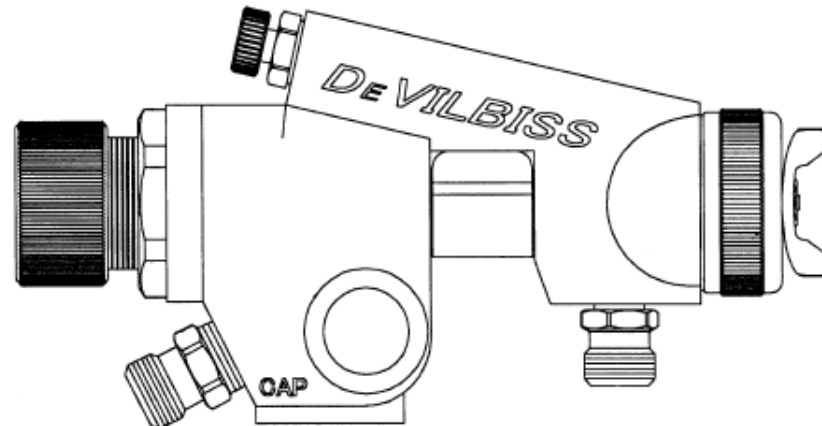


DA-300 LVMP AUTOMATIC SPRAY GUN

Operation Manual

DEVILBISS

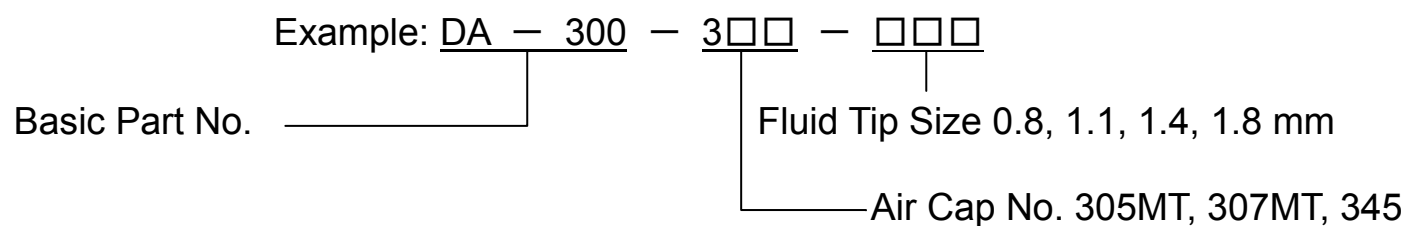
Important: Read and follow all instructions and SAFETY PRECAUTIONS before using this equipment.



DESCRIPTION

DA-300 LVMP gun is developed to achieve high transfer efficiency and it can be obtained as well as high atomization with less air consumption. LVMP stands for Low Volume Medium Pressure. Small, lightweight LVMP gun is suitable for installing to automatic or semi-automatic machines. Models and application information follows.

MODELS



NOTE: The fluid passage is made of Stainless Steel. This gun can be used with waterborne paint.

Chart 1

Air Cap		Fluid Tip Size (mm)	Pattern Size Shape	Typical Applications
Marking	Part No.			
305MT	JJ-3-305MT	0.8, 1.1, 1.4, 1.8	250mm Straight	Most conventional materials
307MT	JJ-3-307MT	0.8, 1.1, 1.4, 1.8	300mm Straight	Most conventional materials
345	JJ-3-345	0.8, 1.1, 1.4, 1.8	320mm Straight	Most conventional materials

Chart 2

Air Cap	Tip Marking (mm)	Part Number Lapped Set (Tip & Needle)
305MT, 307MT 345	0.8	DA-430-0.8
	1.1	DA-430-1.1
	1.4	DA-430-1.4
	1.8	DA-430-1.8

SAFETY PRECAUTIONS




This manual contains important information that ALL users should know and understand BEFORE using this equipment. This information relates to USER SAFETY and PREVENTING EQUIPMENT PROBLEMS.

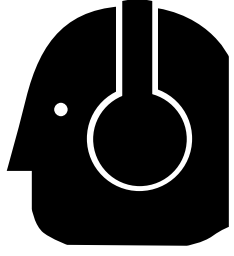
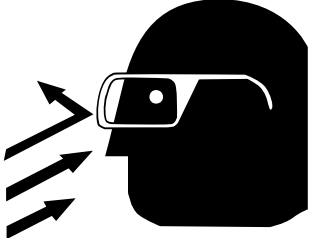
To help you recognize this information, we use the following terms to draw your attention to certain equipment labels and portions of this manual. Pay special attention to any label or information that is highlighted by one of these terms:

WARNING	Important information to alert you to a situation that might cause serious injury or loss of life if instructions are not followed.
CAUTION	Important information that tells how to prevent damage to equipment.
NOTE	Information that you should pay special attention to.

WARNING

The following hazards may occur during the normal use of this equipment. Please read the following chart.

HAZARD	CAUSE	SAFEGUARDS
Fire 	Solvents and coatings can be highly flammable or combustible, especially when sprayed.	<ol style="list-style-type: none"> 1. Adequate exhaust must be provided to keep the air free of accumulations of flammable vapors. 2. Smoking must never be allowed in the spray area. 3. Fire extinguishing equipment must be present in the spray area. 4. Static discharges must be prevented. Ground(earth) all conductive objects in the spray area, such as a cleaning solvent bucket, fire extinguisher, etc. 5. When using solvents for cleaning: <ul style="list-style-type: none"> · Those used for equipment flushing must have a flash point equal to or greater than that of the coating. · Those used for general cleaning must have flash points above 100°F (37.8°C).
Inhaling Toxic Substances 	Certain materials may be harmful if inhaled or if there is contact with the skin.	<ol style="list-style-type: none"> 1. Follow the requirements of the Material Safety Data Sheet supplied by coating material manufacturer. 2. Adequate exhaust must be provided to keep the air free of accumulations of toxic materials. 3. Use a mask or respirator whenever there is a chance of inhaling sprayed materials. The mask must be compatible with the material being sprayed and its concentration. Equipment must be as prescribed by an industrial hygienist or safety expert, and be NIOSH approved.
Explosion Hazard – Incompatible Materials 	Halogenated hydrocarbon Solvents- for example: methylene chloride and 1,1,1,-Trichloroethane are not chemically compatible with the aluminum that might be used in many system components. The chemical reaction caused by these solvents reacting with aluminum can become violent and lead to an equipment explosion.	This spray gun can be used with these solvents. However, aluminum is widely used in other spray application equipment – such as material pumps, cups, regulators, valves, etc. Check all other equipment items before use of these solvents. Read the label or data sheet for the material you intend to spray. If in doubt as to where or not a coating or cleaning material is compatible, contact your material supplier.

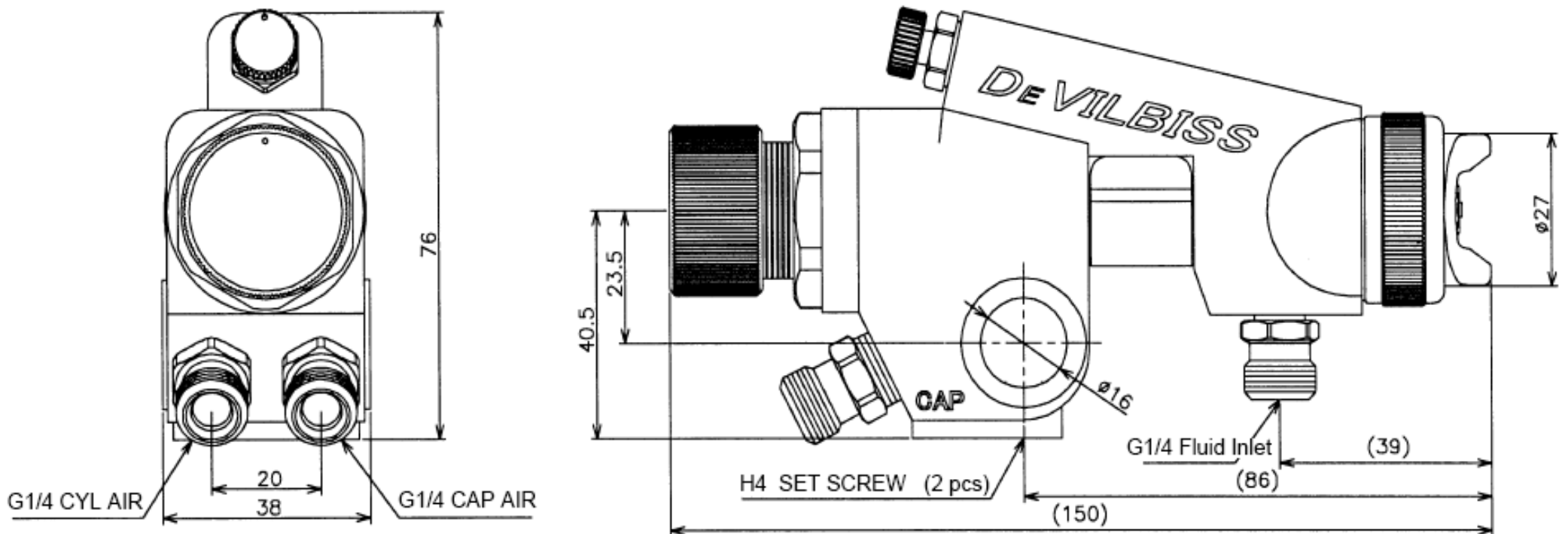
HAZARD	CAUSE	SAFEGUARDS
General Safety	Improper operation or maintenance may create a hazard.	Operators should be given adequate training in the safe use and maintenance of the equipment (in accordance with the requirements of NFPA-33, Chapter 15 in U.S.). Users must comply with all local and national codes of practice and insurance company requirements governing ventilation, fire precautions, operation, maintenance and housekeeping (in the U.S., these are OSHA Sections 1910.94 and 1910.107 and NFPA-33).
Noise Levels 	The continuous A-weighted sound pressure level of this spray gun may exceed 85dB(A) depending on the air cap/nozzle set-up being used. Sound levels are measured using an impulse sound level meter and analyzer, when the gun is being used in a normal spraying application. Details of actual noise levels produced by the various air cap/nozzle set-ups are available on request.	Wear earplugs when using the spray gun.
Spraying solvent 	Pressured air/fluid passage may be broken when cleaning or flashing with solvent. The solvent may be harmful if contacted with eyes.	Always wear eye protection when spraying or cleaning the equipment.
<p>Misuse:</p> <ul style="list-style-type: none"> · All spray guns project particles at high velocity and must never be aimed t any part of body. · Never exceed the recommended safe working pressure for any of the equipment used. · The fitting of non-recommended or non-original accessories or spare parts may create hazardous conditions. · Before dismantling the equipment for cleaning or maintenance, all pressures, air and material, must be isolated and released. <p>Disposal of non-metallic materials must be carried out in an approved manner. Burning may generate toxic fumes. The removal of waste solvents and coating materials should be carried out by an authorized local waste disposal service.</p>		

SPECIFICATIONS

Max. Air Pressure	0.69MPa (6.9 bar)
Max. Fluid Pressure	0.69MPa (6.9 bar)
Cylinder Air Pressure	Min. 0.35MPa (3.5 bar) Max. 0.50MPa (5.0 bar)
Weight	507g
Gun Stud Diameter	16.0mm
Fluid Thread	G1/4 (M) CAP Thread: G1/4 (M)
CYL Thread	G1/4 (M)

INSTALLATION

Figure 1. Dimensions



Mount the gun with the set screw (22).

NOTE:

The air supplied to the gun should be clean air that removed any impurities. Also, the air hose should have enough inner diameter depending on the length to supply necessary air.

OPERATION

1. Mix, prepare and strain the coating material to be sprayed according to paint manufacturer's instructions.
2. Adjust the CYL air at 0.35 Mpa ~. Please use air regulator for setting the air pressure for the smooth movement of CYL.
3. Turn Needle Adjusting Knob counter-clockwise 3.5 turns from fully closed position. This makes the Needle fully opened.
4. Adjust CAP air at 0.20Mpa.~0.25Mpa.
5. Adjust fluid pressure at about 0.07Mpa~0.1Mpa.
6. Turn on CYL air and test spray. Adjust fluid and air pressure until desired pattern is obtained. Pattern size can be adjusted by using pattern valve (5). Control fluid pressure at supply source. Always attempt to keep CAP pressure as low as possible to minimize overspray and control the air at air supply source.

WARNING

Risk of injury. Equipment and fluid may be under pressure. Pressure in the system must be relieved before beginning the cleaning procedure and before replacing any parts. Follow the procedures in the literature provided with the system.

CLEANING

1. Relieve air pressure from pressure tank. Carefully follow instructions in bulletin sent with tank.
2. Replace material in container with a suitable solvent.
3. Repressurize system.
4. Trigger gun and repeat procedure until gun and hose are thoroughly clean. A SolventSaver™ type hose and gun cleaner which supplies a mixture of air and solvent can be used to most effectively clean gun and hose internal passages. See "Accessories" for SolventSaver™.
5. Wipe exterior of gun with a solvent dampened cloth.

CAUTION

Do not totally submerge gun in solvent. It is possible for wash solids to flow into air operating sections of gun which could seriously damage piston "O" Ring seals.

CAUTION

The air cap can be immersed in solvent for cleaning and brush the gun. If orifices are clogged, use a broom straw or toothpick to remove obstruction. Never use a steel wire or hard instrument. This will damage air cap and result in a distorted spray pattern.

REPLACEMENT

Tools Required

- Crescent Wrench or Spanner
- 19mm Box Wrench or Hex Wrench (for Item No. 4)
- Pliers (for Needle Assy)
- Large Minus Screw Driver

Fluid Tip, Fluid Needle (4), Needle Packing Kit (7)

1. Relieve all air and fluid pressure in system.
2. Remove Retaining Ring (1) and Air Cap (3).
3. Remove Fluid Tip (4).
4. Replace Fluid Tip and Needle at the same time with the lapped set. It is recommended to replace Needle Packing Kit (7) at the same time as replacing the tip and needle.
5. Remove Ratchet Assy. (18) and Pull Needle Assy. out from gun body with Pliers.
6. Remove Cover (20), and then remove needle packing kit (7).
7. Reassemble in reverse order. It is recommended to put Gun lube (SSL-10) slightly between needle and needle packing. (For solvent base paint)
8. Recommended torque of Fluid Tip: 10~11N.m.

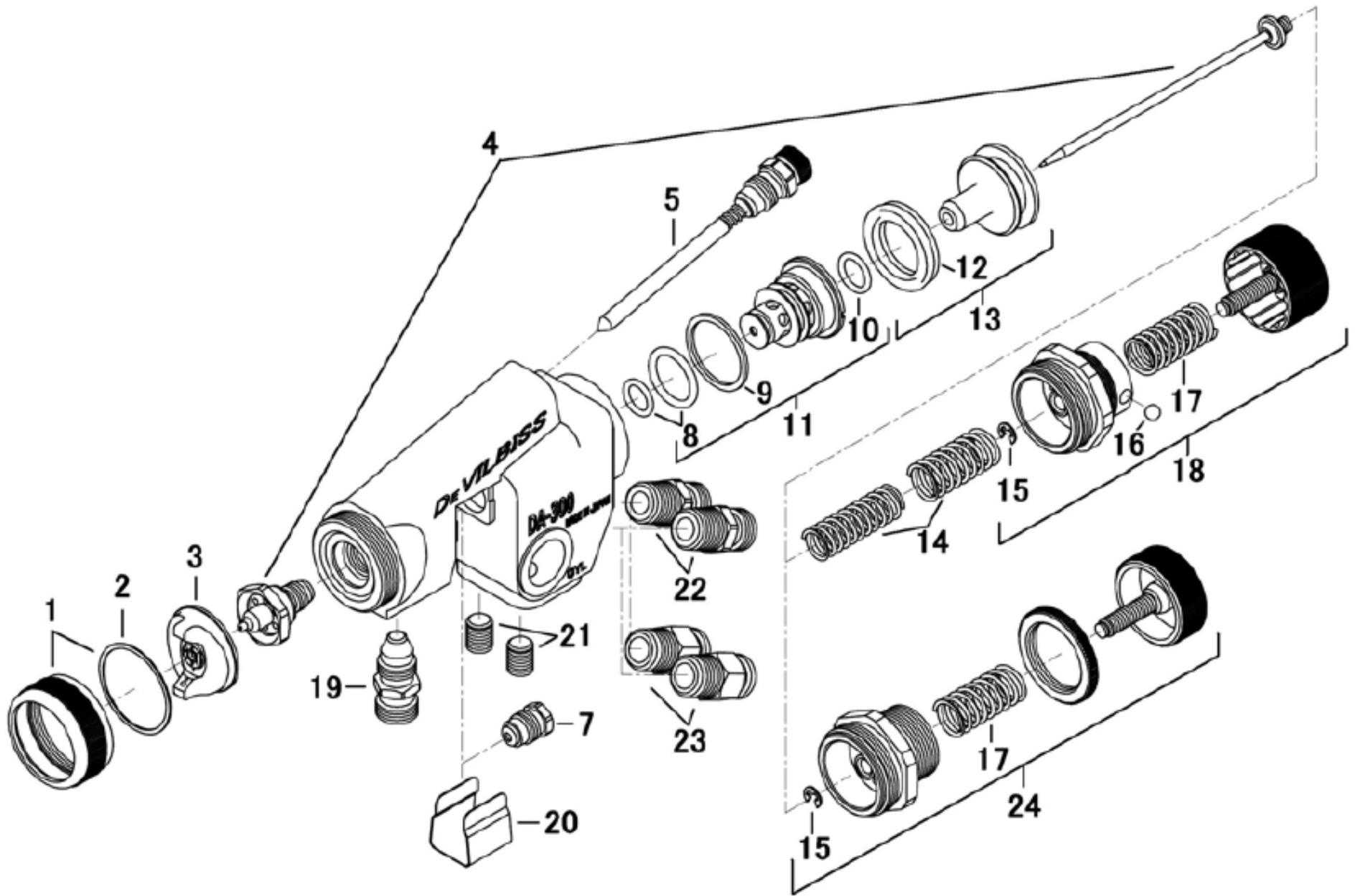
Piston Cup (13), Air Valve (11), O-Ring (8), Gasket (9)

1. Remove Ratchet Assy. (18) and Pull Needle Assy. out from gun body.
2. Screw Needle (from the rear side) in Piston Cup (13) and pull Needle to take out Piston Cup.
3. Turn Air Valve (11) counter-clockwise with proper tool putting in the slot and remove it.
4. Remove O-Ring (8) and Gasket (9).
5. Wipe the inside of cylinder and clean it. Apply non-silicone grease lightly on O-Ring. (For solvent base paint)
6. Reassemble in reverse order.

Fluid Inlet (19), Air Connector (22)

1. When Remove Fittings and reassemble the gun, remove the sealing material from the gun body and fittings completely.
2. Put the new sealing material (Loctite 242, etc.) on the thread part of fittings when reassemble.

Figure 5. Gun Exploded View



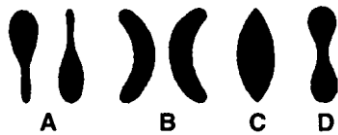

Ref No.	Part Number	Description	Qty	Remarks
1	JJ-6	Retaining Ring (with seat)	1	With JJ-50
2	JJ-50-K5	Seat Kit of 5	1	
3	See Chart. 1	Air Cap	1	
4	See Chart. 2	Lapped Set (Fluid Tip & Needle)	1	
5	DA-44	Pattern Valve Assy.	1	
7	DA-463	Needle Packing Kit	1	
8	DA-P9P16	O-Ring Kit	1	
9	DA-12	Air Valve Gasket	1	
10	DA-P10-K5	O-Ring Kit of 5	1	
11	DA-43	Air Valve Assy.	1	
12	DA-Y20-K3	Y-Packing Kit of 3	1	
13	DA-9	Piston Assy.	1	With DA-Y20
14	DA-4993	Spring Kit	1	
15	DA-46-K5	E-Ring Kit of 5	1	
16	3/16BALL-K5	Ball Kit of 5	1	
17	DA-34	Ratchet Spring	1	
18	DA-402R	Ratchet Assy.	1	
19	DA-35	Fluid Inlet	1	
20	DA-33	Cover	1	
21	DA-2048	Set Screw	2	
22	DA-30	Air Connector	2	
23	PC6-02 PC8-02	Quick Fitting Joint O.D. 6 (24.7mm) Quick Fitting Joint O.D. 8 (26.6mm)	1	Option
24	DA-432	Needle Adjusting Knob Assy. Non-Ratchet type	1	

SERVICE CHECK

Normal spray pattern



The proper combination of fluid pressure, fan and atomization air pressure, and fluid tip size should result in a pattern of this shape.

problem	Cause	Correction
Will not spray.	No pressure to gun. Piston stops moving.	Check air and material lines. Check CYL air pressure.
Improper spray pattern. 	A. Gun not adjusted properly. A, B. Material build up on the air cap (3) or fluid tip (4). C, D. Wrong material or material too thick. Insufficient material or atomizing air pressure too high.	A. Re-adjust. See "Operation Section". A, B. Clean the air cap or fluid tip. See "Preventive Maintenance". C, D. Adjust material pressure or thin material. Increase material or reduce atomizing air pressure.
Jerky or fluttering spray 	1. Insufficient material in the tank or an obstruction in the line. 2. Gun material passage plugged. 3. Worn Needle Seal Kit (7). 4. Loose or damaged fluid tip.	1. Fill tank or clear obstruction. 2. Clean. 3. Replace. 4. Tighten or replace.
Air leaking from Ratchet Assy. (18).	1. Damaged or worn Piston Cup (12). 2. Damaged cylinder of Gun Body.	1. Replace. 2. Replace.
Dripping from Fluid Tip.	1. Worn or damaged Fluid Tip (4) or Needle (4). 2. Needle Spring (14) damaged or deformed.	1. Replace. 2. Replace.
Air or fluid leaking from Gun Body.	Damaged or worn Needle Seal Kit (7)	Replace.

Note

To determine where the material build up is, rotate the air cap 180° and test spray. If the pattern stays in the same position, the condition is caused by material build up on the fluid tip. If the pattern changes with air cap movement, the buildup is in the air cap.

ACCESSORIES

Part No.	Description
SSL-10	Gun Lube (60mℓ)
42884-214-K5	Cleaning Brush (Kit of 5)
AGA-415	Universal Clamp
GC-100-K48	Gun Cover (Kit of 48)
HD-505-W	Quick Cleaner (5ℓ)
83GZ-5200	Solvent Saver (10ℓ)

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