



“TROPHY” SERIES MANUAL SPRAY GUNS
PRESSURE AND SIPHON FEED
HVLP, LVMP & CONVENTIONAL
(2465-XXXX-XXXX)

CE  II 2 G X

Binks Trophy Series Spray Gun is the premier spray gun for use in pressure and siphon feed spray applications and sets a new standard in durability, ergonomics, and atomization. The lightweight ergonomic design offers unsurpassed comfort and control. The latest advanced atomization technology has been incorporated for achieving consistent, fine finishes when spraying a wide range of industrial coating applications.

Binks Trophy Series Spray Guns can be used with pumps, pressure pots, pressure cups, or siphon cups.

Binks Trophy Series Spray Guns are offered in three different atomization technologies: HVLP, LVMP and Conventional.



SPECIFICATIONS

Maximum Air Pressure	140 psi / 9.6 bar (P-1)
Maximum Fluid Pressure	140 psi / 9.6 bar (P-2) (with standard spring)
Maximum Fluid Pressure	300 psi / 20.6 bar (P-2) (with optional spring)
Gun Body	Anodized Aluminum
Fluid Path	Stainless Steel
Fluid Inlet Size	3/8" NPS / BSP(m)
Air Inlet Size	1/4" NPS / BSP(m)
Gun Weight	14 oz. / 410 grams
Wetted Parts	Stainless Steel & PTFE

The Trophy HVLP Series of Spray Guns can be used to operate at high transfer efficiencies in compliance with “California South Coast Air Quality Management District” regulations as a High Volume, Low Pressure spray gun.

IMPORTANT! DO NOT DESTROY

It is the Customer's responsibility to have all operators and service personnel read and understand this manual.

READ ALL INSTRUCTIONS BEFORE OPERATING THIS PRODUCT.

In this part sheet, the words **WARNING**, **CAUTION** and **NOTE** are used to emphasize important safety information as follows:

WARNING

Hazards or unsafe practices which could result in severe personal injury, death or substantial property damage.

CAUTION

Hazards or unsafe practices which could result in minor personal injury, product or property damage.

NOTE

Important installation, operation or maintenance information.

WARNING

Read the following warnings before using this equipment.



READ THE MANUAL

Before operating finishing equipment, read and understand all safety, operation and maintenance information provided in the operation manual.



WEAR SAFETY GLASSES

Failure to wear safety glasses with side shields could result in serious eye injury or blindness.



DE-ENERGIZE, DEPRESSURIZE, DISCONNECT AND LOCK OUT ALL POWER SOURCES DURING MAINTENANCE

Failure to De-energize, disconnect and lock out all power supplies before performing equipment maintenance could cause serious injury or death.



OPERATOR TRAINING

All personnel must be trained before operating finishing equipment.



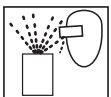
EQUIPMENT MISUSE HAZARD

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



KEEP EQUIPMENT GUARDS IN PLACE

Do not operate the equipment if the safety devices have been removed.



PROJECTILE HAZARD

You may be injured by venting liquids or gases that are released under pressure, or flying debris.



PINCH POINT HAZARD

Moving parts can crush and cut. Pinch points are basically any areas where there are moving parts.



PACEMAKER WARNING

You are in the presence of magnetic fields which may interfere with the operation of certain pacemakers.



AUTOMATIC EQUIPMENT

Automatic equipment may start suddenly without warning.



INSPECT THE EQUIPMENT DAILY

Inspect the equipment for worn or broken parts on a daily basis. Do not operate the equipment if you are uncertain about its condition.



NEVER MODIFY THE EQUIPMENT

Do not modify the equipment unless the manufacturer provides written approval.



KNOW WHERE AND HOW TO SHUT OFF THE EQUIPMENT IN CASE OF AN EMERGENCY



PRESSURE RELIEF PROCEDURE

Always follow the pressure relief procedure in the equipment instruction manual.



NOISE HAZARD

You may be injured by loud noise. Hearing protection may be required when using this equipment.



HIGH PRESSURE CONSIDERATION

High pressure can cause serious injury. Relieve all pressure before servicing. Spray from the spray gun, hose leaks, or ruptured components can inject fluid into your body and cause extremely serious injury.



STATIC CHARGE

Fluid may develop a static charge that must be dissipated through proper grounding of the equipment, objects to be sprayed and all other electrically conductive objects in the dispensing area. Improper grounding or sparks can cause a hazardous condition and result in fire, explosion or electric shock and other serious injury.

IT IS THE RESPONSIBILITY OF THE EMPLOYER TO PROVIDE THIS INFORMATION TO THE OPERATOR OF THE EQUIPMENT. FOR FURTHER SAFETY INFORMATION REGARDING THIS EQUIPMENT, SEE THE GENERAL EQUIPMENT SAFETY BOOKLET (77-5300).

TYPES OF INSTALLATION

Air pressure for atomization is regulated at the extractor. The flow of the fluid is adjusted by the fluid valve control knob on gun, viscosity of paint and air pressure.

PRESSURE CUP HOOKUP (Figure 1)

For fine finishing with limited spraying. Air pressure for atomization is regulated at extractor; fluid pressure at cup regulator. Pressure cup is also available less regulator.

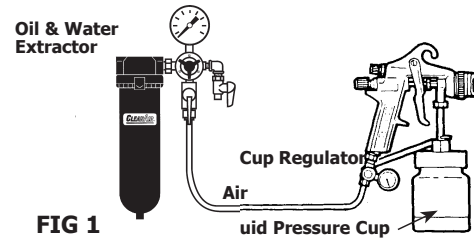


FIG 1

PRESSURE TANK WITH 2 REGULATORS (Figure 2)

The pressure to the tank is regulated by the first regulator. The pressure for atomization is regulated by the second regulator.

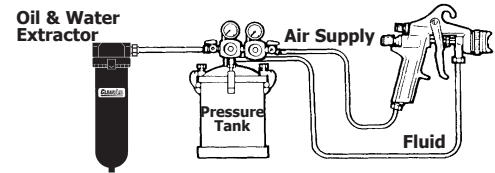


FIG 2

PRESSURE CIRCULATING HOOKUP (Figure 3)

For heavy production spraying. Air pressure atomization regulated at extractor. Fluid pressure regulated at fluid regulator.

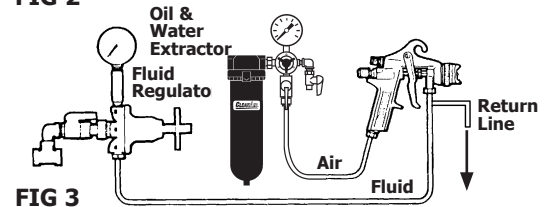


FIG 3

SIPHON FEED HOOKUP (Figure 4)

Air pressure for atomization is regulated at extractor. The amount of fluid is adjusted by fluid control screw on gun, viscosity of paint, and air pressure.

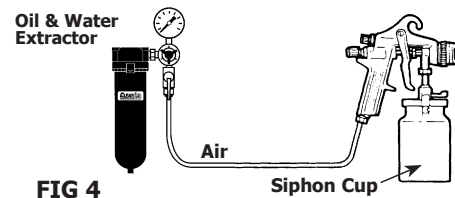


FIG 4

FLUID PUMP HOOKUP (Figure 5)

For medium production spraying (single regulator). Air pressure for atomization is regulated at extractor, fluid pressure at pump regulator.

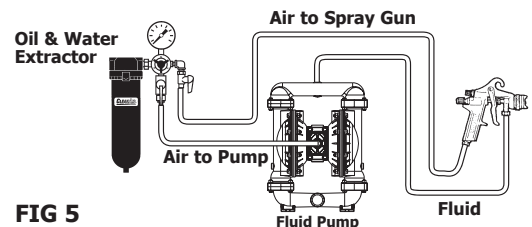


FIG 5

AIR PRESSURE

Atomizing pressure must be set properly to allow for the drop in air pressure between the regulator and the spray gun.

WITH 60 PSI APPLIED AT AIR SUPPLY

5/16"

RECOMMENDED
48 PSI at gun inlet
25 feet of 5/16" I.D. hose causes a drop of 12 PSI between the air supply and the gun. For this reason Binks recommends the use of 5/16" hose.

Cross section view showing comparison of inside hose diameters (actual size). 60 lbs. regulated pressure

1/4"

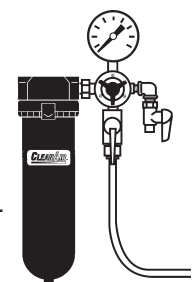
NOT RECOMMENDED
Only 34 PSI at gun inlet
25 feet of 1/4" I.D. hose causes a drop of 26 PSI between the air supply and the gun.

An oil and water extractor is important.

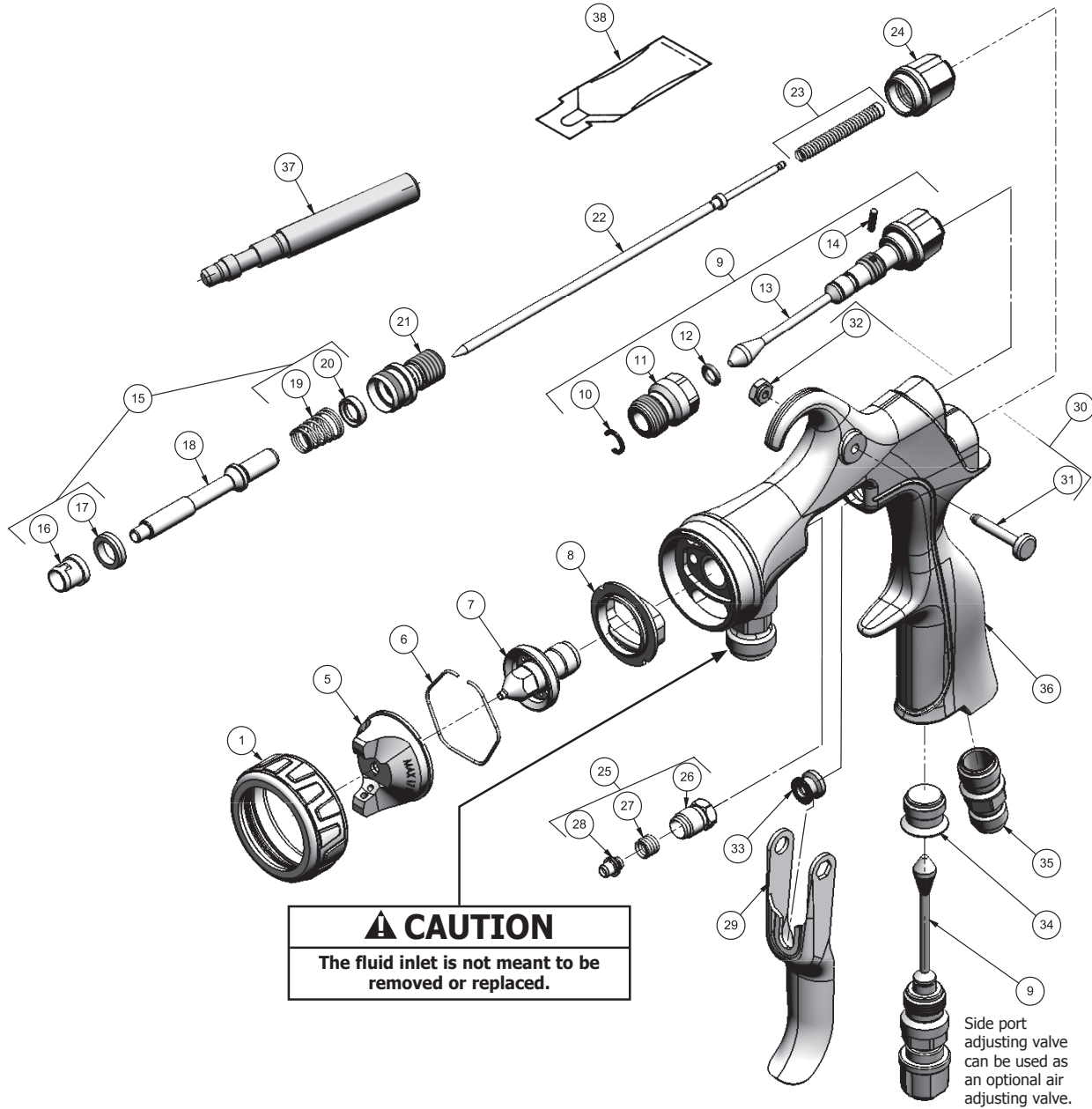
Achieving a fine spray finish without the use of a good oil and water extractor is virtually impossible.

A 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 at the gun.

Use DeVilbiss oil and water extractors and regulators. See your local distributor for models.



BINKS "TROPHY" SERIES SPRAY GUN



NUMBERING SYSTEM FOR FULL SIZE BINKS "TROPHY" SERIES SPRAY GUNS

2465 – XXXX – XXXX

PRESSURE AND SIPHON GUN

ORIFICE SIZES

- 50 0.50 MM
- 85 0.85 MM
- 10 1.0 MM
- 12 1.2 MM
- 14 1.4 MM
- 16 1.6 MM
- 18 1.8 MM
- 20 2.0 MM
- 22 2.2 MM
- 24 2.4 MM
- 26 2.6 MM

ATOMIZATION TECHNOLOGY

- CN CONVENTIONAL
- LV LVMP
- HV HVLP

CUP DESIGNATION

- 0 NO CUP
- S SIPHON CUP

NEEDLE MATERIAL

- S STAINLESS (HARDENED)
- V VITREOUS (TUNGSTEN CARBIDE NEEDLE & NOZZLE)
- P PLASTIC TIP

AIR CAP DESIGNATION

- 10 Series CONVENTIONAL
- 20 Series LVMP
- 30 Series HVLP

See charts on page 6 for complete gun assemblies.

CHART 1: BINKS "TROPHY" SERIES SPRAY GUN PARTS LIST

ITEM NO.	PART NUMBER	DESCRIPTION	QTY.	ITEM NO.	PART NUMBER	DESCRIPTION	QTY.	
1	54-6120	AIR CAP RETAINING RING ASSEMBLY	1	24	54-6111	KNOB – NEEDLE ADJUSTING	1	
5	SEE CHARTS ON PAGE 7	AIR CAP	1	25	54-6130-K	NEEDLE PACKING KIT (STANDARD)	1	
6	JGA-156-K10	SPRING-CLIP (KIT OF 10)	1		54-6129-K	NEEDLE PACKING KIT (VITREOUS)	1	
7	SEE CHARTS BELOW	FLUID NOZZLE	1	26	-----	* ■ NUT – PACKING	1	
8	54-6102-K3	BAFFLE/SEPARATOR (KIT OF 3)	1	27	-----	* ■ SPRING FOR PACKING	1	
9	54-6122	SIDE PORT VALVE ASSEMBLY	1	28	-----	□ ■ ▼ NEEDLE PACKING (STANDARD)	1	
10	-----	+ Δ RETAINING CLIP	1		-----	* ❖ NEEDLE PACKING (VITREOUS KIT OF 3)	1	
11	-----	+ BODY BUSHING	1	29	54-4360	TRIGGER	1	
12	-----	+ Δ O-RING	1	30	54-6132-K	TRIGGER SCREW NUT KIT	1	
13	-----	+ SIDE PORT STEM	1	31	-----	⊕ TRIGGER SCREW	1	
14	-----	+ Δ PIN	1	32	-----	⊕ TRIGGER NUT	1	
15	54-6131-K	□ AIR VALVE SERVICE KIT	1	33	54-3513	SPINDLE CAP	1	
16	-----	• FRONT SEAL – AIR VALVE	1	34	SN-11	PLUG	1	
17	-----	• FRONT AIR VALVE SEAL	1	35	54-6112	FITTING – AIR INLET	1	
18	54-6109	□ AIR VALVE SPINDLE	1	36	-----	GUN BODY WITH FLUID INLET	1	
19	-----	• AIR VALVE SPRING	1	37	SPN-7	TOOL – SEAL INSERTION	1	
20	-----	• REAR SEAL – AIR VALVE	1	38	-----	GUNNER'S MATE (3 CC BAG)	1	
21	SN-66	HOUSING	1	FOR SIPHON GUNS ORDER CUP PART NUMBER TGC-545				
22	47-6825	NEEDLE – STAINLESS STEEL (STD.) MARKING: I	1	+	PARTS INCLUDED IN 54-6122			
	SEE CHART #2	NEEDLE – FEATHERING	1		*	PARTS INCLUDED IN 54-6129-K		
	47-6830	NEEDLE – TUNGSTEN CARBIDE MARKING: II	1			■	PARTS INCLUDED IN 54-6130-K	
47-6826	NEEDLE – PLASTIC TIP MARKING: III	1	▼	ALSO AVAILABLE IN KIT OF 3 SN-2-K3				
23	-----	□ SPRING/PAD ASSEMBLY		1	•	PARTS INCLUDED IN 54-6131-K		
	54-6133-K3	SPRING/PAD ASSEMBLY (STANDARD) (KIT OF 3)	1	⊕		PARTS INCLUDED IN 54-6132-K		
	54-6134-K	SPRING/PAD ASSEMBLY KIT – HEAVY DUTY (OPTIONAL)	1			Δ	GTI-428-K5 SIDE PORT REPAIR KIT	
				❖	ALSO AVAILABLE IN KIT OF 3 54-6119-K3			
					□	PARTS INCLUDED IN 54-6135		

CHART 2: STAINLESS STEEL FEATHERING NEEDLES AND NOZZLES – OPTIONAL

FEATHERING NEEDLE PART NO.	MARKING ON THE NEEDLE	MATCHING NOZZLE P/N (ORIFICE SIZE)
47-6833	I IIII	45-11050-12 1.2MM (.047")
47-6834	II IIII	45-11050-14 1.4MM (.055")
47-6835	III IIII	45-11050-18 1.8MM (.071")

CHART 3: TUNGSTEN CARBIDE NOZZLES AND NEEDLES

NOZZLE SIZE	TC NOZZLE P.N.	TC NEEDLE P.N.
1.4 MM (.055")	45-11080-14	47-6830
1.8 MM (.071")	45-11080-18	47-6830
2.2 MM (.086")	45-11080-22	47-6830
2.6 MM (.102")	45-11080-26	47-6830

CHART 4: STAINLESS STEEL (HARDENED) FLUID NOZZLES – STD.

STAINLESS FLUID NOZZLE ORIFICE SIZE	FLUID NOZZLE PART NUMBER
.020"	.50 mm 45-11050-50
.035"	.85 mm 45-11050-85
.039"	1.0 mm 45-11050-10
.047"	1.2 mm 45-11050-12
.055"	1.4 mm 45-11050-14
.063"	1.6 mm 45-11050-16
.071"	1.8 mm 45-11050-18
.079"	2.0 mm 45-11060-20
.087"	2.2 mm 45-11060-22
.102"	2.6 mm 45-11060-26

CHART 5: TEST AIR CAP KITS – OPTIONAL

CONVENTIONAL	
54-6140-K	11-C KIT
54-6141-K	12-C KIT
54-6142-K	14-C KIT
LVMP	
54-6146-K	22-L KIT
54-6147-K	23-L KIT
54-6149-K	25-L KIT
HVLP	
54-6151-K	31-H KIT – HVLP
54-6152-K	32-H KIT – HVLP
54-6153-K	33-H KIT – HVLP
54-6154-K	39-H KIT – HVLP

BINKS "TROPHY" SERIES SPRAY GUN PRESSURE FEED SPRAY GUN NEEDLE AND NOZZLE SELECTION GUIDE

CHART 6: CONVENTIONAL GUN SET-UPS

TYPE OF FLUID TO BE SPRAYED	COMPLETE GUN ASSEMBLY PART NUMBER	FLUID NOZZLE AND AIR CAP
THIN 5-25 CENTIPOISE 15-19 sec. Zahn 2 cup wash primers, dyes, stains, solvents, water, inks, sealers, laquers, lubricants, zinc chromates, acrylics	2465-10CN-11S0	1.0 mm (.039") X 11C
	2465-12CN-11S0	1.2 mm (.047") X 11C
	2465-14CN-11S0	1.4 mm (.055") X 11C
	2465-16CN-11S0	1.6 mm (.063") X 11C
	2465-16CN-12S0	1.6 mm (.063") X 12C
	2465-16CN-12SS	1.6 mm (.063") X 12C ♦
	2465-18CN-12SS	1.8 mm (.070") X 12C ♦
MEDIUM 25-70 CENTIPOISE 20-30 sec. Zahn 2 cup synthetic enamels, varnishes, shellacs, fillers, primers, epoxies, urethanes, lubricants, wax emulsions, enamels	2465-12CN-11S0	1.2 mm (.047") X 11C
	2465-14CN-11S0	1.4 mm (.055") X 11C
	2465-16CN-11S0	1.6 mm (.063") X 11C
	2465-16CN-12S0	1.6 mm (.063") X 12C
	2465-18CN-11S0	1.8 mm (.070") X 11C
	2465-18CN-12S0	1.8 mm (.070") X 12C
	2465-16CN-12SS	1.6 mm (.063") X 12C ♦
	2465-18CN-12SS	1.8 mm (.070") X 12C ♦
	2465-20CN-14S0	2.0 mm (.079") X 14C
	2465-22CN-14S0	2.2 mm (.087") X 14C
HEAVY 70-160 CENTIPOISE 31-66 sec. Zahn 2 cup	2465-16CN-11S0	1.6 mm (.063") X 11C
	2465-16CN-12S0	1.6 mm (.063") X 12C
	2465-18CN-11S0	1.8 mm (.070") X 11C
	2465-20CN-14S0	2.0 mm (.079") X 14C
	2465-22CN-14S0	2.2 mm (.087") X 14C
ADHESIVES water based vinyl glues, solvent based neoprenes, contact cements	2465-18CN-12SS	1.8 mm (.070") X 12C ♦
	2465-20CN-14S0	2.0 mm (.079") X 14C
	2465-22CN-14S0	2.2 mm (.087") X 14C
MOLD RELEASE	2465-12CN-11S0	1.2 mm (.047") X 11C
CERAMICS abrasive materials, glazes, engobes, porcelain enamel	2465-14CN-14V0	1.4 mm (.055") X 14C ■
	2465-18CN-14V0	1.8 mm (.070") X 14C ■
	2465-22CN-14V0	2.2 mm (.087") X 14C ■
	2465-26CN-14V0	2.6 mm (.102") X 14C ■
NON-STICK COATINGS	2465-10CN-11S0	1.0 mm (.039") X 11C
	2465-12CN-11S0	1.2 mm (.047") X 11C
	2465-18CN-12SS	1.8 mm (.070") X 12C ♦
HAMMERS	2465-14CN-11S0	1.4 mm (.055") X 11C
	2465-16CN-11S0	1.6 mm (.063") X 11C
	2465-16CN-12S0	1.6 mm (.063") X 12C
WRINKLE ENAMELS	2465-14CN-11S0	1.4 mm (.055") X 11C
	2465-16CN-11S0	1.6 mm (.063") X 11C
ZINC RICH COATINGS	2465-22CN-14V0	2.2 mm (.087") X 14C ■

- ♦ Siphon set-up: includes Binks cup TGC-545
- Tungsten carbide needle and nozzle set-ups
- Plastic needle tip set-ups

CHART 7: LVMP GUN SET-UPS

TYPE OF FLUID TO BE SPRAYED	COMPLETE GUN ASSEMBLY PART NUMBER	FLUID NOZZLE AND AIR CAP
THIN 5-25 CENTIPOISE 15-19 sec. Zahn 2 cup	2465-85LV-22S0	0.85 mm (.034") X 22L
	2465-10LV-22S0	1.0 mm (.039") X 22L
	2465-12LV-23S0	1.2 mm (.047") X 23L
	2465-14LV-23S0	1.4 mm (.055") X 23L
	2465-16LV-23S0	1.6 mm (.063") X 23L
	2465-18LV-23SS	1.8 mm (.070") X 23L ♦
	2465-85LV-25S0	0.85 mm (.034") X 25L
	2465-10LV-25S0	1.0 mm (.039") X 25L
	2465-12LV-25S0	1.2 mm (.047") X 25L
	MEDIUM 25-70 CENTIPOISE 20-30 sec. Zahn 2 cup	2465-12LV-23S0
2465-14LV-23S0		1.4 mm (.055") X 23L
2465-16LV-23S0		1.6 mm (.063") X 23L
2465-14LV-24S0		1.4 mm (.055") X 23L
2465-18LV-23SS		1.8 mm (.070") X 23L ♦
2465-12LV-25S0		1.2 mm (.047") X 25L
2465-14LV-25S0		1.4 mm (.055") X 25L
2465-18LV-25S0		1.8 mm (.070") X 25L

CHART 8: HVLP GUN SET-UPS

TYPE OF FLUID TO BE SPRAYED	COMPLETE GUN ASSEMBLY PART NUMBER	FLUID NOZZLE AND AIR CAP
THIN 5-25 CENTIPOISE 15-19 sec. Zahn 2 cup wash primers, dyes, stains, solvents, water, inks, sealers, laquers, lubricants, zinc chromates, acrylics	2465-85HV-32S0	0.85 mm (.034") X 32H
	2465-85HV-33S0	0.85 mm (.034") X 33H
	2465-85HV-31P0	0.85 mm (.034") X 31H ●
	2465-10HV-32S0	1.0 mm (.039") X 32H
	2465-10HV-33S0	1.0 mm (.039") X 33H
	2465-10HV-31P0	1.0 mm (.039") X 31H ●
	2465-12HV-32S0	1.2 mm (.047") X 32H
	2465-12HV-31P0	1.2 mm (.047") X 31H ●
	2465-18HV-32SS	1.8 mm (.070") X 32H ♦
	2465-85HV-39S0	0.85 mm (.034") X 39H
	2465-10HV-39S0	1.0 mm (.039") X 39H
	2465-12HV-39S0	1.2 mm (.047") X 39H
MEDIUM 25-70 CENTIPOISE 20-30 sec. Zahn 2 cup synthetic enamels, varnishes, shellacs, fillers, primers, epoxies, urethanes, lubricants, wax emulsions, enamels	2465-12HV-32S0	1.2 mm (.047") X 32H
	2465-12HV-31P0	1.2 mm (.047") X 31H ●
	2465-14HV-32S0	1.4 mm (.055") X 32H
	2465-14HV-32SS	1.4 mm (.055") X 32H
	2465-14HV-31P0	1.4 mm (.055") X 31H ●
	2465-16HV-32S0	1.6 mm (.063") X 32H
	2465-18HV-32S0	1.8 mm (.070") X 32H
	2465-18HV-32SS	1.8 mm (.070") X 32H ♦
	2465-12HV-39S0	1.2 mm (.047") X 39H
	2465-14HV-39S0	1.4 mm (.055") X 39H
HEAVY 70-160 CENTIPOISE 31-66 sec. Zahn 2 cup	2465-14HV-32S0	1.4 mm (.055") X 32H
	2465-14HV-31P0	1.4 mm (.055") X 31H ●
	2465-16HV-32S0	1.6 mm (.063") X 32H
	2465-18HV-32S0	1.8 mm (.070") X 32H

CHART 9: ROUND SPRAY GUN SET-UPS

TYPE OF FLUID TO BE SPRAYED	COMPLETE GUN ASSEMBLY PART NUMBER	FLUID NOZZLE AND AIR CAP
THIN 5-25 CENTIPOISE 15-19 sec. Zahn 2 cup	2465-12CN-16S0	1.2 mm (.047") X 16
MEDIUM 25-70 CENTIPOISE 20-30 sec. Zahn 2 cup	2465-12CN-16S0	1.2 mm (.047") X 16

BINKS "TROPHY" SERIES SPRAY GUN AIR CAP AND FLUID NOZZLE SELECTION CHARTS

CHART 10: CONVENTIONAL AIR CAP AND FLUID NOZZLE SELECTION CHART								
Air Cap	Air Cap Part No.	Spray Pattern Range	CFM @ 30 PSI	CFM @ 50 PSI	CFM @ 70 PSI	Fluid Nozzle	Siphon or Pressure	Typical Coatings
11-C	46-6500	8 – 12"	9.8	14.2	18.7	45-11050 series, 1.0 mm – 1.8 mm	P	Stains, Primers, Lacquers, Enamels, Acrylics, Reduced Latex, Mold Release
12-C	46-6501	4 – 12"	8.3	12.1	14.2	45-11050 series, 1.0 mm – 1.8 mm	P, S	Lacquers, Enamels, Top Coats, Low Viscosity Adhesives
14-C	46-6503	8 – 14"	17.0	24.4	31.2	45-11060 series, 2.0 mm – 2.6 mm or 45-11080 Tungsten Carbide Series (VT), 1.4 mm – 2.6 mm	P	Zinc Rich, Adhesives, Glazes, Engobies, Ceramics, Porcelain Enamels

CHART 11: LVMP – LOW VOLUME MEDIUM PRESSURE AIR CAP AND FLUID NOZZLE SELECTION CHART						
Air Cap	Air Cap Part No.	Spray Pattern Range	CFM @30 PSI Gun Inlet (Dynamic)	Fluid Nozzle	Siphon or Pressure	Typical Coatings
22-L	46-6510	4 – 12"	11.2	45-11050 series, .5 mm – 1.6 mm	P, S	Stains, Primers, Lacquers, Enamels, Acrylics, Reduced Latex
23-L	46-6511	4 – 12"	10.6	45-11050 series, 1.0 mm – 1.8 mm	P, S	Lacquers, Enamels, Top Coats, Low Viscosity Adhesives
24-L	46-6512	2 – 6"	14.3	45-11050 series, .5 mm – 1.8 mm	P, S	Small Pattern Applications of Stains, Lacquers, Enamels, Acrylics
25-L	46-6513	4 – 15"	14.7	45-11050 series, .85 mm – 1.8 mm	P	Dyes, Stains, Toners, Enamels, Lacquers, Primers, Urethanes, Solvent Coatings, Waterborne Coatings

CHART 12: HVLP – HIGH VOLUME LOW PRESSURE AIR CAP AND FLUID NOZZLE SELECTION CHART							
Air Cap	Air Cap Part No.	Spray Pattern Range	SCFM @ 10 PSI Cap Pressure (Dynamic)	Gun Inlet PSI @ 10 PSI at Air Cap (Dynamic)	Fluid Nozzle	Siphon or Pressure	Typical Coatings
31-H	46-6517	8 – 12"	10.5	17	45-11050 series, .85 mm – 1.8 mm	P, S	Stains, Low Viscous Enamels
32-H	46-6518	8 – 18"	18.5	24	45-11050 series, .85 mm – 1.8 mm	P, S	Lacquers, Enamels, Multi-Colors, Multi-Spec, Nonstick Coatings, Cut-Latex
33-H	46-6519	8 – 12"	11.0	16	45-11050 series, .85 mm – 1.6 mm	P	Stains, Lacquers, Enamel, Multi-Color, Multi-Spec, Nonstick Coatings
39-H	46-6525	4 – 12"	10.0	14	45-11050 series, .85 mm – 1.6 mm	P	Dyes, Stains, Toners, Enamels, Lacquers, Primers, Urethanes, Solvent Coatings, Waterborne Coatings

CHART 13: ROUND SPRAY AIR CAP AND FLUID NOZZLE SELECTION CHART								
Air Cap	Air Cap Part No.	Spray Pattern Range	CFM @ 30 PSI	CFM @ 50 PSI	CFM @ 70 PSI	Fluid Nozzle	Siphon or Pressure	Typical Coatings
16	46-6505	2 – 4"	5.6	7.8	10.5	45-11050 series, 1.0 mm – 1.8 mm	P, S	Lacquers, Enamels

INSTALLATION INSTRUCTIONS

For maximum transfer efficiency, do not use more pressure than is necessary to atomize the material being applied.

NOTE

When using HVLP do not exceed inlet pressures listed on page 7.

1. Connect the gun to a clean, moisture and oil free air supply using a conductive hose of at least 5/16 in I.D.

NOTE

Depending on hose length, larger I.D. hose may be required. Install an air gauge at the gun handle. See page 7 for operating pressures. Do not use more pressure than is necessary to atomize the material being applied. Excess pressure will create additional overspray and reduce transfer efficiency.

NOTE

If quick connect couplings are required, use only high flow quick connects approved for HVLP use. Other types will not flow enough air for correct gun operation.

NOTE

If an air adjusting valve is used at the gun inlet, use HAV-501 adjusting valve.

2. **SIPHON MODELS ONLY.** Attach the cup lid assembly to the fluid inlet connector. Position cup yoke at right angles to the gun.
3. **PRESSURE FEED MODELS.** Connect the fluid supply hose to fluid inlet connector.

NOTE

Before using the spray gun, flush it with solvent to ensure that the fluid passages are clean.

OPERATION

SIPHON MODELS

1. Mix coating material to manufacturer's instructions and strain material.
2. Fill the cup to no more than 3/4 inch from the top of the cup. DO NOT OVERFILL.
3. Attach to cup lid.

ALL MODELS

4. Turn fluid adjusting knob (24) clockwise to prevent fluid needle movement.

5. Turn sideport control (9) counter clockwise to fully open.
6. Adjust inlet air pressure if required.
7. Turn fluid adjusting knob counter clockwise until first thread shows.
8. Test spray. If the finish is too dry, reduce airflow by reducing air inlet pressure.
9. If finish is too wet, reduce fluid flow by turning fluid adjusting knob (24) clockwise. If atomization is too coarse, increase inlet air pressure. If too fine, reduce inlet pressure.
10. The pattern size can be reduced by turning sideport control (9) clockwise.
11. Hold gun perpendicular to surface being sprayed. Arcing or tilting may result in uneven coating.
12. The recommended spray distance is 8 inches.
13. Spray edges first. Overlap each stroke a minimum of 75%. Move gun at a constant speed.
14. Always turn off air supply and relieve pressure when gun is not in use.

PREVENTIVE MAINTENANCE AND CLEANING

To clean air cap and fluid nozzle, brush exterior with a stiff bristle brush. If necessary to clean cap holes, use a broom straw or toothpick if possible. If a wire or hard instrument is used, extreme care must be used to prevent scratching or burring of the holes which will cause a distorted spray pattern.

To clean fluid passages, remove excess material from gun, then flush with gun wash solution. Wipe the gun exterior with a dampened cloth. Never completely immerse in any solvent or cleaning solutions as this is detrimental to the lubricants and life of the spray gun.

NOTE

When replacing the fluid nozzle (7) or fluid needle (22), replace both at the same time. Using worn parts can cause fluid leakage. See page 4. Also, replace the needle packing at this time. Torque the fluid nozzle to 230–240 inch-lbs. Do not over tighten.

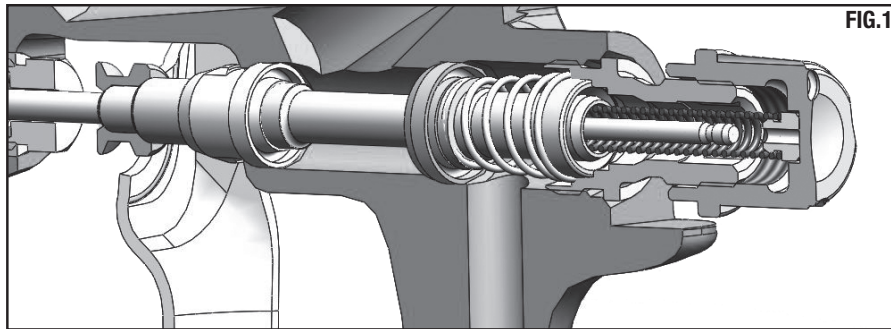
CAUTION

To prevent damage to fluid nozzle (7) or fluid needle (22), be sure to either 1) pull the trigger and hold while tightening or loosening the fluid nozzle, or 2) remove fluid adjusting knob (24) to relieve spring pressure against needle collar.

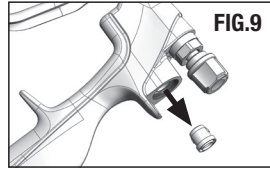
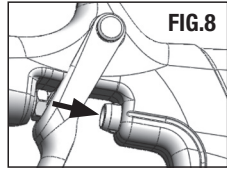
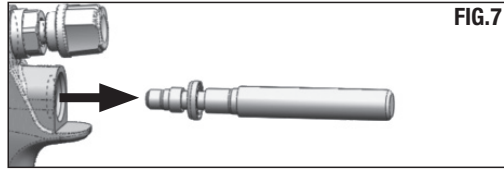
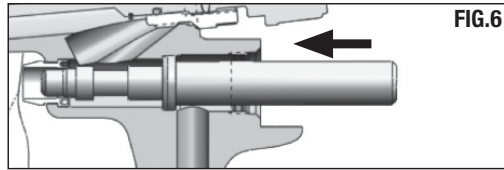
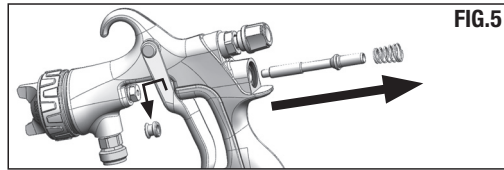
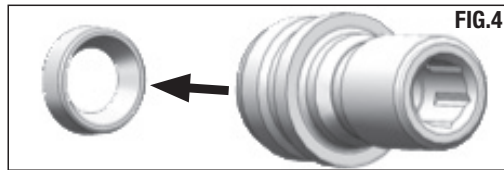
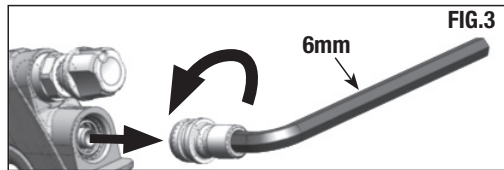
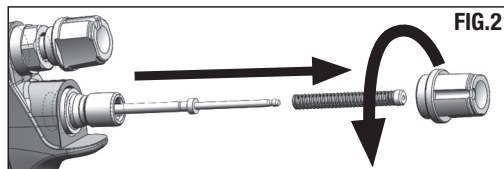
SIPHON CUP. Empty excess material and clean the cup. Make sure the vent hole in the lid is clear.

REMOVAL AND INSTALLATION PROCEDURES

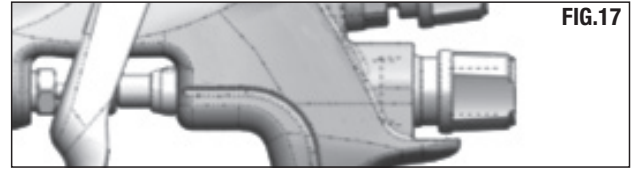
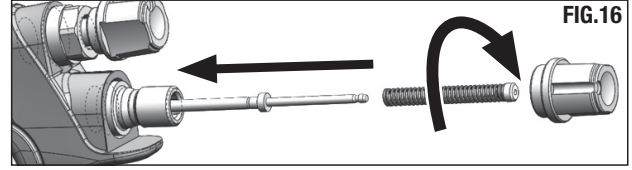
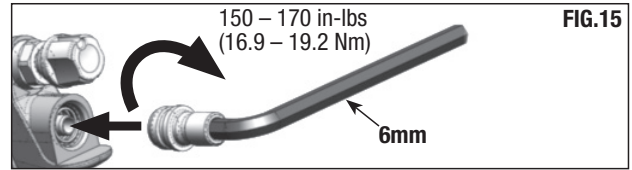
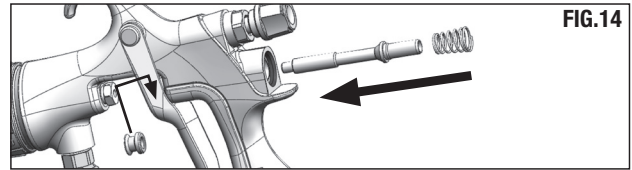
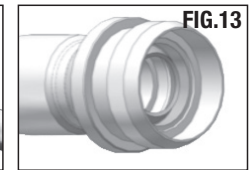
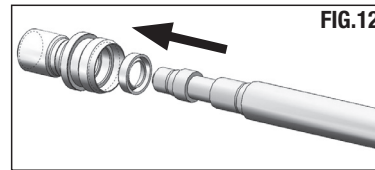
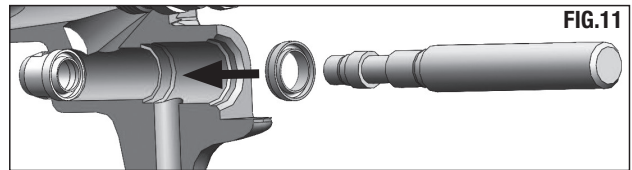
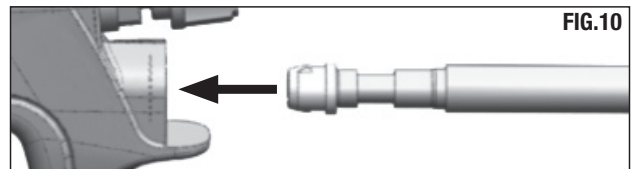
NEEDLE AND VALVE DISASSEMBLY AND ASSEMBLY



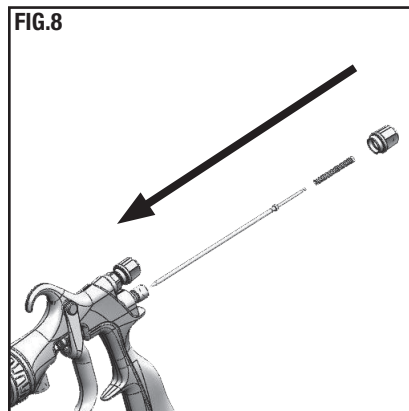
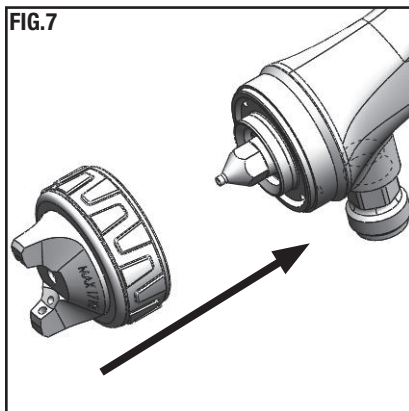
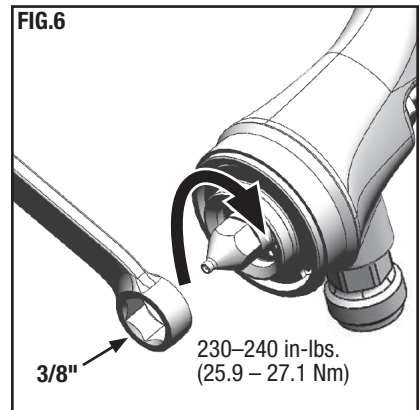
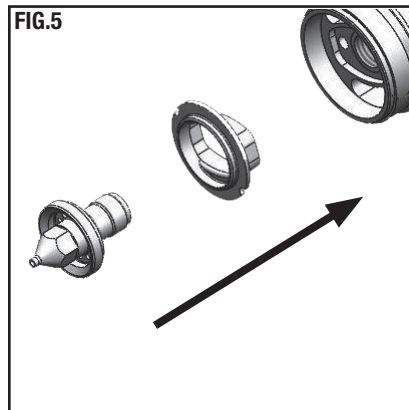
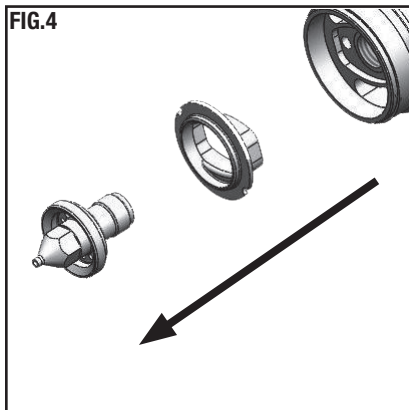
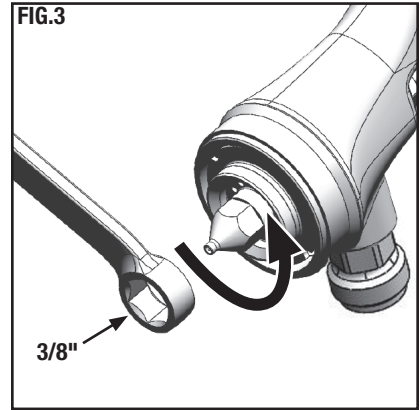
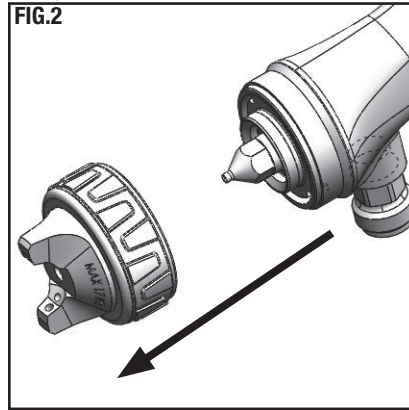
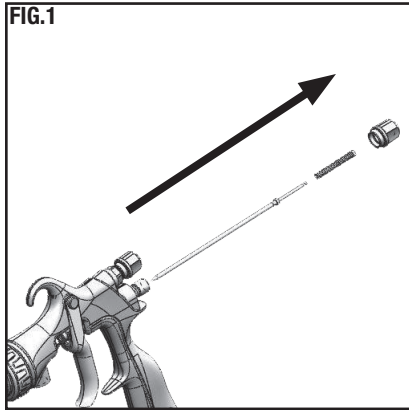
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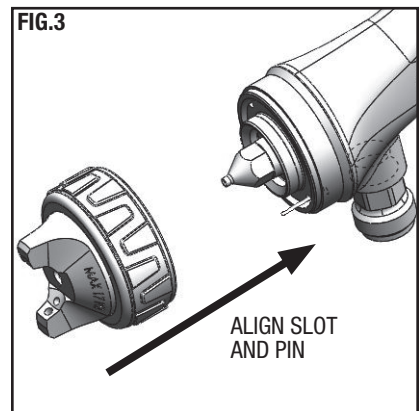
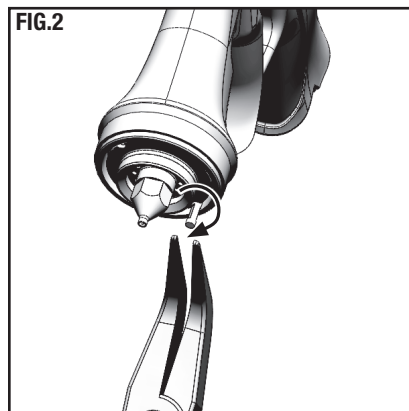
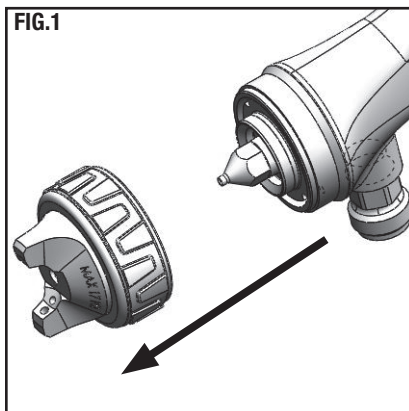
ASSEMBLY



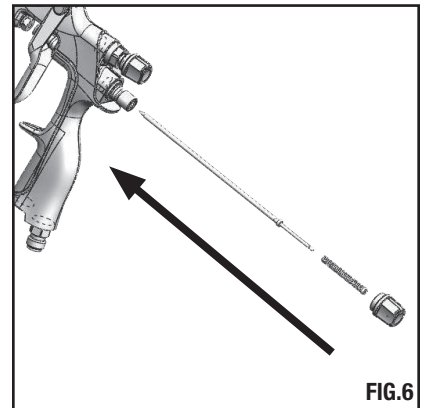
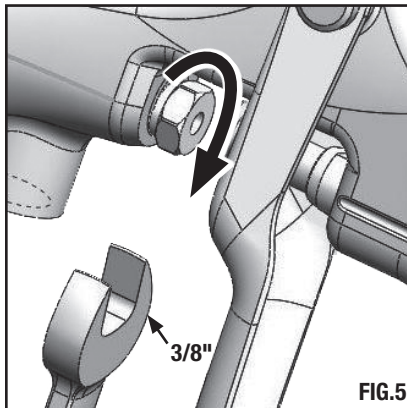
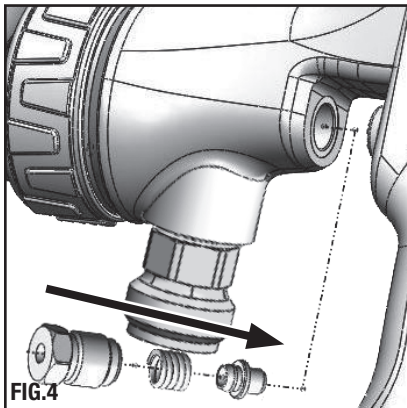
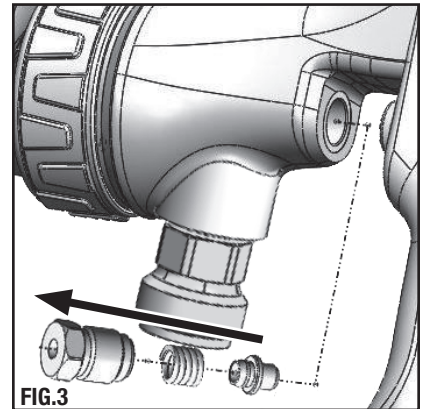
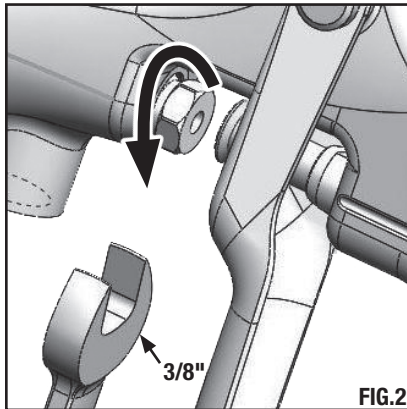
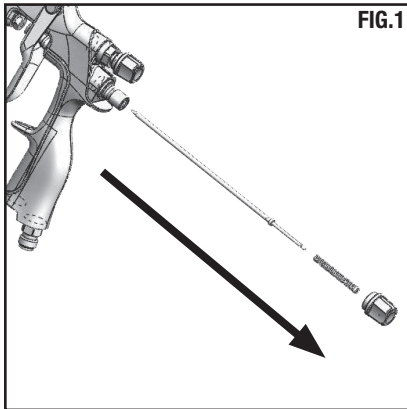
MAINTENANCE – FLUID NOZZLE AND BAFFLE REMOVAL AND INSTALLATION



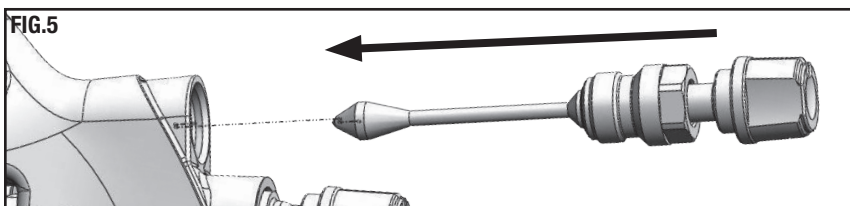
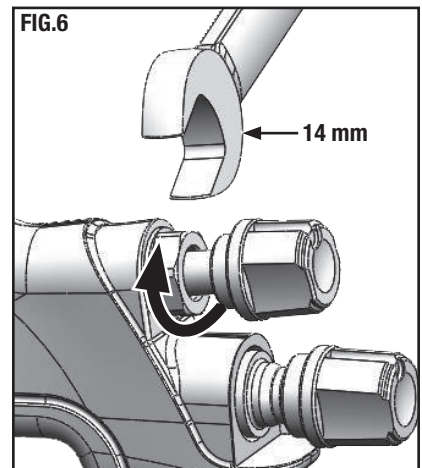
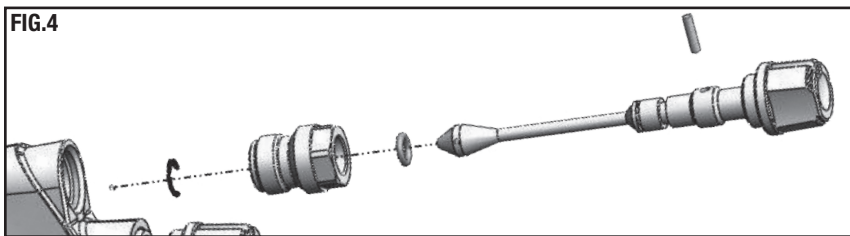
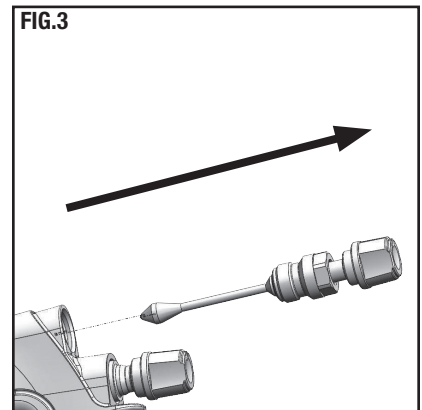
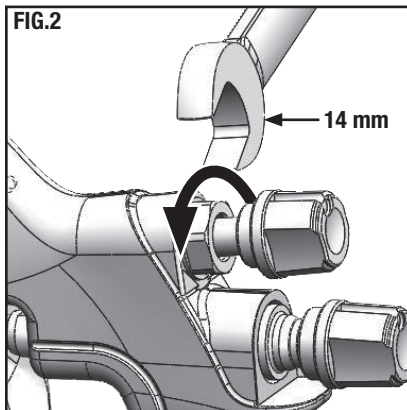
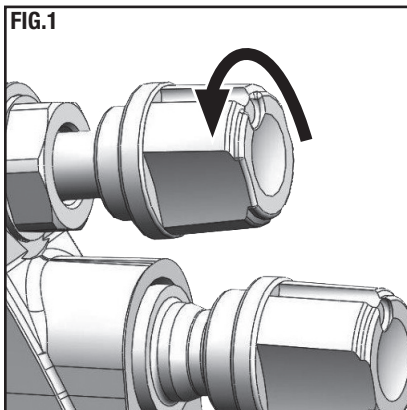
AIR CAP INDEX PIN (54-6184) INSTALLATION (OPTIONAL – 90° INCREMENTS INDEXING FEATURE)








MAINTENANCE – NEEDLE PAKING REMOVAL AND INSTALLATION



MAINTENANCE – SIDEPORT REMOVAL AND INSTALLATION



TROUBLESHOOTING

CONDITION	CAUSE	CORRECTION
Heavy top or bottom pattern 	Horn holes plugged. Obstruction on top or bottom of fluid tip. Cap and/or tip seat dirty.	Clean. Ream with non-metallic point. Clean. Clean.
Heavy right or left side pattern 	Left or right side horn holes plugged. Dirt on left or right side of fluid tip. Remedies for the top-heavy, bottom-heavy, right-heavy, and left-heavy patterns: 1. Determine if the obstruction is on the air cap or the fluid tip. Do this by making a test spray pattern. Then, rotate the cap one-half turn and spray another pattern. If the defect is inverted, obstruction is on the air cap. Clean the air cap as previously instructed. 2. If the defect is not inverted, it is on the fluid tip. Check for a fine burr on the edge of the fluid tip. Remove with #600 wet or dry sand paper. 3. Check for dried paint just inside the opening; remove by washing with solvent.	Clean. Ream with non-metallic point. Clean.
Heavy center pattern 	Fluid flow too high for atomization air. Material flow exceeds air cap's capacity. Spreader adjustment valve set too low. Atomizing pressure too low. Material too thick.	Balance air pressure and fluid flow. Increase spray pattern width with spreader adjustment valve. Thin or lower fluid flow. Adjust. Increase pressure. Thin to proper consistency.
Split spray pattern 	Atomization air pressure too high. Fluid flow too low. Spreader adjusting valve set too high.	Reduce at transformer or gun. Increase fluid flow (increases gun handling speed). Adjust.
Jerky or fluttering spray 	*Loose or damaged fluid tip/seat. Material level too low. Container tipped too far. Obstruction in fluid passage. Dry or loose fluid needle packing nut.	Tighten or replace. Refill. Hold more upright. Backflush with solvent. Lubricate or tighten.
Unable to get round spray	Spreader adjustment screw not seating properly. Air cap retaining ring loose.	Clean or replace. Tighten.
Will not spray	No air pressure at gun. Fluid needle adjusting screw not open enough. Fluid too heavy for gravity feed.	Check air supply and air lines, blow out gun air passages. Open fluid needle adjusting screw. Thin material and/or change to larger tip size.
Paint bubbles in cup	Fluid tip not tight.	Tighten tip.
Fluid leaking or dripping from cup lid	Cup lid loose. Dirty threads on cup or lid. Cracked cup or lid.	Tighten lid. Clean. Replace cup and lid.

*Most common problem.

TROUBLESHOOTING

CONDITION	CAUSE	CORRECTION
Starved spray pattern	Inadequate material flow. Low atomization air pressure.	Back fluid adjusting screw out to first thread, or change to larger tip size. Increase air pressure and rebalance gun.
Excessive overspray	Too much atomization air pressure. Gun too far from work surface. Improper stroking (arcing, gun motion too fast).	Reduce pressure. Adjust to proper distance. Move at moderate pace, parallel to work surface.
Excessive fog	Too much or too fast-drying thinner. Too much atomization (air pressure.)	Remix properly. Reduce air pressure.
Dry spray	Air pressure too high. Gun tip too far from work surface. Gun motion too fast. Gun out of adjustment.	Reduce air pressure. Adjust to proper distance. Slow down. Adjust.
Fluid leaking from packing nut	Packing nut loose. Packing worn or dry.	Tighten, do not bind needle. Replace or lubricate.
Fluid leaking or dripping from front of gun	Packing nut too tight. Dry packing. Fluid tip or needle worn or damaged. Foreign matter in tip. Fluid needle spring broken. Wrong size needle or tip.	Adjust. Lubricate. Replace tip and needle. Clean. Replace. Replace.
Fluid dripping or leaking from bottom of cup	Cup loose on gun. Cup gasket worn or missing below cup. Cup threads dirty.	Tighten. Replace cup gasket. Clean.
Runs and sags	Too much material flow. Material too thin. Gun tilted on an angle, or gun motion too slow.	Adjust gun or reduce fluid flow. Mix properly or apply light coats. Hold gun at right angle to work and adapt to proper gun technique.
Thin, sandy coarse finish drying before it flows out	Gun too far from surface. Too much air pressure. Improper thinner being used.	Check distance. Normally approximately 8". Reduce air pressure and check spray pattern. Follow paint manufacturer's mixing instructions.
Thick, dimpled finish "orange peel"	Gun too close to surface. Too much material coarsely atomized. Air pressure too low. Improper thinner being used. Material not properly mixed. Surface rough, oily, dirty.	Check distance. Normally approximately 8". Follow paint manufacturer's mixing instructions. Increase air pressure or reduce fluid flow. Follow paint manufacturer's mixing instructions. Follow paint manufacturer's mixing instructions. Follow paint manufacturer's mixing instructions. Properly clean and prepare.

ACCESSORIES

For additional accessory components including other suction cups options, disposable cup options, inlet quick disconnects, and cleaning kits please visit Carlisleleft.com.

NOTES

WARRANTY POLICY

This product is covered by Carlisle Fluid Technologies' materials and workmanship limited warranty. The use of any parts or accessories, from a source other than Carlisle Fluid Technologies, will void all warranties. Failure to reasonably follow any maintenance guidance provided may invalidate any warranty.

For specific warranty information please contact Carlisle Fluid Technologies.

For technical assistance or to locate an authorized distributor, contact one of our international sales and customer support locations.

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China	Tel: +8621-3373 0108 Fax: +8621-3373 0308	
Japan	Tel: +81 45 785 6421 Fax: +81 45 785 6517	
Australia	Tel: +61 (0) 2 8525 7555 Fax: +61 (0) 2 8525 7575	

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