

Model 102-450 2001 GW PLURAL COMPONENT SPRAY GUN

GENERAL

The 2001 GW gun is a lightweight, hand-held, plural component spray gun for spraying limited applications of two-component materials, such as gel-coats or polyesters. The spray gun is operated in the conventional manner. The trigger action starts, and stops, the spray of both materials simultaneously. The two materials exit separately as an atomized spray from their respective nozzles and impinge on each other approximately 6" in front of the gun (resin) nozzle. Here, the resulting turbulence insures intimate mixing.

The "base" resin is "cured" by addition of a curative (catalyst) in a required ratio. In the 2001 GW gun, ratios of approximately 10:1 to perhaps 33:1 are possible by extending the curative with a compatible diluent.

Preferably, the resin should be supplied from a pressure cup mounted either on the gun or located remotely from it. In some applications, a siphon cup may be acceptable.

The curative is supplied from a siphon container assembly (57) mounted directly on the gun. Air, diverted from the gun handle, passes through the air adjusting valve (39) to the nozzle body (55) to provide the siphon action and to serve as atomizing air for the curative. The adjustable fluid control (44) meters the flow of curative.

SINCE THE CURATIVE CONTAINER IS A SIPHON DEVICE ITS VENT HOLE MUST ALWAYS BE KEPT OPEN. THE VENT HOLE IS LOCATED IN THE COVER AT THE REAR (SEE ILLUSTRATION).

NOZZLE CHARACTERISTICS AND SPRAY PATTERNS

The 2001 GW gun uses external atomizing nozzles* to produce finer atomization and better control of the spray pattern. The pattern can be changed from round to fan and to all intermediate shapes by adjusting the side port control (16) on the gun. The pattern also can be rotated to any position in 360° by loosening the retaining ring on the nozzle (1). Intimate intermixing and distribution of the curative within the primary material is maximum when the long dimension of the fan spray pattern is vertical (lined up with the gun handle).

The resin delivery rate of external atomizing nozzles is in the low to medium range.

See "Important Adjustment Note" page 2. RESIN VOLUME OUTPUT

Resin output is controlled by two variables:

1. Nozzle orifice size, air or resin.
2. Air and/or resin pressures.

Precise resin pressures can best be controlled by a fluid regulator, tank, or pump pressure.

Minute adjustments in flow can be made with the control screw (21) which restricts the travel of the resin needle (19).

CURATIVE VOLUME OUTPUT

Output of the curative is controlled by four variables:

1. Curative nozzle orifice size.
2. Air adjustment control (38).
3. Adjustment of needle stem (44).
4. Extending (diluting) the curative.

*Where atomization occurs entirely outside of the gun.



NOTE

The curative and resin mix with each other outside of the gun. Purging of the gun and nozzles is not necessary as catalyzed resin never enters the gun passages.

VOLUME RATE OF FLOW CALCULATIONS

RESIN: With atomizing air off and with resin pressure on, dispense resin into a graduate or into a clean container (resin can be reused) for 15 seconds. Multiply this volume of resin by four to determine volume rate of flow per minute. Increase or decrease resin pressure as required to obtain desired volume rate of flow.

CURATIVE: Turn off resin supply to gun. Fill the container (49) with a measured amount of curative (a substitute fluid may be used such as a solvent or water.) Depress gun trigger and spray until fluid starts to "spit". Check elapsed time and calculate volume rate of flow per minute. Repeat sampling, after resetting air adjusting valve (39) and/or needle stem (44) to obtain desired flow.

Curative (residual less diluent) to resin volumetric ratio is specified by the chemical manufacturer. With polyesters, for example, the ratio usually is from 1/2 percent to a maximum of approximately four percent. These ratios are based on theoretical requirements, and laboratory samples of about one pint (500 cc) that cover minimum surface areas. However, spray applications cover maximum surface areas. For this reason, and because of loss of exothermic heat and, perhaps, some loss of curative in overspray, it is suggested that spray samples be made, and that optimum cure times be established by increase or decrease in the volume of curative.

It should be noted that the air valve (29) is designed to open slightly before the resin valve (19). The air valve also allows the curative to flow before the resin does. For this reason, air

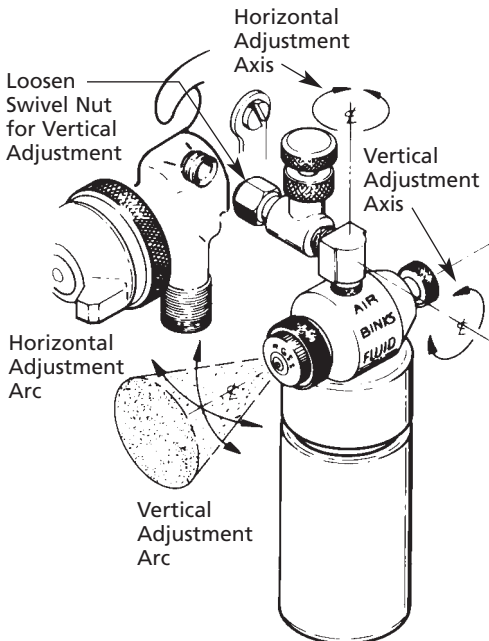
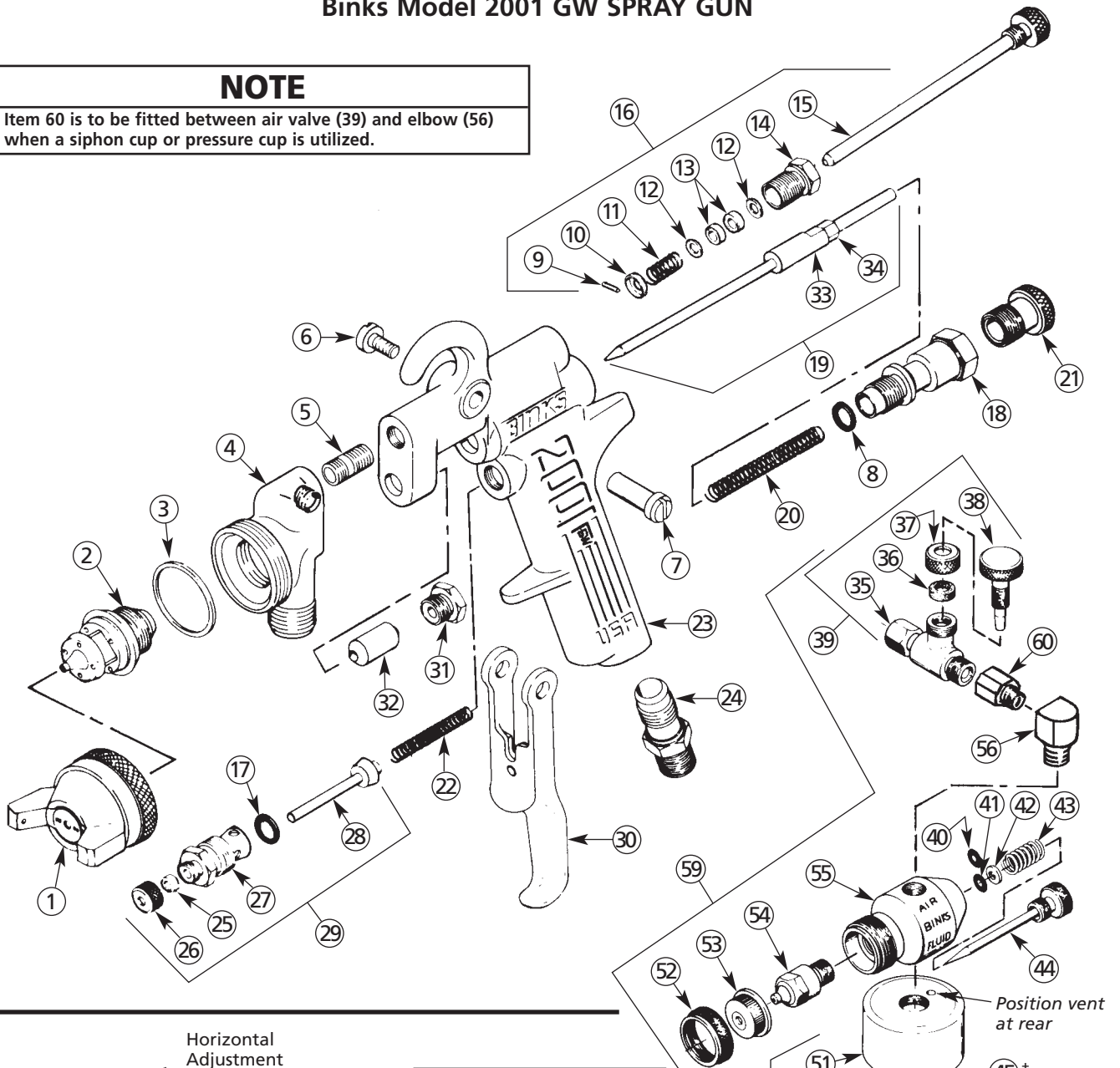
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Replaces Part Sheet 2353R-2	Part Sheet 2353R-3
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NOTE

Item 60 is to be fitted between air valve (39) and elbow (56) when a siphon cup or pressure cup is utilized.



NOTE

IMPORTANT ADJUSTMENT NOTE

Do not apply force to valve (39) when adjusting catalyst bottle assembly (57). Do not force by hand. Doing so will break valve (39). Adjust vertical position only after loosening swivel nut of valve (39). Adjust horizontal position only by holding body (55) and turning elbow (56) with wrench. This may require separating the valve and catalyst bottle assemblies from the gun at the valve body swivel nut (35).

NOTE

Use Teflon tape to ensure sealing and to prevent "galling" on all "wetted" catalyst threads.

†For container and cap assembly (same as item 45), but without vent-hole in cover, please order Part No. 59-78, Seal-Tite container assembly.

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PARTS LIST

When ordering, please specify Part No.

ITEM NO.	PART NO.	DESCRIPTION	QTY.	ITEM NO.	PART NO.	DESCRIPTION	QTY.
1	63PB	AIR CAP (Specify)	Ref.	31	56-164	NUT	1
2	66	FLUID NOZZLE (Specify)	Ref.	32	54-764*	PACKING	1
3	54-918*	GASKET	1	33	54-2549	LOCKNUT	1
4	102-454	HEAD	1	34	54-2550	LOCKNUT	1
5	54-710	SCREW	1	35	73-20	VALVE BODY	1
6	82-126	SCREW	1	36	73-9*	PACKING	1
7	54-1020	STUD.....	1	37	73-10	PACKING NUT	1
8	20-5285*	O-RING	1	38	73-8*	VALVE STEM	1
9	54-1014*	PIN	1	39	73-23	AIR VALVE ASSEMBLY	1
10	54-1015	WASHER.....	1	40	20-4997◆*	O-RING (Silicone)	1
11	54-304*	SPRING	1	41	20-3562◆*	O-RING (Teflon)	1
12	54-1016	WASHER.....	2	42	50-12*	WASHER.....	1
13	54-738*	PACKING	2	43	57-114*	SPRING	1
14	54-1063	BODY	1	44	102-1818	STEM ASSEMBLY	1
15	54-1023	SCREW	1	45	102-2188*	CONTAINER & CAP ASSEMBLY	1
16	54-3347	CONTROL ASSEMBLY	1	46	102-2184	TUBE.....	1
17	20-3757*	O-RING	1	47	102-2186	ADAPTER	1
18	54-1013	BODY	1	48	▲	BOTTLE.....	1
19	565	FLUID NEEDLE ASSEMBLY (Specify) Ref.		49	102-2189*	RING.....	1
20	54-1347*	SPRING	1	50	▲	CAP.....	1
21	54-1007	CONTROL	1	51	102-2209	CAP HOLDER	1
22	54-750*	SPRING	1	52	54-2788	RETAINER RING	1
23	102-449	HANDLE (Body)	1	53	46-1042	AIR NOZZLE (R6 Stainless Steel)	1
24	54-768	CONNECTION.....	1	54	45-1023	FLUID NOZZLE (J3 Stainless Steel)	1
25	82-158*	PACKING	1	55	102-1799	NOZZLE BODY	1
26	82-135	NUT	1	56	20-3645	STREET ELBOW 1/8 NPT	1
27	54-1010	BODY	1	57	102-2210	CATALYST BOTTLE ASSEMBLY	1
28	54-1025*	VALVE.....	1	58	102-2185	TUBE ASSEMBLY	1
29	54-1236	AIR VALVE ASSEMBLY	1	59	102-2243	CATALYST ATOMIZING ASSY.	1
30	54-1050	TRIGGER.....	1	60	101-719●	ADAPTER (Loose)	1

* Also available in Spare Parts Kit 106-1154. See table below for kit content. Kit not furnished, please order separately.

◆ Item 40 (Silicone o-ring) furnished with gun is designed for MEKPO service. Item 41 (Teflon o-ring) alternate for item 40 when specified, is compatible with all solvents. However, it is not an elastomer and may present difficulty when attempting to achieve a comparable seal.

▲ Not available separately. Please order item 45. For container & cup assembly (same as 45), but without vent-hole in cover, please order part no. 59-78, Seal-Tite container assembly.

● 101-719 adapter (60) is to be used (fitted) between 73-23 air valve (39) and 20-3645 elbow (56) when using a siphon cup or pressure cup.

Spare Parts Kit 106-1154	Item Number	3	8	9	11	13	17	20	22	25	28	32	36	38	40	41	42	43	45	49
	Quantity	2	1	1	1	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1

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should not be used to “blow-off” surfaces as this will also disperse curative. If the air is used to “blow-off” surfaces, the air adjusting valve assembly (39) serving the curative supply, must be closed.

Since this procedure changes the setting of the air adjusting valve, it is suggested that the air adjusting valve stem (38) be marked. This will permit returning quickly to the correct setting for flow of curative previously established.

VARYING THE SPRAY PATTERN

The fan spray pattern can be changed quickly and easily by adjusting the side port control (16). Turning the knurled knob (15) clockwise until it is closed will give a round spray pattern; turning it counter-clockwise will change the pattern from round to elliptical, forming a fan-shaped spray. The width of the fan spray can be varied within the limits of the particular air nozzle being used. The long dimension (length) of the fan spray can be

oriented either horizontally or vertically, or any other position in 360°, by turning the air nozzle (1) to the desired position and tightening the retainer ring.

VARYING THE SPRAY RATE

If a pressure cup is used, the amount of resin flow can be varied by regulating the air pressure on the cup. The amount of resin flow can also be varied by adjusting the control screw (21). Turning this screw clockwise reduces the flow, counter-clockwise increases it.

FAULTY RESIN SPRAY PATTERN

A faulty spray is caused by an obstruction in the flow path, caused usually by dried material around the resin nozzle tip (2), or in the air nozzle (1), resulting from incomplete cleaning. To remove such obstructions, soak these parts in a solvent that will soften the dried material, then wipe them clean with a brush or cloth. Do not use metal instruments to clean the air nozzle or

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resin nozzle. These parts are precision machined and any damage to them will cause a faulty spray. If either the air or resin nozzle is damaged, the part must be replaced before a perfect spray can be obtained.

FLUID PACKING REPLACEMENT

Remove resin control screw (21), spring (20) and needle (19). Remove resin packing nut (31) and remove old packing (32) with a small stiff wire. Insert new packing (oiled lightly) and reassemble in reverse order. To "set" packing, insert needle (19), tighten packing nut (31) until needle movement is sluggish (held too tightly for the spring to move). Then loosen nut 1/2 to 3/6 turn.

CORRECTING AIR LEAK THROUGH THE GUN

Air leaking through the gun is caused by the valve stem assembly (28) not seating properly against the valve body (27). Remove valve body and valve stem assembly and clean thoroughly. Replace worn or damaged parts and reassemble in reverse order.

CORRECTING AIR LEAK AROUND AIR VALVE STEM

Air leaking around the air valve stem (28) may be caused by worn packing (25) or damaged air valve stem (28). Remove trigger (30), packing nut (26) and packing (25). Clean extended portion of air valve stem and inspect for damage. If stem is damaged, remove as described in previous paragraph. Replace stem, insert new packing, and reassemble in reverse order.

RESIN NEEDLE ADJUSTMENT

To adjust the resin needle, remove control screw (21), spring (20) and needle (19). With two 1/4" wrenches, loosen the locknuts (33 & 34), back off rear locknut (34) one full turn and bring up the front locknut. Tighten snugly. Reassemble in reverse order.

CLEANING THE GUN—WHEN USED WITH "REMOTE" PRESSURE CUP

Shut off the air supply to the pressure cup and release the pressure in the cup. Leave the pressure release vent open. Hold a piece of cloth over the gun nozzle and depress the trigger. The air will back up through the resin nozzle and force the resin out of the hose and into the cup. Remove resin from cup. Clean out cup, close pressure release vent and pour in enough clean compatible solvent to clean out the hose and gun thoroughly. Spray this solvent through the fluid hose and gun until it comes through clean. Separate the gun from the resin hose. Hook up the resin hose to an air line and blow air through it until it is dry.

WARRANTY

This product is covered by Binks' 1 Year Limited Warranty.

ITW Industrial Finishing

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

Australia / New Zealand Technical Service Office:

23 Ashford Avenue Milperra NSW Australia 2214
Telephone: +61 (0)2 9772 3000
Fax: +61 (0)2 9774 1223



An Illinois Tool Works Company

FLUSHING WITH A SIPHON CUP

A compatible solvent may be siphoned through gun by inserting tube from siphon cup in an open container of solvent. Trigger gun intermittently to flush passageways and internal parts thoroughly.

PREVENTATIVE MAINTENANCE

The 2001 GW gun requires only general preventative maintenance. This includes good housekeeping practices such as:

1. Periodic internal inspection and cleaning.
2. Lubrication of stud (trigger pivot) (7); exposed portion of needle (19); locknut (33) and needle valve spring (20).
3. Keep exterior of gun clean as possible.
4. Replace worn or broken parts. Replace seats that continue to leak after servicing.
5. Use wrenches on all hex nuts. Do not use pliers or vise grips.
6. Avoid "mixing" or interchanging nozzle and needle sets. Paired resin nozzles and needles develop distinctive wear patterns and should remain mated.
7. Avoid submerging entire gun in solvent as residue may clog internal air passages.
8. Avoid dropping gun. Cracked or broken parts could release resins or air under pressure.
9. Inspect seals when gun is disassembled for cleaning. Have a spare set available for replacement if required.
10. Use only a non-metal probe such as a nylon broom straw or round wooden toothpick to clear the orifice holes.

GENERAL GUN CLEANING

1. Submerging the entire gun in solvent will not harm the metallic parts of the gun. However, the lubricant could be washed from the leather packings causing them to dry out and malfunction. In addition, residue from dirty solvent could clog internal air passages. Clean solvent **MUST** be used, **IF IT IS NECESSARY** to submerge the gun.
2. Remove the air nozzle when flushing solvent through the resin passages of the gun.
3. Air nozzles may be soaked in clean solvent for washing. The passageways in the external mix air nozzle are particularly critical. Always final rinse with a clean solvent to prevent residue from remaining behind in the minute holes. Do not clean the air nozzle with metal instruments.
4. Exterior surfaces of gun should be kept clean by wiping with a solvent-wet cloth.
5. Exercise care with the curative container and parts. Do not clean in the same solvent that was used in cleaning the gun as residual curative could cause gellation of resin fluid passages of the gun. Remove the curative assembly by separating at swivel nut (35).

ITW Automotive Refinishing

Binks has authorized distributors throughout the world. For equipment, parts and service, check the Yellow Pages under "Automotive Body Shop Equipment and Supplies." For technical assistance, see listing below.

U.S./Canada Customer Service Office:

1724 Indian Wood Circle, Suite J-K, Maumee, OH 43537
Toll-Free Telephone: 1-800-445-3988 (U.S.A. and Canada only)
Toll-Free Fax: 1-800-445-6643

77-2353R-3 Revisions: (P4) Updated contact information.