

# DEVILBISS

EN



SB-E-2-251 ISSUE.06

CE Ex II 2 G X

## Operation Manual

### JGA – Pressure Feed Spraygun



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# Important

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

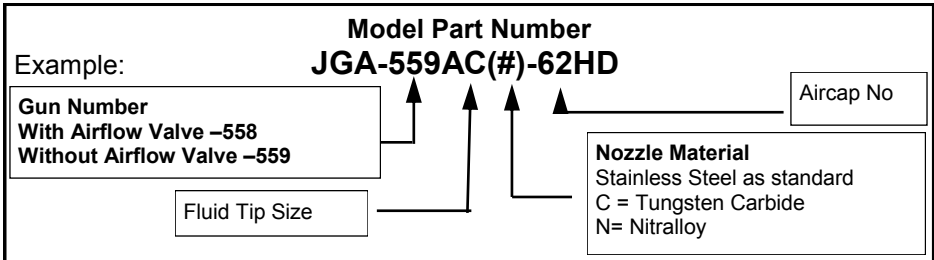
## Description

The JGA Pressure Feed Spraygun Kit is suitable for use with a wide range of paints, dyes, stains, glazes and lacquers. To handle a wide range of coating materials the material passages are manufactured from high grade stainless steel. Nozzles and needles are available in high grade stainless steel, Nitralloy case hardened steel and Tungsten Carbide.

The equipment is approved to ATEX regulations **94/9/EC**, protection level;  
**II 2 G X, Suitable for use in Zones 1, and 2**

**Important:** *These Sprayguns 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 Finishing Brand UK direct.*

**NOTE:** *This gun is not to be used with halogenated hydrocarbon solvents or cleaning agents such as 1,1,1,-Trichlorethane or methylene chloride. These solvents can react with the aluminium components used in this gun. The reaction can become violent and lead to an equipment explosion.*



## EC Declaration of Conformity

We: **Finishing Brands UK Limited, 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**.



**D. Smith**, General Manager  
5th October 2012



# SAFETY WARNINGS



## Fire and explosion

Solvents and coating materials can be highly flammable or combustible when sprayed. **ALWAYS** refer to the coating material suppliers 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 spraygun 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 and safety data sheets for the material before spraying and follow any recommendations. **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 spraygun.



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 spraygun 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 sprayguns 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.

## Air cap number and Nozzle size combinations

Chart 1

No.	Order No.	AC 2.8	D 2.2	E 1.8	Airflow l/min	Pressure bar
62	MB-4039-62HD	X			502	3.5
64	MB-4039-64HD		X		488	3.5
67	MB-4039-67HD			X	539	3.5
69	MB-4039-69HD		X		572	3.5

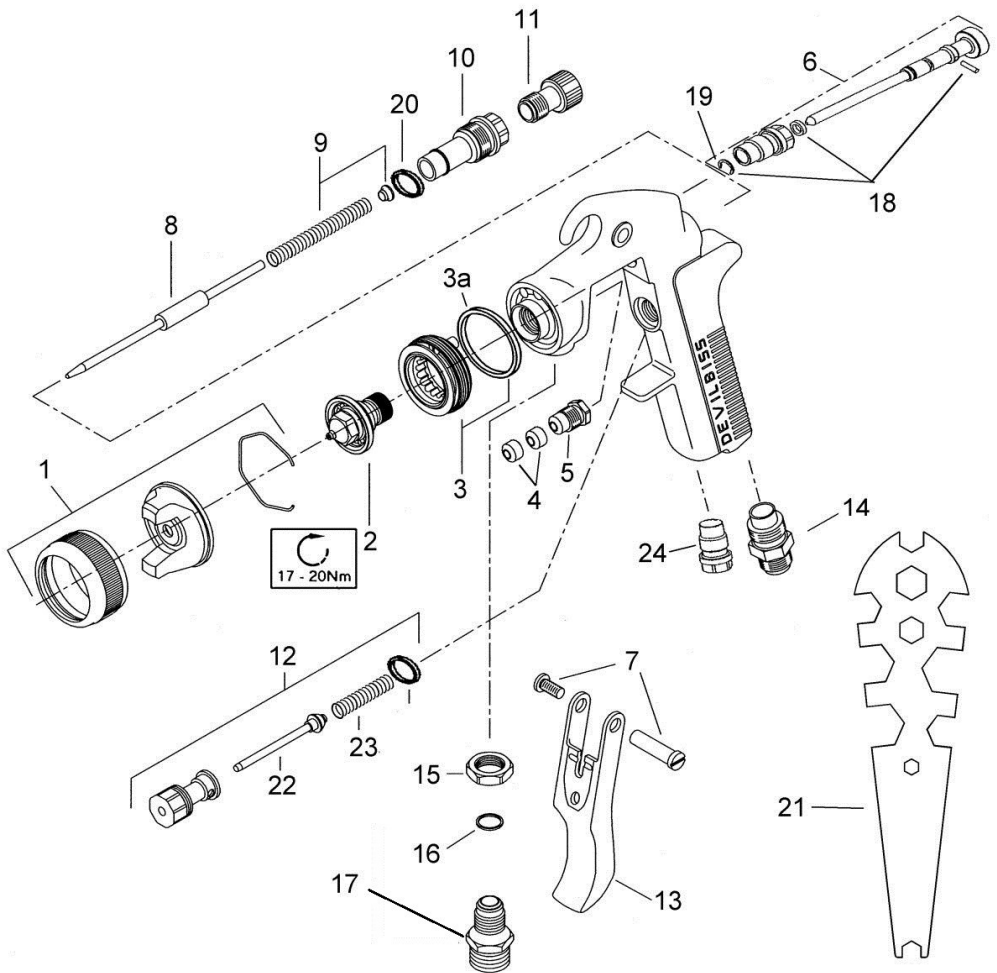
Chart 2

### Nozzle and Needle combinations

High Grade Stainless Steel		Nitalloy (N)		Tungsten Carbide (C)	
Nozzle Order No.	Needle Order No.	Nozzle Order No.	Needle Order No.	Nozzle Order No.	Needle Order No.
AV-645-AC	JGA-421-C-K	AV-611-AC	JGA-402-NAC-K	AV-1415-AC-K	JGA-409-AC
AV-645-D	JGA-421-DEX-K	AV-611-D	JGA-402-NADEX-K	AV-1415-D-K	JGA-409-D
AV-645-E	JGA-421-E-K	AV-611-EE	JGA-402-NADEEE-K	AV-1415-EE-K	JGA-409-DEEE

## Parts List

Ref. No	Description	Part Number	Qty
1	Air Cap/Retaining ring	See Chart 1	1
2	Nozzle	See Chart 2	1
3	Baffle	JGV-457-K	1
3a	Baffle seal—(Kit of 5)	GTI-33-K5	1
+4	Packing - (Kit of 3)	JGV-463-K3	1
5	Packing gland—(Kit of 10)	34411-122-K10	1
6	Spreader Valve	GTI-405-K	1
7	Stud and Screw - (Kit of 5)	GTI-408-K5	1
8	Needle	See Chart 2	1
9	Spring - (Kit of 5)	GTI-409-K5	1
10	Body Bushing	JGA-17	1
11	Needle Adjusting Screw	GTI-414-K	1
12	Air Valve Assembly	JGK-449-K	1
13	Trigger	GTI-108	1
14	Air Inlet Connector	JGA-158	1
15	Lock Nut - (Kit of 5)	JGA-51-K5	1
16	Seal	MSV-3	1
17	Fluid Inlet Connector	JGV-278	1
18	Seal + Pin kit	GTI-428-K5	2
19	Circlip - (Kit of 5)	SST-8434-K5	2
20	Seal - (Kit of 5)	JGS-72-K5	1
21	Spanner	SPN-5	1
22	Air valve stem assembly	JGS-431-1	1
23	Spring	JGV-262-K5	1
24	Plug	JGHV-59	1
25	Airflow Valve (not shown)	GTI-415-K	1



# Specification

<p><b>Air supply connection -</b> Universal <math>\frac{1}{4}</math> BSP/NPS</p> <p><b>Fluid Supply Connection -</b> Universal <math>\frac{3}{8}</math> BSP/NPS</p> <p><b>Maximum static inlet pressure -</b> <math>P_1 = 12</math> bar (175 psi)</p> <p><b>Maximum static fluid pressure -</b> <math>P_2 = 15</math> bar (215psi)</p> <p><b>Gun Weight -</b> 645 g</p>	<p><b>Materials of Construction</b></p> <p><b>Gun body-</b> Polished Aluminium</p> <p><b>Nozzle -</b> Stainless Steel</p> <p><b>Needle -</b> Stainless Steel</p>
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## Installation

<p><b>Important:</b> <i>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.</i></p> <p>1. Attach air hose to connector (14).</p>	<p>Recommended hose size 8 mm bore. The air supply should be filtered and regulated.</p> <p>2. Attach fluid supply hose to the Fluid Inlet connector (17).</p>
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## Operation

<p>Mix, prepare and filter the coating material to be sprayed to the manufacturer's instructions. Adjust the spray gun controls, air and coating material pressures before filling the cup or turning on the material supply.</p> <p>1. <b>Needle adjustment.</b> Fully open needle adjusting screw (11) by turning counter-clockwise until the first thread shows.</p> <p>2. <b>Fan pattern adjustment.</b> Turn adjusting screw (6) to fully open position, by turning counter-clockwise.</p> <p>3. <b>Air control valve.</b> Open air adjusting screw (25) fully by turning counter-clockwise (JGA-558 models only).</p> <p>4. <b>Air supply pressure.</b> Regulate to 3.5 bar (50 lbf/ in<sup>2</sup>).</p> <p>5. <b>Pressure feed coating material supply.</b> Regulate pressure to 0.5 bar (7 lbf/l n<sup>2</sup>).</p> <p>6. Turn on coating material and air supplies.</p>	<p>7. <b>Test spray.</b> If the finish is too dry or application too slow, reduce air pressure or increase coating material supply pressure. If the finish is too wet, reduce the coating material supply pressure, or turn the needle adjusting screw (11) fully clockwise then gradually open until the desired pattern is achieved.</p> <p>8. If the atomisation is too coarse increase the air pressure, if too fine, reduce the air supply pressure or turn air control valve (25) gradually clockwise. (JGA-558 models only).</p> <p>9. <b>NOTE:</b> The spray width can be reduced from fan to round by turning fan adjusting screw (6) clockwise.</p> <p>10. <b>Using the spray gun.</b> Always hold the gun perpendicular to the spray surface. Arcing or tilting the gun will result in an uneven deposit of coating material. The recommended spray distance is 150- 200 mm (6" - 8"). Spray the corners and edges first.</p>
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Overlap each stroke 50% as you coat the area. Trigger just before the edge of the surface to be sprayed. Move the gun at a constant speed across the surface and release the trigger. Repeat the same method on the return stroke.

11. To prevent accidental discharge of coating material when the gun is not in use, always turn off and release air and fluid 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. (suction models only).
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 (7), needle (8) and air valve (12) should be oiled each day.

## Replacement of Parts

**Nozzle (2) and Needle (8)** – Remove parts in the following order: 11, 9, 8, 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)

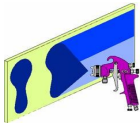
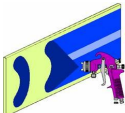
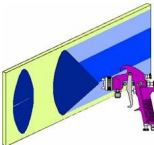
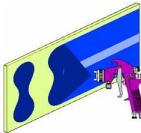
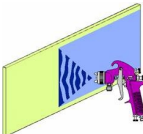
**Packing** – Remove parts 11, 9 and 8. Unscrew cartridge (5). Fit new cartridge finger tight. Re-assemble parts 8, 9, and 11 and tighten cartridge (5) with spanner, sufficient to seal but to allow

free movement of needle. Lubricate with gun oil.

**Air valve (12)** – Remove Trigger, parts 7 and 13. Unscrew valve assembly. Re-assemble, fitting spring to valve head before fitting valve.

**Spreader valve (6)** – **Caution:** always ensure that the valve is in the fully open position by turning screw fully counter-clockwise before fitting to body.

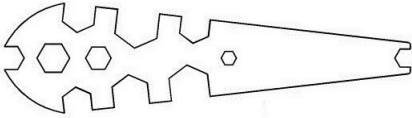
# Troubleshooting Possible Problems in Operation

CONDITION	CAUSE	CORRECTION
<p>Heavy top or bottom pattern</p> 	<p>Horn holes plugged.</p> <p>Obstruction on top or bottom of fluid nozzle.</p> <p>Cap and/or nozzle seat dirty.</p>	<p>Clean. Ream with non-metallic point.</p> <p>Clean.</p> <p>Clean.</p>
<p>Heavy right or left side pattern</p> 	<p>Left or right side horn holes plugged.</p> <p>Dirt on left or right side of fluid nozzle.</p>	<p>Clean. Ream with non-metallic point.</p> <p>Clean.</p>
<p><b>Remedies for the top-heavy, bottom-heavy, right-heavy, and left-heavy patterns:</b></p> <p>1. Determine if the obstruction is on the air cap or the fluid nozzle. 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. Also check for dried paint just inside the cap centre hole opening; remove by washing with solvent.</p> <p>2. If the defect is not inverted, it is on the fluid nozzle. Clean nozzle. If problem persists, renew nozzle.</p>		
<p>Heavy centre pattern</p> 	<p>Spreader adjustment valve set too low.</p> <p>Atomising pressure too low.</p> <p>Material too thick.</p>	<p>Turn out counter clockwise to achieve correct pattern.</p> <p>Increase pressure.</p> <p>Thin to correct consistency.</p>
<p>Split spray pattern</p> 	<p>Air pressure too high.</p> <p>Fluid adjusting knob turned in too far.</p> <p>Spreader adjusting valve set too high.</p>	<p>Reduce at regulator or gun handle.</p> <p>Turn out counter clockwise to achieve correct pattern.</p> <p>Turn in clockwise to achieve correct pattern.</p>
<p>Jerky or fluttering spray</p> 	<p>Loose or damaged fluid nozzle/seat</p> <p>Loose or broken cup fluid nipple</p> <p>Material level too low</p> <p>Container tipped too far</p> <p>Obstruction in fluid passage</p> <p>Loose fluid needle packing nut</p> <p>Damaged fluid needle packing</p>	<p>Tighten or replace</p> <p>Tighten or replace cup</p> <p>Refill</p> <p>Hold more upright</p> <p>Back flush with solvent</p> <p>Tighten</p> <p>Replace</p>

Troubleshooting Possible Problems in Operation (cont)		
Paint bubbles in cup	Fluid nozzle not tight.	Tighten to 17–20 nm (13-15 ft-lbs).
Fluid leaking or dripping from cup lid	Cup lid loose. Damaged Cup Lid Gasket Fluid leaking from vent hole	Tighten Cup Lid. Replace Cup lid Gasket Clean drip free diaphragm
Starved spray pattern	Inadequate material flow Blocked vent in Cup lid Low atomisation air pressure	Wind fluid adjusting knob out or change to larger fluid nozzle size Clean lid and unblock vent Increase air pressure and rebalance gun.
Excessive overspray	Air pressure too high. Gun too far from work surface.	Reduce air pressure. Adjust to correct distance.
Dry spray	Air pressure too high. Gun too far from work surface. Gun motion too fast. Fluid flow too low.	Reduce air pressure. Adjust to correct distance. Slow down. Wind out needle adjusting screw or use larger nozzle size.
Fluid leaking from packing nut	Packing or Fluid Needle worn.	Replace.
Fluid leaking or dripping from front of gun	Fluid nozzle or fluid needle worn or damaged. Foreign matter in fluid nozzle. Fluid needle dirty or stuck in needle packing Wrong size fluid needle or fluid nozzle.	Replace fluid nozzle and fluid needle. Clean. Clean Replace fluid nozzle and fluid needle.
Runs and sags	Too much material flow. Material too thin. Gun tilted on an angle, or gun motion too slow.	Turn fluid adjusting knob clockwise or switch to smaller fluid nozzle and fluid needle size. Mix correctly or apply light coats. Hold gun at right angle to work and adapt to correct gun technique.

## Accessories

Spanner - Order SPN-5



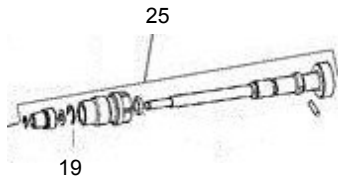
Cleaning Brush - Order 4900-5-1-K3



Lubricant - order GL-1-K10



Airflow Valve - order GTI-415-K



### WARRANTY

This product is covered by Finishing Brands UK Limited one year warranty.

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