Binks Cub SLG GRAVITY-FEED HVLP GUN

Binks Cub SLG gravity-feed HVLP gun is the finest touch-up and specialty coatings gun available today. This gun has been ergonomically designed to give operators superb control and comfort over a range of uses. You feel its excellent balance and heft as soon as you pick it up. The gun body is made of the finest forged aluminum and machined to exacting tolerances. Overall quality is reflected in the gun's lustrous and durable anodized finish.

The Cub SLG is a very efficient spray gun, transferring 65 percent or more of fluid to the subject. It fully meets operating pressures and material transfer requirements of California's South Coast Air Quality Management District regulations as a high volume, low pressure spray gun. High pressure, low volume air flow is converted to high volume, low pressure flows within the gun body. Special air and fluid nozzles enable the gun to atomize fluid at low velocities, creating a soft spray effect for superior transfer efficiencies.

The Cub SLG gun is especially favored in the automotive touch-up and detailing industries and is well-suited to other specialty finishing and small area applications. Several options in cup size and fluid nozzle sizes make the gun adaptable to a variety of uses. See the Parts List on page 3 and Fluid Nozzle Table on page 6 for these options.

This Part Sheet contains an exploded drawing and detailed parts list to enable a complete understanding of the gun's construction. A basic overview of gun operation, cleaning, care and maintenance, and troubleshooting of common problems is also provided.

Please be sure to also read the notes regarding air pressure and volatile materials safety on page 2.

NOTE

IMPORTANT REGULATORY NOTE regarding the use of this product appears on page 8.

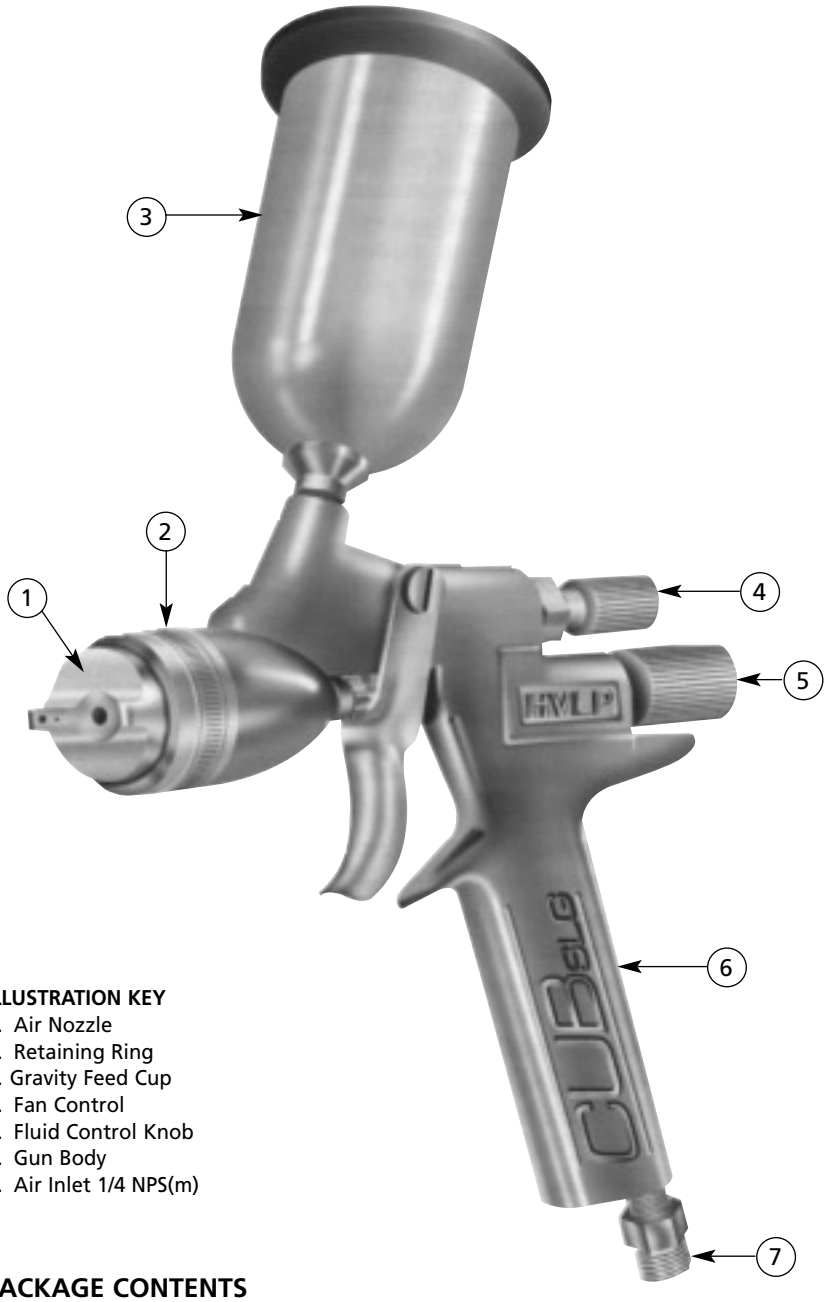


ILLUSTRATION KEY

1. Air Nozzle
2. Retaining Ring
3. Gravity Feed Cup
4. Fan Control
5. Fluid Control Knob
6. Gun Body
7. Air Inlet 1/4 NPS(m)

PACKAGE CONTENTS

Please note your Binks Cub SLG gravity-feed gun package was shipped with the following contents. If anything in the following list is missing, call 1-800-992-4657 for a prompt shipment to you of the missing item(s).

DESCRIPTION	PART NO.	QTY.
Cub SLG Gravity-Feed Spray Gun		1
4 oz. Cup Assembly	54-4458	1
Gun Box	4-1727	1
Cub SLG Part Sheet	2735R-1	1
4 oz. Cup Assembly Part Sheet	2719	1
Gunners Mate	54-3871	1
Small GunBrush	54-4133	1
Gun Brush	82-221	1

HOW TO SET UP and OPERATE YOUR Binks CUB SLG GRAVITY-FEED HVLP SPRAY GUN

Your Cub SLG Gravity-Feed HVLP gun is exceptionally rugged in construction and is built to stand up under hard, continuous use. However, like any other precision instrument, your gun's most efficient operation depends on a knowledge of its construction, operation and maintenance. Properly handled and cared for, it will produce beautiful, uniform finishes long after other spray guns are worn out.

CONNECTING TO AIR HOSE

Air should be supplied by a suitable length of 1/4" diameter air hose fitted with a 1/4" NPS(f) connector at the gun end. For hose lengths over 50', use 5/16" diameter hose.

⚠ WARNING

REGARDING AIR PRESSURE SAFETY

Shut off air pressure before connecting or disconnecting air hose or removing any components from the gun. Servicing the gun while pressurized could result in damage to components or bodily injury.

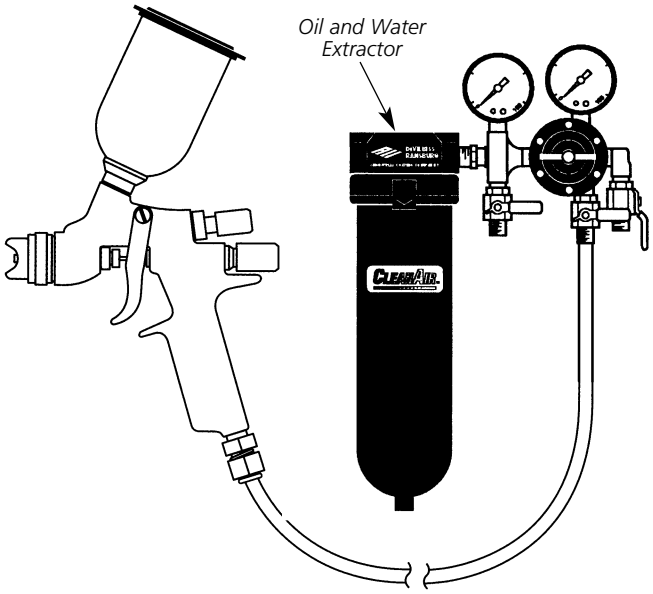
CONTROLLING FLUID FLOW

Fluid flows from the cup into the fluid inlet by gravity with assistance from siphon action. Air pressure for atomization is regulated at the extractor *(see illustration)*. The flow of fluid is adjusted by the fluid control knob on the gun, paint viscosity, air pressure, and nozzle size. Nozzles with larger apertures give higher flow rates. You can adjust fluid flow by turning the fluid control knob. Turn clockwise to restrict the needle opening, counterclockwise to enlarge it.

⚠ WARNING

REGARDING PAINTS, SOLVENTS AND OTHER COATINGS SAFETY

Do not use open containers for storage or disposal of paint, other coatings, cloth, or paper used in preparation and application. Many paints and coatings contain volatile chemicals that are a cause of pollution and are a health and fire hazard. Always wear appropriate clothing, including gloves, eye protection, and a respirator when using the gun.



BINKS OIL AND WATER EXTRACTOR

Achieving a fine spray finish without the use of a good oil and water extractor is almost impossible. A Binks regulator/extractor serves a double purpose. It eliminates blistering and spotting by keeping air free of oil and water, and it gives precise air pressure control.

We recommend the DeVilbiss HFRL-509 Oil and Water Extractor/Regulator for use with the Cub SLG gun.

CONTROLLING FAN SPRAY

Fan spray is controlled by the fan control knob. Turning this knob clockwise until it is closed produces a small, circular spray pattern. Opening it counter-clockwise widens the pattern to a fan shape. You can adjust the fan pattern to any angle by changing the position of the air nozzle by loosening the retaining ring, rotating the air nozzle to the desired position, and re-tightening the retaining ring.

CLEANING YOUR GUN AND GRAVITY FEED CUP

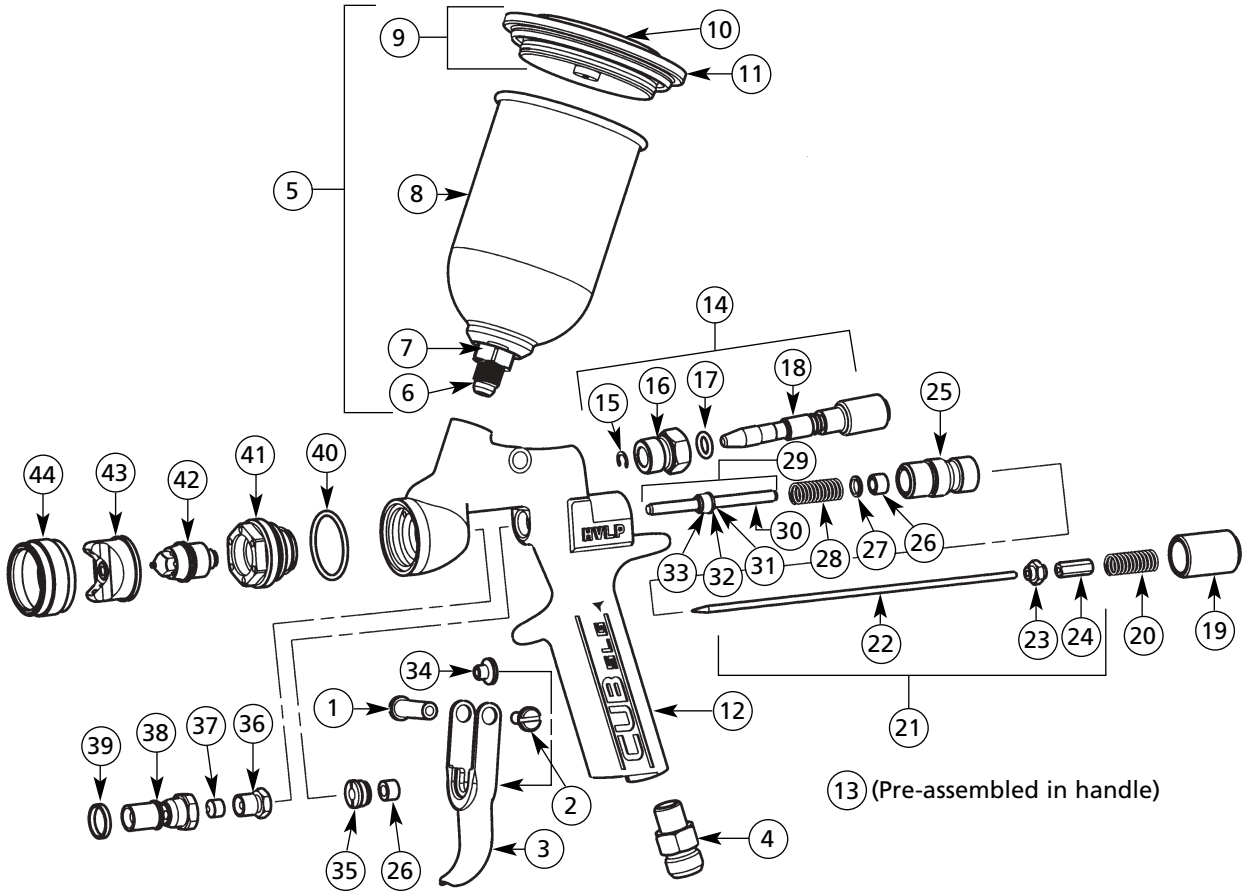
(See WARNING Regarding Solvent Safety, Column 1.)

1. Shut off the air supply.
2. Trigger the gun to relieve pressure.
3. Pour solvent into the cup.
4. Trigger the gun to allow solvent to flow through. Note that this is done with air pressure off so solvent will not vaporize.

⚠ CAUTION

Never use anything metal to clean the air nozzle or fluid nozzle. These parts are precisely machined and any damage to them will cause faulty spray patterns.

5. Clean inside the fluid inlet and fluid nozzle using the small gun brush.
6. Clean the outside of the gun using the gun brush.
7. Repeat any step above until the gun is clean.
8. Blow air through the gun until it is dry.
9. Option: Disconnect the gun from the air hose and remove the air and fluid nozzles if they need separate cleaning. Remove the fluid needle and wipe clean. Unscrew the cup and rinse with solvent.



PARTS LIST

When ordering, please specify Part No.

ITEM NO.	PART NO.	DESCRIPTION	QTY.
1	54-4482	TRIGGER STUD	1
2	54-4483	TRIGGER SCREW	1
3	54-4462	TRIGGER	1
4	71-28†	D.M. NIPPLE 1/8 NPT(m) 1/4 NPS(m)	1
5	54-4458*	4 OZ. CUP ASSEMBLY	1
6	■	CUP OUTLET	1
7	■	CUP NUT	1
8	■	4 OZ. GRAVITY-FEED CUP	1
9	54-4459◆■	LID ASSEMBLY	1
10	■	LID CAP	1
11	■	CUP LID	1
12	54-4492■	HANDLE ASSEMBLY	1
13	■	SET SCREW Stainless Steel	1
14	54-4489	FAN CONTROL ASSEMBLY	1
15	■▲	RETAINING RING	1
16	■	FAN CONTROL HOUSING	1
17	■▲	O-RING Split Teflon	1
18	■	FAN CONTROL KNOB	1
19	54-4128	FLUID CONTROL KNOB	1
20	54-4495▲	SPRING Stainless Steel	1
21	54-4494	NEEDLE ASSEMBLY	1
22	■	FLUID NEEDLE	1
23	■	NEEDLE LOCKNUT	1
24	■	NEEDLE CAP	1
25	54-4127†	REAR HOUSING	1
26	54-4131▲	U-CUP SEAL	2
27	54-4126▲	WASHER	1
28	54-3520▲	SPRING Yellow	1
29	54-4119▲	AIR VALVE ASSEMBLY	1
30	■	SPINDLE	1
31	■	RETAINING RING	1
32	■	WASHER	1
33	■	AIR VALVE SEAL	1
34	54-4125▲	SPINDLE CAP	1
35	54-4134▲	SEAL RETAINER	1
36	55-847▲	PACKING NUT	1
37	55-846▲	PACKING	1
38	54-4497	GRAVITY-FEED FLUID INLET	1
39	54-4469▲	FLUID INLET SEAL	1
40	20-5740▲	O-RING Teflon	1
41	54-4124†	HEAD INSERT	1
42	**†	FLUID NOZZLE	1
43	46-9900	AIR NOZZLE 2S	1
44	54-4123	RETAINING RING	1
45	54-4133	SMALL GUN BRUSH (Page 4)	1
46	82-221	GUN BRUSH (Page 4)	1
47	54-4130▼	WRENCH (Page 4) (Optional)	1
	54-3871	GUNNERS MATE (Not Shown)	1

* 8 oz. cup assembly (Part No. 81-381) available as an option.
** Choose from chart on page 6.
■ Available as part of its assembly.
▲ Available in Spare Parts Kit 54-4478.
◆ Available in Kit 54-4539 (set of 3).
† Torquing information. (See chart at right).
▼ Not furnished. Please order separately.

TORQUING INFORMATION

Item	Description	Torque Spec.
4	D.M. Nipple	48"/lbs.
14	Fan Control Assembly	48"/lbs.
25	Rear Housing	72"/lbs.
41	Head Insert	144"/lbs.
42	Fluid Nozzle	84"/lbs.

CLEANING YOUR Binks CUB SLG GRAVITY-FEED HVLP SPRAY GUN

CLEANING YOUR GUN UNDER PRESSURE

It has been customary in the industry to clean paint guns by spraying solvent through them under air pressure. This cleaning method is less effective than the steps described on page 2. In addition, you may violate local air quality regulations. Spraying solvent under pressure atomizes it and may release volatile organic compounds (VOCs) into the air.

If you wish to clean the gun using this method, we recommend one of the following alternatives:

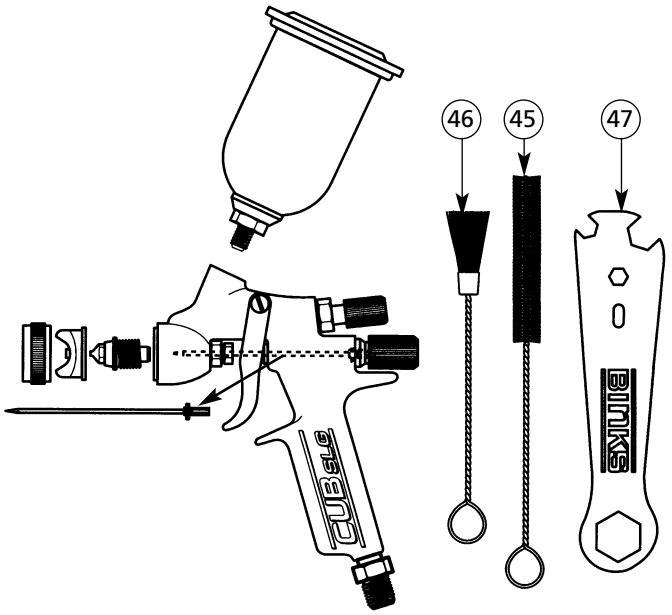
1. Spray solvent through the gun into a closed system. An enclosed unit or spray gun cleaning station condenses and captures solvent vapors, preventing the escape of VOCs.
2. Place the spray gun in a washer-type cleaner. The washer must totally enclose the gun, cup, nozzles and other parts during washing, rinsing and draining cycles. The washer must be able to flush solvent through the gun without releasing VOCs.

HOW TO MAINTAIN YOUR GUN

All part names and item numbers in parentheses refer to the exploded drawing and Parts List on page 3.

TO REPLACE THE AIR VALVE ASSEMBLY (29) OR THE REAR U-CUP SEAL (26)

1. Remove the fluid control knob (19), stainless steel spring (20) and needle assembly (21).
2. Unscrew the rear housing (25) using a 5/16" hex wrench. Inside the rear housing is the washer (27) and the rear u-cup seal (26).
3. Remove the washer. The rear u-cup seal can be pushed out from behind if you need to replace it.
4. Remove the yellow spring (28).
5. Holding the spindle cap (34) to avoid losing it, pull out the air valve assembly.



6. Replace and reassemble in reverse order.
   - Lightly lubricate new seals with petroleum jelly.
   - Note the orientation of the rear u-cup seal: the open side should face the front of the gun.
   - Take care when starting the rear housing into the gun. Make sure the air valve assembly is lined up with the rear u-cup seal. Otherwise, the end of the air valve spindle (30) may damage the seal.

TO REPLACE THE FRONT U-CUP SEAL (26)

1. Remove the air valve assembly as described above.
2. Remove the cup assembly (5), retaining ring (44), air nozzle (43), fluid nozzle (42), head insert (41), o-ring (40) and fluid inlet assembly (36-39) from the front of the gun.
3. Unscrew the trigger screw (2) from the trigger stud (1) and remove the trigger (3).
4. Unscrew the seal retainer (35).
5. Push out the front u-cup seal and replace it.
6. Reassemble in reverse order.
   - Lightly lubricate new seals with petroleum jelly.
   - Note the orientation of the front u-cup seal—the open side should face the back of the gun.

TO REPLACE THE PACKING (37) IN THE FLUID INLET (38)

1. Remove the fluid control knob (19), stainless steel spring (20), and needle assembly (21).

NOTE

Take care not to lose the spindle cap (34).

2. Unscrew the packing nut (36).
3. Remove the packing using a stiff wire hook or small sheet metal screw.
4. Replace the packing and reassemble in reverse order.

TO REPLACE THE O-RING (17) IN THE FAN CONTROL ASSEMBLY (14)

1. Remove the fan control assembly.
2. Pry off the retaining ring (15).
3. Unscrew the fan control housing (16).
4. Remove and replace the o-ring.
5. Re-assemble.

TO ADJUST THE FLUID NEEDLE (22)

The effective length of the fluid needle can be adjusted using the needle locknut (23) and needle cap (24).

1. Remove the fluid control knob (19) and the stainless steel spring (20).
2. Use the wrench (47) to loosen the needle cap.
3. Pull the fluid needle assembly (21) out approximately 1-1/4".

CLEANING and MAINTAINING YOUR Binks CUB SLG GRAVITY-FEED HVLP SPRAY GUN

4. Screw the needle locknut out for more trigger movement, in for less trigger movement.
5. Adjust the fluid needle so the trigger moves the air valve assembly (29) 1/16" before the fluid needle assembly moves.
6. Place the needle locknut in the hex-shaped hole of the rear housing (25). Be sure the locknut is properly positioned.
7. Tighten the needle cap with wrench.
8. Replace stainless steel spring (20) and fluid control knob (19).

⚠ CAUTION

Do not over-tighten as this may damage the threads and make future adjustments difficult.

GENERAL INSTRUCTIONS FOR AIR-SUPPLIED PAINT SPRAYING

To reduce overspray and obtain maximum efficiency, always spray with the lowest possible air pressure that produces an acceptable spray pattern. Excessive atomizing air pressure can increase overspray, reduce transfer efficiency, and with some materials, result in poor finish quality from dry spray. Atomizing air pressures should not exceed 10 psi. See the tables on page 6 and Important Regulatory Note on page 8.

Generally use 30-35 psi air at the gun inlet. Unusually heavy or difficult to atomize materials may require up to 50 psi inlet air. Refer to air pressure recommendations on page 6.

⚠ WARNING

Always wear appropriate gloves, eye protection and a respirator when using your gun. Atomized materials may cause bodily injury.

SPRAY TECHNIQUE

To get a good finish you must handle the gun properly. Hold the gun perpendicular to the surface you are painting. Each paint stroke should be made parallel to the plane of the surface being painted. Start the stroke before you trigger the gun and release the trigger before you end the stroke. This will give you accurate control of both gun and material and will prevent excessive build-up of material at the stroke ends.

The distance between the gun and surface should be 6"-10" depending on the material and the atomizing pressure. The material deposited should always be even and wet. Lap each stroke about half of the preceding stroke to obtain a uniform finish.

IF YOU HAVE TROUBLE WITH GUN OPERATION OR RESULTING FINISH

FAULTY SPRAY PATTERN

A faulty spray pattern is often caused by dried materials around the fluid nozzle tip or in the air nozzle left behind by improper cleaning. Soak these parts in thinner to soften the material and remove it with a brush or cloth.

⚠ CAUTION

Never use anything metal to clean the air nozzle or fluid nozzle. These parts are precisely machined, and any damage to them will cause faulty spray patterns.

INTERMITTENT SPRAY

Fluttering spray is caused by one of the following problems:

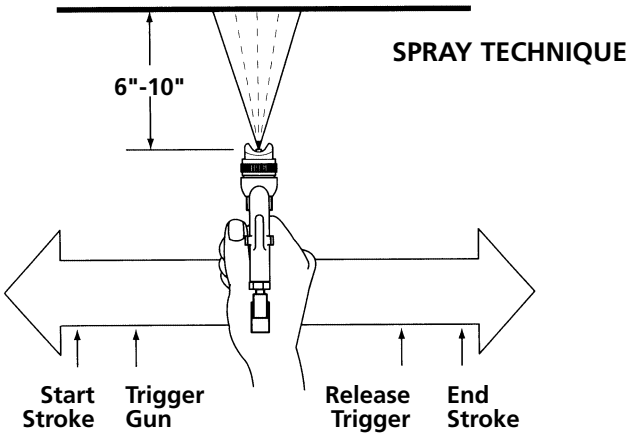
1. Air leaking into the fluid passages due to any of the following: The packing nut (36) may be loose. The packing (37) may be worn and need replacement. The fluid nozzle (42) may be loose. The cup assembly (5) may be loose in the gun. The fluid inlet seal (39) may be worn.
2. Insufficient fluid available.

SPITTING

Spitting is caused by anything that restricts the movement of the fluid needle assembly (21). The probable causes include:

1. The packing nut (36) is too tight.
2. The needle assembly (21) is bent. You may be able to straighten it.
3. Dried material has built up on the needle or in the fluid nozzle (42).
4. Lumps or impurities in the fluid.

Regulator pressures are based on 25 feet of 1/4" hose in good condition without quick disconnects or other restrictive fittings. Gun inlet pressures are measured at the gun air inlet with the gun triggered. Use the air nozzle test gauge accessory 54-4150 to confirm the atomizing/regulator pressure relationship for your actual air supply setup. These recommendations are for typical or average fluids, and are intended to serve as a starting point. Adjust as necessary for your specific application. Regulator pressures for 5/16" hose are 3 to 5 PSI lower.



FLUID NOZZLE OPTIONS, AIR PRESSURE RECOMMENDATIONS FOR YOUR Binks Cub SL HVLP SPRAY GUN

FLUID NOZZLE OPTIONS

Material	Fluid Nozzle No.	Part No.
Very Light/Reduced Flow	20T (.020" dia. opening)	45-9900
	25T (.025" dia. opening)	45-9901
	30T (.030" dia. opening)	45-9902
Light/Medium: less than 15 to 20 seconds in a ZAHN 2 Cup, e.g., stains, varnishes, thin lacquers, automotive refinishing materials	40T (.040" dia. opening)	45-9905
Medium: 20 to 30 seconds in a ZAHN 2 Cup, e.g., general industrial coatings	55T (.055" dia. opening)	45-9908
Heavy: greater than 30 seconds in a ZAHN 2 Cup, e.g., low VOCs coatings		

AIR PRESSURES AND FLOWS

Gun Inlet Pressure (PSI)	Nozzle Atomizing Air Flow (SCFM)		Nozzle Atomizing Pressure (PSI)
20	**2S Nozzle**	6.0	3
30	**2S Nozzle**	7.5	5
45	**2S Nozzle**	10.0	9
50	**2S Nozzle**	11.0	10

Gun inlet pressure is measured at the gun inlet fitting with the gun triggered.

AIR PRESSURE RECOMMENDATIONS

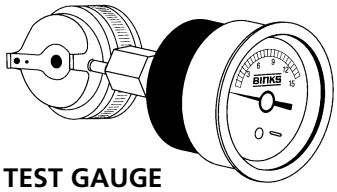
Type of Material	Atomizing PSI	Gun Inlet PSI	Regulator PSI
Primer/Surfaces	3-4	20-26	27-33
Light Stains/Inks	4-5	26-30	33-38
Acrylic Enamels	6-7	35-40	44-47
Lacquers	7-8	40-42	47-55
Low VOCs, Urethanes	8-10	42-50	55-59

Regulator pressures are based on 25' of 1/4" hose in good condition without quick disconnects or other restrictive fittings. Gun inlet pressures are measured at the gun air inlet with the gun triggered. Use the Air Nozzle Test Gauge Accessory 54-4150 to confirm the atomizing/regulator pressure for your actual air supply set-up. These recommendations are typical for average fluids, and are intended to serve as a starting point. Adjust as necessary for your specific application. Regulator pressures for 5/16" hose are 3 to 5 PSI lower.

NOTES

IMPORTANT REGULATORY NOTE

Regulations in some areas prohibit the operation of HVLP spray guns above 10 psi nozzle atomizing pressure. Users subject to this regulation should not exceed 50 psi gun inlet pressure (see the air pressure chart for various fluid materials on page 6). Some agencies require users to have a nozzle test gauge available on site to verify gun operating pressures. We recommend that you use Nozzle Test Gauge (Part No. 54-4150) shown below for accurate nozzle operating pressures.



TEST GAUGE

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2735R-1 Revisions: (P2) Changed recommended Oil and Water Extractor to DeVilbiss HFRL-509; (P3) Removed footnote reference to 3 oz. cup, deleted footnote regarding 2S and 2P air nozzle note on page 6, added Gunners mate to Parts List; (P6) Combined medium and Heavy Fluid Nozzle Options, removed footnote regarding 2S and 2P air nozzles, removed references to 2P nozzles.

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Part Sheet 2735R-1