

A11A Plastisol Gun

Customer Product Manual
Part 237433A02

Issued 9/03

**For parts and technical support, call the Industrial Coating
Systems Customer Support Center at (800) 433-9319 or
contact your local Nordson representative.**

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Contact Us

Nordson Corporation welcomes requests for information, comments, and inquiries about its products. General information about Nordson can be found on the Internet using the following address:

<http://www.nordson.com>.

Address all correspondence to:

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A11A Plastisol Gun

Safety

Read and follow these safety instructions. Task- and equipment-specific warnings, cautions, and instructions are included in equipment documentation where appropriate.

Make sure all equipment documentation, including these instructions, is accessible to persons operating or servicing equipment.

Qualified Personnel

Equipment owners are responsible for making sure that Nordson equipment is installed, operated, and serviced by qualified personnel. Qualified personnel are those employees or contractors who are trained to safely perform their assigned tasks. They are familiar with all relevant safety rules and regulations and are physically capable of performing their assigned tasks.

Intended Use

Use of Nordson equipment in ways other than those described in the documentation supplied with the equipment may result in injury to persons or damage to property.

Some examples of unintended use of equipment include

- using incompatible materials
- making unauthorized modifications
- removing or bypassing safety guards or interlocks
- using incompatible or damaged parts
- using unapproved auxiliary equipment
- operating equipment in excess of maximum ratings

Regulations and Approvals

Make sure all equipment is rated and approved for the environment in which it is used. Any approvals obtained for Nordson equipment will be voided if instructions for installation, operation, and service are not followed.

Personal Safety

To prevent injury follow these instructions.

- Do not operate or service equipment unless you are qualified.
- Do not operate equipment unless safety guards, doors, or covers are intact and automatic interlocks are operating properly. Do not bypass or disarm any safety devices.
- Keep clear of moving equipment. Before adjusting or servicing moving equipment, shut off the power supply and wait until the equipment comes to a complete stop. Lock out power and secure the equipment to prevent unexpected movement.
- Relieve (bleed off) hydraulic and pneumatic pressure before adjusting or servicing pressurized systems or components. Disconnect, lock out, and tag switches before servicing electrical equipment.
- While operating manual spray guns, make sure you are grounded. Wear electrically conductive gloves or a grounding strap connected to the gun handle or other true earth ground. Do not wear or carry metallic objects such as jewelry or tools.
- If you receive even a slight electrical shock, shut down all electrical or electrostatic equipment immediately. Do not restart the equipment until the problem has been identified and corrected.

Personal Safety *(contd)*

- Obtain and read Material Safety Data Sheets (MSDS) for all materials used. Follow the manufacturer's instructions for safe handling and use of materials, and use recommended personal protection devices.
- Make sure the spray area is adequately ventilated.
- To prevent injury, be aware of less-obvious dangers in the workplace that often cannot be completely eliminated, such as hot surfaces, sharp edges, energized electrical circuits, and moving parts that cannot be enclosed or otherwise guarded for practical reasons.

High-Pressure Fluids

High-pressure fluids, unless they are safely contained, are extremely hazardous. Always relieve fluid pressure before adjusting or servicing high pressure equipment. A jet of high-pressure fluid can cut like a knife and cause serious bodily injury, amputation, or death. Fluids penetrating the skin can also cause toxic poisoning.

If you suffer a fluid injection injury, seek medical care immediately. If possible, provide a copy of the MSDS for the injected fluid to the health care provider.

The National Spray Equipment Manufacturers Association has created a wallet card that you should carry when you are operating high-pressure spray equipment. These cards are supplied with your equipment. The following is the text of this card:



WARNING: Any injury caused by high pressure liquid can be serious. If you are injured or even suspect an injury:

- Go to an emergency room immediately.
- Tell the doctor that you suspect an injection injury.
- Show him this card
- Tell him what kind of material you were spraying

MEDICAL ALERT—AIRLESS SPRAY WOUNDS: NOTE TO PHYSICIAN

Injection in the skin is a serious traumatic injury. It is important to treat the injury surgically as soon as possible. Do not delay treatment to research toxicity. Toxicity is a concern with some exotic coatings injected directly into the bloodstream.

Consultation with a plastic surgeon or a reconstructive hand surgeon may be advisable.

The seriousness of the wound depends on where the injury is on the body, whether the substance hit something on its way in and deflected causing more damage, and many other variables including skin microflora residing in the paint or gun which are blasted into the wound. If the injected paint contains acrylic latex and titanium dioxide that damage the tissue's resistance to infection, bacterial growth will flourish. The treatment that doctors recommend for an injection injury to the hand includes immediate decompression of the closed vascular compartments of the hand to release the underlying tissue distended by the injected paint, judicious wound debridement, and immediate antibiotic treatment.

Fire Safety

To avoid a fire or explosion, follow these instructions.

- Ground all conductive equipment. Use only grounded air and fluid hoses. Check equipment and workpiece grounding devices regularly. Resistance to ground must not exceed one megohm.
- Shut down all equipment immediately if you notice static sparking or arcing. Do not restart the equipment until the cause has been identified and corrected.
- Do not smoke, weld, grind, or use open flames where flammable materials are being used or stored.
- Do not heat materials to temperatures above those recommended by the manufacturer. Make sure heat monitoring and limiting devices are working properly.

- Provide adequate ventilation to prevent dangerous concentrations of volatile particles or vapors. Refer to local codes or your material MSDS for guidance.
- Do not disconnect live electrical circuits when working with flammable materials. Shut off power at a disconnect switch first to prevent sparking.
- Know where emergency stop buttons, shutoff valves, and fire extinguishers are located. If a fire starts in a spray booth, immediately shut off the spray system and exhaust fans.
- Shut off electrostatic power and ground the charging system before adjusting, cleaning, or repairing electrostatic equipment.
- Clean, maintain, test, and repair equipment according to the instructions in your equipment documentation.
- Use only replacement parts that are designed for use with original equipment. Contact your Nordson representative for parts information and advice.

Halogenated Hydrocarbon Solvent Hazards

Do not use halogenated hydrocarbon solvents in a pressurized system that contains aluminum components. Under pressure, these solvents can react with aluminum and explode, causing injury, death, or property damage. Halogenated hydrocarbon solvents contain one or more of the following elements:

<u>Element</u>	<u>Symbol</u>	<u>Prefix</u>
Fluorine	F	“Fluoro-”
Chlorine	Cl	“Chloro-”
Bromine	Br	“Bromo-”
Iodine	I	“Iodo-”

Check your material MSDS or contact your material supplier for more information. If you must use halogenated hydrocarbon solvents, contact your Nordson representative for information about compatible Nordson components.

Action in the Event of a Malfunction

If a system or any equipment in a system malfunctions, shut off the system immediately and perform the following steps:

- Disconnect and lock out system electrical power. Close hydraulic and pneumatic shutoff valves and relieve pressures.
- Identify the reason for the malfunction and correct it before restarting the system.

Disposal

Dispose of equipment and materials used in operation and servicing according to local codes.

Description

The A11A plastisol gun is a high on/off cycle speed gun designed to apply sealant compounds. When used with a Nordson timer FET-1 or PC 40/44, the A11A plastisol gun produces excellent results such as a clean on/off without tails, good material utilization control, and minimal down time.

Installation



WARNING: Allow only qualified personnel to perform the following tasks. Follow the safety instructions in this document and all other related documentation.

Mounting

See Figure 1. Mount the plastisol gun to a customer-supplied mounting plate that will position the plastisol gun over the area of application.

Fluid and Air Connections

See Figure 1.

1. Make the air line connection (3) at the $\frac{1}{8}$ -in. NPT port. Make sure that the air line between the plastisol gun and the solenoid is as short as possible and is at least $\frac{1}{8}$ -in. ID.
2. Make the fluid connection (1) at the $\frac{1}{4}$ -in. NPT port. Fluid line dimensions will vary based on your application.
3. Depending upon your application, you might connect a heating cartridge to the $\frac{1}{4}$ -in. port (2).

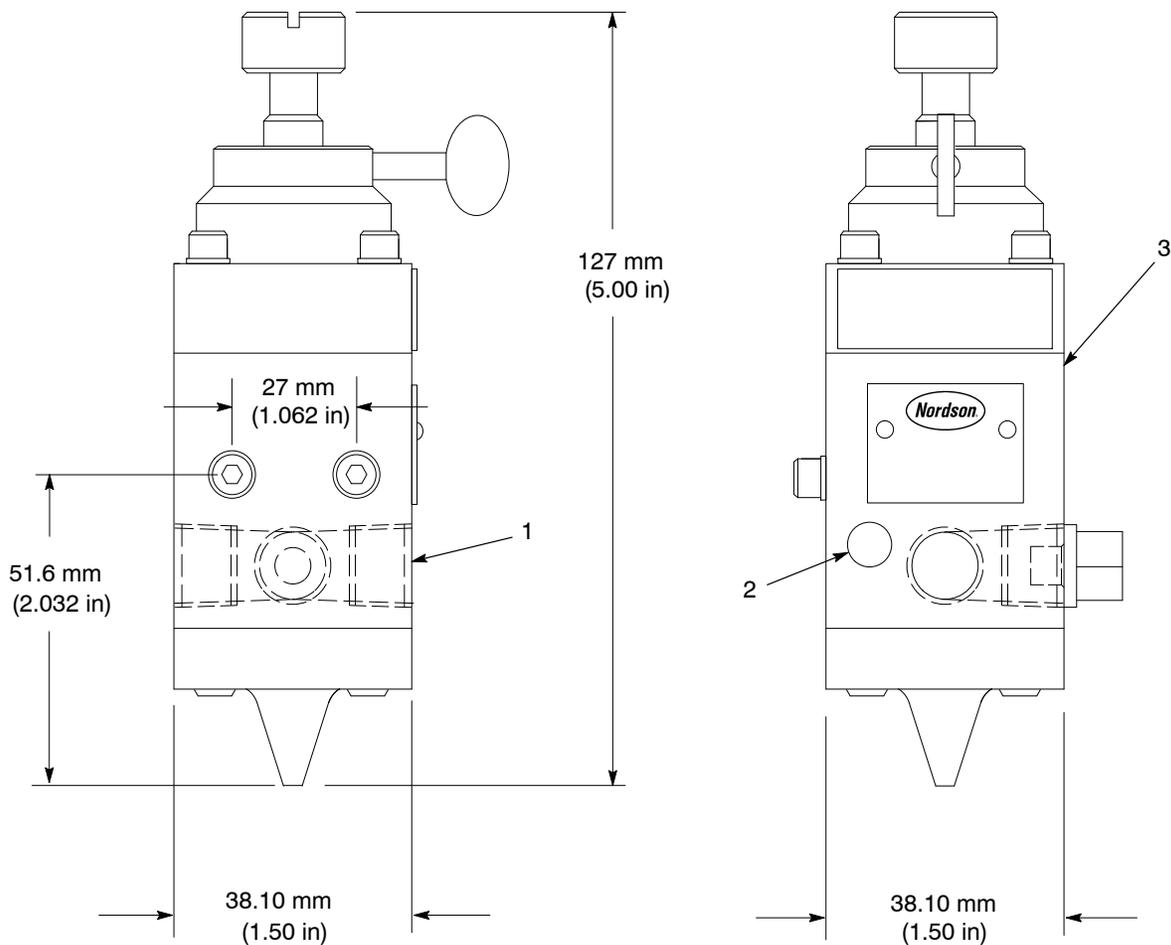


Figure 1 A11A Plastisol Gun Dimensions

1. Fluid connection ($\frac{1}{4}$ -in. NPT) 2. Port for heating cartridge ($\frac{1}{4}$ -in.) 3. Air connection ($\frac{1}{8}$ -in. NPT)

Operation

See Figure 2.

1. Adjust the air pressure to the air cylinder (20) to 2.8–3.4 bar (40–50 psi).



CAUTION: Turn the adjustable screw by hand only. Using more than this can force the needle to distort the orifice in the nozzle.

2. Turn the adjustable screw (21) as needed for the desired material flow.

Troubleshooting



WARNING: Allow only qualified personnel to perform the following tasks. Follow the safety instructions in this document and all other related documentation.

This section contains troubleshooting procedures. These procedures cover only the most common problems that you may encounter. If you cannot solve the problem with the information given here, contact your local Nordson representative for help.

Problem	Possible Cause	Corrective Action
1. Gun not triggering	Air not on or not properly regulated Faulty solenoid Electricity not on Adjustable screw bottomed	Turn the air on or turn the regulator to supply 2.8–3.4 bar (40–50 psi) to the gun. Fire the solenoid and listen for the solenoid to function. Replace the solenoid if necessary. Check to make sure the electricity is on. Turn the adjustable screw to the left.
2. Compound material in the solenoid	Leaking at the seal around the needle in the gun body	Replace the seal and the solenoid.
3. Air leak at the relief port in the air cylinder	Worn air piston or O-ring between the needle and the piston	Replace the piston and the O-ring.
4. Fluid leak at the relief port in the gun body	Worn fluid seal or needle	Replace the needle or seal, as required.
5. Air leak at the relief port in the gun body	Worn air seal on the needle	Replace the seal.
6. Poorly directed material stream	Dirt in the nozzle	Clean the nozzle.

Repair



WARNING: Allow only qualified personnel to perform the following tasks. Follow the safety instructions in this document and all other related documentation.

Disassembly

See Figure 2.



WARNING: Relieve the fluid and air pressures before attempting to work on the gun.

1. Turn the thumb screw (7) 2–3 times to the left.
2. Turn the adjustable screw (21) 2–3 times to the left.
3. Unscrew and remove the four socket screws (19) that secure the air cylinder (20) to the gun body (16).
4. Lift the air cylinder up off the gun body, exposing the air piston (3).
5. Hold the seal nut (4) on the upper end of the needle (1) and remove the hex nut (5) and lock washer (9).
6. Unscrew and remove the seal nut, air piston, and needle.
7. Remove the retaining ring (11), washer (12), and seal (13) from the rear of the gun body.
8. Remove the four flat screws (15) from the nozzle and pull the nozzle forward from the gun body.
9. Remove the retaining ring, washer, and seal from the front of the gun body.

Assembly

See Figure 2.

1. After cleaning all the parts, install a seal (13), washer (12), and retaining ring (11) in both the front and rear of the gun body (16).
2. Install the nozzle (1) using the four flat head socket screws (15).
3. Insert the seal nut (4) into the piston (3). Thread the seal nut onto the needle and insert the needle into the rear of the gun body.
4. While holding the needle into the gun body, turn the piston and seal nut to the right until the piston comes in contact with the gun body.
5. Turn the seal nut to the left $1/2$ – $3/4$ turn.
6. Install the washer (9) and hex nut (5) onto the needle. Hold the seal nut and tighten the hex nut to 0.56–0.90 N•m (5.00–8.00 in.-lb).
7. Remove the adjustable screw (21) from the air cylinder (20).
8. Place the two springs (9 and 8) onto the seal nut (4).
9. Install the air cylinder using the lock washers (18) and socket screws (19).
10. Install the adjustable screw into the air cylinder and adjust as needed for required flow.
11. Tighten the thumb screw (7).

Parts

To order parts, call the Nordson Finishing Customer Support Center at 1-800-433-9319 or your local Nordson representative. Use the parts lists and illustration to locate and describe parts correctly.

Using the Illustrated Parts List

Numbers in the Item column correspond to numbers that identify parts in illustrations following each parts list. The code NS (not shown) indicates that a listed part is not illustrated. A dash (—) is used when the part number applies to all parts in the illustration.

The number in the Part column is the Nordson Corporation part number. A series of dashes in this column (- - - -) means the part cannot be ordered separately.

The Description column gives the part name, as well as its dimensions and other characteristics when appropriate. Indentions show the relationships between assemblies, subassemblies, and parts.

- If you order the assembly, items 1 and 2 will be included.
- If you order item 1, item 2 will be included.
- If you order item 2, you will receive item 2 only.

The number in the Quantity column is the quantity required per unit, assembly, or subassembly. The code AR (As Required) is used if the part number is a bulk item ordered in quantities or if the quantity per assembly depends on the product version or model.

Letters in the Note column refer to notes at the end of each parts list. Notes contain important information about usage and ordering. Special attention should be given to notes.

Item	Part	Description	Quantity	Note
—	0000000	Assembly	1	
1	000000	• Subassembly	2	A
2	000000	• • Part	1	

A11A Plastisol Gun

See Figure 2.

Item	Part	Description	Quantity	Note
—	-----	GUN, A11A, plastisol, 0.060	1	
1	-----	• NEEDLE AND NOZZLE, A11A, 0.060	1	
NS	248085	• • NEEDLE, 0.060	1	
NS	296099	• • NOZZLE AND GUIDE, A11A, 0.060	1	
2	153031	• GASKET, gun, H20	1	
3	246264	• PISTON	1	
4	248084	• NUT, seal lock	1	
5	984111	• NUT, hex, machined, #8-32, steel, zinc	1	
6	246254	• SPRING, compression, 0.620 x 0.480 OD x 0.051 in.	1	
7	981980	• SCREW, thumb, 8-32 x 0.750 in., zinc with nylon	1	
8	247206	• SPRING, compression, 0.750 x 0.720 OD x 0.063 in.	1	
9	983110	• WASHER, lock, e, external, #8, steel, zinc	1	
10	940090	• O-RING, Viton, 0.208 ID x 0.070-in. wide, brown	1	A
11	986014	• RETAINING RING, internal, 43, basic	2	
12	246256	• WASHER, flat, 0.213 x 0.425 x 0.062 in., aluminum	2	
13	247207	• SEAL, spring, 1/8 x 1/4 x 3/32 in., UHMWPE	2	
14	940174	• O-RING, Viton, black, 0.688 x 0.813 in.	1	A
15	981863	• SCREW, flat, socket, 10-32 x 0.625 in., black	4	
16	-----	• BODY, gun, A11A, plastisol	1	
17	981737	• SCREW, socket, 10-32 x 2.000 in., zinc	2	
18	983120	• WASHER, lock, e, split, #10, steel, nickel	6	
19	981129	• SCREW, socket, 10-32 x 1.000 in., zinc	4	
20	-----	• CYLINDER, air, A11A, plastisol	1	
21	272053	• SCREW, adjustable	1	
22	161299	• PLUG, pipe, aluminum, 1/4-in. NPTF, 14-28	1	B
NS	900236	• SEALANT, paste, PTFE	AR	
NS	900223	• LUBRICANT, O-ring, 4 oz	AR	
NS	244980	NEEDLE AND NOZZLE, 2 inch, A11A, 0.060	1	C

NOTE A: Coat all O-rings with O-ring lubricant, part 900223, when assembling the plastisol gun.

B: Coat this part with PTFE sealant paste, part 900236, when assembling the plastisol gun.

C: The 2-inch needle and nozzle are optional parts for the A11A plastisol gun. See item (1) for a reference.

AR: As Required

NS: Not Shown

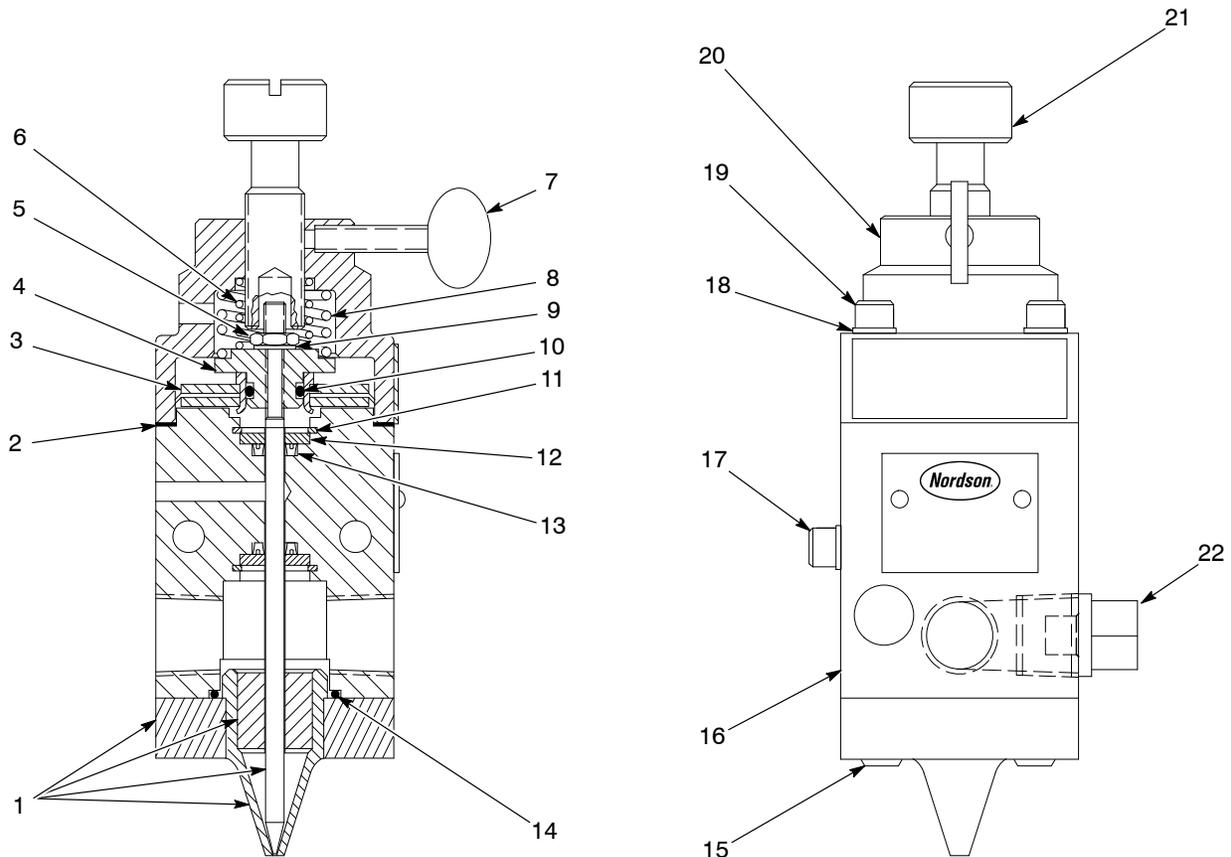


Figure 2 A11A Plastisol Gun—Exploded View

Compound Seal Kit

See Figure 2.

Item	Part	Description	Quantity	Note
—	106313	SERVICE KIT, seal, A11A, compound	1	
2	153031	• GASKET, gun, H20	1	
10	940090	• O-RING, Viton, 0.208 ID x 0.070-in. wide, brown	1	
11	986014	• RETAINING RING, internal, 43, basic	2	
12	246256	• WASHER, flat, 0.213 x 0.425 x 0.062 in., aluminum	2	
13	247207	• SEAL, spring, $\frac{1}{8} \times \frac{1}{4} \times \frac{3}{32}$ in., UHMWPE	2	
14	940174	• O-RING, Viton, black, 0.688 x 0.813 in.	1	

Service Kit

See Figure 2.

Item	Part	Description	Quantity	Note
—	297983	SERVICE KIT, A11A, plastisol	1	
1	-----	• NEEDLE AND NOZZLE, A11A, 0.060	1	
NS	248085	• • NEEDLE, 0.060	1	
NS	296099	• • NOZZLE AND GUIDE, A11A, 0.060	1	
4	248084	• NUT, seal lock	1	
5	984111	• NUT, hex, mach, #8-32, steel, zinc	1	
6	246254	• SPRING, compression, 0.620 x 0.480 OD x 0.051 in.	1	
8	247206	• SPRING, compression, 0.750 x 0.720 OD x 0.063 in.	1	
9	983110	• WASHER, lock, e, external, #8, steel, zinc	1	
10	940090	• O-RING, Viton, 0.208 ID x 0.070-in. wide, brown	1	
14	940174	• O-RING, Viton, black, 0.688 x 0.813 in.	1	
15	981863	• SCREW, flat, socket, 10-32 x 0.625 in., black	4	
NS: Not Shown				

Specifications

Maximum Hydraulic Pressure:	41 bar (600 psi)
Maximum Air Pressure:	3.4–4.1 bar (50–60 psi)
Weight:	454 g (16 oz)
Dimensions:	See Figure 1

DECLARATION of CONFORMITY

PRODUCT:

A11A (Airless Automatic Applicator)

APPLICABLE DIRECTIVES:

89/392/EEC (Machinery)

STANDARDS USED TO VERIFY COMPLIANCE:

EN292
IEC417
ANSI-Z535

PRINCIPLES:

This product has been manufactured according to good engineering practice.

The product specified conforms to the directive and standards described above.



Lou Koch
Liquid Focus Factory Manager

Date: 4 December 96



Woodie Francis
Engineering Manager
Liquid Systems Group

Date: 3 December 96



Nordson Corporation • Westlake, Ohio

