

Operation Manual

JGA – Suction-feed Spray Gun



E

P 2 - 8



DEVILBISS



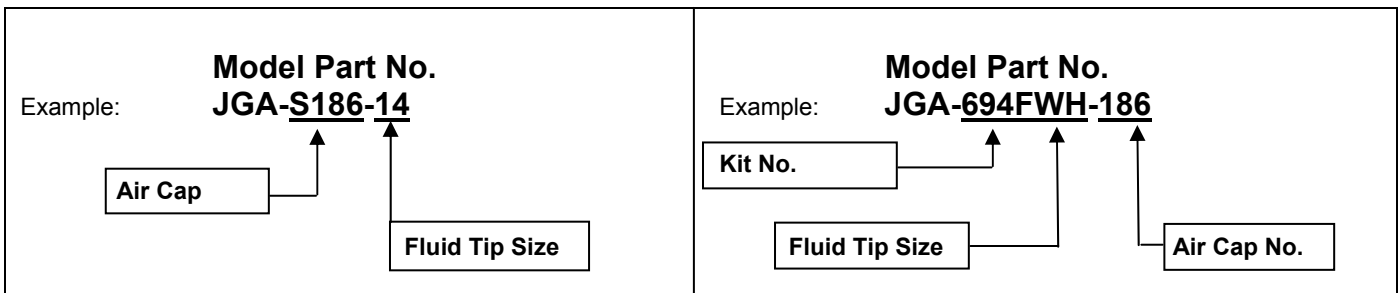
Operation Manual JGA – Suction-feed Spray Gun Important

Read and follow all instructions and Safety Precautions before using this equipment

Description

The JGA Suction-feed Spray gun Kit is approved to ATEX regulations 94/9/EC, protection level; **II 2 G X. Suitable for use in Zones 1 and 2**

Important: *These spray guns are suitable for use with most solvent-based coating materials. Nozzles and needles are manufactured in stainless steel. These guns are not designed for use with highly corrosive and/or abrasive materials and if used with such materials it must be expected that the need for cleaning and/or replacement of parts will be increased. If there is any doubt regarding the suitability of a specific material contact your local Distributor or ITW Finishing direct.*



EC Declaration of Conformity

We, ITW Finishing UK, Ringwood Rd, Bournemouth, Dorset, BH11 9LH, UK, as the manufacturer of the **Spray gun model JGA**, declare, under our sole responsibility, that the equipment to which this document relates is in conformity with the following standards or other normative documents:

BS EN 292-1 PARTS 1 & 2: 1991, BS EN 1953: 1999; and thereby conform to the protection requirements of Council Directive **98/37/EEC** relating to **Machinery Safety Directive**, and;

EN 13463-1:2001, council Directive **94/9/EC** relating to **Equipment and Protective Systems intended for use in Potentially Explosive Atmospheres protection level II 2 G X.**

B. Holt, General Manager
30th June 2003

ITW Finishing Systems and Products reserve the right to modify equipment specification without prior notice.

SAFETY WARNINGS

E

Fire and explosion



Solvents and coating materials can be highly flammable or combustible when sprayed. **ALWAYS** refer to the coating material supplier's instructions and COSHH sheets before using this equipment.



Users must comply with all local and national codes of practice and insurance company requirements governing ventilation, fire precautions, operation and house-keeping of working areas.



This equipment, as supplied, is **NOT** suitable for use with **Halogenated Hydrocarbons**.



Static Electricity can be generated by fluid and/or air passing through hoses, by the spraying process and by cleaning non-conductive parts with cloths. To prevent ignition sources from static discharges, earth continuity must be maintained to the spray gun and other metallic equipment used. It is essential to use conductive air and/or fluid hoses.



Personal Protective Equipment



*Toxic vapours – When sprayed, certain materials may be poisonous, create irritation or be otherwise harmful to health. Always read all labels, safety data sheets for the material and follow any recommendations before spraying. **If in doubt, contact your material supplier.***



The use of respiratory protective equipment is recommended at all times. The type of equipment must be compatible with the material being sprayed.



Always wear eye protection when spraying or cleaning the spray gun.



Gloves must be worn when spraying or cleaning the equipment.

Training – Personnel should be given adequate training in the safe use of spraying equipment.

Misuse

Never aim a spray gun at any part of the body.

Never exceed the max. recommended safe working pressure for the equipment.

The fitting of non-recommended or non-original spares may create hazards.

Before cleaning or maintenance, all pressure must be isolated and relieved from the equipment.

The product should be cleaned using a gun-washing machine. However, this equipment should not be left inside gun-washing machines for prolonged periods of time.

Noise Levels



The A-weighted sound level of spray guns may exceed 85 dB (A) depending on the set-up being used. Details of actual noise levels are available on request. It is recommended that ear protection is worn at all times when spraying.

Operating

Spray equipment using high pressures may be subject to recoil forces. Under certain circumstances, such forces could result in repetitive strain injury to the operator.

Parts List

Ref. No	Description	Part Number	Qty
1	Air cap/Retaining ring	See Chart 1	1
1a	Spring clip – Kit of 5	JGA-156-K5	1
+*2	Nozzle	AV-645-**	1
3	Baffle & seal	JGD-402-K	1
+3a	Baffle seal – Kit of 5	Gti-33-K5	1
+4	Spring Adjusted Needle Packing	Gti-445-K2	1
5	Spreader valve	Gti-405-K	1
6	Stud and screw	Gti-408-K5	1
+7	Needle	See Chart 2	1
+8	Spring – Kit of 5	Gti-409-K5	1
9	Bushing	JGA-17	1
10	Needle adjusting screw	Gti-414-K	1
11	Valve assembly	JGK-449	1
12	Trigger	Gti-108	1
13	Connector	JGA-158	1
14	Air flow valve	Gti-415-K	1
15	Lock nut – Kit of 5	JGA-51-K5	1
16	Seal	23165-001	1
17	Fluid inlet connector and seal	JGA-159-K	1
18	Lid gasket – Kit of 3	KR-11-K3	1
19	Drip free diaphragm – Kit of 5	KR-115-K5	1
20	Cup	KR-466-K	1
21	Cup lid assembly	KR-4001-B	1
22	Cup and lid assembly kit	KR-566-1-B	1
23	Seal + pin kit (+ SST-8434-K5)	Gti-428-K5	2
24	Circlip – Kit of 5		2
25	Circlip – Kit of 5	25746-007-K5	1
26	Seal – Kit of 5	JGS-72-K5	2
27	Spanner	SPN-5	1
28	Spring	JGV-262-K5	1

* - ** Denotes nozzle size – see chart 1 for available sizes

+ - Parts included in service kit KK-4502 (see accessories)

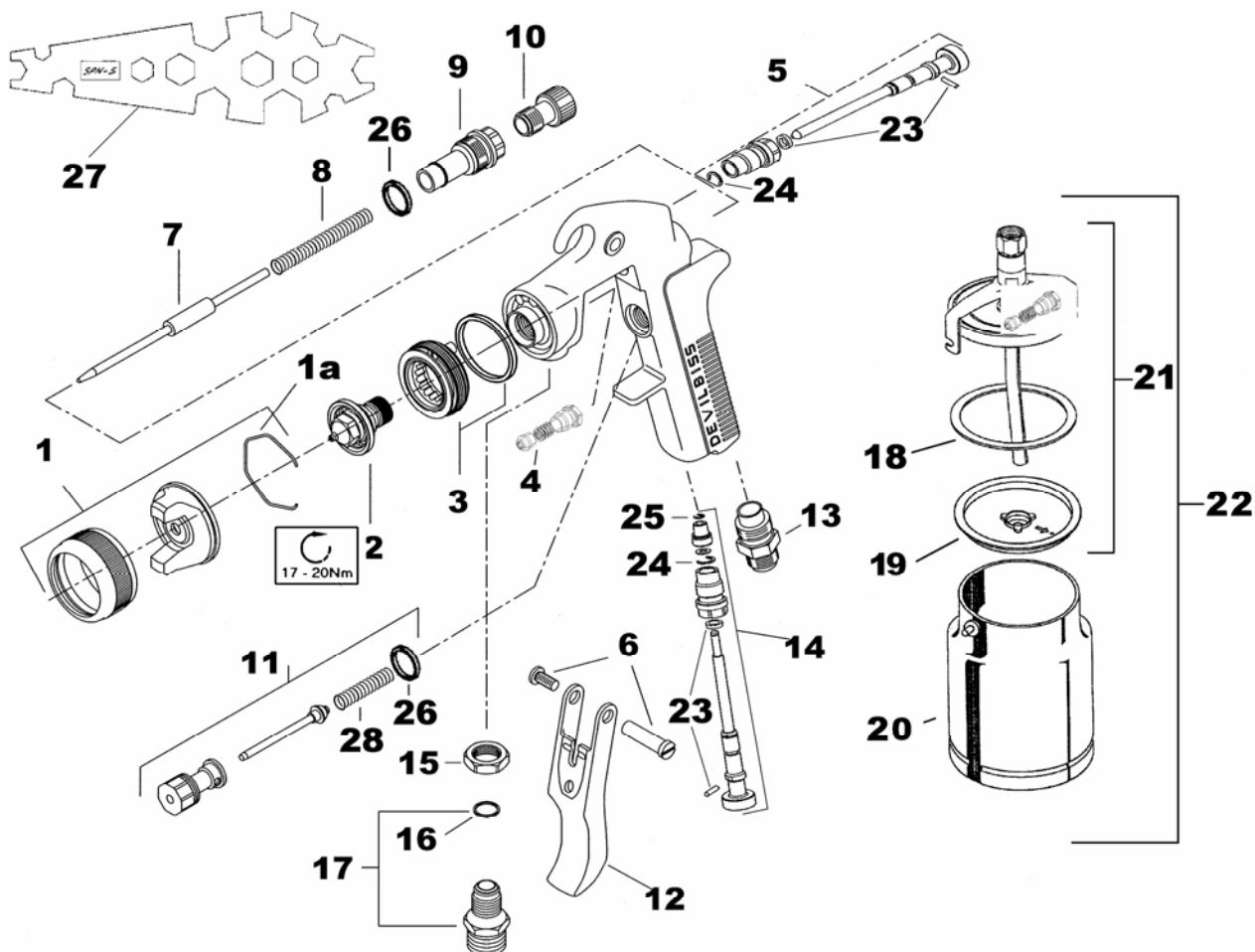


Chart 1. Air Cap and Nozzle Size Combinations

Air Cap No.	Air Cap Part No.	FF 1.4	FW 1.6	EX 1.8
30	AV-4239-30	X		X
43	AV-4239-43	X		X
80	MB-4039-80			X
186	AV-4239-186	X	X	X

Chart 2. Nozzle and Needle Combinations

Nozzle Size	Nozzle Order No.	Needle Order No.
FW	AV-645 FW	JGA-421-FW-K
FF	AV-645-FF	JGA-421-FF-K
EX	AV-645-EX	JGA-421-DEX-K

Specification

Air supply connection -	Universal 1/4" BSP and NPS
Fluid supply connection -	Universal 3/8 BSP and NPS
Maximum static inlet pressure -	P ₁ = 9 bar (130 psi)
Maximum static fluid pressure -	P ₂ = 14 bar (203 psi)
Maximum service temperature -	40°C
Gun weight -	695 g
Cup weight -	460 g

Materials of Construction

Gun body	- Polished aluminium
Nozzle	- Stainless steel
Needle	- Stainless steel
Cup	- Aluminium with brass nickel plated pins
Lid assembly	- Aluminium, brass and steel nickel plated
Cup lid gasket	- Polyethylene
Diaphragm	- Polyethylene

Installation

Important: To ensure that this equipment reaches you in first class condition, protective coatings have been used. **Flush the equipment through with a suitable solvent before use.**

1. Attach air hose to connector (13). Recommended hose size 8 mm bore. The hose must be conductive and electrical bond from the spray gun to earth should be checked with an ohmmeter. A resistance of less than $10^6\Omega$ is recommended. The air supply should be filtered and regulated.
2. Attach the cup lid assembly (27) to the fluid inlet connector (17).
3. Position the yoke at right angles to the gun with the cam lever to the front (see picture). Make sure the vent hole in the lid is positioned under the yoke and the hole in the diaphragm is 180° to the lid vent hole.

Operation

1. Mix coating material to manufacturers instructions.
2. Fill the cup with the required amount of material. Fill to no more than 25 mm (1") from the top of the cup. **DO NOT OVERFILL.**
3. Attach cup to the lid assembly.
4. Turn needle adjusting screw (10) on the spray gun clockwise to prevent movement.
5. Turn pattern valve (5) counter-clockwise to fully open.
6. Adjust inlet air pressure to give 3.0 bar (43-45psi) at the gun inlet with the gun triggered. (*pressure gauge attachment shown under Accessories is recommended for this*).
7. Turn needle adjusting screw counter clockwise until first thread shows.
8. Test spray. If the finish is too dry, reduce air flow by reducing inlet pressure. If finish is too wet, reduce fluid flow by turning needle screw (10) clockwise. If atomisation is too coarse, increase inlet air pressure. If too fine, reduce inlet pressure.
9. The pattern size can be reduced by turning adjusting valve (5) clockwise.
10. Hold gun perpendicular to surface being sprayed. Arcing or tilting may result in uneven coating.
11. The recommended spray distance is 150-200 mm (6"-8").
12. Spray edges first. Overlap each stroke a minimum of 50%. Move gun at a constant speed.
13. Always turn off air supply and relieve pressure when gun is not in use.

Air Flow Valve (14)

1. If the air flow valve (14) is fitted this can be used to reduce the inlet pressure through the gun. Screw the adjusting knob in to reduce pressure.

Preventative Maintenance

1. Turn off air and relieve pressure in the supply lines, or if using QD system, disconnect from airline.
2. Release cup and raise the tube out of the material. Trigger the gun and allow material to drain back into the cup.
3. Dispose of the surplus material and clean the cup.
4. Remove air cap (1) and clean. If any of the holes in the cap are blocked with coating material, use a toothpick to clean. Never use metal wire which could damage the cap and produce distorted spray patterns
5. Ensure the tip of the nozzle (2) is clean and free from damage. Build-up of dried paint can distort the spray pattern.
6. Lubrication – stud/screw (6), needle (7) and air-valve (11) should be oiled each day.

Replacement of Parts

Nozzle (2) and needle (7) – Remove parts in the following order: 10, 8, 7, 1 and 2. Replace any worn or damaged parts and re-assemble in reverse order. Recommended tightening torque for nozzle (2) 17-20 Nm (150-180 lbf in)

Packing – Remove parts 10, 8, 7. Unscrew cartridge (4). Fit new cartridge finger tight. Re-assemble parts 7, 8, and 10 and tighten cartridge (4) with spanner sufficient to seal but to allow free movement of needle. Lubricate with gun oil.

Air-valve (11) – Remove trigger, parts 6 and 12. Unscrew valve assembly. Re-assemble, fitting spring to valve head before fitting valve.

Spreader valve (5) – **Caution:** always ensure that the valve is in the fully open position by turning screw fully counter-clockwise before fitting to body.

Accessories

Cleaning brush – order 4900-5-1-K3

Service kit – order KK-4502 add nozzle size as required – (i.e. KK-4502-FF-H)

Seal kit – order KK-4558. Contains 3a, 4, 29, 30, 32

Pressure gauge attachment – order GA-515

Gun-mounted regulator – order DVR-501

Lubricant – order GL-1-K10

ITW Finishing Systems and Products
Ringwood Road,
Bournemouth,
BH11 9LH,
England.
Tel. No. (01202) 571111
Telefax No. (01202) 581940,
Website address
<http://www.itweuropeanfinishing.com>

ITW Automotive Finishing UK
Anchorbrook Industrial Estate
Lockside
Aldridge,
Walsall,
UK.
Tel. No. (01922) 423700
Telefax No. (01922) 423705,
Website address
<http://www.itweuropeanfinishing.com>

ITW Finishing Systems and Products is a Division of ITW Ltd. Reg. Office:
Admiral House,
St Leonard's Road,
Windsor,
Berkshire,
SL4 3BL,
UK
Registered in England: No 559693 Vat No 619 5461 24

ITW Oberflächentechnik GmbH & Co.
KG
Justus-von-Liebig-Straße 31
63128 Dietzenbach
Tel (060 74) 403-1
Telefax: (060 74) 403300
Website address
<http://www.itw-finishing.de>

ITW Surfaces Et Finitions
163-171 avenue des Auréats B.P.
1453
26014 VALENCE CEDEX FRANCE
Tél. (33) 475-75-27-00
Télex 345 719F DVILBIS
Téléfax: (33) 475-75-27-99