

TECHNICAL MANUAL

**OPERATOR'S, ORGANIZATIONAL,  
DIRECT SUPPORT AND GENERAL  
SUPPORT MAINTENANCE  
MANUAL INCLUDING REPAIR  
PARTS LIST**

**FOR**

**SPRAY GUN, PAINT  
MODELS B-9900, B-9900-B  
NSN 4940-00-261-8415**

(METALCRAFT, INC.)

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HEADQUARTERS, DEPARTMENT OF THE ARMY

OCTOBER 1980



Technical Manual }  
No. 9-4940-424-14&P }

HEADQUARTERS  
DEPARTMENT OF THE ARMY  
Washington, DC, 24 October 1980

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REPAIR PARTS LIST  
FOR  
SPRAY GUN, PAINT  
MODELS B-9900, B-9900-B  
(NSN 4940-00-261-8415)

REPORTING OF ERRORS

You can help improve this manual. If you find any mistakes or if you know of a way to improve the procedures, please let us know. Mail your letter, DA Form 2028 (Recommended Changes to Publications and Blank Forms), or DA Form 2028-2, located in the back of this manual direct to: Commander, US Army Armament Material Readiness Command, ATTN: DRSAR-MAS, Rock Island, IL 61299. A reply will be furnished direct to you.

NOTE

This manual is published for the purpose of identifying an authorized commercial manual for the use of the personnel to whom this spray gun is issued.

Manufactured by Metalcraft, Inc.  
718 Debelius Avenue  
Baltimore, MD 21205

Procured under Contract No. DAAA09-77-C-6540

This technical manual is an authentication of the manufacturers' commercial literature and does not conform with the format and content specified in AR 310-3, Military Publications. This technical manual does, however, contain available information that is essential to the operation and maintenance of the equipment.

INSTRUCTIONS FOR REQUISITIONING PARTS

NOT IDENTIFIED BY NSN

When requisitioning parts not identified by National Stock Number, it is mandatory that the following information be furnished the supply officer.

- 1 - Manufacturer's Federal Supply Code Number - 06535
- 2 - Manufacturer's Part Number exactly as listed herein.
- 3 - Nomenclature exactly as listed herein, including dimensions, if necessary.
- 4 - Manufacturer's Model Number - Model B-9900; B-9900-B
- 5 - Manufacturer's Serial Number (End Item)
- 6 - Any other information such as Type, Frame Number, and Electrical Characteristics, if applicable.
- 7 - If DD Form 1348 is used, fill in all blocks except 4, 5, 6, and Remarks field in accordance with AR 725-50.

Complete Form as Follows:

- (a) In blocks 4, 5, 6, list manufacturer's Federal Supply Code Number - 06535 followed by a colon and manufacturer's Part Number for the repair part.
- (b) Complete Remarks field as follows:  
Noun: (nomenclature of repair part)  
For: NSN : 4940-00-261-8415  
Manufacturer: Metalcraft, Inc.

Model: B-9900; B-9900-B  
Serial: (of end item) N/A

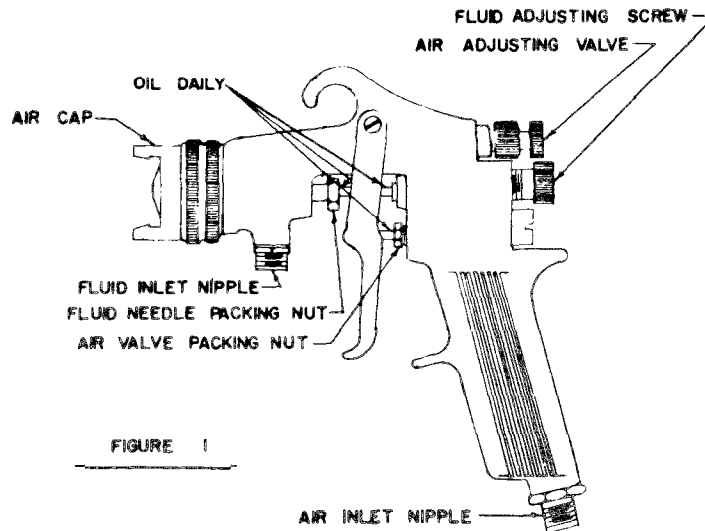
Any other pertinent information such as Frame Number, Type, Dimensions, etc.

**OPERATING AND MAINTENANCE INSTRUCTIONS  
PRODUCTION HEAVY DUTY SPRAY GUNS**

Models B-9900 and B-9900-B Spray Guns are Siphon Feed for use with one Quart Siphon Cup.

MODEL NO.	TYPE	NSN	AIR CONSUMPTION	SPECIFICATION AND TYPE
B-9900	Siphon Feed	4940-00-261-8415	7-8CFM @ 50-60PSIG	MIL-S-12877E Type II Size 2
B-9900-B	Siphon Feed	4940-00-261-8415	7-8CFM @ 50-60PSIG	

Service Replacement parts are shown on Page 5



**OPERATIONS**

**CONNECTIONS:**

When used with a Siphon Feed Cup, attach the gun to the Fluid Inlet Nipple and connect the Air Hose to the Air Inlet Nipple (see Fig. 1). When used with a Pressure Feed Tank, Air Hose and Fluid Hose both are required to connect the Spray Gun to the Tank. The Fluid Hose is Black, the Air Hose is Red. Attach one end of the Fluid Hose to the Fluid Outlet on the Pressure Tank and the other end of the Fluid Hose to the Fluid Inlet Nipple On the Spray Gun. Attach one end of the Air Hose to the Air Outlet Valve on the Pressure Tank and connect the other end of the Air Hose to the Air Inlet Nipple of the Spray Gun (Fig. 1).

**Note:** It is recommended Air Hose of not less than 5/16 I.D. and Fluid Hose of not less than 3/8 I.D. be used. Never use too small of Air Hose as this Will starve the Spray Gun due to the excessive Pressure Drop in the Atomizing Air Pressure.

## OPERATIONS

### GENERAL:

The first step of Spray Gun operation is the adjustment of the Spray for uniformity over the desired width, too much Air Pressure, i.e., too much atomizing Air Pressure at the Nozzle for the particular material being used will thin out the center of the spray pattern. It will cause excessive atomization or vapor about the main body of the spray. This condition can be controlled by lowering either Air Pressure at the Air Separator or adjusting the Regulator on top of the Pressure Tank or by properly setting the Air Adjustment Valve. An insufficient Air Pressure, i.e., too little air pressure at the Spray Gun Nozzle for the particular material to be used causes a spatter effect, the material covering the surfaces in small beads, drops or dots. This condition is controlled by increasing the Air Pressure at the Air Separator or at the Pressure Tank.

The width of the Spray is controlled by the Air Adjustment valve (Fig. 1). Turn the Air Adjustment Valve clockwise to decrease the spray, counter clockwise to increase the spray. To produce a round spray pattern or spot, close the Air Adjustment Valve.

The amount of material flow is controlled by the fluid Adjustment Screw (Fig. 1). Turn Adjusting Screw to the right to decrease the amount of Fluid flow and to the left to increase it.

With certain materials, too wide a spray adjustment will cause the spray pattern to split, i.e., the pattern becomes thin in the center and heavy at the ends, when this occurs, reduce the width of the spray.

Excessive material flow for the speed of stroke will cause runs or sags on the surface. Regulate the fluid flow to your speed of stroke.

The atomizing air pressure passing into the Spray Gun Nozzle is regulated to meet varying conditions of size of Gun Nozzle, weight or viscosity of paint, the material of the surfaces to be sprayed and the desired speed of gun operation. The atomization pressure will range from 20 to 80 pounds. Although for average materials and conditions, pressure from 40 to 60 pounds will be most satisfactory. Always use the lowest pressure that will give the desired results. A little experience will teach the Operator the most satisfactory pressures for the materials used.

Materials should be stirred thoroughly and reduced according to manufacturer's instructions; then strained into material container through cheese cloth or wire screen of such mesh or gauge as to remove all lumps, skins, etc. The straining of all material before introduction into the material container is of utmost importance, as it will prevent the consequent obstruction of spray gun passages.

A short practice period, using a cardboard, wood or metal surface is recommended so as to become familiar with the adjustments and operation of the spray gun. Do not attempt to operate the spray gun too rapidly at first. Learn to adjust and handle it and speed will follow.

The stroke is made with a free arm motion, keeping the gun body perpendicular to, and from an equal distance from the surface at all points of the stroke. Keep the gun 6 to 8 inches from the surface to be sprayed and move it across the surface with steady, even strokes.

## MAINTENANCE

### LUBRICATION

#### **DO NOT IMMERSE GUN IN SOLVENTS — THIS DESTROYS LUBRICANTS.**

Proper lubrication of the spray gun is essential to assure continued perfect operation.

**LUBRICATE DAILY** all bearing surfaces and moving parts with a light oil. The points of lubrication, refer to SPRAY GUN ASSEMBLY SECTIONAL DRAWING and see also Figure 1, required are: (A) the front and rear bearing surfaces of FLUID NEEDLE Item 22 (B) bearing surface of AIR VALVE STEM Item 8.

Occasional oiling applied to the threads on AIR ADJUSTING VALVE Item 4 and FLUID NEEDLE ADJUSTING SCREW Item 5 is recommended to maintain the smooth easy adjusting action.

Fluid Needle Spring Item 6 in fluid adjusting mechanism should be kept coated with a covering of light grease or vaseline.

Fluid Needle Packing and Air Valve Stem Packing Item 9 should be removed occasionally and inspected. Keep packing soft by occasional lubrication.

### CARE AND CLEANING

Spray Gun troubles are usually caused by neglect or improper cleaning.

Keep Gun lubricated.

Keep Packing Nuts around Fluid Needle and Air Valve Stem tight. Do not tighten so securely that parts cannot move freely.

Keep Gun clean. It is not necessary to take spray gun apart to clean it. Spray clean solvent through gun and wash off outside with clean solvent.

Do not allow Gun to get so dirty that soaking of complete gun becomes necessary.

Do not use caustic alkaline solutions for cleaning as they destroy aluminum alloy.

An unbalanced or distorted spray indicates a dirty air cap. Remove Air Cap and wash thoroughly in clean solvent. If reaming of air cap holes is necessary, use match stick, broom bristle or other soft implement. Never use a hard or sharp instrument for this purpose, as it may permanently damage the cap.

Do not remove spray gun parts unless absolutely necessary.

Check condition of gaskets when removing parts which seal On gasket.

Always make certain the Fluid Nozzle is securely tightened when replacing. The Fluid Nozzle size is 1" Hex.

## SECTION II REPAIR PARTS

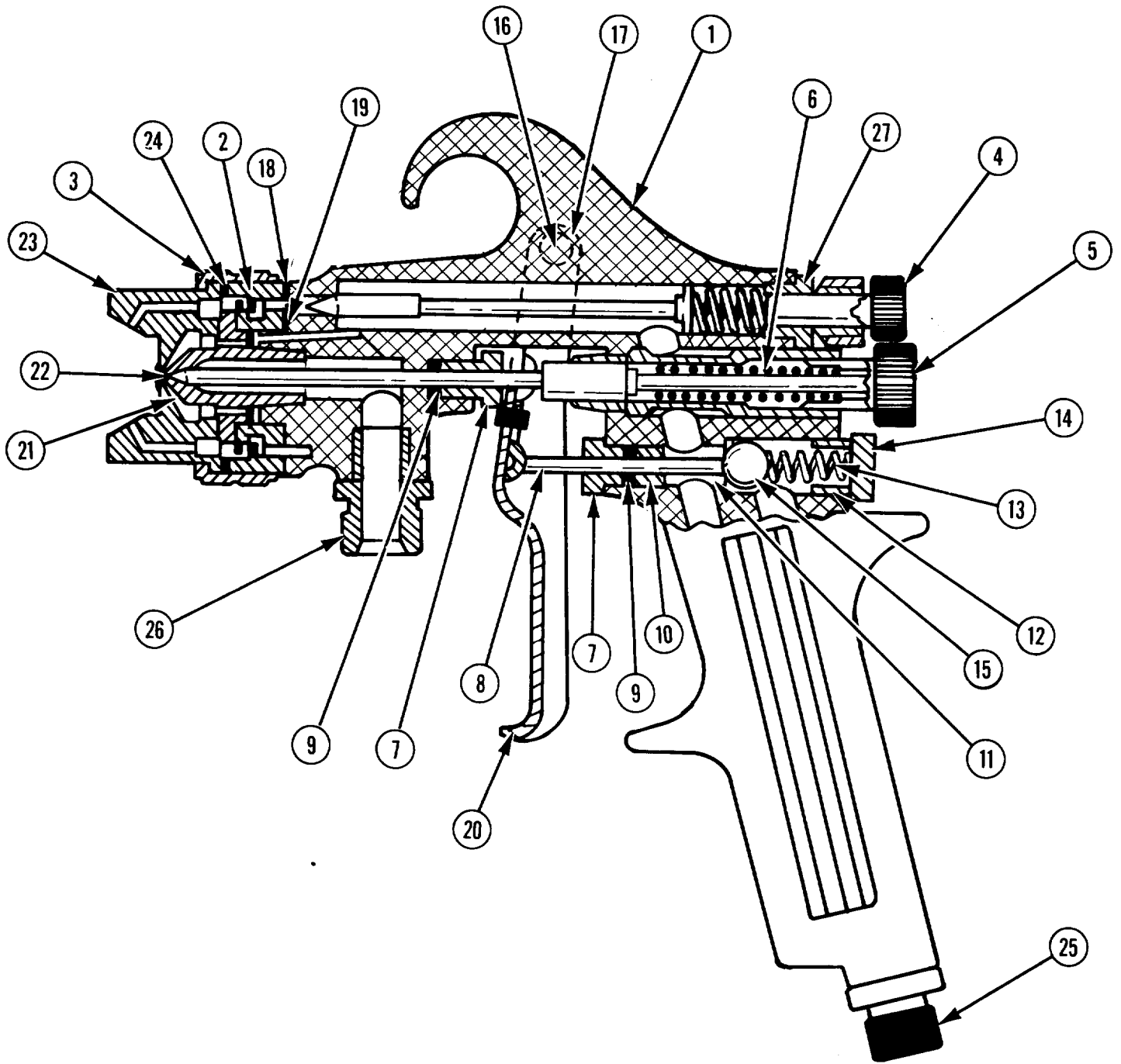
(1)			(2)	(3)		(4)	(5)	(6)				(7)	
SOURCE MAINT. AND RECOV. CODE			FEDERAL STOCK NO.	DESCRIPTION		UNIT OF ISSUE	QTY INC	15 DAY ORGANIZATIONAL MAINT. ALLOWANCE				ILLUSTRATION	
(A)	(B)	(C)			USABLE ON CODE		IN UNIT	(A)	(B)	(C)	(D)	(A)	(B)
SOURCE	MAINT.	RECOV.		REFERENCE NUMBER AND MFR CODE				1-5	6-20	21-50	51-100	FIGURE NO.	ITEM NO.
P	O		4940-474-8820	TIP,FLUID W/GASKET AV-601-E(17431)	B C	EA	1	*	1	2	4	1	1
P	O		4940-474-8821	TIP,FLUID W/GASKET AV-601-FX(17431)	A	EA	1	*	1	2	4	1	1
P	O		4940-422-8771	PACKING FLUID NEEDLE A-23(17431)	A B C	EA	1	1	2	4	6	1	2
P	O		4940-474-7845	NEEDLE,FLUID MBC-444-FX(17431)	A	EA	1	*	1	2	4	1	3
P	O		4940-422-8776	NEEDLE,SPRAY GUN FLUID MBC-444-E(17431)	B C	EA	1	*	1	2	4	1	3
P	O		4940-474-8850	VALVE,SPREADER ADJUSTMENT ASSEMBLY MBC-416-1(17431)	A B C	EA	1	*	*	1	2	1	4
P	O		4940-474-9016	SPRING,HELICAL COMPESSION MBC-29(17431)	A B C	EA	1	1	2	4	6	1	5
P	O		4940-422-8812	PLUNGER,SPRAY GUN MBC-33(17431)	A B C	EA	1	*	1	2	4	1	6
P	O		4940-449-9301	CYLINDER AND GASKET MBC-415(17431)	A B C	EA	1	*	*	1	2	1	7
P	O		4730-346-1768	ADAPTER,STRAIGHT 1/4 IN. NPT P-MB-51(17431)	A B C	EA	1	1	2	4	6	1	8
P	O		5330-641-2215	GASKET,ASBESTOS-COPPER, 0.436 IN. ID, 33/64 IN. OD, 1/16 IN. THK MB-72(17431).	A B C	EA	1	1	2	4	6	1	9
P	O		5330-801-5855	PACKING,AIR VALVE MB-26(17431)	A B C	EA	1	1	2	4	6	1	10
P	O		5310-474-7878	NUT,PACKING AIR VALVE ASSEMBLY MB-138(17341)	A B C	EA	1	*	1	2	4	1	11
				SECTION III									
				TOOLS AND SUPPORT EQUIPMENT									
P	O		5120-422-8932	WRENCH,BOX AND OPEN END COMBINATION WR-101(17431)	A B C	EA	1	1	2	4	6	1	12



SECTION IV. INDEX-FEDERAL STOCK NUMBER AND REFERENCE NUMBER  
 CROSS-REFERENCE TO FIGURE AND ITEM NUMBER

STOCK NUMBER	FIGURE NO.	ITEM NO.	STOCK NUMBER	FIGURE NO.	ITEM NO.
4730-436-1768	1	8	4940-474-8821	1	1
4940-422-8771	1	2	4940-474-8850	1	4
4940-422-8776	1	3	4940-474-9016	1	5
4940-422-8812	1	6	5120-422-8932	1	12
4940-449-9301	1	7	5310-474-7878	1	11
4940-474-7845	1	3	5330-641-2215	1	9
4940-474-8820	1	1	5330-801-5855	1	10

REFERENCE NO.	MFR CODE	FIG NO.	ITEM NO.	REFERENCE NO.	MFR CODE	FIG NO.	ITEM NO.
A-23	17431	1	2	MBC-33	17431	1	6
AV-601-E	17431	1	1	MBC-415	17431	1	7
AV-601-EX	17431	1	1	MBC-416-1	17431	1	4
MB-138	17431	1	11	MBC-444-E	17431	1	3
MB-26	17431	1	10	MBC-444-FX	17431	1	3
MB-72	17431	1	9	P-MB-51	17431	1	8
MBC-29	17431	1	5	WR-101	17431	1	12



By Order of the secretary of the Army:

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*Chief of Staff*

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BE EXACT. PIN-POINT WHERE IT IS

PAGE NO.	PARA-GRAPH	FIGURE NO.	TABLE NO.
1		1	
5			

IN THIS SPACE TELL WHAT IS WRONG AND WHAT SHOULD BE DONE ABOUT IT:

Callouts for air cap and fluid adjusting screw are switched.

What is the part number for the O ring (model B-9900)? It is not listed.

SAMPLE

PRINTED NAME, GRADE OR TITLE, AND TELEPHONE NUMBER

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PUBLICATION TITLE Maintenance Manual for Spray Gun, Paint (Mods B-9900, B-9900-B)

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PAGE NO.	PARA-GRAPH	FIGURE NO.	TABLE NO.

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