

3M

**surface saver
system**

operator's manual

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I. Introduction

The 3M Surface Saver™ System consists of Surface Saver Tape applied by the Surface Saver Applicator. This system is rapidly gaining acceptance as the most effective system for protecting plastic lenses during surfacing.

The Surface Saver System is a dramatic improvement over the messy, volatile work conditions associated with liquid protective coatings. No spraying, solvents, or venting are required.

The System is also an improvement over tape coverings. The Surface Saver Tape is vacuum-applied. This means no manual application and no problems trying to make a flat tape lay wrinkle-free on a curved lens.

II. Installation

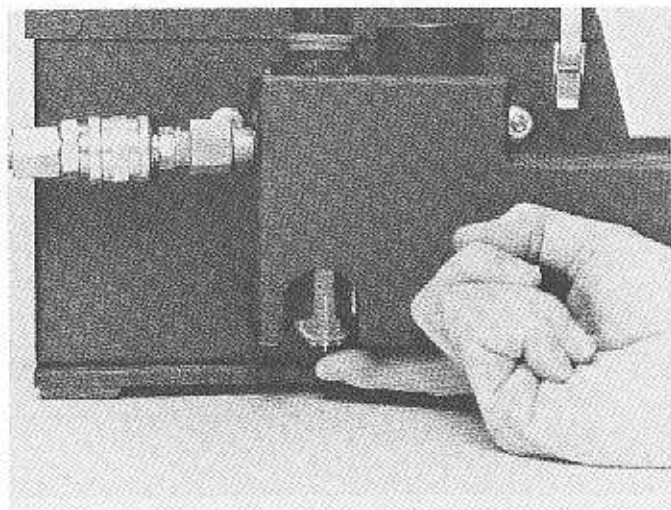
A. Receiving Information

After removal from shipping carton, examine the Applicator for damage that might have occurred during transit. If damage is evident, file a damage claim immediately with the transportation company and contact your Armorlite Sales Representative.

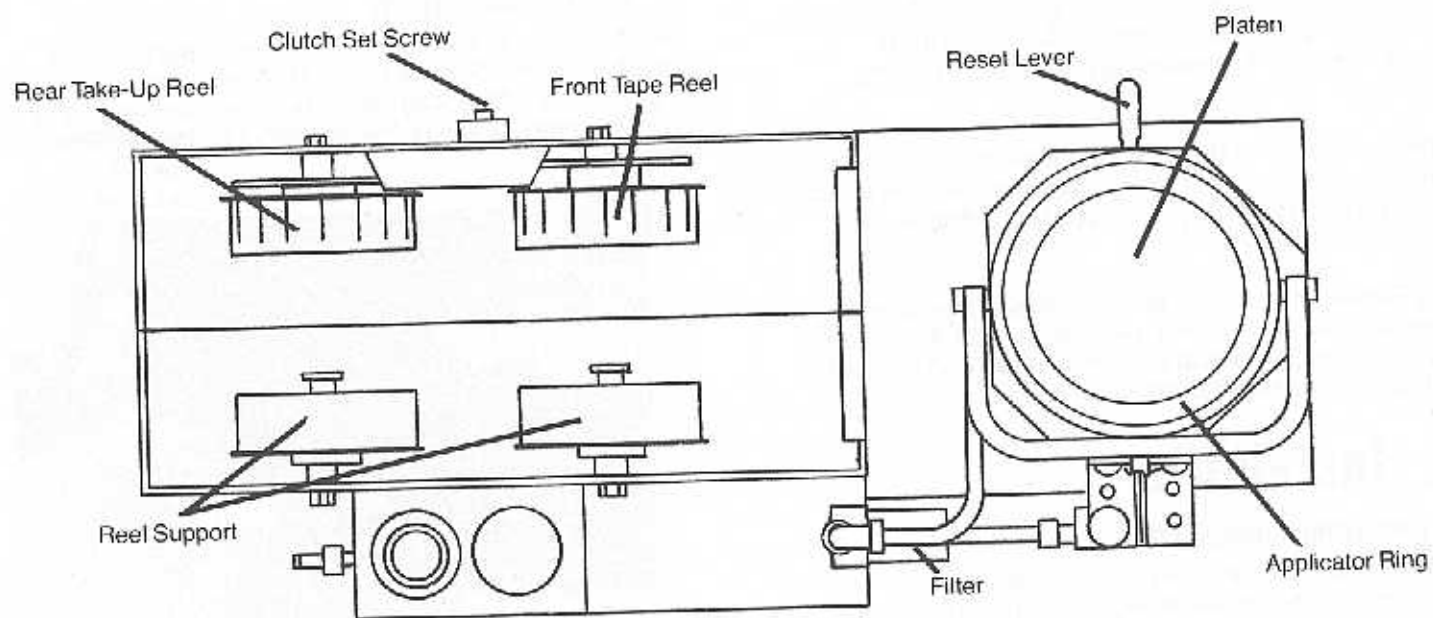
(Refer to Applicator diagrams on pgs. 2-3 for parts listed in following instructions.)

B. Applicator Set-up

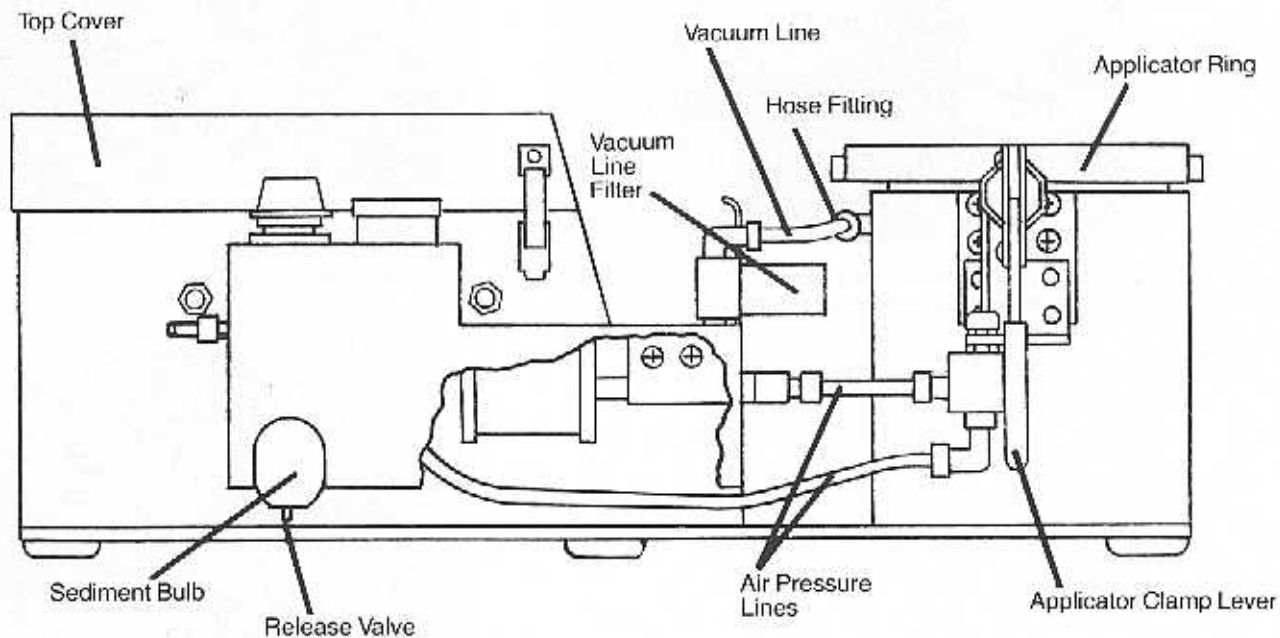
NOTE: 60 psi air pressure is recommended for normal operation of the Surface Saver Applicator. Air should be clean and dry. Check sediment bulb for moisture or other contaminants. (Push up release valve to clear sediment bulb.)

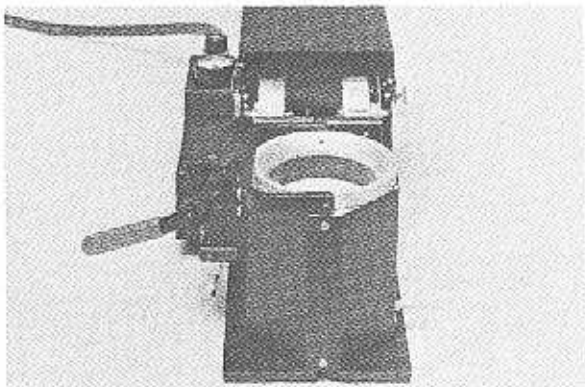


Top View without Cover and Applicator Ring Lever

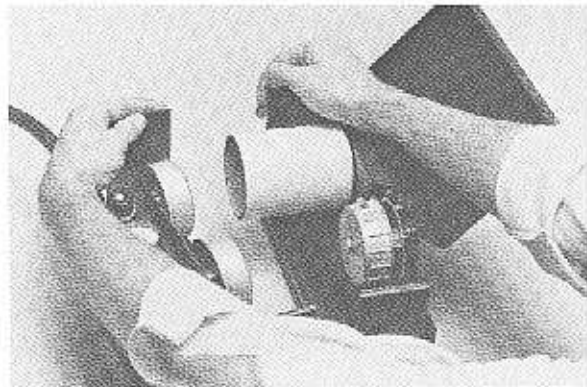


Rt Side View

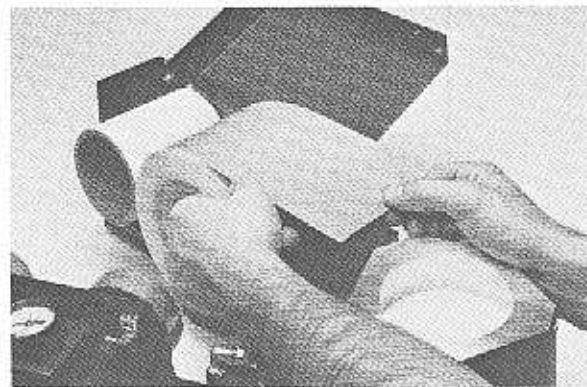




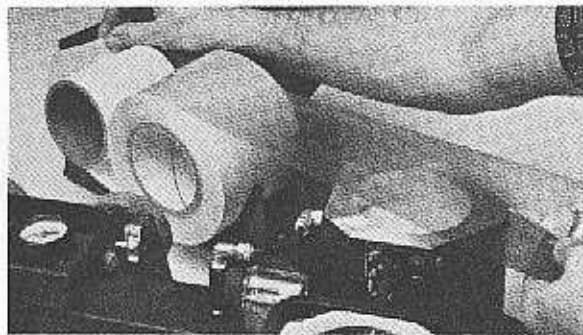
1. Set the 3M Surface Saver Applicator so that the end with the applicator ring is towards you.



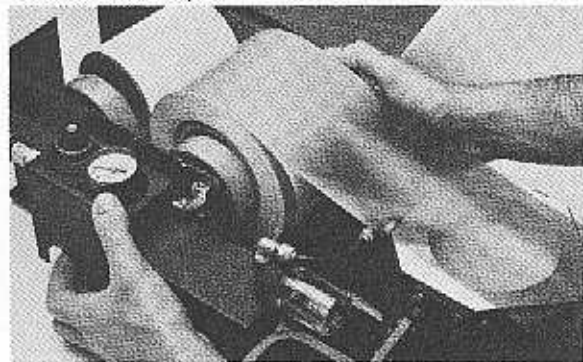
2. Open top cover and separate sides at rear.



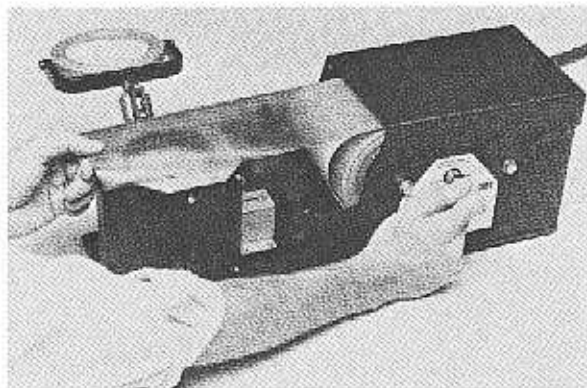
3. Place the new roll of 3M Surface Saver Tape on the tape reel closest to you with the loose tape end on top pointing toward you.



4. Lift applicator ring. Separate liner from tape bringing the pressure sensitive side of the tape over the applicator platen and threading the liner under both reels and up the rear of the applicator. Fasten liner to the empty core on the rear reel using a piece of the Surface Saver Tape.



5. Close applicator sides guiding reels into open ends of tape cores. Close and secure cover with clamp.



6. If liner looping occurs, adjust clutch set screw to assure sufficient tension for removal of liner from Surface Saver Tape on the rear core.

III. Operation

A. How to Use



1. Raise applicator cover ring. Depress reset lever on right side of applicator to lower the applicator platen and prepare unit for use.



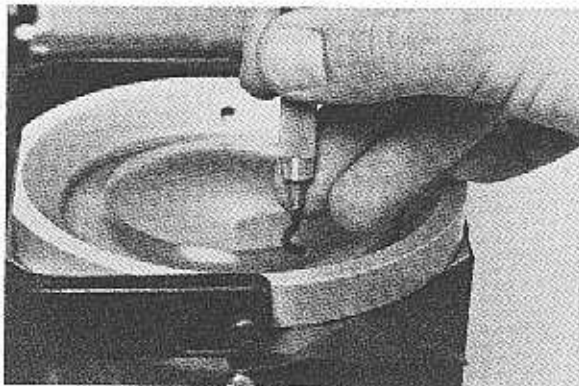
2. Center lens to be processed on recessed applicator platen.



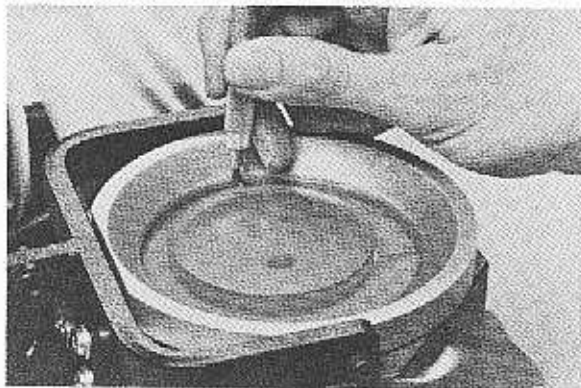
3. Grasp tape at both edges and pull until the opening over the applicator platen is evenly covered.



4. Apply tape to lens by closing the applicator cover ring and pushing the applicator clamp lever all the way down to activate the vacuum. (NOTE: See section on special lens procedures for tips on lenticulars, biconcaves, executives, et al.)



5. Hold the Surface Saver Cutter blade steady with fingertip to initially penetrate tape.



6. Then holding the cutter in a vertical position, trim tape by guiding the cutter around the outside edge of lens.

7. Raise applicator cover lid.
8. Remove lens and depress reset lever to lower platen.
9. Lens is now ready for further processing.

B. Next Lens

1. Place next lens on applicator platen through the tape opening cut for the previous lens.
2. Grasp tape at both edges and pull until the opening over the applicator platform is evenly covered.
3. Close applicator cover ring and continue from Step No. 4 above.

C. Reloading Tape

1. Discard liner and core from rear reel.
2. Relocate empty tape core from front to rear reel.
3. Follow instructions 3 through 6 under "Applicator Set-up".

D. Application Techniques for Special Lenses

1. High base lenses.
Press down tape with fingers to avoid wrinkles around the outer edge of lens.



2. Executive Lenses.

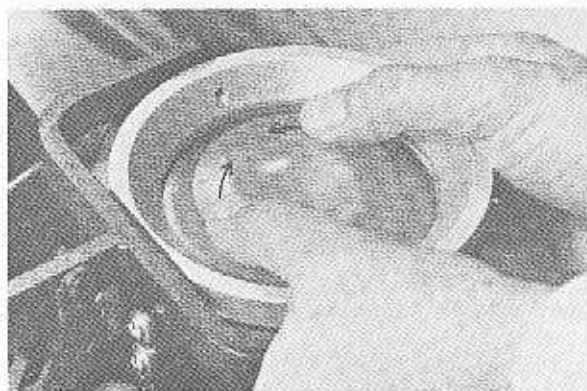
Apply Surface Saver Tape. To assure maximum adhesion, apply thumb pressure along segment line.

3. Biconcave Lenses.

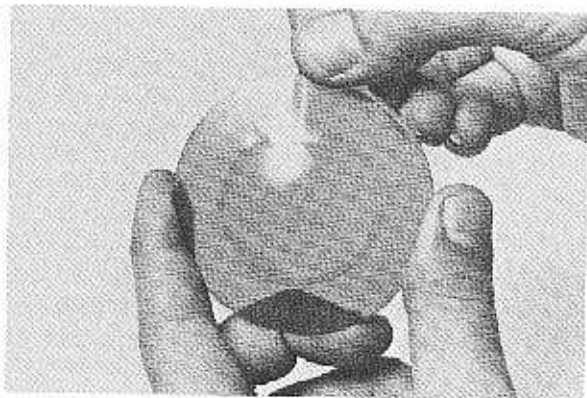
The applicator will apply tape to biconcave front curves up to 4.25 D.

4. Lenticular Lenses.

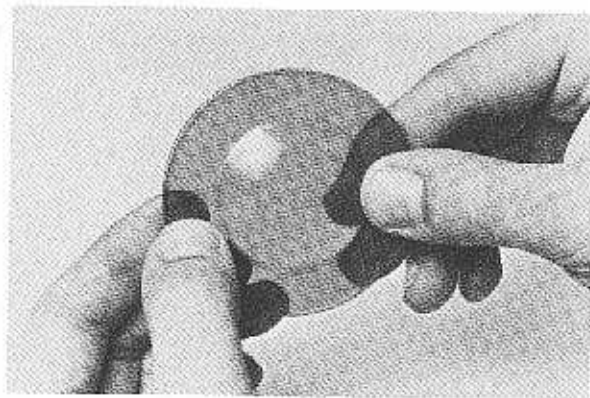
Surface Saver Tape can be applied on lenticular lenses by following these procedures:



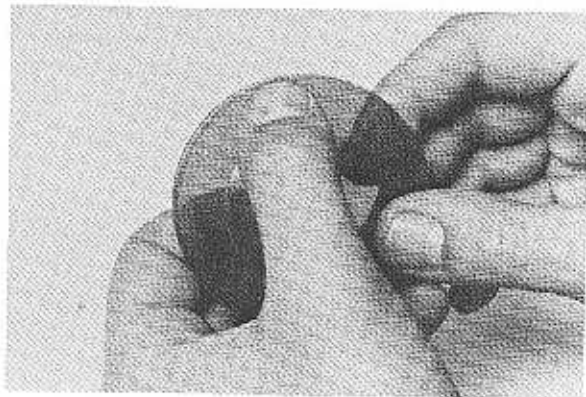
Before cutting the tape, use thumb pressure to force the air trapped around the plus area of the lens away from you so that a bubble is formed.



Cut Surface Saver Tape. Lift tape at lens edge adjacent to air bubble to allow escape of air.



Smooth out any remaining lines to form a wrinkle-free surface.



Use thumb pressure in the center of the bubble to force air out from under the tape.

E. Additional Tips

Very high plus, thin edge, or reworked lenses may need a spacer to lift the lens off the platen to provide easier cutting of the tape. (A lens with a +6D front curve and a diameter less than that of the lens being taped can be used as a spacer.)

Lenses which come from the manufacturer with an excess plastic ridge on the front surface edge can cause the tape to wrinkle at the outer edge of the lens. This problem can be eliminated by exerting finger pressure around the inside of the ridge.

NOTE: 3M Surface Saver Tape must be kept clean and dry to assure a good bond between tape and alloy. Avoid contacting tape with oily or dirty hands.

IV. Maintenance and Repair

A. Operator Maintenance

1. Every 10,000 lenses

- Lubricate tape reels—one drop light oil each hub.
- Lubricate clutch assembly and nylon bearing—one drop light oil.
- Lubricate pivot points of applicator clamp assembly—one drop light oil.
- Wipe all areas after oiling to prevent build up of excess oil and contamination of tape or lenses.
- Check sediment bulb and empty by depressing release valve, unscrew filter bowl and empty foreign matter.
 - Unscrew filter jar, Item 47 on page 15, clean or replace filter element, Item 45, page 15.

B. Factory Authorized Service

To assure yourself of proper up-to-date maintenance of your 3M Brand Surface Saver Applicator, or for information about service, call (612)733-7865.

1. Replacement/Reconditioned Assemblies

Barring obvious abuse or accidental damage, the following defective assemblies of applicators which have been in use for more than 6 months and is out of warranty may be replaced. Contact the Service Center for prices.

Head assembly

Dispenser assembly

Complete applicator

(Adequate packaging and postage to Service Center to be responsibility of customer.)

2. Repair

Applicators which have been in use for more than 6 months and are out of warranty may be returned and repaired for a minimal service charge which includes a complete overhaul and shipping back to the owner. Current costs are available upon request. A purchase order for the repair should be included with the defective unit. Applicators for repair must be shipped postage prepaid via traceable means to address below:

Service Center

3M Medical Specialties
3M Center, 502-1E-02
St. Paul, MN 55144-1000

3. Loaner

So that owners will not be deprived of use of the applicator and in order that continuity of function be maintained, 3M agrees, when requested, to ship a loaner applicator before receiving the original, the owner to return the defective applicator via traceable means in the same shipping carton (including the package inserts) in which the loaner equipment arrives.

Loaners will be shipped via UPS for delivery within 5-7 days. If requested, loaner may be shipped via air for an additional charge. Loaner must be returned postage prepaid via traceable means in the same shipping carton (including the package inserts) in which the repaired unit arrives.

4. For repairs or replacements necessitated by obvious abuse or accidental damage, charges will be made at the prevailing list prices.

C. Major Component Repair & Replacement Procedure

1. To remove head assembly.

a. Disconnect and remove hose fitting at top of head assembly (part #1 on pg. 15).

b. Remove the ten shroud screws (part #15 on pg. 19).

c. Disconnect lever from head assembly by removing the four Phillips pan head screws (part #19 on pg. 19).

d. Stand applicator on back end and remove the three base plate screws (parts 3 & 4 on pg. 15).

The head can now be removed from the applicator.

e. To install the new head, follow the above instructions in reverse order.

2. To disassemble dispenser assembly.

a. Remove clutch retaining ring on right side of applicator (part #17 on pg. 17).

b. Remove the two screws (part #1 on pg. 17) which hold the bearing support on the right side.

c. Remove the two reel studs (part #2 on pg. 17). The tape reels can now be removed.

d. The reel gear assembly is now free and can be removed or replaced.

e. Reassemble dispenser assembly by following the above instructions in reverse order.

D. Adjustments

A moderate amount of force is required on the applicator clamp lever to assure positive retention of the Surface Saver Tape. Lever mounting holes have been slotted to provide adjustment of clamp pressure.

V. Trouble Shooting

If it is determined that the system is not functioning:

1. High air pressure required—

a. perform filter maintenance outlined under maintenance schedule.

b. check vacuum system for obstructions and use compressed air in the reverse direction to clear.

2. Low air pressure—adjust to 55-65 psi.

3. Tape looping occurs—adjust set screw.

If these steps do not solve your problem, call the Technical Service number listed on page 10.

VI. Parts Ordering Information

(See page 14-19 for parts diagrams.)

3M Brand Surface Saver System owners can obtain replacement parts shown on this list, should they desire to service their own equipment, by sending a purchase order to the address listed below.

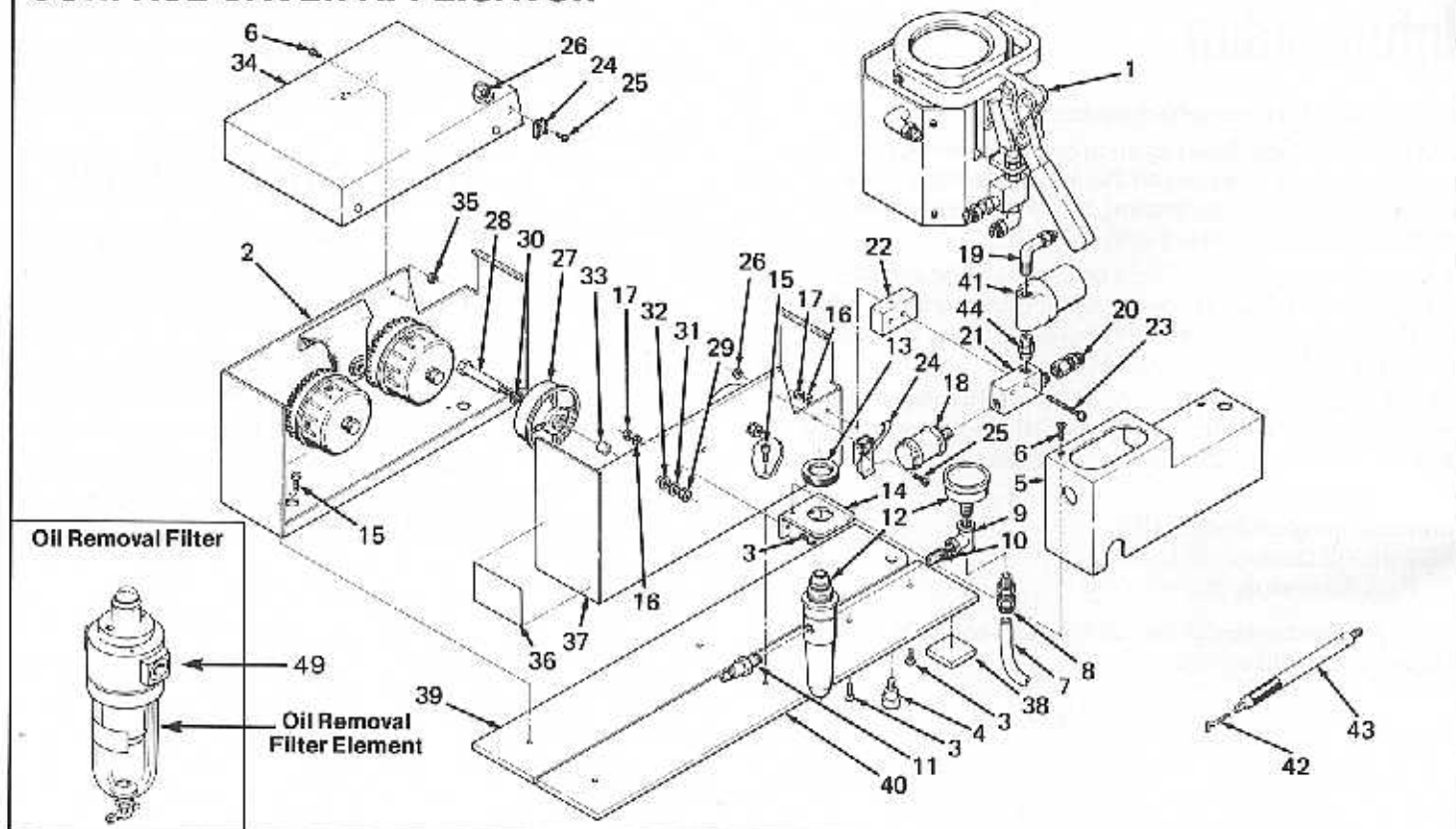
A service charge of \$7.00 will be assessed on all orders for less than \$20.00 to cover shipping and handling. This service charge will be added to the value of the parts per purchase order when applicable.

All orders are sent via Air Parcel Post or UPS, depending on weight. Special shipping charges will be the responsibility of the customer if such shipment is requested.

3M Medical Specialties
3M Center, 502-1E-02
St. Paul, MN 55144-1000

A current price page can be obtained by sending a request to the above address.

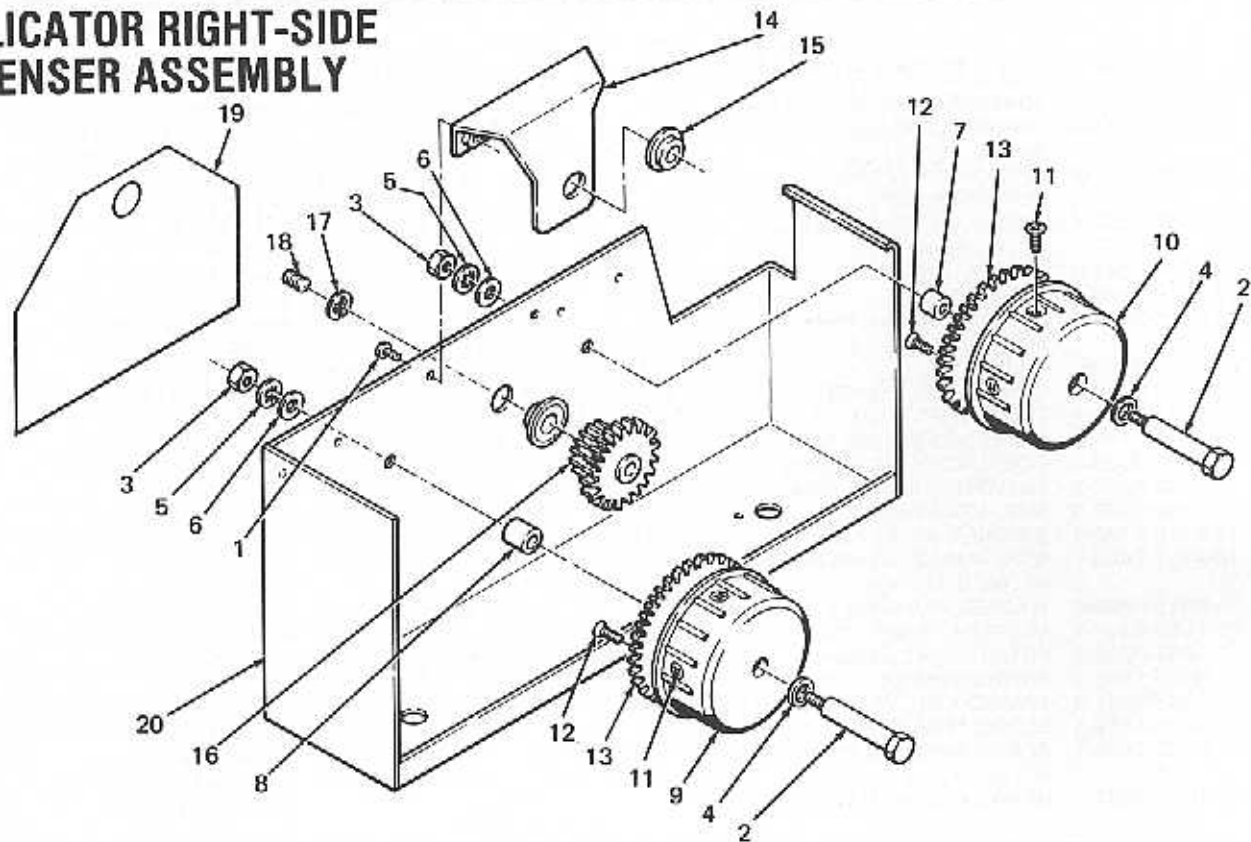
SURFACE SAVER APPLICATOR



SURFACE SAVER APPLICATOR

ITEM NO.	PART NO.	IDENTIFICATION	QTY. REQ.	ITEM NO.	PART NO.	IDENTIFICATION	QTY. REQ.
1	12-2376-4760-2	SURFACE SAVER APPLICATOR.	1	25	18-4711-3403-3	SCREW, MACHINE, Phillips pan	
	12-2376-4763-6	APPLICATOR HEAD ASSEMBLY.				hd., No. 4-40 x 5/16 in.	3
		(See pg. 18)	1	26	18-1749-1103-4	NUT, KEPS, No. 4-40	3
2	12-2376-5137-2	APPLICATOR, RT SIDE		27	12-2376-4960-8	REEL, SUPPORT	2
		DISPENSER ASSY (See pg. 16)	1	28	70-7711-0090-9	STUD, REEL	3
3	78-8003-8359-4	SCREW, MACHINE, Phillips pan		29	70-7023-1870-3	NUT, HEX, No. ¼-28	2
		hd., No. 10-24 x ¼ in.	2	30	70-7023-1120-3	WASHER	2
4	12-2376-4842-8	SCREW, SHOULDER	1	31	70-7023-3210-0	WASHER, LOCK	2
5	12-2376-4925-1	COVER, SIDE	1	32	70-7023-1540-2	WASHER, PLAIN, ¼ in	2
6	18-4712-2216-8	SCREW, MACHINE, Phillips pan		33	70-7711-0100-6	SPACER, TAPE REEL	2
		hd., No. 6-32 x ¼	6	34	12-2376-4759-4	COVER	1
7	78-8005-8196-5	TUBING, ¼ O.D.	A/R	36	12-2376-0449-6	PLATE, SERIAL	1
8	78-8002-2269-3	CONNECTOR, 1/8 NPT		37	12-2376-4580-4	SHROUD, DISPENSER, Left side	1
9	78-8677-8549-1	TEE, 1/8 NPT	1	38	26-1002-6535-9	BUMPON	6
10	78-8675-7117-2	NIPPLE, CLOSE, 1/8 NPT		39	12-2376-4708-1	BASE PLATE, Right side	1
11	26-1002-3388-4	COUPLING, PLUG, Push-tite		40	12-2376-4707-3	BASE PLATE, Left side	1
12	26-1002-3462-9	FILTER REGULATOR, With gauge		41	26-1002-6867-6	FILTER ASSY	1
13	26-1002-3355-5	NUT, MOUNTING	1	42	12-2376-4864-2	BLADE, PKG ASSY	1
14	12-2376-4702-4	BRACKET, REGULATOR	1	43	12-2376-5450-9	HANDLE, CUTTER, SOLID	1
15	18-4712-7403-7	SCREW, MACHINE, Phillips pan			12-2376-5114-1	SWIVEL HANDLE	
		hd., No. 8-32 x ¼ in	4			(Optional, not shown)	
16	18-9813-0803-6	WASHER, PLAIN, No. 8	2	44	78-8005-5210-7	NIPPLE, HEX 1/8 NPT	1
18	26-1002-3461-1	MUFFLER, PUMP, Vacuum	1	45	12-2376-5655-3	FILTER ELEMENT (3/Bag)	1
19	12-7997-8738-2	FITTING, MALE, Elbow	1	46	26-1002-7012-8	FILTER SUPPORT	1
20	78-8005-1836-3	FITTING, FEMALE	1	47	26-1002-7013-6	FILTER JAR	1
21	26-1002-3361-3	TRANSDUCER, VACUUM FORCE		48	18-4712-7803-8	SCREW, MACHINE, Phillips pan	
		BLOCK, TRANSDUCER	1			hd., No. 8-32 UNC x 3/8 in.	2
22	12-2376-4749-5	SCREW, MACHINE, Phillips pan		49	26-1003-4221-6	Oil Removal Filter	1
23	78-8002-3260-1	hd., No. 8-32 x 1 ½	2		26-1003-4223-2	Oil Removal Filter Element	
		DRAW LATCH ASSEMBLY	1			(Optional Not Shown)	

APPLICATOR RIGHT-SIDE DISPENSER ASSEMBLY

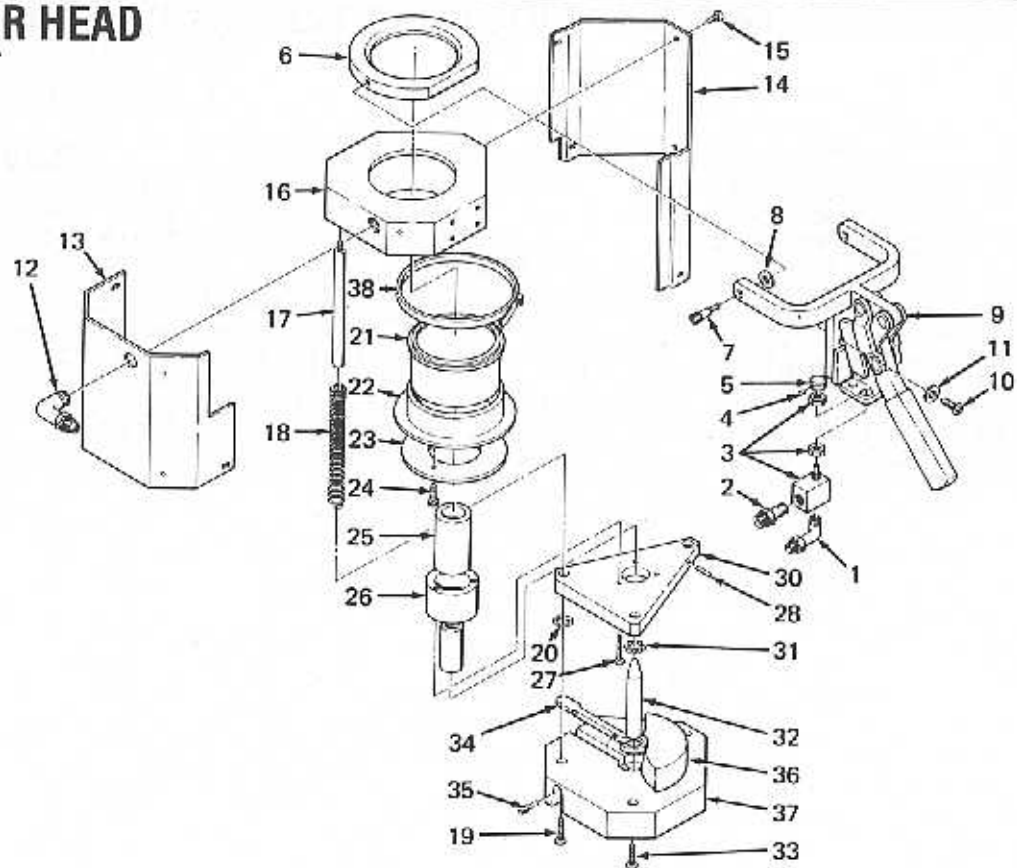


APPLICATOR RIGHT-SIDE DISPENSER ASSEMBLY

ITEM NO.	PART NO.	IDENTIFICATION	QTY. REQ.
	12-2376-5137-2	APPLICATOR RIGHT-SIDE DISPENSER ASSEMBLY	1
1	18-4712-7403-7	SCREW, MACHINE, Phillips pan hd., No. 8-32 x 1/4 in.	2
2	70-7711-0090-9	STUD, REEL	2
3	70-7023-1870-3	NUT, HEX, No. 1/4-28	2
4	70-7023-1120-3	WASHER	2
5	70-7023-3210-0	WASHER, LOCK	2
6	70-7023-1540-2	WASHER, PLAIN, 1/4 in.	2
7	70-7011-0100-6	SPACER, TAPE REEL	1
8	70-7011-0110-6	SPACER, LINER REEL	1
9	12-2376-5002-8	REEL, Take-up	1
10	12-2376-5003-6	REEL, Tape	1

ITEM NO.	PART NO.	IDENTIFICATION	QTY. REQ.
11	78-8657-9424-8	SCREW THD FORMING, Phillips pan hd., Taptite, No. 8-32 x 1/4 in.	4
12	70-7023-1330-8	SCREW, MACHINE, Filister sltd hd., No. 10-32 x 3/8 in.	4
13	70-7012-3521-3	MAIN GEAR	2
14	12-2376-4730-5	SUPPORT, Gear	1
15	78-8005-8555-2	NYLINER, SNAP-IN	1
16	12-2376-5212-3	GEAR ASSEMBLY, Intermediate	1
17	70-7023-6510-0	RING, RETAINING	1
18	12-7997-0537-6	SCREW, SET No. 1/4-28 x 3/4 in.	1
19	12-2376-4978-0	NAMEPLATE	1
20	12-2376-4737-0	SHROUD, DISPENSER, Right side	1

APPLICATOR HEAD ASSEMBLY



APPLICATOR HEAD ASSEMBLY

ITEM NO.	PART NO.	IDENTIFICATION	QTY. REQ.	ITEM NO.	PART NO.	IDENTIFICATION	QTY. REQ.
	12-2376-4763-6	APPLICATOR HEAD ASSY.	1	21	12-2376-6177-7	SET, Platen & Sliding Plate.	1
1	12-7997-8738-2	ELBOW, MALE, 1/8 NPT.	1	22	12-2376-4971-5	DIAPHRAM, ROLLING.	1
2	78-8002-2269-3	CONNECTOR, MALE, 1/8 NPT.	1	23	12-2376-4970-7	RING, CLAMPING.	1
3	12-7992-7079-3	VALVE, AIR.	1	24	18-4712-8203-0	SCREW, MACHINE, Phillips pan hd., No. 8-32 x 1/2 in.	3
4	18-3411-3075-7	SCREW, SET, No. 4-40 x 3/16 in.	1	25	12-2376-4697-6	INSERT, BEARING.	1
5	12-2376-4796-6	PUSHBUTTON.	1	27	26-1001-9828-7	SCREW, MACHINE, Phillips pan hd., No. 8-32 x 1 1/4 in.	3
6	12-2376-4728-9	LID, APPLICATOR.	1	29	12-2376-4695-0	ACTUATOR, BEARING.	1
7	12-2376-4972-3	SCREW, PIVOT, Lid.	2	31	78-8005-2700-0	BALL, 1/4 DIA.	8
8	26-1002-8498-0	WASHER, BRASS.	2	32	12-2376-4694-3	SHAFT, BEARING.	1
9	12-2376-4683-6	CLAMP.	1	34	12-2376-4896-8	LEVER, RESET.	1
11	18-9813-0803-6	WASHER, PLAIN, No. 10.	4	35	12-2376-4691-9	PIN, PIVOT.	1
12	12-7997-8738-2	ELBOW, MALE, 1/8 NPT.	1	36	12-2376-5065-5	RING, DAMPER.	1
13	12-2376-4688-5	SHROUD, REAR.	1	37	12-2376-4684-4	BLOCK, BOTTOM.	1
14	12-2376-4689-3	SHROUD, FRONT.	1	38	26-1002-3390-2	HOSE CLAMP.	1
15	18-4712-2216-8	SCREW, MACHINE, Phillips pan hd., No. 6-32 x 1/2 in.	10				
16	12-2376-4584-8	BLOCK, TOP.	1				
17	12-2376-4692-7	SHAFT, SUPPORT.	3				
18	12-2376-4950-9	SPRING, RETURN.	3				
19	78-8003-8359-4	SCREW, MACHINE, Phillips pan hd., No. 10-24 x 1/2.	8				

VII. Warranty

In the event obvious defects in workmanship and material are found upon receipt of a new 3M brand Surface Saver Applicator, 3M Company will repair or replace, without charge, such an instrument upon notification within a period of 14 days from date of purchase.

Furthermore, 3M Brand Surface Saver Applicator is warranted to be free from operational defects for a period of six months from date of purchase. Any unit found to be defective by 3M within this period shall be replaced or repaired, provided that the unit has not been subjected to misuse, negligence, or accident.

Units must be returned **PREPAID** to 3M at the address listed in this section. All returns must include proof of purchase date to validate warranty claim. It is the responsibility of the unit owner to return said unit in a protective container sufficient to prevent damage en route and also to select a means of transportation which will guarantee against loss. All units will be returned, shipping prepaid, to owner via UPS or comparable traceable means. (Loaner units are available upon request. See Section IV, Factory Authorized Service.)

These warranties are made in lieu of all other warranties, expressed or implied. In no event shall 3M be liable for any injury, loss or damage, whether direct or indirect, consequential or incidental, to persons or property arising out of purchaser's use of or inability to use the system.

Service Center

3M Medical Specialties
3M Center, 502-1E-02
St. Paul, MN 55144-1000

34-7020-0015-5

70-2008-1881-6

"Litho in USA with 3M offset plates, film and proofing systems."

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