

BINKS "LEL" GUN ASSEMBLIES

Model 207-12200 "LEL" GUN

Model 207-12240 "LEL" CHOPPER GUN



⚠ WARNING

Before using the LEL gun, be sure to read and understand all warnings included in this part sheet.

The Binks LEL (Low Emission Laminator) gun (207-12200) is a high-performance "nonatomizing" internal-mix application device for the application of polyester and other catalyzed resins. All Binks branded FRP applicators indicated as "LEL" or "LEL technology" utilize impinging fluid streams at low pressure to generate low velocity resin and gel-coat fans and are therefore defined by the EPA (NESHAP 40 CFR part 63) as nonatomizing.

If the LEL gun is used according to the instructions listed in this part sheet it will provide the user with higher transfer efficiency, a cleaner work space, and help enable MACT compliance by allowing the use of nonatomized mechanical application UEF factors when calculating plant emissions.

207-12200 LEL GUN ASSEMBLY PACKAGE CONTENTS

207-12217	NIGHT PLUG
207-12230	TOOL
207-12247	LEL GUN REPAIR KIT
207-12377	EXTRA CLEARANCE PIN
77-2753	PART SHEET

207-12240 LEL CHOPPER GUN ASSEMBLY PACKAGE CONTENTS

207-10501	SQUARE CHUTE
207-10903	CHOPPER SPARE PARTS KIT
207-12194	ANGLED CHUTE
207-12217	NIGHT PLUG
207-12230	TOOL
207-12247	LEL GUN REPAIR KIT
207-12377	EXTRA CLEARANCE PIN
77-2753	PART SHEET

! WARNING



**HIGH PRESSURE CAN CAUSE SERIOUS INJURY IF EQUIPMENT IS INSTALLED OR USED INCORRECTLY—
READ, UNDERSTAND, AND OBSERVE ALL WARNINGS AND INSTRUCTIONS IN THIS MANUAL.
FOR GENERAL SAFETY INFORMATION CONCERNING BINKS EQUIPMENT, SEE SAFETY BOOKLET 5300.**

**INSTALL, OPERATE OR SERVICE THIS EQUIPMENT ONLY AFTER
ALL INSTRUCTIONS ARE CLEARLY UNDERSTOOD.**

It is the responsibility of the employer to place this information into the hands of the operator.

! WARNING	! CAUTION	NOTE
Hazards or unsafe practices which could result in severe personal injury, death or substantial property damage.	Hazards or unsafe practices which could result in minor personal injury, product or property damage.	Important installation, operation or maintenance information.

INJECTION HAZARD

1. The LEL gun is capable of spraying coatings at high pressure. If you spray yourself or anyone else at close range, the stream of material can puncture the skin and cause great harm (possible amputation).
2. **NEVER** point the LEL gun at yourself or anyone else. **NEVER** point the LEL gun at your hands, fingers, or body. **ALWAYS** keep the LEL gun trigger safety catch locked in the **OFF** position when not in use.
3. **DO NOT** cover the tip and attempt to "blow back" fluid. This is not an air sprayer.
4. If injury occurs, see your doctor immediately! **DO NOT TREAT THIS AS A SIMPLE CUT.** Inform your doctor specifically of what fluid was injected.

AVOID STATIC SPARKING

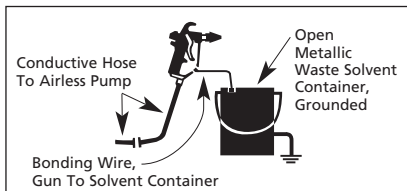
Static electricity charge builds up by high velocity liquid flowing through a hose during flushing, cleaning, or spraying operations. Proper grounding of the airless system safely dissipates this charge.

GROUNDING THE PUMP

Installation of the ground wire attachment to a metallic portion of the pump must insure a secure metal-to-metal contact. The ground wire must be 12 gauge minimum. A clamp must be attached to a true earth ground and an instrument test must be done to verify a ground. Mounting is the user's responsibility.

All high pressure airless systems must be grounded to avoid dangerous static sparking, explosion, or fire when spraying or flushing with flammable liquids.

1. Use Binks **NO-WIRE** conductive hose in all airless spraying operations. Be sure the gun and hose have continuity. Check continuity weekly with ohmmeter. Overall (end to end) resistance of un-pressurized hose must not exceed 29 mega ohms (max.) for any coupled length or combination of hose lengths.
2. Make sure the pump is grounded. **NEVER** operate the unit when it is on a non-grounded platform.
3. When flushing or cleaning with a combustible solvent, always use an open metallic container for receiving the waste solvent. Ground the solvent receptacle.
4. Bond the spray gun to the waste container with a grounding wire. Be sure there is good metal to metal contact.
5. **ALWAYS** remove spray tip when flushing the system. Operate the pump at the lowest possible pressure.



PERSONAL SAFETY CONSIDERATIONS

1. **NEVER** leave a pressurized sprayer unattended.
2. **DO NOT** use fluids, coatings, or chemicals which are not compatible with nylon hoses.
3. Periodically inspect all hoses for leaks and/or abrasions and tighten all connections before use. **DO NOT ATTEMPT TO REPAIR** a defective hose. **REPLACE** it with another conductive hose.

4. Follow all warnings and precautions of the coating and solvent manufacturers.
5. **ALWAYS** relieve pressure in the system by turning bypass valve to **BYPASS** or triggering spray gun before disassembly of any component parts.
6. Exhausting air from a motor cycling with the mufflers removed can exceed OSHA limits. Thus, never operate the pump without proper muffling.
7. **NEVER** attempt to loosen or remove fluid hoses, or to disassemble the pump without first performing the pressure relief procedure as listed in the pumping equipment part sheet.
8. **NEVER** perform any disassembly procedure unless the air motor air supply has been turned off, the residual air has been exhausted, and pressure in the air motor and fluid ends have been relieved. Should air pressure remain within the motor chamber, the motor could cycle at any time.
9. Keep hands and fingers clear of the pump manifold fluid inlet and the individual inlets. The powerful suction can cause serious bodily injury, and any breaks in the skin can allow exposure to the chemicals in the formulation being pumped.
10. Pressure relief procedure must be followed whenever the pump is shut-off for cleaning, servicing, or repairing any part of the air or fluid system. This includes removing or installing or cleaning spray gun tips or nozzles. See the pressure relief procedure in the pumping equipment part sheet.

REPLACEMENT PARTS

The spray gun is designed to use authorized parts only. When using this LEL gun with parts that do not comply with the minimum specifications and safety devices of Binks, the user assumes all risks and liabilities.

WARNING



When using Binks equipment with Methyl Ethyl Ketone Peroxide in Plasticizer OBSERVE the following precautions

CORROSIVE TO THE EYES – MAY CAUSE BLINDNESS. MAY BE FATAL IF SWALLOWED. STRONG IRRITANT. CONTAMINATION OR HEAT MAY LEAD TO FIRE OR EXPLOSIVE DECOMPOSITION. COMBUSTIBLE.



Do not handle or use until safety precautions concerning Methyl Ethyl Ketone Peroxides in the Manufacturer's literature have been read and understood.

Contact with foreign materials, especially strong mineral acids, metals (including certain equipment and containers) or metal salts, or exposure to heat above 135° F (57° C) may lead to violent decomposition, releasing flammable vapors which may self-ignite.

Do not get into eyes or on skin or clothing. Wear eye and skin protection when handling. Avoid breathing mist. Use with adequate ventilation. Store only it in the original closed container. Wash hands thoroughly after handling. Protect from direct sunlight, heat, sparks and other sources of ignition. Prevent contamination with foreign materials. Do not add to hot materials.

FIRST AID

EYES

Wash immediately (seconds count) with water and continue washing for at least 15 minutes. Obtain medical attention.

SKIN

Wash with soap and water. Remove contaminated clothes and shoes and again wash thoroughly with soap and water.

SWALLOWING

Administer large quantities of milk or water. Obtain immediate medical attention for lavage.

To maintain the chemical activity store below 100° F (38° C).

In case of fire, use water spray, foam or dry chemical.

In case of spill or leak, absorb or blend with inert, non-combustible material. Put in suitable container. Dispose of immediately in accordance with federal, state and local regulations.

Do not reuse container as some of the original hazardous contents may still be present.

Follow the above precautions in handling.

READ & UNDERSTAND THE MATERIAL SAFETY DATA SHEET FROM MATERIAL SUPPLIER

WARNING



Models 207-12220 & 207-12240 "LEL" GUNS are constructed with components of aluminum alloy and SHOULD NOT be used with any Halogenated Hydrocarbon solvents.

HALOGENATED HYDROCARBON SOLVENTS CAN CAUSE AN EXPLOSION WHEN IN CONTACT WITH ALUMINUM COMPONENTS OF A PRESSURIZED OR CLOSED FLUID SYSTEM (PUMPS, HEATERS, FILTERS, etc.)

The same possibility of an explosion is possible with the galvanized coatings in pressure tanks. The possibility of a non-flammable explosion increases greatly at high operating temperatures.

The explosion could be of sufficient strength to cause bodily injury, death, and substantial property damage.

Cleaning agents, coatings, or adhesives may contain HALOGENATED HYDROCARBON SOLVENTS. CHECK WITH YOUR SOLVENT AND PAINT SUPPLIER.

If you are now using a Halogenated Hydrocarbon Solvent in a pressurized fluid system with aluminum components or galvanized wetted parts, the following steps should be taken immediately:

1. Remove all pressure; drain and disconnect the entire system.
2. Inspect and replace all corroded parts.
3. Contact your solvent supplier for a NON-HALOGENATED SOLVENT to flush and clean the system of all residues.

HALOGENATED Solvents are defined as any hydrocarbon solvent containing any of the following elements:

CHLORINE	"CHLORO" (Cl)
BROMINE	"BROMO" (Br)
FLUORINE	"FLUORO" (F)
IODINE	"IODO" (I)

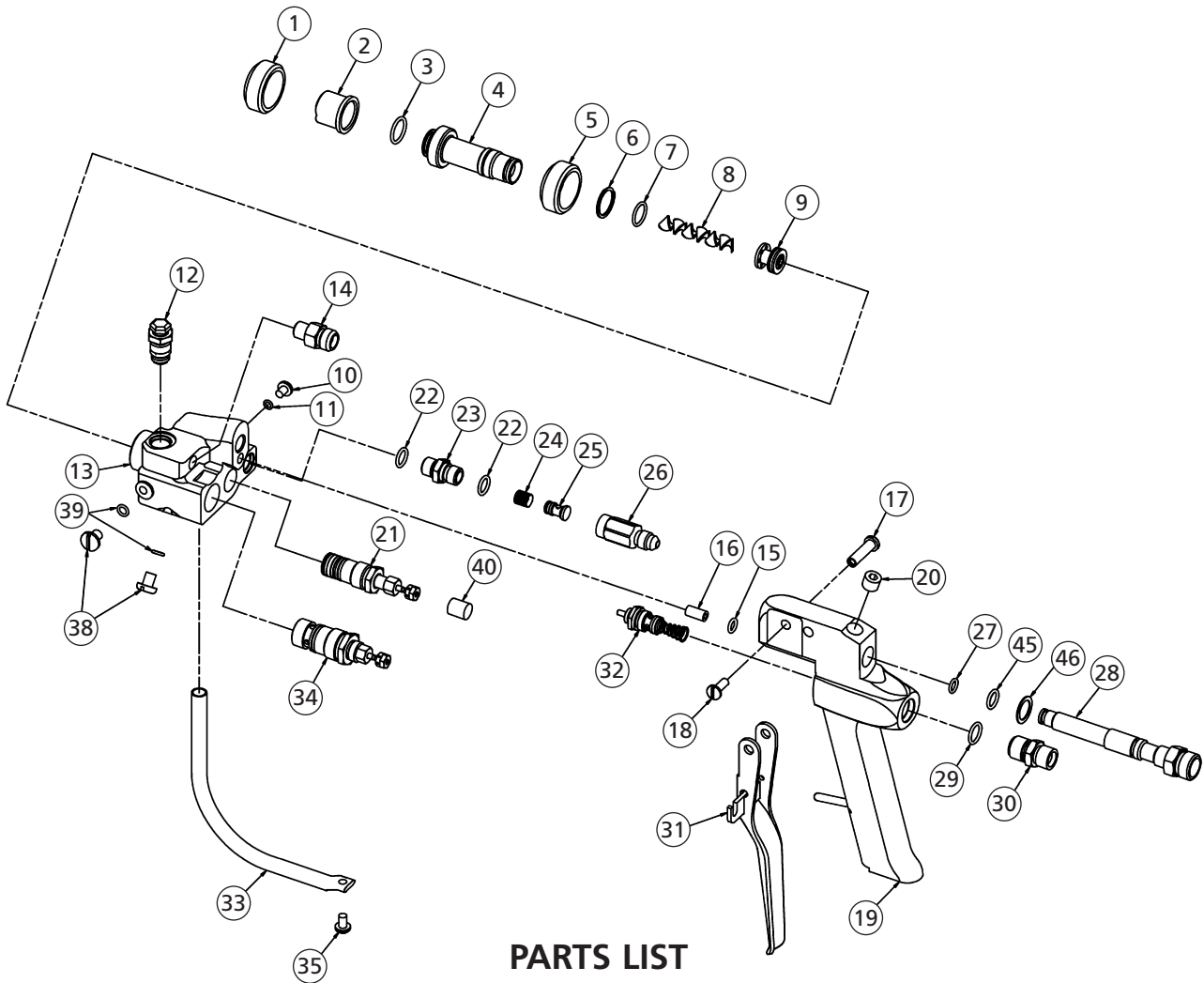
Of those listed, the Chlorinated Solvents will most likely be the type used as a cleaning agent or solvent in an adhesive or coating. The most common are:

METHYLENE CHLORIDE
1,1,1, TRICHLOROETHANE
PERCHLOROETHYLENE

Although stabilizers have been added to some of the solvents to reduce their corrosive effect, **we are aware of none that will prevent these solvents from reacting under all conditions with aluminum components or galvanized coatings.**

Previous use of the solvents under pressurized conditions, without incident, does not necessarily indicate that it can be considered safe.

MODEL 207-12200 "LEL" GUN ASSEMBLY



PARTS LIST

(When ordering, please specify Part No.)

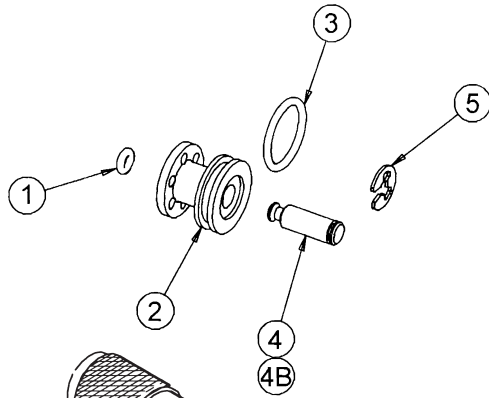
ITEM NO.	PART NO.	DESCRIPTION	QTY.	ITEM NO.	PART NO.	DESCRIPTION	QTY.
1	207-12207	RETAINING RING	1	23	207-12211	FILTER BODY	1
2	—	LEL TIP	REF	24	102-2181	ELEMENT SCREEN	1
3	237-718 ●	O-RING	1	25	54-1263	STRAINER SUPPORT	1
4	207-12235	MIXER BARREL	1	26	207-12343	CATALYST FILTER HOUSING	1
5	207-12206	RETAINING RING	1	27	237-68 ●	O-RING	1
6	237-891	RETAINING RING	1	28	207-12218	FEED TUBE	1
7	237-93 ●	O-RING	2	29	237-92 ●	O-RING	1
8	207-12234 ●	MIXER ELEMENT	1	30	207-10099	HOSE INLET FITTING	1
9	207-12256	VALVE ASSEMBLY	1	31	207-12221	TRIGGER ASSEMBLY	1
10	237-226	PAN HEAD SCREW	1	32	207-12258	AIR VALVE ASSEMBLY	1
11	237-842	O-RING	REF	33	207-10100-1	TRIGGER GUARD	1
12	207-12253	FLUSH VALVE ASSEMBLY	1	34	207-12252	RESIN NEEDLE CARTRIDGE	1
13	207-12197	GUN HEAD	1	35	237-212	PAN HEAD SCREW	1
14	71-28	DM NIPPLE	1	36	207-12217	NIGHT PLUG (NOT SHOWN)	1
15	237-89 ●	O-RING	1	37	207-12230	TOOL ASSEMBLY (NOT SHOWN)	1
16	207-10101	DOWEL	1	38	237-846	PAN HEAD SCREW	2
17	207-10355	TRIGGER SCREW RETAINER	1	39	237-856 ●	O-RING	REF
18	237-654	PAN HEAD SCREW	1	40	207-12257	CUTTER	1
19	207-12255	HANDLE ASSEMBLY	1	42	207-12247	LEL GUN REPAIR KIT (NOT SHOWN)	1
20	20-3111	PIPE PLUG	1	43	207-12377	EXTRA CLEARANCE PIN (NOT SHOWN)	1
21	207-12254	CATALYST NEEDLE CARTRIDGE	1	44	207-12212	HOUSING (NOT SHOWN)	1
22	237-91 ●	O-RING	2	45	20-2369 ●	O-RING	1
				46	237-917 ●	WASHER	1

● Parts included in 207-12247 Repair Kit.

207-12256 VALVE ASSEMBLY

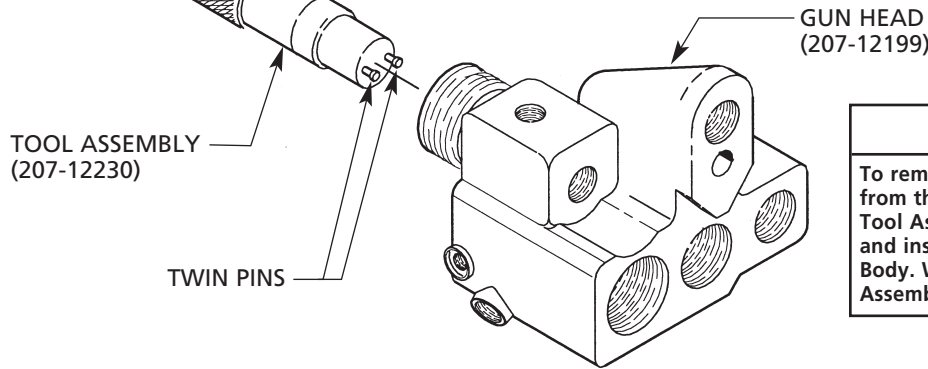
PARTS LIST

(When ordering, please specify Part No.)



ITEM NO.	PART NO.	DESCRIPTION	QTY.
1	237-841▲	O-RING.....	1
2	207-12198	BODY	1
3	237-93▲	O-RING.....	1
4	207-12199	PIN	1
4B	207-12377	EXTRA CLEARANCE PIN.....	1
5	20-6720	SNAP RING.....	1

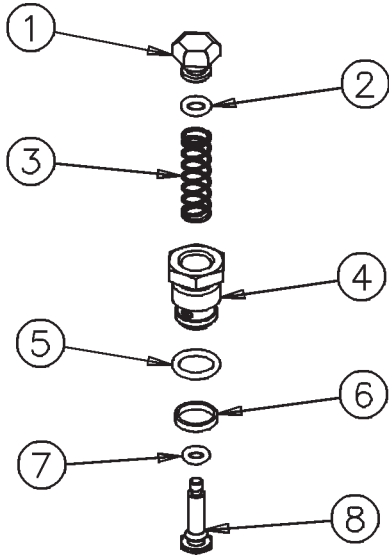
▲ Parts included in 207-12247 Repair Kit.



NOTE

To remove the 207-12256 Valve Assembly from the Gun head, insert the 207-12230 Tool Assembly into the head as shown, and insert the Twin Pins into the 207-12198 Body. When inserted, twist and pull the Assembly from the head.

207-12253 FLUSH VALVE ASSEMBLY



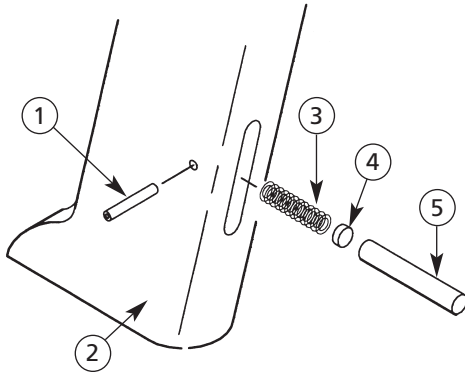
PARTS LIST

(When ordering, please specify Part No.)

ITEM NO.	PART NO.	DESCRIPTION	QTY.
1	207-12208	BUTTON.....	1
2	237-88▲	O-RING	1
3	207-12201	SPRING.....	1
4	207-12205	VALVE BODY	1
5	237-91▲	O-RING	1
6	207-11547▲	GASKET	1
7	237-66▲	O-RING	1
8	207-12204	STEM.....	1

▲ Parts included in 207-12247 Repair Kit, see below.

207-12255 HANDLE AND TRIGGER LOCK ASSEMBLY



PARTS LIST

(When ordering, please specify Part No.)

ITEM NO.	PART NO.	DESCRIPTION	QTY.
1	237-12	ROLL PIN.....	1
2	—	HANDLE.....	REF
3	207-10108	SPRING.....	1
4	207-10109	PAD.....	1
5	207-10107	PIN.....	1

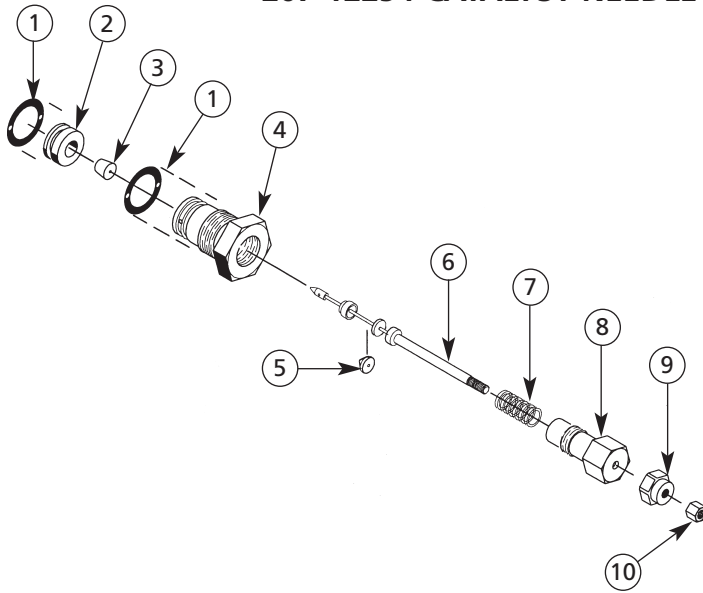
207-12247 LEL GUN REPAIR KIT

PARTS LIST

(When ordering, please specify Part No.)

PART NO.	DESCRIPTION	QTY.	PART NO.	DESCRIPTION	QTY.
237-856	O-RING	2	237-68	O-RING	1
54-747	PACKING	1	237-88	O-RING	1
102-2411	PACKING	1	237-89	O-RING	1
102-2421	PACKING	1	237-91	O-RING	3
102-2448	SEAT	1	237-92	O-RING	3
207-11547	GASKET	2	237-93	O-RING	3
207-12203	RESIN SEAT SOFT.....	1	237-718	O-RING	2
207-12234	MIXER ELEMENT	2	237-841	O-RING	1
20-3236	O-RING	1	237-842	O-RING	1
237-66	O-RING	1			

207-12254 CATALYST NEEDLE CARTRIDGE ASSEMBLY



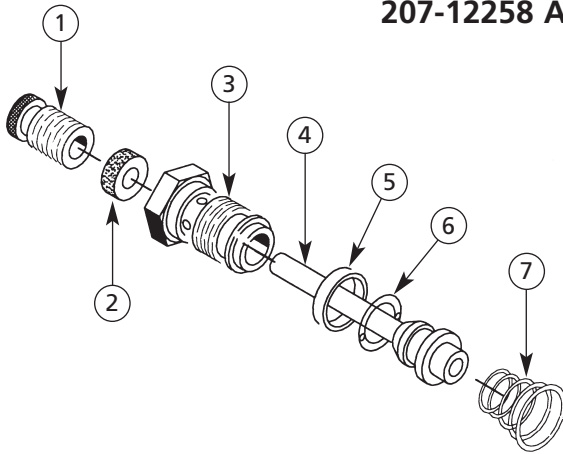
PARTS LIST

(When ordering, please specify Part No.)

ITEM NO.	PART NO.	DESCRIPTION	QTY.
1	237-92▲	O-RING	2
2	207-12210	SEAT RETAINER	1
3	102-2448▲	SEAT	1
4	207-12209	VALVE BODY	1
5	102-2421▲	PACKING	1
6	207-12223	NEEDLE Sub-Assembly	1
7	102-2613	SPRING	1
8	102-2429	PACKING NUT.....	1
9	207-12249	CONVEX NUT.....	1
10	237-843	NUT	1

▲ Parts included in 207-12247 Repair Kit.

207-12258 AIR VALVE ASSEMBLY



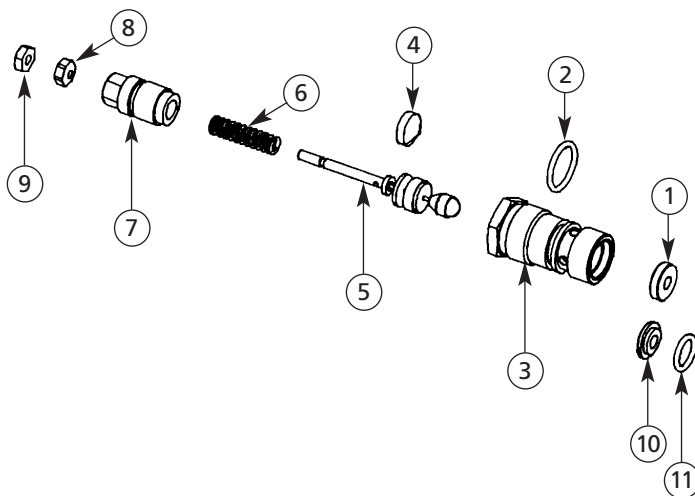
PARTS LIST

(When ordering, please specify Part No.)

ITEM NO.	PART NO.	DESCRIPTION	QTY.
1	207-11551	SCREW.....	1
2	54-747▲	PACKING	1
3	207-11548	VALVE BODY	1
4	207-12251	PUSH ROD.....	1
5	207-11547▲	GASKET	1
6	20-3236▲	O-RING	1
7	207-11329	SPRING	1

▲ Parts included in 207-12247 Repair Kit.

207-12252 RESIN NEEDLE CARTRIDGE ASSEMBLY



PARTS LIST

(When ordering, please specify Part No.)

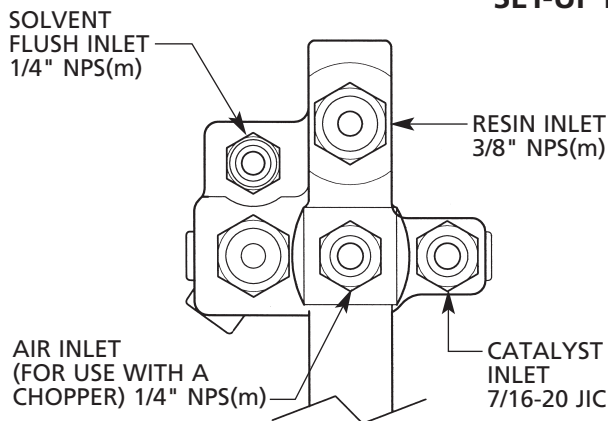
ITEM NO.	PART NO.	DESCRIPTION	QTY.
1	207-12203▲	SEAT	1
2	237-718▲	O-RING	1
3	207-12202	VALVE BODY	1
4	102-2411▲	PACKING	1
5	207-12224	NEEDLE Sub-Assembly	1
6	102-2613	SPRING	1
7	102-2419	PACKING NUT.....	1
8	207-12249	CONVEX NUT.....	1
9	237-843	NUT	1
10	207-12231*	HARD SEAT	REF
11	20-5915*	O-RING	REF

▲ Parts included in 207-12247 Repair Kit.

* Parts sold separately.

MODEL 207-12200 "LEL" GUN

SET-UP INSTRUCTIONS



1. Connect the air hose to the cutter air inlet fitting (30) if a fiberglass chopper is being used. Disregard this step if a cutter is not being used.
2. Connect the resin hose to the resin inlet fitting (28) and securely tighten.
3. Connect the high pressure catalyst hose to the catalyst inlet/filter housing (26) and securely tighten.
4. Connect the solvent flush hose to the male connector (14) and securely tighten.

SOLVENT FLUSH SET-UP:

1. Turn all ball valves in the closed position.
2. Connect the main air line to the system's main air inlet.
3. Fill the solvent flush tank with a suitable solvent as recommended by your chemical supplier for your application.
4. Securely fasten the pressure tank cover and open the solvent flush "air" ball valve, and slowly adjust the solvent tank air regulator to 40 psi (2.7 bar). Open the solvent ball valve, at the tank, supplying solvent to the gun.
5. Remove the mixer housing (4) with related parts (9) from the gun head. Pointing the gun down and into a container, test flush by pushing the small button on the flush valve assembly (12). Solvent will flow through the gun head.

CATALYST PRIMING AND SET-UP:

1. Disconnect the catalyst pump from the resin pump.
 - A. Binks Unison pump
Disengaging the pins from the hub by pulling out the yoke and drive assembly.
 - B. Binks Super Slave pump assembly
Remove the pin from the "percentage" lever/cross bar that connects the catalyst pump rod/end bearing.
2. Attach the catalyst supply hose.
Attach the catalyst pick-up and cap assembly to the catalyst bottle.

3. Prime the catalyst pump.

A. Binks Unison

Adjust the catalyst percentage using the catalyst adjustment knob on the end of the yoke. Turn the knob at the front of the yoke assembly in a circular pattern causing the pump rod to reciprocate. Holding the gun over a suitable container, pull the trigger of the gun to relieve trapped air and prime the system with catalyst. Continue the motion of turning the knob in conjunction with triggering the gun until catalyst is seen coming out from the front of the gun head (13). At this time, all trapped air is purged and the catalyst is primed.

B. Binks Super Slave

1. Holding the gun over a suitable container, pull the gun trigger open and begin to manually reciprocate the catalyst pump rod to prime catalyst through the system and relieve trapped air. Continue this motion until catalyst can be seen coming out of the gun head (13). At this time, all trapped air is purged and the catalyst is primed.

NOTE

Do not connect the Catalyst Pump Rod to the Lever Arm/Cross Bar at this time.

2. Solvent flush the remaining catalyst within the gun head (13).

NOTE

Located at the Binks Unison catalyst manifold is the catalyst pressure gauge and relieve valve, (the Binks Super Slave catalyst pressure gauge and relief valve is located on the catalyst pump). The catalyst relief valve is factory set and should not be altered. The catalyst relief valves can vent pressure manually by pulling down on the black handle.

MODEL 207-12200 "LEL" GUN

RESIN PRIMING AND SET-UP:

1. The catalyst pump at this time must still be disengaged/disconnected from the resin pump.
2. Connect siphon/pick-up tubes to the resin pump, and insert the tube into the resin drum.
3. Adjust the resin pump air regulator to approximately 25 to 30 psi (1.7 to 2 bar), and slowly open the regulator ball valve. The pump will begin to cycle. As the pump is cycling, point the gun head into a grounded container and pull the gun trigger. Hold the gun trigger in the open position until resin comes out of the gun head (13).
4. Solvent flush the gun.
5. Engage the trigger lock.
6. Connect the catalyst pump.
7. At this time, the system is primed. Set the resin pump air regulator to approximately 40-45 psi (2.7-3.1 bar).

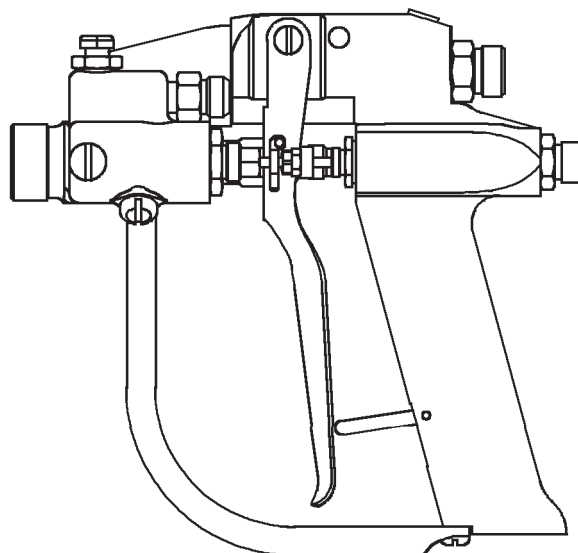
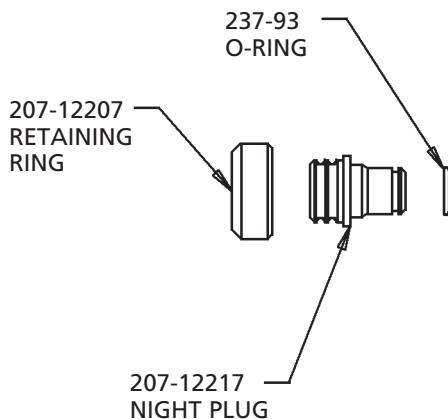
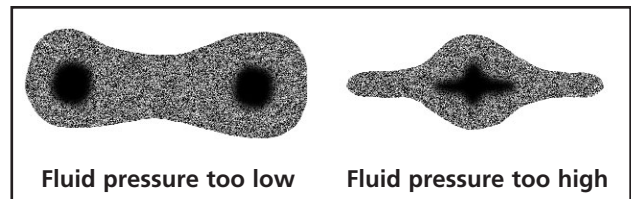
OPERATION:

1. Ensure the trigger lock is engaged. Install the valve assembly (9) and thread the mixer housing, tip, and related parts (items 1-8) onto the gun head.
2. Disengage the trigger lock. Pull trigger to observe spray pattern. A very narrow pattern or very heavy "tails" (see illustration) normally indicate too low fluid pressure for the tip being used. Gradually increase the fluid pressure until tails diminish. If increasing the fluid pressure results in too high flow, try a smaller tip.
3. Too high fluid pressure (see illustration) will result in overspray, misting of the resin and increased emissions, possibly resulting in non-compliant operation. Decrease the fluid pressure until correct pattern is observed.

4. Proper distance between gun and mold is 12-18 inches (30-45 cm). Longer distances result in uncontrolled spray and higher emissions.
5. LEL guns are either on or off. You cannot feather with LEL guns as you can with atomization.
6. The material deposited on the mold should always be even, and each stroke should overlap the previous stroke by half or less. Uniform coverage is best accomplished by "cross-hatching" strokes.

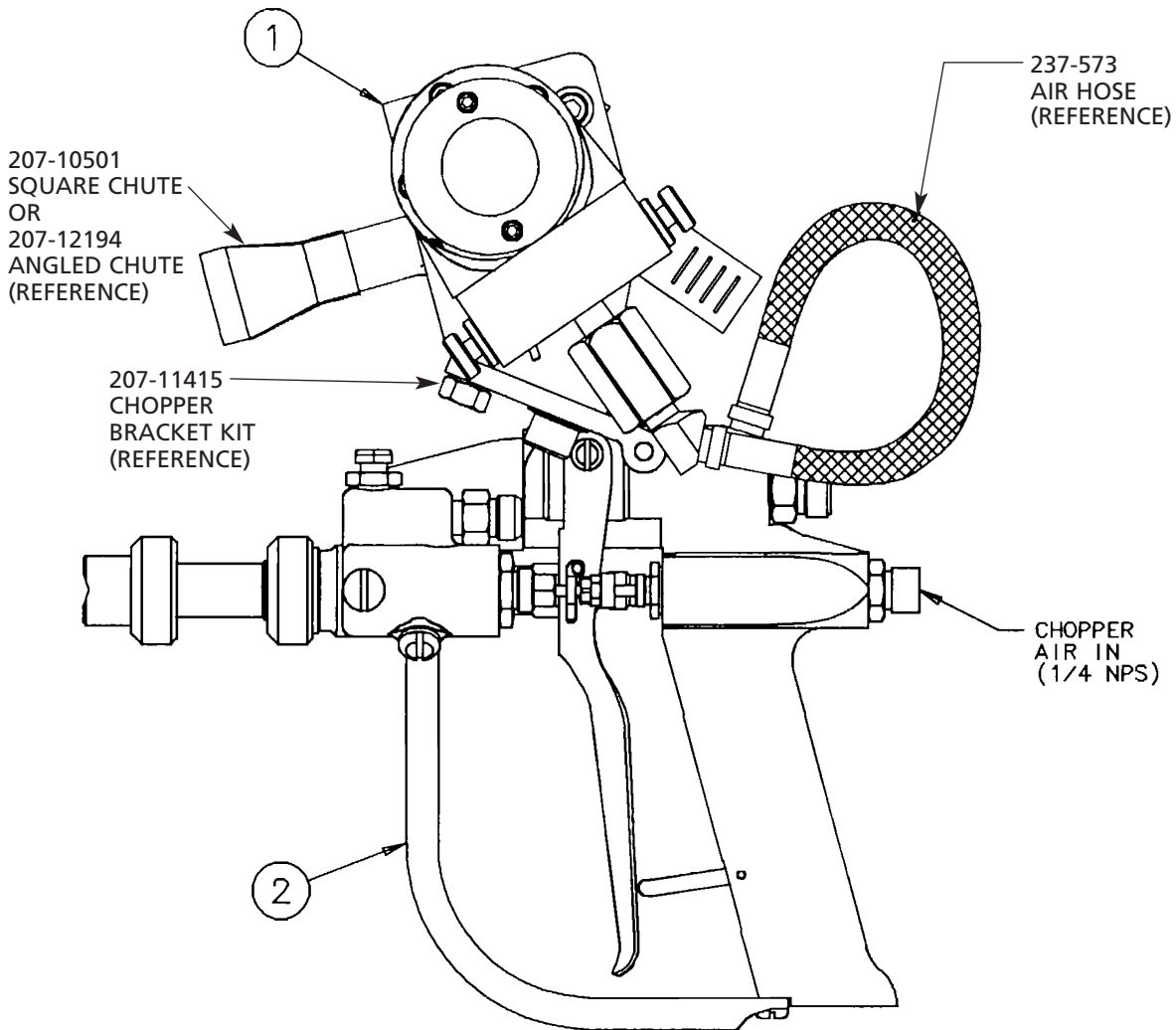
SHUT-DOWN:

1. Shut off air at the system's main air inlet ball valve.
2. Relieve catalyst pressure by opening the catalyst relief valve, located on the catalyst manifold block or the catalyst pump.
3. Relieve resin pressure by opening the by-pass ball valve located at the resin pump.
4. Set trigger safety pin (item 5 of 207-12255 assembly, page 6), to prevent accidental trigger actuation.
5. Thoroughly flush solvent through the gun head (13) and mixer housing.
6. Remove mixer housing with related parts. Remove spray tip from the mixer housing. Remove the static mixer element (8) from the mixer housing (4). (These parts can be stored in a closed solvent safety container with solvent, if desired.)
7. Install night plug (36) into the gun head (13).



(Refer to Parts List of 207-12200, page 5)

MODEL 207-12240 "LEL" CHOPPER GUN ASSEMBLY



PARTS LIST

(When ordering, please specify Part No.)

ITEM NO.	PART NO.	DESCRIPTION	QTY.
1	201-510	K-510 CUTTER ASSEMBLY	1
2	207-12200	LEL GUN ASSEMBLY	1

Refer to Part Sheet 77-2475 for further cutter details.

"LEL" TIP CHART

Part No.	Description	ID No.
212-84020	LEL TIP .040 x 20°	4020
212-84024	LEL TIP .040 x 24°	4024
212-84620	LEL TIP .046 x 20°	4620
212-84624	LEL TIP .046 x 40°	4624
212-84628	LEL TIP .046 x 28°	4628
212-85520	LEL TIP .055 x 20°	5520
212-85524	LEL TIP .055 x 24°	5524
212-85528	LEL TIP .055 x 28°	5528
212-86215	LEL TIP .062 x 15°	6215
212-86218	LEL TIP .062 x 18°	6218
212-86220	LEL TIP .062 x 20°	6220
212-86224	LEL TIP .062 x 24°	6224
212-86228	LEL TIP .062 x 28°	6228
212-87020	LEL TIP .070 x 20°	7020
212-87028	LEL TIP .070 x 28°	7028
212-88020	LEL TIP .080 x 20°	8020
Other nozzle sizes available upon request. Consult a Binks representative for details.		

WARRANTY

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

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

Industrial Finishing

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

U.S./Canada Technical Service Office:

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

77-2753R-3 Revisions: (P6) Updated Parts List for 207-12255.



An Illinois Tool Works Company

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