

DG2 Manual-19600-11-DG2



Rev. A 8-29-11



# SAFETY PRECAUTIONS

## GENERAL CONSIDERATIONS

1. Read and follow these instructions. Failure to do this could result in severe personal injury or death.
2. Additional safety instructions and/or symbols are located throughout this manual. They serve to warn maintenance personnel and operators about potentially hazardous situations.
3. Inspect the machine for unsafe conditions daily and replace all worn or defective parts.
4. Keep work area uncluttered and well lit.
5. All covers and guards must be in place before operating this equipment.

**For precautions and definitions of safety symbols, refer to Safety Chapter of the service manual.**

## SERVICING EQUIPMENT

1. Only trained personnel are to operate and service equipment.
2. Never service equipment while it is in motion.
3. Shut off the equipment and lock out all input power and air supply at their sources before attempting any maintenance.
4. Follow the maintenance and service instructions in the manual.

## SIGNS

1. Read and obey all of the warning labels, signs and caution statements on the equipment.
2. Do not remove or deface any of the warning labels, signs, and caution statements on the equipment.
3. Replace any warning labels, signs, and caution statements which have been removed or defaced. Replacements are available.

## ADDITIONAL CONSIDERATIONS

1. To ensure proper operation of the equipment, use specified electrical and/or air supply sources.
2. Do not attempt to alter the design of the equipment unless written approval is received from our factory.
3. Keep all manuals readily accessible at all times and refer to it often for the best performance from your equipment.





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# Chapter 1

## SAFETY PRECAUTIONS

**All operators and service personnel must read and understand this manual before servicing equipment. All maintenance and service on this equipment must be performed by trained technicians.**

### Electrical



Dangerous voltages exist at several points in this equipment. To avoid personal injury, do not touch exposed connections and components while input power is on. Disconnect, lockout and tag external electrical power before removing protective panels.

A secure connection to a reliable earth ground is essential for safe operation.

A disconnection switch with lockout capability must be provided in the line ahead of the unit. Wiring used to supply electrical power should be installed by a qualified electrician.

### High Temperatures



Severe burns can occur if unprotected skin comes in contact with molten adhesive or hot application system parts.

Safety glasses, gloves, and long-sleeved clothing must be worn whenever working with or around adhesive application systems.

### High Pressure



To avoid personal injury, do not operate the equipment without all covers, panels, and safety guards properly installed.

To prevent serious injury from molten adhesive under pressure when servicing the equipment,

disengage the pumps and relieve the adhesive under pressure (e.g. trigger the heads, hand-held applicators, and/or other application devices into a waste container) before opening any hydraulic fittings can connections.

### Protective Covers



Keep all guards in place!

To avoid personal injury, do not operate the application system without all covers, panels, and safety guards properly installed.

## Eye Protection & Protective Clothing



It is very important that you **PROTECT YOUR EYES** when working around hot melt adhesive equipment !

Wear glasses with side shields which conform to ANSI Z87.1 or EN166

Failure to wear safety glasses could result in severe eye injury.

It is important to protect yourself from potential burns when working around hot melt adhesive equipment.

Always wear steel reinforced safety shoes.

Wear protective gloves and long-sleeved, protective clothing to prevent burns that could result from contact with hot material or hot components.

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### Safe Installation and Operation

To avoid possible failure of hoses, make sure all hoses are routed to avoid kinking, tight radius turns (8" or less) and abrasive contact. Hot-melt hoses should not have prolonged contact with heat-absorbing surfaces such as cold floors or metal troughs. These heat-absorbing surfaces can alter adhesive flow and cause incorrect calibration. Hoses should never be covered with materials that prevent heat dissipation, such as insulation or sheathing.

Read this manual before applying electrical power to the equipment. Equipment may be damaged by incorrect electrical connections.

Do not use adhesive that is dirty or that may be chemically contaminated. Doing so can cause system clogging and pump damage.

When adhesive hand-held applicators or other movable applicators are used, never point them at yourself or at any other person. Never leave a hand-held applicator's in use.

Do not operate the tank or other system components without adhesive for more than 15 minutes if the temperature is 150 degrees C (300 degrees F) or more. To do so will cause charring of the residual adhesive.

Never activate the heads, hand-held applicators and/or other application devices until adhesive's temperature is within the operating range. Severe damage could result to internal parts and seals.

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### Treatment for Burns From Hot Melt Adhesives

Burns caused by hot melt adhesives must be treated at a burn center.



Care should be used when working with hot melt adhesives in the molten state. Because they rapidly solidify, they present a unique hazards. Even when first solidified, they are still hot and can cause severe burns. When working near a hot melt application system, always wear safety gloves, safety glasses and long-sleeved, protective clothing.

Always have first-aid information and supplies available.

Call physician and/or an emergency medical technician immediately.

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### **Service**

Refer all servicing to qualified personnel only.

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### **Explosion/Fire Hazard**

Never operate this unit in an explosive environment.

Use cleaning compounds recommended by Astro Packaging. Flash points of cleaning compounds vary according to their composition, so consult with your supplier to determine the maximum heating temperatures and safety precautions.

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### **Lockout/Tag-out**

Follow OSHA 1910.147 (Lockout/Tag-out Regulation) for equipment's lockout procedures and other important lockout/tag-out guidelines.

Be familiar with all lockout sources on the equipment.

Even after the equipment has been locked out, there may be stored energy in the application system, particularly capacitors within the panel box. To ensure that all stored energy is relieved, wait at least one minute before servicing electrical capacitors.

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### **In This Manual**

WARNINGS and CAUTIONS are found throughout the manual.

WARNINGS mean that failure to observe the specific instructions may cause injury to personnel.

CAUTIONS mean that failure to observe the specific instructions may damage the equipment.

# Chapter 2

## DESCRIPTION AND SPECIFICATIONS

### Description

Astro Packaging's DG2 Hand-held Applicators are hand-held adhesive applicators which dispense hot melt adhesive onto a substrate via manual activation of a trigger.

The DG2 applicators are electrically heated independent of the adhesive supply hose. Temperatures are controlled by the controller at the adhesive supply unit (ASU). The ASU responds to signals from temperature sensors (RTDs) located in the house and applicator. The applicator connections to the adhesive supply hose through either a ball swivel fitting or an axial rotation (rotary) fitting and with an electrical connector. Adhesive output may be oriented to be straight or right angle.

As shipped, the DG2 applicator is fitted with a four finger trigger and set-up for bottom-entry hose connection. Parts to convert the applicator to a two-finger trigger and/or top-entry hose connection are supplied. Applicators set up for bead application are tested, stocked, and shipped with a .055 bead nozzle. Applicators set up for swirl application are shipped with a swirl adapter kit. Tools, safety tags, and a configuration sheet are also included.

The DG2 applicator is available in either straight or right-angle (90° application) models.

### Specifications

#### Performance Specifications

Temperature Range .....	38 °C to 232 °C (100 °F to 450 °F)
Maximum operating pressure .....	70 bar (1000 psi)
Warm-up Time .....	15 minutes
Viscosity Range .....	0 to 80,000 cps
Flow Rate* .....	0.39 kg/min. (0.9 lb/min.)
	<i>* Data determined for 1420 cps adhesive at 41.4 bar (600 psi)</i>
CE approval granted .....	yes

#### Physical Specifications

Weight .....	1.7 lb. (0.77 kg)
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#### Electrical Specifications

Voltage .....	120 or 240 VAC, 50/60 Hz
Power Requirements .....	80 watts

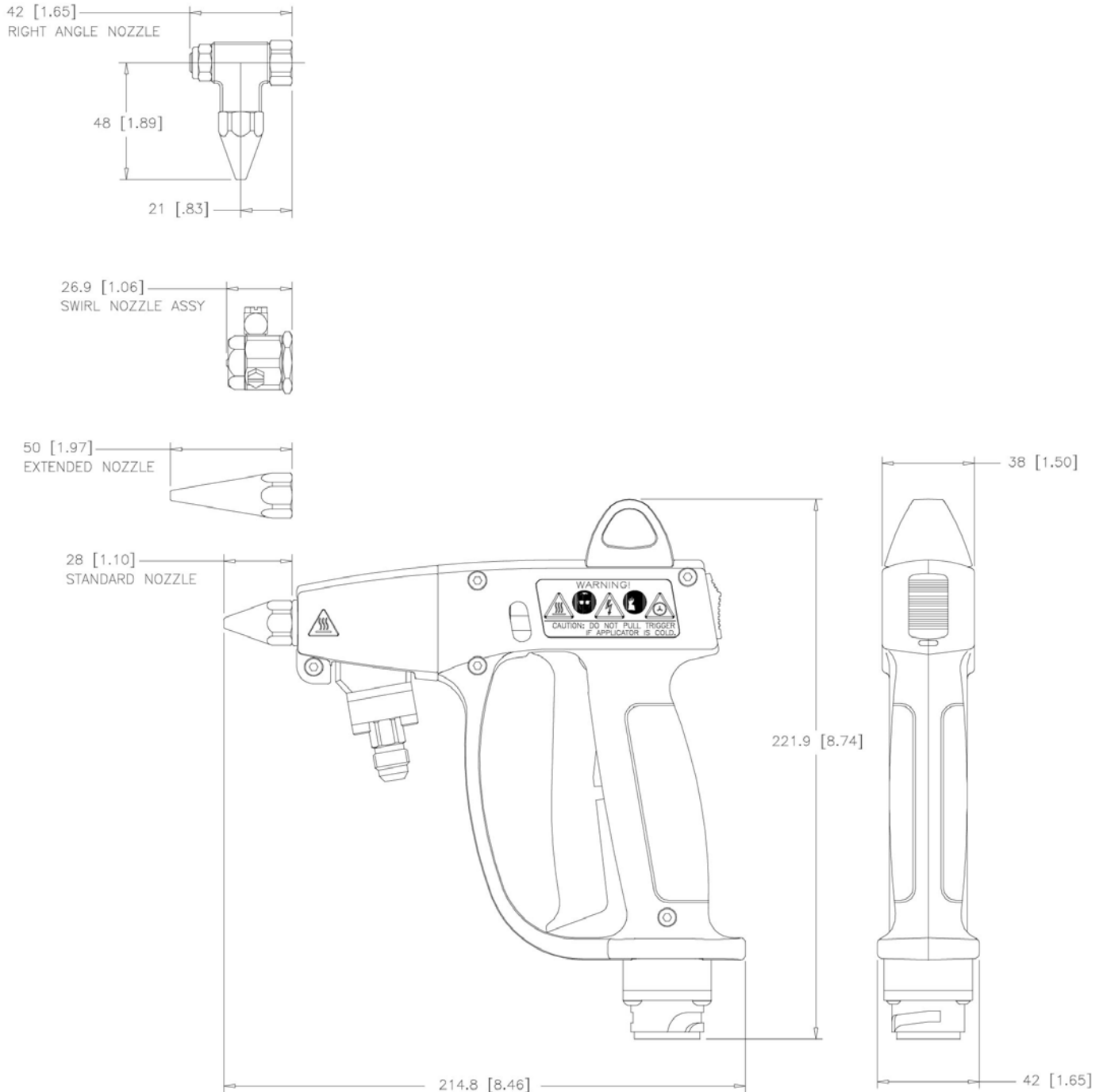
#### Air Requirement (for swirl application only)

Air pressure range, solenoid valve .....	4.8 to 9.6 bar (70 to 140 psi)
Air pressure range, spray air .....	0 to 5.5 bar (0 to 80 psi)

## Hand Applicator Tool Kit

The DG2 applicator is supplied with a tool kit containing: a connector pin extractor, two hex keys (1.5 and 3 mm), a reversible screwdriver and 2 wrenches (4, 7, 13 and 17 mm). Other small items may be enclosed in the tool box for shipment (i.e., the two-finger trigger,) but are not part of the tool kit.

### Dimensional



All dimensions are expressed as millimeters [inches].



# Chapter 3

## INSTALLATION & OPERATION

**NOTE: Re-read Chapter 1 “Safety Precautions” before performing any installation procedures. All installation must be performed by qualified, trained technicians.**

### Service Requirements

The applicator’s electrical power is supplied by the adhesive supply unit (ASU). No other electrical connection is required. Air supply for swirl application may be provided by a Swirl Air Kit on the ASU.

### Installation

The DG2 applicator is shipped with a four-dinger trigger and a bottom-entry hose connect. To reconfigure with a two-finger trigger and/or a top-entry hose connect, see instructions in Chapter 5 Disassembly.

Using a 13 mm wrench to hold the ball swivel stem or axial rotation stem stationary and an 11/16 inch wrench hose fitting nut, thread the hose onto the fitting to make the adhesive connection.

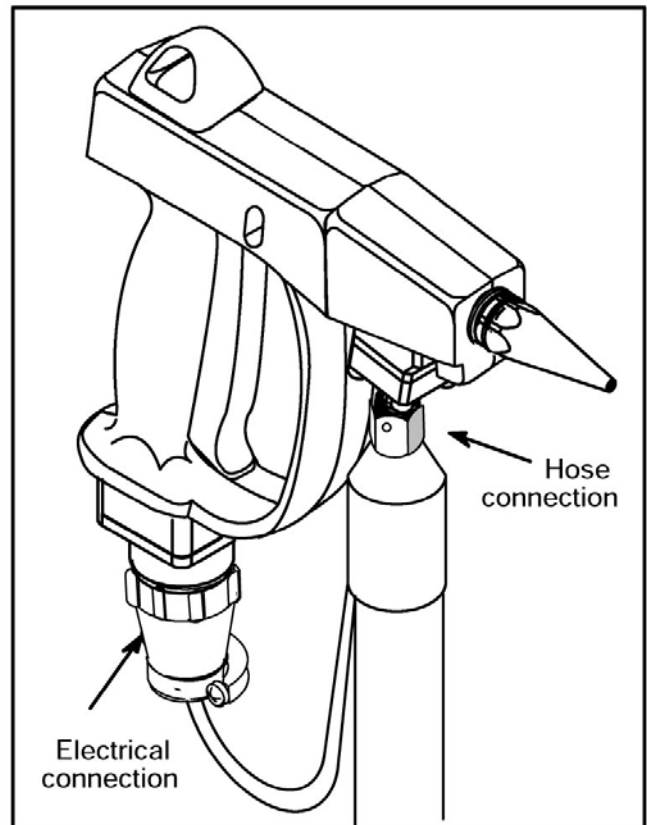
*Note: Do not rotate the fitting when attaching the hose. Connect the applicator electrically to the adhesive supply hose with its cable assembly.*

A standard 0.055 inch orifice nozzle is factory-installed on all DG2. If installation of a different nozzle or nozzle adapter is required, followed this procedure:


1. Pull the applicator’s trigger to move the needle off the nozzle seat. Hold the trigger and needle in this position while removing and installing nozzles.
2. Use a 17 mm wrench remove the nozzle and to install a different nozzle or nozzle adapter.
3. Seat nozzle or nozzle adapter firmly into the heater body. **DO NOT OVER-TIGHTEN.**
4. Release the applicator’s trigger and verify that the needle returns to rest against the nozzle or nozzle adapter seat.

### Swirl Application


Swirl application requires installation of a Swirl Air Kit (see chapter 6 for ordering guide) onto the ASU. Installation instructions are enclosed with the kit. The swirl nozzle’s air line is attached (with the quick release air connection provided at the swivel fitting on the handle) to the air output of the swirl hose.



## Operator Protection




**WARNING HOT SURFACE  
PERSONAL PROTECTION REQUIRED**  
ALWAYS WEAR PROTECTIVE CLOTHING AND SAFETY GLASSES  
when working with hot adhesive application systems.



Read and comply with the safety procedures outlined in  
Chapter 1 of this manual before proceeding

## Operation of the Hand-Held Applicator

When the application system is up to temperature and the ASU's pump is switched on, the hand-held applicator will extrude molten adhesive immediately and continuously when its trigger is pulled.



**WARNING**  
**DO NOT hold the hand-held applicator  
by its front end (nozzle, adapter, etc).  
NEVER point the hand-held applicator  
at any personnel.**



**CAUTION: Do not pull the DG2's trigger until applicator is up to operating temperature.**

## Trigger Safety Lock

To prevent accidental discharge of adhesive, the applicator's trigger is equipped with a safety trigger lock. When the applicator is not in use, pull the slide switch down to lock. To unlock, push the slide switch up to restore normal trigger function. Exposure of the yellow colored insert below the slide switch indicated the trigger is not locked.

## Temperature Adjustment

The applicator's temperature is adjustable at the ASU's control panel. The recommended maximum temperature varies depending on adhesive used. A lower application temperature increases the service life of the applicator. The maximum temperature of the applicator is 450 °F.

## Adhesive Flow Adjustment

For any given nozzle configuration, adhesive flow rate may be adjusted by increasing or decreasing the pump/pressure output (increase pump/pressure output delivers more adhesive) or by increasing or decreasing temperature in order to, respectively, decrease or increase viscosity.



**CAUTION: Do not exceed the recommended maximum temperature for the adhesive you use. This temperature is specified by your adhesive manufacturer.**

**CAUTION: Do not exceed the factory recommended maximum system pressure of 1000 psi for hand-held applicators. Damage to the applicator can occur at high system pressure. System pressure is factory set a 350 psi (24 bar) for gear pump model ASU's and 1000 psi (68 bar) for piston pump model ASUs.**

Swirl application note: after operating temperature is reached, adjust the regulator on the coalescing air filter (at the ASU) to achieve the desired pattern size. Increase air pressure for a larger pattern, decrease air pressure for a smaller pattern. Pattern size can also be changed by varying the swirl air cap. Filament size varies with nozzle size.

## Operation Checks

When the hand-held applicator has reached operating temperature, these three functions should be smooth and positive:

1. The trigger will retract smoothly against the spring force to a positive stop. The adhesive will flow from the nozzle in a straight, even stream. When release, the trigger will immediately return to the closed position, shutting off the adhesive flow from the nozzle.
2. The safety positively locks the trigger. When the safety is released, the trigger will function as described above.
3. The hose connection (axial rotation or ball swivel) turns freely and smoothly.

NOTE: Ball swivel hose connections are affected by adhesive pressure and become stiff as pressure increases. However, when the trigger is activated and adhesive flows, pressure in the applicator drops and ball swivel connections move freely.

# Chapter 4

## Maintenance & Troubleshooting

**NOTE: Re-read Chapter 1 “Safety Precautions” before performing any maintenance or troubleshooting procedures. All maintenance and troubleshooting procedures must be performed by qualified, trained technicians.**

The hand-held applicator requires no regular maintenance. However, it is desirable to wipe the applicator clean of adhesive, with a clean cloth, while still hot at the end of each shift. Inspect the applicator periodically as outlined in the following table.

### Inspector Check List


Item	Inspection	Frequency	Action
Needle Seal	Inspect for leaks	Weekly	Replace leaking seal (see Ch. 5)
Hose connect seal	Inspect for leaks	Weekly	Replace leaking seal (see Ch. 5)
Adhesive supply hose	Inspect for leaks	Weekly	Tighten lose fittings
Applicator & hose	Inspect for adhesive buildup	Monthly	Clean applicator and hose (see Ch. 5)

### Nozzle Cleaning

Occasionally nozzles can become clogged with char, residue or other foreign material. This can result in the decrease or even stoppage of adhesive flow from the nozzle. Astro Packaging has nozzle cleaning kits available, designed to be orifice size specific. Call Astro Packaging sales representative to inquire about Nozzle Cleaning Kits.

For nozzles sized over 0.040, an appropriately sized drill bit, turned by hand, may be used.

**WARNING HIGH PRESSURE**



**Before using the nozzle cleaning kit, turn OFF the ASU, then trigger the applicator to relieve adhesive pressure. If the nozzle orifice is obstructed, relieve adhesive pressure. If the nozzle orifice is obstructed, relieve adhesive pressure at the outlet (hose) manifold on the ASU.**

The nozzle should be at operating temperature when cleaned. Turned the ASU OFF and make sure that the adhesive pressure is OFF (zero).



1. Use the probes in the kit to clear the orifice. Since there are several orifice sizes available, first make sure that the probes is compatible with the orifice size you are about to clean. Then carefully insert the probe into the tip of the nozzle. It should penetrate approximately 3mm (1/8 inch). Remove the wire.



**CAUTION: If a probe of too large diameter is used to clean the orifice, it could result in a broken reamer jammed in the nozzle, or damage to the nozzle orifice itself.**

2. Turn ON the ASU's pump and activate the hand-held applicator's trigger. If the nozzle is still plugged, proceed with the following steps.
3. Turn OFF the ASU's pump. Trigger the applicator to relieve system pressure.



**WARNING HIGH PRESSURE**  
**DO NOT PROCEED without verifying that the system pressure is relieved. Hot adhesive under pressure could escape when the nozzle is removed.**

4. Pull the applicator's trigger to move the needle off the nozzle seat. Hold the trigger and needle in this position and remove the nozzle.
5. From the needle end of the nozzle, clean the orifice again by inserting a probe of proper diameter.
6. Check inside the nozzle to assure that it is clean.
7. Pull the applicator's trigger to retract the needle. Hold the trigger to verify nozzle is clean and adhesive flow is off when the trigger is released.

### ***Hand-held Applicator Troubleshooting Guides***

#### **In General**

If the applicator fails to operate properly, first check all the electrical connections. Verify that the adhesive supply unit's main power is ON. Verify that the pump is ON. If the applicator has swirl nozzles, verify that there is sufficient air pressure. Verify that the temperature controller is in operation and that the set-points are correct for the application. Check to see if all components are heating properly.



**DANGER HIGH VOLTAGE**  
**Some of the procedures in the following Troubleshooting Guide require potentially dangerous electricity to be present. Only qualified service personnel should perform these procedures.**

#### **Using Troubleshooting Guides**

Please note that there are two Troubleshooting Guides. The first guide applies to bead and swirl applicators. The second guide applies to swirl applicators only.

## Guide for All Hand-Held Applications

Problem	Possible Cause	Solution
Adhesive leaks	See Check List on Page 4-1	See Check List on Page 4-1
Trigger action is stiff or frozen	Temperature too low	<ol style="list-style-type: none"> <li>1. Allow longer warm up.</li> <li>2. Check temperature setting.</li> </ol>
Unit will not heat	<ol style="list-style-type: none"> <li>1. Inoperative heater</li> <li>2. Inoperative sensor.</li> <li>3. Control set incorrectly.</li> <li>4. Inoperative or damaged wiring or connector.</li> </ol>	<ol style="list-style-type: none"> <li>1. Check resistance per instructions given in this chapter. If needed, replace the heater assembly.</li> <li>2. Check resistance per instructions given in this chapter. If needed, replace the sensor assembly.</li> <li>3. Check control panel for proper temperature setting.</li> <li>4. Check wiring and connector.</li> </ol>
Unit overheats	<ol style="list-style-type: none"> <li>1. Control set incorrectly.</li> <li>2. Inoperative sensor</li> <li>3. ASU controller malfunctioning.</li> </ol>	<ol style="list-style-type: none"> <li>1. Check control panel for proper temperature setting.</li> <li>2. Check resistance per instructions given in this chapter. If needed, replaced the feel tube assembly.</li> <li>3. Refer to ASU manual troubleshooting guides.</li> </ol>
Adhesive flows even after trigger is released.	<ol style="list-style-type: none"> <li>1. Char on needle seat.</li> <li>2. Needle spring inoperative.</li> </ol>	<ol style="list-style-type: none"> <li>1. Follow nozzle cleaning procedure</li> <li>2. Follow disassembly procedures in Chapter 5. Replace spring if necessary.</li> </ol>

### Additional Guide for Swirl Applications

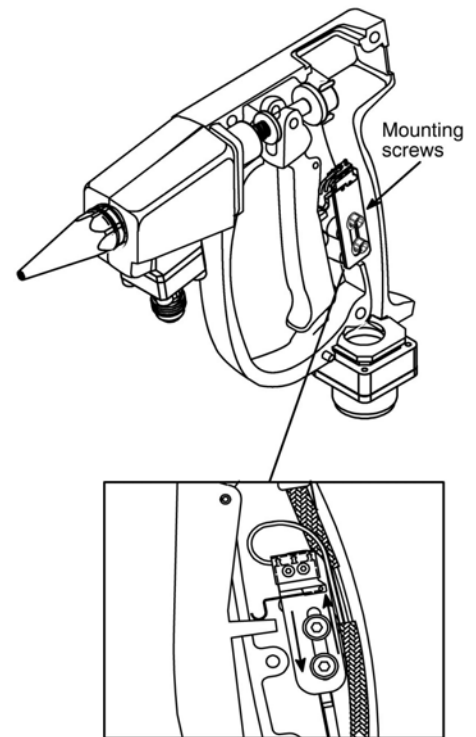
Problem	Possible Cause	Solution
Straight bead, no spray	No spray air.	<ol style="list-style-type: none"> <li>1. Check air supply.</li> <li>2. Check trigger switch and listen for the activation "click". Adjust trigger switch if necessary.</li> <li>3. Check for clogged nozzle.</li> </ol>
Small spray	<ol style="list-style-type: none"> <li>1. Low spray air.</li> <li>2. Spray nozzle too small.</li> <li>3. Pump pressure too high.</li> </ol>	<ol style="list-style-type: none"> <li>1. Increase air pressure.</li> <li>2. Increase nozzle size.</li> <li>3. Decrease ASU's pump pressure.</li> </ol>
Large spray	<ol style="list-style-type: none"> <li>1. High spray air.</li> <li>2. Spray nozzle too small.</li> <li>3. Pump pressure too high.</li> </ol>	<ol style="list-style-type: none"> <li>1. Decrease air pressure.</li> <li>2. Decrease nozzle size.</li> <li>3. Decrease ASU's pump pressure.</li> </ol>
Good spray pattern, application too light	Nozzle too small	<ol style="list-style-type: none"> <li>1. Increase nozzle size.</li> <li>2. Re-adjust air pressure.</li> </ol>
Good spray pattern, application too heavy	Nozzle too large	<ol style="list-style-type: none"> <li>1. Decrease nozzle size.</li> <li>2. Re-adjust air pressure.</li> </ol>
Pump does not come on	<ol style="list-style-type: none"> <li>1. Trigger switch adjustment.</li> <li>2. Trigger switch inoperative.</li> </ol>	<ol style="list-style-type: none"> <li>1. Re-adjust trigger switch.</li> <li>2. Measure continuity between pins 4 &amp; 7 for MTC or ETC/RO. Replace trigger switch assembly if needed.</li> </ol>
Spray air does not come on	<ol style="list-style-type: none"> <li>1. Trigger switch adjustment.</li> <li>2. Trigger switch inoperative.</li> </ol>	<ol style="list-style-type: none"> <li>1. Re-adjust trigger switch.</li> <li>2. Measure continuity between pins 4 &amp; 7 for MTC or ETC/RO. Replace trigger switch assembly if needed.</li> </ol>

### Trigger Switch Adjustment

Follow instructions in Chapter 5 for disassembly of the applicator. Proceed to the instructions for "Trigger Switch Replacement" to access the switch. Complete the following steps to adjust the trigger switch:

*Note: the applicator's nozzle must be installed to make this adjustment.*

1. Loosen, but do not remove, the trigger switch's two mounting screws.
2. Slide the trigger switch and its bracket towards the base of the handle until you hear a click (or check continuity, chart below). The click indicates that the switch has been actuated.
3. Now slide the trigger switch upwards slightly until it clicks (or check continuity chart) again. Stop there.
4. Hold the trigger switch in this position and tighten the two trigger switch mounting screws.
5. After re-assembling the handle, check the adjustment by pulling the applicator's trigger and verifying that you can hear two clicks (or check continuity again). The switch should be set to actuate in the initial trigger movement before the needle is lifted from its seat in the nozzle.



### Continuity Chart

An ohmmeter may be used to check actuation. Check across the pins listed for each system.

Control Scheme	Trigger Switch Pin #s
SS10	8 & 9
D2-15	8 & 9
AP30	8 & 9
AP50	8 & 9
AP100	8 & 9

## Resistance Charts

Temperature		Resistance in Ohms Pt Sensor*	Resistance in Ohms NiFe Sensor**
°F	°C		
32	0	100	89
50	10	104	93
68	20	108	98
86	30	112	102
104	40	116	107
122	50	119	111
140	60	123	116
158	70	127	120
176	80	131	125
194	90	135	130
212	100	139	135
230	110	143	141
248	120	146	144
268	130	150	150
284	140	154	157
302	150	157	162
320	160	161	168
338	170	164	173
356	180	168	178
374	190	172	186
392	200	176	192
410	210	180	197
428	220	183	202

\* Platinum sensor used in all models except ETC/RO.

\*\* Nickel Iron sensor used in ETC/RO models.

*Temperature Sensor Resistance*

Voltage	Watts	Resistance in Ohms
120	80	190-163
240	80	760-651

*Heater Resistance at Room Temperature*

# Chapter 5

## Disassembly & Reassembly Procedures

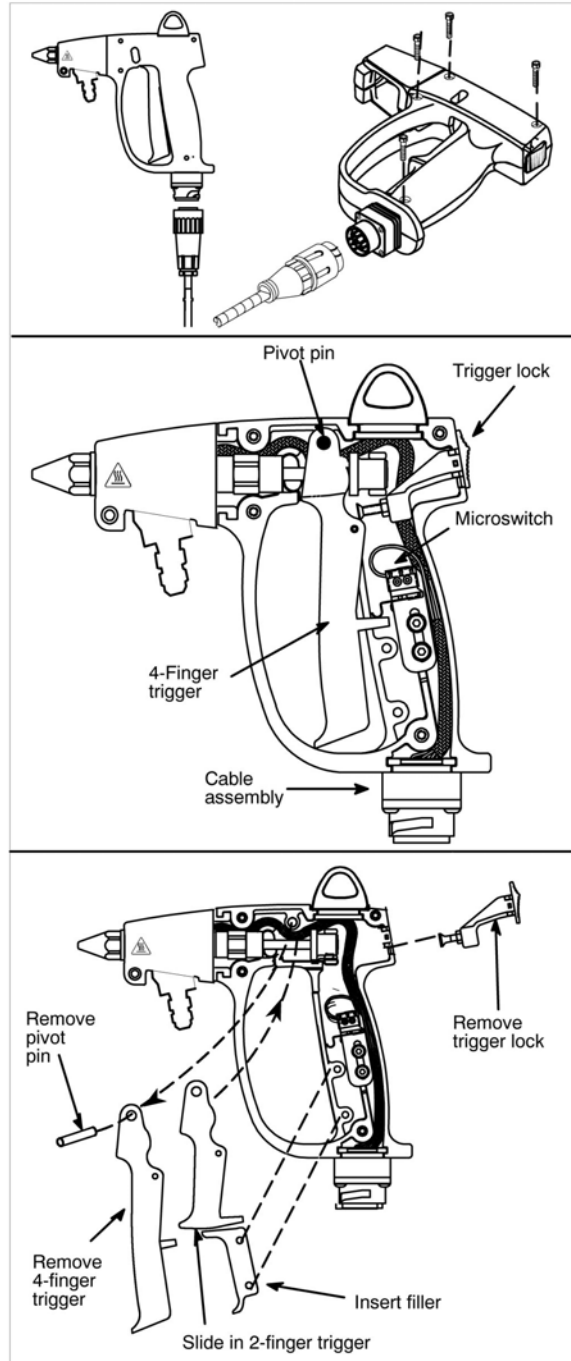
### Trigger and Hose Connect Reconfiguration Instructions

The DGII hand-held applicator may be reconfigured to utilize a two-finger trigger or top-entry adhesive hose connect. Parts needed for reconfiguration are supplied with the applicator.

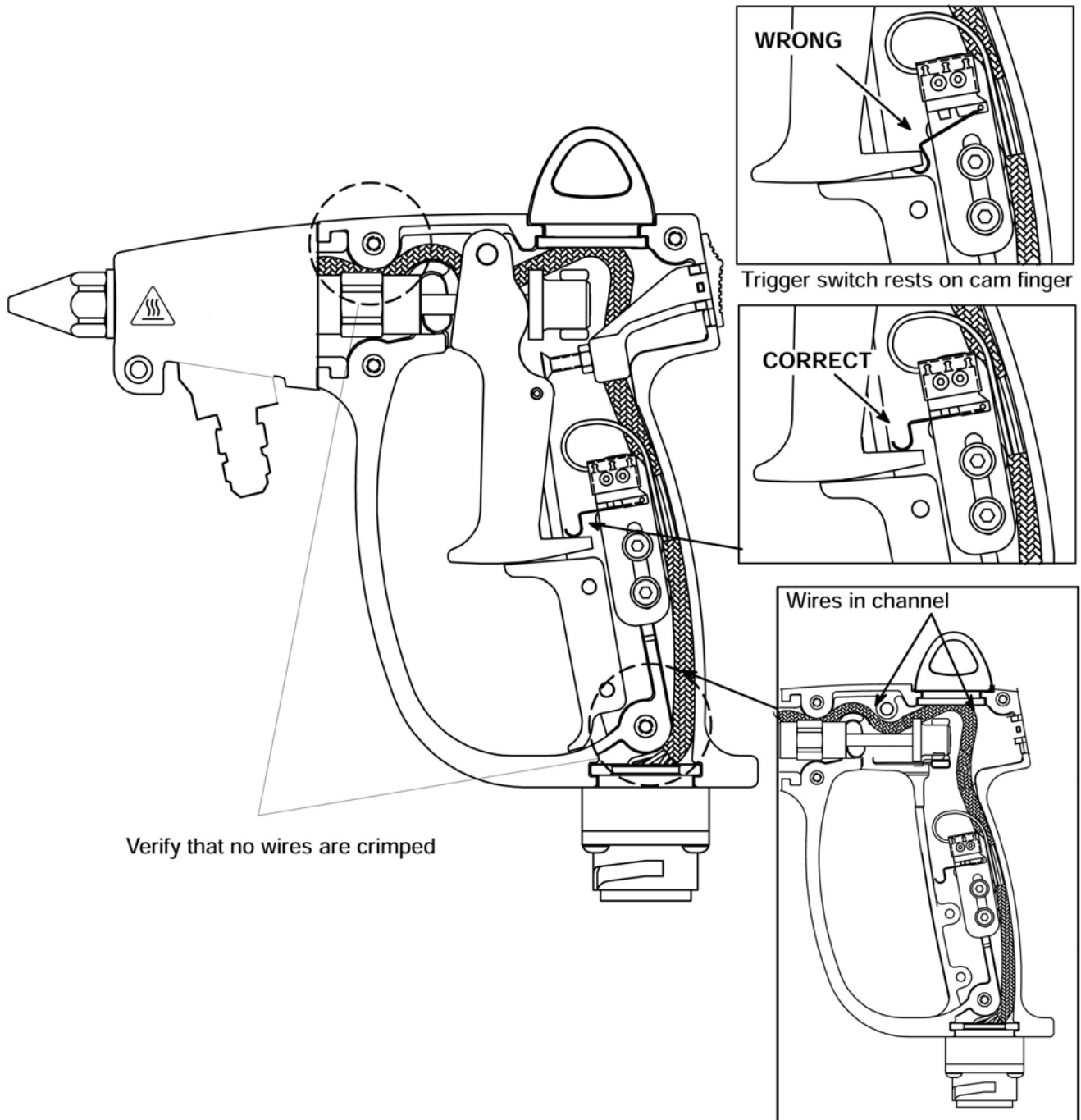
#### Two finger Trigger Reconfiguration

1. Disconnect the power cable.
2. Lay applicator on its side, with screws facing up.
3. Using a 3mm hex key (provided), open the applicator by removing four screws. Remove the handle.
4. Remove the trigger lock assembly.
5. Slide the pivot pin out of the trigger.
6. Slide out the four-finger trigger.
7. Slide the two-finger trigger in place.
8. Re-install the pivot pin.
9. Install the filler below the trigger.

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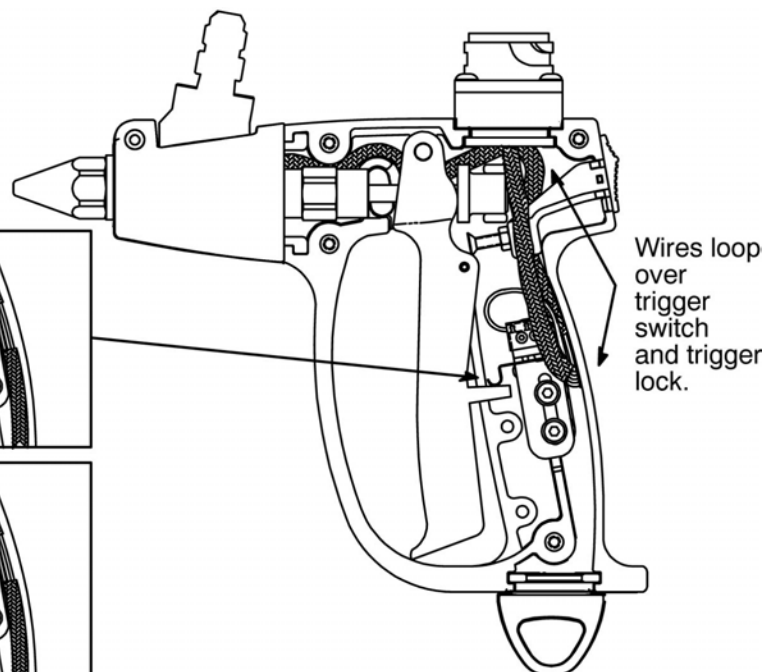
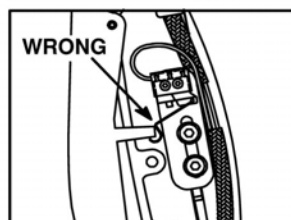
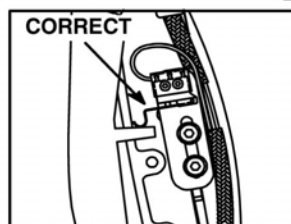
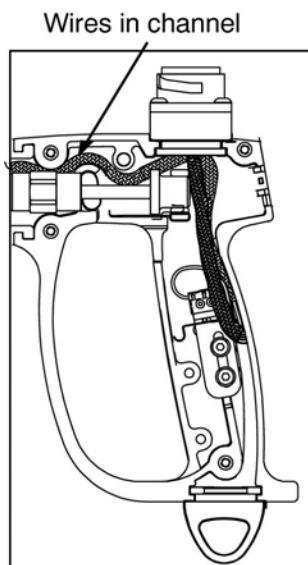
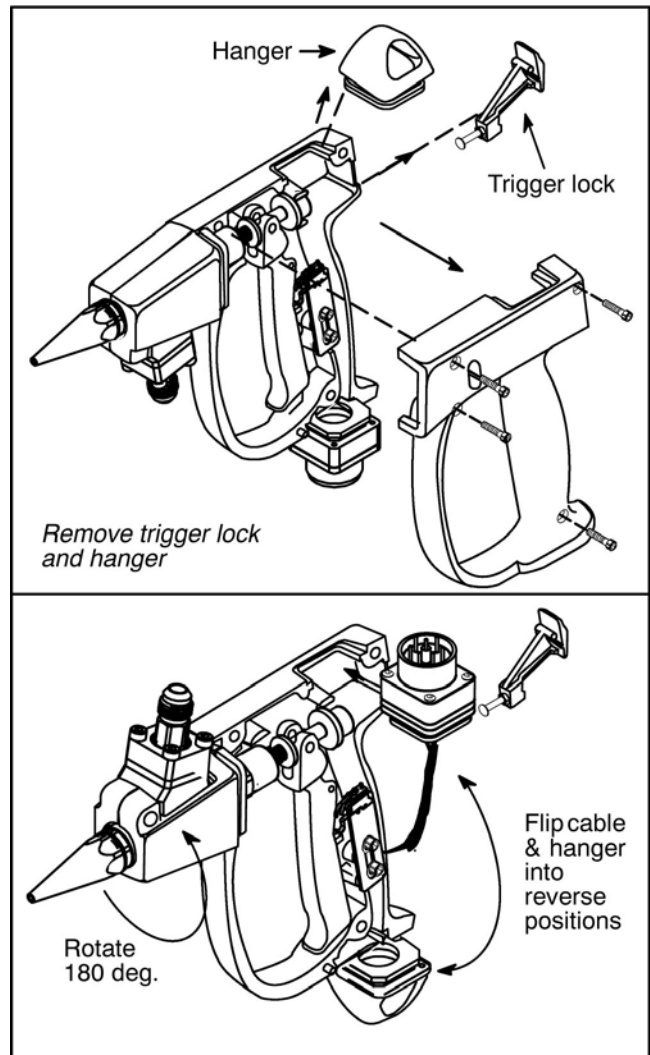


10. Re-install the lock. Slide it up unto the "unlocked" position.
11. Verify that no wires are crimped or pinched. Verify that the trigger switch actuator rests on the cam finger.
12. Re-install the handle.



### Top-Entry Hose Connect Reconfiguration

1. Disconnect the power cable.
2. Lay applicator on its side, with screws facing up.
3. Using a 3mm hex key (provided), open the applicator by removing four screws. Remove the handle.
4. Remove the trigger lock assembly.
5. Lift the heater body and needle assemblies out of the applicator. Rotate them 180 degrees and re-insert them into the applicator.
6. Re-align the trigger pivot pin. Verify that no wires are crimped or pinched. Re-align the trigger switch.
7. Remove the hanger.
8. Lift the cable connector assembly, flip it 180 degrees and slide it into the hanger's slot at the top of the applicator. Loop the cable over (not next to) the switch.
9. Insert the hanger into the slot from which the cable connector assembly was removed.
10. Re-insert the lock (place it under the cable). Slide the lock to its "unlock" position.
11. Re-assemble the applicator's handle.



No wires are crimped

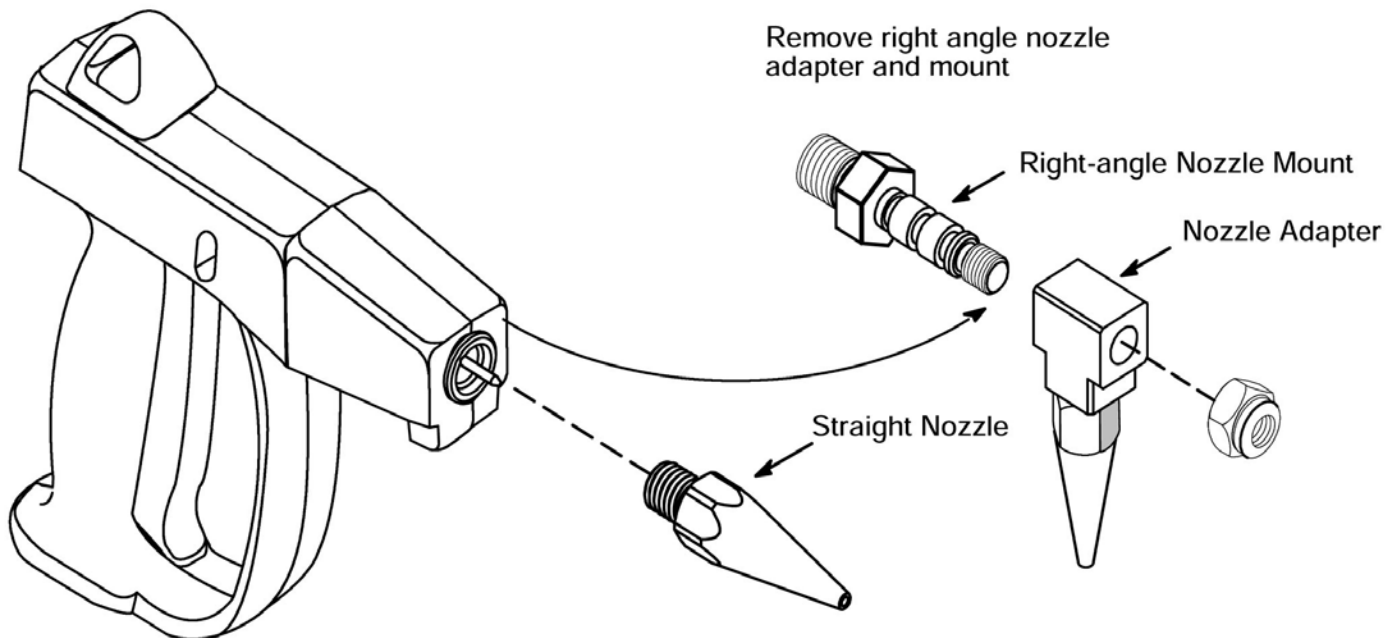


## Model Reconfiguration Instructions

The DG2 hand-held applicator may easily be reconfigured from right-angle to straight application or vice versa.

### Right-angle to Straight Application Reconfiguration

1. Disconnect the power cable and hose as described on page 5-7.
2. Unscrew and remove the right-angle nozzle adapter and right-angle nozzle mount.
3. Tighten the seal support.
4. Replace the two heater covers and re-assemble the handle.
5. Screw on the straight nozzle.

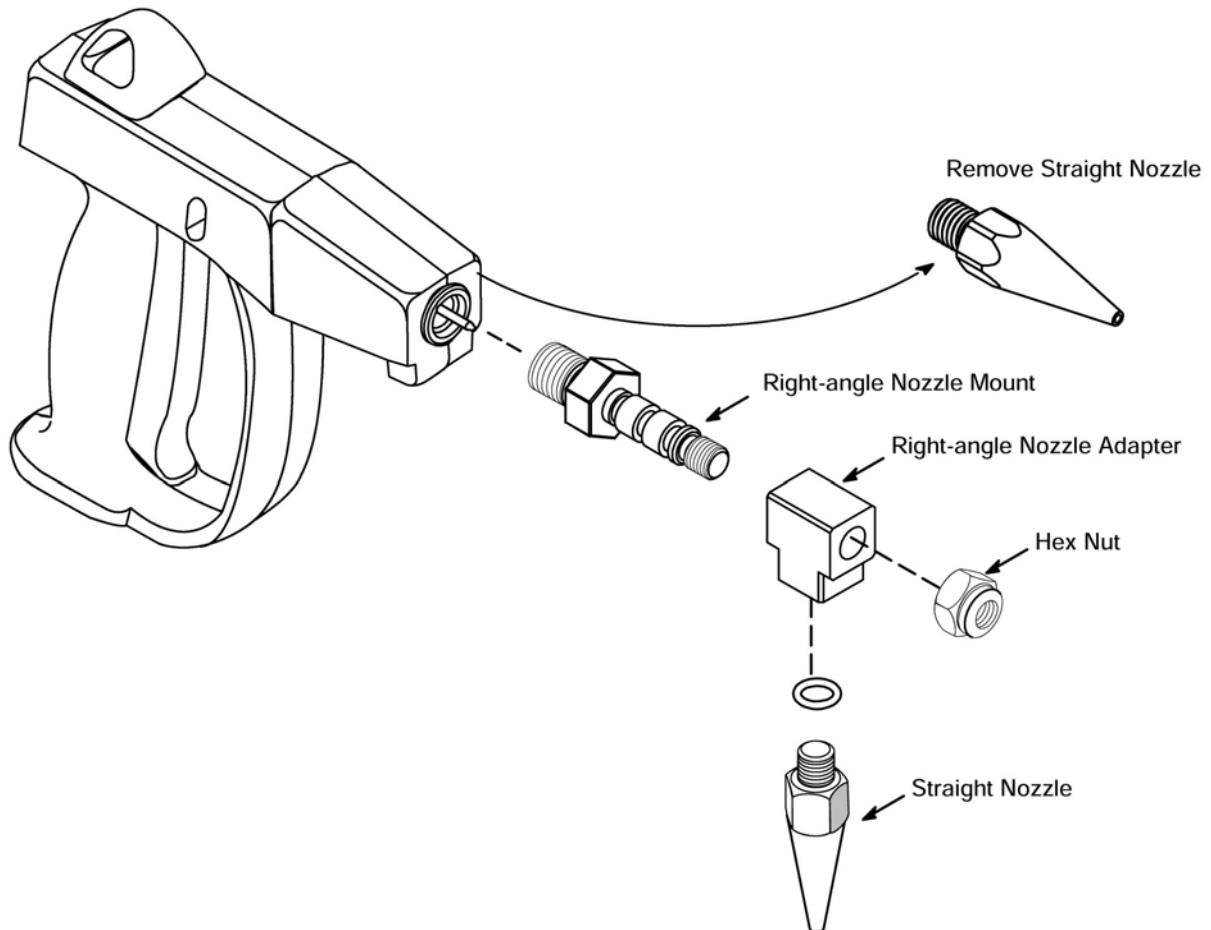


### **Straight to Right Angle Application Reconfiguration**

*Parts Required: a nozzle adapter and a right-angle mount assembly.*

1. Disconnect the power cable and hose as described on page 5-7.
2. Tighten the seal support.
3. Replace the two heater covers and re-assemble the applicator.
4. Screw the right-angle nozzle adapter onto the mount.
5. Screw on the right-angle nozzle adapter onto the mount and secure it in place by tightening the mount hex nut.
6. Screw the straight bead nozzle into the right-angle nozzle adapter.

Note: When using the right-angle configuration, you may experience some dripping after the trigger is release. This normal and it due t the combination of increased adhesive volum in the adapter and nozzle, adhesive viscosity and operative temperature.



## Disassembly Instructions



**CAUTION: The DG2 Applicator must never be heated while in use by means of an external source other than the power cable of the heated hose assembly. The applicator is designed to be connected to the hose to insure proper voltage to the applicator.**

For maintenance disassembly, the applicator may be heated by its owner or by its own heater or by a heat gun to free the parts in contact with adhesive. Avoid excessive heating of plastic parts if a heat gun is used, since overheating may cause damage.

### WARNING

**DO NOT BEGIN ANY DISASSEMBLY PROCEDURE WITHOUT OBSERVING THE FOLLOWING SAFETY WARNINGS. ALL REPAIR PROCEDURES MUST BE PERFORMED BY QUALIFIED, TRAINED TECHNICIANS.**



#### HIGH PRESSURE

Relieve the adhesive pressure in the hand-held applicator and hose prior to disassembly by turning OFF the ASU and then triggering the applicator.



#### HIGH VOLTAGE

Before servicing the applicator, disconnect incoming electrical current by disconnecting the electrical supply cord connected to the hot melt hose.



#### HOT SURFACE

Use protective gloves and clothing when handling heated parts.

### O-ring Seals

Replace o-ring seals any time the DG2 applicator is disassembled. When removing an o-ring, use care not to damage the metal surface against which the o-ring seals. Do not use a sharp object to remove or force the o-ring into place as this will damage the seal. Always use High Temp Lubricant on o-rings before installing.

### Cleaning

To aid in re-assembly, heat the applicator to operating temperature prior to disassembly and clean disassembled parts as they are removed from the applicator.

## Disassembly Procedures (refer to illustrations in Chapter 6 as needed)

1. Disconnect the power cable.
2. *At the hose connection:*  
Hold the applicator's stem on the flats with a 13mm wrench while using an 11/16" wrench to disconnect the adhesive supply hose.
3. Lay the applicator down with the five mounting screw holes facing up.
4. Using a 3mm allen wrench (provided), open the applicator by removing five screws.
5. Lift off the top half on the applicator's handle and heater cover.
6. Pull trigger pivot pin.
7. Lift out assembly of heater body, needle and trigger.
8. *For Spray Applications:* If necessary, disconnect the teflon air tubing from the nozzles by removing the tubing fitting from the spray nozzle adapter.  
*DO NOT pull the tubing off of the barbed fitting.*

## Re-assembly Procedures

Except where noted in the following procedures, re-assembly steps are simple reverse of the disassembly steps. Care should be taken to routine the microswitch, sensor, heater and ground leads so that they are not pinched and do not interfere with moving parts.

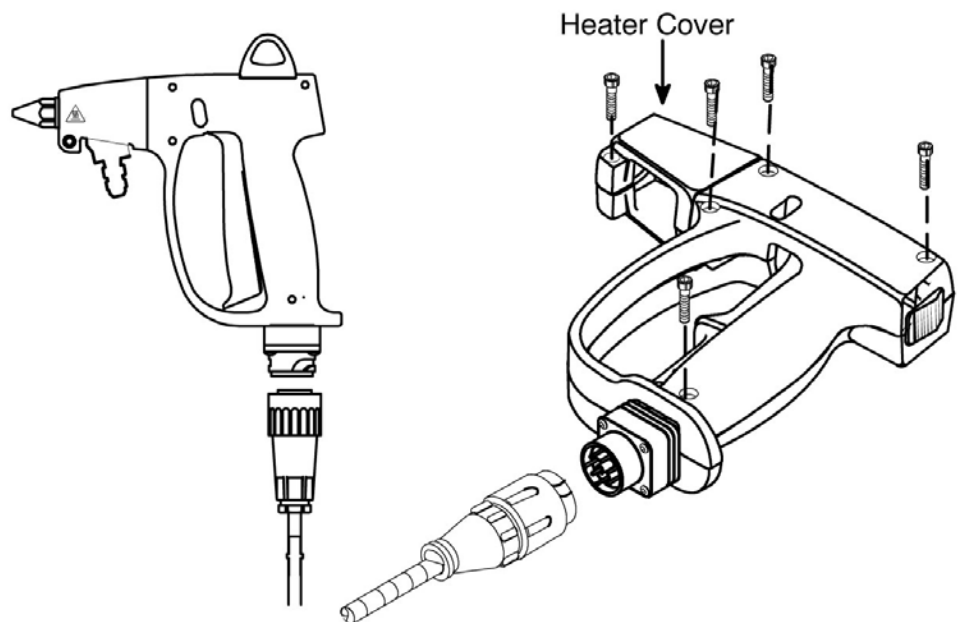
Always verify that the trigger lock is in the "unlocked" position and that the microswitch's actuator rests on the cam finger before re-assembling the applicator.



**CAUTION: Be very careful when re-assembling the applicator. The microswitch will be damaged if it is not positioned correctly prior to handle re-assembly.**

At the final re-assembly step (re-assembly of the top half of the handle), carefully press the handle onto the pivot pin. Do not rock the handle into place as this may cause misalignment of the trigger switch. To check for proper alignment of the switch, activate the trigger after re-assembly is complete. If you hear two "clicks" of the trigger switch as it makes and break contact, it is aligned properly.

Note: For ease of re-assembly: if heater cover has been removed, it must be reinstalled before handle is reinstalled.

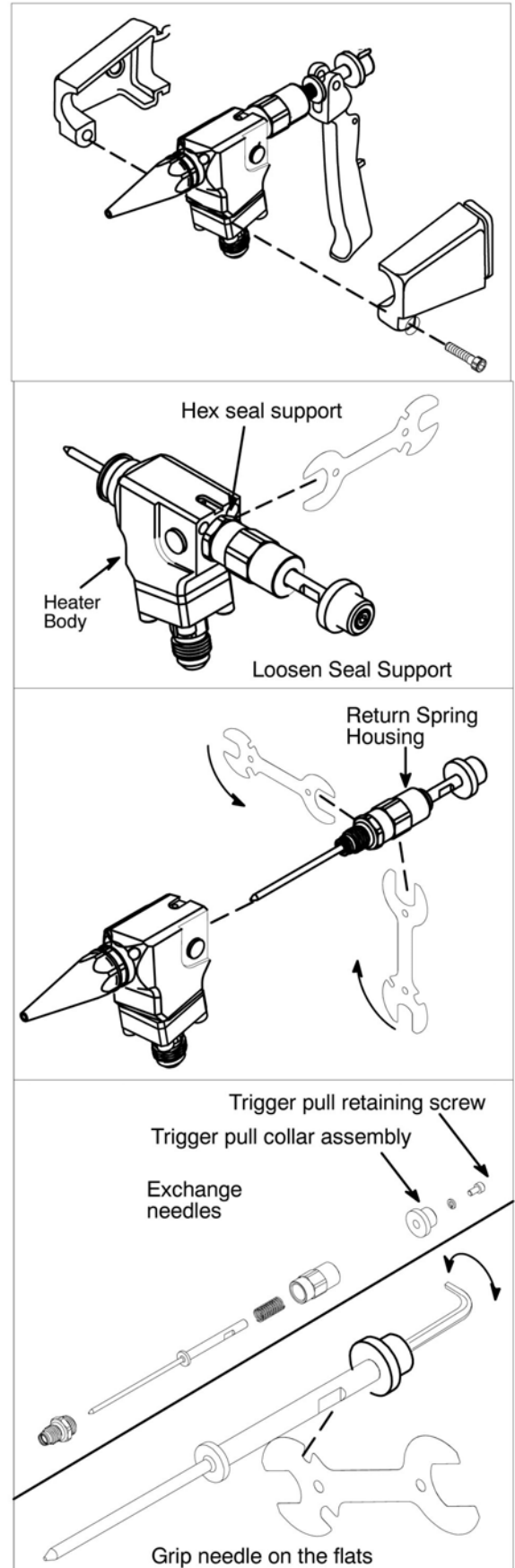


## Needle Replacement

1. Follow disassembly procedures 1 thru 7 on page 5-7.
2. Remove the two heater covers.
3. Use the 17 mm wrench (provided) on the hex seal support and separate the seal support from the heater body.
4. Slide needle assembly out of the body.
5. Separate the return spring housing and the seal support with two 17 mm wrenches.
6. Apply localized heat to approximately heat to approximately 500°F (260°C). Disassemble while hot.
7. With the 3mm hex key wrench (provided) remove the screw that holds the trigger pull collar while gripping the needle on the flats.
8. Remove the lock washer and collar assembly. Slide all other parts from the needle.

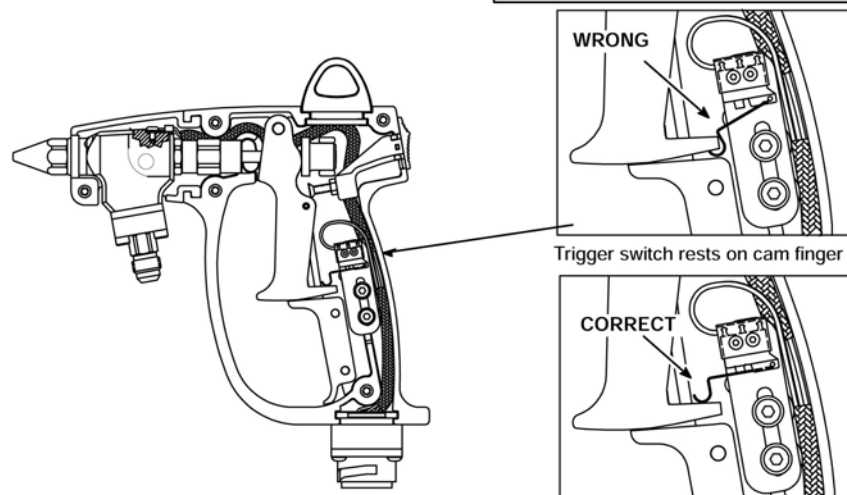
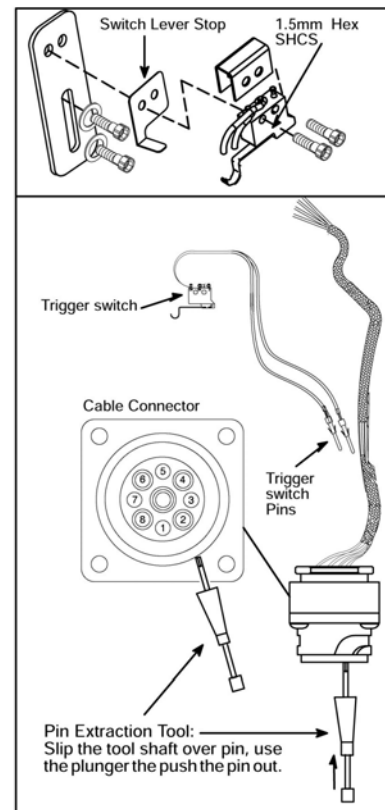
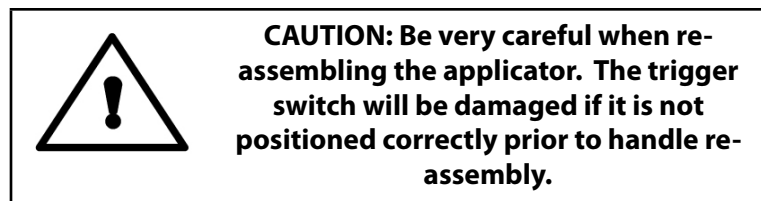
### Re-assembly:

1. Apply small amount of high temp lube on the tip of the new needle before slipping it into the seal.
2. Re-assemble the large spring and return spring housing onto the needle. Tightly snugly.
3. Apply a thread lock compound before re-assembly. The use of a surface prep activator is recommended.
4. Slide on the collar assembly, orienting the large flange towards the point of the needle.
5. Re-assemble the lock washer and screw.
6. Re-assemble the two heater covers.
7. Verify that the trigger switch's actuator rests on the cam finger before re-assembling the handle.



## Trigger Switch Replacement

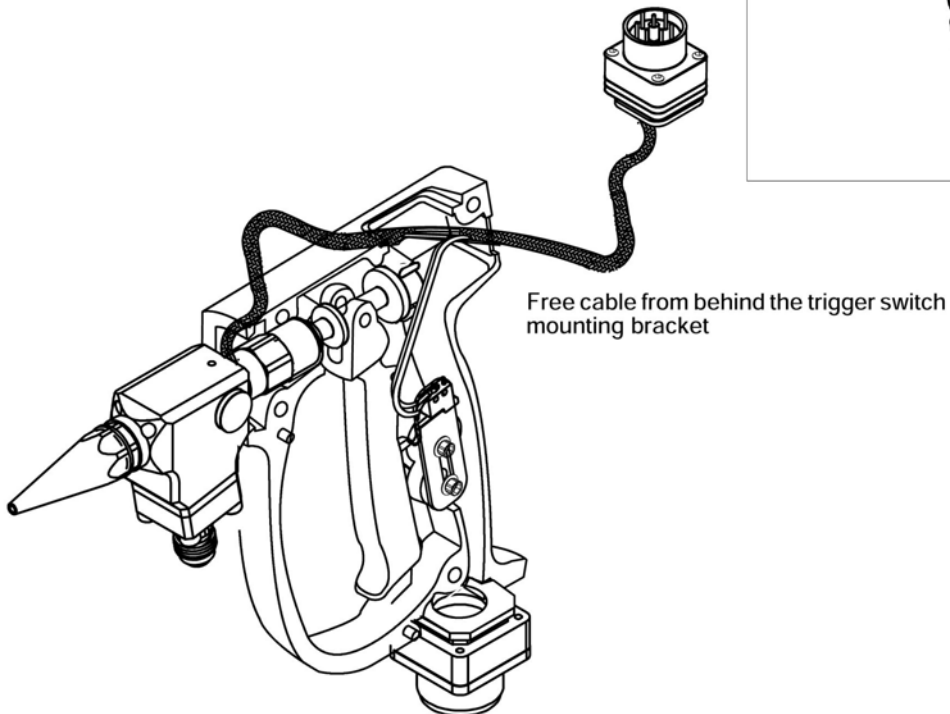
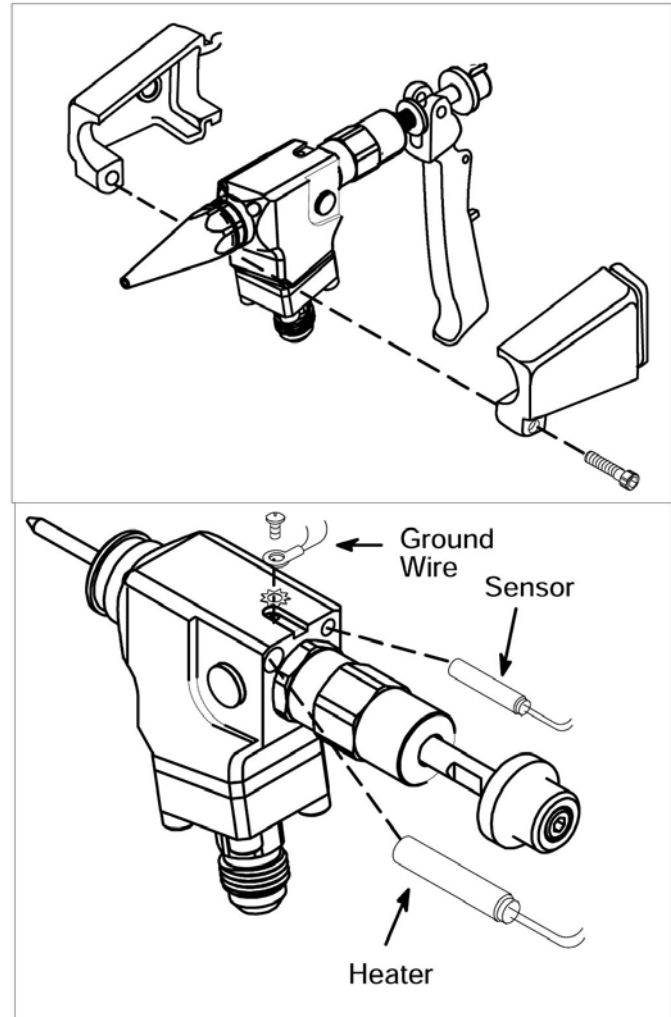
1. Follow disassembly procedures 1 thru 7 on page 5-7.
2. Remove the trigger switch bracket's two mounting screws and washers (3mm hex key).
3. Remove the two screws which mount the trigger switch to its brackets (1.5 mm hex key). Retain the screws, bracket, insulator, and switch lever stop.
4. At the electrical cable connector: use the pin extraction tool to push the trigger switch's two pins (pin #1 and 2 fro DCL models) through the cable connector.
5. Feed the trigger switch's wires through the sleeving. Remove the old switch assembly.
6. Feed the new trigger switch's wires through the sleeving and into the electrical cable connector.
7. Wrap the insulator around the new trigger switch and mount the switch and the switch level stop to the mounting bracket. Mount the switch assembly into the applicator with the mounting screws.
8. Adjust the trigger switch using the instructions given in Chapter 4 "Trigger Switch Adjustment."
9. Re-assemble the applicator's handle.



## RTD Sensor and/or Heater Replacement

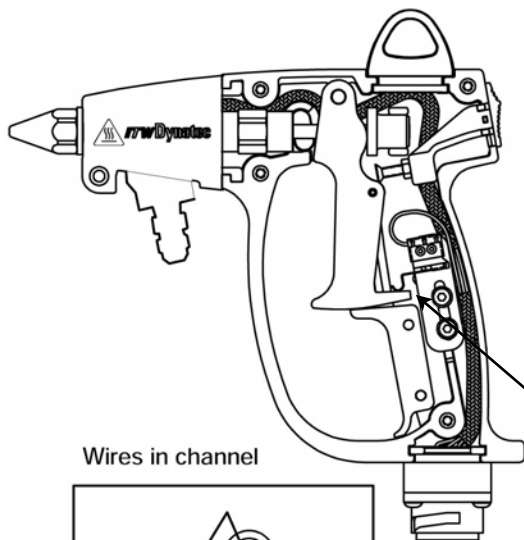
1. Follow disassembly procedures 1 thru 7 on page 5-7.
2. Remove the two heater covers.
3. Disconnect ground wire.
4. Slide the heater and sensor out of their ports.
5. Slide cable from behind the trigger switch mounting bracket.
6. If necessary, remove the trigger switch's two mounting screws (3mm hex key) and displace the trigger switch in order to remove the old heater or sensor.
7. At the electrical connector assembly, use the pin extraction tool to push the pins of the sensor (pins #5 and #6 for DCL models) or the heater (pins #7 & #8 for DCL models) through the connector assembly.
8. Feed the wire through the sleeving.

cont.

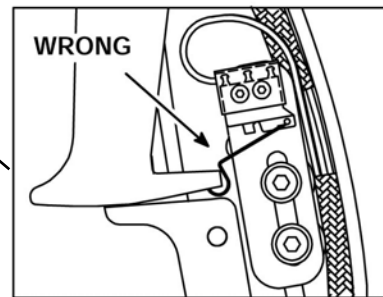
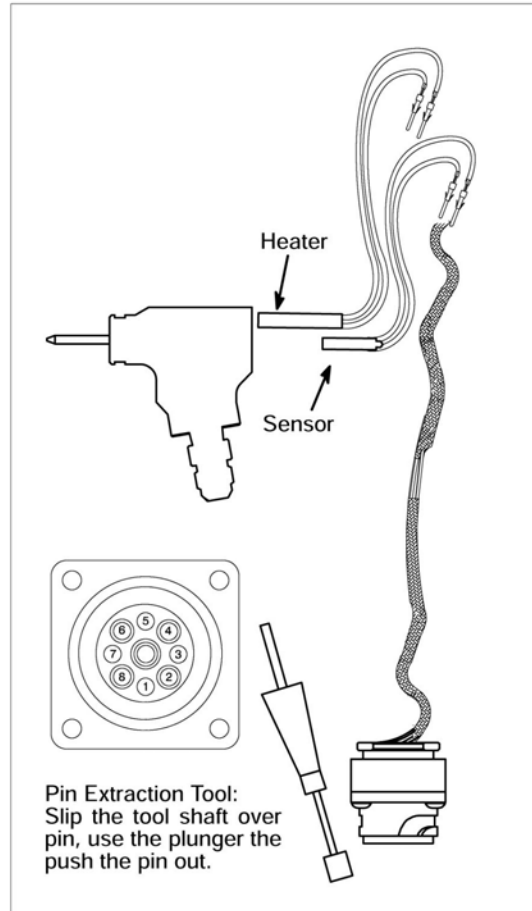
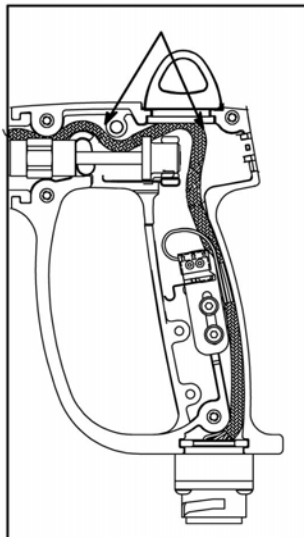


**RTD Sensor and/or Heater Replacement, cont.**

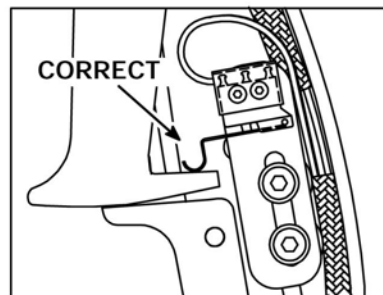
9. Feed the new sensor or heater's wires through the sleeving and into their ports in the heater body.
10. Insert the sensor and heater into their ports in the heater body.
11. Reconnect ground wire.
12. Re-install the trigger switch.
13. Reassemble heater covers to the heater body.
14. Verify that wires are not crimped or pinched around obstructions. Verify that the trigger switch actuator rests on the cam finger.
15. Reassemble the handle.



Wires in channel



Trigger switch rests on cam finger





### **Ball Swivel Rebuild**

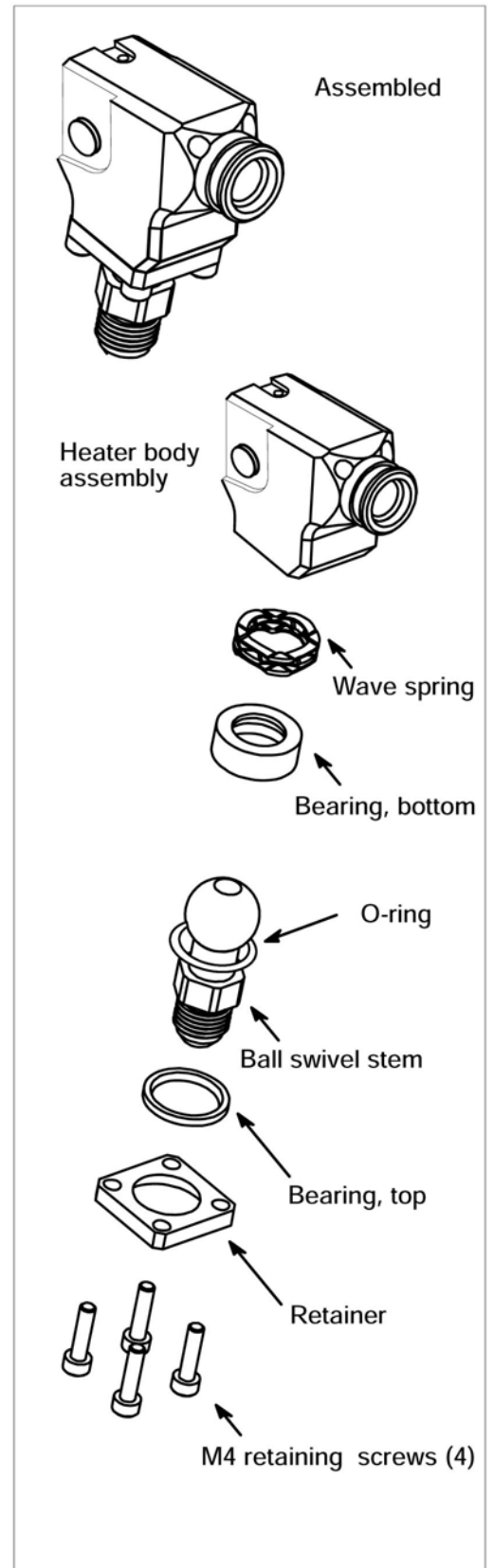
*Astro Packaging Part # 108762 Ball Swivel Rebuild Kit contains all parts necessary for the following rebuild.*

1. Follow disassembly procedures 1 and 2 on page 5-7.
2. Remove the ball swivel's retainer by removing the four screws holding it onto the heater body (3mm hex key, provided)



**CAUTION: If a tool is used to aid removal, be careful not to damage the bearing or sealing surfaces in the heater body.**

3. Pull out the ball swivel stem and the top bearing.
4. Remove the bottom bearing and the wave spring.
5. Wipe any adhesive from the heater body cavity.
6. Replace the way spring.
7. Replace the bottom bearing.
8. Lubricate the new o-ring, then install it over stem ball.
9. Install new ball stem and o-ring.
10. Install the top bearing.
11. Install the new retainer with the flat side facing the bearing.
12. Install one of the screws into one of the holes in the retainer cap. Install another of the screws into the hole diagonally across from the first screw.
13. Begin to screw down the two screws, alternatively, two or three turns as a time. Continue until these two screws are seated. Verify that the ball swivel stem moves with relative freedom during this procedure.
14. Install the two remaining screws (it is not necessary to alternate these).



### **Axial Rotation Assembly Rebuild**

Astro Packaging PN 108761 Axial Rotation Rebuild Kit contains all parts necessary for the following rebuild.

1. Follow disassembly procedures 1 and 2 on page 5-7.
2. Remove the axial rotation assembly's bearing assembly by removing the four screws holding it onto the heater body (3mm hex key, provided).
3. Pull out the axial rotation stem.

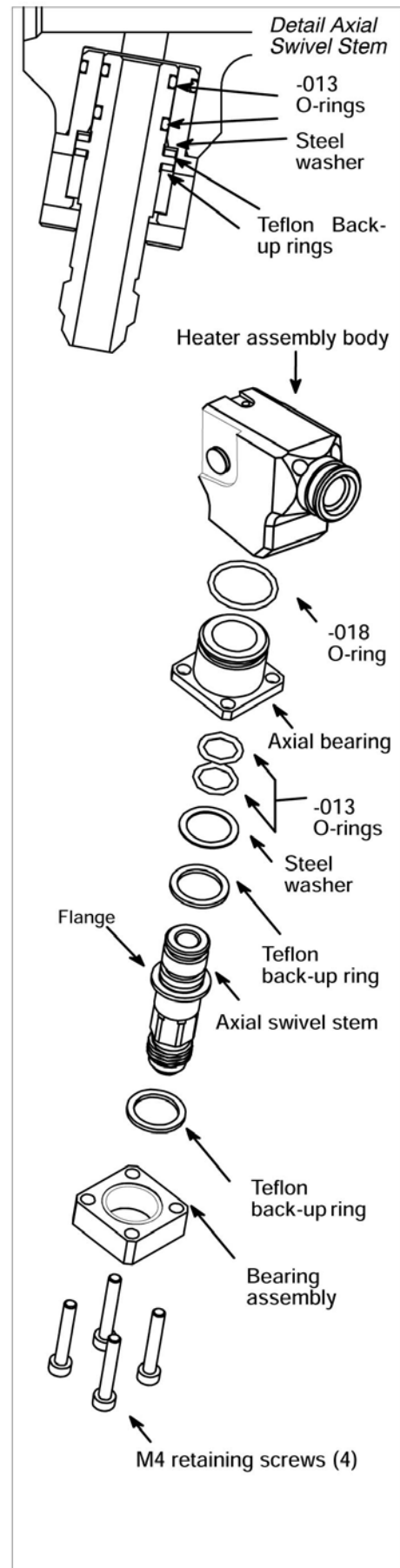


**CAUTION: If a tool is used to aid removal, be careful not to damage the bearing or sealing surfaces in the heater body.**

4. Wipe any adhesive from the heater body cavity.
5. Remove the axial bearing (brass).
6. Place the new o-ring (-018) onto the new axial bearing, lubricate the o-ring with TFE lubricant and press bearing into the heater body.
7. Place a new axial rotation stem assembly into the axial bearing.

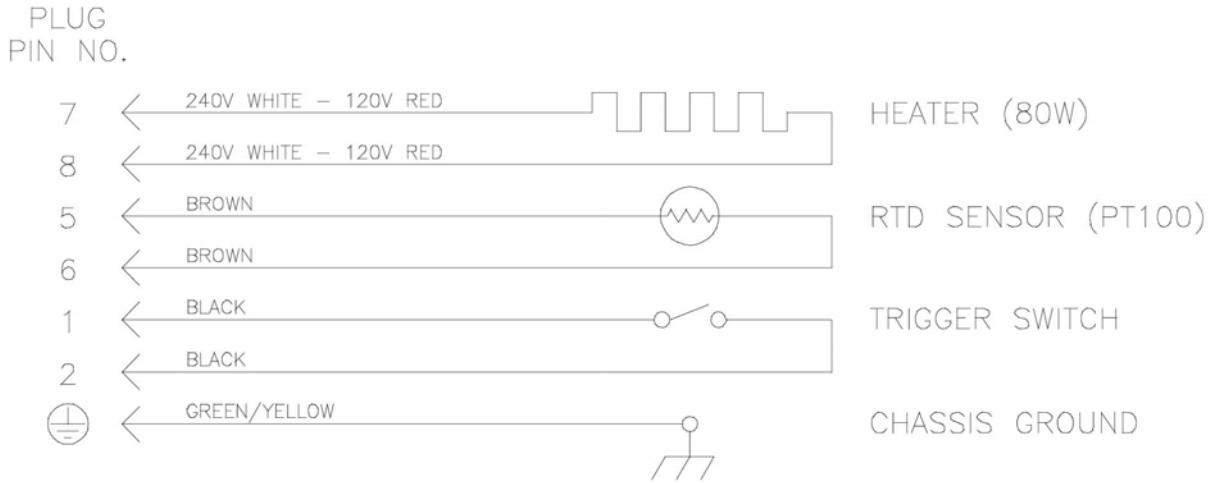
*Note: if your new stem assembly is not assembled, assemble as follows:*

- a. Place a teflon backup ring on either side of the stem's flange.
  - b. Insert the steel washer on the heater body side of the stem.
  - c. Insert the two o-rings (-013) in the o-rings grooves of the stem
  - d. Lubricate the o-rings with TFE grease lubricate.
8. Install the new housing / bearing assembly:
    - a. Install one of the screws into one of the holes in the axial bearing. Install another of the screws into the hole diagonally across from the first screw.
    - b. Begin to screw down the two screws, alternatively, two or three turns at a time. Continue until these two screws are seated. Verify that the axial swivel stem moves with relative freedom during this procedure.
    - c. Install the two remaining screws (it is necessary to alternate these)



**Schematics**

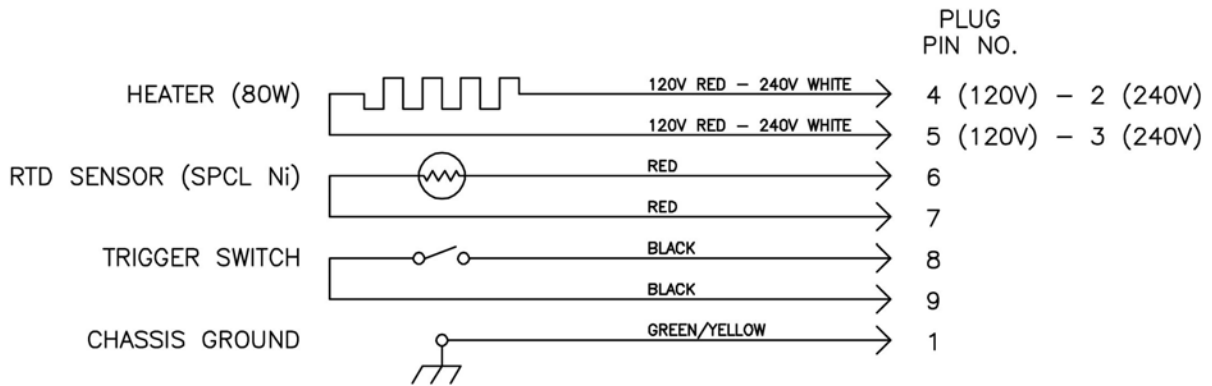
Note: For other Astro Packaging control schemes not shown below, or for connection to competitive hot melt equipment, contact your Astro Packaging equipment supplier.



DYNACONTROL

CABLE ASSY: 120V - 108572  
240V - 108346

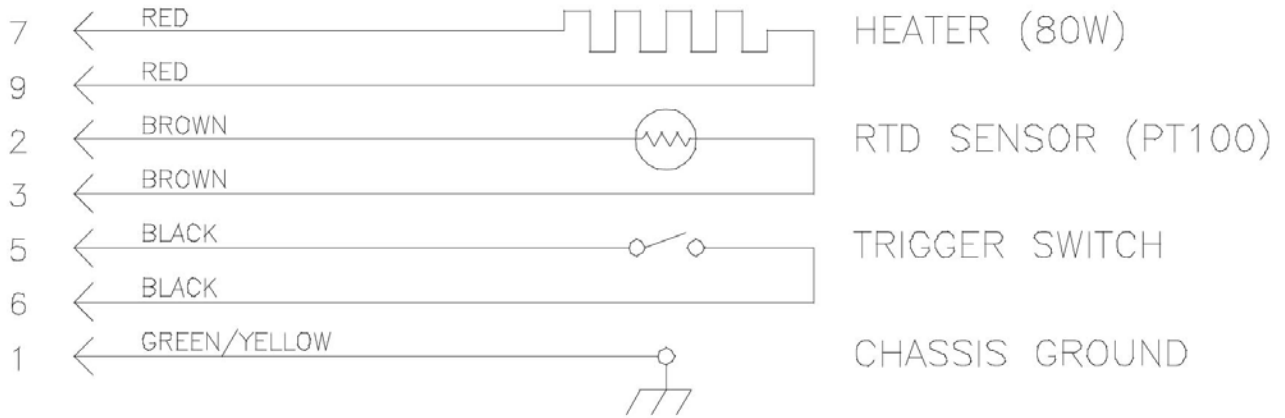
Applicator Schematic: ITW Control Schemes



WIRING DIAGRAM, DGII NORDSON

Applicator Schematic: Nordson (PN 108937)

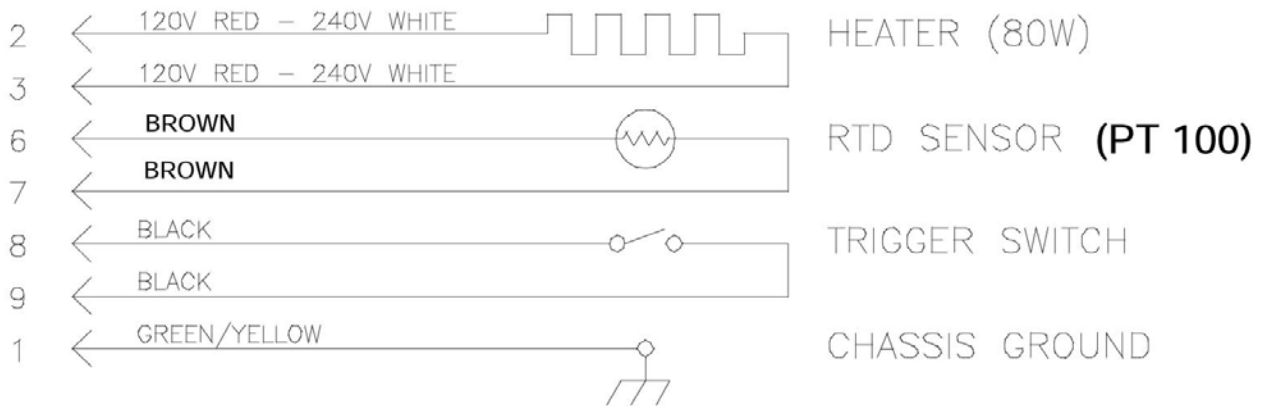
PLUG  
PIN NO.



WIRING DIAGRAM, DGII HMT

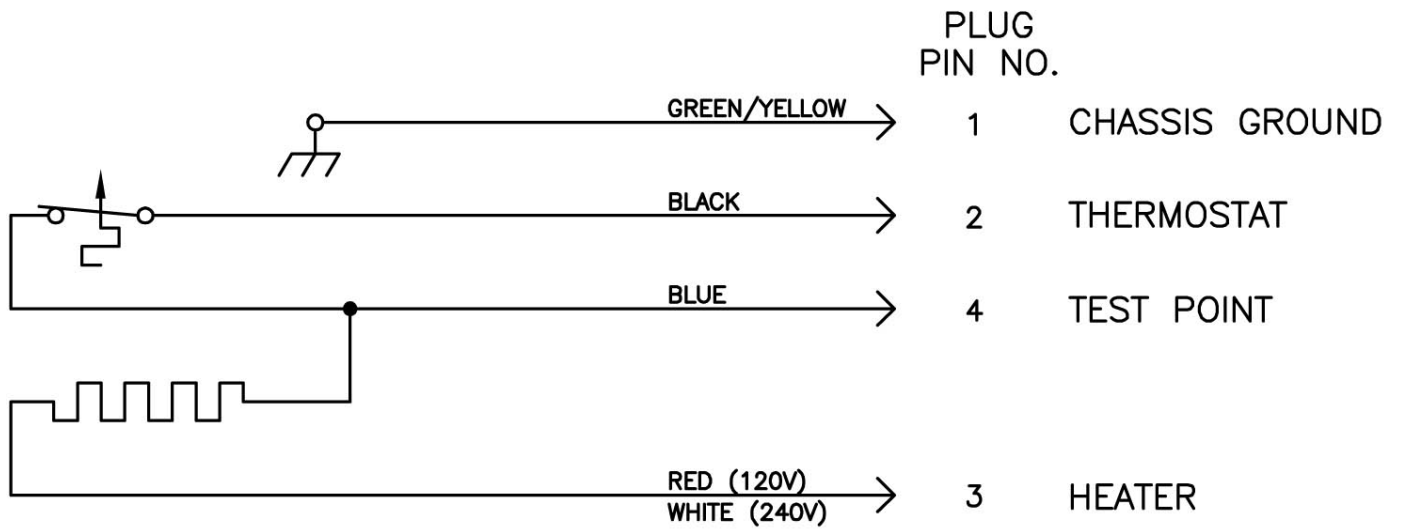
Applicator Schematic: HMT (PN 109079)

PLUG  
PIN NO.



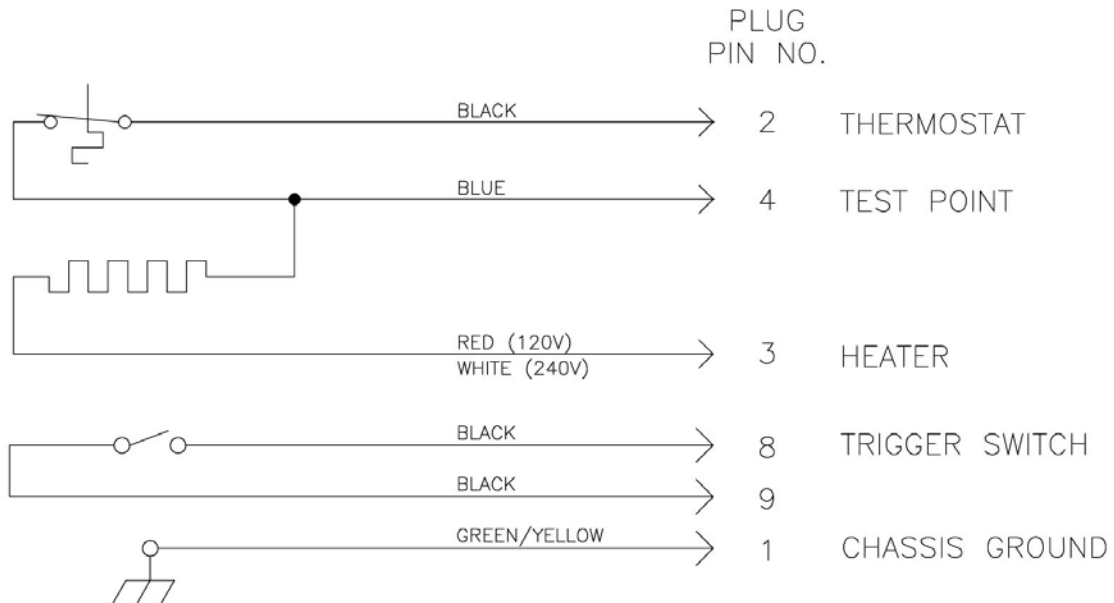
WIRING DIAGRAM, DGII SLAUTTERBACK

Applicator Schematic: Slautterback (PN 111800)



WIRING DIAGRAM, THERMOSTAT CONTROL,

Applicator Schematic: Thermostat Control (PN 111366)



WIRING DIAGRAM, DG2 SLAUTTERBACK W/THERMOSTAT CONTROL

Applicator Schematic: Slutterback w/ Thermostat Control (PN 114250)

## Chapter 6

# Component Illustrations & Bills of Materials



### **WARNING**

**All parts must be periodically inspected and replaced if worn or broken. Failure to do this can affect equipment's operation and can result in personal injury.**

Note: most common nuts, bolts and fasteners can be obtained locally at your hardware store. Special fasteners are available by contacting Astro Packaging's Customer Service.

## Applicator Handle Assembly and Common Parts

Item No.	Part Number	Description	Qty.
1	108318	Body Assembly, Axial Rotation (see detail, following pages)	1
2	108319	Body Assembly, Axial Rotation (see detail, following pages)	1
3	108320	Needle Assembly (see detail, following pages)	1
4	**	Cable Assembly, DCL, 240V	1
4	**	Cable Assembly, DCL, 120V	1
5	**	Heater Assembly, 80 W	1
5	**	Heater Assembly, 80 W, 120V	1
6	**	Sensor Assembly	1
7	**	Trigger Switch Assembly	1
8	**	Connector, Flanged Plug	1
9		Adapter, Connector	1
10	108370	Screw, Button Socket Head, M3x0.5 x 12	4
11	108371	Ground Wire Assembly	1
12		Sleeving	
13	108758	Handle Kit	1
14*	108285	Heater Cover, Right Hand	1
15*	108286	Heater Cover, Left Hand	1
16*	108359	Screw, Socket Head Cap, M4x0.7 x 16	5
17*	108360	Ring, Insulator	1
18*	108759	Handle, Right Hand	1
19*		Label Information	1
20*	108760	Handle, Left Hand	1
21*	108372	Label Information	
22	108290	Hanger	1
23	108347	Mount, Trigger Switch	1
24	108348	Insulator, Trigger Switch	1

\* Items that are included in item #13

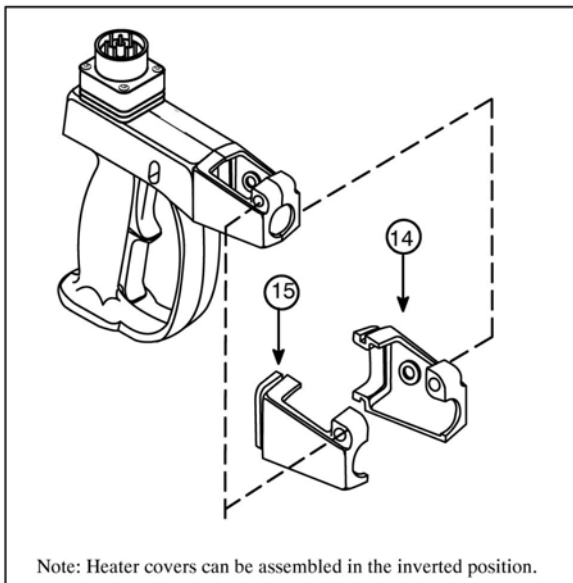
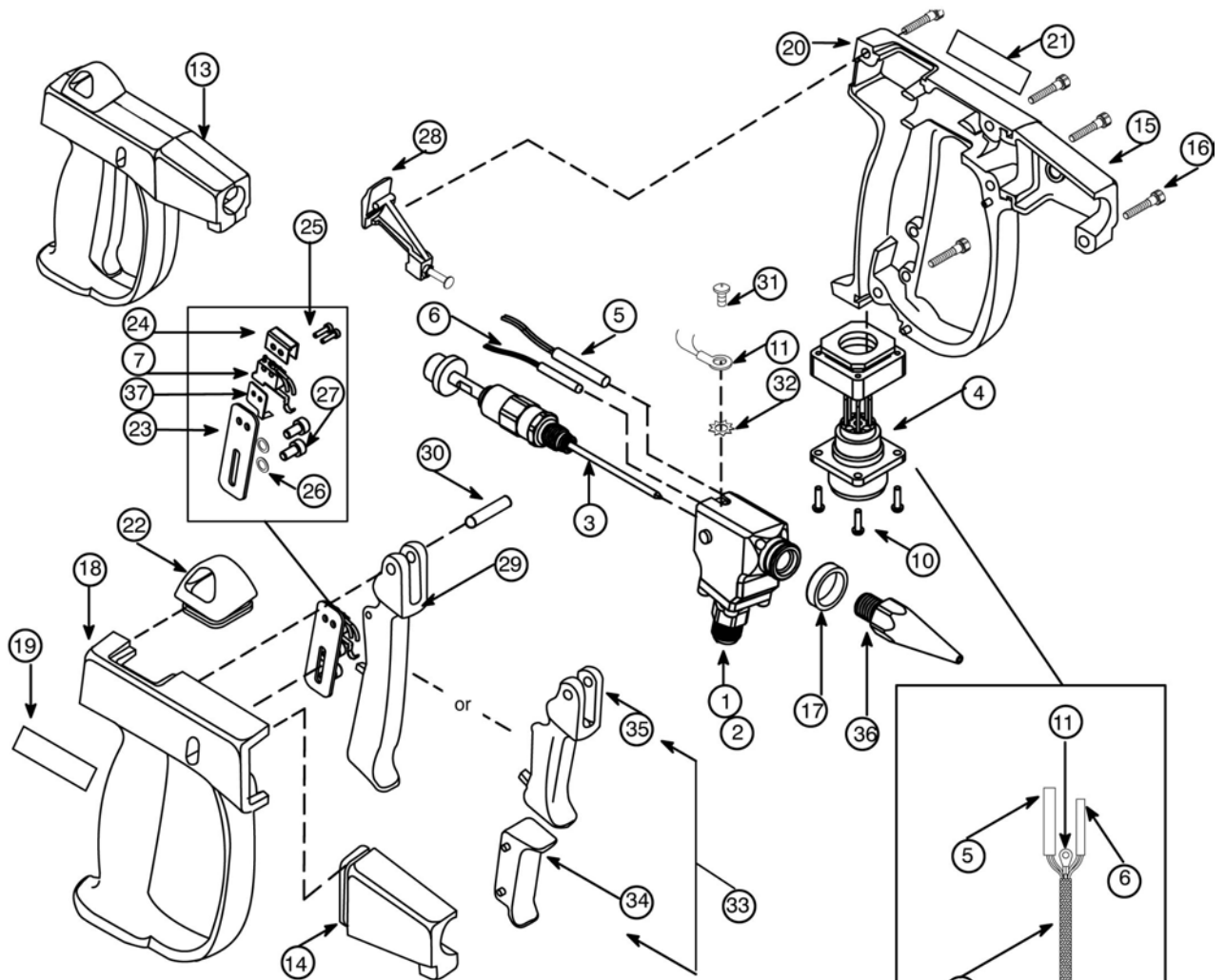
\*\* For cable assembly and component part numbers, see page 7-7

**Applicator Handle Assembly and Common Parts cont.**

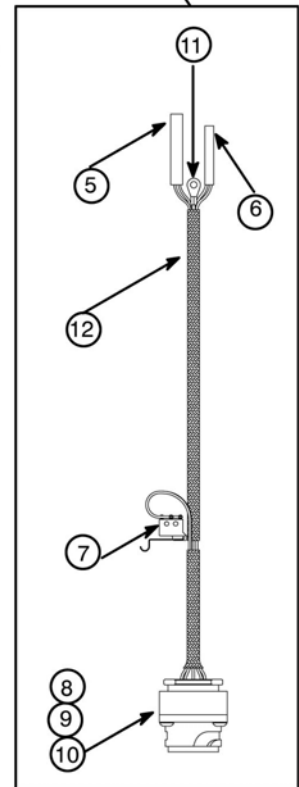
<b>Item No.</b>	<b>Part Number</b>	<b>Description</b>	<b>Qty.</b>
25	108349	Screw, Socket Head Cap, M2x0.4 x 8	2
26	108712	Washer, Belleville, .34 x .16 x .019, SST	2
27	108698	Screw, Socket Head Cap, M4x0.7 x 6	2
28	108353	Trigger Lock Assembly	1
29	108354	Trigger Assembly, 4 Finger	1
30	108356	Pin, Trigger Pivot	1
31	108361	Screw, Phillips Pan Head, M3x0.5 x 5	1
32	108362	Washer, Lock, External Tooth, M3	1
33	108374	Kit, 2-Finger Trigger	1
34		Filler, 2-Finger Trigger	1
35		Trigger Assembly, 2-Finger	1
36		Nozzle Assembly (see detail, following pages)	1
37	108815	Switch Leven Stop	1



**Applicator Handle Assembly and Common Parts cont.**



Note: Heater covers can be assembled in the inverted position.

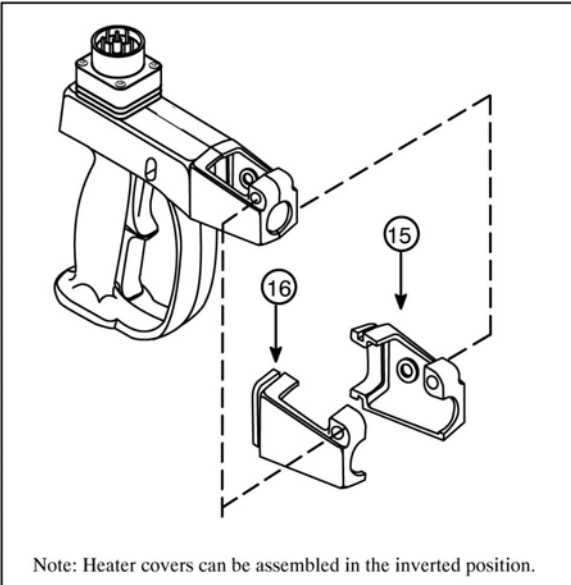
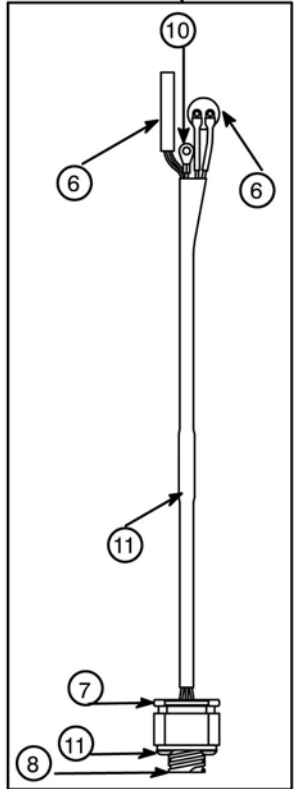
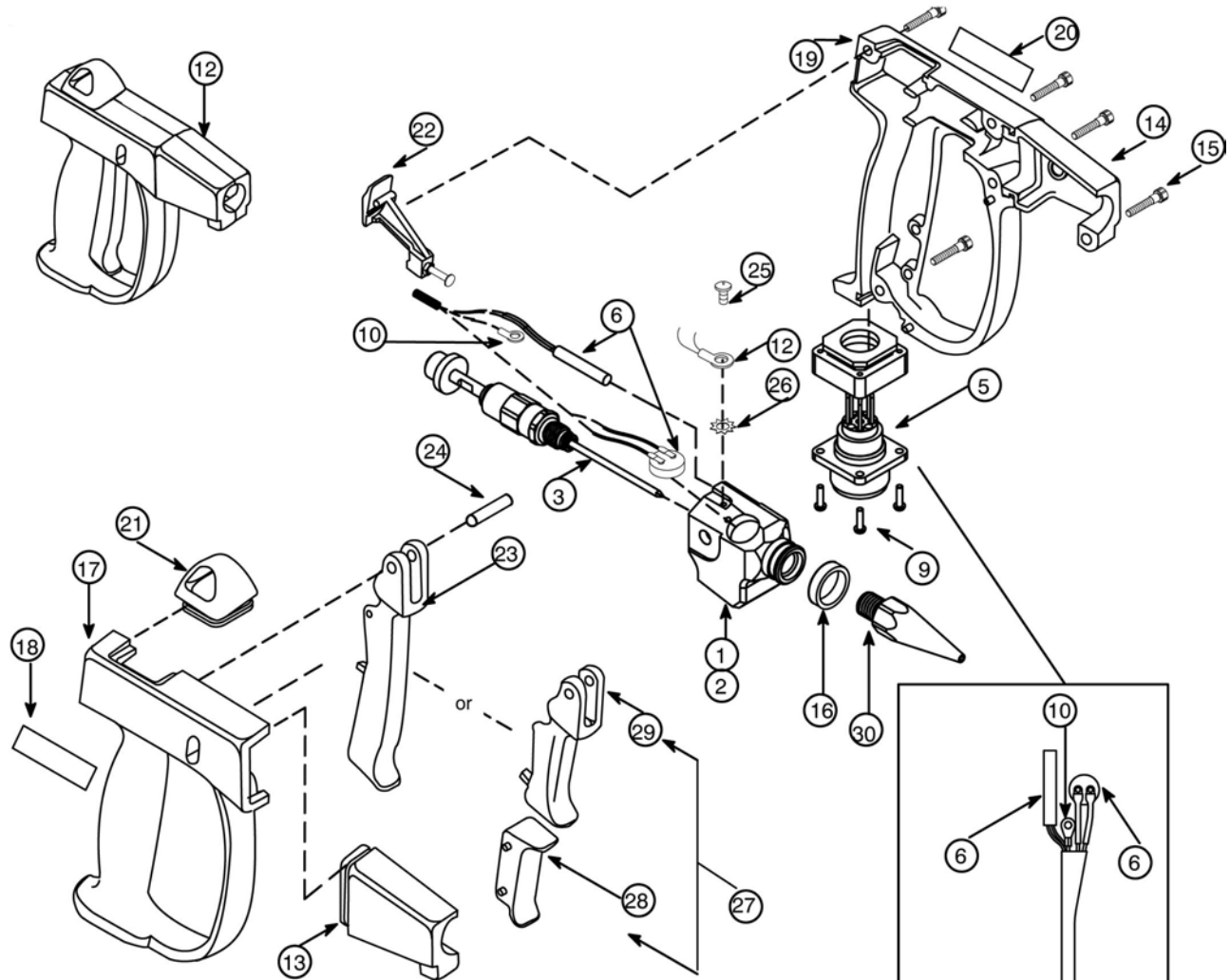


3-16-12

### Applicator Handle Assembly and Common Parts (Special Thermostat Controlled model)

Item No.	Part Number	Description	Qty.
1	111368	Body Assembly, Axial Rotation	1
2	111369	Body Assembly, Ball Swivel	1
3	108320	Needle Assembly (see detail, page 6 -9)	1
5	111374	Cable Assembly, DCL, 240V	1
5	111373	Cable Assembly, DCL, 120V	1
6	111377	Heater/Thermostat Assembly, 80W, 240V	1
6	111376	Heater/Thermostat Assembly, 80W, 120V	1
7	PJD515	Connector, Flanged Plug	1
8	N05218	Connector, AMP Sq. Flange Receptacle, 11-4, Std Sex	1
9	108370	Screw, Button Socket Head, M3x0.5 x 12	4
10	108697	Ground Wire Assembly	1
11	108787	Sleeving	.92"
12	108758	Handle Kit	1
13	108285	Heater Cover, Right Hand	1
14	108286	Heater Cover, Left Hand	1
15	108359	Screw, Socket Head Cap, M4x0.7 x 16	5
16	108360	Ring, Insulator	1
17	108759	Handle Right Hand	1
18		Label, Information	1
19	108760	Handle Left Hand	1
20	108372	Label, Warning	1
21	108290	Hanger	1
22	108353	Trigger Lock Assembly	1
23	108354	Trigger Assembly, 4-Finger	1
24	108356	Pin, Trigger Pivot	1
25	108361	Screw, Phillips Pan Head, M3x0.5 x 5	1
26	108362	Washer, Lock, External Tooth, M3	1
27	108374	Kit, 2-Finger Trigger	1
28		Filler, 2-Finger Trigger	1
29		Trigger Assembly, 2-Finger	1
30		Nozzle Assembly (see detail, following pages)	1

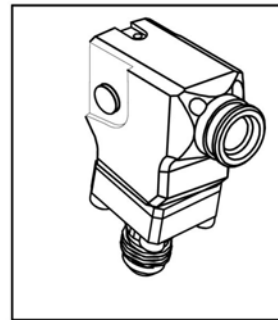
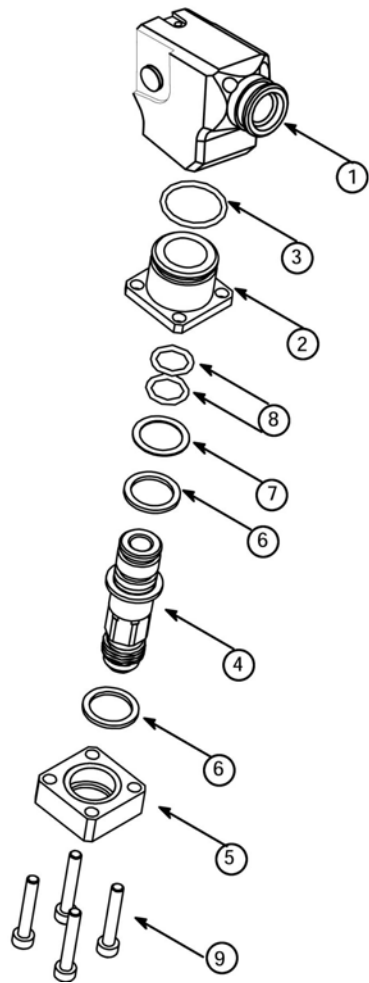
# Applicator Handle Assembly and Common Parts (Special Thermostat Controlled model)



Note: Heater covers can be assembled in the inverted position.

3-16-12

## Body Assembly, Axial Rotation - 108318



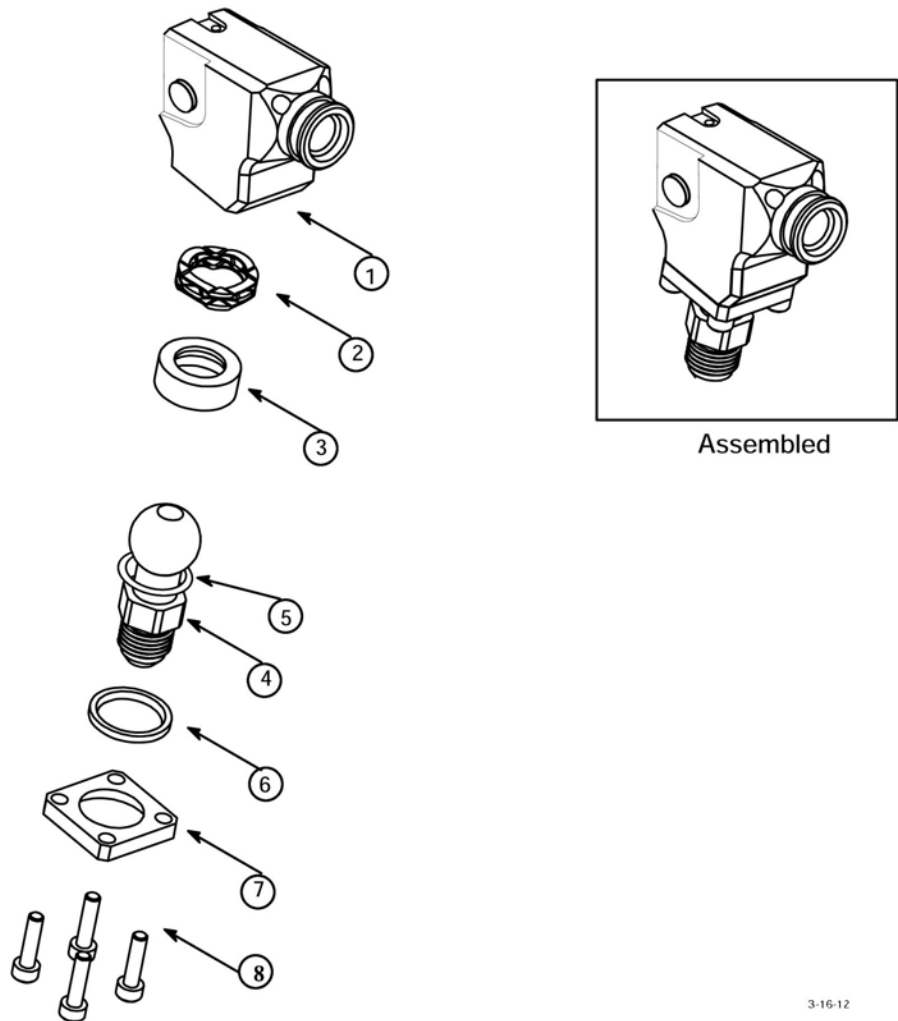
Assembled

3-16-12

Item No.	Part Number	Description	Qty.
1	108322	Heater Body Assembly	1
	108761	Kit, Rebuild/Convert, Axial Rotation	1
2		* Bearing, Axial Rotation	1
3	N00185	* O-ring, -018, 75 Duro Viton	1
4	108339	Stem, Axial Rotation	1
5		* Bearing Assembly, Axial Rotation	1
6		* Ring, Backup, -113 Solid TFE	2
7		* Washer, .745 x .562 x .020, SST	1
8	N00180	* O-ring, -013, 75 Duro Viton	2
9	108588	Screw, Socket Head Cap, M4x0.7 x 25	4
	108700	* Lube, TFE, .25 Ounce	1

\* Denotes components of Bearing Seal Kit, Axial Rotation, P/N 108755.

## Body Assembly, Ball Swivel - 108319

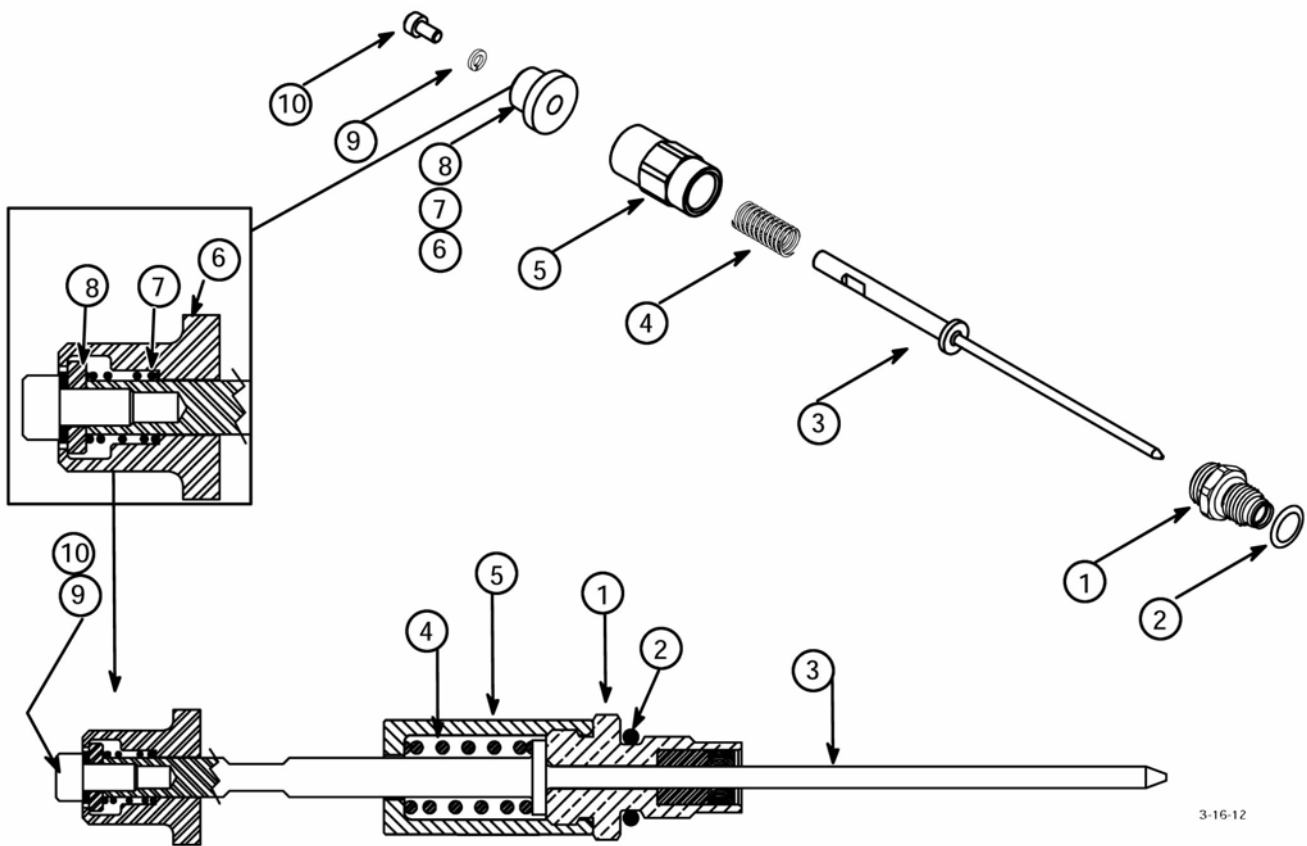


3-16-12

Item No.	Part Number	Description	Qty.
1	108322	Heater Body Assembly	1
	108761	Kit, Rebuild/Convert, Axial Rotation	1
2	103414	* Spring, Wave, .875" OD	1
3		* Bearing, Ball Swivel, Bottom	1
4	102501	Stem, Ball Rotation	1
5	103415	* O-ring, -115, 75 Duro Viton	1
6		* Bearing, Ball Swivel, Top	1
7	108344	Retainer, Ball Swivel	1
8	108359	Screw, Socket Head Cap, M4x0.7 x 16	4
	108700	Lube, TFE, .35 Ounce	1

\* Denoted components of Bearing Seal Kit, Ball Swivel, P/N 108756

## Needle Assembly - 108320

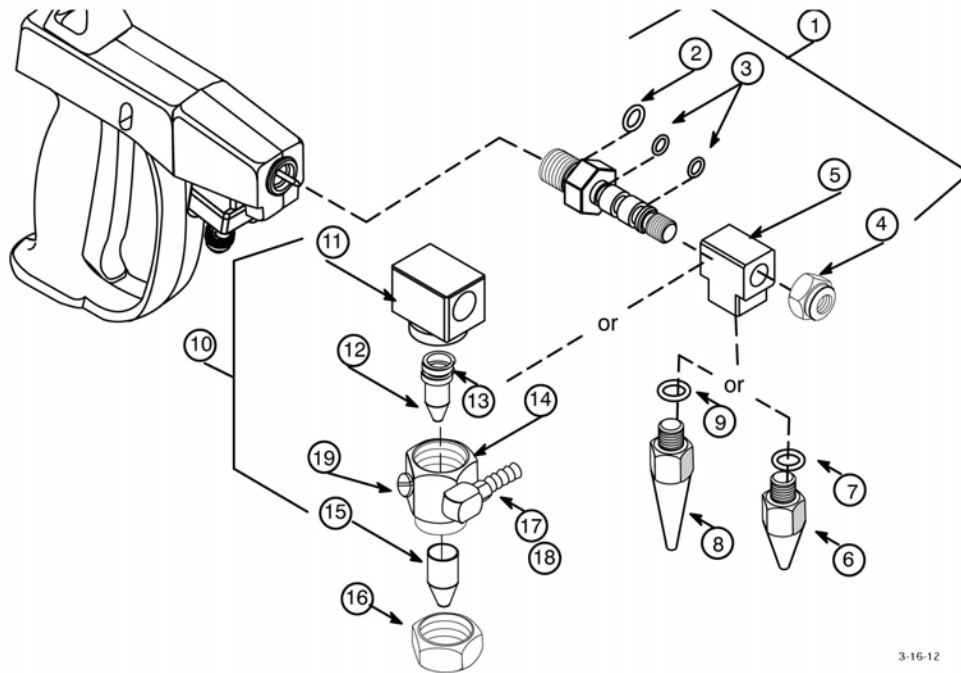


3-16-12

Item No.	Part Number	Description	Qty.
1	108707	* Seal Assembly, Needle	
2	108328	O-ring, 2.2mm W x 9.3mm ID, 75 Duro Viton	
3	108329	Needle	
4	L08491	Spring Compression, .42" OD x .85" Long	
5	108331	Housing, Needle Return Spring	
6	108334	Collar, Needle Pull	
7	108332	Spring, Compression, .30" OD x .44" Long	
8	108333	Retainer, Pull Collar	
9	106198	Washer, Split Lock, M4	
10	108698	Screw, Socket Head Cap, M4x0.7 x 6	
	108700	Lube, TFE, .25 Ounce	

\* Denotes components of Needle Seal Kit, PN 108757

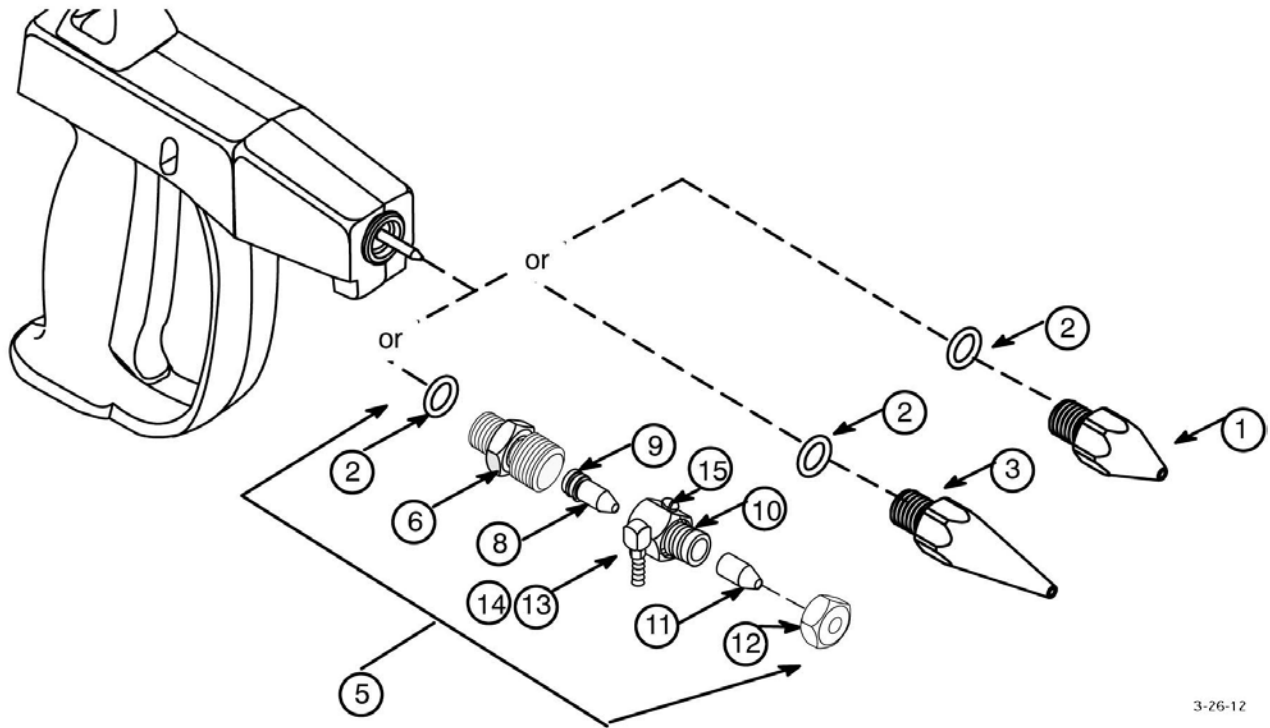
## Right Angle Swirl and Bead Nozzle Assemblies



3-16-12

Item No.	Part Number	Description	Qty.
1	108603	Mount Assembly, Right Angle Nozzle	1
2	108328	O-Ring, 2.2mm W x 9.3mm ID, 75 Duro Viton	1
3	N00177	O-Ring, -010, 75 Duro Viton	2
4	108338	Nut, Lock, M8 x 1.25	1
5	108661	Adapter, Bead Nozzle, Right Angle (Purchased Separately)	1
6		Nozzle Assembly, Straight Bead	1
8		Nozzle Assembly, Extended Bead	1
10	108663	Adapter Assembly, Swirl Nozzle, Right Angle	1
11	108662	Adapter, Swirl Nozzle, Right Angle	1
12		Nozzle Assembly, Straight (See ordering guide.)	1
13	N00178	O-Ring, -011, 75 Duro Viton	1
14	L18789	Adapter, Dynagun Swirl	1
15	L19610	Baffle, Dynagun Swirl	1
16		Air Cap, Swirl (See ordering guide.)	1
17	N06431	Fitting, Adjustable Elbow, #10-32 Male/Female	1
18	N06432	Fitting, Barbed, #10-32 Male	1
19	N06433	Fitting, Plug, #10-32	2
20	108336	Mount, Right Angle Nozzle, HA	1

## Swirl and Bead Nozzle Assemblies



3-26-12

Item No.	Part Number	Description	Qty.
1		Nozzle Assembly, Straight Bead (Nozzle Assy P/N 108645, .055", supplied as part of all DG2 Straight Applicator Assy)	1
2	108328	P-Ring, 2.2mm W x 9.3mm IS, 75 Duro Viton	1
3		Nozzle Assembly, Extended Bead (See ordering Guide for sizes and part numbers)	1
5	108660	Adapter Assembly, Swirl Nozzle, Straight	1
6	108659	Adapter, Swirl Nozzle, Straight	1
8		Nozzle Assembly, Straight (See ordering guide for selections)	1
9	N00178	O-Ring, -011, 75 Duro Viton	1
10	L18789	Adapter, Dynagun Swirl	1
11	L19610	Baffle, Dynagun Swirl	1
12		Air Cap, Swirl (See ordering guide for selections)	1
13	N06431	Fitting, Adjustable Elbow, #10-32 Male/Female	1
14	N06432	Fitting, Barbed, #10-32 Male	1
15	N06433	Fitting, Plug, #10-32	2



# Chapter 7 Ordering Guides

## DG2 Hand-held Applicator Selection Guide

*DG2* X X X X

— — — —

**Control Scheme:**

- D = DynaControl, Dynamini,  
MTC or Dynapro
- E = ETC/RO
- H = HMT
- N = Nordson AD-41
- S = Slautterback
- T = Thermostat

**Voltage:**

- 1 = 120 VAC 50/60 Hz
- 2 = 240 VAC 50/60 Hz

**Hose Connection:**

- A = Axial rotation (rotary)
- B = Ball swivel

**T = Thermostat Model w. Trigger**

3-27-12

## Swirl Accessories & Options

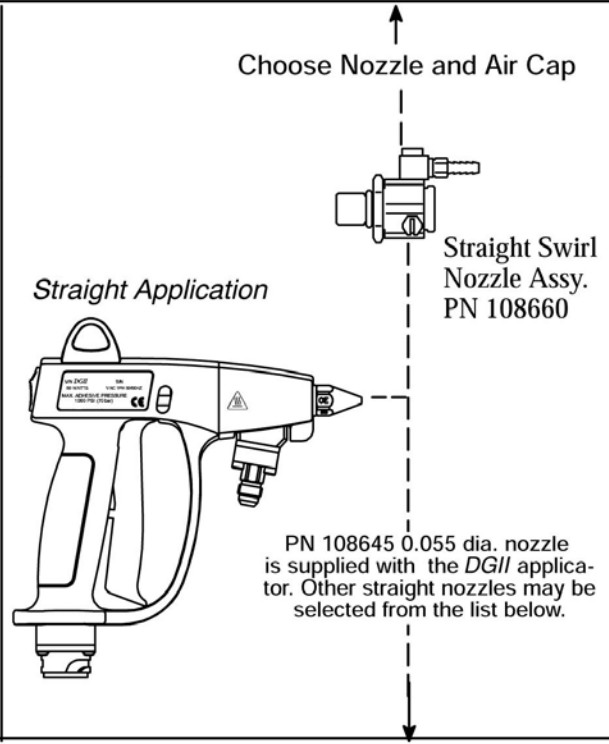
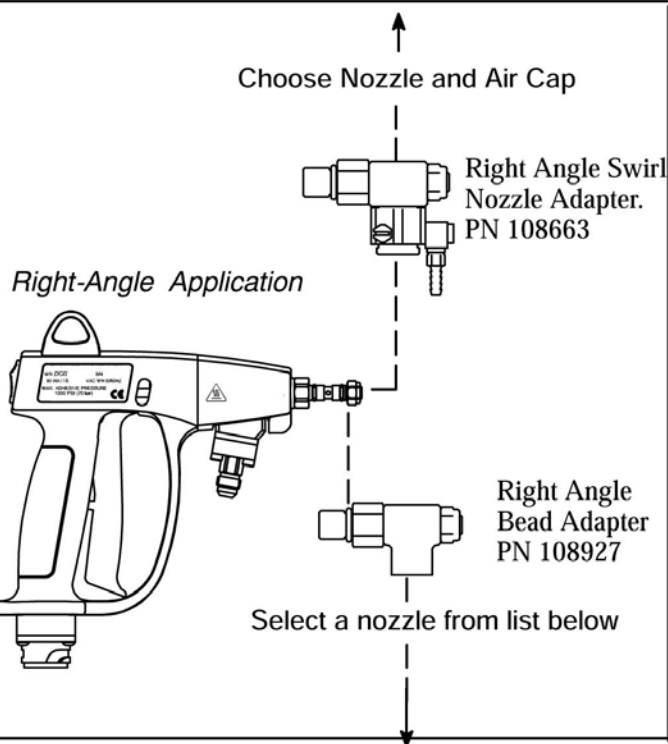
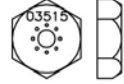
### Swirl Nozzle Assy.

PN	Orifice Dia. inch
101367	0.015
101368	0.020
101369	0.025
101370	0.030
101371	0.040
101372	0.055
101373	0.070
107584	0.090



### Swirl (Spray) Air Caps

PN	Orifice Dia. mm	inch	Angle
L18790	0.889	0.035	15°
L18791	0.889	0.035	20°
L18792	0.889	0.035	25°
L18793	0.889	0.035	30°
L18794	0.889	0.035	35°
L18795	1.016	0.040	15°
L18796	1.016	0.040	20°
L18797	1.016	0.040	25°
L18798	1.016	0.040	30°
L18799	1.016	0.040	35°



## Single Orifice Bead Nozzles for DGII Applicators

### Straight Bead Nozzle Assy.

PN	Orifice Dia. inch
108643	0.025
108644	0.040
108645	0.055
108646	0.070
108647	0.090



### Extended Bead Nozzle Assy.

PN	Orifice Dia. inch
108654	0.025
108655	0.040
108656	0.055
108657	0.070
108658	0.090



### Control Scheme Adapter Cables

These cable assemblies are installed between the DG2 applicator model DG2DXX and hose.

Cable Assembly Part Number	From DG2 Control Scheme	To ASU Control Scheme
108691	DynaControl	Slutterback L5, 120V
108692	DynaControl	Slutterback L5, 240V
108902	DynaControl	Slutterback L4, 120V
108903	DynaControl	Slutterback L5, 240V
108950	Nordson	Nordson, AD31, 2300 or 300 Series, 230V

### Service Kits

#### Needle Seal Kit PN 108757

Part Number	Description
108707	Needle Seal Assembly
108332	Compression Spring, 0.360OD, 0.026d, 1.12LG
L08491	Compression Spring, 0.042OD, 0.072d, 0.853LG
108700	TFE Lube, 0.25 oz.

#### Handle Kit, Service Part PN 108758

Part Number	Description
NFS	Heater Cover, RH
NFS	Heater Cover, LH
NFS	Handle, RH
NFS	Handle, LH
108359	SHC Screw, M4 x 0.7 x 16 (Qty.5)
108360	Insulator Ring

\*NFS: Not for sale separately

**Axial Rotation Rebuild/ Conversion Kit PN 108761**

<b>Part Number</b>	<b>Description</b>
NFS*	Axial Rotation Bearing
108339	Axial Rotation Stem
NFS*	Washer, 0.745 x 0.562 x 0.020, SST
NFS*	Backup Ring, -113 Solid TFE (Qty.2)
108588	SHC Screw, M4 x 0.7 x 0.25 (Qty.4)
NFS*	Axial Roller Bearing Assembly
N00180	O-ring -013, Viton (Qty.2)
N00185	O-ring -018, Viton
108700	TFE Lube, 0.25 oz.

\*NFS: Not for sale separately

**Axial Rotation Bearing/ Seal Kit PN 108755**

<b>Part Number</b>	<b>Description</b>
NFS*	Axial Rotation Bearing
N00180	O-ring -013, Viton (Qty.2)
N00185	O-ring -018, Viton
NFS*	Axial Roller Bearing Assembly
NFS*	Backup Ring, -113, Soolid TFE (Qty.2)
NFS*	SST Washer, 0.745 x 0.562 x 0.020
108700	TFE Lube, 0.25 oz.

**Ball Swivel Rebuild/ Conversion Kit PN 108762**

<b>Part Number</b>	<b>Description</b>
102501	Ball Swivel Stem
103414	Wave Spring
103415	O-ring, -115, Viton
NFS*	Ball Swivel Bearing, Bottom
NFS*	Ball Swivel Bearing, Top
108344	Ball Swivel Retainer
108359	SHC Screw, M4 x 0.7 x 16 (Qty.4)
108700	TFE Lube, 0.25 oz.

**Ball Swivel Bearing/ Seal Kit PN 108756**

<b>Part Number</b>	<b>Description</b>
103414	Wave Spring
103415	O-ring -115, Viton
NFS*	Bottom Ball Swivel Bearing
NFS*	Top Ball Swivel Bearing
108700	TFE Lube, 0.25 oz.
108344	Ball Swivel Retainer

**Tool Kit, Hand-held Applicator PN 108622**

<b>Part Number</b>	<b>Description</b>
NFS*	Wrench, 4, 7, 13 & 17mm (Qty.2)
NFS*	Screwdriver, Reversible
NFS*	Hex Key, 1.5mm
NFS*	Hex Key, 3mm
NFS*	Extractor, Connector Pin

\* Not for sale

## Cable Assembly and Component Guide

CONTROL SYSTEM (see pg. 7-1 for code)

Description	Nordson N	Slautterback S	Thermostat T	Slautterback Thermostat
Cable Assy. 120V	108935	111801	111373	114251
Cable Assy. 240V	108936	111802	111374	114252
Heater Assy. 120V	108693	108693	-	-
Heater Assy. 240V	108694	108694	-	-
RTD Sensor Assy.	108934	109081	-	NA
Trigger Switch Assy	108696	108696	-	108354
Plug Connect 120V	N03567	N03567	-	-
Plug Connect 240V	N03567	N03567	-	-
Ground Wire Assy	108697	108697	108697	108697

### Recommended Spare Parts

Part Number	Description	Qty
108700	TFE Lube, 0.25 oz.	1
*	Trigger Switch Assy	1
*	RTD Sensor Assy, PT100	1
*	Heater Assy, 120V	1
*	Heater Assy, 240V	1
108328	O-ring 2.2W x 9.31D, Viton	10
103415	O-ring -115, Viton (ball swivel models only)	5
N00180	O-ring -013, Viton (axial rotation models only)	5
N00185	O-ring -018, Viton (axial rotation models only)	5
N00177	O-ring -010, Viton (right angle nozzle adapter)	5
111374	Cable Assembly (special 240V thermostat-cont. mdl only)	1
111373	Cable Assembly (special 120V thermostat-cont. mdl only)	1

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## Warranty

- A. Astro Packaging warrants its products, when operated and maintained in accordance with Astro Packaging recommended procedures, are free of defects in material and workmanship during the periods indicated below commencing with the date the product is placed in service.

Product	Warranty Period
1. Tank heater (including entire tank when heater is cast into tank)	5 years or 10,000 hours of use, whichever occurs first
2. Melt unit (unless specified below); pattern controller; head driver	1 year or 2000 hours of use whichever comes first
3. Stationary hose; automatic electric head; standard pail unloaded; standard pail unloader; standard accessory purchased with a system	1 year or 2000 hours of use whichever comes first
4. Manual hose; handgun; Astromini; any butyl system; any PUR system (including hose, gun, or head used with PUR); any spare or replacement components; industrial heated hose; nozzle; nozzle bar	6 months of 1,000 hours of use, whichever comes first
5. Rebuilt equipment	90 days or 500 hours of use, whichever comes first

- B. The sole liability of Astro Packaging and exclusive remedy extended to any Astro Packaging customer shall be limited to replacing or repairing, at the option of Astro Packaging, any product returned under the terms of this warranty. Labor and related expenses incurred to install replacement or repaired parts are not covered by this warranty.
- C. Astro Packaging is not responsible for repair or replacement of any product that has been subject to abuse, misuse, alteration, accident, or negligent use, nor for repairs made by an unauthorized person or with parts other than those provided by Astro Packaging.
- D. Astro Packaging assumes no responsibility for the performance of adhesives or other materials used with its products.
- E. The warranty for a product repaired or replaced under this warranty shall continue in effect for the remainder of the original warranty period, or for ninety (90) days following the day of shipment by Astro Packaging of the repaired or replaced product, whichever period is longer.
- F. No warranty is made with respect to custom products or products developed, designed and manufactured to customer specifications, except as specifically stated in writing by Astro Packaging.
- G. Astro Packaging is responsible only for payment of shipping charges for delivery of repaired or replaced product, via the least expensive means of transport, to customer or an authorized Sales and Service Center in the Continental United States only. Payment for shipment to Astro Packaging or an authorized Sales or Service Center for evaluation, repair or replacement is the responsibility of the customer.
- H. For service under this warranty, contact Astro Packaging or the Authorized Representative which the product was purchased.

**THIS WARRANTY IS IN LIEU OF ANY OTHER WARRANTY EXPRESSED OR IMPLIED, INCLUDING THE WARRANTY OF MERCHANTABILITY AND FITNESS FOR THE PARTICULAR PURPOSE**



# Equipment Record

**Record the information below on all equipment received and retain for your records.**  
(Systems, melt unit, hose, guns, heads, pattern controllers, drivers, etc)

**Products were purchased from:** \_\_\_\_\_  
Astro Packaging Authorized Sales and Service Center

Product Model/Description \_\_\_\_\_ Serial No. \_\_\_\_\_  
Product Part Number \_\_\_\_\_ Order No. \_\_\_\_\_  
Date Received \_\_\_\_\_ Start-Up Date \_\_\_\_\_ Invoice No. \_\_\_\_\_

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Product Model/Description \_\_\_\_\_ Serial No. \_\_\_\_\_  
Product Part Number \_\_\_\_\_ Order No. \_\_\_\_\_  
Date Received \_\_\_\_\_ Start-Up Date \_\_\_\_\_ Invoice No. \_\_\_\_\_

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Product Model/Description \_\_\_\_\_ Serial No. \_\_\_\_\_  
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