gun.

- Use a vise with padded jaws to prevent damage to plastic parts.
 - Lubricate the some needle assembly parts (20) and certain fluid fittings with dielectric grease (57), as specified in the text.
 - Lightly lubricate o-rings and seals with non-silicone grease. Order Part No. 111265 Lubricant. Do not over-lubricate.
 - Only use genuine Graco parts. Do not mix or use parts from other Pro Gun models.
 - Air Seal Repair Kit 24N789 is available. The kit must be purchased separately. Kit parts are marked with an asterisk, for example (3*).
1. Flush the gun. See [Flushing, page 29](#).
 2. Relieve the pressure. See [Pressure Relief Procedure, page 27](#).
 3. Disconnect the gun air and fluid lines.
 4. Remove the gun from the worksite. Repair area must be clean.

Air Cap, Spray Tip, and Fluid Seat Housing Replacement

1. See [Prepare the Gun for Service, page 40](#).
2. Remove the retainer ring (22) and air cap/tip guard assembly (25).

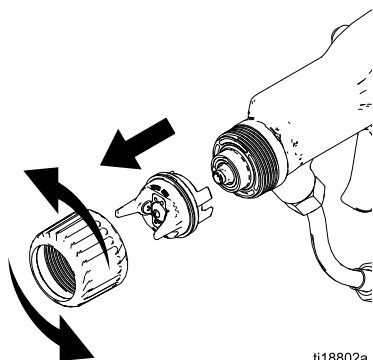


Figure 20 Remove Air Cap

3. Disassemble the air cap assembly. Check the condition of the u-cup (22a), o-ring (25b), and tip gasket (27a). Replace any damaged parts.

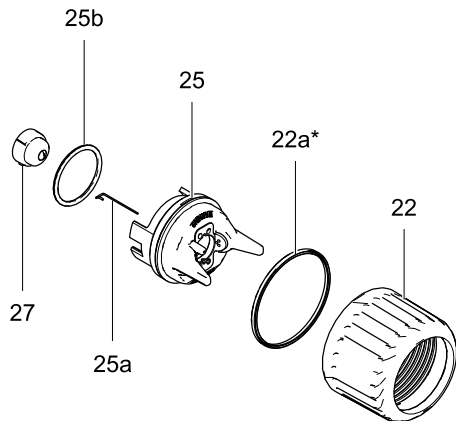


Figure 21 Disassemble Air Cap Assembly

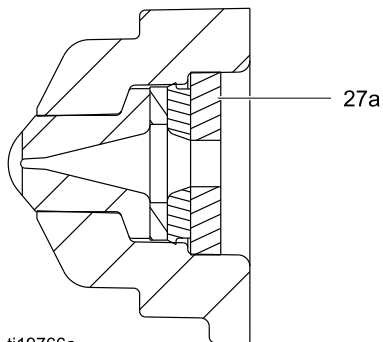


Figure 22 Tip Gasket

4. To replace the electrode (25a), see [Electrode Replacement, page 42](#).

<p>The conductive ring (9) is a conductive metal contact ring, not a sealing o-ring. To reduce the risk of fire, explosion, or electric shock:</p> <ul style="list-style-type: none"> • Do not remove the conductive ring except to replace it. • Never operate the gun without the conductive ring in place. • Do not replace the conductive ring with anything but a genuine Graco part. 				

5. Trigger the gun and remove the fluid seat housing (24), using the multi-tool (61).

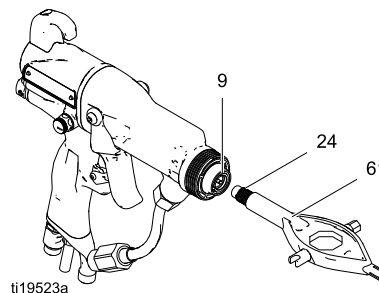


Figure 23 Replace Fluid Seat Housing

NOTICE

Do not overtighten the fluid seat housing (24). Overtightening may damage the housing and the gun barrel, resulting in improper fluid shutoff.




6. Trigger the gun and install the fluid seat housing (24). Tighten until snug, then 1/4 turn more.
7. Check that the spray tip gasket (27a) is in place. Align the spray tip tab with the groove in the air cap (25). Install the spray tip (27) in the air cap.
8. Make sure that the electrode (25a) is installed correctly in the air cap.
9. Check that the air cap o-ring (25b) is in place.
10. Check that the u-cup (22a) is in place on the retaining ring (22). The lips of the u-cup must face forward.

NOTICE

To avoid damaging the tip guard, orient the air cap assembly (25) before tightening the retaining ring (22). Do not turn the air cap when the retaining ring is tight.

11. Orientate the air cap and tighten the retaining ring securely.
12. See [Test Gun Resistance, page 33](#).

Electrode Replacement

			
To reduce the risk of fire, explosion, or electric shock, do not operate the spray gun without the electrode installed in the air cap.			

1. Follow the steps in [Prepare the Gun for Service, page 40](#).
2. Remove the air cap assembly (25). See [Air Cap, Spray Tip, and Fluid Seat Housing Replacement, page 41](#).
3. Pull the electrode (25a) out of the back of the air cap, using a needle-nose pliers.
4. Push the new electrode through the air cap hole. Make sure the short end (BB) of the electrode engages the hole (CC) in the back of the air cap. Press the electrode in place firmly with your fingers.
5. Install the air cap assembly.
6. Follow the steps in [Test Gun Resistance, page 33](#).

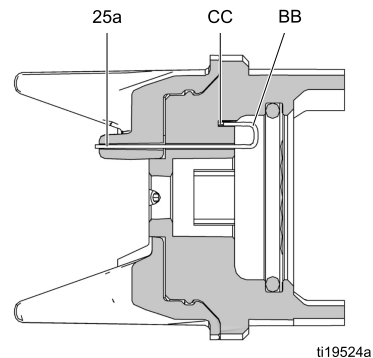


Figure 24 Replace Electrode

Fluid Tube Removal and Replacement

1. See [Prepare the Gun for Service, page 40](#).
2. Disconnect the bottom fluid tube nut (C).
3. Carefully unscrew the top fluid tube nut (D).

NOTICE

Be careful not to damage the fluid tube assembly (19) when cleaning or installing it, especially the sealing surface (E). If the sealing surface is damaged, the entire fluid tube assembly must be replaced.

4. Apply dielectric grease (57) to the entire length of the plastic extension on the fluid tube.
5. Apply low strength sealant to the fluid tube nut threads.
6. Install the fluid tube into the gun barrel and tighten the top nut (D) until snug, then 1/2 turn tighter. There will be a gap between the nut and barrel. Do not over-tighten the nut.
7. Make sure the fluid filter (10) is in place in the fluid fitting. Tighten the bottom nut (C) securely onto the fitting. Make sure the top nut remains tight.

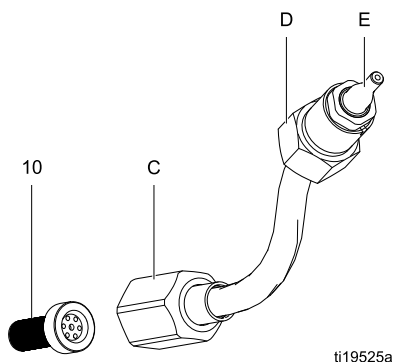


Figure 25 Fluid Tube

Fluid Filter Replacement

1. See [Prepare the Gun for Service, page 40](#).
2. Disconnect the bottom fluid tube nut (C).
3. Remove the fluid filter (10) from the fluid fitting. Clean or replace the filter, as needed.
4. Install the fluid filter (10) in the fluid fitting. Tighten the bottom nut (C) onto the fitting and torque to 140–150 in-lb (15.8–16.9 N•m). Make sure the top nut remains tight at 20–30 in-lb (2.3–3.4 N•m).

NOTICE

Be sure the fluid tube (19) is not twisted after tightening the bottom nut (C).

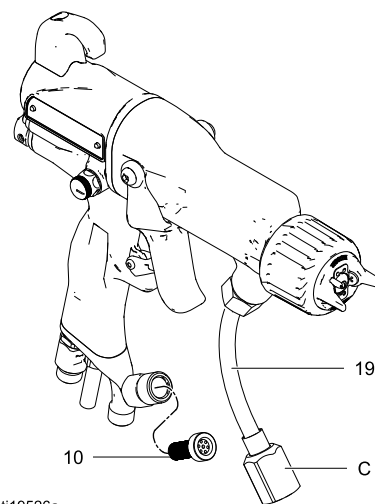


Figure 26 Replace Fluid Filter

Gun Barrel Removal

1. See [Prepare the Gun for Service, page 40](#).
2. Disconnect the bottom fluid tube nut (N). Carefully separate the tube assembly (T) from the bracket (7).
3. Loosen the two screws (6).

NOTICE

To avoid damaging the power supply (11), pull the gun barrel straight away from the gun handle. If necessary, gently move the gun barrel from side to side to free it from the gun handle.

4. Hold the gun handle (16) with one hand and pull the barrel (1) straight off the handle.

NOTE: If the power supply remains in the barrel, remove the alternator/power supply assembly from the barrel.

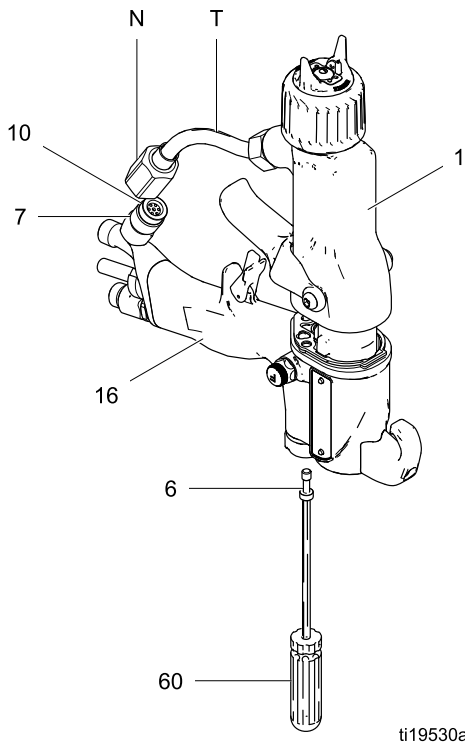


Figure 27 Gun Barrel Removal

Gun Barrel Installation

1. Be sure the gasket (5*) and grounding spring (37a) are in place. Make sure the gasket air holes are aligned properly. Replace the gasket if damaged.
2. Make sure the spring (11a) is in place on the tip of the power supply (11). **Liberally** apply dielectric grease (57) to the tip of the power supply. Place the gun barrel (1) over the power supply and onto the gun handle (16).
3. Tighten the two screws (6) oppositely and evenly (about a half turn past snug, or 20 in-lbs, 2.3 N•m).

NOTICE

To avoid damaging the gun barrel, do not over-tighten the screws (6).

4. Make sure the fluid filter (10) is in place in the fluid fitting. Tighten the bottom nut (N) onto the fitting and torque to 140–150 in-lb (15.8–16.9 N•m). Make sure the top nut remains tight.
5. Follow the steps in [Test Gun Resistance, page 33](#).

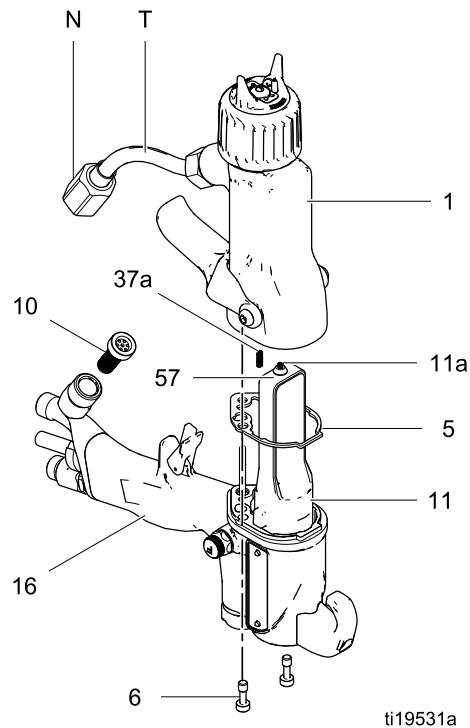


Figure 28 Gun Barrel Installation

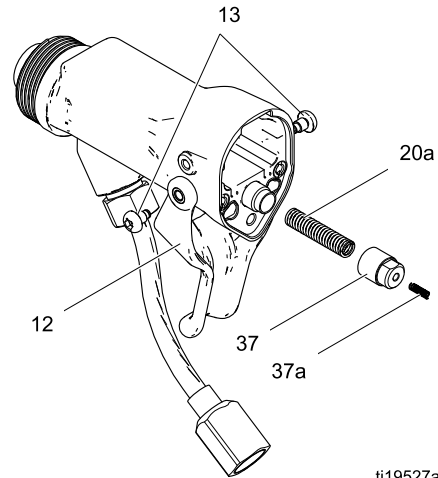
Fluid Needle Replacement

1. See [Prepare the Gun for Service, page 40](#).
2. Remove the air cap assembly and fluid seat housing. See [Air Cap, Spray Tip, and Fluid Seat Housing Replacement, page 41](#).
3. Remove the gun barrel. See [Gun Barrel Removal, page 44](#).
4. Remove the trigger screws (13) and trigger (12).
5. Unscrew the spring cap (37). Remove the spring (20a).
6. Be sure the seat housing (24) is removed. Place the 2 mm ball end wrench (60) in the back of the fluid needle assembly. Push the tool forward so the two segments of the needle engage, and turn it counterclockwise about 12 full turns to unthread the needle.
7. Using the external hex end of the plastic multi-tool (61), carefully push straight on the fluid needle ball from the front of the barrel until the fluid seals release from the bore.

NOTICE

To prevent needle assembly separation or damage, be certain needle is disengaged before removing.

8. Remove the fluid needle assembly from the back of the gun barrel.
9. Install the fluid needle assembly in the gun barrel. Push in on the needle with the driver (60) and tighten.
10. Install the spring (20a).
11. Install the spring cap (37). Make sure the grounding spring (37a) is in place.
12. Install the trigger (12) and screws (13).
13. Install the gun barrel. See [Gun Barrel Installation, page 44](#).
14. Install the seat housing and air cap assembly. See [Air Cap, Spray Tip, and Fluid Seat Housing Replacement, page 41](#).
15. See [Test Gun Resistance, page 33](#).



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Figure 29 Remove Cap and Springs

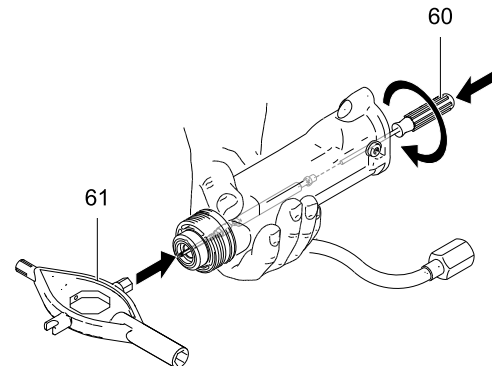
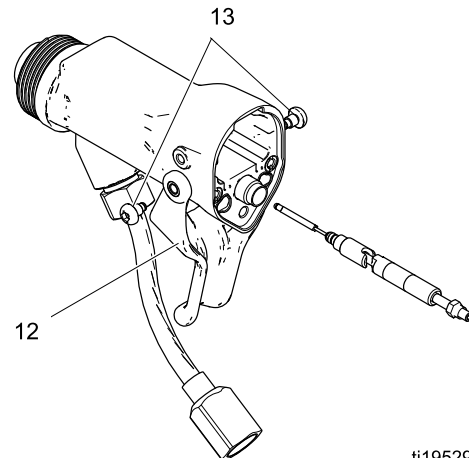


Figure 30 Remove Fluid Needle



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Figure 31 Replace Fluid Needle

Power Supply Removal and Replacement

- Inspect the gun handle power supply cavity for dirt or moisture. Clean with a clean, dry rag.
 - Do not expose gasket (5) to solvents.
1. See [Prepare the Gun for Service, page 40](#).
 2. See [Gun Barrel Removal, page 44](#).

NOTICE

Be careful when handling the power supply (11) to avoid damaging it.

3. Grasp the power supply (11) with your hand. With a gentle side to side motion, free the power supply/alternator assembly from the gun handle (16), then carefully pull it straight out. *On Smart Models only*, disconnect the flexible circuit (40) from the socket at the top of the handle.
4. Inspect the power supply and alternator for damage.
5. To separate the power supply (11) from the alternator (15), disconnect the 3-wire ribbon connector (PC) from the power supply. *On Smart Models only*, disconnect the 6-pin flexible circuit (40) from the power supply. Slide the alternator up and off the power supply.
6. See [Test Power Supply Resistance, page 34](#). Replace the power supply if necessary. To repair the alternator, see [Alternator Removal and Replacement, page 47](#).
7. *Smart models only*: connect the 6-pin flexible circuit (40) to the power supply.

NOTICE

To prevent damage to the cable and possible interruption of the ground continuity, bend the alternator's 3-wire ribbon cable (PC) upward and back, so the bend faces the power supply and the connector is at the top.

8. Connect the 3-wire ribbon connector (PC) to the power supply. Tuck the ribbon forward, under the power supply. Slide the alternator (15) down onto the power supply (11).

9. Insert the power supply/alternator assembly in the gun handle (16). Make sure the ground strips (EE) make contact with the handle. *On Smart models*, align the connector of the 6-pin flexible circuit (40) with the socket (CS) at the top of the handle. Push the connector securely into the socket as you slide the power supply/alternator assembly into the handle.

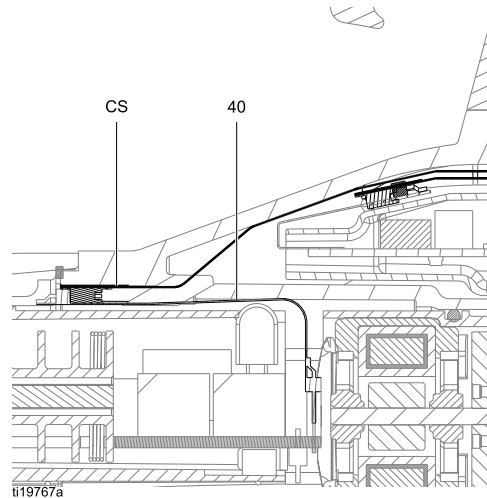


Figure 32 Connect Flexible Circuit

10. Make sure the gasket (5*), ground spring (37a), and power supply spring (11a) are in place. Replace gasket (5*) if damaged. Assemble the barrel (1) to the handle (16). See [Gun Barrel Installation, page 44](#).
11. See [Test Gun Resistance, page 33](#).

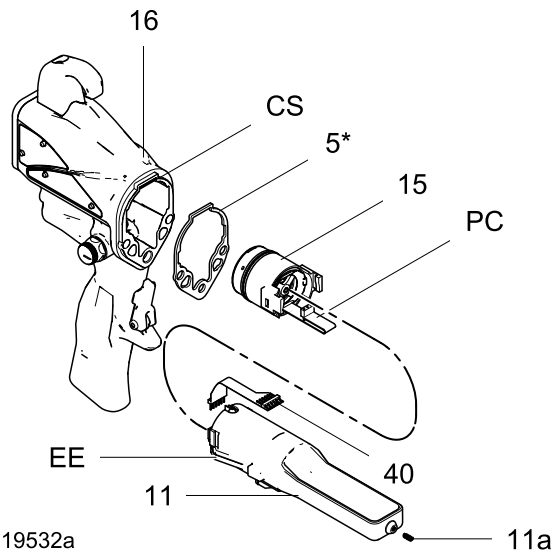


Figure 33 Power Supply

Alternator Removal and Replacement

NOTE: Replace alternator bearings after 2000 hours of operation. Order Part No. 24N706 Bearing Kit. Parts included in the kit are marked with a symbol (◆).

1. See [Prepare the Gun for Service, page 40](#).
2. Remove the power supply/alternator assembly and disconnect the alternator. See [Power Supply Removal and Replacement, page 46](#).
3. Measure resistance between the two outer terminals of the 3-wire connector (PC); it should be 2.0–6.0 ohms. If outside this range, replace the alternator coil (15a).
4. Using a flat blade screwdriver, pry the clip (15h) off the housing (15d). Remove the cap (15f), using a thin blade or screwdriver.
5. If necessary, rotate the fan (15e) so its blades clear the four bearing tabs (T) of the housing (15d).

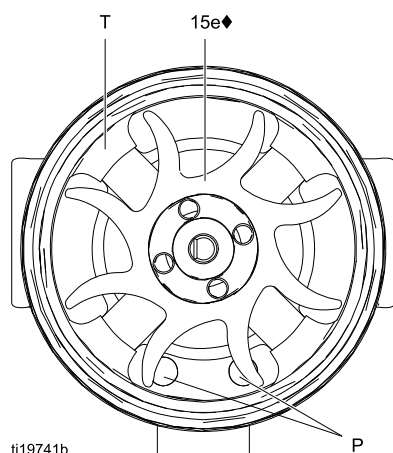


Figure 34 Fan Orientation

6. Push the fan and coil assembly (15a) out the front of the housing (15d).

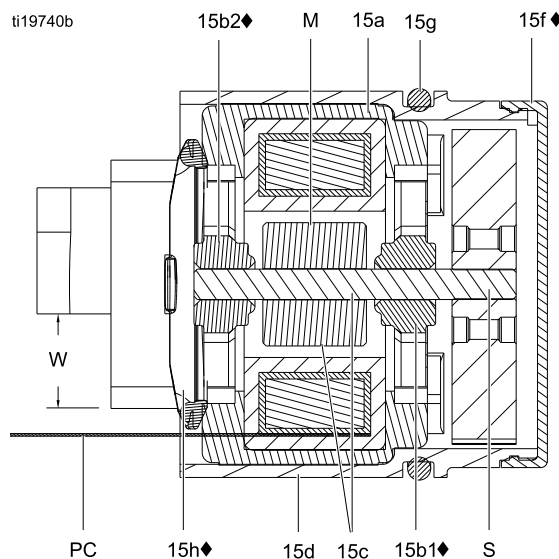


Figure 35 Alternator Cross-Section

◆5 is not shown in the illustration.

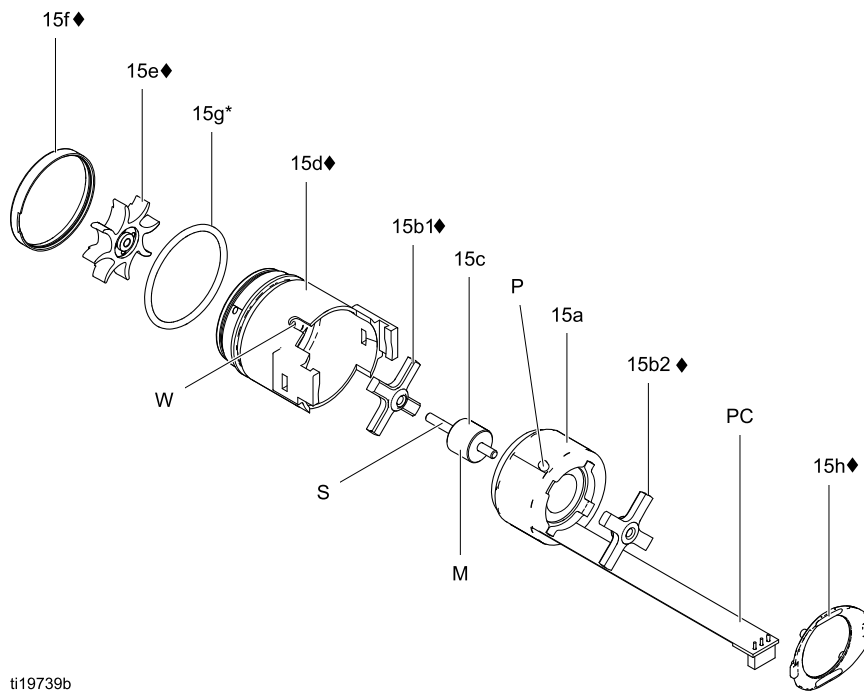
NOTICE

Do not scratch or damage the magnet (M) or shaft (S). Do not pinch or damage the 3-wire connector (PC) when disassembling and reassembling the bearings.

7. Hold the coil assembly (15a) on a workbench with the fan end facing up. Using a wide blade screwdriver, pry the fan (15e) off the shaft (S).
8. Remove the top bearing (15b2).
9. Remove the bottom bearing (15b1).
10. Install the new bottom bearing (15b1◆) on the long end of the shaft (S). The flatter side of the bearing must face away from the magnet (M). Install in the coil (15a) so the bearing blades are flush with the surface of the coil.
11. Press the new top bearing (15b2◆) onto the short end of the shaft so the bearing blades are flush with the surface of the coil (15a). The flatter side of the bearing must face away from the coil.

Repair

12. Hold the coil assembly (15a) on a workbench with the fan end facing up. Press the fan (15e♦) onto the long end of the shaft (S). The fan blades must be oriented as shown.
13. Carefully press the coil assembly (15a) into the front of the housing (15d♦) while aligning the pin on the coil with the slot in the housing. The 3-wire connector (PC) must be positioned below the wider notch (W) of the housing tabs, as shown in Fig. 35. Be sure the coil alignment pins (P) are positioned as shown in Fig. 34.
14. Rotate the fan (15e) so its blades clear the four bearing tabs (T) at the back of the housing. Ensure that the blades of the bottom bearing (15b1♦) align with the tabs.
15. Seat the coil fully into the housing (15d♦). Secure with the clip (15h♦), ensuring that its tabs engage the slots in the housing.
16. Ensure that the o-ring (15g) is in place. Install the cap (15f).
17. Install the alternator on the power supply, and install both parts in the handle. See [Power Supply Removal and Replacement, page 46](#).



ti19739b

Figure 36 Alternator

Fan Air Adjustment Valve Repair

1. Follow the steps in [Prepare the Gun for Service, page 40](#).
2. Place a wrench on the flats of the valve assembly (30) and unscrew it from the handle (16).

NOTE: You may replace the valve as an assembly (go to step 9) or as individual parts (steps 3-9).

3. Remove the retaining ring (30d).
4. Turn the valve shaft (30b) counterclockwise until it comes free from the valve housing (30a).
5. Remove the o-ring (30c).
6. Clean all parts and inspect for wear or damage.

NOTE: Use non-silicone grease, Part No. 111265. Do not over-lubricate.

7. When reassembling the fan air valve (30), lightly lubricate the valve threads and screw the shaft (30b) fully into the housing (30a) until bottomed. Install the o-ring (30c*), lubricate, and unscrew the valve stem until the o-ring enters the housing.
8. Reassemble the retaining ring (30d). Unscrew the valve stem from the housing until it is stopped by the retaining ring.
9. Screw the valve assembly (30) into the gun handle (16), using a wrench on the flats of the housing. Torque to 15 in-lb (1.7 N•m).

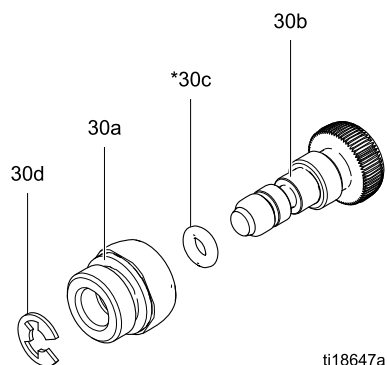


Figure 37 Fan Air Adjustment Valve

Atomizing Air Adjustment Valve Repair

1. Follow the steps in [Prepare the Gun for Service, page 40](#).
2. Place a wrench on the flats of the valve assembly (29) and unscrew it from the handle (16).
3. Inspect the valve assembly. If damaged, install a new valve (29).
4. Before installing the valve assembly in the handle, unscrew the valve stem (29b) from the housing (29a) until it stops.
5. Install the valve assembly into the gun handle. Torque the valve housing (29a) to 15 in-lb (1.7 N•m).

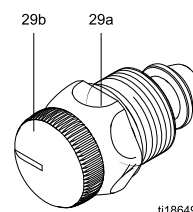


Figure 38 Atomizing Air Adjustment Valve

ES On-Off Valve Repair

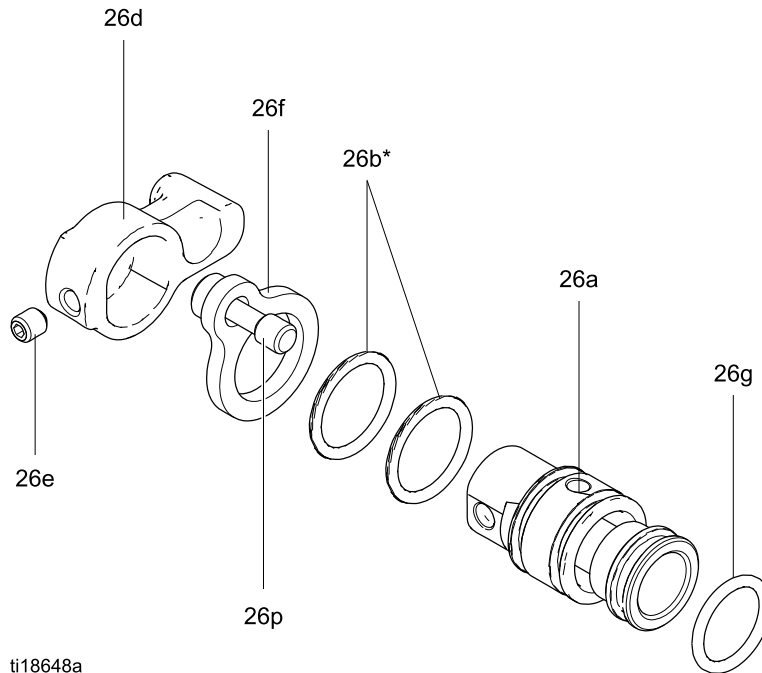
1. Follow the steps in [Prepare the Gun for Service, page 40](#).
2. Loosen the captive screw (26p). Remove the valve (26) from the handle.
3. Lubricate the o-rings (26b* and 26g*) with non-silicone grease, Part No. 111265. Do not over-lubricate.

NOTE: Do not over-lubricate parts. Excessive lubricant on the o-rings can be pushed into the gun air passage and blemish the finish on the workpiece.

4. Clean and inspect parts for damage. Replace if necessary.

NOTE: The protrusion on the retainer plate (26f) must point upward.

5. Reinstall the valve. Torque the screw (26p) to 15-25 in-lb (1.7-2.8 N•m).

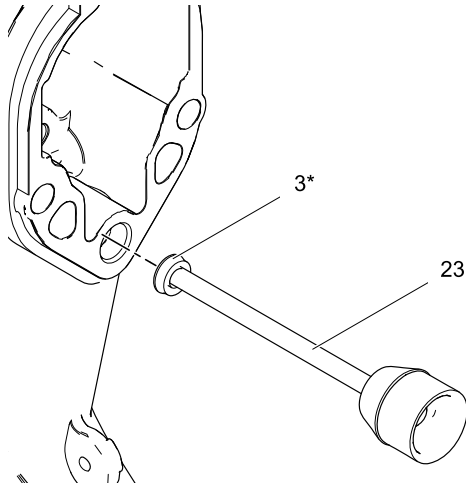


ti18648a

Figure 39 ES On-Off Valve

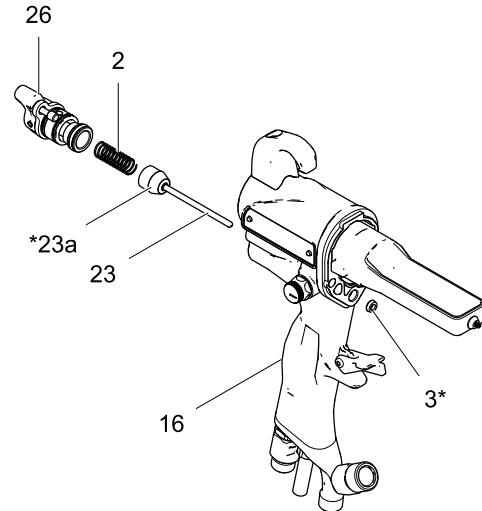
Air Valve Repair

1. Follow the steps in [Prepare the Gun for Service, page 40](#).
2. Follow the steps in [Gun Barrel Removal, page 44](#).
3. Remove the screws (13) and trigger (12).
4. Remove the ES On-Off Valve. See [ES On-Off Valve Repair, page 50](#).
5. Remove the spring (2).
6. Push on the front of the air valve shaft to force it out the back of the handle. Inspect the rubber seal (23a*) and replace if damaged.
7. Inspect the u-cup (3). Do not remove the u-cup unless damaged. If removed, install the new one with its lips facing into the gun handle (16). Place the u-cup on the shaft of the air valve to help seat it in the gun handle.
8. Install the air valve (23) and spring (2) into the gun handle (16).
9. Install the ES On-Off Valve. See [ES On-Off Valve Repair, page 50](#).
10. Install the trigger (12) and screws (13).
11. Follow the steps in [Gun Barrel Installation, page 44](#).



ti19724a

Figure 40 Install U-Cup



ti19543a

Figure 41 Air Valve

Smart Module Replacement

If the Error display appears, the Smart Module has lost communication with the power supply. Check for good connections between the Smart Module and the power supply.

If the module's LEDs are not lighting, replace the module.

1. Follow the steps in [Prepare the Gun for Service, page 40](#).
2. Remove the pivot screw (31e), o-ring (31f), and ES HI/LO switch (31c) at the bottom left corner of the Smart Module cartridge (31a).
3. Remove the remaining three screws (31d) from the cartridge.
4. Pull the Smart Module out the back of the gun. Disconnect the ribbon cable (RC) from the connector (GC) in the gun handle.
5. Remove the gasket (31b).
6. Install a new gasket (31b) on the new cartridge (31a). Make sure the notched corners of the gasket are at the top.
7. Align the module's ribbon cable (RC) with the gun's cable (GC) and slide them securely together, as shown. Tuck the connected cables into the recess of the gun handle. Install the module flush to the back of the gun handle.
8. Install the pivot screw (31e), o-ring (31f), and ES HI/LO switch in the bottom left corner of the cartridge (31a).
9. Install the three remaining screws (31d). Torque to 7–9 in-lb (0.8–1.0 N•m).

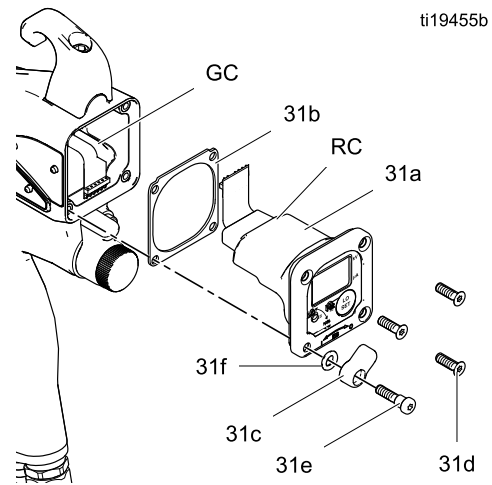


Figure 42 Smart Module

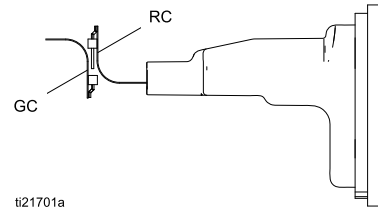


Figure 43 Align Ribbon Cables

Air Swivel and Exhaust Valve Replacement

1. Follow the steps in [Prepare the Gun for Service, page 40](#).
2. To replace the air exhaust valve:
 - a. Remove the clamp (36) and the exhaust tube (35).
 - b. Unscrew the swivel (21) from the gun handle (16). The swivel is a left-hand thread. Remove the bracket (7).
 - c. Pull the exhaust valve (8) from the handle (16). Inspect the o-ring (8a) and replace if necessary.
 - d. Install the o-ring (8a*) on the exhaust valve (8). Lubricate the o-ring with a light coating of non-silicone grease.
 - e. Install the exhaust valve (8) in the handle (16).
 - f. Apply thread sealant to the top threads of the swivel (21). Position the bracket (7) and screw the swivel into the gun handle (16). Torque to 75–85 in-lb (8.4–9.6 N•m).
 - g. Install the tube (35) and clamp (36).
3. To replace the air inlet swivel:
 - a. Unscrew the swivel (21) from the gun handle (16). The swivel is a left-hand thread.
 - b. Apply thread sealant to the top threads of the swivel. Screw the swivel into the gun handle. Torque to 75–85 in-lb (8.4–9.6 N•m).

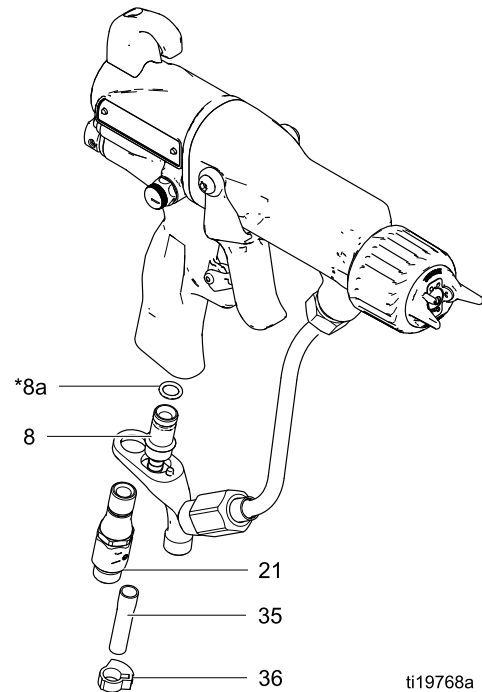
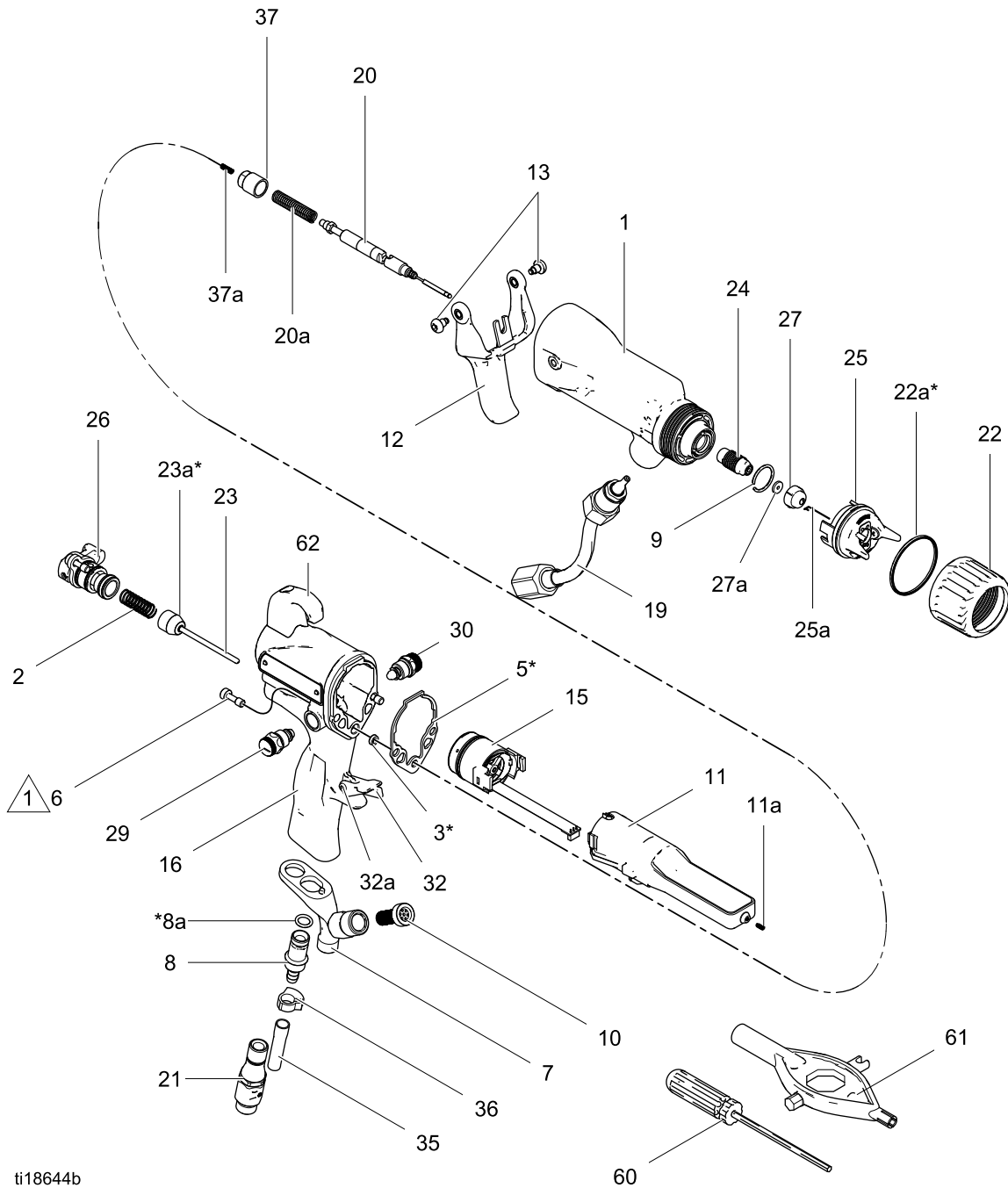


Figure 44 Air Inlet Fitting and Air Exhaust Valve


Parts

Standard Air-Assisted Spray Gun Assembly

Part No. H60T10 60 kV Electrostatic Air-Assisted Spray Gun, Series C
Part No. H85T10 85 kV Electrostatic Air-Assisted Spray Gun, Series C
Part No. H85T57 85 kV High Air Flow Electrostatic Air-Assisted Spray Gun, Series A



ti18644b

 Torque to 20 in-lb (2 N•m).

Part No. H60T10 60 kV Electrostatic Air-Assisted Spray Gun, Series C
 Part No. H85T10 85 kV Electrostatic Air-Assisted Spray Gun, Series C
 Part No. H85T57 85 kV High Air Flow Electrostatic Air-Assisted Spray Gun, Series A

Ref. No.	Part No.	Description	Qty
1	24N746	BODY, gun; 60 kV gun, includes gasket (5)	1
	24N745	BODY, gun; 85 kV gun, includes gasket (5)	1
2	185116	SPRING, compression	1
3*	188749	PACKING, u-cup	1
5*	25N921	GASKET, body	1
6	24N740	SCREW, hex socket; pack of 2	1
7	24N742	BRACKET	1
8	249323	VALVE, exhaust	1
8a*	112085	O-RING	1
9	24N747	RING, conductive	1
10	238562	FILTER, inline, 100 mesh; see note below	1
11	24N660	POWER SUPPLY, 60 kV gun	1
	24N661	POWER SUPPLY, 85 kV gun	1
11a	24N979	SPRING	1
12	24N663	TRIGGER; includes item 13	1
13	24A445	SCREW, trigger; package of 2	1
15	24N664	See Alternator Assembly, page 58	1
16	24N761	HANDLE; 60 kV AA gun	1
	24N762	HANDLE; 85 kV AA gun	1
19	24N744	TUBE, fluid; 60 kV gun	1
	24N743	TUBE, fluid; 85 kV gun	1
20	24N780	NEEDLE ASSEMBLY; 60 kV gun; includes item 20a	1
	24N781	NEEDLE ASSEMBLY; 85 kV gun; includes item 20a	1
20a	24N782	SPRING, fluid needle	1
21	24N626	SWIVEL, air inlet; M12 x 1/4 npsm(m); left-hand thread	1
22	24N793	RING, retainer; includes 22a	1
22a*	198307	PACKING, u-cup; UHMWPE; part of 22	1
23	24N633	VALVE, air	1
23a*	276733	SEAL	1
24	24N725	HOUSING, seat	1

▲ Replacement Danger and Warning labels, tags, and cards are available at no cost.

* These parts are included in Air Seal Repair Kit 24N789 (purchase separately).

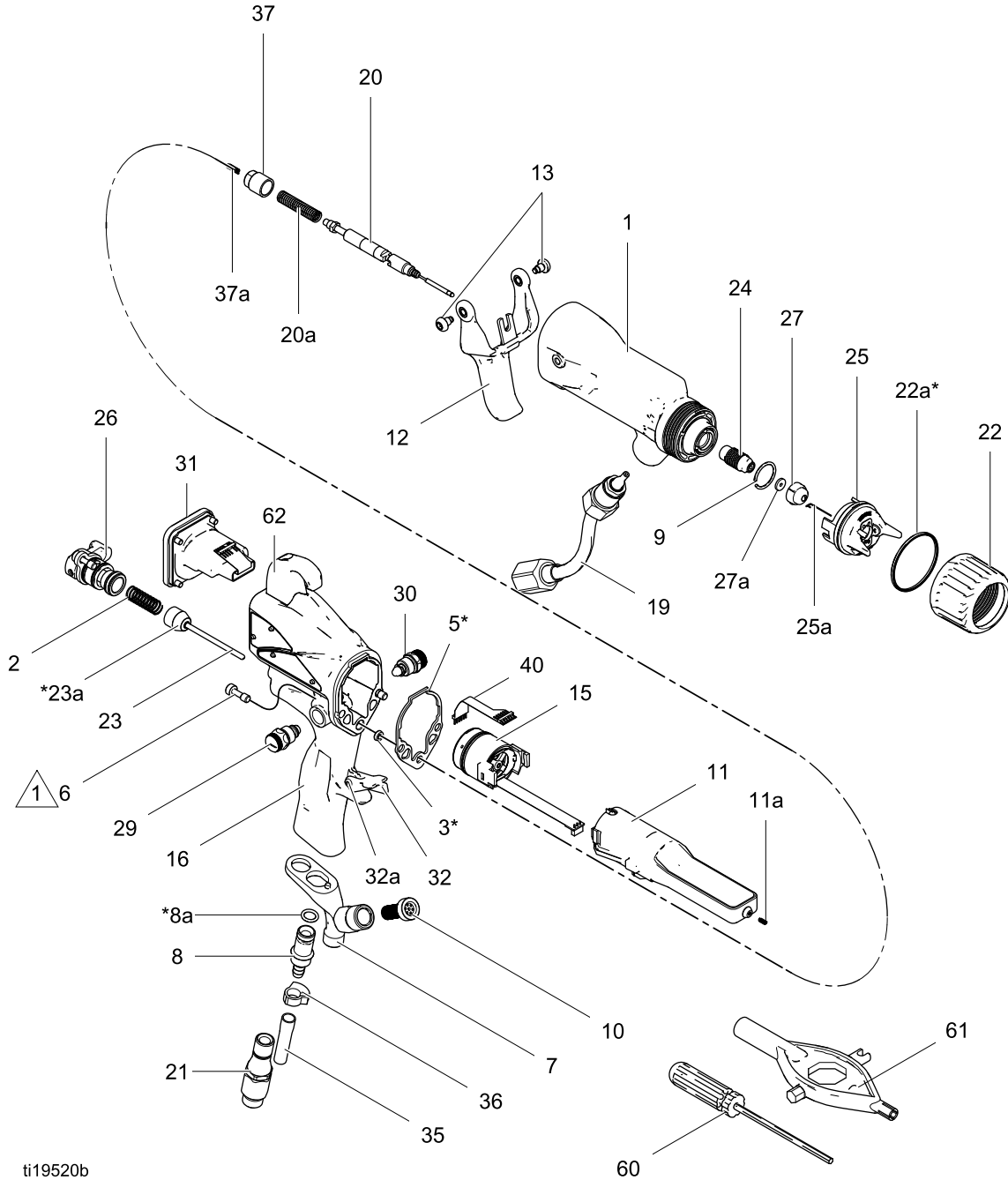
Ref. No.	Part No.	Description	Qty
25	24N727	See Air Cap Assembly, page 61	1
25a	24N643	ELECTRODE; package of 5	1
26	24N632	For H60T10 and H85T10 models. See ES On-Off Valve Assembly, page 59	1
	26A294	For H85T57 models. See ES On-Off Valve Assembly, page 59	1
27	AEMxxx AEFxxx	TIP ASSEMBLY; customer's choice; includes item 27a	1
27a	183459	GASKET, tip	1
29	24N792	ATOMIZING AIR ADJUSTMENT VALVE	1
30	24N634	See Fan Air Adjustment Valve Assembly, page 60	1
32	24E404	STOP, trigger; includes item 32a	1
32a	— — —	PIN, dowel	1
35	185103	TUBE, exhaust; 1/4 in. (6 mm) ID (shipped loose)	1
36	110231	CLAMP	1
37	24N785	CAP, spring; includes item 37a	1
37a	197624	SPRING, compression	1
38	24N786	PLUG, fan control; option, shipped loose for use in place of item 29	1
	51	112080	TOOL, needle (shipped loose)
54	24N603	COVER, gun, 60 kV guns; package of 10	1
	24N604	COVER, gun, 85 kV guns; package of 10	1
55▲	179791	TAG, warning (not shown)	1
56▲	16P802	SIGN, warning (not shown)	1
57	116553	GREASE, dielectric; 1 oz (30 ml) tube (not shown)	1
58	117824	GLOVE, conductive, medium; package of 12; also available in small (117823) and large (117825)	1
60	107460	TOOL, wrench, ball end (shipped loose)	1
61	276741	MULTI-TOOL (shipped loose)	1
62	24N783	HOOK; includes screw	1

Parts labeled — — — are not available separately.


NOTE: See [Inline Fluid Filter Kit Accessories, page 66](#) for kit options in standard and alternate mesh sizes.

Smart Air-Assisted Spray Gun Assembly

Part No. H60M10 60 kV Electrostatic Air-Assisted Spray Gun, Series C
Part No. H85M10 85 kV Electrostatic Air-Assisted Spray Gun, Series C
Part No. H85M57 85 kV High Air Flow Electrostatic Air-Assisted Spray Gun, Series A



ti19520b

 Torque to 20 in-lb (2 N•m).

Part No. H60M10 60 kV Electrostatic Air-Assisted Spray Gun, Series C
 Part No. H85M10 85 kV Electrostatic Air-Assisted Spray Gun, Series C
 Part No. H85M57 85 kV High Air Flow Electrostatic Air-Assisted Spray Gun, Series A

Ref. No.	Part No.	Description	Qty
1	24N746	BODY, gun; 60 kV gun, includes gasket (5)	1
	24N745	BODY, gun; 85 kV gun, includes gasket (5)	1
2	185116	SPRING, compression	1
3*	188749	PACKING, u-cup	1
5*	25N921	GASKET, body	1
6	24N740	SCREW, hex socket; sst; package of 2	1
7	24N742	BRACKET	1
8	249323	VALVE, exhaust	1
8a*	112085	O-RING	1
9	24N747	RING, conductive	1
10	238562	FILTER, inline, 100 mesh; see note below	1
11	24N660	POWER SUPPLY, 60 kV gun	1
	24N661	POWER SUPPLY, 85 kV gun	1
11a	24N979	SPRING	1
12	24N663	TRIGGER; includes item 13	1
13	24A445	SCREW, trigger; package of 2	1
15	24N664	See Alternator Assembly, page 58	1
16	24N763	HANDLE, smart; 60 kV AA gun	1
	24N764	HANDLE, smart; 85 kV AA gun	1
19	24N744	TUBE, fluid; 60 kV gun	1
	24N743	TUBE, fluid; 85 kV gun	1
20	24N780	NEEDLE ASSEMBLY; 60 kV gun; includes item 20a	1
	24N781	NEEDLE ASSEMBLY; 85 kV gun; includes item 20a	1
20a	24N782	SPRING, fluid needle	1
21	24N626	SWIVEL, air inlet; M12 x 1/4 npsm(m); left-hand thread	1
22	24N793	RING, retainer; includes 22a	1
22a*	198307	PACKING, u-cup; UHMWPE; part of 22	1
23	24N633	VALVE, air	1
23a*	276733	SEAL	1
24	24N725	HOUSING, seat	1
25	24N727	See Air Cap Assembly, page 61	1

▲ Replacement Danger and Warning labels, tags, and cards are available at no cost.

* These parts are included in Air Seal Repair Kit 24N789 (purchase separately).

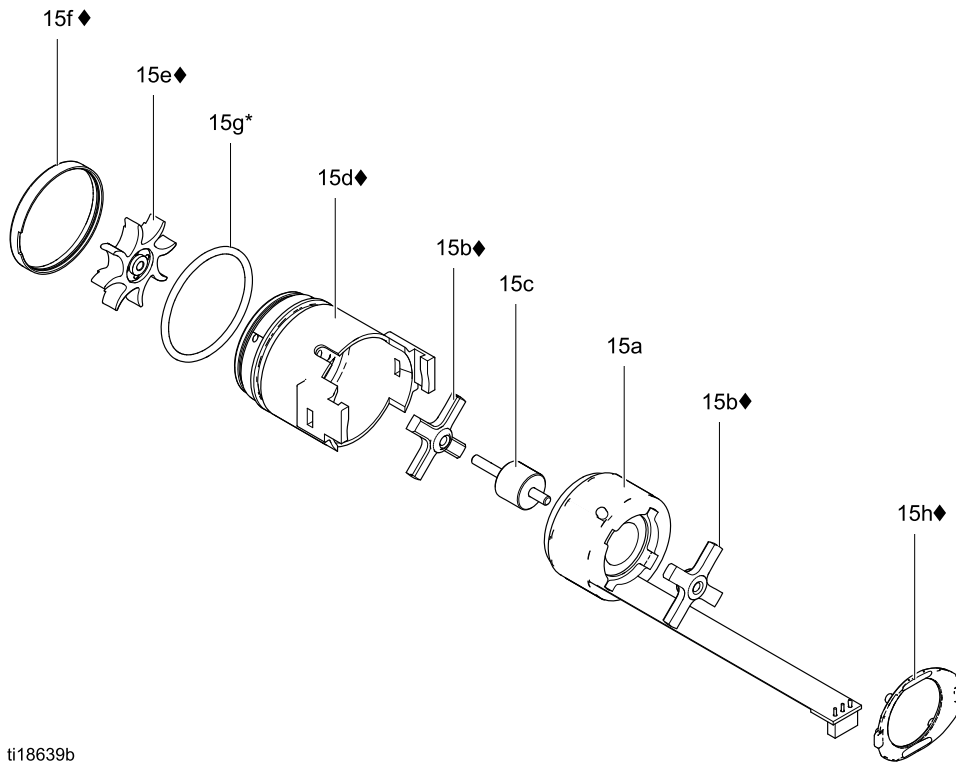
Ref. No.	Part No.	Description	Qty
25a	24N643	ELECTRODE; package of 5	1
26	24N632	For H60M10 and H85M10 models. See ES On-Off Valve Assembly, page 59	1
	26A294	For H85M57 models. See ES On-Off Valve Assembly, page 59	1
27	AEMxxx AEFxxx	TIP ASSEMBLY; customer's choice; includes item 27a	1
27a	183459	GASKET, tip	1
29	24N792	ATOMIZING AIR ADJUSTMENT VALVE	1
30	24N634	See Fan Air Adjustment Valve Assembly, page 60	1
31	24N756	See Smart Module Assembly, page 61	1
32	24E404	STOP, trigger; includes item 32a	1
32a	— — —	PIN, dowel	1
35	185103	TUBE, exhaust; 1/4 in. (6 mm) ID (shipped loose)	1
36	110231	CLAMP	1
37	24N785	CAP, spring; includes item 37a	1
37a	197624	SPRING, compression	1
38	24N786	PLUG, fan control; option, shipped loose for use in place of item 29	1
40	245265	CIRCUIT, flexible	1
51	112080	TOOL, needle (shipped loose)	1
54	24N603	COVER, gun, 60 kV guns; package of 10	1
	24N604	COVER, gun, 85 kV guns; package of 10	1
55▲	179791	TAG, warning (not shown)	1
56▲	16P802	SIGN, warning (not shown)	1
57	116553	GREASE, dielectric; 1 oz (30 ml) tube (not shown)	1
58	117824	GLOVE, conductive, medium; package of 12; also available in small (117823) and large (117825)	1
60	107460	TOOL, wrench, ball end (shipped loose)	1
61	276741	MULTI-TOOL (shipped loose)	1
62	24N783	HOOK; includes screw	1

NOTE: See [Inline Fluid Filter Kit Accessories, page 66](#) for kit options in standard and alternate mesh sizes.

Parts labeled — — — are not available separately.

Alternator Assembly

Part No. 24N664 Alternator Assembly



ti18639b

Ref. No.	Part No.	Description	Qty
15a	24N705	COIL, alternator	1
15b◆	24N706	BEARING KIT (includes two bearings, item 15d housing, item 15e fan, item 15f cap, and one item 15h clip)	1
15c	24Y264	SHAFT KIT (includes shaft and magnet)	1
15d◆	24N707	HOUSING; includes item 15f	1
15e◆	— — —	FAN; part of item 15b	1

Ref. No.	Part No.	Description	Qty
15f◆	— — —	CAP, housing; part of item 15d	1
15g*	110073	O-RING	1
15h◆	24N709	CLIP; package of 5 (one clip included with item 15b)	1
5◆*	25N921	GASKET, barrel (not shown in drawing)	1

* These parts are included in Air Seal Repair Kit 24N789 (purchase separately).

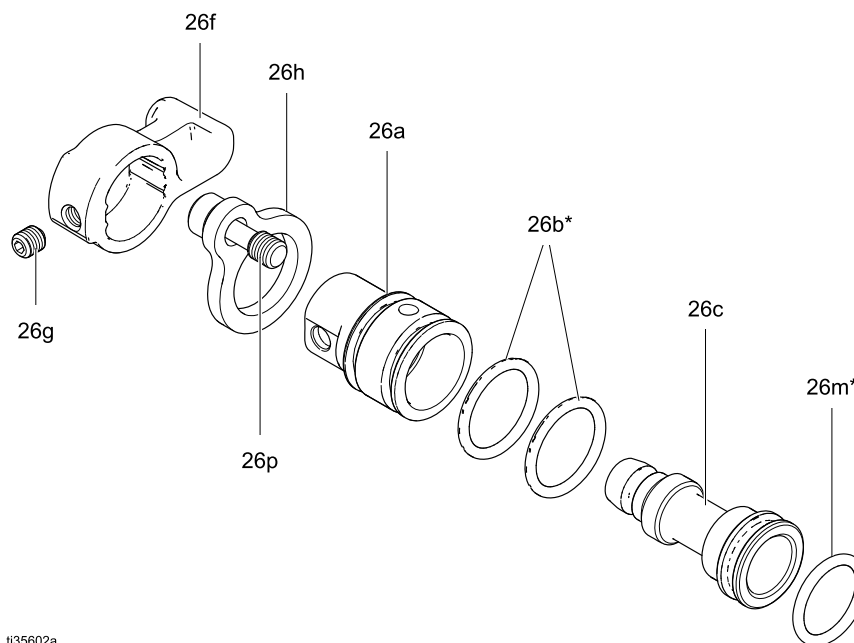
◆ These parts are included in Bearing Kit 24N706 (purchase separately).

Parts labeled — — — are not available separately.

ES On-Off Valve Assembly

Part No. 24N632 ES On-Off Valve Assembly

Part No. 26A294 ES On-Off Valve with Air Restrictor Assembly



ti35602a

Ref. No.	Part No.	Description	Qty
26a	— — —	HOUSING, valve; black for 24N632, blue for 26A294	1
26b*	15D371	O-RING	2
26c	— — —	PISTON, valve	1
26f	24N650	LEVER, ES on-off; includes 26g	1

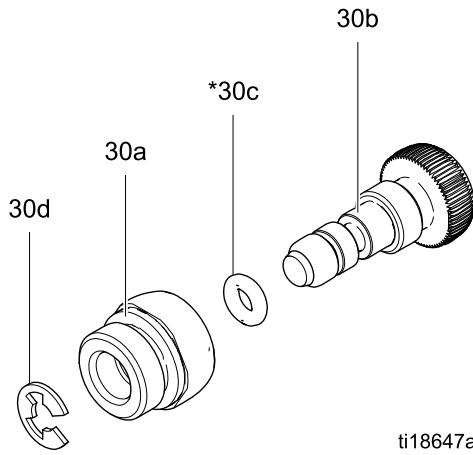
Ref. No.	Part No.	Description	Qty
26g	GC2082	SCREW, set, socket head	1
26h	24N631	PLATE, retaining	1
26m*	113746	O-RING	1
26p	24N740	SCREW, captive; pack of 2	1

* These parts are included in Air Seal Repair Kit 24N789 (purchase separately).

Parts labeled — — — are not available separately.

Fan Air Adjustment Valve Assembly

Part No. 24N634 Fan Air Adjustment Valve Assembly



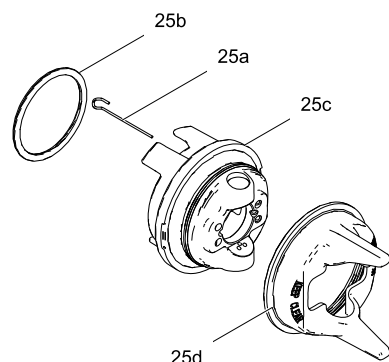
Ref. No.	Part No.	Description	Qty
30a	— — —	NUT, valve	1
30b	— — —	STEM, valve	1
30c*	111504	O-RING	1
30d	24N646	RING, retaining; package of 6	1

* These parts are included in Air Seal Repair Kit 24N789 (purchase separately).

Parts labeled — — — are not available separately.

Air Cap Assembly

Part No. 24N727 Air Cap Assembly



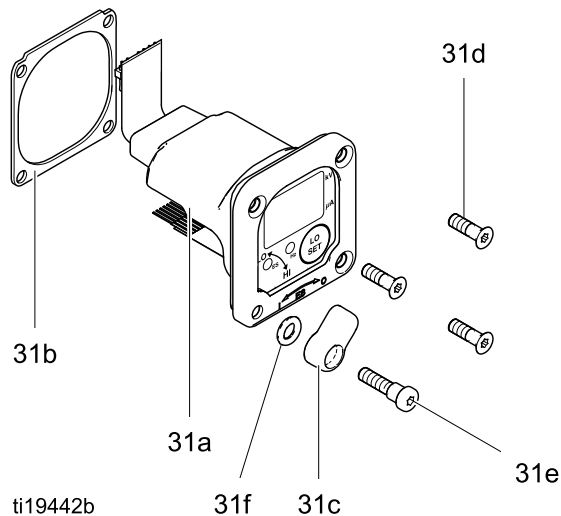
ti18652a

Ref. No.	Part No.	Description	Qty
25a	24N643	ELECTRODE; package of 5	1
25b	24N734	O-RING; ptfе; package of 5 (also available in package of 10; order 24E459)	1
25c	— — —	AIR CAP	1
25d	24N726	GUARD, tip, orange	1
27a	183459	GASKET, tip (not shown)	5

Parts labeled — — — are not available separately.

Smart Module Assembly

Part No. 24N756 Smart Module Assembly



ti19442b

Ref. No.	Part No.	Description	Qty
31a	— — —	CARTRIDGE	1
31b	24P433	GASKET	1
31c	24N787	SWITCH, ES HI/LO	1
31d♦	— — —	SCREW	3
31e♦	— — —	SCREW, pivot	1
31f	112319	O-RING	1

Parts labeled — — — are not available separately.

♦ These parts are included in Smart Module Screw Kit 24N757 (purchase separately).

Spray Tip Selection Chart

AEM Fine Finish Spray Tips

Recommended for high finish quality applications at low and medium pressures. Order desired tip, **Part No. AEMxxx**, where xxx = 3-digit number from the matrix below.

Orifice Size in. (mm)	Fluid Output fl oz/min (l/min)		Maximum Pattern Width at 12 in. (305 mm) in. (mm)							
	at 600 psi (4.1 MPa, 41 bar)	at 1000 psi (7.0 MPa, 70 bar)	2-4 (50- 100)	4-6 (100- 150)	6-8 (150- 200)	8-10 (200- 250)	10-12 (250- 300)	12-14 (300- 350)	14-16 (350- 400)	16-18 (400- 450)
			Spray Tip							
0.007 (0.178)	4.0 (0.1)	5.2 (0.15)	107	207	307					
0.009 (0.229)	7.0 (0.2)	9.1 (0.27)		209	309	409	509	609		
0.011 (0.279)	10.0 (0.3)	13.0 (0.4)		211	311	411	511	611	711	811
0.013 (0.330)	13.0 (0.4)	16.9 (0.5)		213	313	413	513	613	713	813
0.015 (0.381)	17.0 (0.5)	22.0 (0.7)		215	315	415	515	615	715	815
0.017 (0.432)	22.0 (0.7)	28.5 (0.85)		217	317	417	517	617	717	
0.019 (0.483)	28.0 (0.8)	36.3 (1.09)			319	419	519	619	719	
0.021 (0.533)	35.0 (1.0)	45.4 (1.36)				421	521	621	721	821
0.023 (0.584)	40.0 (1.2)	51.9 (1.56)				423	523	623	723	823
0.025 (0.635)	50.0 (1.5)	64.8 (1.94)				425	525	625	725	825
0.029 (0.736)	68.0 (1.9)	88.2 (2.65)								829
0.031 (0.787)	78.0 (2.2)	101.1 (3.03)				431		631		831
0.033 (0.838)	88.0 (2.5)	114.1 (3.42)								833
0.037 (0.939)	108.0 (3.1)	140.0 (4.20)							737	
0.039 (0.990)	118.0 (3.4)	153.0 (4.59)					539			

* Tips are tested in water.

Fluid output (Q) at other pressures (P) can be calculated by this formula: $Q = (0.041) (QT) \sqrt{P}$ where QT = fluid output (fl oz/min) at 600 psi from the above table for the selected orifice size.

AEF Fine Finish Pre-Orifice Spray Tips

Recommended for high finish quality applications at low and medium pressures. AEF tips have a pre-orifice that assists in atomizing sheer thinning materials, including lacquers.

Order desired tip, **Part No. AEFxxx**, where xxx = 3-digit number from the matrix below.

Orifice Size in. (mm)	Fluid Output fl oz/min (l/min)		Maximum Pattern Width at 12 in. (305 mm) in. (mm)					
	at 600 psi (4.1 MPa, 41 bar)	at 1000 psi (7.0 MPa, 70 bar)	6-8 (150- 200)	8-10 (200-250)	10-12 (250-300)	12-14 (300-350)	14-16 (350-400)	16-18 (400-450)
			Spray Tip					
0.008 (0.203)	5.6 (0.17)	7.7 (0.22)				608		
0.010 (0.254)	9.5 (0.28)	12.5 (0.37)	310	410	510	610	710	810
0.012 (0.305)	12.0 (0.35)	16.0 (0.47)	312	412	512	612	712	812
0.014 (0.356)	16.0 (0.47)	21.0 (0.62)	314	414	514	614	714	814
0.016 (0.406)	20.0 (0.59)	26.5 (0.78)		416	516	616	716	
* Tips are tested in water.								
Fluid output (Q) at other pressures (P) can be calculated by this formula: $Q = (0.041) (QT) \sqrt{P}$ where QT = fluid output (fl oz/min) at 600 psi from the above table for the selected orifice size.								

Round Spray Tips

To convert the gun to a round spray pattern, use round spray conversion kit 24N319. See manual 3A2499.

Part No.	Size No.	Approximate Flow Rates for Light to Medium Viscosity Coatings (20–40 centipoise)*		
		300 psi (2.1 MPa, 21 bar)	600 psi (4.2 MPa, 42 bar)	1200 psi (8.4 MPa, 84 bar)
236836	4A	2.5 oz/min (73 cc/min)	4.1 oz/min (120 cc/min)	5.7 oz/min (170 cc/min)
236837	6A	2.9 oz/min (86 cc/min)	5.1 oz/min (150 cc/min)	7.4 oz/min (220 cc/min)
236838	7A	3.2 oz/min (95 cc/min)	5.4 oz/min (160 cc/min)	7.8 oz/min (230 cc/min)
236839	5B	5.4 oz/min (160 cc/min)	7.8 oz/min (230 cc/min)	11.0 oz/min (330 cc/min)
236840	7B	7.1 oz/min (210 cc/min)	9.1 oz/min (270 cc/min)	14.2 oz/min (420 cc/min)
236841	9B	8.8 oz/min (260 cc/min)	11.8 oz/min (350 cc/min)	17.9 oz/min (530 cc/min)
236842	11B	11.8 oz/min (350 cc/min)	16.2 oz/min (480 cc/min)	23.7 oz/min (700 cc/min)

* Flows are based on white acrylic, enamel paint.

Recommended Filter Sizes

Filter Size	Filter Part No.	Orifice Size in. (mm)
200 mesh	25N893	0.007 (0.178)
		0.009 (0.229)
		0.011 (0.279)
150 mesh	25N891	0.011 (0.279)
		0.013 (0.330)
100 mesh	238562	0.013 (0.330)
		0.015 (0.381)
		0.017 (0.432)
		0.019 (0.483)
		0.021 (0.533)
		0.023 (0.584)
		0.025 (0.635)
60 mesh	238564	0.023 (0.584)
		0.025 (0.635)
		0.029 (0.736)
		0.031 (0.787)
		0.033 (0.838)
		0.037 (0.939)
		0.039 (0.990)

Round Spray Tips

Filter Size	Filter Part No.	Tip Part No.	Tip Size No.
200 mesh	25N893	236836	4A
		236837	6A
150 mesh	25N891	236837	6A
		236838	7A
100 mesh	238562	236839	5B
		236840	7B
		236841	9B
		236842	11B

Repair Kits and Accessories

Repair Kits	Repair Kit Description
24N789	Air Seal Repair Kit
24N706	Alternator Bearing Repair Kit

Gun Accessories

General Accessories

Part No.	Description
111265	Non-silicone Lubricant, 4 oz (113 g).
116553	Dielectric Grease. 1 oz (30 ml)
24N603	Gun Covers. For 40 kV and 60 kV guns. Box of 10.
24N604	Gun Covers. For 85 kV guns. Box of 10.
24N758	Display Covers. Keeps Smart display clean. Package of 5.

Round Spray Accessories

Part No.	Description
24N319	Round Spray Kit. To convert a standard air—assisted spray gun to a round spray air cap. See manual 3A2499.

Trigger and Grip Accessories

Part No.	Description
24N520	Comfort Grip. Snap-on grip increases handle size to reduce operator fatigue. Medium size.
24N521	Comfort Grip. Snap-on grip increases handle size to reduce operator fatigue. Large size.
24N633	Plastic Trigger Kit (included in gun models)
24P170	Metal Trigger Kit

Fan Valve Accessories

Part No.	Description
24N634	Fan Valve (included in gun models)
24P172	Quick Adjust Fan Valve for quick change of fan size
25N919	Quick Adjust Fan Valve with spring return. See manual 3A7005.

Adapter and Fitting Accessories

Part No.	Description
112534	Air Line Quick Disconnect Fitting
185105	Non-swivel Air Inlet; 1/4–18 npsm(m) (left-hand thread)
185493	Air Hose Adapter; 1/4 npt(m) x 1/4–18 npsm(m) (left-hand thread)
24N642	Ball Swivel, for gun air inlet. 1/4 npsm (left-hand thread)
224754	Valve, ball 1/4 npsm (left-hand thread)

ES On/Off Valve Accessories

Part No.	Description
24N632	ES On-Off Valve (included in H60M10, H60T10, H85M10, H85T10)
26A294	ES On/Off Valve with Air Restrictor for high atomization air applications. Use this accessory if the turbine light indicator is red and you want to maintain a higher application air pressure. Install the kit, then adjust the pressure as needed to ensure the indicator remains green.
24P635	ES Always ON valve kit. When this valve is installed, the electrostatics are on anytime air pressure is supplied to the gun. See manual 3A6840.

Inline Fluid Filter Kit Accessories

Filter Size	Filter Kit Part No.	Filter Color	Qty.
60 mesh	224453	Black	5
	238563	Black	3
	238564	Black	1
100 mesh	238561	Black	3
	238562 (included in gun models)	Black	1
150 mesh	25N891	Red	1
	25N892	Red	3
200 mesh	25N893	Yellow	1
	25N894	Yellow	3

Operator Accessories

Part No.	Description
117823	Conductive Gloves, box of 12 (small)
117824	Conductive Gloves, box of 12 (medium)
117825	Conductive Gloves, box of 12 (large)

System Accessories

Part No.	Description
222011	Ground Wire and Clamp
24N528	Gun Flush Box Adapter. To convert existing gun flush boxes to hold Pro Xp guns. See manual 309227.
24P312	Gun Washer Kit. To convert existing gun washers to clean Pro Xp guns. See manual 308393.

Signs

Part No.	Description
16P802	English Warning Sign, available at no charge from Graco
16P798	English Daily Care Sign
16P799	English Setup Sign

Test Equipment

Part No.	Description
241079	Megohmmeter. 500 V output, 0.01–2000 megohms. Use for ground continuity and gun resistance tests. Not for use in hazardous locations.
722886	Paint Resistance Meter. Use for fluid resistivity test. See manual 307263. Not for use in hazardous locations.
722860	Paint Probe. Use for fluid resistivity test. See manual 307263. Not for use in hazardous locations.
245277	Test Fixture, High Voltage Probe, and kV Meter. Use to test the electrostatic voltage of the gun, and the condition of the alternator and power supply when being serviced. See manual 309455.

Hoses

Grounded Air Hoses

100 psi (0.7 MPa, 7 bar) Maximum Working Pressure

0.315 in. (8 mm) ID; 1/4 npsm(f) x 1/4 npsm(f) left-hand thread

Part No.	Description
AirFlex Flexible Grounded Air Hose (Gray)	
244963	6 ft (1.8 m)
244964	15 ft (4.6 m)
244965	25 ft (7.6 m)
24J138	31 ft (9.4 m)
24N736	25 ft (7.6 m), with 112534 Quick Disconnect
244966	36 ft (11 m)
24N737	36 ft (11 m), with 112534 Quick Disconnect
244967	50 ft (15 m)
24N738	50 ft (15 m), with 112534 Quick Disconnect
244968	75 ft (23 m)
244969	100 ft (30.5 m)

Part No.	Description
Standard Grounded Air Hose (Gray)	
223068	6 ft (1.8 m)
223069	15 ft (4.6 m)
223070	25 ft (7.6 m)
223071	36 ft (11 m)
223072	50 ft (15 m)
223073	75 ft (23 m)
223074	100 ft (30.5 m)
0.375 in. (10 mm) ID; 3/8 npsm(f) x 1/4 npsm(f) left-hand thread	
24A225	50 ft (15 m)
24A226	75 ft (23 m)

Part No.	Description
Grounded Air Hose with stainless steel braid ground path (Red)	
235068	6 ft (1.8 m)
235069	15 ft (4.6 m)
235070	25 ft (7.6 m)
235071	36 ft (11 m)
235072	50 ft (15 m)
235073	75 ft (23 m)
235074	100 ft (30.5 m)

Air Whip Hoses

100 psi (0.7 MPa, 7 bar) Maximum Working Pressure

0.188 in. (5 mm) ID; 1/4 npsm(m) x 1/4 npsm(f) left-hand thread

Part No.	Description
Air Whip Hose with stainless steel braid ground path (Red)	
236130	3 ft (0.9 m)
236131	6 ft (1.8 m)

Fluid Hoses

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

1/4 in. (6 mm) ID; 1/4 npsm(fbe); nylon.

Part No.	Description
240793	25 ft (7.6 m)
240794	50 ft (15 m)

Fluid Whip Hoses

3200 psi (22 MPa, 220 bar) Maximum Working Pressure

1/8 in. (3 mm) ID; 1/4 npsm(f) x 1/4 npt(m); nylon.

Part No.	Description
236134	3 ft (0.9 m)
236135	6 ft (1.8 m)

Dimensions

ti19533a

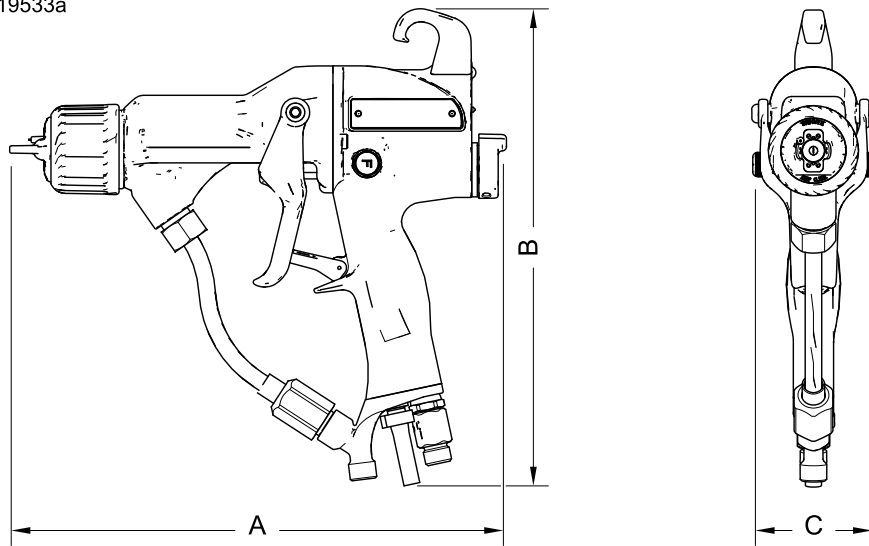


Figure 45

Gun Model	A, in. (mm)	B, in. (mm)	C, in. (mm)	Weight, oz (g)
H60T10	9.7 (246)	9.1 (231)	2.4 (61)	23.2 (659)
H85T10 and H85T57	10.7 (272)	9.2 (234)	2.4 (61)	25.8 (732)
H60M10	9.8 (249)	9.9 (251)	2.4 (61)	25.7 (728)
H85M10 and H85M57	10.8 (274)	9.9 (251)	2.4 (61)	28.3 (801)

Technical Specifications

Electrostatic Air-Assisted Spray Guns		
	U.S.	Metric
Maximum Working Fluid Pressure	3000 psi	21 MPa, 210 bar
Maximum Working Air Pressure	100 psi	0.7 MPa, 7.0 bar
Minimum Air Pressure at Gun Inlet	45 psi	0.32 MPa, 3.2 bar
Air Consumption		
Required turbine air flow	6 scfm	170 l/min
Range of total air flow under normal spraying conditions	7.5–14 scfm	220–400 l/min
Maximum Fluid Operating Temperature	120°F	48°C
Ambient Temperature	41°–122°F	5°–50°C
Paint Resistivity Range	3 megohm/cm to infinity	
Air Inlet Fitting	1/4 npsm(m) left-hand thread	
Fluid Inlet Fitting	1/4–18 npsm(m)	
Output Voltage	Pro Xp60 Models: 60 kV Pro Xp85 Models: 85 kV	
Maximum Current Draw	125 microamperes	
Sound Power (measured per ISO Standard 9216)	at 40 psi: 88.9 dB(A) at 100 psi: 99.7 dB(A)	at 0.28 MPa, 2.8 bar: 88.9 dB(A) at 0.7 MPa, 7.0 bar: 99.7 dB(A)
Sound Pressure (measured 1 m from gun)	at 40 psi: 86.0 dB(A) at 100 psi: 95.0 dB(A)	at 0.28 MPa, 2.8 bar: 86.0 dB(A) at 0.7 MPa, 7.0 bar: 95.0 dB(A)
Wetted Parts	PEEK, UHMWPE, FEP, PTFE, acetal, nylon, polyethylene	

California Proposition 65

CALIFORNIA RESIDENTS

 **WARNING:** Cancer and reproductive harm — www.P65warnings.ca.gov.

Graco Pro Xp Warranty

Graco warrants all equipment referenced in this document which is manufactured by Graco and bearing its name to be free from defects in material and workmanship on the date of sale to the original purchaser for use. With the exception of any special, extended, or limited warranty published by Graco, Graco will, for a period of twelve months from the date of sale, repair or replace any part of the equipment determined by Graco to be defective. However, any deficiency in the barrel, handle, trigger, hook, internal power supply, and alternator (excluding turbine bearings) will be repaired or replaced for thirty-six months from the date of sale. This warranty applies only when the equipment is installed, operated and maintained in accordance with Graco's written recommendations.

This warranty does not cover, and Graco shall not be liable for general wear and tear, or any malfunction, damage or wear caused by faulty installation, misapplication, abrasion, corrosion, inadequate or improper maintenance, negligence, accident, tampering, or substitution of non-Graco component parts. Nor shall Graco be liable for malfunction, damage or wear caused by the incompatibility of Graco equipment with structures, accessories, equipment or materials not supplied by Graco, or the improper design, manufacture, installation, operation or maintenance of structures, accessories, equipment or materials not supplied by Graco.

This warranty is conditioned upon the prepaid return of the equipment claimed to be defective to an authorized Graco distributor for verification of the claimed defect. If the claimed defect is verified, Graco will repair or replace free of charge any defective parts. The equipment will be returned to the original purchaser transportation prepaid. If inspection of the equipment does not disclose any defect in material or workmanship, repairs will be made at a reasonable charge, which charges may include the costs of parts, labor, and transportation.

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