

Operation Manual

GFG – Gravity-feed Spray Gun





DEVILBISS



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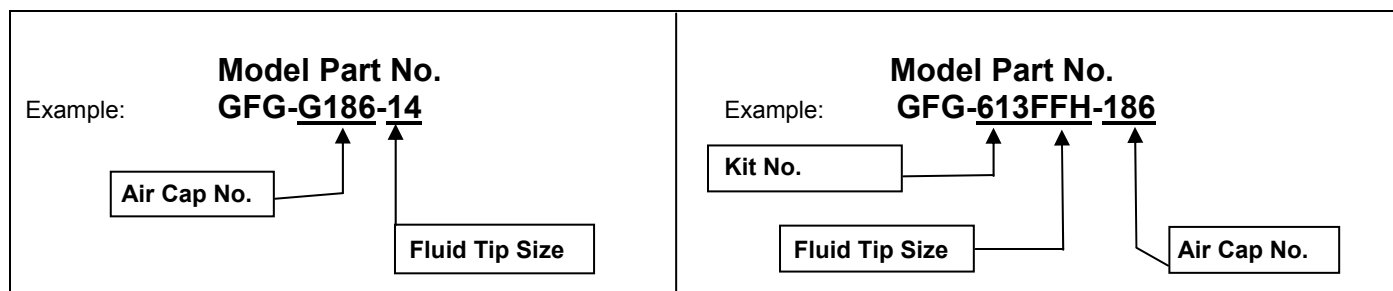
Important

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

Description

The GFG Gravity-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 GFG**, 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

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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 and follow any recommendations for the material 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	JGA-156-K5	1
+ 2	Nozzle	See chart 2	1
3	Baffle & seal	JGD-402-K	1
#*+ 4	Spring adjusted needle Packing (kit of 2)	Gti-445-K2	1
5	Spreader valve	Gti-404-K	1
# 6	Stud and screw	Gti-408-K5	1
+ 7	Needle	See chart 2	1
# 8	Spring	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 1/4	JGA-158	1
14	Gun hook	GFG-6	1
15	Air flow valve	Gti-415-K	1
*+ 16	Seal	JGS-72-K5	2
*+ 17	Seal	Gti-33-K5	1
* 18	Seal & pin kit (+ SST-8434-K5)	Gti-428-K5	2
19	Circlip	25746-007-K5	1
20	Circlip	SST-8434-K5	2
21	1/2 Ltr gravity cup kit	GFC-501	1
22	Cup lid	GFC-402	1
23	Drip check lid kit of 5	GFC-2-K5	1
24	Filter	KGP-5	1
25	Washer	GFC-17-K5	1
26	Air-valve stem assembly		1
27	Spring	JGV-262-K5	1
28	Spanner	Spn-5	1

- + - Parts included in service kit KK-4502 (see accessories)
- * - Parts included in service kit KK-4558
- # - Parts included in mini service kit KK-4503

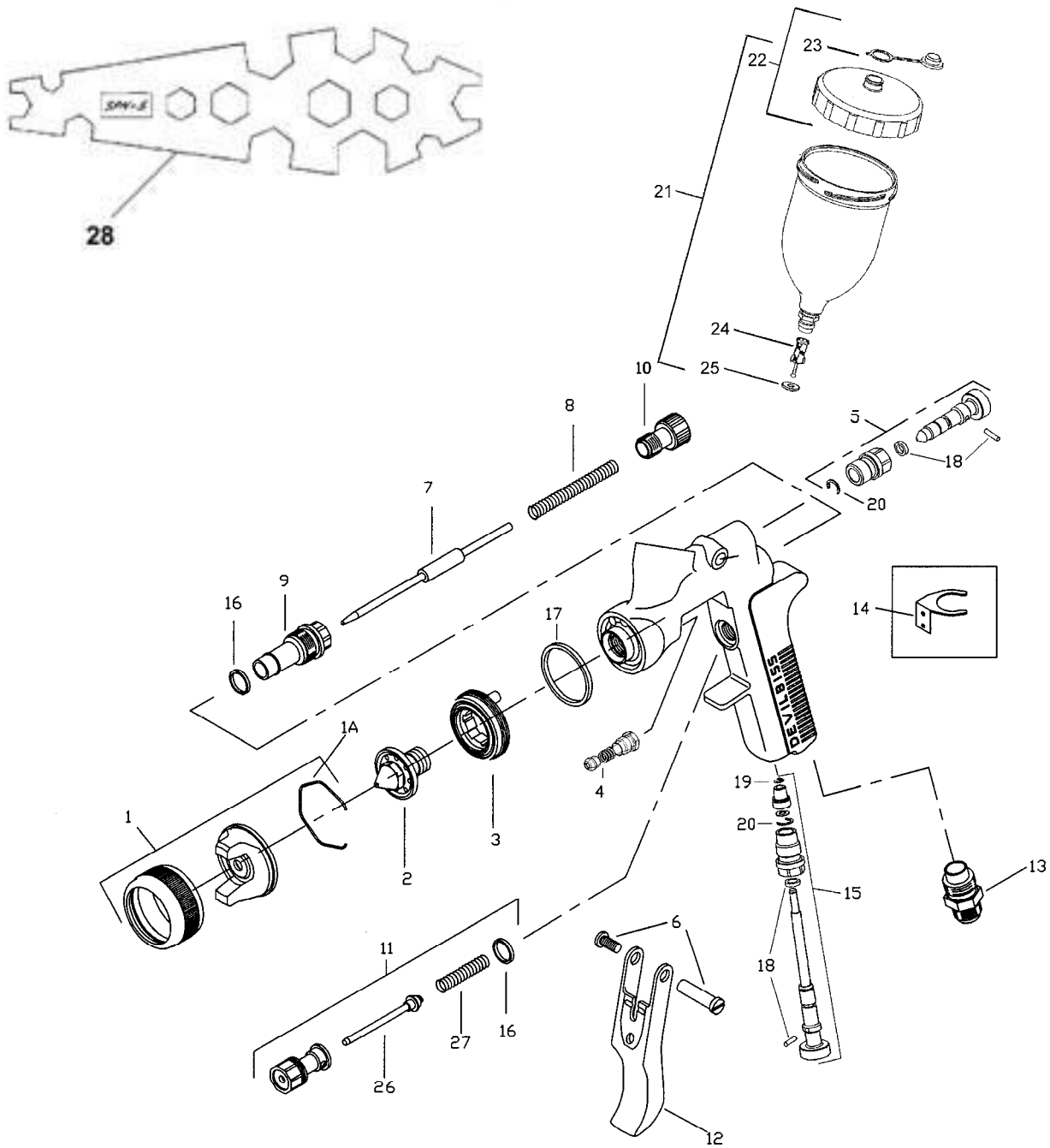


Fig 1

Chart 1. Air Cap and Nozzle Size Combinations

Air Cap No	Air Cap Part Number	FF 1.4	FW 1.6	EX 1.8	D 2.2
30	AV-4239-30			X	
43	AV-4239-43	X			
64	MB-4039-64				X
80	MB-4039-80			X	
186	AV-4239-186	X	X		

Chart 2. Nozzle/Needle Combinations

Nozzle Size	Nozzle Order Number	Needle Order Number
FF	AV-645-FF	JGA-421-FF-K
FW	AV-645 FW	JGA-421-FF-FW
EX	AV-645-EX	JGA-421-DEX-K
D	AV-6745-D	JGA-421-DEX-K

Specification

Air supply connection -	Universal ¼" BSP and NPS
Maximum air pressure -	P ₁ = 7 bar (130 psi)
Gun weight -	635 g
Cup weight -	172 g
Maximum service temperature -	40°C
Materials of construction	
Gun body	- Polished aluminium
Nozzle	- Stainless steel
Needle	- Stainless steel
Cup	- Acetal with stainless steel Insert
Lid	- Acetal

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 10⁶Ω is recommended.
2. Air supply should be filtered and regulated.

Operation

1. Mix coating material to manufacturers instructions.
2. Turn needle adjusting screw (10) counter-clockwise until first thread shows.
3. Turn pattern valve (5) counter-clockwise to fully open.
4. Adjust inlet air pressure to give 3.0 bar (43-45 psi) at the gun inlet with the gun triggered. (pressure gauge attachment shown under Accessories is recommended for this).
5. 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.
6. The pattern size can be reduced by adjusting valve (5).
7. Hold gun perpendicular to surface being sprayed. Arcing or tilting may result in uneven coating.
8. The recommended spray distance is 150-200 mm (6"-8").
9. Spray edges first. Overlap each stroke a minimum of 50%. Move gun at a constant speed.
10. Always turn off air supply and relieve pressure when gun is not in use.

Air Flow Valve (15)

1. If the air flow valve (15) 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 supply and relieve pressure in the airline or, if using QD system, disconnect from airline.
2. Empty coating material into a suitable container and clean the gun and cup, preferably in a gun wash machine.
3. **IMPORTANT– the cup must not be cleaned or rubbed with a dry cloth or paper. It is possible to generate a static charge by rubbing which, if discharged to an earthed object could create an incendive spark and cause solvent vapours to ignite. Only use a dampened cloth or antistatic wipes if additional cleaning is required within a hazardous area.**
4. Remove air cap 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 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 – Remove parts (6) and (12). Unscrew valve assembly. Re-assemble, fitting spring to valve head.

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

Air cap / Nozzle selection

Refer to coating material manufacturers recommendations or ITW Finishing UK Website:
www.itweuropeanfinishing.com

Accessories

Spanner – order SPN-5

Cleaning brush – order 4900-5-1-K3

GFC-511 – Gravity cup, polyester for use with sulphuric acid based primers

Service kit – order KK-4502 add nozzle size and material code as required (e.g. KK-4502-FF-H)

Service kit – order KK-4558

Mini service kit – order KK-4503

Pressure gauge attachment – order GA-515

Gun mounted regulator – order DVR-501

Lubricant – order GL-1-K10

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