The following instructions provide the necessary information for the proper operation and preventive maintenance of the Binks AA1500 Air-Assisted Airless Spray Gun. Please read and understand all information in this document in order to get the maximum performance from your new AA1500 spray gun.

In the AA1500 spray gun, the paint or other material to be sprayed is preatomized and forced through the carbide tip by the typical 400-800 psi fluid pressure (with capabilities up to 1500 psi/105 bar). As a result of the preatomizing, the final shaping air supplied by the air cap produces an exceptionally fine and even spray pattern. The result of this spray pattern is an even finish that lends itself to products that need an exceptionally fine finish with reduced overspray and VOC emissions.

**SPECIFICATIONS:**

- **Maximum Fluid Pressure:** 1500 psi/105 bar
- **Maximum Air Pressure:** 100 psi/6.8 bar
- **Gun Body:** Forged Aluminum
- **Fluid Path:** Stainless Steel
- **Fluid Shut Off Type:** Stainless Steel Ball, Standard UHMW Seat or optional Tungsten Carbide
- **Fluid Inlet Size:** 1/4" NPS(m) Thread
- **Air Inlet Size:** 1/8" NPT(m) x 3/8" O.D. Push In Tube Fitting
- **Gun Weight:** 16-oz.

Product shown is covered by U.S. patent No. 6,276,616. Foreign patents are issued or pending.

Replaces Part Sheet 77-2838R

Part Sheet 77-2838R-1
INJECTION HAZARD

Spray from the gun, hose leaks, or ruptured components can inject fluid into your body and cause extremely serious injury, including poisoning or the need for amputation. Splashing fluid in eyes or on skin can also cause a serious injury.

• Fluid injected into the skin might look like just a cut, but is a serious injury and should be treated as such. GET IMMEDIATE MEDICAL ATTENTION. INFORM THE PHYSICIAN WHAT TYPE OF MATERIAL WAS INJECTED.
• Do not point the spray gun at anyone or any part of the body.
• Do not put fingers or hand over the spray tip.
• Do not stop or detect fluid leaks with a rag, hand, body or glove.
• Do not use a rag to blow back fluid. THIS IS NOT AN AIR SPRAY GUN.
• Be sure the trigger operates safely before spraying.
• Engage the gun safety when not spraying.
• ALWAYS RELIEVE THE PRESSURE WHENEVER WORKING ON THE SPRAY GUN.
• Tighten all fluid connections before operating equipment.
• Check all hoses, tubes, and couplings daily. Replace all worn, damaged, or loose parts immediately.

Hazardous fluids or toxic fumes can cause serious injury or death if splashed on skin or in the eyes, swallowed or inhaled.

TOXIC FLUID HAZARD

• Know the specific hazards of the fluid you are using. This information is on the MSDS for the material being used. Read all fluid manufacturer's warnings.
• Store hazardous fluids in approved containers only. Dispose of all hazardous fluids in accordance with all state, local and national guidelines.
• Wear the appropriate protective clothing, gloves, eye-wear and respirator.

Equipment misuse can cause the equipment to fail, malfunction, or start unexpectedly and result in serious injury.

EQUIPMENT MISUSE HAZARD

• This equipment is for professional use only.
• Read and understand all instructional manuals, tags, and labels before operating equipment.
• Use the equipment only for its intended purpose. If you are unsure about its purpose call your local Binks distributor.
• Do not alter or modify this equipment. Use only genuine Binks parts.
• Do not exceed the maximum working pressure of the lowest rated system component. THE MAXIMUM RATING OF THE AA1500 IS 1500 PSI (105 BAR) FLUID PRESSURE. DO NOT EXCEED THE FLUID PRESSURE RATING.
• Route all hoses away from all sharp edges, moving parts, hot surfaces and high traffic areas.
• Do not use hoses to pull the equipment.
• Use only Binks approved hoses. Do not remove spring guards from hoses, these are on the hosed to prevent rupture from kinking at the connectors.
• Use only solvents compatible with hoses and wetted parts of the equipment used.
• Comply with all applicable local state and national fire, electrical, and other safety regulations.

Improper grounding, poor air ventilation, open flames, or sparks can cause a hazardous condition and result in fire or explosion and cause serious injury.

FIRE AND EXPLOSION HAZARD

• Ground the equipment and object being sprayed.
• Provide fresh air ventilation to avoid the build up of flammable fumes from the material being sprayed or from solvent.
• Extinguish all open flames or pilot lights in spray area.
• Electrically disconnect all equipment in the spray area.
• Keep the spray area free from all debris, including solvent rags.
• If there is any static sparking while using the equipment, STOP SPRAYING IMMEDIATELY. Identify and correct problem.
SPRAY GUN SET-UP

1. Connect your high-pressure airless fluid hose to the gun fluid inlet and tighten securely.
2. Connect your air hose to the gun air connection and tighten securely.
3. Using the control knob of the fluid regulator, set the fluid pressure at the gun’s lower end of the pressure range. A typical starting fluid pressure is 350 psi. Actual starting pressure points may be higher or lower than 350 psi and depend on the setup including the type of pump used, the type of material sprayed, and the spray gun itself.
4. Using the control knob on the air regulator, set the air pressure at zero.
5. To test the spraying pattern, spray a piece of wood or cardboard with a fast pass about one foot away from the piece. The results of the test will allow you to determine the uniformity of the particle size and spraying pattern.
6. If the spraying pattern develops tails or is not uniform, gradually increase the air pressure as necessary to develop a uniform spraying pattern. Typically, 10 psi air pressure is adequate. The air is used to assist the atomization of the coating.
7. If the quality of spray is acceptable, begin spraying. If the spraying rate is too slow to keep up with the production line speed, or if the quantity of material sprayed is inadequate for acceptable coverage, gradually increase the fluid pressure in 50 psi increments using the fluid regulator control knob. However, note that as the fluid pressure increases, more air is needed to eliminate the tails.

Consistency in spraying can be increased across spray gun operators and similar spraying jobs by developing pressure standardization charts. Repeat step 6 until the required material coverage and spraying speed are achieved. If the maximum fluid pressure is reached before the required material coverage and spraying speed are achieved, you may need to switch to a larger fluid tip.

TYPICAL HOOK-UP

Fan pattern adjustment: turn knob counterclockwise to increase pattern; clockwise to decrease pattern (Fig. 2).

FLUID TIP SELECTION

Factors to consider in selecting a fluid tip for an air-assisted airless spray gun include (1) the size of the parts being sprayed; (2) the production line speed; (3) the material flow rate and film thickness; (4) the viscosity of the material applied; (5) the type of material applied; and (6) the quality of atomization of the coating required.

The selection of a fluid tip necessary to perform a specific spraying job is best determined through a combination of experimentation and expert advice from your material and equipment suppliers.

FLUID HOSES

Air-assisted airless spray guns operate at fluid pressures higher than operating pressures of air spray guns. As a result, when operating an air-assisted airless spray gun, it is critical to select the appropriate fluid hose that is rated for the pressure range at which the airless gun is operated.

NOTE

Fan adjustment feature requires approximately 25 psi or higher of air inlet pressure. This is recommended for fluid pressures lower than 500 psi. Higher fluid pressure requires higher air inlet pressures to accommodate pattern adjustment.
TROUBLESHOOTING DEFECTIVE SPRAY PATTERNS

The following procedure summarizes the steps that an operator must immediately take when the first signs of a defective spray pattern emerge.

1. Check the external portion of the fluid tip for material buildup. If buildup has occurred, secure the gun trigger safety switch and clean the gun fluid tip with a non-metal soft brush.

2. If the spray pattern exhibits signs of tails at the top or bottom ends of the pattern, increase the air pressure gradually until the tails disappear.

3. If increasing air pressure does not dissipate the tails, the fluid tip may be worn and may need to be replaced. Another sign of the need to replace a worn tip is a gradual decline in spraying pattern width.

4. If cleaning or replacing the fluid tip does not dissipate the tails; the spraying defect is most likely due to the material temperature and/or viscosity.

5. If pattern pulsation or blinking occurs, check the pressure regulators, all downstream regulators, and the pump. These may require further adjustment or even repairs.

**GENERAL TROUBLESHOOTING**

<table>
<thead>
<tr>
<th>PROBLEM</th>
<th>CAUSE</th>
<th>ACTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fluid leaking from the back of seal cartridge assembly (8)</td>
<td>Worn seal or needle shaft.</td>
<td>Replace needle packing cartridge (7).</td>
</tr>
<tr>
<td>Fluid leaking from the front of the gun</td>
<td>Needle ball worn or damaged.</td>
<td>Replace needle packing cartridge (7).</td>
</tr>
<tr>
<td>Fluid leaking from the front of the gun</td>
<td>Worn seat assembly.</td>
<td>Replace fluid seat (3).</td>
</tr>
<tr>
<td>Fluid in air passages</td>
<td>Spray tip seal leaking.</td>
<td>Tighten AA10 air cap assembly (1)</td>
</tr>
<tr>
<td>Fluid in air passages</td>
<td>Leaking around fluid seat.</td>
<td>Replace carbide tip assembly (2).</td>
</tr>
<tr>
<td>Slow fluid shut off</td>
<td>Fluid buildup on cartridge assembly.</td>
<td>Tighten or replace fluid seat (3).</td>
</tr>
<tr>
<td>No fluid output when triggered</td>
<td>Tip orifice plugged.</td>
<td>Turn off fluid supply. Relieve pressure into a closed-grounded container.</td>
</tr>
<tr>
<td>No fluid output when triggered</td>
<td>Collet on needle has slipped.</td>
<td>Remove AA10 air cap assembly (1) and the carbide tip (2).</td>
</tr>
<tr>
<td>Slow fluid shut off</td>
<td>Fluid filter or fluid hose plugged.</td>
<td>Clean or replace carbide tip assembly (2).</td>
</tr>
</tbody>
</table>

**IMPORTANT REGULATORY NOTE**

The AA-1500 Air-Assisted H.V.L.P. hand spray gun combines the proven efficiency of the Binks compliant spray guns with air-assisted atomization to yield a reliable, carefully engineered compliant spray gun. With 25° of 5/16” I.D. air hose and regulator set at only 20 p.s.i. the compliant air cap registers 10 p.s.i. of atomization air to shape and soften the spray pattern. The AA-1500 air-assisted H.V.L.P. gun operates at high transfer efficiencies and fully complies with all government regulations for H.V.L.P. spray guns.

<table>
<thead>
<tr>
<th>Specification</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Max. Fluid Input</td>
<td>1500 p.s.i.</td>
</tr>
<tr>
<td>Max. static air pressure at regulator with 25° of hose to inlet</td>
<td>20 p.s.i.</td>
</tr>
<tr>
<td>Max. Dynamic Gun Inlet Air Pressure</td>
<td>15 p.s.i.</td>
</tr>
<tr>
<td>Gun Body</td>
<td>Forged Aluminum Alloy</td>
</tr>
<tr>
<td>Fluid Path</td>
<td>Stainless Steel and Tungsten Carbide</td>
</tr>
</tbody>
</table>
SPRAY PATTERN TROUBLESHOOTING

<table>
<thead>
<tr>
<th>PROBLEM</th>
<th>CAUSE</th>
<th>ACTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fluttering Spray Pattern</td>
<td>Insufficient fluid supply.</td>
<td>Adjust fluid regulator or fill fluid supply tanks.</td>
</tr>
<tr>
<td></td>
<td>Air in paint supply line.</td>
<td>Check and tighten pump siphon hose connections, bleed air from paint line.</td>
</tr>
<tr>
<td></td>
<td>Attempting to “feather” (Partially trigger gun).</td>
<td>Cannot feather with an AA1500 gun.</td>
</tr>
<tr>
<td>Striping Spray – Fingers</td>
<td>Carbide tip partially plugged.</td>
<td>Clean or replace carbide tip assembly.</td>
</tr>
<tr>
<td>Irregular Pattern</td>
<td>Fluid builds up on carbide tip, or tip partially plugged.</td>
<td>Clean carbide tip.</td>
</tr>
<tr>
<td></td>
<td>On defective side of pattern, air horn holes are plugged.</td>
<td>Clean air horn holes with solvent and a soft brush.</td>
</tr>
<tr>
<td>Pattern pushed to one side, same side of air cap gets dirty</td>
<td>On defective side of pattern, air horn holes are plugged.</td>
<td>Clean air horn holes with solvent and a soft brush or toothpick.</td>
</tr>
</tbody>
</table>

AIR-ASSISTED AIRLESS SPRAY GUN MAINTENANCE AND CLEANING

Maintenance of air-assisted airless spray guns includes (1) fluid tip wear and replacement; (2) lubrication; and (3) cleaning of the gun.

FLUID TIP
Operating an air-assisted airless spray gun with a worn fluid tip will result in increased usage of spraying material and therefore, HAP emissions. For example, an increase in the diameter of a tip from 0.015 inch to 0.021 inch due to wear can result in up to a 100 percent increase in material consumption and cost. To prevent waste in spraying material and non-value-adding costs, a maintenance schedule that includes fluid tip inspection and replacement must be established.

LUBRICATION
Proper lubrication is essential for optimum spray gun performance. Lubrication allows the equipment to operate easily and correctly. The spray gun should be lubricated after each cleaning. The points that need lubrication during the maintenance of air-assisted airless spray guns include (1) the fluid needle packing; (2) trigger pivot point. Gun lube is used to lubricate the fluid needle packing and trigger pivot point.

CAUTION
Never immerse the entire gun in solvent or thinners. Some gun parts will lose their lubricative film and wear more quickly. Additionally, solvents may carry impurities throughout the gun body and allow them to clog small air and fluid passages.

CLEANING
The following steps summarize the procedure for cleaning air-assisted airless spray guns:

1. Turn off the shaping air supply.
2. Turn off the spraying material pump.
3. Place the pick-up tube from the pump in a solvent container and turn the pump on.

NOTE
Only use solvent identified as approved for cleaning and wash-off use.

4. Secure the gun trigger safety switch, remove the fluid tip, and place it in a closed solvent container.
5. Release the gun trigger safety switch and spray into a closed container until the fluid runs clear.

NOTE
During cleaning, the gun may only be sprayed into a closed container. never flush the gun into the air or spray booth.

6. Using a rag dampened with solvent, wipe the exterior surface of the gun. Additionally, some solvents are prohibited from being used for cleaning. The operator must take care to use only approved cleaning solvents for equipment cleaning. These materials are clearly labeled as approved for cleaning and wash off operations. If the operator has any question on selecting appropriate cleaning solvents, the operator should consult a supervisor or plant environmental staff.

WARNING
Failure to reduce pump air supply pressure or to use a closed container can result in material “bounce-back”. Material “bounce back” can cause injury and damage.
WIRE AND BALL ASSEMBLY AND SEAT REPLACEMENT

Refer to assembly drawing on page 7 to locate numbered items.

1. Engage the trigger safety.
2. Shut off fluid pump and disconnect its air or power supply.
3. Release pressure from the entire fluid system, from the pump to the spray gun.
4. Remove AA10 air cap assembly (1) and spray tip (2).
5. Remove trigger (19) by removing the trigger stud (12) and the trigger screw (11).
6. Remove the AA1500 needle packing cartridge (7).
7. Carefully install new AA1500 needle packing cartridge (7).
8. Remove fluid seat (3) and o-ring.
9. Install new fluid seat (3) and o-ring.
10. Reinstall trigger (19), trigger stud (12) and trigger screw (11).

AIR VALVE REPLACEMENT

1. Engage the trigger safety.
2. Shut off fluid pump and disconnect its air or power supply.
3. Release pressure from the entire fluid system, from the pump to the spray gun.
4. Remove AA10 air cap assembly (1) and spray tip (2).
5. Remove trigger (19) by removing the trigger stud (12) and the trigger screw (11).
6. Remove air valve assembly (20).
7. Reinstall trigger (19), trigger stud (12) and trigger screw (11).

PARTS LIST

When ordering, please specify Part No.
(Not all Part numbers are available for purchasing)

<table>
<thead>
<tr>
<th>ITEM NO.</th>
<th>PART NO.</th>
<th>DESCRIPTION</th>
<th>QTY.</th>
<th>ITEM NO.</th>
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<td>FLUID TUBE BRACKET SPACER .... 1</td>
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<td>FLUID SEAT (UHMW Standard or Optional Carbide Fluid Seat 54-4960) .......... 1</td>
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<td>19</td>
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<td>54-4909*</td>
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<td>54-4939</td>
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<td>—</td>
<td>— .................................. 1</td>
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<td>12</td>
<td>54-4938</td>
<td>TRIGGER STUD ................. 1</td>
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<td>—</td>
<td>— .................................. 1</td>
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</tr>
</tbody>
</table>

✈ Also available as part of AA10 Conversion Kit 54-5302 (for converting AA1500 spray guns with AA2 or AA4 air caps to AA1500 spray guns with AA10 air caps).
● Only available as part of 54-5309 AA10 Retaining Ring Replacement Kit.
* Available as part of Repair Kit 54-4970.
● Also available: 20-6037-K10 (Kit of 10 o-rings).
▲ Alternate fluid inlet fitting (18)—order separately.
● Alternate D.M. nipple (21) is included in gun package.
All O-rings are a minimum order qty. of 2.
AA1500 AIR-ASSISTED AIRLESS SPRAY GUN
PART NUMBER 1500-0000-10

(Alternate)

(Do not overtighten #22. Requires only 5 ft.-lbs. to seal adequately.)

Use Loctite Anti-Seize Lubricant on Item 4 threads to assemble to Item 5 and 22.
FLUID SEAT APPLICATION CHART

Carbide (Optional) 54-4960  UHMW (Standard) 54-4926

ACCESSORIES

HOSES
71-4990  15' Polyurethane Air Tubing ASM w/ fittings, 3/8" O.D., 1/4" I.D.
71-4991  25' Polyurethane Air Tubing ASM w/ fittings, 3/8" O.D., 1/4" I.D.
71-4992  15' 1/8" High Pressure Fluid Hose Assembly
71-4993  25' 1/8" High Pressure Fluid Hose Assembly
71-4995  25' 3/16" Low Pressure (1900 PSI Max.) Fluid Hose Assembly

FITTINGS
54-4975  1/8" NPT Male x 3/8" O.D. Push-In Tube Fitting (optional)
54-4976  1/4" NPT Female x 3/8" O.D. Push-In Tube Fitting (optional)

FLUID FILTER
54-3655  100 Mesh (Element) Gun Mounted Filter, 5800 PSI w.p.
54-4725  100 Mesh (Element) Gun Mounted Filter, 4000 PSI w.p.
54-5010  100 Mesh (Screen) Gun Mounted Filter, 4000 PSI w.p.

REPLACEMENT FILTERS
54-1835  Recipm. Filter for Fluid Filters 54-3655 & 54-4725
54-5012-K10 Replacement Filter for Fluid Filter 54-5010

FLUID REGULATOR
845001  Med. Press. Reg. w/Gauge, 6 gpm. 100 to 800 reg. range
845010  Med. Press. Reg. w/Gauge, 3 gpm. 400 to 1250 reg. range

CLEANING KIT
54-4994  Cleaning Kit: Includes one standard stiff nylon pipe cleaning brush, full-size nylon brush, tip cleaner and Binks Gunners Mate lubricant.

TEST GAUGES
54-5327  H.V.L.P. Test Gauge AA10

AA10 CONVERSION KIT
54-5302  Kit for converting AA1500 guns with AA2 air cap to AA1500 gun with AA10 air cap.

Spray Tips

Refer to page 6 for Repair Kits.

Binks Worldwide Sales and Service Listing: www.binks.com

ITW Industrial Finishing
Binks has authorized distributors throughout the world. For technical assistance or the distributor nearest you, see listing below.

U.S./Canada Technical Service Office:
195 Internationale Blvd., Glendale Heights, IL 60139
Toll-Free Telephone: 1-888-992-4657 (U.S.A. and Canada only)
Toll-Free Fax: 1-888-246-5732

WARRANTY
This product is covered by Binks’ 1 Year Limited Warranty.

77-2838R-1 Revisions: (P6) Updated Parts List; (P7) Added note to exploded view; (P8) Updated Spray Tip Assembly Selection Charts.