

**TECHNICAL MANUAL**

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

**SPRAY OUTFIT, UNDERCOATING,  
MODEL 98-1030  
(BINKS MANUFACTURING CO.)  
(NSN 4940-00-449-6789)**

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**HEADQUARTERS, DEPARTMENT OF THE ARMY  
NOVEMBER 1979**

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TECHNICAL MANUAL }  
No. 9-4940405-14&P

HEADQUARTERS  
DEPARTMENT OF THE ARMY  
WASHINGTON, DC, 29 November 1979

**OPERATOR'S, ORGANIZATIONAL, DIRECT SUPPORT AND  
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SPRAY OUTFIT, UNDERCOATING, MODEL 98-1030  
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**REPORTING OF ERRORS**

You can improve this manual by recommending improvements using DA Form 2028 (Recommended Changes to Publications and Blank Forms) or DA Form 2028-2 located in the back of the manual and mail the form to Commander, US Army Armament Materiel 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 the spray outfit is issued.

Manufactured by: Binks Manufacturing Co.  
9201 W. Belmont Ave.  
Franklin Park, IL 60131

Procured under Contract No: DAAA09-75-M-8417

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.

## MODEL 98-1030 UNDERCOATING SPRAY OUTFIT

Consists of:

- 1 - 7E2 SPRAY GUN WITH 45 x 1/4 SPRAY NOZZLE.
- 1 - 72-430 FLUID GUN SWIVEL.
- 1 - 71-1305 AIR HOSE ASSEM. (AIR ATOMIZING), 3/8" I.D. x 25' LENGTH.
- 1 - 71-3343 FLUID HOSE ASSEM., 3/4" I.D. x 25' LENGTH
- 1 - 71-1305 AIR HOSE ASSEM. (AIR SUPPLY). 3/8" I.D. x 15' LENGTH.
- 1 - 414283 FALCON 3L PUMP, 4:1 RATIO, MOUNTED ON DRUM COVER WITH DOUBLE AIR CONTROL.

MINIMUM AIR SUPPLY REQUIREMENTS: 20 CFM at 100 PSI

### LUBRICATION SCHEDULE

SPRAY GUN:  
MONTHLY

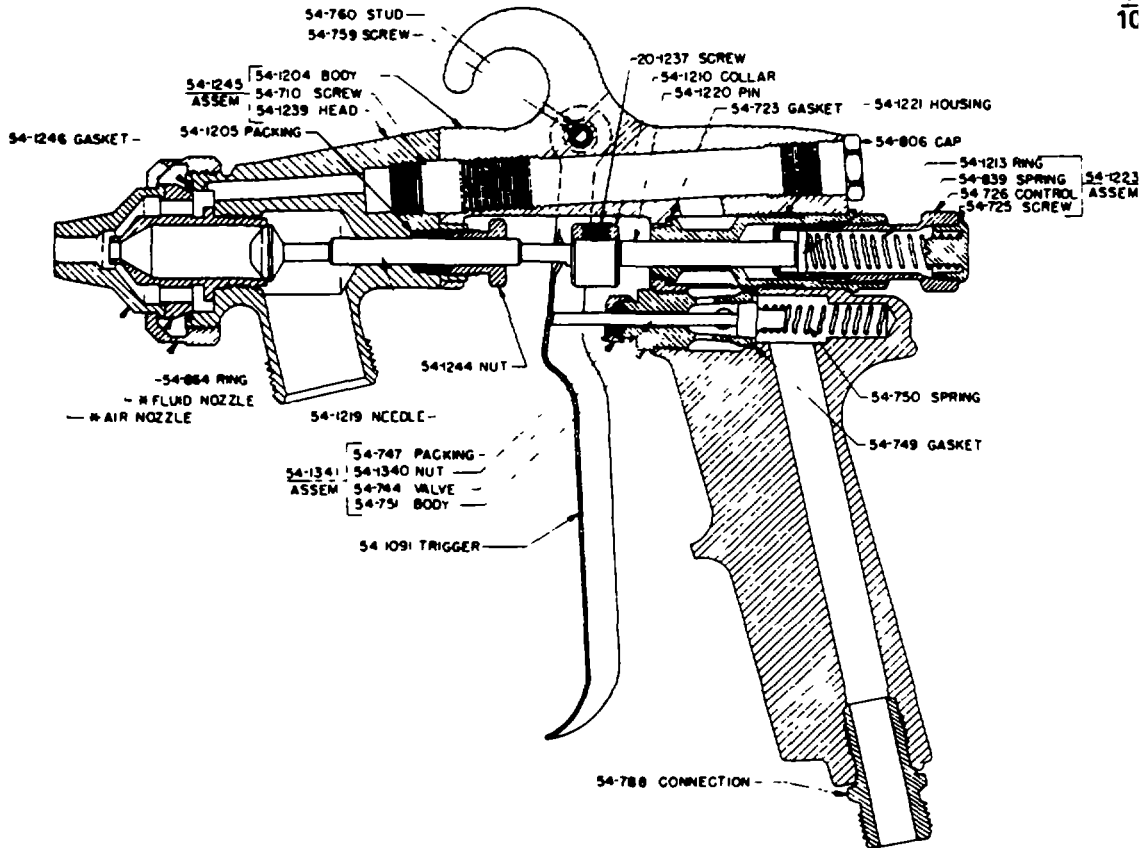
Insert a few drops of oil on air valve stem and fluid needle to lubricate packings

PUMP AIR MOTOR:  
EVERY 100 HOURS OF OPERATION

Place a few drops of oil into the air Inlet. Run pump at a very slow speed with no load for approximately 2 minutes to lubricate internal parts.

# MODEL 7E2 SPRAY GUN

1  
10



## PARTS LIST

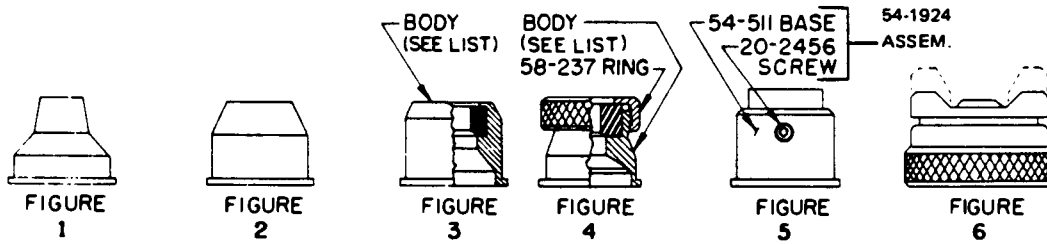
PART NO.	DESCRIPTION	QTY.	PART NO.	DESCRIPTION	QTY
*	AIR NOZZLE.....	1	54-839	FLUID CONTROL SPRING.....	1
*	FLUID NOZZEL .....	1	54-864	RETAINER RING .....	1
5-32	GUN WRENCH .....	1	54-1091	TRIGGER. FOUR FINGER .....	1
20-1237	1/4-20 x 1/4 SOC HD SET SCREW .	1	54-1204	GUNBODY .....	1
20-2002	1/8 HEX ALLEN WRENCH.....	1	54-1205	NEEDLE VALVE PACKING .....	1
54-710	SCREW .....	1	54-1210	NEEDLE COLLAR.....	1
54-723	FLUID CONTROL GASKET .....	1	54-1213	RING .....	1
54-725	SPRING RETAINER SCREW .....	1	54-1219	NEEDLE .....	1
54-726	FLUID CONTROL BODY .....	1	54-1220	NEEDLE PIN .....	1
54-744	AIR VALVE STEM.....	1	54-1221	FLUID CONTROL HOUSING.....	1
54-747	AIR VALVE PACKING.....	1	54-1223	FLUID CONTROL SCREW ASSEM ...	1
54-749	AIR VALVE GASKET.....	1	54-1239	GUN HEAD,.....	1
54-750	AIR VALVE SPRING .....	1	54-1244	PACKING NUT .....	1
54-751	AIR VALVE BODY .....	1	54-1245	GUN BODY ASSEMBLY .....	1
54-759	TRIGGER SCREW.....	1	54-1246	FLUID NOZZLE GASKET .....	1
54-760	TRIGGER STUD .....	1	54-1340	AIR VLAVE PACKING NUT .....	1
54-788	AIR CONNECTION. .	1	54-1341	AIR VALVE ASSEMBLY.....	1
54806	CAP .....	1	82-221	CLEANING BRUSH.....	1

\* BE SURE TO SPECIFY NUMBER STAMPED ON AIR NOZZLE AND FLUID NOZZLE. OR SEE NOZZLE SELECTION CHART ON REVERSE SIDE OF SHEET

Replaces  
Part Sheet  
1341R-2

Part Sheet  
1341R-3

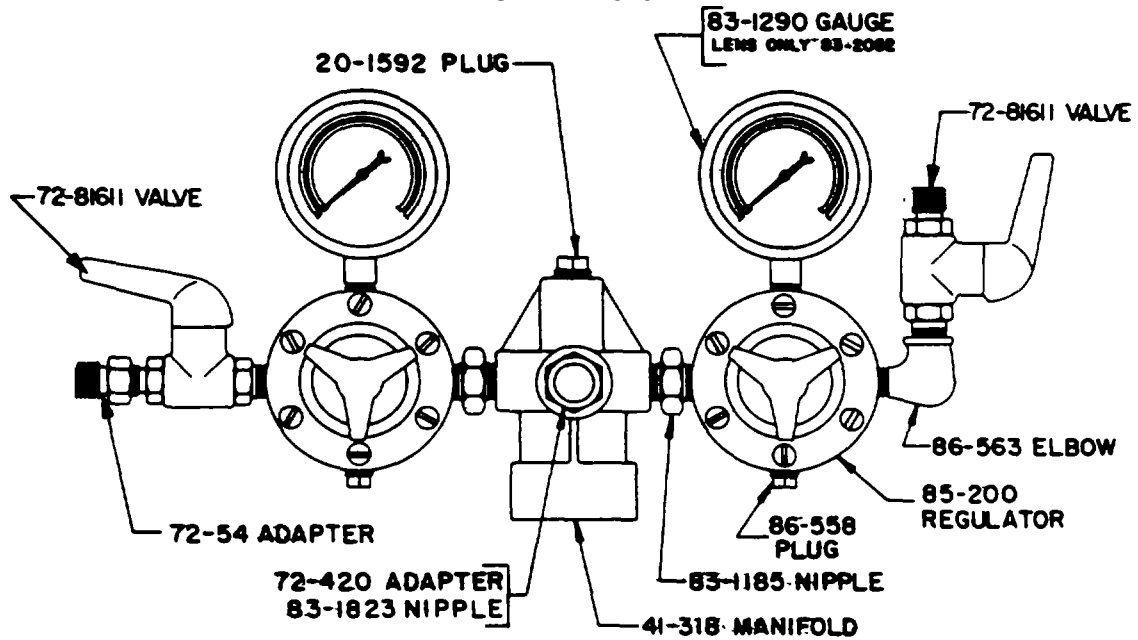
# NOZZLE SELECTION CHART



NOZZLE SET-UP	FLUID NOZZLE		AIR NOZZLE			BODY-BASE NUMBER	INSERT		SPRAY		C. F. M. AT 50 PSI
	NUMBER	ORIFICE	NUMBER	FIG	MATERIAL		NUMBER	MATERIAL	TYPE	MIX	
44x <sup>3</sup> / <sub>16</sub>	44	.187	<sup>3</sup> / <sub>16</sub>	1	STEEL				ROUND	INT.	7.8
45x <sup>1</sup> / <sub>4</sub>	45	.250	<sup>1</sup> / <sub>4</sub>	1	STEEL				ROUND	INT.	13.2
46x <sup>5</sup> / <sub>16</sub>	46	.312	<sup>5</sup> / <sub>16</sub>	1	STEEL				ROUND	INT.	17.0
47x <sup>3</sup> / <sub>8</sub>	47	.375	<sup>3</sup> / <sub>8</sub>	1	STEEL				ROUND	INT.	20.3
49x <sup>1</sup> / <sub>2</sub>	49	.500	<sup>1</sup> / <sub>2</sub>	1	STEEL				ROUND	INT.	22.3
45x <sup>3</sup> / <sub>8</sub> F	45	.250	<sup>3</sup> / <sub>8</sub> F	2	STEEL				FAN	INT.	20.0
47x <sup>3</sup> / <sub>8</sub> R	47	.375	<sup>3</sup> / <sub>8</sub> R	3		58-135	46-90	RUBBER	ROUND	INT.	20.3
49x <sup>1</sup> / <sub>2</sub> R	49	.500	<sup>1</sup> / <sub>2</sub> R	3		58-224	46-91	RUBBER	ROUND	INT.	22.5
44x <sup>3</sup> / <sub>16</sub> E	44	.187	<sup>3</sup> / <sub>16</sub> E	6	BRASS				FAN	EXT.	16.3
45x <sup>1</sup> / <sub>4</sub> E	45	.250	<sup>1</sup> / <sub>4</sub> E	6	BRASS				FAN	EXT.	15.3
47x <sup>3</sup> / <sub>8</sub> E	47	.375	<sup>3</sup> / <sub>8</sub> E	6	BRASS				FAN	EXT.	16.5
44x <sup>3</sup> / <sub>16</sub> C	44	.187	<sup>3</sup> / <sub>16</sub> C	4		58-238	58-242	CERAMIC	ROUND	INT.	7.8
45x <sup>1</sup> / <sub>4</sub> C	45	.250	<sup>1</sup> / <sub>4</sub> C	4		58-239	58-243	CERAMIC	ROUND	INT.	13.2
47x <sup>3</sup> / <sub>8</sub> C	47	.375	<sup>3</sup> / <sub>8</sub> C	4		58-240	58-244	CERAMIC	ROUND	INT.	20.3
49x <sup>1</sup> / <sub>2</sub> C	49	.500	<sup>1</sup> / <sub>2</sub> C	4		58-241	58-245	CERAMIC	ROUND	INT.	22.5
46x190	46	.312	190	5	T.CARBIDE	54-1924			FAN	INT.	11.5
46x191	46	.312	191	5	T.CARBIDE	54-1924			FAN	INT.	9.0
46x290	46	.312	290	5	NITRALLOY	54-1924			FAN	INT.	11.5
46x291	46	.312	291	5	NITRALLOY	54-1924			FAN	INT.	9.0
46x292	46	.312	292	5	NITRALLOY	54-1924			ROUND	INT.	14.0

# MODELS 41-32 and 41-321 AIR CONTROL ASSEMBLIES

MODEL 41-320



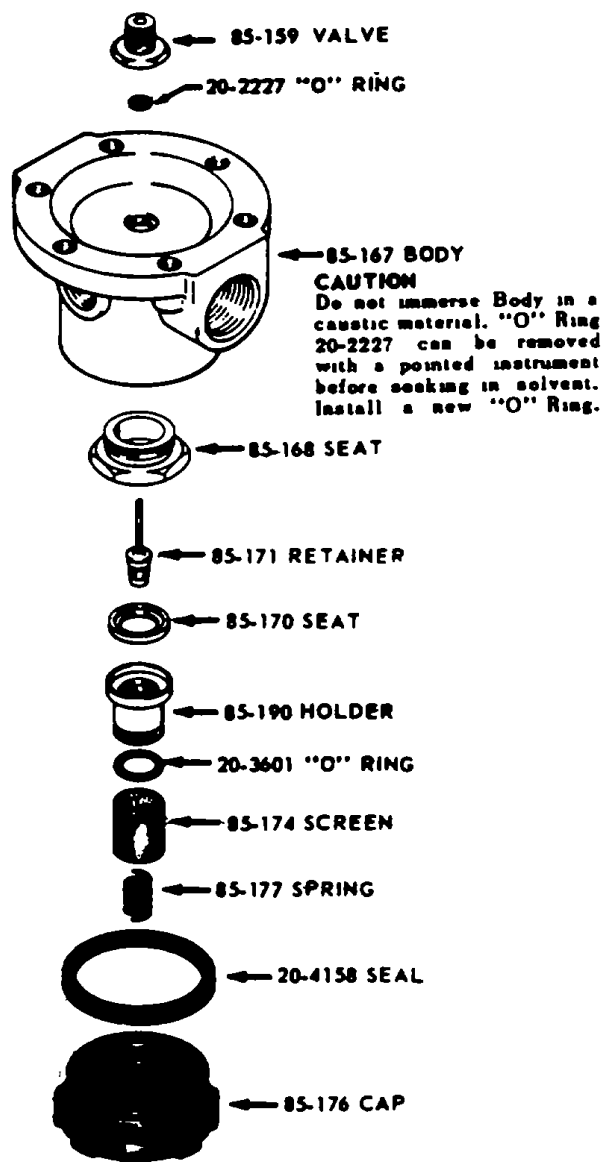
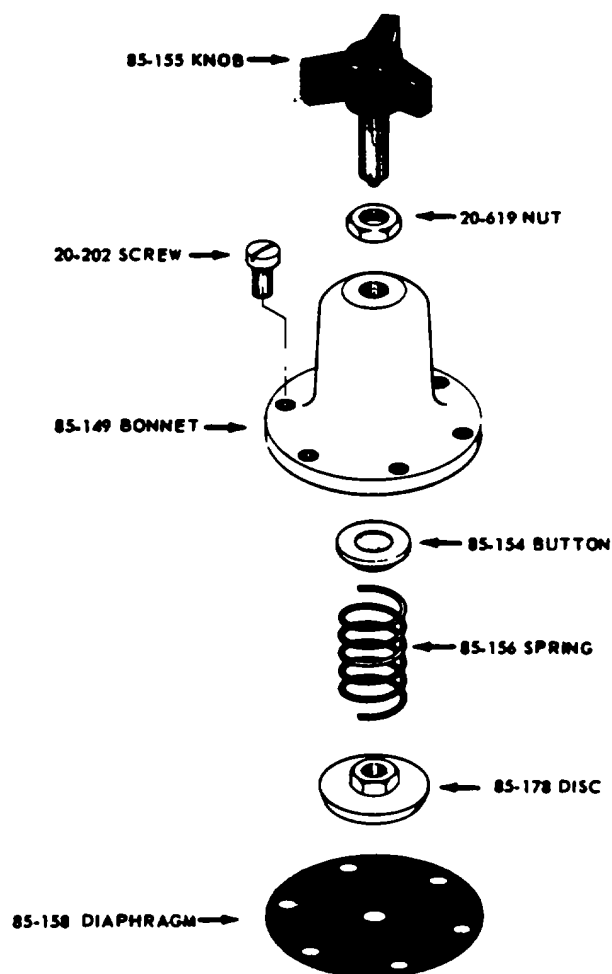
## PARTS LIST

PART NO.	DESCRIPTION	QTY.	PART NO.	DESCRIPTION	QTY
20-1592	PLUG, 3/8 NPT.....	1	83-1823	D.M. NIPPLE .....	1
41-318	MANIFOLD .....	1	83-2052	LENS .....	2
72-54	ADAPTER.....	1	85-200	AIR REGULATOR	
72-420	ADAPTER.....	1		(See Page 2 for breakdown).....	2
72-81611	BALL VALVE .....	2	86-558	PLUG .....	2
83-1185	NIPPLE .....	2	86-563	ELBOW.....	1
83-1290	GAUGE, 150#.....	2			

Replaces  
Part Sheet  
1387R-1

Part Sheet  
1387R-1

**MODEL 225 AIR PRESSURE REGULATOR**  
**CFM CAPACITY - 100REGULATED OUTLETS - 3**

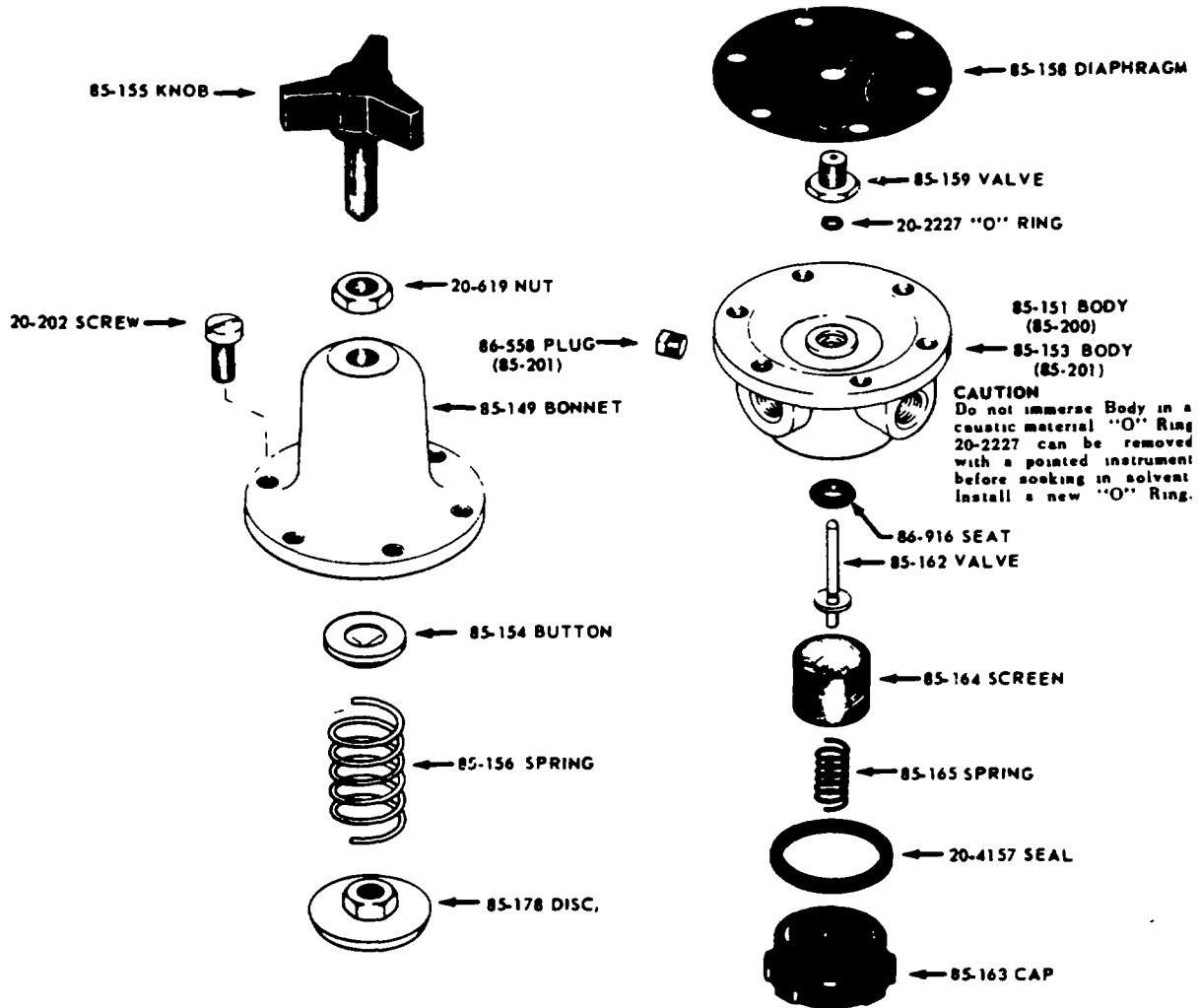


**PARTS LIST**

PART NO.	DESCRIPTION	QTY.	Mat'l	PART NO.	DESCRIPTION	QTY	Mat'l
20-202	SCREW, 1/4-20x1/2 Fill. Hd .....	6	1	85-167	BODY.....	1	-
20-619	NUT, 3/8-16 Jam .....	1	1	85-168	SEAT .....	1	5
• 20-2227	"O" RING 1/8 I.D. x 1/4 O.D. ....	1	58	• 85-170	SEAT .....	1	60
• 20-3601	"O" RING 7/16 I.D. x 9/16 O.D. ....	1	58	85-171	RETAINER ASSEMBLY .....	1	-
• 20-4185	SEAL, 1-1/2 I.D. x 1-11/16 O.D. ....	1	58	• 85-174	SCREEN.....	1	6
85-149	BONNET .....	1	11,f	85-176	CAP.....	1	63
85-154	BUTTON .....	1	1,c	• 85-177	SPRING .....	1	1,c
85-155	KNOB.....	1	-	85-178	DISC .....	1	52
85-156	SPRING .....	1	1,c	85-190	HOLDER.....	1	5
• 85-158	DIAPHRAGM .....	1					
85-159	VALVE.....	1	5				

## MODEL 85-200 and 85-201 AIR PRESSURE REGULATORS

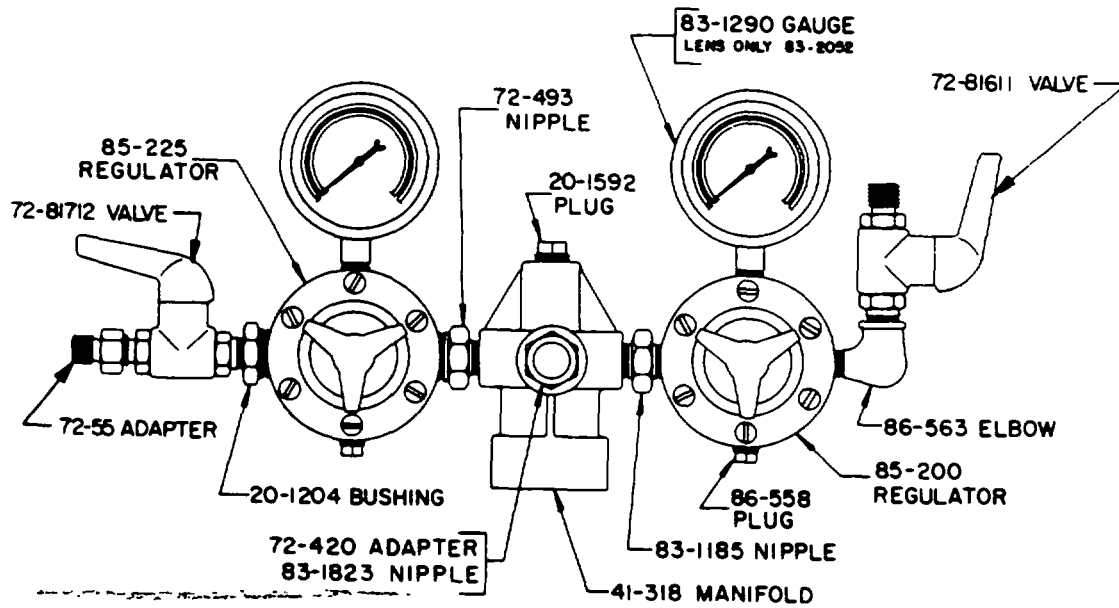
CFM CAPACITY - MODEL 85-200 and S5-201 - 40 CFM  
 REGULATED OUTLETS - MODEL 85-200 - 3 REGULATED  
 MODEL S5-201 - 2 REGULATED - 1 UNREGULATED



### PARTS LIST

PART NO.	DESCRIPTION	QTY.	Mat'l	PART NO.	DESCRIPTION	QTY.	Mat'l
20-202	SCREW, 1/4-20x1/2 Fill. Hd .....	6	1	85-158	DIAPHRAGM .....	1	58&52
20-619	NUT, 3/8-16 Jam .....	1	1	85-159	VALVE .....	1	5
• 20-2227	"O" RING 1/8 I.D. x 1/4 O.D. ....	1	58	85-162	VALVE .....	1	-
• 20-4185	SEAL, 1-1/4 I.D. x 1-7/16 O.D. ....	1	58	85-163	CAP .....	1	63
85-149	BONNET .....	1	11,f	85-164	SCREEN .....	1	6
85-151	BODY (85-200) .....	1	-	85-165	SPRING .....	1	1,c
85-153	BODY (85-201) .....	1	-	85-178	DISC .....	1	52
85-154	BUTTON .....	1	1,c	85-558	PLUG, 1/4 NPT (85-201) .....	1	1,c
85-155	KNOB .....	1	-	86-916	SEAT .....	1	54
85-156	SPRING .....	1	1,c				

# MODEL 41-321



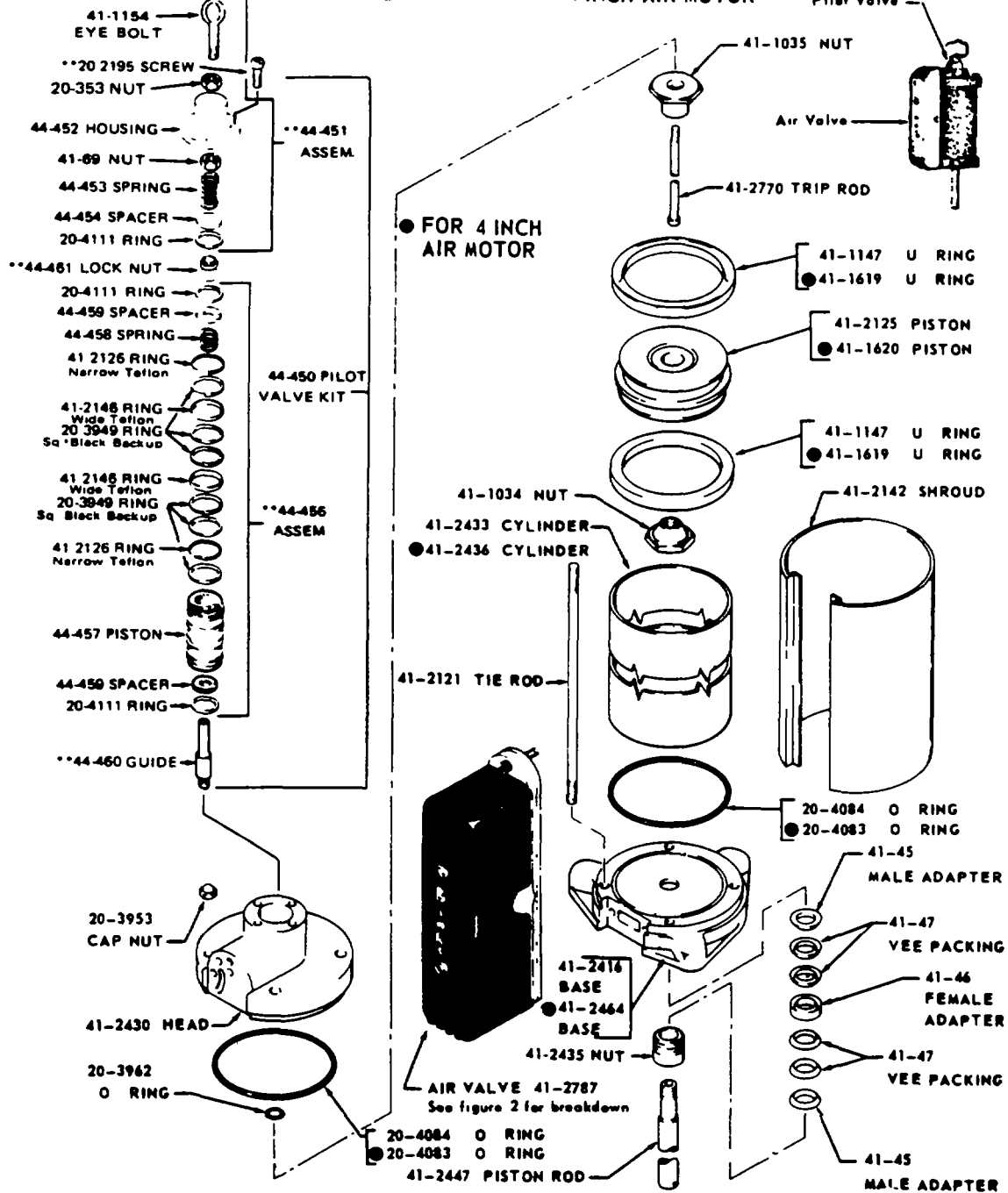
## PARTS LIST

PART NO.	DESCRIPTION	QTY.	PART NO.	DESCRIPTION	QTY
20-1592	PLUG, 3/8 NPT1 .....	1	83-1823	D.M NIPPLE .....	1
20-1204	BUSHING. 1/2 X 3/8 NPT .....	1	83-2052	LENS .....	2
41-318	MANIFOLD .....	1	85-200	AIR REGULATOR	
72-55	ADAPTER .....	1		(See Page 2 for breakdown)	
72-420	ADAPTER .....	1	85-225	AIR REGULATOR	
72-493	D.M. NIPPLE .....	1		(See Page 4 for breakdown)	
72-81611	BALL VALVE .....	1	86-558	PLUG .....	2
72-81712	BALL VALVE .....	1	86-563	ELBOW .....	1
83-1185	D.M NIPPLE .....	1			
83-1290	GAUGE. 150# .....	2			

MODEL 41-2193  
AND MODEL 41-2194

3 INCH AIR MOTOR  
4 INCH AIR MOTOR

2  
11



Replaces  
Part Sheet  
1738R-8

Part Sheet  
1738R-9

# **PARTS LIST** **FOR 3 INCH AND 4 INCH AIR MOTORS**

PART NO.	DESCRIPTION	QTY.	MAT'L. CODE	PART NO.	DESCRIPTION	QTY.	MAT'L. CODE
**20-353	JAM NUT . . . . .	1		41-2142	SHROUD . . . . .	1	3
**20-2195	ALLEN HD. CAP SCREW			♦†**41-2146	RING . . . . .	2	65
	1/4-20 x 3/4	4	1,c	41-2416	BASE . . . . .	1	11
♦†**20-3949	SQ. RING, 15/16 I.D.			41-2430	HEAD ASSEM. . . . .	1	—
	x 1 1/16 O.D.	6	58	41-2433	CYLINDER . . . . .	1	7,i
20-3953	CAP NUT 5/16-18 . . . . .	4	3	41-2435	NUT . . . . .	1	5,f
20-3962	O RING . . . . .	1	54	♦41-2436	CYLINDER . . . . .	1	—
†20-4083	O RING . . . . .	2	58	41-2447	ROD . . . . .	1	5
♦20-4084	O RING . . . . .	2	58	♦41-2464	BASE . . . . .	1	11
**20-4111	RETAINER RING . . . . .	3	1,f	41-2770	ROD . . . . .	1	3
♦†41-45	MALE ADAPTER . . . . .	2	5	41-2787	AIR VALVE ASSEM. . . . .	1	—
♦†41-46	FEMALE ADAPTER . . . . .	1	5	**44-450	PILOT VALVE KIT . . . . .	1	—
♦†41-47	V PACKING . . . . .	4	55	**44-451	HOUSING ASSEMBLY . . . . .	1	—
**41-69	NUT . . . . .	1		**44-452	HOUSING . . . . .	1	7
41-1034	NUT . . . . .	1	1,c	**44-453	SPRING . . . . .	1	1,c
41-1035	NUT . . . . .	1	1,c	**44-454	SPACER . . . . .	1	5
♦41-1147	U RING . . . . .	2	51	**44-456	PISTON ASSEMBLY . . . . .	1	—
**41-1154	EYE BOLT . . . . .	1		**44-457	PISTON . . . . .	1	3
†41-1619	U RING . . . . .	2	51	**44-458	SPRING . . . . .	1	1,c
♦41-1620	PISTON . . . . .	1	11	**44-459	SPACER . . . . .	2	5
41-2121	TIE ROD . . . . .	4	1,c	**44-460	GUIDE . . . . .	1	3
41-2125	PISTON . . . . .	1	11	**44-461	LOCK NUT . . . . .	1	3
♦†**41-2126	RING . . . . .	2	65				

† For Material Code, please see Bulletin A49-20.

\*\* Denotes 44-450 Pilot Valve Kit.  
(44-450 Kit can be used in all 3"  
and 4" Air Motors now in use.)

• Denotes 4" Air Motor only.

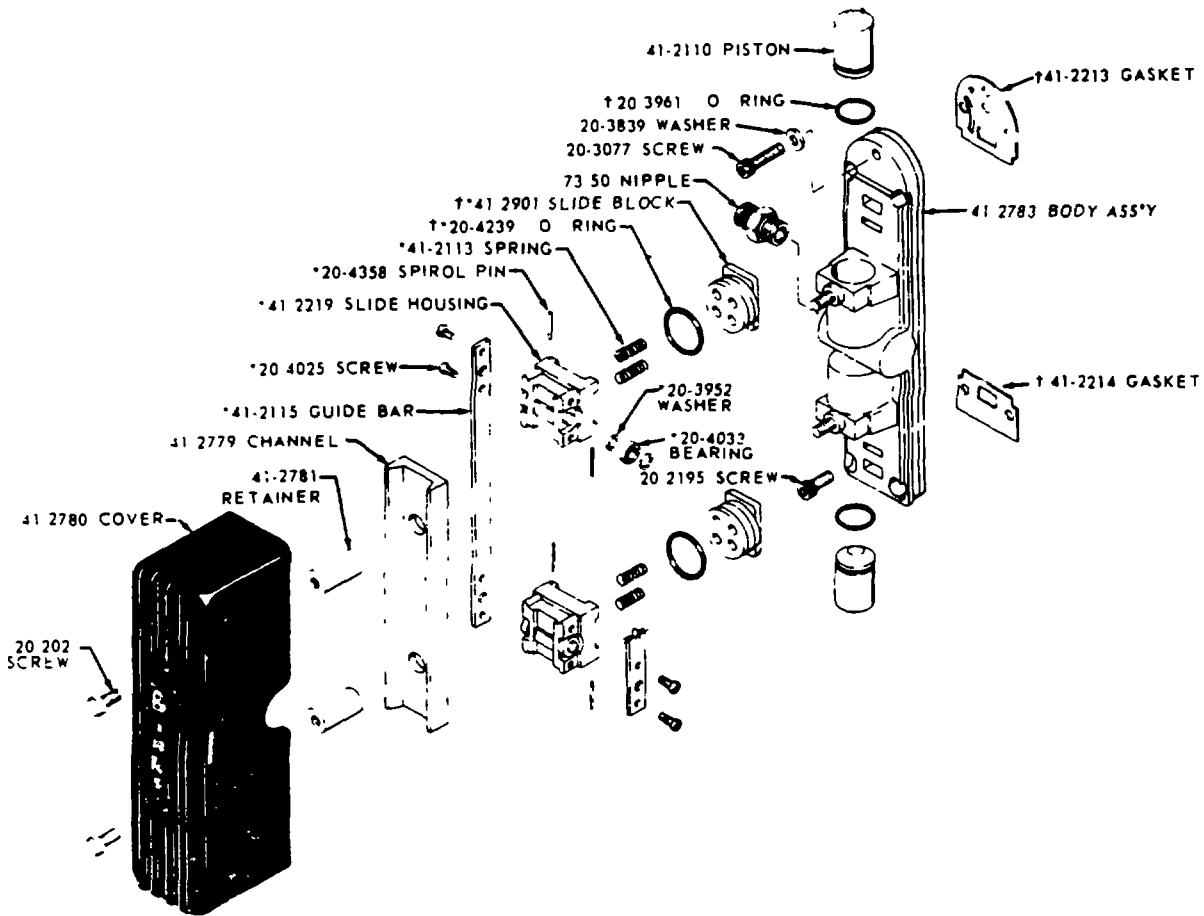
♦ Recommended Spare Parts for 3" Air Motor.  
For Complete Kit order 41-4192.

† Recommended Spare Parts for 4" Air Motor.  
For Complete Kit order 41-4193.

## **TROUBLESHOOTING CHART**

TROUBLE	Probable Cause	Remedy
Motor will not operate or reverse stroke direction.	No air supply  Pilot Valve stuck  Air valve piston stuck.  Trip Rod (41-2770) adjustment loose. Motor piston hits top or bottom casting before tripping pilot valve.	Check regulator  Disassemble and check for freedom of movement.  Disassemble and check for freedom of movement.  Tighten trip rod.
Motor loses power under load, and air hissing during exhaust.	Air Motor piston "U" Rings worn, or cylinder wall scored.	Remove and replace piston "U" Rings or scored cylinder.
Housing (41-2219) moves too slowly.	Motor valve pistons dirty. Pilot valve dirty.	Disassemble and clean. Disassemble and clean.
Air valve leaks under load.	Face of Body Assembly (41-2783) scored or Slide Block (41-2901) stuck.	Remove and replace damaged parts. Clean and lubricate parts.
Air leaking continuously from pilot valve.	Pilot valve Rings worn or damaged.	Remove and replace worn or damaged parts.
Air leaking around Piston Rod 41-2447.	Loose or worn packings in air motor base.	Tighten Bushing in air motor base. Disassemble and replace packings in air motor base.

# MODEL 41-2787 AIR VALVE



## PARTS LIST

PART NO.	DESCRIPTION	QTY.	Mat'l	PART NO.	DESCRIPTION	QTY	Mat'l
20-202	SCREW, 1/4-20 x 1/2 .....	2	1,c	*41-2115	GUIDE BAR .....	2	3
20-2195	SCREW, 1/4-20 x 5/8 .....	4	1,c	†41-2213	GASKET. ....	1	66
20-3077	SCREW, 1/4-20 x 1 .....	1	1	†41-2214	GASKET .....	1	66
20-3839	WASHER, 1/4 Flat .....	1	1,c	*41-2219	SLIDE HOUSING.....	2	-
•20-3952	WASHER, 1/4 Flat .....	8	3	41-2779	CHANNEL.....	1	1,c
†20-3961	O RING. 13/16 x 15/16 .....	2	53	41-2780	COVER .....	1	63
•20-4025	SCREW, 8-32 x 318. ....	8	1,c	41-2781	RETAINER.....	2	1,c
•204033	BEARING, 1/4 x 5/8.....	4	-	41-2783	BODY.....	1	-
†20-4239	O RING.1-3/16 x 1-5/16 .....	2	58	•41-2900	SLIDE ASSEMBLY .....	1	-
•20-4358	SPIROL PIN, 1/16 x 1.....	4	1,c	†41-2901	SLIDE BLOCK .....	2	-
41-2110	PISTON.....	2	63	73-50	NIPPLE .....	1	1,c
•41-2113	SPRING .....	4	1,c				

• Denotes parts in 41-2900 Slide Assembly

† 41-2959 Repair Parts Kit.

## OPERATION AND MAINTENANCE INSTRUCTIONS

The Air Motor has been thoroughly tested before leaving the factory. No adjustment is required before installing this Air Motor onto a Fluid Section.

The reciprocating air motor delivers power through a piston rod to the fluid section. The air motor consists of a piston, piston rod, cylinder, pilot valve and air valve that switches the air supply from one side of the piston to the other. The air valve also provides for exhausting air from the motor.

The following instructions and maintenance notes are written including both the 3 inch and the 4 inch air motors. Changes in parts and part numbers from 3 inch to 4 inch are given in parentheses. For example:

“ . . . , Piston 41-2125 (Piston 41-1620), . . . ”  
3 Inch Air Motor (4 Inch Air Motor)

### SET-UP:

Attach the Air Motor to a fluid section as follows:

1. Remove upper tie rods from fluid section.
2. Pull air motor piston rod out as far as possible. Attach air motor to fluid section by turning fluid section piston rod into air motor piston rod.
3. Install and tighten upper tie rods of fluid section into air motor base.
4. Line up tie rods with holes in fluid section spacer ring. Attach nuts and tighten securely.
5. Install assembled pump onto the pump mount.
6. Attach air supply to air motor inlet.

The pump is now ready for operation.

**CAUTION:** Do not operate air motor any faster than is required to give the desired spray pattern. Maximum recommended speed is 60 cycles per minute. Refer to nozzle sheet for proper spray patterns.

### MAINTENANCE NOTES

The air motors have been designed for a minimum amount of maintenance. With proper care, the air motor will deliver long efficient service.

### LUBRICATION:

Remove air supply hose from motor valve inlet and insert a few drops of light machine oil. Connect air supply hose and operate pump at a slow speed with no load. Lubricate air motor after every 100 hours of operation.

## REPAIR

### To Repair Pilot Valve

1. Move Air Motor piston to the top of its stroke. Remove Screws 20-2195 and Housing 44-451 with pliers, grasp Locknut 44-461 and pull piston assembly completely out of head casting.
2. Examine and replace worn or damaged parts (particularly Rings 41-2126 and 41-2146).
3. Check that Trip Rod 41-2770 and Guide 44-460 are securely fastened and lubricated before pushing piston assembly into head casting and replacing cap.

### TO REPAIR AIR VALVE.

1. Remove Screws 20-202, Cover Assembly 41-2780, Retainers 41-2781 & Channel 41-2779..
2. Inspect Slide Assemblies for worn or damaged bearings. If bearings are stuck or worn, remove Screws 20-4025, Guide Bars 41-2115, Washers 20-3952 and Bearings 20-4033.
3. Remove Spiral Pins 20-4358, Slide Blocks 41-2901, O Rings 20-4239 and Springs 41-2113.  
NOTE: When removing Spiral Pins, depress Slide Blocks slightly so as not to lose Springs.
4. Replace worn or damaged parts. Lubricate parts and reassemble in reverse order.

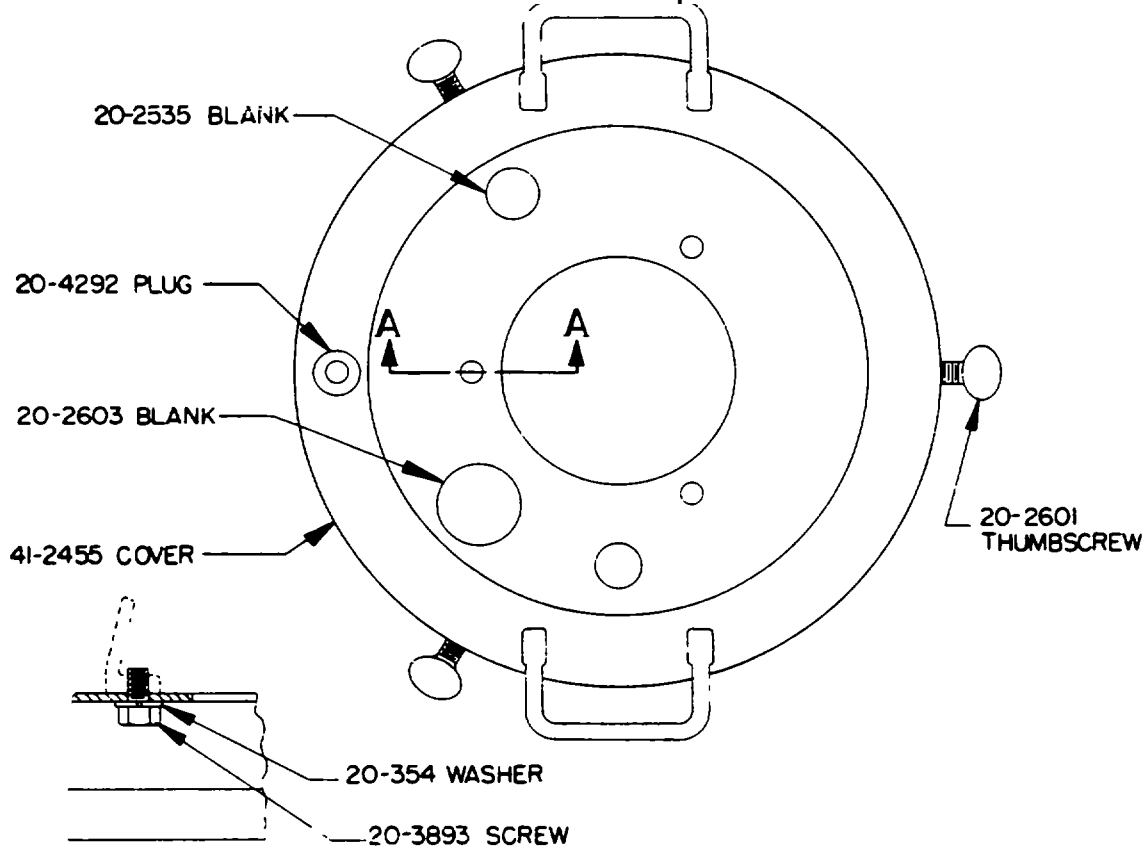
### TO REPAIR AIR MOTOR PISTON AND CYLINDER.

1. Remove pilot valve and air valve cover assemblies as above.
2. Remove air valve Screws 20-3077 and 20-2195 from Top Head and Base Assemblies in air motor.
3. Remove four Cap Nuts 20-3953, and lift Head Assembly 41-2430 straight up. Remove Shroud 41-2142, Cylinder 41-2433 (41-2436), Piston 41-2125 (41-1620), and U Rings 41-1147 (41-1619). NOTE: To remove Piston 41-2125 (41-1620), remove Nuts 41-1034 and 41-1035 from Piston Rod 41-2447.
4. If leakage was noted around packing assembly in base of air motor, disconnect Piston Rod from Pump Shaft; remove Nut 41-2435 and pull Piston Rod 41-2447 out of Base 41-2416. Check Vee Packings 41-47, Female Adapter 41-46, and Male Adapter 41-45.
5. Replace worn or damaged parts. Lubricate with a thin coat of machine oil and reassemble in reverse order.

## TROUBLE SHOOTING

A Trouble Shooting Chart is provided to isolate malfunctions in the air motor. Refer to the Operation and Maintenance for Airless Pumps for malfunctions other than those of the air motor.

**MODEL 41-3210, 5 GALLON PAIL COVER  
For "L" Series Pumps**



**SECTION A-A**

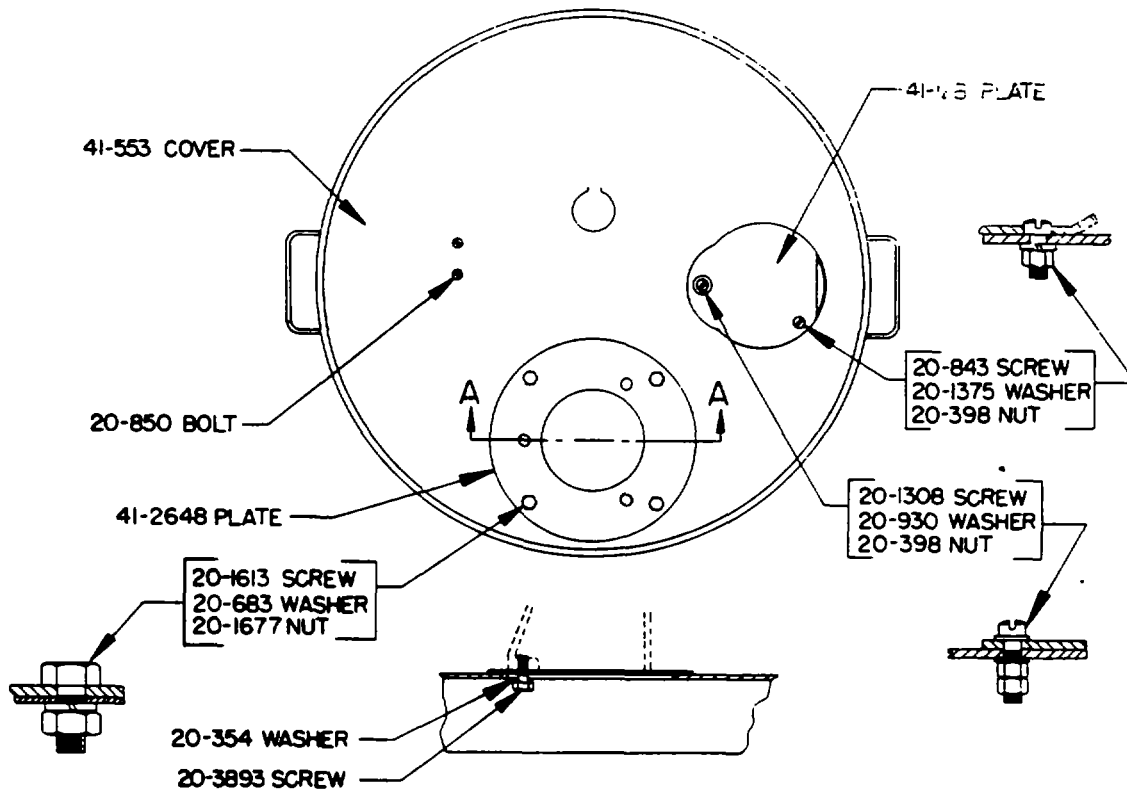
Part No	Description	Qty.
20-354	Lock Washer, 3/8 .....	3
20-2535	Snap-In Blank, 1/2 .....	1
20-2601	3/8-16 x 1-1/2 Thumbscrew .....	3
20-2603	Snap-In Blank, 1". .....	1
20-3893	3/8-24 x 3/4 Hex Cap Screw .....	3
20-4292	Plug, 7/16.....	1
41-2455	Cover .....	1

Note: See reverse side for Model 41-3211, 55 Gallon Drum Cover

Replaces  
Part Sheet  
1842

Part Sheet  
1842R

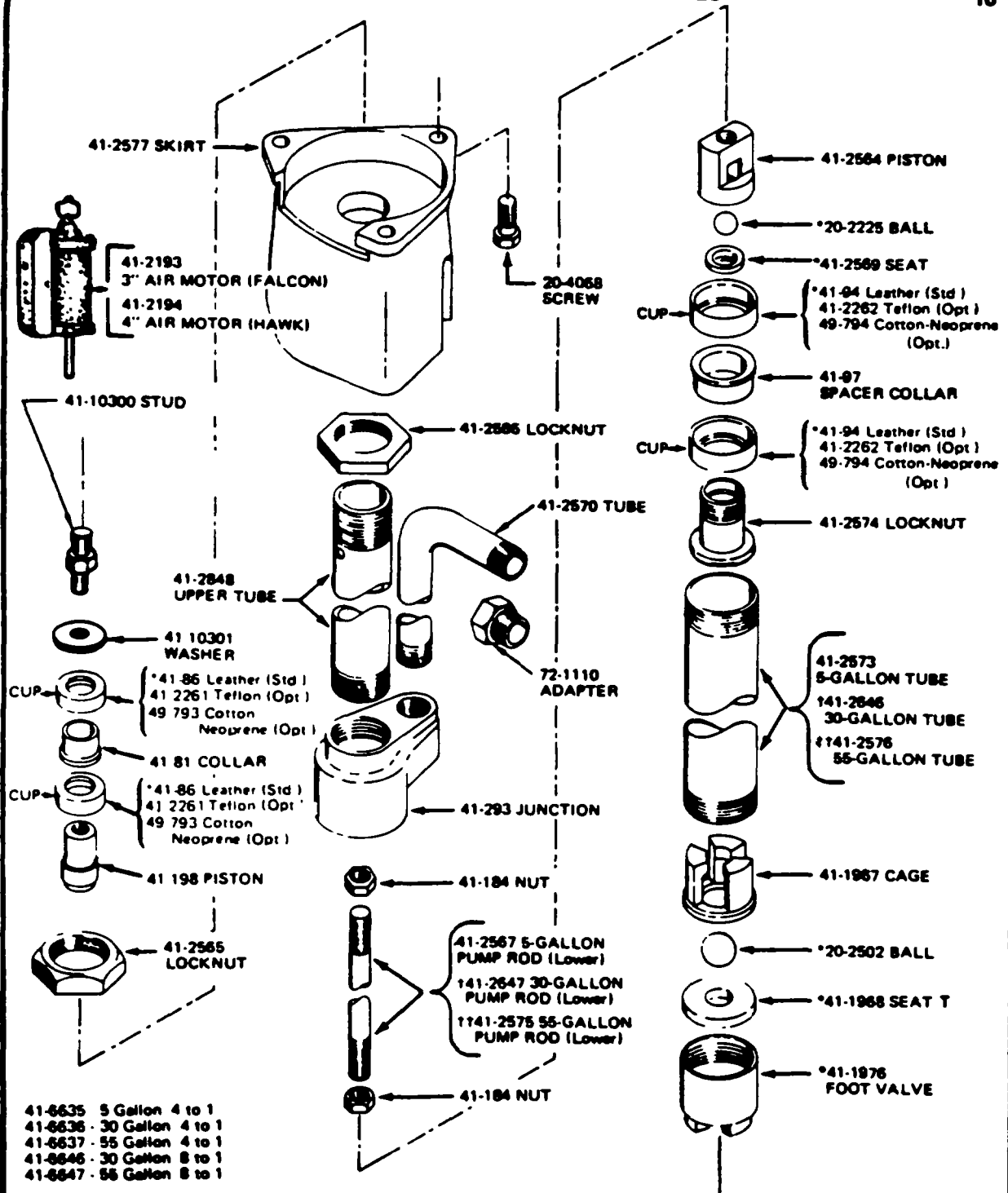
# MODEL 41-3211, 55 GALLON DRUM COVER



Port No	Description	Qty.
20-354	3/8 Lock Washer .....	3
20-398	No.10-32 Hex Nut.....	3
20-683	5/16 Lock Washer .....	4
20-843	No.10-32 x 1/2 Fil. Hd. Mach Screw.....	1
20-850	1/4-20 x 3/4 Rd. Hd. Stove Bolt & Nut .....	2
20-930	No.10 Flat Washer.....	2
20-1308	No 10-32 x 3/4 Fil. Hd. Mach. Screw.....	1
20-1375	No.10 Lock Washer .....	1
20-1613	5/16-18 x 3/4 Hex Cap Screw.....	4
20-1677	5/16-18 Hex Nut.....	4
20-3893	3/8-24 x 3/4 Hex Cap Screw.....	3
41-128	Cover Plate .....	1
41-553	Cover .....	1
41-2648	Adopter P.....	1

MODEL 41-6635, 41-6636, 41-6637, 41-6646, 41-6647  
"L" PUMP ASSEMBLIES

$\frac{2}{10}$



41-6635 - 5 Gallon 4 to 1  
41-6636 - 30 Gallon 4 to 1  
41-6637 - 55 Gallon 4 to 1  
41-6646 - 30 Gallon 8 to 1  
41-6647 - 55 Gallon 8 to 1

† For 30-Gallon Model Only.

†† For 55-Gallon Model Only.

\* Parts included in Spare Parts Kit 41-2612.

Replaces  
Part Sheet  
1849R

Part Sheet  
1849R-1

## 5-, 30-, AND 55-GALLON "L" FLUID SECTIONS

PART NO.	DESCRIPTION	QTY.	MAT'L.**	PART NO.	DESCRIPTION	QTY.	MAT'L.**
*20-2225	Ball	1	1	41-2570	Tube	1	1c
*20-2502	Ball	1	1	41-2573	5-Gallon Tube	1	1c
20-4068	Screw 3/8-24 x 7 8	3	1c	41-2574	Locknut	1	1c
41-81	Collar	1	1c	†41-2575	Pump Rod (lower)	1	1c
*41-86	Cup (Standard)	2	55	†41-2576	Tube	1	1c
*41-94	Cup (Standard)	2	55	41-2577	Skirt	1	7
41-97	Spacer Collar	1	1c	41-2646	Tube	1	1c
41-184	Nut	2	1c	41-2647	Pump Rod (lower)	1	1c
41-198	Piston	1	1c	41-2848	Upper Tube	1	1c
41-293	Junction	1	7	41-10300	Stud	1	1c
41-1967	Cage	1	12	41-10301	Washer	1	1c
*41-1968	Seat	1	1k	49-793	Cup (Optional)		
41-1976	Foot Valve	1	1c		Cotton duck-Neoprene	2	-
41-2261	Cup (Optional)	2	65	49-794	Cup (Optional)		
41-2262	Cup (Optional)	2	65		Cotton duck-Neoprene	2	-
41-2564	Piston	1	1c	72-1110	Adapter	1	1c
41-2565	Locknut	2	1c				
41-2567	5-Gal. Pump Rod (lower)	1	1c				
*41-2569	Seat	1	1k				

\*Recommended Spare Parts Kit 41-2612.

\*\*See Bulletin A49-20 for Material Code.

†For 30-Gallon Model Only

††For 55-Gallon Model Only

### OPERATION AND MAINTENANCE INSTRUCTIONS

Your "L" fluid section has been thoroughly tested before leaving the factory. The "L" fluid sections are recommended for use with the 3-Inch Air Motor to produce a 4:1 pump or with the 4-Inch Air Motor to produce an 8:1 pump.

The procedures for the "L" fluid sections are included herein.

#### ATTACHING "L" FLUID SECTION TO AIR MOTOR

1. Lay air motor and fluid section on workbench.
2. Remove Locknut 41-2565 and Skirt 41-2577.
3. Fully extend Pump Rod from fluid section.
4. Fully extend air motor Piston Rod.
5. Place Locknut 41-2565 and Skirt 41-2577 over end of air motor Piston Rod.

#### CAUTION:

Handle air motor Piston Rod with care to avoid scoring or scratching that can cause rapid packing wear.

6. Attach air motor Piston Rod to Pump Rod.
7. Slide Skirt 41-2577 into place and install Locknut 41-2565.
8. Install three Screws 20-4068 in air motor base.
9. Install pump on appropriate mount.

#### OPERATION:

1. Connect air supply hoses between air motor valve and air regulator, and between air regulator and gun.
2. Connect high pressure hose between fluid section outlet and spray gun. Securely tighten connections.
3. Connect air supply line from compressor to air regulator.
4. Place fluid section in container of thinner or other suitable solvent to remove oil from fluid passages.
5. Assure air regulator adjustment is backed-off, then open main air supply valve to the regulator.
6. Turn air regulator adjustment until pump begins to slowly operate.
7. Direct spray gun into solvent container and pull trigger.
8. Increase regulator and run pump for approximately ½ minute at a moderate speed. Back-off regulator until pump stops.
9. Check all connections for leaks.
10. Remove container of solvent.
11. Open regulator and allow system to pump out solvent.
12. Allow air to pump through system for about ½ minute. Back-off air regulator.
13. Prepare fluid to be sprayed in accordance with manufacturers instructions.
14. Place fluid section in appropriate material container.
15. Direct spray gun into container and operate pump until system is primed and proper spray atomization is achieved.

#### CAUTION:

Do not operate system at a pressure higher than that required to achieve adequate material flow. This will help prolong the life of the equipment.

#### COLOR CHANGE OR SHUTDOWN:

1. Shut off air to pump by closing air supply valve.
2. Back-off air regulator.
3. Release fluid pressure by aiming gun into fluid reservoir and pulling trigger until fluid ceases to flow.
4. Remove pump from fluid.
5. Remove gun nozzle and flush with solvent.
6. Place fluid section in container of solvent and operate pump until fluid slowly pours from gun (direct gun into fluid container).
7. When solvent appears in fluid, direct gun into solvent container and allow flow to continue until solvent looks clean.
8. When changing to another color, wipe outside of pump and place it in the new fluid. Continue spraying operation.

**NOTE:** When shutdown of system is to be for a short period (overnight), solvent may remain in pump to avoid possible drying of residual fluids.

When complete shutdown is desired, proceed with the following steps.

9. Remove solvent container and continue flow until system pumps only air for about ½ minute.
10. Shut off air supply and trigger gun until all pressure is relieved.
11. Remove filter and clean thoroughly.
12. Wipe exterior of system with solvent dampened rags.

#### PUMP STORAGE:

Pump should be kept wet when not in use. When extended storage is desired, flush system with a mixture of 50% solvent and 50% number 10 oil. Remove this fluid before next usage.

#### "L" FLUID SECTION DISASSEMBLY:

The Fluid Section should be disassembled, thoroughly cleaned, and inspected once each month or more often as required when used continuously. Proceed as follows:

1. Disconnect air and fluid lines and remove pump from mount.
2. Disconnect Air Motor from Fluid Section.
  - a. Remove Screws 20-4068
  - b. Remove Locknut 41-2565 and slide Skirt 41-2577 toward air motor.
  - c. Unscrew air motor Piston Rod from fluid section Pump Rod.
3. Remove Foot Valve 41-1976, Seat 41-1968, Ball 20-2502, and Cage 41-1967.
4. The piston and pump rod assemblies can now be removed by carefully pushing the pump rod from the top with an appropriate tool.
5. Further disassembly may now be made as required.

#### "L" FLUID SECTION ASSEMBLY

Inspects parts for excessive wear or damage. Replace any defective items.

Assembly is performed in reverse order of the preceding disassembly procedure. Be sure that the packings are installed correctly to insure proper pump operation.

**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-
- 2-Manufacturer's Part Number exactly as listed herein.
- 3-Nomenclature exactly as listed herein, including dimensions, if necessary.
- 4-Manufacturer's Model Number-
- 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 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  
Manufacturer:

Model:  
Serial:

Any other pertinent information such as frame number, type, dimensions, etc.

By Order of the secretary of the Army

B.C. MEYER  
*General, United States Army*  
*Chief of Staff*

Official:

J.C. PENINGTON  
*Major General, United States Army*  
*the Adjutant General*

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