



# HVLP Spray Guns

# HVLP Spray Guns

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In 1890, Binks pioneered the spray gun industry with the introduction of the first cold-water paint spraying machine. Today, you can find spray finishing technology from Binks at work in virtually every industry around the world. In the many years that have passed, Binks has grown to be a world leader in the design and manufacture of finishing equipment, offering products in the industrial and automotive markets.



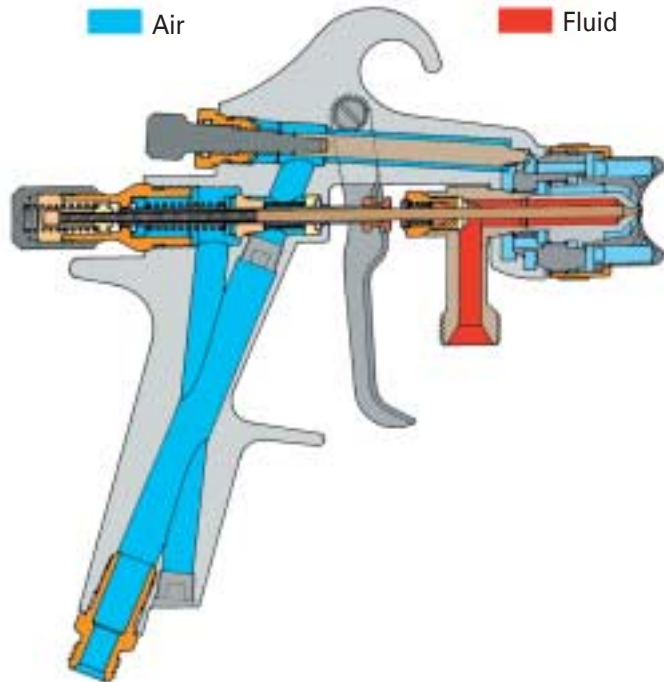
The various spray guns and accessories shown in this catalog represent a small part of Binks extensive product line. Binks also manufactures air and airless spray painting outfits, high and low pressure material handling pumps, pressure tanks, paint circulating systems, and much more.

Binks products are backed by a company with over 100 years experience in the spray finishing market. In addition, Binks operates foreign subsidiary companies in the United Kingdom, Continental Europe, Japan, and Australia.



If you would like more information about our products, please contact us at our corporate headquarters in Glendale Heights, Illinois.

# HVLP (High Volume, Low Pressure)



- Easy-grip sideport and fluid needle controls
- In-line fluid and air valve with low friction seals
- Drop-forged aircraft grade aluminum alloy body
- Smooth trigger action
- Anodized aluminum alloy air nozzle
- Stainless steel fluid needle
- Stainless fluid nozzle 303 S.S.
- Comfortable handle
- Modular gun head assembly
- Stainless steel fluid passage for use with standard and corrosive materials



*HVLP Low Pressure  
Spray Gun Overspray*



*Conventional High Pressure  
Spray Gun Overspray*

HVLP spraying has emerged as an important technology in today's industrial finishing. HVLP consumes higher volume air at lower pressure to atomize coatings. By reducing atomizing air pressure at the air nozzle, forward velocity of the spray is also reduced, minimizing "bounce back" and "overspray" from the article being coated. This results in substantial savings in coating materials, booth filter usage, and helps industrial finishing operations meet compliance regulations.

Normal operating nozzle pressures range from 3 to 10 PSI, with air consumption from 6 to 22 CFM. Lower viscosity materials can be atomized from 3 to 5 PSI, while heavier materials and higher fluid deliveries require the higher air settings, upwards of 10 PSI.

The Binks MACH series of HVLP equipment operates and handles like traditional spray guns and uses standard factory compressed air.

Operators adapt very quickly to the reduced overspray cloud of paint and the "soft spray" pattern provided by HVLP. The MACH series provides the finish quality craftsmen have come to expect from Binks equipment.

# MACH 1 HVLP System

## Features & Benefits

### ■ Features

- Compliance with all government regulations for “high volume, low pressure” spray guns
- Unique HVLP nozzle design for optimum materials atomization
- Stainless steel fluid passages, nozzle and needle make it compatible with waterborne coatings
- Oversize air and fluid control knobs
- Lightweight, rugged, aircraft grade forged aluminum alloy body

### ■ Benefits

- **Efficiency**  
Transfer efficiency as required by today’s air quality regulations
- **Material Savings**  
Cost efficient compressed air consumption ranges from 8 to 22 SCFM depending on operating pressure. A 1.5 to 5 horsepower air compressor is normally sufficient to supply atomizing air
- **Controllable**  
Total control of atomizing air pressure, fluid flow, and spray pattern, operates with compressed air from your shop or existing plant air supply
- **Operator Comfort**  
Lightweight, slimmer grip fits hand comfortably. And, compact body design centers weight over handle for perfect balance and less fatigue

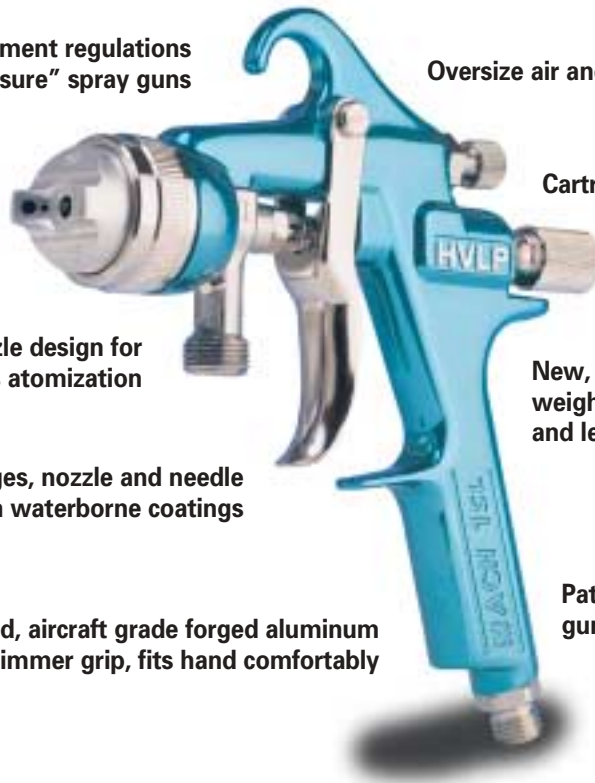
### ■ Binks

In 1890, Binks pioneered the spray gun industry with the introduction of the first cold-water paint spraying machine. Today, you can find Binks spray finishing technology at work in virtually every industry around the world. Binks extensive product line includes air and airless spray painting outfits, high and low pressure material handling pumps, pressure tanks, paint circulating systems, and much more.



Compliance with all government regulations for “high volume, low pressure” spray guns

Oversize air and fluid control knobs



Cartridges with self-adjusting packing

Unique HVLP nozzle design for optimum materials atomization

New, compact body design centers weight over handle for perfect balance and less fatigue

Stainless steel fluid passages, nozzle and needle make it compatible with waterborne coatings

Lightweight, rugged, aircraft grade forged aluminum alloy body, with slimmer grip, fits hand comfortably

Patented variable air flow within gun body

# Standard Fluid & Air Nozzle

## Selection Guide For (Pressure & Siphon)

Consider the following points when selecting an air nozzle combination:

### A. Material To Be Sprayed –

Select the type of fluid you want to spray or a fluid which has the same characteristics as one of those listed.

### B. Method of Feeding –

(Material to the Spray Gun)

Consider the speed of application, flow rate and the viscosity of the fluid to be sprayed.

### Air Nozzle –

Choice is determined by the type of fluid to be sprayed and the volume of air available for the spray gun.

### External Mix Nozzles –

The most widely used nozzles.

Atomization is accomplished outside the nozzle. Spray patterns are adjustable from round to fan with all intermediate patterns.

### Siphon Type External Mix Nozzles –

(Designated with the letter “S”)

Siphon material from a cup.

Used generally for refinishing and touch-up work which do not require large quantities of paint.

### Pressure Type External Mix Nozzles –

(Designated with the letter “P”)

Require pressure to feed the material to the nozzle. A pressure cup, pressure tank, or pump is necessary. Used for production work and where large quantities of fluid are handled.

This type of nozzle has a greater range of fluid flow and does not limit the size of the paint container.

### C. Volume of Air (CFM Required) –

The cubic feet per minute (CFM) is the actual air used by the air nozzle. An increase of pressure subsequently increases volume of air required by the air nozzle or vice versa. Assume that a

compressor will produce 3-5 CFM per horsepower at 100 PSI. **Note:** The greater the air consumption, the faster the fluid may be applied or the finer a given amount of fluid can be atomized.

### Fluid Nozzles –

(1) Choose the fluid nozzle by determining the application speed you want and the approximate fluid

viscosity. The faster the speed or the heavier the fluid, the larger the nozzle orifice size should be.

(2) Match the fluid nozzle to the desired air nozzle per the chart below.

(3) Select the material of consideration. **Note:** standard fluid nozzles are made of 303 stainless steel.

## Pressure

VISCOSITY	FLUID NOZZLE	AIR NOZZLE (PRESSURE)	AIR VOLUME AT 10 PSI SCFM	OZ. PER MIN. FLOW	PATTERN AT 10'
18 Seconds In a Zahn #2 Cup	92 (.046) 1.2 mm	90P	6	—	12"
		92P	7	10.1	15"
		93P	9	10.1	15"
		94P	13	12.5	17.5"
		95P	21	9.2	12.5"
		97P	21	8.4	16"
		95AP 97AP	21 21	10.6 10.4	16" 16"
44 Seconds In a Zahn #2 Cup	94 (.055) 1.4 mm	92P	7	7.4	12"
		93P	9	7.7	14.5"
		94P	13	11.8	15"
		95P	21	7.6	10"
		97P	21	7.6	12"
		95AP	21	7.4	12"
		97AP	21	7.4	12"
25 Seconds In a Zahn #3 Cup	97 (.07) 1.8 mm	92P	7	9.4	12.5"
		93P	9	9.8	15"
		94P	13	13.5	14"
		95P	21	7.1	9.25"
		97P	21	5.5	13"
		95AP	21	10.3	14"
		97AP	21	9.46	12.5"

NOTE: Flow rates tested at 3 PSI fluid pressure with a 1 quart pressure cup.

## Siphon

VISCOSITY	FLUID NOZZLE	AIR NOZZLE (PRESSURE)	AIR VOLUME AT 10 PSI SCFM	OZ. PER MIN. FLOW	PATTERN AT 10'
18 Seconds In a Zahn #2 Cup	94S (.055) 1.4 mm	95AS	22	4.0	13"
	97S (.070) 1.8 mm				

# MACH 1SL (Slim Line) HVLP

The MACH 1SL HVLP is a lightweight, top quality, high performance spray gun. The superbly balanced forged aluminum body is ergonomically designed with a compact grip size, offering the operator extra comfort and control. All of the spray gun's components are machined and finished to exacting tolerances using only the highest quality materials, including long life self-adjusting packings to ensure years of peak efficiency.

The MACH 1 SL HVLP is simple to operate, and provides exceptional finish quality with all of today's complex coatings, including high solids, waterborne, industrial automotive, and aerospace coatings. All fluid contact surfaces within the spray gun, including inlet, nozzle and needle, are corrosion resistant for use with waterborne coatings.

In addition, specially designed air and fluid nozzles enable the MACH 1SL HVLP to operate at high transfer efficiency in compliance with air quality regulations as an HVLP spray gun.



## Model MACH 1SLA

Same features as the MACH 1SL, but with adjustable fluid inlet.

## Technical Specifications

Body: ..... Drop-forged aluminum  
 Weight: ..... 16.5 Oz.  
 Air Inlet: ..... 1/4" NPS (m)  
 Fluid Inlet: ..... 3/8" NPS (m)  
 Fluid Passages: ..... Stainless Steel  
 Feed Type: ..... Pressure / Siphon Feed  
 Part Sheet: ..... 77-2665  
 Gun Repair Kit: ..... 54-4278

## Most Popular Nozzle Set Ups:

MACH 1SL 94 - 94P  
 MACH 1SL 94 - 93P  
 MACH 1SL 92 - 94P  
 MACH 1SL 94 - 97P  
 Standard Fluid Nozzle and Needle are  
 303 Stainless Steel

See page 15 for additional standard and specialty fluid nozzle recommendations.

## MACH 1SL Gun Outfits:\*

1 Qt. Siphon Cup ..... 98-1176  
 1 Qt. Pressure Cup w/Regulator 0-15 PSI . . . 98-1141  
 2 Qt. Remote Pressure Cup w/hoses . . . . . 98-1198



# MACH 1 HVLP

The MACH 1 is a full size HVLP spray gun with special nozzles and modifications that allow it to operate at high transfer efficiencies in compliance with the California South Coast Air Quality Management District (SCAQMD) regulations as a high volume low pressure (HVLP) air spray gun.

Constructed of a lightweight drop-forged aluminum body and stainless steel fluid passages, including long life self-adjusting packings, this spray gun is designed to stand up under hard, continuous use. It operates like a conventional spray system utilizing compressed shop air.



## Technical Specifications

- Body: ..... Drop-forged aluminum
- Weight: ..... 20.1 Oz.
- Air Inlet: ..... 1/4" NPS (m)
- Fluid Inlet: ..... 3/8" NPS (m)
- Fluid Passages: ..... Stainless Steel
- Feed Type: ..... Pressure / Siphon Feed
- Part Sheet: ..... 77-2463
- Gun Repair Kit: ..... 54-3605

## Most Popular Nozzle Set Ups:

- MACH 1 94 - 94P
  - MACH 1 94 - 93P
  - MACH 1 92 - 94P
  - MACH 1 91 - 94P
- Standard Fluid Nozzle and Needle are 303 Stainless Steel

See page 15 for additional standard and specialty fluid nozzle recommendations.



# M1-G HVLP

The M1-G HVLP gravity feed spray gun not only complies with all air quality regulations, but also will atomize and spray as quickly as a conventional air spray gun. An innovative low volume air nozzle designed specifically for automotive OEM and industrial use allows the M1-G to spray basecoats, clear coats, waterbornes, and high solids at fast application speeds with material savings of up to 50%. This comfortably light, superbly balanced spray gun is easy to operate and smooth to trigger with only 18 lbs. of inlet pressure required. M1-G employs a unique long lasting self-adjusting cartridge packing for simple replacement.



## Technical Specifications

Body: ..... Drop-forged aluminum  
Weight: ..... 21.9 Oz.  
Air Inlet: ..... 1/4" NPS (m)  
Feed Type: ..... Gravity  
Part Sheet: ..... 77-2650  
Gun Repair Kit: ..... 54-4367

## Most Popular Nozzle Set Ups:

M1-G 94 - 93P  
M1-G 97 - 93P  
M1-G 94GS - 96G (for Clear Coat)  
Standard Fluid Nozzle and Needle are  
303 Stainless Steel

## Accessories:

54-4720 ..... 1 Liter Aluminum Cup (Standard) (A)  
54-4350 ..... Gun Stand (B)



A



B



# Cub SLG, Cub SL & MACH 1 Cub

## Touch-Up Guns

### Cub SLG, Cub SL and MACH 1 Cub

The Cub SLG (gravity-feed), Cub SL (siphon/pressure) and MACH 1 Cub (overhead trigger) are the finest touch-up and specialty HVLP coatings guns available today.

Special air and fluid nozzles enable these guns to atomize fluid at low velocities, creating a soft spray effect. A range of fluid and air nozzles are available. These guns have been ergonomically designed to give operators superb control and comfort over a wide range of uses.



### Cub SLG

A gravity feed, handle grip, touch-up spray gun with an aluminum cup. The Cub SLG gun's standard configuration includes a 4 oz. gravity cup; 8 oz. gravity cups are also available.

### Cub SLG Specifications

Body: ..... Drop-forged aluminum  
 Weight: ..... 15.2 Oz.  
 Air inlet: ..... 1/4" NPS (m)  
 Feed Type: ..... Gravity  
 Part Sheet: ..... 77-2735  
 Repair Kit: ..... 54-4478

### Cub SLG Most Popular Nozzle Set-ups:

Cub SLG 55T - 2S  
 Cub SLG 40T - 2S



### Cub SL

The Cub SL gun is in use throughout the world. Perfect for touch-up or fine finish detail spraying. The Cub SL can be outfitted with an 8 oz. siphon or pressure-assisted cup.

### Cub SL Specifications:

Body: ..... Drop-forged aluminum  
 Weight: ..... 12.3 Oz.  
 Air Inlet: ..... 1/4" NPS (m)  
 Fluid Inlet: ..... 1/4" NPS (m)  
 Fluid Passages: ..... Stainless Steel  
 Feed Type: ..... Pressure / Siphon Feed  
 Part Sheet: ..... 77-2734  
 Gun Repair Kit: ..... 54-4479

### Cub SL Most Popular Nozzle Set Ups:

Cub SL 55T - 2S  
 Cub SL 40T - 2S

### Cub SL Outfits:

Siphon - 8 Oz. Siphon Cup. .... 98-637  
 Pressure Assist - 8 Oz. Cup. .... 98-639

### MACH 1 Cub

The MACH 1 Cub (overhead trigger) was designed with ultimate precision and operator comfort in mind—a compact, lightweight gun that is easily maneuverable yet extremely durable. The MACH 1 Cub features a lateral index finger trigger for natural control and an elongated fluid inlet to serve as a finger rest. Newly designed air caps enable the MACH 1 Cub to produce unsurpassed atomization quality in a 10-inch spray pattern.

### MACH 1 Cub Specifications:

Body: ..... Drop-forged aluminum  
 Weight: ..... 10 Oz.  
 Air Inlet: ..... 1/4" NPS (m)  
 Fluid Inlet: ..... 1/4" NPS (m)  
 Fluid Passages: ..... Stainless Steel  
 Feed Type: ..... Pressure / Siphon Feed  
 Part Sheet: ..... 77-2570  
 Gun Repair Kit: ..... 54-4139

### MACH 1 Cub Most Popular Nozzle Set Ups:

MACH 1 Cub 55T - 2S  
 (All set-ups come with a 54-4109 stainless steel fluid needle.)

### MACH 1 Cub Outfits:

Siphon - 8 Oz. Siphon Cup. .... 98-1155  
 See page 17 for additional air pressure and fluid nozzle selection charts for Cub SLG, Cub SL and MACH 1

# AA1500 Air Assisted Airless HVLP Spray Gun

The unique tip and air cap design of the Binks AA1500 Air Assisted Airless HVLP Spray Gun allows operators to use lower fluid and air pressure than the competition to achieve a superior finish. This means:

- Better transfer efficiency
- A softer spray pattern
- Less bounceback
- Lower booth maintenance costs
- Less overspray contaminating other parts
- Longer life on wear parts

The design of the Binks AA1500 reduces operator fatigue which increases production rates, improves finish quality, and improves efficiency while reducing the risk of painful and costly CTD's (Cumulative Trauma Disorders).

- Handle designed to fit comfortably in the hand
- Weighs 22% less than closest competitor (16 oz. vs 20.4 oz)
- Trigger Pull Tension is 22% lighter than closest competitor (3.2 lbs. vs 4.1 lbs.)
- Trigger Span/distance for full trigger pull is 33% less than closest competitor (.4" vs .6")

## Simple design, parts changeouts in 3 to 5 minutes.

- Only 20 replaceable parts
- Component cartridge design for quick and easy repairs
- No special tools needed for repairs
- Low replacement costs on main wear parts (tips, needle/packing cartridge, seats, and air caps)

Accessory items include hoses, fittings, fluid seats, fluid filters, fluid regulators, repair and cleaning kit. See spray tip selection chart for orifice size and fan required.



## Technical 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  
 Seat: . . . . . Standard UHMW 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 or D.M. Nipple  
 Gun Weight: . . . . . 16 oz / 500 g  
 Part Sheet: . . . . . 77-2666



## Airless Spray Tip – Fluid Flow Rate\*

ORIFICE SIZE (INCHES)	500 PSI OZ./MIN.	1000 PSI OZ./MIN.	1500 PSI OZ./MIN.
VERY THIN – Wash Primers, Dyes, Stains, Solvents, Water, Inks			
.009	4.5	5.7	6.8
THIN - Sealers, Lacquers, Primers, Ink, Zinc Chromate, Acrylics			
.015	13.0	19.0	24.0
MEDIUM - Lacquers, Synthetics, Enamels, Varnishes, Shellacs			
.021	14.0	24.0	32.0

Flow rate of fluid materials through spray tip, oz./min.  
 \* Based on 1500 PSI with water. Actual results may vary, depending on material viscosity.



## Spray Tip Selection Charts

PART#	SIZE	FAN WIDTH*	PART#	SIZE	FAN WIDTH*	PART#	SIZE	FAN WIDTH*	PART#	SIZE	FAN WIDTH*
113-00902	.009	1" – 2"	113-01310	.013	8" – 10"	113-01716	.017	14" – 16"	113-02412	.024	10" – 12"
113-00904	.009	2" – 4"	113-01312	.013	10" – 12"	113-01718	.017	16" – 18"	113-02414	.024	12" – 14"
113-00906	.009	4" – 6"	113-01314	.013	12" – 14"	113-01906	.019	4" – 6"	113-02416	.024	14" – 16"
113-00908	.009	6" – 8"	113-01506	.015	4" – 6"	113-01908	.019	6" – 8"	113-02418	.024	16" – 18"
113-00910	.009	8" – 10"	113-01508	.015	6" – 8"	113-01910	.019	8" – 10"	113-02710	.027	8" – 10"
113-00912	.009	10" – 12"	113-01510	.015	8" – 10"	113-01912	.019	10" – 12"	113-02712	.027	10" – 12"
113-01104	.011	2" – 4"	113-01512	.015	10" – 12"	113-01914	.019	12" – 14"	113-02714	.027	12" – 14"
113-01106	.011	4" – 6"	113-01514	.015	12" – 14"	113-01916	.019	14" – 16"	113-02716	.027	14" – 16"
113-01108	.011	6" – 8"	113-01516	.015	14" – 16"	113-01918	.019	16" – 18"	113-02718	.027	16" – 18"
113-01110	.011	8" – 10"	113-01518	.015	16" – 18"	113-02110	.021	8" – 10"			
113-01112	.011	10" – 12"	113-01706	.017	4" – 6"	113-02112	.021	10" – 12"			
113-01114	.011	12" – 14"	113-01708	.017	6" – 8"	113-02114	.021	12" – 14"			
113-01304	.013	2" – 4"	113-01710	.017	8" – 10"	113-02116	.021	14" – 16"			
113-01306	.013	4" – 6"	113-01712	.017	10" – 12"	113-02118	.021	16" – 18"			
113-01308	.013	6" – 8"	113-01714	.017	12" – 14"	113-02410	.024	8" – 10"			

◆ Based on 1500 PSI with water. Actual results may vary, depending on material viscosity.

# AA4000 Air Assisted Airless HVLP Spray Gun

A fine finish with reduced overspray and VOC emissions. The unique tip and air cap design of the Binks AA4000 Air Assisted Airless HVLP Spray Gun allows operators to use lower fluid and air pressure than the competition to achieve an exceptionally fine finish.

HVLP means:

- Better transfer efficiency
- A softer spray pattern
- Less bounceback
- Lower booth maintenance costs
- Less overspray contaminating other parts
- Longer life on wear parts

## Simple design, parts changeouts in 3-5 minutes.

- Only 20 replaceable parts
- Component cartridge design for quick and easy repairs
- No special tools needed for repairs
- Low replacement costs on main wear parts (tips, needle/packing cartridge, seats, and air caps)

Ergonomic design reduces operator fatigue. The design of the Binks AA4000 reduces operator fatigue which increases production rates, improves finish quality, and improves efficiency while reducing the risk of painful and costly CTD's (Cumulative Trauma Disorders).

- Handle designed to fit comfortably in the hand
- Weighs 22% less than closest competitor (16 oz. vs. 20.4 oz.)
- Trigger Span/distance for full trigger pull is 33% less than closest competitor (.4" vs .6")



## Specifications

Maximum Fluid Pressure: . . . . . 4000 psi / 275 bar  
 Maximum Air Pressure: . . . . . 100 psi / 6.8 bar  
 Gun Body: . . . . . Forged Aluminum  
 Fluid Path: . . . . . Stainless Steel  
 Fluid Shut Off Type: . . . . . Tungsten Carbide Seat  
 (UHMW Seat Optional)  
 Fluid Inlet Size: . . . . . 1/4" NPS(m) Thread  
 Air Inlet Size: . . . . . 1/8" NPT(m) x 1/4" NPS(m)  
 D.M. Nipple  
 Gun Weight: . . . . . 16 oz. / 500 g  
 Part Sheet: . . . . . 77-2776

## Spray Tip Selection Charts

PART#	SIZE	FAN WIDTH*	PART#	SIZE	FAN WIDTH*	PART#	SIZE	FAN WIDTH*	PART#	SIZE	FAN WIDTH
113-00902	.009	1" - 2"	113-01310	.013	8" - 10"	113-01716	.017	14" - 16"	113-02412	.024	10" - 12"
113-00904	.009	2" - 4"	113-01312	.013	10" - 12"	113-01718	.017	16" - 18"	113-02414	.024	12" - 14"
113-00906	.009	4" - 6"	113-01314	.013	12" - 14"	113-01906	.019	4" - 6"	113-02416	.024	14" - 16"
113-00908	.009	6" - 8"	113-01506	.015	4" - 6"	113-01908	.019	6" - 8"	113-02418	.024	16" - 18"
113-00910	.009	8" - 10"	113-01508	.015	6" - 8"	113-01910	.019	8" - 10"	113-02710	.027	8" - 10"
113-00912	.009	10" - 12"	113-01510	.015	8" - 10"	113-01912	.019	10" - 12"	113-02712	.027	10" - 12"
113-01104	.011	2" - 4"	113-01512	.015	10" - 12"	113-01914	.019	12" - 14"	113-02714	.027	12" - 14"
113-01106	.011	4" - 6"	113-01514	.015	12" - 14"	113-01916	.019	14" - 16"	113-02716	.027	14" - 16"
113-01108	.011	6" - 8"	113-01516	.015	14" - 16"	113-01918	.019	16" - 18"	113-02718	.027	16" - 18"
113-01110	.011	8" - 10"	113-01518	.015	16" - 18"	113-02110	.021	8" - 10"			
113-01112	.011	10" - 12"	113-01706	.017	4" - 6"	113-02112	.021	10" - 12"			
113-01114	.011	12" - 14"	113-01708	.017	6" - 8"	113-02114	.021	12" - 14"			
113-01304	.013	2" - 4"	113-01710	.017	8" - 10"	113-02116	.021	14" - 16"			
113-01306	.013	4" - 6"	113-01712	.017	10" - 12"	113-02118	.021	16" - 18"			
113-01308	.013	6" - 8"	113-01714	.017	12" - 14"	113-02410	.024	8" - 10"			

◆ Based on 4000 PSI with water. Actual results may vary, depending on material viscosity.

# MACH 3SL & MACH 2A (Automatic)

## MACH 3SL

(Hydraulically-assisted to 6000 PSI)  
The MACH 3SL combines the proven HVLP efficiency of the award-winning MACH 1 spray gun with hydraulically-assisted atomization to yield a highly reliable, carefully engineered special purpose spray gun.

Hydraulically-assisted atomization allows the fluid to be delivered to the spray gun at pressures up to 6000 PSI. The fluid is pre-atomized through an airless tip and atomization is completed by introducing high volume low pressure air to the pattern. The result is a finely atomized "soft spray" that produces a fine finish rivaling the high quality finish obtained with air atomization.

The MACH 3SL is designed for use with high viscosity coatings and is perfect for high production shops, heavy machinery, and metal fabrication. Consistently uniform finishes, low VOC materials, high solids, and waterbornes can be applied with this spray gun. The maximum operating fluid pressure of the MACH 3SL is 6000 PSI. It operates at high transfer efficiencies and fully complies with all government regulations for HVLP spray guns.

### Technical Specifications

Body: ..... Drop-forged aluminum  
Weight: ..... 23 Oz.  
Air Inlet: ..... 1/4" NPS (M)  
Fluid Inlet: ..... 1/4" NPS (M)  
Fluid Passages: ..... Stainless Steel

### MACH 3SL (Hand Gun)

Maximum Fluid Inlet Pressure: ..... 6000PSI  
Part Sheet: ..... 77-2666  
Gun Repair Kit: ..... 54-3645



MACH 3SL - (Fluid Inlet Pressure-6000PSI)



MACH 2A - (Fluid Inlet Pressure-1000PSI)

## MACH 2A HVLP Automatic

(Hydraulically-assisted to 1000 PSI)  
The MACH 2A gun combines proven HVLP efficiency with hydraulically-assisted atomization. The MACH 2A provides consistent coating by pre-atomizing pressurized fluid through a constrictive carbide nozzle. The gun satisfies SCAQMD requirements for HVLP air spray guns. Refer to chart at right for spray tip assemblies available.

### MACH 2A Technical Specifications

Maximum Fluid Inlet Pressure: ..... 1000 PSI  
Part Sheet: ..... 77-2552  
Gun Repair Kit: ..... 54-4405

PART NUMBER	STAMP NO.	ORIFICE (INCHES)	SPRAY WIDTH (AT 12')
110-0904	0904	.009	4
110-0908	0908	.009	8
110-0910	0910	.009	10
110-1104	1104	.011	4
110-1108	1108	.011	8
110-1114	1114	.011	14
110-1304	1304	.013	4
110-1306	1306	.013	6
110-1308	1308	.013	8
110-1314	1314	.013	14
110-1504	1504	.015	4
110-1508	1508	.015	8
110-1510	1510	.015	10
110-1514	1514	.015	14
110-1804	1804	.018	4
110-1808	1808	.018	8
110-1810	1810	.018	10
110-1814	1814	.018	14
110-1820	1018	.018	20
110-2108	2108	.021	8
110-2110	2110	.021	10
110-2114	2114	.021	14
110-2120	2120	.021	20
110-2608	2608	.026	8
110-2610	2610	.026	10
110-2614	2614	.026	14
110-2620	2620	.026	20
110-3610	3610	.036	10

# MACH 1A & 1AR HVLP

## MACH 1A

Incorporating some of the best features of our award winning MACH 1 HVLP spray gun, the MACH 1A Automatic offers total control of atomizing air pressure, side port air, fluid flow, and spray patterns in production settings which require automatic equipment. These features give it an exceptionally high degree of atomizing capability with a wide range of coatings. This spray gun provides transfer efficiency in compliance with all regulations for air quality as an HVLP air spray gun and meets SCAQMD Rules for HVLP.

Constructed of a lightweight drop-forged aluminum body and stainless steel fluid passages, the spray gun is designed to stand up under hard, continuous use. Ranges from 6 to 22 SCFM depending on operating pressure. A 1.5 to 5 horsepower air compressor is normally sufficient to supply atomizing air.

The MACH 1A also features independent control of atomizing and side port air, giving it an exceptionally high degree of atomizing capability with a wide range of coatings.

## MACH 1AR

Model MACH 1AR HVLP includes the same features as the MACH 1A Automatic except a ratchet adjustment is located on the back of the gun for indication of exact needle position. This gun is ideal for applications where visual indication of fluid needle location is essential. It is pneumatically activated for application in a variety of automated spray systems.



MACH 1A



MACH 1AR

## Technical Specifications

Body: .....	Drop-forged aluminum
Weight: .....	20.5 Oz.
Cylinder Air Inlet: .....	1/4" NPS (M)
Cylinder Air Pressure: .....	40 PSI Min / 100 PSI Max
Atomization Air: .....	1/4" NPS (M)
Fluid Inlet: .....	3/8" NPS (M)
Fluid Passages: .....	Stainless Steel
Fluid Pressure: .....	100 PSI Max
Mounting Hole: .....	1/2" Dia.
Part Sheet: .....	77-2467
Gun Repair Kit: .....	54-3980
Packing Kit (Minus Needle): .....	54-4261

## Most Popular Nozzle Set Ups:

- MACH 1A 94 - 94P
  - MACH 1A 94 - 93P
  - MACH 1A 92 - 94P
  - MACH 1A 91 - 94P
- Standard Fluid Nozzle and Needle are 303 Stainless Steel

## Accessories:

Mounting Bracket: .....	54-380
Gun Covers: .....	54-3691 (Package of 20)
Needle Packing Guard: .....	54-4270
Heavy Duty Spring: .....	54-4096



# MACH 1A

## Automatic Nozzle & Needle Selection Charts

### Standard Nozzles MACH 1A Selection Chart

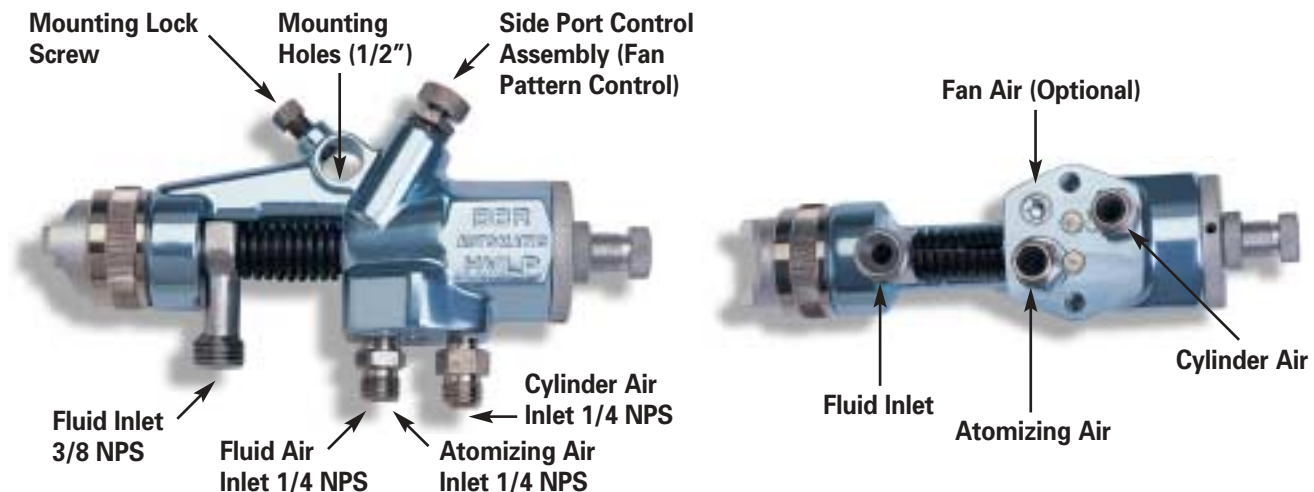
TYPE OF FLUID TO BE SPRAYED	FLUID NOZZLE	APPLICABLE AIR NOZZLE*	COMPATIBLE FLUID NEEDLE+
ULTRA LIGHT / Reduced flow	89 (.020" Dia.) 0.5 mm	95P, 97P, 92P, 93P 95AP•, 97AP•, 94P	47-478
VERY LIGHT / Reduced flow	90 (.030" Dia.) 0.8 mm		47-478
LIGHT: Less than 15 to 20 seconds in a Zahn 2 Cup, e.g. stains, varnishes, thin lacquers, automotive refinishing materials	91 (.040" Dia.) 1.0 mm 92 (.046" Dia.) 1.2 mm		47-478
MEDIUM: 20 to 60 seconds in a Zahn 2 Cup, e.g., general industrial coating	94 (.055" Dia.) 1.4 mm		47-478
HEAVY: Greater than 60 seconds in a Zahn 2 Cup	97 (.070" Dia.) 1.7 mm		47-478

\* For air nozzle CFM usage see page 16  
• "Blue Max" fine finish nozzles

### Special Purpose Nozzles MACH 1A Selection Chart

TYPE OF FLUID TO BE SPRAYED	FLUID NOZZLE	AIR NOZZLE	FLUID NEEDLE+
VERY HEAVY MATERIALS: Block fillers, texture coatings, fire retardants, road marking paint, bitumastics, adhesives, cellular plastisols, underbody and vitreous coatings, special applications.	94VT (.052") 1.3 mm Δ	95P, 97P	54-3966
	901VT (.066") 1.6 mm Δ	94P	54-3967
	903 (.079") 2.0 mm	905P, 907P	47-478
	905 (.089") 2.3 mm		54-3968
	905VT (.088") 2.3 mm Δ		47-478
	906 (1.00") 2.5 mm		47-478
	909 (.111") 2.8 mm		54-3969
	909VT (.112") 2.8 mm Δ		54-4032
FEATHERING: For applications requiring more gradual valve opening for fluid flow control.	90F (.030") 0.8 mm	95P, 97P 95AP, 97AP	54-4033
	91F (.040") 1.0 mm		54-4034
	92F (.046") 1.2 mm		54-4036
	94F (.055") 1.4 mm		54-4039
	97F (.070") 1.7 mm		

+ Stainless steel, standard. Optional Nylon tipped stainless steel, 47-472, available.  
Δ Carbide Tip



# Air & Fluid Nozzle Selection Chart

## Standard Air and Fluid Nozzles

TYPE OF FLUID TO BE SPRAYED	FLUID NOZZLE NO.	APPLICABLE AIR NOZZLES	MACH 1 FLUID NEEDLE	MACH 1 SL FLUID NEEDLE
ULTRA LIGHT / Reduced flow	89 (.020" Dia.) 0.5 mm			
VERY LIGHT / Reduced flow	90 (.030" Dia.) 0.8 mm	90***		
LIGHT: Less than 15 to 20 seconds in a Zahn 2 Cup, e.g., stains, varnishes, thin lacquers, . automotive refinishing fluids	91 (.040" Dia.) 1.0 mm 92 (.046" Dia.) 1.2 mm	95P, 97P 92P* 95AP, 97AP**	54-3941♦	54-4382♦
MEDIUM: 20 to 60 seconds in a Zahn 2 Cup, e.g., general industrial coatings.	94 (.055" Dia.) 1.4 mm	93P		
HEAVY: Greater than 60 seconds in a Zahn 2 Cup	97 (.070" Dia.) 1.7 mm	94P		

♦STANDARD: Fluid needle is stainless steel

NOTE: Binks needles AB and ABSS (54-3609 and 54-3616) may be used, but require readjustments of the needle cap and locknut position

OPTIONAL: Stainless steel with nylon tip (54-3940 MACH 1) (54-4381 MACH 1SL)

## Special Purpose Nozzles

TYPE OF FLUID TO BE SPRAYED	FLUID NOZZLE NO.	APPLICABLE AIR NOZZLES	MACH 1 COMPATIBLE FLUID NEEDLE	MACH 1 SL COMPATIBLE FLUID NEEDLE
VERY HEAVY MATERIALS: Block Fillers, Texture Coatings, Fire Retardants, Bitumastics, Road Marking Paint, Adhesives, Cellular Plastisols, Underbody and Vitreous Coatings, Special Applications.	94VT (.052") 1.3 mm Carbide Tip	95P, 97P 94P	54-3950	54-4383
	901VT (.066") 1.6 mm Carbide Tip		54-3951	54-4384
	903 (.079") 2.0 mm		54-3941 / 54-3940	54-4382 / 54-4381
	905 (.089") 2.3 mm		54-3941 / 54-3940	54-4382 / 54-4381
	905VT (.088") 2.3 mm Carbide Tip	905P	54-3952	54-4385
	906 (.100") 2.5 mm		54-3941 / 54-3940	54-4382 / 54-4381
	909 (.111") 2.8 mm		54-3941 / 54-3940	54-4382 / 54-4381
	909VT (.112") 2.8 mm Carbide Tip		54-3953	54-4386
FEATHERING: For applications requiring more gradual fluid needle valve opening for metering control of fluid flow with trigger.	90F (.030") 0.8 mm	94P	54-4022	54-4387
	91F (.040") 1.0 mm	95P, 97P	54-4023	54-4388
	92F (.046") 1.2 mm	92P*	54-4024	54-4389
	94F (.055") 1.4 mm	95AP**•	54-4026	54-4390
	97F (.070") 1.7 mm	97AP**•	54-4029	54-4391
SIPHON FEED-FINE FINISH: Light to medium fluids Auto body spot repairs Medium to heavy fluids Auto body overall finishing	94s (.055") 1.4 mm		54-4026	
	97s (.070") 1.7 mm	95AS•	54-4029	54-4390 54-4391

\* 92P Low volume nozzle for general industrial and automotive fine finish

\*\* 95AP High solids nozzle for hard to atomize coatings and higher flow rates

97AP Same as 95AP, but for wider fan if needed

\*\*\* 90P Low volume nozzle, 1 1/2 HP compressor or bigger – (6 CFM) required

• 95AP, 95AS, 97AP, air nozzles do not require separate retainer ring

# HVLP Air Nozzles - CFM Ratings

## HVLP Air Nozzle\*

### 90P

NOZZLE ATOMIZING PSI	NOZZLE AIR FLOW SCFM	#6 (STANDARD) SIDE PORT CONTROL GUN INLET PSI
3	4.0	5
5	4.5	7
7	5.0	10
9	5.5	12
10	6.0	15

## HVLP Air Nozzles\*

### 92P

NOZZLE ATOMIZING PSI	NOZZLE AIR FLOW SCFM	#6 (STANDARD) SIDE PORT CONTROL GUN INLET PSI	REGULATOR* PSI
3	4.5	6.0	9
5	6.0	8.5	10
7	6.8	11.0	14
9	7.5	13.5	18
10	8.0	15.0	19

## HVLP Air Nozzles\*

### 93P

NOZZLE ATOMIZING PSI	NOZZLE AIR FLOW SCFM	#6 (STANDARD) SIDE PORT CONTROL GUN INLET PSI	REGULATOR* PSI
3	5.5	8.0	10.0
5	7.0	11.5	14.0
7	8.0	14.5	18.0
9	9.5	17.0	22.5
10	10.0	18.0	24.0

## HVLP Air Nozzle\*

### 94P

NOZZLE ATOMIZING PSI	NOZZLE AIR FLOW SCFM	#6 (STANDARD) SIDE PORT CONTROL GUN INLET PSI
3	7	14
5	9	21
7	11	27
9	12	30
10	13	33

## HVLP Air Nozzles\*

### 95P, 97P, 95AS, 95AP, 97AP, 905P,

NOZZLE ATOMIZING PSI	NOZZLE AIR FLOW SCFM	#6 (STANDARD) SIDE PORT CONTROL GUN INLET PSI	REGULATOR* PSI
3	11.0	20	27
5	15.7	30	40
7	17.5	38	50
9	19.6	45	58
10	22.5	50	64

\* Note: Regulator pressures are based on 25' of 5/16" diameter hose in good condition without Quick-Disconnects or other restrictive fittings. Use the Air Nozzle Test Gauge accessory to confirm the atomizing/regulator pressure relationship for your actual air supply set-up. These recommendations are for "typical" or "average" fluids and are intended to serve as a starting point. Adjust as necessary for your specific application.

## HVLP Extensions

LENGTH	FOR MACH1, MACH1SL AND MACH 1A GUNS
6"	52-3706
12"	52-3712
18"	52-3718
24"	52-3724

\*Other lengths and styles are available – please call customer service for pricing. Gun extensions are special order and are not subject to return.

# Cub SLG, Cub SL & MACH 1 Cub Charts

## Air Pressure Recommendations (Cub SLG, Cub SL and MACH 1 Cub)

TYPE OF FLUID TO BE SPRAYED	ATOMIZING PSI	GUN INLET PSI	REGULATOR PSI
Light Stains, Inks	3-4	20-26	27-33
Primers / Surfaces	4-5	26-30	33-38
Acrylic Enamels	6-7	35-40	44-47
Lacquers	7-8	40-42	47-55
Low VOC Clears, Basecoats and Urethanes	8-10	42-50	55-59

## Cub SLG, Cub SL and MACH 1 Cub Accessories

PART / DESCRIPTION	PART NO.
Cub SLG Spray Gun with 54-4458 4 oz. cup 55T x 2S	Standard
3 oz. Gravity-Feed Cup Assembly	54-4147
8 oz. Gravity-Feed Cup Assembly	81-381
Cub SL Spray Gun (gun only) 55T x 2S	Standard
8 oz. Cub SL Siphon Cup Outfit (gun and cup)	98-637
8 oz. Cub SL Pressure Assist Cup Outfit (gun and cup)	98-639
8 oz. Siphon Cup Assembly	81-384
MACH 1 Cub (overhead trigger) (gun only) 55T x 2S	Standard
8 oz. Siphon Cup and Gun 55T x 2S	98-1155

The Cub SL part sheet number is 77-2734; the Cub SLG part sheet number is 77-2735; the MACH 1 Cub part sheet number is 77-2570.

## Fluid Nozzle Selection Chart for Cub SLG, Cub SL and MACH 1 Cub

TYPE OF FLUID TO BE SPRAYED	FLUID NOZZLE NO.
VERY LIGHT / 14 to 16 seconds in a Zahn 2 Cup e.g., wash primers, dies, inks, water.	20T (.020 in. [.4mm] dia. opening) 25T (.025 in. [.6mm] dia. opening) 30T (.030 in. [.8mm] dia. opening)
LIGHT / MEDIUM: less than 15 to 20 seconds in a Zahn 2 Cup, e.g., stains, varnishes, thin lacquers, automotive refinishing materials	40T (.040 in. [1.0mm] dia. opening)
MEDIUM: 20 to 30 seconds in a Zahn 2 Cup, e.g., general industrial coatings	55T (.055 in. [1.4mm] dia. opening)
HEAVY: greater than 30 seconds in a Zahn 2 Cup, e.g., low VOC coatings	55T (.055 in [1.4mm] dia. opening)

All fluid nozzles use the 2S (siphon).

\*For Cub SL spray guns using pressure or pressure-assist, use nozzle 20T for light/medium materials, and nozzle 30T for heavier materials. Use of larger nozzles or very light materials with a pressurized gun will result in excessive material flow and is not recommended.

## Air Pressure and Flows

GUN INLET PRESSURE (PSI)*	NOZZLE ATOMIZING AIR FLOW (SCFM) 2S AIR NOZZLE†	NOZZLE ATOMIZING PRESSURE (PSI)
20	6.0	3
30	7.5	5
45	10.0	9
50	11.0	10

\*Gun inlet pressure is measured at the gun inlet fitting with the gun triggered.  
†8" to 10" spray pattern at 8".



Cub SLG



Cub SL



Mach 1 Cub

# HVLP Accessories

## Check Valves



54-4322 . . . . . 3-pack. Used with (98-1130) Short  
 54-4321 . . . . . 3-pack. (98-1141, 98-1142) Long  
 85-271 . . . . . Check Valve-Plug-Fitting Kit

## 45 & 90 Deg. Angle Heads



For MACH 1 and MACH 1A spray guns only.  
 Part Number 54-4090 90 degree angle head,  
 Part Sheet 77-2635  
 Part Number 54-4091 45 degree angle head,  
 Part Sheet 77-2635

## 85-250 Regulator



Part Number 85-250  
 Air Regulator controls air pressure in the 80-280  
 one quart pressure cup and provides accurate  
 control of fluid pressure for optimum spray pattern  
 control. Prevents over-pressurizing the cup and is  
 adaptable to all MACH 1 spray guns.  
 Inlet: . . . . . 1/4" NPS(m)  
 Outlet: . . . . . 1/4" NPS(f)

## 80-300 Cup



Part Number 80-300  
 Stainless Steel Cup consists of 80-292 1 Qt. Clamp  
 Type Cup with Vent Valve, 85-250 Regulator, and  
 Connector Tube.  
 Also Available:  
 Part Number 80-272 SS Pressure Cup (No regulator).

## 81-810 No Drip Cup For Siphon Gun



## "Strain-It" Strainers



Part Number 81-82 (white cone) . . . 145 mesh/inch  
 Part Number 81-83 (blue cone) . . . . 100 mesh/inch  
 Part Number 81-84 (red cone) . . . . . 80 mesh/inch  
 Fits all spray gun cups. Stainless steel screen lasts  
 and lasts. A choice of three mesh sizes: Super  
 Fine (145) removes lint and particles... even from  
 thinner; Fine (100) for primers and more viscous  
 materials; Medium (80) for heavy materials.  
 Packaged 5 per carton.

## NEW – SG-2 Steadi-Grip Rotary Pressure Cup (80-451)



The "prop" style agitator provides constant  
 agitation without the use of a magnet. This  
 ensures that paints are mixed thoroughly and  
 are not subject to particle separation. The  
 newly redesigned 80-451 operates at 0-40 psig.  
 Part Sheet 77-2796

## SG-2 Steadi-Grip Agit – (80-351)



The Binks SG-2 Agitator Cup (80-351) includes a  
 reciprocating air-driven magnetic agitator  
 assembly and is ideal for non-metallic coatings  
 that require constant agitation.  
 Part Sheet 77-2658  
 The SG-2 model (80-351) should NEVER be used  
 with halogenated solvents.

# HVLP Accessories

## Stedi-Grip Non-Agitated SG-2 Outfit – (80-350)



The Binks SG-2 Steadi-Grip pressure cup (80-350) is ideal for component spraying and industrial applications where small batch production spraying is required. Since the SG-2 cup is pressurized, the spray gun can be held at any angle without spitting or sputtering. Part Sheet 77-2658

### Safety Notes:

None of the SG-2 cups should be used with halogenated solvents without a Binks 80-356 plastic liner.

## Gun Cup Strainer, 50-mesh



Part Number 149-278  
A final strainer for air atomized spray gun cups. The 50-mesh brass filter screen can be used with all enamels and lacquers. The strainer is easily pressed on and removed from the end of the siphon tube. Its resilient, expandable gasket prevents by-pass and holds firmly on all siphons having tube sizes up to 7/16 inches. Box of 12.

## Extensions



52-3706	6"
52-3718	18"
52-3712	12"
52-3724	24"

Note: Extensions may be joined together for added length. Specify new needle length. Extensions are sold less air cap and fluid nozzles. Specify spray gun model that will be used with the extension. Part Sheet 77-2557.

## Fluid Inlet



Part Number 54-4330  
Adjustable fluid inlet allows finger-tip control of coatings without fluid needle interference. Fits both hand and automatic guns.

## SG2 Cup Liners



Part Number 80-356 includes 12 plastic liners for easy clean-up.

## Air Nozzle Test Gauge



Part Number	Description
54-3622	92HA & 93HA Nozzle (MACH 3SL)
54-3774	95HA MACH 2SL & 3SL
54-3902	91P & 92P Nozzles
54-3908	900 Series
54-3935	95 & 97 Series
54-4078	95AS & 97AS Nozzles (Siphon)
54-4150	2S Cub Guns
54-4345	90P Nozzle
54-4356	93P Nozzle
54-4066	94P Nozzle

## Needle Packing Kits

Part Number 54-4261	Self Adjusting Packing
Part Number 54-4262	Self Adjusting Packing w/Needle
Part Number 54-4370	Cartridge Packing

## Repair Kits

AA-1500	54-4970
AA-4000	54-4993
MACH 1	54-3605
MACH 1A & 1AR	54-3980
MACH 1SL	54-4278
MACH 3SL	54-3645
MACH 2A	54-4405
M1-G Gravity	54-4367
Cub SLG	54-4478
Cub SL	54-4479
MACH 1 Cub (overhead trigger)	54-4139

## Ratchetback (Auto-Gun)

Part Number 54-3582  
Specially designed for applications where visual indication of fluid needle location is essential. Adjustments numbered 1-9 on the back of the spray gun conveniently indicate exact needle position. Part Sheet: 77-2672

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