Model AD-29

with Interrupted Air

Part 104 454A

Nordson.

NORDSON CORPORATION • AMHERST, OHIO • USA

CONTENTS

ISSUED 4/77 SUPERSEDES LITHO U.S.A.

SERVICES PROVIDED TO NORDSON CUSTOMERS

Customer Support Before And After The Sale

For more than 35 years Nordson has offered unparalleled service to its customers before, during and after the sale. Nordson representatives will work with you to choose the best system for your application. We'll assist you during start-up and help train your employees to maintain and operate the equipment. Plus, parts and service are only a phone call away from one of our strategically located sales and service centers.

System Engineering

Custom designs and modification of standard equipment are available to meet your particular needs. From a complete new system for automotive assembly to a special nozzle used in the production of diapers, Nordson has the expertise to integrate adhesive and sealant equipment with your manufacturing operation.

Parts And Accessories

In addition to standard replacement parts, many accessories are available to help improve productivity and reduce downtime. For example, heated and non-heated in-line filters reduce stoppages from clogged nozzles, and nozzles in multi-orifice, offset, right-angle and other designs are available for special needs. Also, gloves, solvent, spare parts kits and other components are in stock for immediate delivery. Conversion kits for tapers, labelers and box-forming equipment are also available.

To help you eliminate downtime and costly inplant repairs, Nordson has developed a Rebuilt Exchange (RBX℠) Program* which can save you up to 50 percent of the cost of new equipment. You may trade in your old worn units, hoses and guns for rebuilt Nordson equipment which has the same warranty as new equipment.

The Nordson Package of Values™

From specifications assistance to post-installation troubleshooting, the Nordson Package of Values is designed to keep our customers productive and profitable by providing:

- Carefully engineered, durable products
- Strong service support
- The back-up of a well-established international company with financial and technical strength
- A corporate commitment to deliver what was specified

* This service not available in all countries.

How To Order Nordson Parts

Replacement parts may be ordered through your local Nordson representative or by contacting our Customer Service Centers. When ordering parts, please use the description shown in the parts list, the part or service kit number (when listed) and the quantity desired.

Country	Telephone	Facsimile
Argentina	54-1-921-3058	54-1-924-3206
Australia	61-2-838-7144	61-2-838-7394
Austria	43-222-707-5521	43-222-707-5517
Belgium	32-2-720-9973	32-2-720-7371
Brazil	55-11-274-6011	55-11-632300
Canada	416-475-6730	416-475-8821
Chile	56-2-555-7190	56-2-551-7549
Colombia	57-4-266-6965	57-4-266-5716
Denmark	45-42-648-500	45-42-641-101
France	33-1-64-12-14-00	33-1-64-12-14-01
Germany	49-211-2002-0	49-211-254658
Greece	30-1-941-9058	30-1-942-7623
Hong Kong	852-4287228	852-4804685
India	91-22-6442852	91-22-6427520
Italy	39-2-9078-23-40	39-2-9078-24-85
Japan	81-3-3450-8818	81-3-3472-3301
Korea	82-2-428-1931	82-2-427-9387
Malaysia	60-3-703-7248	60-3-791-5152
Mexico	216-988-9411/4315	216-985-3710
Netherlands	31-3403-77812	31-3403-74189
New Zealand	64-9-634-0179	64-9-579-7797
Norway	47-2-656100	47-2-658858
Pakistan	92-21-568-8609/3869	92-21-568-4585
Philippines	63-2-721-1421	63-2-721-3927
Portugal	351-2-941-3874	351-2-941-3867
Puerto Rico	809-787-2474	809-780-6063
Singapore	65-459-9533	65-459-9514
Spain	34-6-3705013	34-6-3705004
Sweden	46-40-291-585	46-40-932-882
Switzerland	41-61-463-838	41-61-463-818
Taiwan	886-2-581-3172	886-2-581-3074
Thailand	66-2-5141159	66-2-2531571
Turkey	90-1-384-4085	90-1-372-1528
United Kingdom	44-84421-3171	44-84421-5358
USA: Continental	770-497-3400	770-497-3500
Alaska & Hawaii	770-497-3400	770-497-3500
Venezuela	58-2-939-111	58-2-938097

Eastern Europe, Africa & Middle East, contact:
Nordson European Division
Erkrath, Germany
Distributor & Export Department 49-211-2002-0 49-211-254652

Issued 3/05
US contact numbers updated 3/05

306-18-662

SAFETY SUMMARY

INTRODUCTION

Here you will find safety guidelines for the use of Nordson equipment. These guidelines apply to anyone working with Nordson equipment, including operations and service personnel. They are repeated throughout this manual, along with specific warnings and cautions not included in this section. These safety guidelines cover:

- Installation.
- Equipment operation.
- Working with hot melt materials.
- Use of hot melt solvents.

Failure to follow these recommendations may result in personal injury from burns or electrocution and/or equipment and property damage.

EXPLANATION OF TERMS AND SYMBOLS

The following symbols are used in Nordson publications to alert the reader to potential physical harm or equipment damage:

WARNING:	CAUTION:
Failure to observe may cause DEATH or PERSONAL INJURY	Failure to observe can cause DAMAGE TO EQUIPMENT
 General	 General
 Electrical	
 Nozzle	
 Hot	
 Pressure	

Figure 1 - Nordson Corporation Safety Symbols

SAFETY DURING INSTALLATION

ELECTRICAL

- A protective electrical ground connection to a reliable earth ground is essential for safe operation. Without one, all accessible conductive components (including knobs and controls that appear insulated) can render an electric shock.
- A disconnect switch with lockout capability must be provided between the power source and the equipment.
- The power supply wire gauge and insulation must be sufficient to meet the temperature and power requirements.
- Only fuses of the correct type, voltage rating and current rating should be used. Refer to the Nordson equipment parts list for fuse recommendations. Using incorrect or nonrecommended fuses can present a fire hazard.

PNEUMATIC

Nordson recommends installing a lockout, three-way, manual valve in the air supply line to the filter/regulator. This valve makes it possible to relieve air pressure and lock out the pneumatic system before undertaking maintenance or repairs.

GAS-SYSTEM (Pertains to FoamMelt® Applicators and Nitrogen Blanket Kits Only)

Cylinders of compressed gas are under high pressure and can present significant safety hazards if handled improperly. Refer to OSHA General Industry Standards, paragraphs 1910.101, 1910.166 and 1910.167 for safety precautions that apply to the use, handling and storage of compressed air.

SAFETY DURING OPERATION

Do NOT operate Nordson equipment under the following conditions:

- At a pressure higher than the rated maximum working pressure of any component in the system.
- Near volatile or otherwise explosive gases or materials.
- Without the covers, panels and safety guards properly installed.
- At temperatures below 20° F (-6° C) or above 120° F (50° C).

ISSUED 7/86 SUPERSEDES 2/85
LITHO U.S.A.

- With hoses enclosed in any material that interferes with heat dissipation. This includes electrical conduit, insulation of any type or tight metal covers.

- With large areas of hoses in contact with a cold floor, cold supports or other such surfaces. Cold points along the hose restrict the flow of adhesive inside the hose and can create potential problems during operation.

- (If outdoors or in drafty areas) with the applicator guns unshielded from the wind. Rapid heat dissipation due to air movement across the guns may cause operational problems.

- With handgun trigger left unlocked while the gun is unattended.

In addition:

- Use only the metal base when attempting to lift or move this equipment. Do not use equipment covers, doors, panels or hose connectors as braces or grips.

- Never use this equipment as a ladder or stepping stool.

- Route all hoses so as to prevent damage from kinking, abrasion and other physical damage. Do not allow a hose to be installed with a bend radius of less than 6 inches (150 mm).

- Never point an applicator handgun at yourself or anyone else.

SAFETY DURING SERVICING

- Do not perform internal service or adjustment on any equipment unless another person capable of rendering first aid and resuscitation is present.

- Only qualified personnel should service Nordson equipment.

- To avoid personal injury, never touch exposed connections and components while power is ON. Dangerous voltages exist at several points in the equipment.

- Disconnect, lock out and tag external electrical power before removing protective panels or replacing electrical components.

- Remove all jewelry (rings, watches, etc.) before servicing equipment.

- If possible, stand on a rubber mat when servicing Nordson equipment. Do not work on equipment if standing water is present. Avoid working in a high-humidity atmosphere. Cover exposed terminals and work area with rubber sheeting to avoid accidental contact while the power is ON.

ISSUED 7/86 **SUPERSEDES** 2/85

LITHO U.S.A.

- Always wear safety glasses, protective gloves (Nordson P/N 902 514 or equivalent) and long-sleeved protective clothing to prevent injury from hot applicator parts, splashed hot melt adhesive and hot gun surfaces.

- To prevent serious injury from molten adhesive under pressure, always relieve system hydraulic pressure (by triggering the handgun, for example) before opening any hydraulic fitting or connection).

- Never use an open torch, drill or broach when cleaning a nozzle.

- Never continue to operate equipment with a known leak in the system.

SAFETY WHEN USING HOT MELT ADHESIVES AND SOLVENTS

HOT MELT ADHESIVES

- Use extreme care when working with molten materials. They solidify rapidly at high temperature and present a hazard. Severe burns can occur if the molten materials come in contact with the skin. Even when first solidified, they are still hot.

- Always wear protective clothing and eye protection when handling molten material or working near equipment containing hot melt adhesives under pressure.

HEATING SOLVENTS

- Do NOT use an open flame or uncontrolled heating device to heat solvents (for example, a small pan on an unregulated hot plate).

  Avoid fire hazard by using only a controlled heating device to heat solvents (for example, a small deep fat fryer or thermostatically controlled hot plate).

- DO NOT USE PAINT-TYPE SOLVENTS UNDER ANY CIRCUMSTANCES! These solvents are volatile and may create a fire and/or toxic vapor hazard even at room temperature.

- Always be sure the work area is adequately ventilated. Avoid prolonged or repeated breathing of solvent vapors.

ISSUED 7/86 **SUPERSEDES** 2/85

LITHO U.S.A.

HALOGENATED HYDROCARBON SOLVENTS

Halogenated hydrocarbon solvents are dangerous when used to clean aluminum components in a pressurized fluid system. No available stabilizers prevent halogenated hydrocarbon solvents from reacting under all conditions with aluminum components in a pressurized fluid pumping system.

NEVER clean any aluminum component or flush any system using halogenated hydrocarbon solvents. Use Type R solvents or contact your solvent or hot melt supplier for a non-halogenated hydrocarbon solvent for cleaning and flushing.

Halogenated fluids include the following solvents:

Fluorocarbon Solvents:	Dichlorofluoromethane Trichlorofluoromethane
Chlorinated Solvents:	Carbon Tetrachloride Chloroform Dichloromethane Ethylene Dichloride Methylene Chloride Monochlorobenzene Monochlorotoluene Orthodichlorobenzene Perchloroethylene Trichloroethylene
Brominated Solvents:	Ethylene Dibromide Methyl Bromide Methylene Chlorobromide
Iodinated Solvents:	Ethyl Iodide Methyl Iodide N-butyl Iodide Propyl Iodide

IF MOLTEN MATERIAL COMES IN CONTACT WITH THE SKIN

- Do NOT try to remove molten material from the skin.
- Immediately immerse the affected area in cold, clean water. Keep the affected area immersed until the material has cooled.
- Do NOT try to remove the cooled material from the skin.
- Cover the affected area with a clean wet compress.
- In cases of severe burns, look for signs of shock. If shock is suspected, have patient lie down, use blankets to preserve body heat and elevate the feet several inches.
- Call a physician immediately.

ISSUED 7/86 **SUPERSEDES** 2/85

LITHO U.S.A.

This page intentionally left blank.

ISSUED 7/86
LITHO U.S.A.

SUPERSEDES 2/85

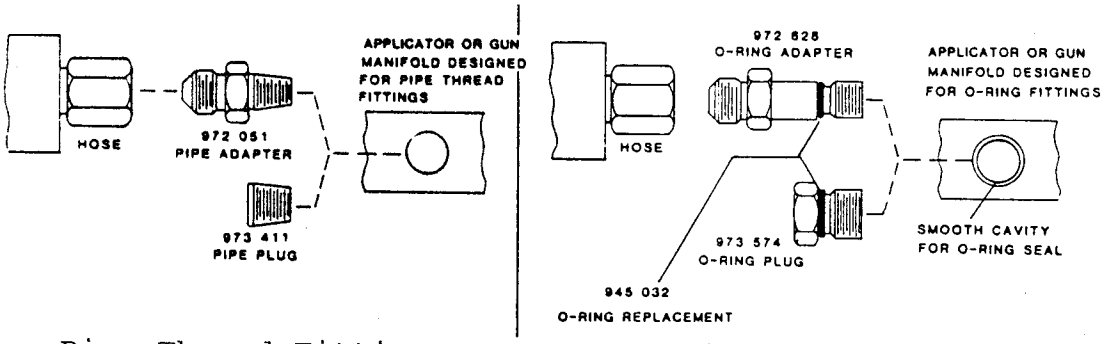
IDENTIFICATION AND USE OF NORDSON FITTINGS

There are two different types of hose adapters and pipe plugs used on Nordson equipment, one with an o-ring seal and one with a pipe-thread seal. Some Nordson H20 noncirculating automatic guns, H200 automatic guns, and Series 2000 applicators use hose fittings and pipe plugs with o-ring seals for the fluid ports. These o-ring fittings, which have straight pipe threads, are not interchangeable with the fittings which rely on tapered pipe thread (NPT) for a seal.

The use of the incorrect fitting may result in excessive leakage and possibly in serious burns, especially with low viscosity fluids.

1. Identification of Fittings Required: To determine which type of fittings should be used with any given gun or applicator, first look at the fluid ports in the manifold. The ports designed for the o-ring fittings will have a smooth machined cavity on the face of the manifold around the female threads whereas the ports designed for the pipe-thread fittings will have only female pipe threads. See Figure 1 for an illustration of the difference.

2. Selection of Correct Parts: Use Figure 1 to select the correct part.



Pipe-Thread Fittings And Manifold of Gun or Applicator

O-Ring Fittings And Manifold of Gun or Applicator

Figure 1 - Diagram of O-Ring and Pipe-Thread Fittings for H20 Noncirculating Guns, H200 Automatic Guns, and Series 2000 Applicators

3. Installation of O-Ring Fittings:

   (a) Lubricate the fitting threads and o-ring with Never Seez (P/N 900 344), making sure first that the o-ring and threads are free of dirt and other foreign particles.

(b) Thread the fitting by hand into the threaded port in the gun or applicator.

(c) Tighten the fitting only enough to seat. It should seat when the body of the metal fitting contacts the manifold surface. Between 7 and 10 ft-lbs of torque is required to create an effective seal.

⊘ Any time the fitting is removed, the o-ring must be replaced. Otherwise the o-ring will not seat properly. Use only Nordson o-rings, P/N 945 032.

4. Replacement of O-Rings:

(a) Be sure that the o-ring (Nordson P/N 945 032) and its groove are free of foreign particles.

(b) Stretch the o-ring and carefully roll it over the threads onto the groove in the hose adapter or pipe plug. Take care not to stretch the o-ring any more than necessary.

(c) Install fitting according to instructions in step 3.

A complete listing of Nordson fittings and their o-ring replacements, where replacements are available, is provided in the chart below:

Description of Fitting and Where Used		Pipe-Th. Fitting	O-Ring Fitting
Str. Conn.	(Gun to Automatic Hose; Applicator to Automatic or Handgun Hose)	972 051	972 628
Pipe Plug	(Extra Ports on Gun or Applicator)	973 411	973 574
90° Elbow	(Gun to Automatic Hose)	972 200	274 180*
90° Elbow	(Applicator to Automatic or Handgun Hose)	972 200	972 646*
45° Elbow	(Gun to Automatic Hose)	972 618	274 179*
45° Elbow	(Applicator to Automatic or Handgun Hose)	972 618	972 647*
Str. Conn.	(FM150/170 to Hose)	-	310 281

* For instructions on installation of o-ring elbow fittings, see page 46-33-1.

Note: P/Ns 972 646 and 972 647 have an extended collar which allows them to be wrenched into the hose ports in the manifold.

An adapter which will allow guns designed for o-ring fittings to be attached to a standard 1/4 inch tapered pipe-thread fitting is available from Specials (P/N 806 724). Primarily it is used in existing installations. It may need to be insulated to prevent excessive heat loss.

AD-29 GUN

DESCRIPTION

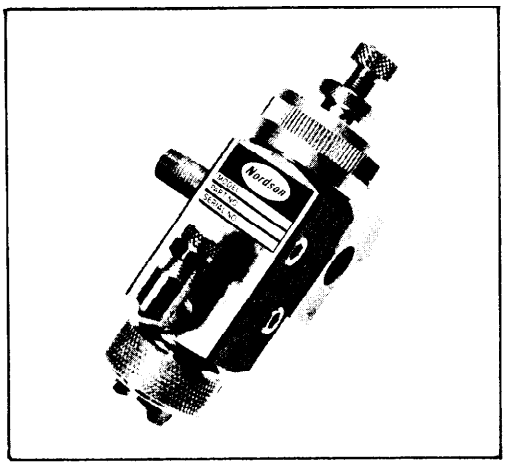


Figure 1 - Model AD-29
P/N 270 571

The Nordson AD-29 gun is designed to apply liquid resins (cold glues) in a fine spray that will penetrate and harden on corrugated substrates much more rapidly than the extrusion or wheel-type cold adhesive systems. By atomizing the cold liquid adhesive into a spray, the set time is reduced to a four (4) to six (6) second range. This short set time eliminates the need for long compression sections commonly required in cold glue applications.

Installation of the AD-29 gun is simple, clean-up time is minimal, and adhesive waste is slight.

NOTE: This gun features interrupted atomizing air. P/N 270 136 (270 137) does not.

SPECIFICATIONS

	U.S.A.	METRIC
Operating Temperature	Ambient	
Operating Air Pressure - Pressure Pot	10-40 PSIG	.7-2.8 kg/cm^2
Operating Air Pressure - Gun	45-70 PSIG	3.2-4.9 kg/cm^2
Air Consumption - Gun	Depends on application 2 SCFM maximum	.944 Liters/Sec.
Electrical Requirements - Control	115 VAC, 50/60 Hz., 50 Watts	

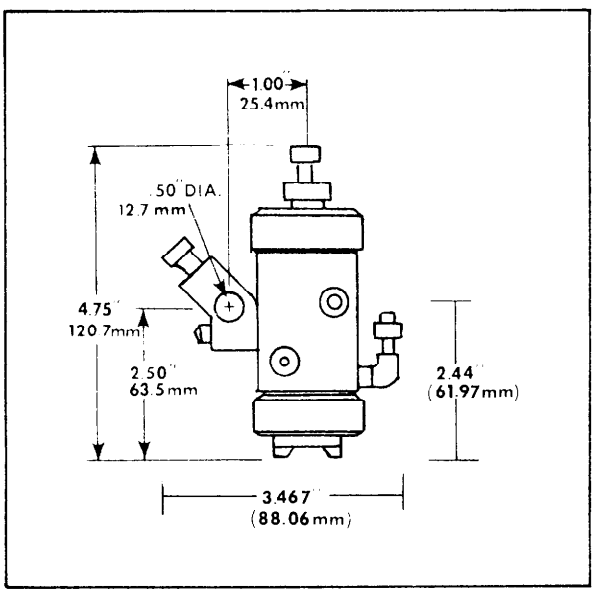


Figure 2 - Mounting Dimensions

LITHO U.S.A.
ISSUED 4/77
SUPERSEDES

THEORY OF OPERATION

The Nordson Pnu-Bond System is comprised of one or more AD-29 guns (A), a Stitch Control (B), a Pressure Pot (C) (or a Model 18 Pump), and the necessary hoses to connect the guns to the pot (or pump).

In an installation having a pressure pot, air is supplied to the pressure pot through a dual regulator. Atomizing air is supplied to each gun by a 3/8" O.D. polyethylene hose (D), while the adhesive is delivered to the gun by a 1/4" O.D. polyethylene hose (E). The AD-29 gun has a single high pressure orifice to deliver the adhesive to the substrate. Atomizing air is directed to the adhesive through five air ports located in the air cap.

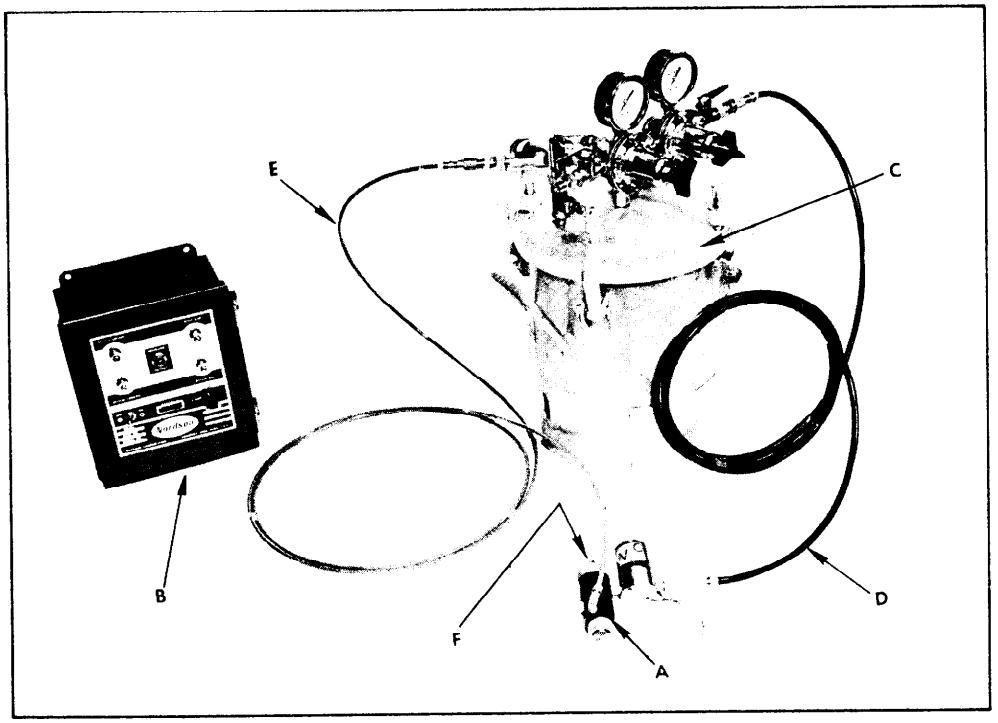


Figure 3 - Nordson Pnu-Bond System (1 Gun)

A multi-gun installation uses two manifolds (one on the air line and one on the fluid line) to supply air and adhesive to each gun from a single supply source.

A solid-state Stitch Control will permit the spray pattern to be interrupted into a spray-gap-spray pattern to keep glue consumption at a minimum. The solid-state timer is signaled by a customer-supplied triggering device (limit switch, photocell).

Adhesive flow rate is directly related to the air pressure applied to the pressure pot. The flow rate can be further refined by adjusting the needle lift. This adjustment can be made using the screw (F) at the top of the gun.

INSTALLATION

The Nordson Pnu-Bond System has several components that require installation before the system can be used. Installation time will depend on the size of the system (how many guns are to be used).

To install the Pnu-Bond System use the following procedure:

1. Position each gun to be used on a 1/2" diameter mounting bar and secure it by tightening the square head screw. Attach a solenoid valve to each gun using the close nipple supplied.

   NOTE: The spray pattern width is directly proportional to the distance from the nozzle to the substrate. The viscosity of the adhesive will determine the ratio of gun height to spray pattern width. Generally, the ratio is somewhere between 1:1 and 1:1.5.

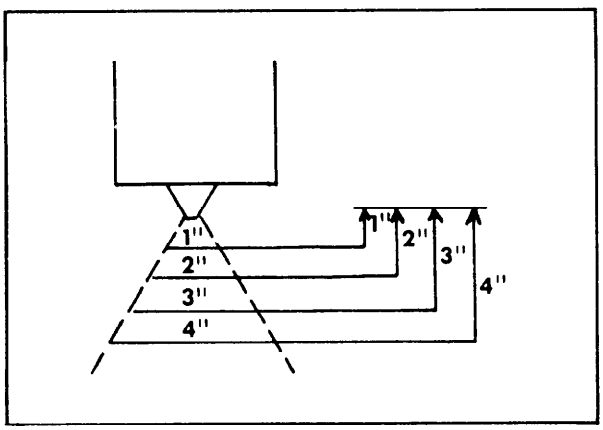


Figure 4 - Spray Pattern Dimensions

Example: An adhesive with a viscosity of 1600 CPS will provide a spray pattern at a 1:1 ratio. An adhesive with a viscosity of 500 CPS may provide a spray pattern closer to a 1:1.5 ratio.

U.S.A.	METRIC
1"	25.4 MM
2"	50.8 MM
3"	76.2 MM
4"	101.6 MM

2. Mount the Stitch Control on the parent machine or separate stand.

   ⊘ Do not subject the Stitcher to excessive vibration or extreme ambient temperatures.

3. Connect the Stitcher to a 115 VAC input power supply. Refer to the Stitcher service manual (57-12) for complete installation instructions.

4. Connect each gun solenoid to the Stitcher. Refer to the stitcher service manual (57-12) for correct wiring information.

5. Connect triggering device (limit switch, photocell) to stitcher. Make certain the gun is grounded and wiring meets all applicable electrical code requirements.

6. Connect the fluid filter assembly to the pressure pot.

7. Attach an air supply line to the inlet side of the 3/8 NPS dual regulator assembly.

INSTALLATION, (Continued)

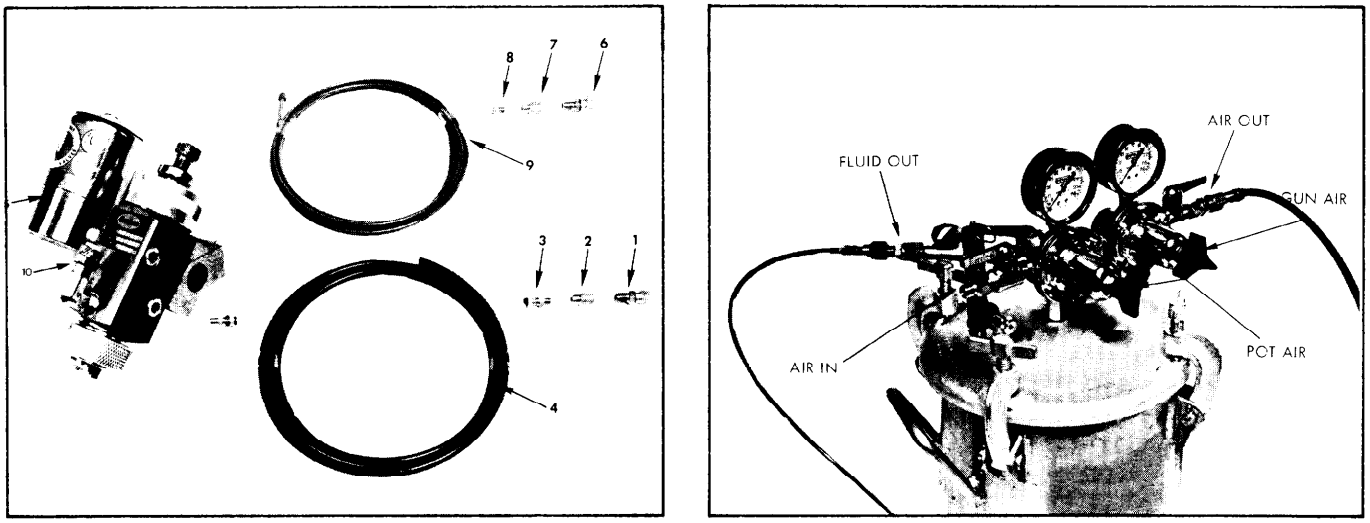


Figure 5 - Typical Single Gun Installation

Single Gun Installation (See Figure 5)

The AD-29 must be connected to the pressure pot pneumatically and hydraulically.

1. Attach a 1/4 NPS x 1/4 NPT connector (1) to the dual regulator assembly's output side.
2. Secure a 1/4 NPT x 1/8 NPT reducer (2) to the connector.
3. Attach a 1/8 NPT x 3/8 Tube compression fitting (3) to the reducer.
4. Secure the 3/8" black polyethylene tube (4) to the compression fitting.
5. Secure the 3/8" black polyethylene tube to solenoid (5) on the gun with another 1/8 NPT x 3/8 Tube compression fitting.
6. Attach 3/8 NPS x 1/4 NPT connector (6) to filter assembly on pressure pot.
7. Secure 1/4 NPT x 1/8 NPT reducer (7) to the previously installed connector.
8. Install the 1/8 NPT x 1/4 Tube compression fitting (8) on the connector.
9. Secure the 1/4" natural polyethylene tubing (9) to the compression fitting.
10. Attach the open end of the natural polyethylene tubing to the fluid inlet (10) on the gun.

Multi-gun Installation

Each gun must be connected pneumatically and hydraulically to the pressure pot. A manifold installed on the air and fluid lines permits this to be done.

1. Attach 1/4 NPS x 1/4 NPT connector to the output side of the dual regulator assembly.
2. Install one of the two manifolds supplied on the connector.

MULTI-GUN INSTALLATION, (Continued)

3. Install a 1/8 NPT x 3/8 Tube compression fitting in the manifold for each gun to be used.
4. Plug any unused manifold ports with a 1/8 NPT pipe plug.
5. Plug the open port at the end of the manifold with a 1/4 NPT pipe plug.
6. Cut the black polyethylene tubing to the correct length. (We have supplied enough tubing to allow 10 feet or 3.04 meters of tubing for each gun.)
7. Connect a length of tubing to each compression fitting in the air line manifold.
8. Install a 1/8 NPT x 3/8 Tube compression fitting in the solenoid on each gun.
9. Connect a length of black tubing to each gun at the solenoid.
10. Secure a 3/8 NPS x 1/4 NPT connector to output side of fluid filter assembly.
11. Attach the remaining manifold to the connector on the filter.
12. Starting at the port the furthest from the manifold fluid inlet, install a 1/8 NPT x 1/4 Tube compression fitting for each gun to be used.
13. Plug any remaining ports with a 1/8 NPT pipe plug.
14. Plug the open port at the end of the manifold with a 1/4 NPT pipe plug.
15. Cut the 1/4" natural polyethylene tubing to the correct length. (Enough bulk tubing is supplied to allow a maximum of 10 feet or 3.04 meters of tubing to each gun in the system.)
16. Secure a length of tubing to each compression fitting in the fluid line manifold.
17. Attach the open end of each 1/4" tubing length to the fluid inlet on each gun.

OPERATION

Initial Start-Up

Do not use flammable adhesives. Provide adequate ventilation to safely remove any harmful adhesive solvent vapors.

1. Agitate adhesive before pouring into pressure pot.

   NOTE: For best results always protect the adhesive from freezing.

   Cold adhesives generally have a short shelf life (about 90 days). Always rotate your adhesive stock. Refer to adhesive specification sheet for statement of shelf life.

2. Pour adhesive into pressure pot after loosening four (4) clamps and removing cover. Relieve air pressure before loosening clamps.

   NOTE: The pressure pot should have a stainless steel or plastic liner or be coated so that the water-based adhesive will not react with the galvanized pot.

OPERATION, (Continued)

3. Close the pot and secure all four (4) clamps.

4. Apply air pressure to the pot. The system works well at pressures between 10 and 40 PSIG (.7 and 2.8 kg/cm^2).

   NOTE: The air pressure to the pot directly affects the flow rate of the adhesive.

5. Adjust air pressure to the gun solenoid.

   NOTE: The gun works best at an air pressure setting of 60 PSIG (4.2 kg/cm^2).

6. Adjust the needle lift. Close the needle adjustment screw by turning it clockwise until it stops. Always loosen the locknut before turning the screw. Now open the needle lift adjustment by turning the screw one (1) full turn counterclockwise. If the flow rate needs adjustment, increase or decrease the pot (pump) pressure.

7. Tighten the needle lift locking nut.

8. Adjust the Stitch Control (see the Stitcher service manual).

9. The system is ready for use.

Shut Down

NOTE: Keep the system pressurized unless opening and refilling the pressure pot or removing pressure lines.

By keeping the system pressurized, the adhesive will not drain out of the fluid lines. Keeping the fluid lines full will prevent adhesive residue from plugging the hoses and guns.

1. Shut off Stitcher.

Start-Up

1. Turn on Stitcher.

2. If possible, position substrate under (over) guns and fire them a few times.

Refilling the Pressure Pot

1. Shut off air pressure to pot.

2. Open pot relief valve.

Do not loosen clamps until all pressure has been relieved.

3. Loosen four (4) clamps and remove pot cover.

4. Agitate fresh adhesive supply briefly.

Refilling the Pressure Pot, (Continued)

5. Pour fresh adhesive into pot.

   NOTE: To keep the pot, fluid lines, and guns clean, it is a good idea to use a liner in the pot. This liner can be alternated as the pot is refilled keeping skimming of the pot at a minimum.

6. Close the pot and secure the four (4) clamps.

7. Turn on air pressure to the pot.

MAINTENANCE

A cold adhesive system requires some daily maintenance to keep the system working at optimum levels.

1. Clean the air ports (4) in the air cap daily. Use a soft wire probe (about .025" diameter).

2. Remove the air cap and clean the area around the nozzle seat of all residual adhesive.

3. Check the inline adhesive filter on a regular basis.

4. Do not allow the inside walls of the pressure pot to skim over.

5. Flush the hydraulic part of the system regularly with warm water.

TROUBLESHOOTING

PROBLEM	POSSIBLE CAUSE
Adhesive flowing, no atomization	Air cap ports blocked.
Adhesive flowing, atomization too coarse	Air cap ports blocked.
Adhesive flowing, atomization too fine	Gun solenoid exhaust port blocked.
No adhesive flow	Pressure pot not sufficiently pressurized. No air pressure to gun. Stitch Control not "On". Stitch Control not functioning. Gun solenoid failed. Needle lift improperly adjusted. Fluid line blocked. Air line blocked. Pressure pot empty. Glue build up on needle or nozzle.
Too little adhesive flow	Pressure pot not sufficiently pressurized (25 PSIG/ 1.76 kg/cm^2 optimum). Needle lift adjusted too low. Fluid line blocked. Fluid filter plugged. Glue build up on needle or nozzle.
Too much adhesive flow	Pressure pot over 45 PSIG/3.16 kg/cm^2. Needle lift adjusted too high.
Improper adhesive pattern (width)	Air cap port(s) plugged. Fluid seat blocked. Glue dried on needle face. Air cap orifice blocked.
Improper adhesive pattern (length)	Triggering device malfunction. Stitcher set incorrectly. Stitcher malfunctioning (see appropriate manual).
Air escaping from ports in AD-29 air cylinder cover	Piston seals need lubrication or replacement.
Adhesive leaking from ports in AD-29 cylinder cover or solenoid	Needle packing needs replacement.

DISASSEMBLY

The AD-29 gun is disassembled by removing the retaining nut (1), air cap (2), and nozzle/seat (3) from the extrusion end of the gun. (Refer to Figure 6 for key numbers and exploded view.) Loosen the air cylinder cover (4) and remove the piston back-up spring (7). Pull the air piston and needle from the gun body. Now the needle packing (14), the O-ring (15) and seal washer (16) can be removed from the gun body. Loosen the locking nut (8) and lift the piston washer (9) and piston seal (10) off the piston. Thread the piston (11) off the threaded clamp (12). Disassembly is complete.

The needle packing (14), O-ring (15), and seal washer (16) are available in the AD-29 seal kit.

REASSEMBLY

To reassemble the AD-29 gun, insert the nylon seal washer (16) in the gun body. Place the O-ring (15) in the recess located at the lower end of the needle packing (14). Insert the needle packing in the gun body. Thread the needle packing securely in the gun body. Use a small amount of grease to lubricate the packing and needle as these parts are installed in the gun body.

NOTE: Be certain the needle packing is tightened securely in the gun body.

Place the threaded clamp (12) over the upper end of the shut off needle (13) about 1/16" (.040"-.070") and thread the piston (11) on the clamp. Place the piston seal (10) and the piston washer (9) over the piston and secure this assembly with the locking nut (8). Insert the needle assembly through the packing until the shut off needle tip appears at the extrusion end of the gun.

Place the piston back-up spring (7) on top of the air piston and thread the air cylinder cover (4) on the gun body. Complete reassembly by threading the nozzle/seat (3) into the gun body, place the air cap (2) in the retaining nut (1) and securing the retaining nut to the extrusion end of the gun.

RECOMMENDED SPARE PARTS LIST

Fig. 6 Key	Part No.	Description	Req'd.
-	270 696	Seal Kit, AD-29	Ref.
8	984 133	. Nut, Lock, Hex, 1/4-28	1
9	270 145	. Washer, Piston Seal	1
10	270 138	. Seal, Piston	1
11	270 144	. Piston	1
12	270 143	. Clamp, Threaded	1
13	270 142	. Needle, Shut Off	1
14	270 598	. Packing, Needle	1
15	940 060	. O-Ring, Viton, 1/8 x 1/4	1
16	270 635	. Washer, Seal, Nylon	1
2	270 152	Air Cap, AD-29	1
3	270 151	Nozzle/Seat, AD-29	1

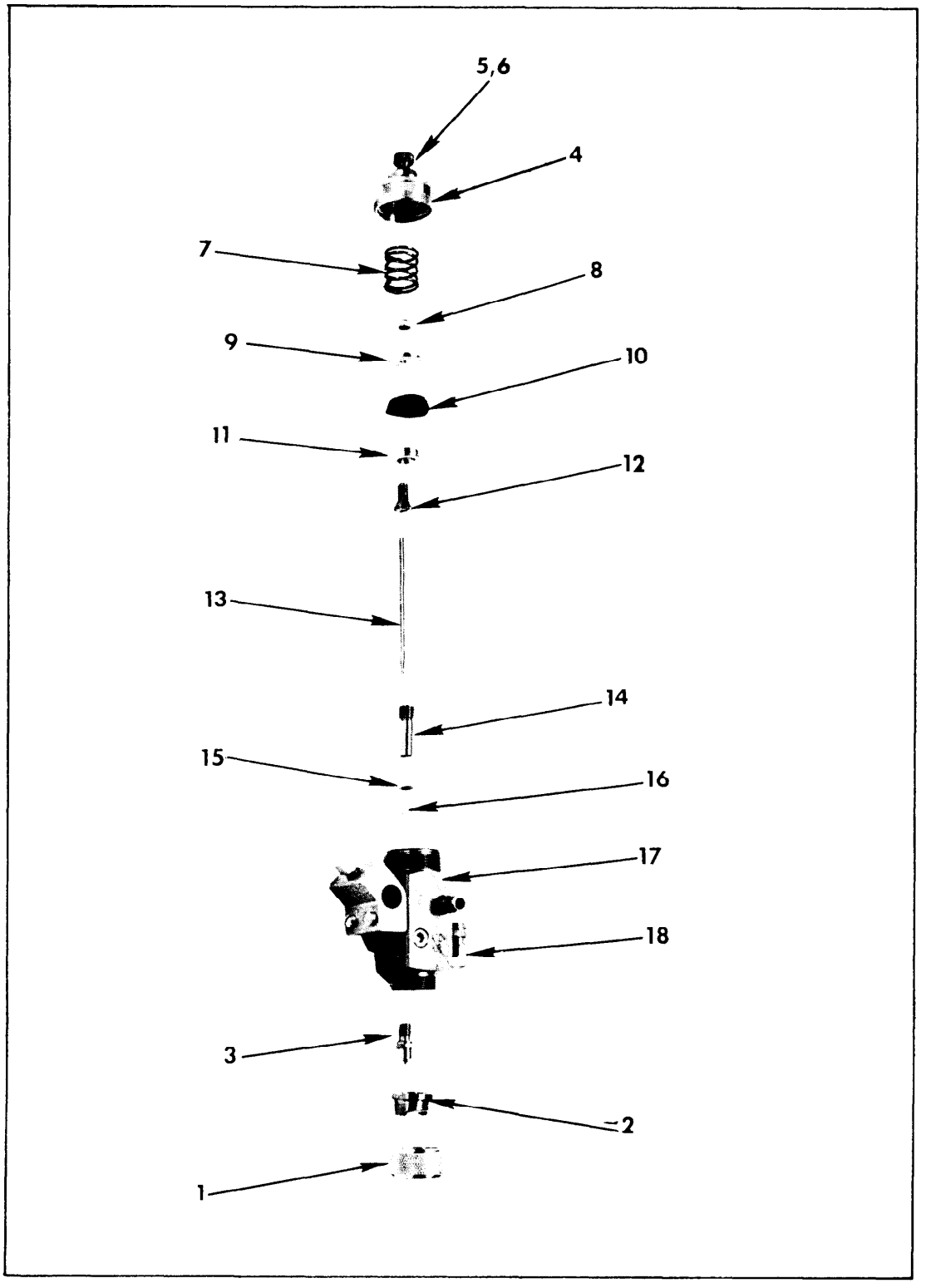


Figure 6 - AD-29 (P/N 270 571) - Exploded View

LITHO U.S.A.

PART LIST

Fig. 6 Key	Part No.	Description	Req'd.
-	270 571	Gun, AD-29	Ref.
1	270 153	. Nut, Retaining	1
2	270 152	. Air Cap, AD-29	1
3	270 151	. Nozzle/Seat, AD-29	1
4	270 141	. Cover, Air Cylinder	1
5	270 139	. Screw, Needle Stop	1
6	270 140	. Nut, Locking	1
7	270 156	. Spring, Piston Back-Up	1
8	984 133	. Nut, Lock, Hex, 1/4-28	1
9	270 145	. Washer, Piston Seal	1
10	270 138	. Seal, Piston	1
11	270 144	. Piston	1
12	270 143	. Clamp, Threaded	1
13	270 142	. Needle, Shut Off	1
14	270 598	. Packing, Needle	1
15	940 060	. O-Ring, Viton, 1/8 x 1/4	1
16	270 635	. Washer, Seal	1
17		. Body, Gun w/Nameplate, AD-29	1
-	-	. . Body, Gun, AD-29	
-	-	. . Nameplate, AD-29	1
18	971 403	. Connector, 1/8 NPT x 1/4 Tube	1
-	973 402	. Plug, Pipe, 1/8 NPTF	1
-	270 157	. Mounting, Retainer	1
-	981 148	. Screw, Fil. Hd., 10-32 x 1-1/4	2
-	981 405	. Screw, Sq. Hd., 3/8-16	1
-	973 000	. Nipple, Close, 1/8 NPT (Ship with)	1

ANCILLARY EQUIPMENT

Required for installation:

Part No.	Description	Req'd.
901 015	Valve, Solenoid, 120 VAC	1
900 534	Tubing, Polyethylene, 1/4" O.D., .040" Wall	
900 511	Tubing, Polyethylene, 3/8" O.D., .062" Wall	

8/78 - Corrected P/N.