

Stencil Pro



HVLP PAINT SPRAY SYSTEM



User's Manual

Stencil Pro Models

CT-100

CT-200

Smith Eastern Corporation

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Compliance • Quality • Performance • Reliability

**Please Read This Owner's Manual *BEFORE*
Using Your Stencil Pro Spray Gun**

DO NOT OPERATE THIS EQUIPMENT WITHOUT USING PROPER PERSONAL SAFETY EQUIPMENT INCLUDING RESPIRATOR, GOGGLES AND SAFETY CLOTHING. OBSERVE ALL PRECAUTIONS RELATED TO SPRAYING.

WARNING

THIS EQUIPMENT IS OPERATED USING PRESSURIZED AIR. ALWAYS DISCONNECT SPRAY GUN FROM AIR AND FLUID HOSES AND DEPRESSURIZE SYSTEM PRIOR TO ANY MAINTENANCE OR DISASSEMBLY PROCEDURE.

WARRANTY

Smith Eastern Corporation warrants to the Purchaser that the Stencil Pro (CT-100) Spray Gun is free from defects in material or workmanship under normal use and service for a period of twelve (12) months from the date of purchase. Should any failure appear during this period, Smith Eastern shall, if given prompt written notice by the Purchaser, correct such nonconformity by repair or replacement of the nonconforming part, F.O.B. Smith Eastern's repair facility. Repair parts are warranted for ninety (90) days from the date of shipment, but repairs or replacements to original equipment shall not renew or extend the warranty period of such equipment. Equipment and parts furnished by Smith Eastern but manufactured by others shall be limited to the warranty offered by the manufacturer thereof.

Smith Eastern reserves the right to limit this warranty in cases of misuse or abuse. Any modifications to spray guns or recommended procedures will void the warranty.

The foregoing warranty is exclusive and in lieu of other warranties of quality or performance, expressed, implied or statutory, including any warranties of merchantability or of fitness for a particular purpose.

Why AirVerter[®] Spray Gun Systems Work Better

To accomplish effective atomization of a liquid at low pressure (below 10 PSI) it is necessary to substantially decrease pressure (PSI) and increase air volume (CFM). AirVerter[®] systems, by design, do not exceed 10 PSI at the spray head and prevent the operator from taking AirVerter[®] spray guns out of compliance with EPA and California's South Coast Air Quality Management District (SCAQMD) regulations.

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EQUIPMENT REQUIREMENTS

Air Compressor

Air compressors used with AirVerter® Spray Guns must be able to HOLD a minimum of 40 PSI while spraying. **Note:** Position a pressure gauge in the air hose nearest the spray gun to be assured of the PSI required to satisfactorily spray your coating.

High Pressure Air Hose

- A. Air hose lengths up to 50 feet **MUST** have an I.D. of 3/8" including fittings.
- B. Air hose lengths greater than 50 feet **MUST** have an I.D. of 1/2" including fittings.

OPERATING INSTRUCTIONS

OPERATION:

Starting:

- A. The Stencil Pro CT-100 Spray Gun operates with the trigger controlling both the fluid flow and air flow. The Stencil Pro Spray Gun may be used with either an AirVerter® Inductor Assembly between the gun and the compressed air supply, or connected directly to the compressed air supply. *Note: if connecting directly to the air supply, gun inlet pressure is limited to 43 PSI.*
- B. **Consult the Needle, Nozzle and Air Cap Selection Guide to select the proper combination for the coating and finish quality desired. Too much pressure will create unnecessary overspray!**

Before Spraying

- A. Follow the *Air and Paint Management Guidelines* listed on the following page.
- B. Before paint is poured into the cup, **make certain paint is properly mixed.** This is particularly true when mixing multi-component paints. Use a paint shaker, rotary mixer, or paint paddle to achieve a homogeneous mixture. (*Hint: Split your paint into two parts; the top will be lighter and the bottom will be heavier. Completely stir the bottom half of the paint and slowly add small amounts of the top half into the heavier bottom.*)
- C. **Strain your paint to remove impurities.** Use a cone strainer or a 100-mesh nylon bag or equivalent strainer.
- D. **Thin your paint** according to the manufacturer's specifications.
- E. **Ensure needle packings are properly adjusted.** Needle packings are preset at the

factory to proper tension. However, use and cleaning may alter this setting. To adjust needle packings to proper tension:

1. With gun disconnected from air and fluid sources, pull trigger to move the needle out of the nozzle.
2. Adjust packing nut until needle is held in the open position by tension from the needle packings.
3. Loosen packing nut approximately ¼ turn or until needle returns to closed position.

Spraying

- A. Gravity forces paint from the paint container into the fluid chamber of the gun and out through the nozzle where the flow of atomizing air breaks the paint stream into tiny particles, creating the spray.
 1. Needle position controls the amount of paint flowing through the fluid nozzle.
 2. Trigger action controls needle position.
 3. The Fluid Control Knob (CT-05-1) at the rear of the spray gun controls trigger action. Turning the knob to the right reduces the fluid flow, turning it to the left increases the flow.
- B. Adjust the pattern by turning the Pattern Control Knob (CT-07) on the side of the Spray Gun.
 1. Round Pattern - used to draw fine lines with the gun close to the work, for touch-up work, camouflage patterns and painting surfaces in difficult to reach places distant from the spray gun. This pattern is achieved by turning the Pattern Control Knob clockwise

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2. Full Fan Pattern - used with the spray gun 6"-8" from the work. Overlap not more than 50% of the previous pass. Do not "fog" coat. This pattern is achieved by turning the Pattern Control Knob counterclockwise.
3. The full fan pattern may be reduced in size by gradually turning the Pattern Control

Knob clockwise. **Fluid flow** must be **reduced** at the same time to maintain even paint distribution.

- C. If you are having problems with the operation of your paint gun, check the Trouble Shooting Guide at the end of the manual for possible causes and solutions.

Air and Paint Management Guidelines

Approximate PSI	Application
Thin Coatings ZAHN #2 Test: 16 to 22 seconds Minimum 40 PSI compressor pressure	Machines and implements, small parts, plant maintenance, controlled production work, work in enclosed areas with poor ventilation, priming.
Thin to Medium Coatings ZAHN #2 Test: 22 to 30 seconds 40 to 60 PSI compressor pressure	Dual gun work for all of the above listed applications - will support up to 50' of 3/8" ID hose for each gun. Also for higher production levels of all of the above.
High Solid Coatings ZAHN #3 Test: 37 + seconds 50 to 70 PSI compressor pressure	Marine epoxies, marine enamels, high production steelwork, high production with conveyer lines, large surfaces with thinner viscosity material, latex on wood or metal.
80% Solids Coatings 60 to 80 PSI compressor pressure	Ultra high production levels on extremely large surfaces; un-thinned epoxies, enamels, latex, urethane.

WARNING

Gun must be de-pressurized prior to any maintenance or disassembly procedure. Disconnect air hose prior to performing any maintenance operation.

Cleaning the Stencil Pro Spray Gun

Cleaning and Gun Care

- A. Remove the Air Cap and Ring and clean with solvent.
- B. Flush gun thoroughly with solvent.

- C. Clean nozzle with brush. Never place the whole gun in solvent.
- D. Clogged holes should never be cleaned with hard objects as the smallest amount of damage may badly influence the spray pattern.
- E. Packing must be slightly lubricated after cleaning of gun.

Spray Gun Performance Is Directly Related To How Well The Gun Is Cleaned After Use

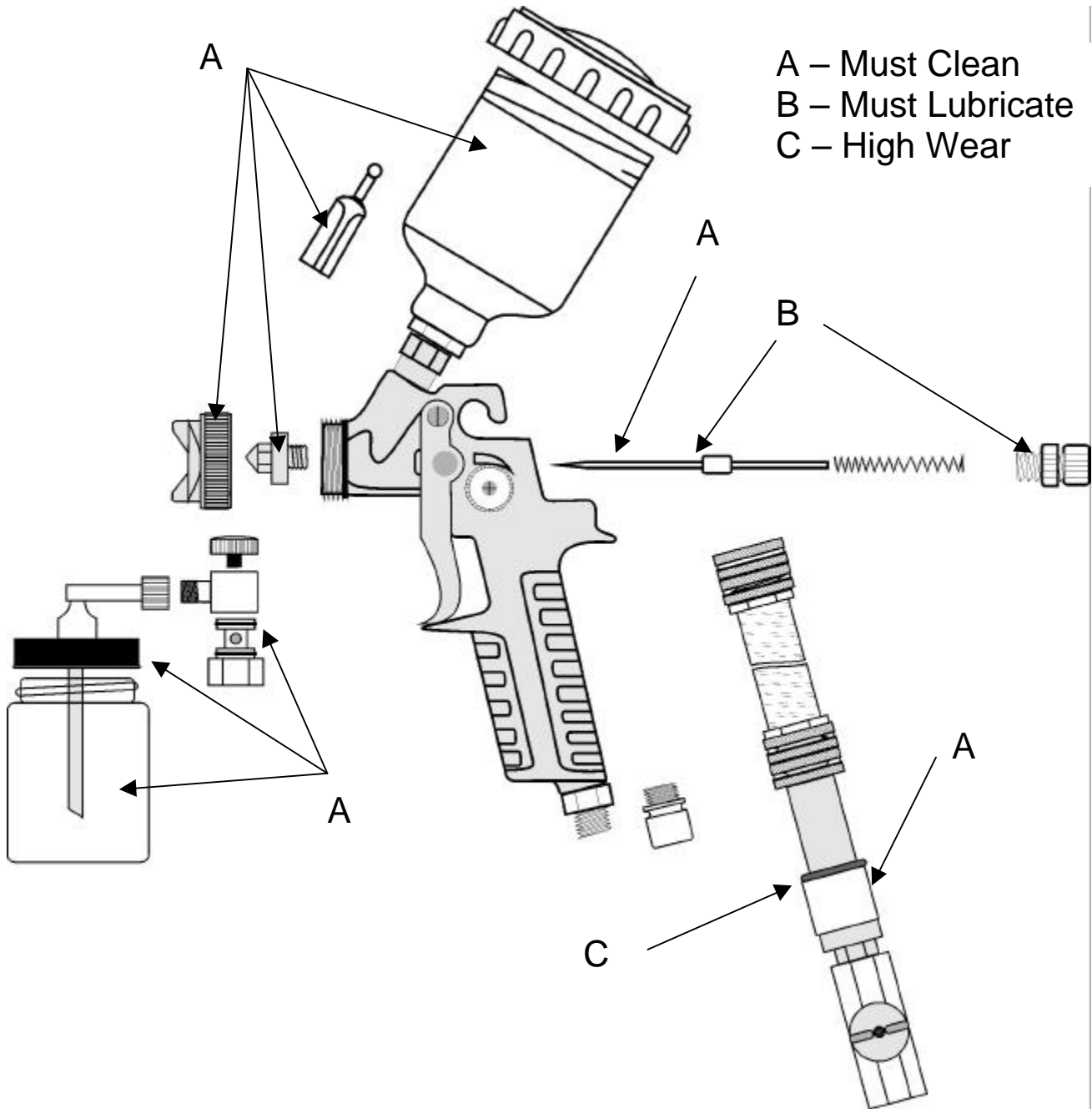
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Lubricate

- A. Use Vaseline or a non-silicone grease to lubricate the gun.
- B. Lubricate all threaded connections for ease of maintenance.

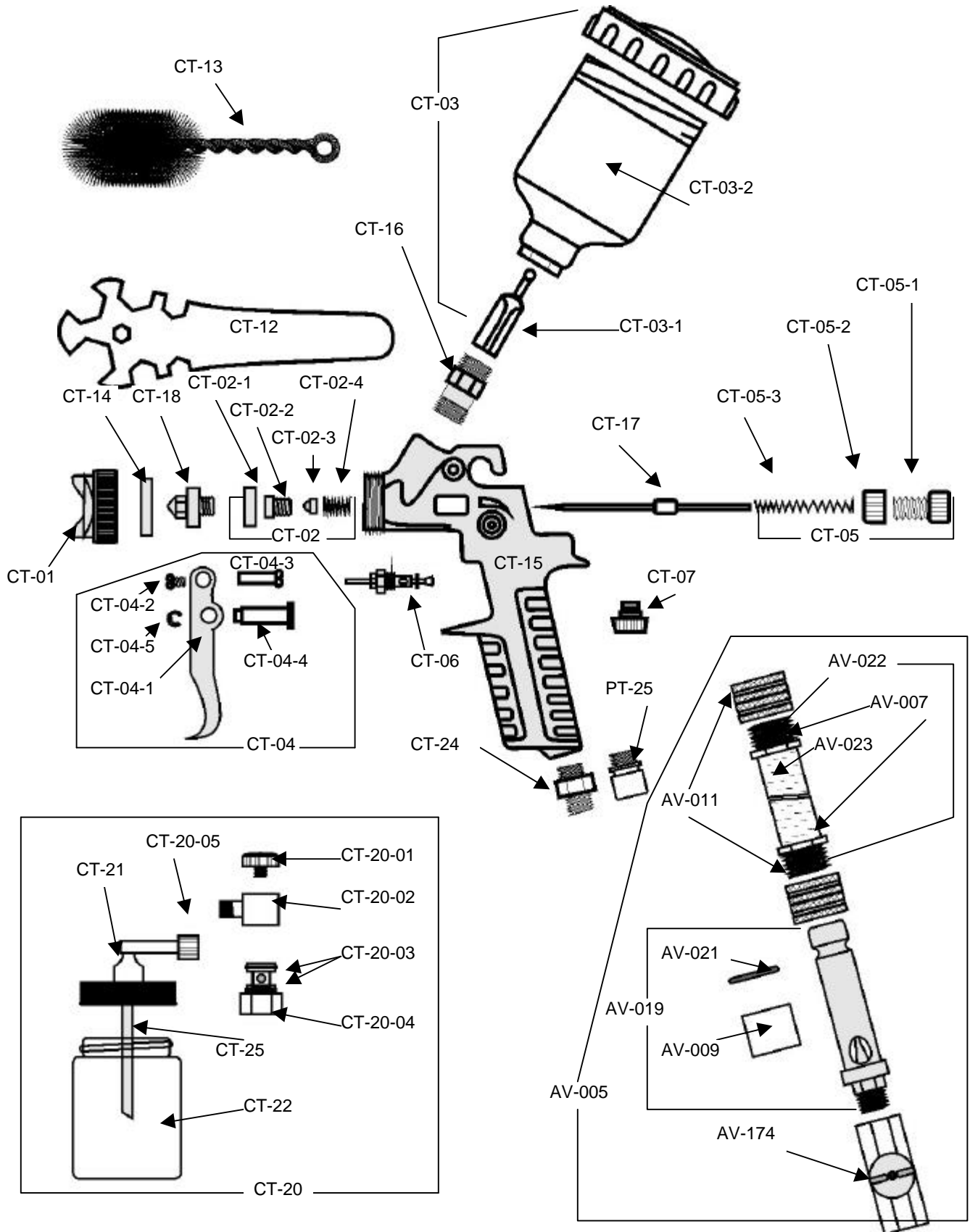
- C. Lubricate the Needle only where it passes through the needle packings.
- D. **DO NOT** allow lubricant to get into the Fluid Tube, Nozzle, Air Cap, or interior of the paint chamber (areas where paint may come in contact with lubricant).



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Stencil Pro Illustrated Parts Breakdown



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Stencil Pro (CT-100 / CT-200) Parts List

Part #	NSN	Description
AV-005	4940-01-391-9274	AirVerter® Inductor Assembly
AV-007	4940-01-440-1125	Atomizing Hose Insert (pr)
AV-009	4310-01-395-7387	Inductor Filter (pkg of 5)
AV-011	4730-01-430-9738	Female QD
AV-019	4940-01-395-8179	AirVerter® Inductor (w/o hose assembly)
AV-021	5365-01-395-1464	Filter Retainer
AV-022	4720-01-439-9258	3-ft. Air Hose w/ Inserts 5/8-in. ID
AV-023	4720-01-399-5688	Atomizing Hose 5/8-in. ID (per foot)
AV-174	4940-01-395-8178	Air Control Valve – High Pressure
CT-01	4940-01-439-8272	Air Cap Assembly
CT-02	4940-01-439-7965	Packing Set
CT-02-1	4940-01-439-9947	Gasket
CT-02-2	4940-01-439-9946	Packing Screw
CT-02-3	4940-01-439-9942	Teflon Seal
CT-02-4	4940-01-439-9939	Spring
CT-03	4940-01-439-7056	Cup Assembly
CT-03-1	4940-01-439-9937	Paint Strainer
CT-03-2	4940-01-439-7051	Cup Complete
CT-04	4940-01-439-8993	Trigger Assembly
CT-04-1	4940-01-439-8991	Trigger
CT-04-2	4940-01-439-8987	Trigger Screw
CT-04-3	4940-01-439-8985	Trigger Screw
CT-04-4	4940-01-439-8984	Trigger Pin
CT-04-5	4940-01-439-8983	E-Ring
CT-05	4820-01-439-8979	Fluid Control Assembly
CT-05-1	4820-01-439-8978	Fluid Control Knob
CT-05-2	4820-01-439-8976	Lock Nut For Fluid Control Knob
CT-05-3	4940-01-439-9930	Spring For Paint Needle
CT-06	4940-01-439-9934	Air Control Assembly
CT-07	4940-01-439-9935	Pattern Control Assembly
CT-08	4940-01-439-8279	0.5mm Needle/Nozzle Air Cap Kit
CT-09	4940-01-439-8274	0.8mm Needle/Nozzle Air Cap Kit

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CT-10	4940-01-439-8276	1.0mm Needle/Nozzle Air Cap Kit
CT-12	4940-01-439-9002	Wrench
CT-13	4940-01-439-8999	Brush
CT-14	4940-01-439-8998	O-Ring
CT-15	4940-01-439-8327	Body
CT-16	4730-01-439-8995	Adapter Connector
CT-17-05	4940-01-439-8321	Needle 0.5mm
CT-17-08	4940-01-439-8319	Needle 0.8mm
CT-17-10	4940-01-439-8317	Needle 1.0mm
CT-18-05	4940-01-439-8289	Nozzle 0.5mm
CT-18-08	4940-01-439-8283	Nozzle 0.8mm
CT-18-10	4940-01-439-8286	Nozzle 1.0mm
CT-20	4940-01-439-7968	Stencil Brush Attachment Kit
CT-20-01	4730-01-439-9003	Fix Screw
CT-20-02	4940-01-439-9005	Adapter - Upper
CT-20-03	4940-01-439-9011	O-Ring
CT-20-04	4940-01-439-9010	Adapter - Lower
CT-20-05	4940-01-439-9009	360 Swivel Adapter
CT-21	4940-01-439-9008	Stencil Brush Jar Cover Assembly
CT-22	4940-01-439-7037	22cc Jar
CT-23	4940-01-439-7045	60cc Jar
CT-24	4730-01-439-9007	Air Connector
CT-25	4710-01-439-9006	Suction Tube
PT-25	4730-01-439-9117	Threaded Male QD

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Needle, Nozzle and Air Cap Selection Guide

Select the proper fluid nozzle and needle for the material to be sprayed. Needle and nozzle are a matched set - machined to act as a valve. Replace the Needle and Nozzle when worn.

Finish	Needle Nozzle	Uses or Coating Type	Compressor Air Pressure*
Ultra Fine Finish	0.5	Ultra Fine Finish With Thin Coatings on Small Parts Ultra Fine Touch Up Specialty Applications/Wood Working Water-Based Lacquers, Urethanes	45- 50
Excellent Finish Good Production	0.8	Automotive Base or Clear Coat Top Coats For Automotive, Aviation and Marine Use Wood: Lacquers, Stains, Polyurethanes, Varnishes Thin Specialty Coatings With Low Mil Build and Fine Finish Requirements Water-Based Coatings	45-55
Good Finish High Production	1.0	Higher Production For The Same Applications As Above Fine Finish With Gloss Alkyd Enamel Primers and Sealers For Automotive, Aviation and Marine Water-Based Coatings	55-65

*Measured at the gun handle.

Nozzle Size Expressed in Millimeters • 1 Millimeter = .040 (Approximately)		
0.5 = .020	0.8 = .032	1.0 = .040

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Stencil Pro Troubleshooting Guide

Trouble	Probable Cause	Remedy
Paint Will Not Flow	<ol style="list-style-type: none">1. Blockage in fluid nozzle2. Loose fluid nozzle3. Coating is too thick4. Loose needle packing	<ol style="list-style-type: none">1. Clean or replace; strain paint2. Tighten3. Thin the coating4. Adjust packing
Inconsistent Spray Pattern (Spits and Sputters)	<ol style="list-style-type: none">1. Running out of paint2. Loose needle packing	<ol style="list-style-type: none">1. Fill cup or pot, but never the top ¼2. Adjust packing
Leakage at Front of Gun	<ol style="list-style-type: none">1. Damaged fluid needle2. Wrong size fluid needle3. Dirty fluid nozzle4. Impurities in paint5. Loose fluid nozzle6. Fluid adjustment screwed all the way out7. Needle not firmly seated in the nozzle8. Packing too tight	<ol style="list-style-type: none">1. Replace2. Replace3. Clean4. Strain paint5. Tighten6. Rotate Fluid Control Knob (CT-05-1) on rear of gun clockwise7. Check for nozzle obstruction8. Loosen and adjust to correct tension
Distorted Spray Pattern	<ol style="list-style-type: none">1. Dirty or damaged air cap2. Dirty or damaged fluid nozzle or needle3. Fluid nozzle partially clogged4. Fluid nozzle not centered with air cap5. Air cap not seated correctly	<ol style="list-style-type: none">1. Clean or replace2. Clean or replace3. Clean4. Replace air cap5. Re-seat air cap

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CT-11 High Wear Kit For Stencil Pro Spray Guns

NSN 4940-01-439-7966

Part #	NSN	Description	QTY
CT-02-3	4940-01-439-9946	Teflon Seal	1
CT-02-4	4940-01-439-9942	Spring	1
CT-04-5	4940-01-439-8983	E Ring	1
CT-05-3	4940-01-439-9930	Spring for Paint Needle	1
CT-06-1		Spring (Air Control)	1
CT-06-4		P. C. Seal	1
CT-06-5		Foamed Rubber	1
CT-07-5		Washer	1
CT-14	4940-01-439-8998	O-Ring	1
CT-26-3		E Ring	1

CT-19 Stencil Brush Accessories – Complete

NSN 4940-01-439-7972

Part #	NSN	Description	QTY
CT-20	4940-01-439-7968	Stencil Brush Attachment Kit	1
CT-21	4940-01-439-9008	Stencil Brush Jar Cover Assembly	1
CT-22	4940-01-439-7037	22cc Jar	1
CT-23	4940-01-439-7045	60cc Jar	1

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