DEVILBISS

SERVICE BULLETIN
SB-4-203-D
Replaces SB-4-203-C

KB-519, KB-520 and KB-521 Pressure Cups

DESCRIPTION

Pressure cups provide a greater degree of control over atomization air and material pressure than obtainable through use of suction feed equipment. Pressure cups also enable user to apply heavy viscous materials in small amounts where 1 or 2 quart capacity is sufficient for the job.

KB-519 is a one quart pressure cup with regulator for attachment to JGA, JGK, MBC, and MGB guns.

KB-520 is a two quart pressure cup with regulator, designed to be attached to any manual gun with air and material hose so the cup may be carried in one hand and the gun in the other.

KB-521 is a one quart pressure cup version of the KB-520.

INSTALLATION

For KB-519 (See figure 2):

1. Connect material outlet of cup to material inlet of gun.
2. Connect adapter (33) on regulator (14) to air inlet of gun.
3. Connect air tube (1) and fittings (2, 3 and 4). Bend tube (1) if necessary.
4. Connect air supply hose to air inlet coupling (31) on regulator (14).

For KB-520 and 521 (See figure 3):

1. Connect material hose (A) to material inlet(s) of gun.
2. Connect atomization air hose (B) to air inlet of gun.
3. Connect air supply hose to inlet coupling (C) on regulator.

OPERATION

WARNING

HALOGENATED HYDROCARBON SOLVENTS — FOR EXAMPLE: I, I, I-TRICHLOROETHANE AND METHYLENE CHLORIDE CAN CHEMICALLY REACT WITH THE ALUMINUM IN THIS CUP AND CAUSE AN EXPLOSION HAZARD. READ THE LABEL OR DATA SHEET FOR THE MATERIAL YOU INTEND TO SPRAY. DO NOT USE SPRAY MATERIALS CONTAINING THESE SOLVENTS WITH THIS CUP.

Before starting to spray, read and carefully follow the instructions below. Mix and prepare material to be sprayed according to manufacturer's instructions. Strain material thru a 60 to 90 mesh screen or equivalent before spraying.

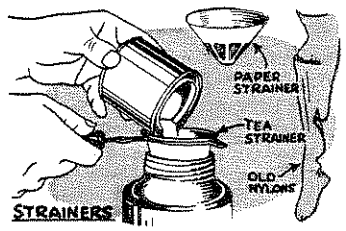


Figure 1

CAUTION

To prevent damage to the cup or poor spray pattern, keep the pressure in the cup below 50 psi at all times.

The controls and their respective uses are listed below:

Knob Assembly (15): Controls pressure on material in cup (13).

Air Adjusting Valve (26): Controls atomization air pressure to spray gun.

Control Valve (32): Allows air to be bled from cup (13).

To reduce pressure in cup, back off knob (15), bleed off excess air by momentarily turning in control valve (32); re-adjust pressure by turning in knob (15).

Turning control valve (32) in all the way shuts off air supply to cup and permits air to bleed from cup. It is important to do this before removing cup. To have pressure on material, control valve (32) must be turned out all the way.

To spray with a KB Cup using a transformer or some other means of externally regulating pressure of supply air:

1. Turn cup (13) into lid (7) securely.
2. Turn knob (15) out until no spring pressure is felt.
3. Open control valve (32) by turning it out, all the way counterclockwise.
4. Set air supply pressure at approximately 30 pounds at transformer.
5. Open air adjusting valve (26) full open.
6. Set material pressure at 10 pounds by turning in knob (15) and reading gauge (5).
7. Make sure fluid adjusting screw on spray gun is open (turned out counterclockwise until first thread shows).
8. Test for amount of paint in relation to speed at which you want to spray. If too much paint is coming out and atomized particle size of paint is too large follow one or other of these procedures.

a. Turn in knob (32).

Turn out (counterclockwise) knob (15) until gauge (5) shows zero.

Re-establish a lower cup pressure by first turning out knob (32) and slowly turning in knob (15).

b. Raise air pressure at transformer until well defined atomized pattern of paint is evident.

Spraying with a KB Cup without using a transformer is done the same way as with a transformer except that atomization air pressure to the gun is controlled by the air adjusting valve (26).

To spray with a KB Cup without using a transformer or some other means of externally regulating pressure of supply air:

1. Turn cup (13) into lid (7) securely.
2. Turn knob (15) out until no spring pressure is felt.
3. Turn air adjusting valve (26) all the way in (do not force).
4. Open control valve (32) by turning it out, all the way.
5. Turn on air supply to the regulator (14).
6. Set material pressure at 10 pounds by turning in knob (15) and reading gauge (5).
7. Make sure fluid adjusting screw on spray gun is open (turned out counterclockwise until first thread shows).
8. Open (counterclockwise) air adjusting valve (26) about 1½ turns.
9. Test for amount of paint in relation to speed at which you want to spray. If too much paint is coming out and atomized particle size of paint is too large follow one or other of these procedures.

a. Turn in knob (32).

Turn out counterclockwise knob (15) until gauge (5) shows zero.

Re-establish a lower cup pressure by first turning out knob (32) and slowly turning in knob (15).

b. Open (counterclockwise) air adjusting valve (26) until well defined atomized pattern of paint is evident.

PREVENTIVE MAINTENANCE

Always relieve pressure in cup before removing cup (13) by turning control valve (32) in all the way. Never allow cup to upset.

CLEANING

Unscrew cup (13) from lid (7) and pour out any remaining material. Add a suitable solvent and replace cup. Spray until clean solvent appears. Cup and gun material passages are now clean. Empty any remaining solvent from cup. Wipe cup with a solvent soaked cloth.

Note: Safety valve (28, 29 and 30) is set at approximately 55 pounds at the factory. This safety valve should never be disassembled unless it fails to function properly.

To disassemble turn off air supply to gun at regulator or transformer. Turn control valve (32) in all the way to release air from cup. Back out adjusting screw (28) and clean or replace worn parts.

To adjust safety valve (28, 29 and 30), turn in adjusting screw (28) a few turns. Set regulator or transformer at 55 pounds pressure. Turn control valve (32) all the way out. Turn on air supply to gun at regulator or transformer.

To reset safety valve turn in adjusting screw until safety valve releases. When release takes place air will escape through vent hole on side of manifold body. This is 55 pound setting. Stake threads on adjusting screw (28) at this pressure setting.

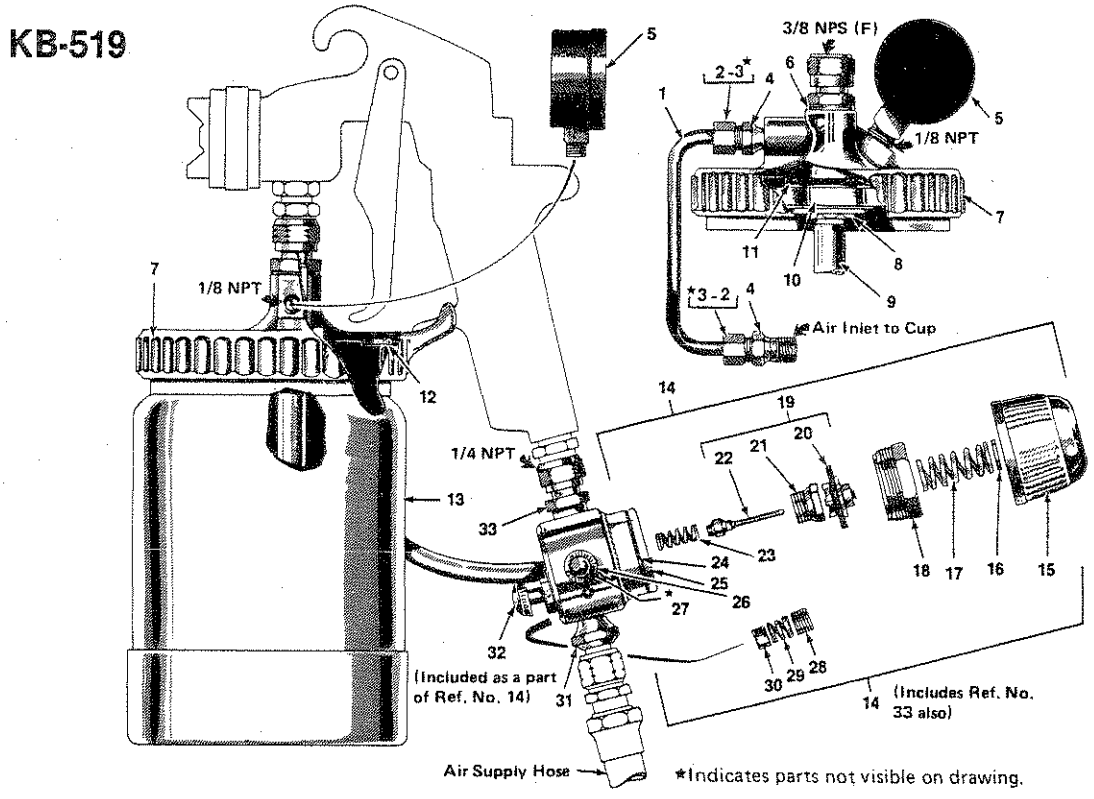


Figure 2

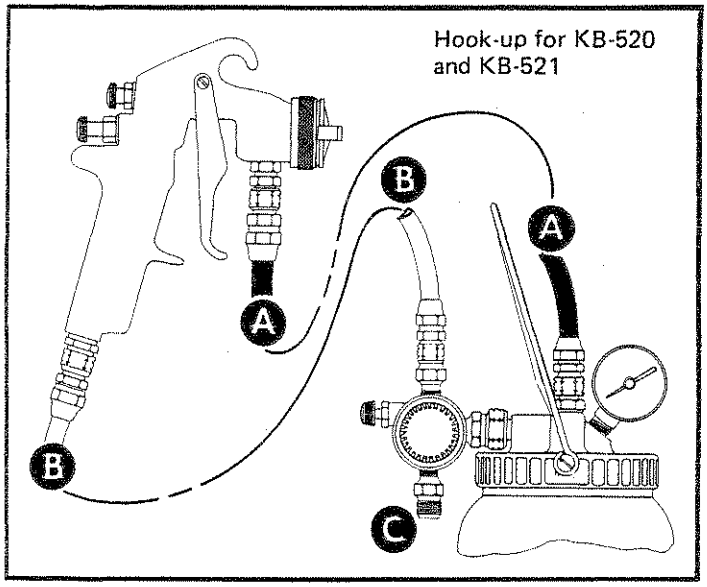
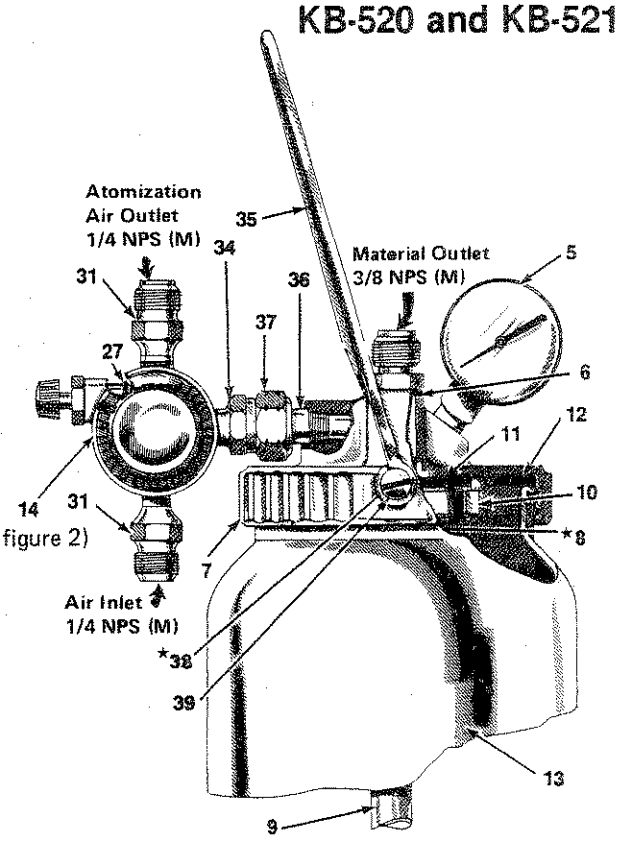


Figure 3

KB-520 and KB-521



*Indicates parts not visible on drawing.

Figure 4

Ref. No.	Replacement Part No.	Description	Qty.
1	KB-1	Tube	1
2	SS-8551-NI-K5	Coupling Nut	2
3	SS-8552-K5	Compression Sleeve 1/4 for KB-519	2
4	SS-8553-NI-K5	Coupling 1/4"	2
5	GA-92	Gauge 60 psi 1-1/2" Dia.	1
6	KB-60-K6	Gasket Kit	1
7	(See Chart 1)	Lid	1
8	MBD-11-K5	Nut 1/4 NPS	1
9	(See Chart 1)	Fluid Tube — SEE PRINT	1
10	KB-420	Regulator Protector Assembly	1
11	HW-19-K5	Gasket Kit — DIMENSIONAL PRINT FOLLOWS	1
12	KB-25-K5	Gasket Kit — Thiokol OR GC-69-K5	1
13	(See Chart 1)	Cup LEATHER GASKET KIT (CKK-4971)	1
14	KB-411	Air Regulator Assembly	1
15	HLD-403	Knob Assembly	1
16	HLD-10	Spring Depressor Button	1
17	KB-7	Spring	1
18	HLD-38-1	Diaphragm Retaining Nut	1
19	HAA-408	Pilot Valve & Diaphragm Assembly - Lapped	1
20	HLD-401	Diaphragm Assembly	1
21	HAA-14	Valve Seat Holder	1
22	HAA-407	Pilot Regulator Valve Assembly	1
23	KN-40-K5	Spring	1
24	KB-21	Spring Expander	1
25	KB-9	Body	1
26	KB-410	Air Adjusting Valve	1
27	SS-2666-K5	"O" Ring	1
28	TJ-33	Adjusting Screw	1
29	GP-9-K5	Spring Kit	1
30	GP-414	Valve & Disc Assembly	1
31	H-1766	Coupling 1/4 NPS(M) x 1/8 NPT(M)	1
32	CGA-411	Control Valve Assembly	1
33	P-KB-401	Adapter - Loose Nut for KB-519	1
34	KB-16	Union Body	1
35	KB-14	Bail	1
36	KB-17	Union Tail Piece } for KB-520 & KB-521	1
37	HC-1000-K5	Nut	1
38	KB-18	Spacer	2
39	SS-9853-Ni	Screw	2

Suffixes -K5, -K6 designate kits of multiple parts.
Example: **KB-60-K6** is a kit of (6) gaskets

Ref. No. 7 Ref. No. 9 Ref. No. 13

Cup Assembly	Lid	Fluid Tube	Cup	Cup Capacity
KB-519	KB-2	P-KB-407	CMD-411	1 Quart
KB-520	KB-15	P-KB-415	CMD-412	2 Quart
KB-521	KB-15	P-KB-417	CMD-411	1 Quart

Chart 1

These parts should be kept on hand for service convenience.

Ref. No.	Replacement Part No.	Description	Qty.
6	KB-60-K6	Gasket Kit	1
10	KB-420	Regulator Protector Assembly	1
11	HW-19-K5	Gasket Kit	1
12	KB-25-K5	Gasket Kit	1
19	HAA-408	Pilot Valve & Diaphragm Assy.	1
20	HLD-401	Diaphragm Assembly	2
22	HAA-407	Valve Assembly	2
27	SS-2666-K5	"O" Ring	2

Chart 2

1 quart = 950 cc 1 inch = 2.54 cm 14.5 psi = 1 bar

Chart 3

SERVICE CHECKS

CONDITION	CAUSE	CORRECTION
Excess pressure in cup.	Leak at valve assembly (22).	Replace.
	Gauge registering incorrectly.	Replace.
	Safety valve (28, 29 and 30) setting too high.	Adjust or replace.
	Valve spring (24) broken or distorted.	Replace.
	Diaphragm (20) damaged.	Replace.
Insufficient pressure in cup.	Control valve (32) leaking.	Replace.
	Control valve (32) partially open.	Turn out all the way.
	Safety valve setting too low.	Adjust or replace.
	Gauge registering incorrectly.	Replace.
	Leak at cup lid threads.	Tighten cup or replace gasket (12).

ACCESSORY ITEMS

The following hoses are available for KB-520 and KB-521 Pressure Cups:

HA-75041 fluid hose, 4' long.

HA-75061 air hose, 6' long.

GC-69-K5 leather gasket kit may be used in cases where solvents or materials used are harmful to KB-25-K5 Thiokol gasket.

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