

DEPARTMENT OF THE ARMY TECHNICAL MANUAL

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OPERATOR'S MANUAL  
TEXTILE REPAIR SHOP, TRAILER-MOUNTED  
YORK ASTRO MODEL D8700477 ARMY MODEL SPV 35  
(FSN 3530-819-2008)  
AND  
CLOTHING REPAIR SHOP, TRAILER-MOUNTED  
YORK ASTRO MODEL D8700337 ARMY MODEL SPV 34  
(FSN 3530-819-2007)

This copy is a reprint which includes  
current pages from Changes 4 through 6.

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HEADQUARTERS, DEPARTMENT OF THE ARMY

APRIL 1966

## **SAFETY PRECAUTIONS**

### **BEFORE OPERATION**

Provide a metal-to-metal contact between the container and tank when handling fuel. This will prevent a spark from being generated when fuel flows over the metallic surfaces.

Do not operate the generator set in an enclosed area unless the exhaust gases are piped to the outside. Exhaust gases contain deadly carbon monoxide, which is colorless, odorless, and poisonous.

Do not operate the generator set until the ground terminal has been connected to a suitable ground. Electrical faults in the generator set, load lines, or equipment can cause death by electrocution when a system has not been grounded properly.

Make connections with all switches in the OFF position, and make sure the generator set is not operating or connected to another set that is operating when making connections. A sewing machine could accidentally start and result in injury to the finger or damage to the machine.

Keep hands away from the needle when turning cycle and immediately start stitching.

### **DURING OPERATION**

Do not refuel the generator set while it is in operation as an explosion and fire from fuel vapors could result in personal injury and loss of equipment.

Do not hold face near the needle of the sewing machine while sewing as needle could break and injure eyes.

Always keep fingers and hands clear of needles while sewing. The needles can cause painful injury to the fingers.

Set the button in the clamp of the button machine so that the buttonholes are centered correctly over the needle plate and straight across the button clamp. This will prevent the needle from striking the button and throwing bits of steel or button in the operator's face.

Do not operate sewing machine with scissors or tools on the table because they could get caught in the belt and be thrown into the air injuring someone or damaging the machine.

Turn off the power source when replacing bobbins and needles in sewing machine because the machines could accidentally start and result in injury to fingers or hands.

Turn off power switch and remove sewing machine belt before performing maintenance and adjustments on any sewing machine as the machine could accidentally be started and result in injury to fingers and hands.

### **GENERAL**

Keep the cabinet doors closed at all times except when loading or unloading the cabinet to prevent anyone from accidentally walking into the doors and thus injuring himself.

CHANGE }  
NO. 6 }

HEADQUARTERS  
DEPARTMENT OF THE ARMY  
WASHINGTON, D.C., 14 April 1988

Operator's Manual  
CLOTHING REPAIR SHOP, TRAILER-MOUNTED  
YORK ASTRO MODEL D8700337 ARMY MODEL SPV 34  
(NSN 3530-00-819-2007)  
AND  
YORK ASTRO MODEL D8700680  
(NSN 3530-00-999-8577)  
AND  
NATICK MODEL NA-79  
(NSN 3530-01-075-3503)  
(ISSUED WITHOUT 3 KW GENERATOR SET)

TM 10-3530-203-10, 18 April 1966, is changed as follows:

Page 1, Change address to which DA Form 2028 should be sent to read:

Commander  
USATROSCOM  
ATTN: AMSTR-MCTS  
4300 Goodfellow Blvd.,  
St. Louis, MO 63120-1798

Page 8, Change 4 and page 171. Change NSN for Screwdriver, flat tip, plastic handle, 3/32 in. tip x 2 1/2 in. lg blade (Model 47W70) to read "5120-00-720-4969".

Page 117-125, 162, 163 and 166. Wherever TM reads, "TM 38-750", change to read, "DA PAM 738-750".

By Order of the Secretary of the Army:

**CARL E. VUONO**  
*General, United States Army*  
*Chief of Staff*

Official:

**R. L. DILWORTH**  
*Brigadier General, United States Army*  
*The Adjutant General*

DISTRIBUTION:

To be distributed in accordance with DA Form 12-25A, Operator's, Maintenance requirements for Clothing Repair Shop, Trailer Mounted, Model D8700337, D8700860

CHANGE }  
No. 5 }

HEADQUARTERS  
DEPARTMENT OF THE ARMY  
WASHINGTON, D.C., 13 August 1981

**OPERATOR'S MANUAL  
CLOTHING REPAIR SHOP, TRAILER-MOUNTED  
YORK ASTRO MODEL D8700337 ARMY MODEL SPV 34  
(NSN 3530-00-819-2007)  
AND  
YORK ASTRO MODEL D8700680  
(NSN 3530-00-999-8577)  
AND  
NATICK MODEL NA-79  
(NSN 3530-01-075-3503)  
(ISSUED WITHOUT 3 KW GENERATOR SET)**

TM 10-3530-203-10, 18 April 1966, is changed as follows:

Page 93.

Section III is superseded as follows:

**Section III.  
PREVENTIVE MAINTENANCE  
CHECKS AND SERVICES**

**55. General.**

To insure that the clothing Repair Shop is ready for operation at all times, it must be inspected systematically so that the defects may be discovered and corrected before they result in serious damage or failure. Defects discovered during operation of the unit shall be noted for future corrections, to be made as soon as an operation has ceased. Stop operation which would damage the equipment if operation were to continue. All deficiencies and shortcomings shall be recorded together with the corrective action taken on DA Form 2404, Equipment Inspection and Maintenance Worksheet, at the earliest opportunity. When performing your Before Operation (B) and During Operation (D) PMCS, always keep in mind the CAUTIONS and WARNINGS. After operation, be sure to perform your (A) PMCS. If your equipment fails to operate, troubleshoot with proper equipment. Report any deficiencies using the proper forms, see TM 38-750.

**56. Preventive Maintenance Checks and Services.**

Refer to Table 6-1 for Preventive Maintenance Checks and Services.

a. Item Number Column. Checks and services are numbered in chronological order regardless of interval. This column will be used as a source of item numbers for the TM Item Number column on DA Form 2404 in recording results of PMCS.

b. Interval Columns. The columns headed B and D will contain a dot (•) opposite the appropriate check indicating it is to be performed Before or During.

c. Item to be Inspected Column. The items listed in this column are divided into groups and identifies the item to be inspected.

d. Procedures Column. This column contains a brief description of the procedure by which the check is to be performed.

e. Equipment will be Reported Not Ready/Available Column. This column will contain the

criteria which will cause the equipment to be classified as not Ready/Available because of inability to perform its primary mission.

operation. Make the complete checks and services when the equipment can be shut down.

**NOTE**

If the equipment must be kept in continuous operation, check and service only those items that can be checked and serviced without disturbing

**NOTE**

Refer to the daily preventive maintenance checks and services for the generator set in TM 5 6115 271 12, and cargo trailer in TM 9 2330 213 14.

Table 6-1. OPERATOR/CREW PREVENTIVE MAINTENANCE CHECKS AND SERVICES

**B-BEFORE OPERATION  
INTERVAL D-DURING OPERATION**

ITEM NO.	INTERVAL		ITEM TO BE INSPECTED	PROCEDURES CHECK FOR AND HAVE REPAIRED OR ADJUSTED AS NECESSARY	EQUIPMENT IS NOR READY/ AVAILABLE IF:
	B	D			
1	•		CABINET ASSEMBLY	Make a walk around inspection. Inspect cabinet for missing parts, structural damage, and missing or damaged components.	
2	•		FIRE EXTINGUISHER AND BRACKET	Inspect the fire extinguisher for broken seal and bent or broken nozzle. Inspect the bracket for a bent or broken frame and locking latch, and for loose mounting.	If seal is broken or extinguisher is damaged or missing.
3	•	•	CLOTHING SEWING MACHINE	a. Inspect clothing machine head and table assembly for loose or missing hardware, damage, and misalignment which will interfere with proper operation.  Inspect needle for broken or excessively worn point and for bent or broken shaft. Install new needle with long groove to the operator's left. Inspect for broken, bent, or improperly installed thread guide and clamp.	If out of alignment or further use would increase damage.
4	•	•	PRESSER BAR LIFTER	Inspect for bent or broken presser bar lifter. Inspect the lifter for loose mounting. Make certain the lifter raises, locks, unlocks, and lowers the presser foot.	

Table 6-1. OPERATOR/CREW PREVENTIVE MAINTENANCE CHECKS AND SERVICES--continued

ITEM NO.	INTERVAL		ITEM TO BE INSPECTED	PROCEDURES CHECK FOR AND HAVE REPAIRED OR ADJUSTED AS NECESSARY	EQUIPMENT IS NOR READY/ AVAILABLE IF:
	B	D			
5	•	•	DARNING SEWING MACHINE	<p>a. Inspect darning machine head and table assembly for loose or missing hardware, damage, and misalignment which will interfere with proper operation.</p> <p>b. Inspect needle for broken or excessively worn point and for bent or broken shaft. Install needle with long groove to the operator's left. Inspect for broken or bent thread guide and clamp.</p>	If out of alinement or further use would increase damage.
6	•	•	BUTTON SEWING MACHINE	<p>a. Inspect button machine head and table assembly for loose or missing hardware, damage, and misalignment which will interfere with proper operation.</p> <p>b. Inspect needle for broken or excessively worn point, and for bent or broken shaft. Install needle with long groove toward the operator. Inspect for broken or bent thread guide.</p>	If out of alinement or further use would increase damage.
7		•	GROMMET PRESS	Inspect for damage and for rough operation. Make sure the chuck and dies will fit into position without binding.	
8		•	ATTACHING MACHINE	Inspect for damage and for rough operation. Make sure the chuck and dies will fit into position without binding.	

Pages 94 thru 103 are deleted.

Pages 113 thru 116 are deleted.

Page 158, Section III is deleted.

By Order of the Secretary of the Army:

Official:

**ROBERT M. JOYCE**  
*Brigadier General, United States Army*  
*The Adjutant General*

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

DISTRIBUTION:

To be distributed in accordance with DA Form 12-25A, Operator Maintenance Requirements for Clothing and Textile Repair.

CHANGE

No. 4

HEADQUARTERS  
DEPARTMENT OF THE ARMY  
WASHINGTON, D.C., 5 January 1981

OPERATOR'S MANUAL  
CLOTHING REPAIR SHOP, TRAILER-MOUNTED  
YORK ASTRO MODEL D8700337 ARMY MODEL SPV 34  
(NSN 3530-00-819-2007)  
AND  
YORK ASTRO MODEL D8700680  
(NSN 3530-00-999-8577)  
AND  
NATICK MODEL NA-79  
(NSN 3530-01-075-3503)  
(ISSUED WITHOUT 3 KW GENERATOR SET)

TM 10-3530-203-10, 18 April 1966, is changed as follows:

The title is changed as shown above.

Inside cover. Add the following to the inside of the cover page:

"Operation of this equipment presents a noise hazard to personnel in the area. The noise level exceeds the allowable limits for unprotected personnel. Wear ear muffs or ear plugs which were fitted by a trained professional."

Page 1.

The heading is superseded by the following:

"OPERATOR'S MANUAL CLOTHING  
REPAIR SHOP, TRAILER MOUNTED  
YORK ASRO MODEL D8700337 ARMY MODEL  
SPV 34  
(NSN 3530-00-819-2007)  
AND  
YORK ASTRO MODEL D8700680  
(NSN 3530-00-999-8577)  
NATICK MODEL NA-79  
(NSN 3530-01-075-3503)  
(ISSUED WITHOUT 3 KW GENERATOR SET)"

Below title add the following:

"Reporting Errors and Recommending Improvements.  
You can help to improve this manual by calling attention

to errors and by recommending improvements. Your letter or DA form 2028 (Recommended Changes to Publications and Blank Forms) should be mailed direct to: Commander, US Army Troop Support and Aviation Material Readiness Command ATTN: DRSTS-MTT, 4300 Goodfellow Boulevard, St. Louis, MO 63120. A reply will be furnished direct to you."

Line 1, titled Part One change "TEXTILE" to "CLOTHING".

Line 3. Delete line.

Line 6. Delete line.

Line 12. Delete line.

Line 14. Delete line.

Line 32 change title of appendix II to "BASIC ISSUE ITEMS LIST AND ITEMS TROOP INSTALLED OR AUTHORIZED LIST".

Page 3.

Change heading from "TEXTILE REPAIR SHOP, TRAILER-MOUNTED" to "CLOTHING REPAIR SHOP, TRAILER-MOUNTED."

Delete entire page under heading.

Page 4. Delete paragraphs 6. General Description, 6a, 6a(1), 6a(2), 6a(3), 6a(4), 6a(5), 6a(-), 6a(7), 6a(9), and paragraph d.

\*This change supersedes C1, 15 April 1969; C2, 8 August 1972; and C3, 19 July 1974.

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Page 5. Delete paragraphs 6e, 6f, 7, and 8.

Page 6. Delete page.

Page 7.

Delete page except paragraph 10.  
Tabulated Data.

Paragraph 10, second sentence change "textile" to "clothing".

Page 8. Delete page.

Page 9. Delete page.

Page 11. Delete paragraphs 10e, 10f, and 10g.

Page 13. Delete figure 7.

Page 14. Delete pages 14 thru 17.

Page 20. Delete page.

Page 21. Delete the following:

Section 1 heading.  
Paragraphs 11 thru 14.

Page 22. Delete pages 22 thru 24.

Page 26.

Delete figure 15.  
Paragraph 15 delete the first sentence.

Page 27. Delete paragraph 18.

Page 29. Delete paragraphs 19, 20, and 21.

Page 30.

Delete paragraph 22.  
Paragraph 23, following heading add "Singer models 31-15, 331K1, and 331K4".

Page 42. Delete paragraph 29.

Page 43. Delete pages 43 thru 56.

Page 57.

Delete figure 36.

Paragraph 38, following heading add "Note: Model NA-79 has a different manufacturer but has only minor differences from the other models".

Page 58. Delete figure 37.

Page 59. Delete figure 38.

Page 60. Delete page.

Page 61. Delete page.

Page 65, paragraph 41, following heading add "Note: Model NA 79 has a different manufacturer but has only minor differences from the other models".

Page 66.

Delete paragraph 44.

Section IV heading is superseded by the following: "OPERATION OF MATERIEL USED IN CONJUNCTION WITH CLOTHING REPAIR SHOP".

Paragraph 46, second line change "textile" to "clothing".

Page 68, paragraph 48, fourth line change "textile" to "clothing".

Page 69. Delete paragraphs 51, 52, and 53.

Page 70, lubrication order heading.

Second line change "TEXTILE REPAIR SHOP, TRAILER MTD, ARMY MODEL SPV35, YORK ASTRO MODEL D8700680 NSN 353000-999-8577 and NATICK MODEL NA-79 NSN 3530-01-075-3503".

Fifth line, following model 31-15 add", 331K1, and 331K4".

Page 71, following figure 44 (2) add new figure 44 (3) (TS 3530-203-10/41(3))".

### LUBRICATION OF SEWING MACHINE MODELS 331K1 and 331K4

Oiling Points - Front View

Oiling beneath Machine Bed

Oiling Points - Rear View

Oiling Points behind Face Plate and in Shuttle Race

Note: Model NA-79 1/3 hp motor has sealed bearings and requires no lubrication.

BOBBIN WINDER

LUBRICANTS	EXPECTED TEMPERATURES	INTERVALS
LO - Lubricating Oil, General Purposes	all temperatures	Every 4 hours of operation
Intervals are based on normal hours of operation. Change to compensate for abnormal operation and severe conditions. During inactive periods, sufficient lubrication must be performed for adequate preservation.		Clean parts with SOLVENT drycleaning. Dry before lubricating.  Apply two to three drops of LO at each friction point unless otherwise noted.

TS 3530-203-10/4(3)

Figure 44 (2) Lubrication of Models 331K1 and 331K4

Page 72, below figure 45 (1) add "Note: For lubrication of models 331K1 and 331K4 refer to figure 44 (3)".

Page 73, below figure 45 (2) add "Note: The model NA 79 1/3 hp motor for models 331K1 and 331K4 machines has sealed bearings and does not require lubrication".

Page 74, below figure 45 (3) add "Note: For lubrication of Models 331K1 and 331K4 refer to figure 44 (3)".

Page 75, below figure 45 (4) add "Note: For lubrication of models 331K1 and 331K4 refer to figure 44 (3)".

Page 76, below figure 45 (5) add "Note: For lubrication of models 331K1 and 331K4 refer to figure 44 (3)".

Page 77, below figure 45 (6) add "Note: For lubrication of models 331K1 and 331K4 refer to figure 44 (3)".

Page 78, Lubrication order heading second line change "TEXTILE REPAIR SHOP, TRAILER MTD, ARMY MODEL SPV 35, YORK ASTRO MODEL D8700447" to "YORK ASTRO MODEL D8700680 NSN 3530-00-999-8577 and NATICK MODEL NA-79 NSN 3530-01-075-3503".

Page 81, below figure 47 (4) add "Note: The model NA-79 1/3 hp motor for models 331K1 and 331K4 machines has sealed bearings and does not require lubrication".

Page 83. Delete pages 83 thru 93.

Page 117.

Paragraph 57.

Third line change "textile" to "clothing".

Thirteenth thru fifteenth lines delete "the heavy duty sewing machine, the overedge sewing machine, the textile sewing machine".

Paragraph 62, delete paragraph.

Above paragraph 66 heading add "Models 31-15, 331K1, and 331K4".

Page 119.

Delete title above-paragraph 87.

Delete paragraph 87.

Page 120. Delete pages 120 thru 122.

Page 123. Delete paragraphs 129 and 130.

Page 125, paragraph 144, eleventh line, following attaching machine add "Shop also equipped with one ironing board and one electric iron for touchup repair".

Page 126, following paragraph 144 a(1) add "Items stored in stowage boxes are listed on decal on front of each box".

Page 127, paragraph 147, sixth line, following attaching machine add "Shop also is equipped with one ironing board and one electric iron for touchup repair".

Page 129.

Paragraph 148a. Under General Information across from Manufacturer model number add ",D87006R0 and NA-79 Paragraph 148d. Across from Model add", 331K1, or 331K4". Under Motor across from Horsepower add "or 1/3".

Page 132.

Paragraph 148f.  
Change "Frommet" to "Grommet".  
Above Model add "NA-79  
Manufacturer - United Carr".  
Across from model add "369".  
Paragraph 148g, across from manufacturer add -  
Sure Snap".

Page 133, paragraph 150 add the following after line 6,  
"Table 1 below contains items furnished with the Clothing  
Repair Shop".

*Table 1. Clothing Repair Shop Component Packing List*

National Stock Number	Description	Part No. (FSCM)	Oty Req'd
5120-00-293-0269	Attaching Machine w/following 7 items:	Model - AE (4R309)	1
5120-00-322-6190	Die 27, upper (Closed)	3020 (4R309)	1
5120-00-900-8324	Die 27, upper (Open)	2727 (4R309)	1
5120-00-322-6189	Die 17, lower	312 (4R309)	1
5120-00-322.-6188	Die 14, lower	351 (4R309)	1
5305-00-043-6738	Screw, machine 10-24 by 1-1/2 in.	MS35225-69 (96906)	4
5310-00-012-0361	Nut, plain, hex 10-24	MS35649-102 (96906)	4
5310-00-809-4058	Washer, flat 1/4 in.	MS15795-210 (96906)	4
3530-00-570-5445	Button, sewing machine	175-62 (77948)	1
3530-00-906-8064	Cable, power, w/3 duplex outlets, 4-conductor, No. 10AWG, rubber covered 25 ft lg	6-1-1111-27-3 (81337)	1
3530-00-906-8063	Cable, power, w/2 duplex outlets, 4-conductor, No. 10 stranded, rubber covered, 25 ft lg	6-1-1111-27-9 (81337)	3
7105-00-269-8463	Chair, folding, front to back metal	6-1-1112-22 (81337)	8
	Sewing machine, clothing, (model 331K4)	331K4 (77948)	6

Table 1. Clothing Repair Shop Component Packing List--continued

National Stock Number	Description	Part No. (FSCM)	Qty Req'd
3530-00-615-5384	Cord, light, w/side outlet, 50 ft lg w/bulb	6-1-1111-27-17 (81337)	4
3530-00-359-7437	Darning machine (model 47W70)	47W70 (77948)	1
6115-00-017-8237	Generator set, GED, skid mtd, 3 KW, 60 Hz (Not issued with Natick model NA-79)	6-1-1112-20 (81337)	1
	Lamp assy w/bracket & stand, button machine, consisting of the following:		
3530-00-878-6705	Lamp assy	49853 (77948)	1
3530-00-346-5386	Bracket & Stand, lamp assy	194396 (77948)	1
	Lamp assy, w/bracket, clothing machine, consisting of the following:		6
3530-00-878-6705	Lamp assy	49853 (77948)	6
3530-00-346-5388	Bracket, lamp assy	194331 (77948)	6
	Lamp assy w/bracket, darning machine, consisting of the following:		1
3530-00-878-6705	Lamp assy	49853 (77948)	1
3530-00-346-5387	Bracket, lamp assy	194628 (77948)	1
3530-NSN	Lamp, complete (model 331K4) (77948)	625082-00	6
3530-NSN	Lamp complete w/stand (model 175-62)	625049-00 (77948)	1
3530-NSN	Lamp, complete (model 47W70)	625102-01	1
5340-00-682-1505	Padlock, brass, 1-1/2 in. style A, class 2, MIL-P-17802	A4701156 (30399)	4
5120-00-244-9198	Press, grommet, hand lever type, 1-1/2 in. depth of throat, 6-1/2" by 1-1/2 in. in base, w/chuck & dies as follows:	M369 (55644)	1

Table 1. Clothing Repair Shop Component Packing List--continued

National Stock Number	Description	Part No. (FSCM)	Qty Req'd
5120-00-359-6503	Die No. 9182, Segma button	9182 (55644)	1
5120-00-144-2087	Chuck No. 1580, Segma socket1	1580 (55644)	1
5120-00-357-5752	Die No. 9471, clinch plate	9471 (55644)	1
5120-00-357-5594	Chuck No. 9470, socket	9470 (55644)	1
5120-00-144-2100	Die No. 1587, Segma eyelet	1587 (55644)	1
5120-00-357-5596	Chuck No. 9219R, Segma stud	9219R (55644)	1
5120-NSN	Chuck No. 1486	1486 (55644)1	1
5120-NSN	Chuck No. 9323	9323 (55644)	1
5120-00-357-5597	Chuck No. 9447, stud	9447 (55644)	1
5120-00-449-3745	Die No. 9454, washer	9454 (55644)	1
5120-00-357-5751	Die No. 1483, button	1483 (55644)	1
5120-00-449-3744	Die No. 1488, eyelet	1488 (55644)	1
3530-00-359-8798	Stand, folding, button machine	Ser 187067 (77948)	1
3530-NSN	Stand, folding, button machine	6-1-1134-33 (81337)	1
3530-00-359-8797	Stand, folding, clothing and darning	6-1-1136-19 (81337)	7
	Table assy, button machine consisting of the following:		1
5935-00-359-6030	Box w/Receptacle	48782 (77948)	1
6150-00-359-6144	Cable, power	48901 (77948)	1
3530-00-359-6145	Harness assy, wiring	67630 (77948)	1
3530-00-359-8851	Table, wood	186528 (77948)	1
3530-00-359-8852	Top, table for clothing machines	D8700595 (17162)	6

Table 1. Clothing Repair Shop Component Packing List--continued

National Stock Number	Description	Part No. (FSCM)	Qty Req'd
3530-00-359-8853 (17162)	Top, table (model 47W70)	D8700596	1
3530-00-359-8851	Top, table (model 175-62)	SK070865-5 (17162)	1
7195-00-474-5859	Table assy w/folding legs	D8700501 (17162)	2
3530-00-359-8879	Unwinder, thread, single cone	225260 (77948)	1
3530-00-359-8878	Unwinder, thread, two cone	225258 (77948)	7
3530-00-359-8878	Unwinder, thread, two cone	225258 (77948)	8
	Winder, bobbin		7
	Knee lift assy		7
4210-00-270-4512	Extinguisher, fire, carbon dioxide: hand type: charged, 5 lb cap	IN-752366 (99539)	1
3030-00-359-5707	Belting, 1/4 in.		50 ft
5340-00-715-7769	Hooks, belt No. 16	16 (252127)	16
6240-00-143-3094	Lamp, incandesent, rough service 100 W, 115 V.		4
4930-00-266-9182	Oiler, hand, push-button, steel, 4 in. rigid spout, 1/2-pint capacity		4
5120-00-223-7397	Pliers, slip joint 8 in. OA		1
5110-00-596-9604	Punch, cutting, revolving head		1
5120-00-521-9510	Screwdriver, flat tip, plastic handle, 3/32 in. tip x 2-1/2 in. lg blade (model 47W70)		1
5120-00-236-2127	Screwdriver, flat tip, plastic handle, 3/16 in. tip x 3 in. lg blade (modle 47W70)		1

Table 1. Clothing Repair Shop Component Packing List--continued

National Stock Number	Description	Part No. (FSCM)	Qty Req'd
5120-00-293-3180	Screwdriver, flat tip, wood handle, 1/8 in. tip x 2 in. lg blade		1
5120-00-278-1282	Screwdriver, flat tip, wood handle, 1/4 in. tip x 4 in. lg blade		1
8315-00-227-1393	Thimble, sewing, aluminum, closed, large size		4
8315-00-222-1417	Thimble, sewing, aluminum, closed, medium size		4
5120-00-596-1252	Wrench, open-end, fixed, double-head, clothing machine	(77948) 19221	1
5120-00-565-4147	Wrench, open-end, fixed, double-head, double-offset, single angle, button machine	1756251 (77948)	
5120-00-596-8564	Wrench, open-end, fixed, double-head, straight-and-angle, clothing machine	(77948) 8908	1
5120-00-596-8624	Wrench, open-end, fixed, double-head, straight, clothing machine	(77948) 8909	1
5120-00-596-8567	Wrench, open-end, fixed, double-head straight, darning machine	225554 (77948)	1
5120-00-595-9223	Wrench, open-end, fixed, single-head, clothing machine	(77948) 4822	1
5120-00-449-8083	Wrench, adjustable, crescent-type, single open-end, 10 in. lg		1

Page 134, following paragraph 151b(4) (f) add "Note: Items to be stored in stowage box are listed on decal located on front of each box".

"Note: The minor differences in Power cable and light cord that exist on model NA-79 does not affect hook up or function".

Page 136, above paragraph 152k add



Page 137, figure 70 is superseded by new figure 70 (TS 3530-203-10/70).

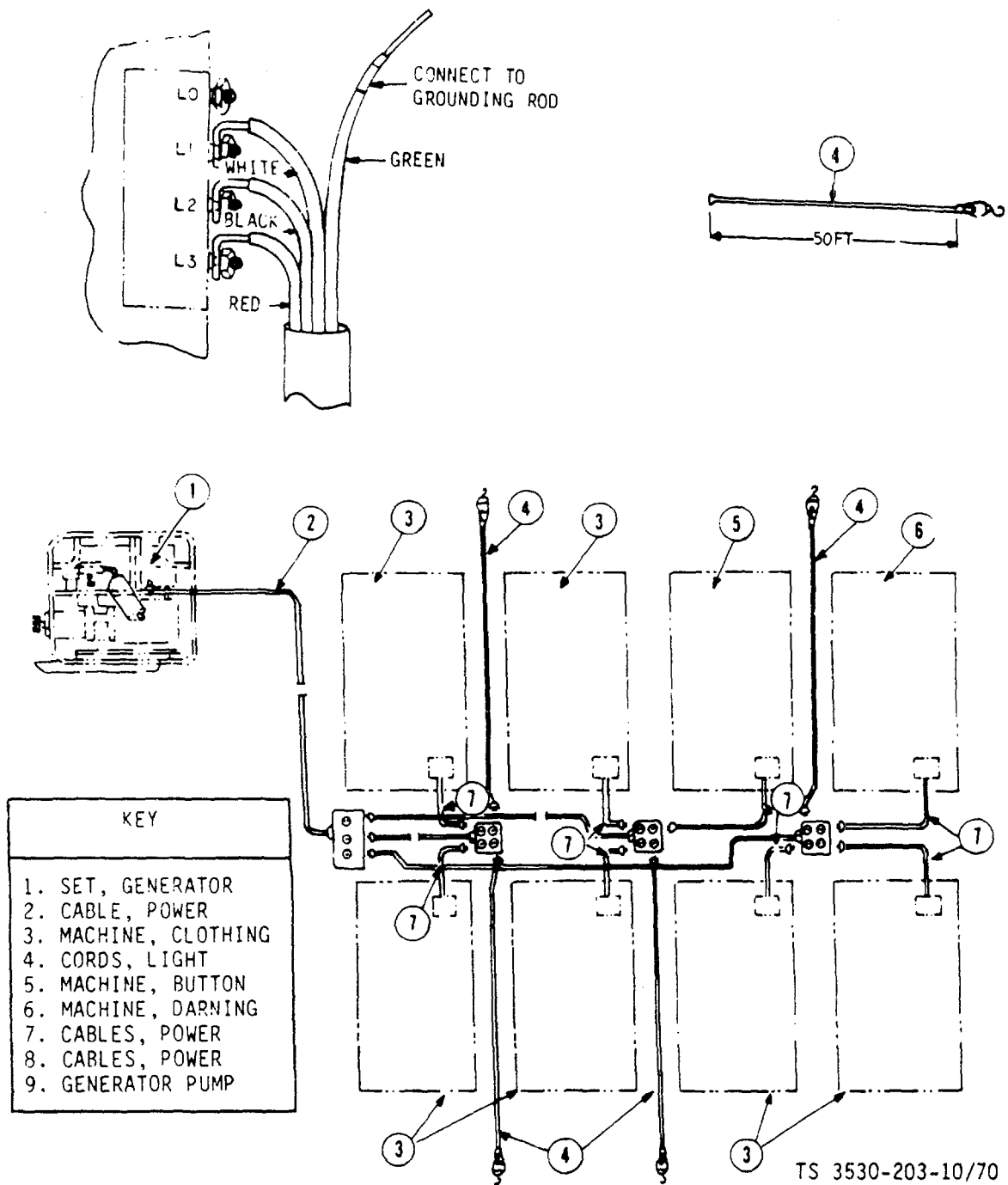


Figure 70. Schematic diagram showing sewing machines connected to generator set.

Page 139.

Paragraph 155, second line following 16 add "page 26".

Paragraph 156, second line following 17 add "page 27".

Page 148, lubrication order heading, second line change "TEXTILE REPAIR SHOP, TRAILER MTD ARMY

MODEL SPV 35 YORK ASTRO MODEL D8700477" to "YORK ASTRO MODEL D8700680 NFISN 3530-00-999-8577, AND NATICK MODEL NA-79 NSN 3530-01-075-3503".

Page 154, following Figure 79 - Continued add "Note: The model NA-79 1/3 hp motor has sealed bearings and does not require lubrication".

Page 165. Appendix I is superseded by the following:

**APPENDIX I**

**REFERENCES**

1. Fire Protection

TB 5-4200-200-10

Hand portable Fire Extinguishers Approve for Army Users

2. Lubrication

C9100IL

Fuels, Lubricants, Oils, and Waxes

LO 5-2805-203-14

Engine, Gasoline; Mil Std Model 4A032-1 and Model 4A032-2

LO 10-3530-203-12

Sewing Machine, Singer Model 31-15 and 331K4

3. Maintenance

TM 5-2805-203-14

Operator, Organizational, DS and GS Maintenance Manual for Mil Std Engines Model s 4A032-1 and 4A032-2

TM 5-6115-271-14

Operator, Organizational, DS and GS Maintenance Manual for 3 K'W Generator Se

TM 9-2330-213-14

Operator, Organizational, DS and GS Maintenance Manual, Including Repair Par for Chassis Trailer, 1-1/2 Ton, 2 Wheel, M103A1

TM 10-267

General Repair for Clothing and Textiles

TM 38-750

The Army Maintenance Management System (TAMMS)

Page 165. Appendix I is superseded by the following--continued.

TB MED 251	Noise and Conservation of Hearing
4. Shipment and Storage	
TM 38-230-2	Preservation, Packaging, and Packing of Military Supplies and Equipment (Packing)
TM 740-90-1	Administrative Storage of Equipment
5. Demolition	
TM 750-244-3	Destruction of Equipment to Prevent Enemy Use

Page 167. Appendix II is superseded by the following:

**APPENDIX II**  
**BASIC ISSUE ITEMS LIST AND ITEMS**  
**TROOP INSTALLED OR AUTHORIZED LITS**

**Section I. INTRODUCTION**

**1. Scope**

This appendix lists basic issue items, items troop installed or authorized which accompany the clothing repair shop, and are required by the crew/operator for operation, installation, or operator's maintenance.

the National stock number assigned to the item and will be used for requisitioning purposes.

c. Description. This column indicates the Federal item name and any additional description of the item required.

**2. General**

This basic issue items, items troop installed or authorized list is divided into the following sections:

d. Unit of Measure (U/M). A 2 character alphabetic abbreviation indicating the amount or quantity of the item upon which the allowances are based, e.g., ft, ea, pr, etc.

a. Basic Issue Items List - Section II. Not Applicable.

e. Quantity Authorized (Items Troop Installed or Authorized Only). This column indicates the quantity of the item authorized to be used with the equipment.

b. National Stock Number. This column indicates

Section III. ITEMS TROOP INSTALLED OR AUTHORIZED LIST

National Stock Number	Description	Part No. (FSCM)	Qty Req'd
3530-00-449-3996	Case, shuttle	62740 (77948)	1
3530-00-245-7997	Needle, sewing machine, button 175X3, size 16	175X3-16 (77948)	72
3530-00-245-8026	Needle, sewing machine, button 175X3, size 18	175X3-18 (77948)	72
3530-00-245-8001	Needle, sewing machine, button 175X7, Size 18	175X7-18 (77948)	72
3530-00-245-7831	Needle, sewing machine, clothing 16X87, size 14	16X87-14 1 (77948)	72
3530-00-254-3446	Needle, sewing machine, clothing 16X87, size 18	16X87-18 (77948)	72
3530-00-257-2812	Needle, sewing machine, clothing 16X87, Size 21	16X87-21 (77948)	72
3530-00-257-2830	Needle, sewing machine, darning 126X3, Size 18	126X3-18 (77948)	72
3530-00-257-3548	Needle, sewing machine, darning 126X3, Size 20	126X3-20 (77948)	72
5120-00-357-7234	Set, fastener, button & eyelet, baby durable, 9932		1
5120-00-322-6193	Set, snap fastener, cap and post, style 2		1
5110-00-161-6918	Shears, bent trimmers, 10 in. o/a length		1
3530-00-739-4654	Shuttle	19292 (77948)	1
	Department of the Army Lubrication Orders		
	LO 10-3530-203-10/1		1
	LO 10-3530-203-10/2		1
	LO 10-3530-203-10/3		1

**Section III. ITEMS TROOP INSTALLED OR AUTHORIZED LIST--continued**

National Stock Number	Description	Part No. (FSCM)	Qty Req'd
	Department of the Army Technical Manuals		
	TM 5-2805-203-14		1
	TM 5-6115-271-14		1
	TM 10-267		1
	TM 10-3530-203-10		1
	TM 9-2330-213-14		1

Page 179. Delete the following lines:  
Lines 1, 2, 4, 5, 12, 19, 23, 29, 30, 31, 42, 45, and 46.

Page 182. Delete the following lines  
Lines 1, 4, 5 thru 9, 12, 13, 15 17 thru 20, 27, 28, 30, and 31.

Page 180. Delete the following lines:  
Lines 2, 8, 9, 11, 18, 24, 28, 32, 34 thru 37, 40, 41, 43 thru 49, 52, and 53.

Page 183. Delete the following lines  
Lines 25 and 46.

Page 181. Delete the following lines:  
Lines 8, 11, 12, 14, 15, 17, 18, 23 thru 28, 32 thru 34, 36 thru 42, 47, 48, 50, and 54.

Page 184. Delete the following lines  
Lines 22, 26, 32, 51, and 56.

**By Order of the Secretary of the Army:**

**Official:**

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

**J. C. PENNINGTON**  
*Major General, United States Army*  
*The Adjutant General*

**DISTRIBUTION:**

To be distributed in accordance with DA Form 12-25A, Operator Maintenance Requirements for Clothing and Textile Repair.

TECHINICAL MANUAL }  
 No. 10-3530-203-10 }

HEADQUARTERS  
 DEPARTMENT OF THE ARMY  
 WASHINGTON, D. C., 18 April 1966

OPERATOR'S MANUAL  
 TEXTILE REPAIR SHOP, TRAILER-MOUNTED  
 YORK ASTRO MODEL D8700477  
 ARMY MODEL SPV 35  
 (FSN 3530-819-2008)  
 AND  
 CLOTHING REPAIR SHOP, TRAILER-MOUNTED  
 YORK ASTRO MODEL D8700337  
 ARMY MODEL SPV 34  
 (FSN 3530-819-2007)

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\*This manual supersedes those portions of TM 10-263, 18 June 1947, including C2, 22 September 1955, C3, 1 June 1959, C4, 29 December 1960, and C5, 8 August 1962, and TM 10-264, 17 October 1949, including C2, 14 May 1956, that pertain to the operator for the textile repair shop and for the clothing repair shop.

**PART ONE**

**TEXTILE REPAIR SHOP, TRAILER-MOUNTED**

**CHAPTER 1**

**INTRODUCTION**

---

**Section I. GENERAL**

**1. Scope**

The instructions covered in part one of this manual are published for the use of the personnel to whom the trailer mounted textile repair shop is issued. They provide information on the operation, the lubrication, and the maintenance of the components of the textile repair shop. Also, they include descriptions of the major components and their functions in relation to other components of the textile repair shop.

**2. Appendixes**

*a.* Appendix I contains a list of publications applicable to the textile repair shop and available to the operator.

*b.* Appendix II contains the basic issue item list of the items required for the initial operation of the textile repair shop.

**3. Maintenance Forms and Records**

The maintenance forms, records, and reports which are to be used by the operator(s) in maintaining the textile repair shop are listed and described in TM 38-

750.

**4. Reporting of Equipment Manual Improvements**

The direct reporting by the individual user of errors, omissions, and recommendations for improving this equipment manual is authorized and encouraged. DA Form 2028 (Recommended changes to DA Publications) will be used for reporting these improvements. This form may be completed using pencil, pen, or typewriter and forwarded direct to the Commanding General, U.S. Army Mobility Equipment Center, ATTN: SMOME-MPD, 4300 Goodfellow Blvd., St. Louis, Mo. 63120.

**5. Orientation**

Throughout this manual the terms *right*, *left*, *front*, and *rear* indicate the directions from the viewpoint of the operator when he is standing at and facing the drawbar end of the cargo trailer. These terms also indicate the directions from the viewpoint of the operator when he is in operating position (front) of the sewing machines, of the grommet press, and of the tack-button attaching machine.

**Section II. DESCRIPTION AND DATA**

**6. General Description**

The trailer-mounted textile repair shop (fig. 1) is complete with all the equipment including auxiliary or supporting equipment necessary for the repair of textiles,

and is designed for field use where it is normally set up in tents or in temporary shelters. The textile repair shop is equipped with one clothing sewing machine, one darning machine, one overedge sewing machine, one textile sewing machine, two heavy-duty

sewing machines, one grommet press, and one tack-button attaching machine. The shop is also equipped with a fire extinguisher and a self-contained portable generator set. For a further description of the generator set refer to TM 5-6115-27112, and for a description of the cargo trailer refer to TM 9-2330-213-14.

*a. Cabinet Assembly.* The weatherproofed, rectangular-shaped aluminum cabinet assembly (1, fig. 1) is designed to store and to carry all of the equipment for the operation of the textile repair shop. It has two doors on both the left and the right sides and one door on the rear for easy access to the equipment in the cabinet. The cabinet assembly is mounted in the bed of a 1 1/2-ton cargo trailer as shown in figure 1. The holddown clamp assemblies (10, fig. 1) are used for fastening the cabinet assembly securely to the cargo trailer. The cabinet assembly is comprised of the following:

- (1) Four compartments (two on the left and two on the right) for the stowage boxes (15, fig. 1) and (3 and 12, fig. 2) which are used for storing the grommet press, tack-button attaching machine, hardware, accessories, and attachments necessary for operating the textile repair shop.
- (2) Four wooden tray assemblies (13 and 14, fig. 1) and (10 and 11, fig. 2) for stowing the clothing, darning, overedge, and textile sewing machine heads.
- (3) Six compartments with slides for the sewing machine table assemblies (11 and 12, fig. 1) and (13 and 14, fig 2).
- (4) Four lower compartments, two on either side under the table assemblies, as shown in figure 3 for the folding stands and the rope.
- (5) One compartment with slides for the two table assemblies (1, fig. 4).
- (6) Slide tracks in the bottom rear center for the two heavy-duty sewing machine tray assemblies (8, fig. 2).
- (7) Slide tracks behind the heavy-duty sewing machines for the generator set.

(8) Space in the rear on either side for the folding chairs (2 and 5, fig. 4).

(9) Space behind the folding chairs (2) for the fire extinguisher.

*b. Clothing Sewing Machine.* The clothing sewing machine (fig. 5) is a single-needle, oscillating-type shuttle, lockstitch sewing machine, designed for general-duty tailoring. It is intended for stitching clothing, coats, suits, skirts, and shirts. With each rotation of the arm shaft the oscillating shuttle rotates half a turn and back again. The oscillating shuttle allows the bobbin hook to catch the needle thread, loop it around the bobbin, and thus form a lockstitch. The clutch enables the operator to control the sewing speed.

*c. Darning Machine.* The darning machine (fig. 6) is especially designed for darning heavy fabrics to include sleeves, legs of trousers, and similar tubular articles of clothing not easily reached by a flat bed machine. With its single-needle and rotary-sewing hook it makes a lockstitch and it has no mechanism to interfere with the darning. The presser foot goes up with each stroke of the needle, therefore, the material under the needle can be moved freely in any direction while darning.

*d. Heavy-Duty Sewing Machine.* The single-needle, lockstitch, heavy-duty sewing machine (fig. 7) is designed for stitching medium and heavy canvas, duck, and light-leather materials. It has a drop feed which is made up of an alternating presser feed and a feed dog to pull the material through the machine during sewing. The vibrating presser foot and the notched lugs of the double feed dog move at the same time to pull the material through the machine as the needle moves upward. The lifting presser foot then holds the material in place while the next stitch is being made and while the feed dog and vibrating presser foot move back into position for the next stroke. The machine has a long beak, oscillating cylinder shuttle which holds the bobbin vertically beneath the throat plate. With each rotation of the arm shaft the shuttle rotates one-half turn and back again. This rotation allows the hook to catch the needle thread, loop it around the bobbin, and thus form a stitch.



e. *Overedge Sewing Machine.* The high-speed overedge sewing machine (fig. 8) is designed for simultaneous trimming and stitching raw edges of material by producing a close, tight, seam with a purl-edge finish. The stitch is formed by the sewing needle working in conjunction with the upper and the lower loopers. Thread is supplied to the machine from the cones of thread—the needle, the upper looper, and the lower looper, each being fed from a separate cone.

f. *Textile Sewing Machine.* The single-lockstitch, rotary-hook textile sewing machine (fig. 9) is a high-speed machine for stitching or sewing straight seams on medium-heavy materials such as webbing, tentage, upholstery, and flat leather. It uses a drop feed consisting of a feed dog and presser foot that move at the same time on the upstroke of the needle, and then come together to pull the material through the machine. It is equipped with a rotary hook with a mechanical opener. With every rotation of the arm shaft, the hook rotates twice and catches the needle thread loop, carrying it around the bobbin.

g. *Grommet Press.* The hand-lever operated grommet press (fig. 10) is a small machine consisting of a metal frame (3) that houses the plunger (19). It is equipped with assorted sets of removable chucks and dies as shown in figure 10. The chucks are installed in the plunger and the dies are installed in the hole (17) in the lower part of the grommet press. This machine is used to attach snap fasteners to clothing and equipment. The grommet press is designed to press the chuck down upon the die, thus molding the separate metal snap fastener parts into the finished fastener and attaching the fastener to the material.

h. *Tack-Button Attaching Machine.* The hand-lever operated tackbutton attaching machine (fig. 11) is a small machine consisting of a frame (3) that houses the plunger (15). It is equipped with two sets of removable dies. The machine is used to fasten the button to the tack on clothing or material. The machine uses an open- or a closed-top button and a tack with a small (14-line) or large (17-line) diameter head. The tack may be single- or double-pronged. A single- or double-pronged tack requires a button with a single hole; a double-pronged

tack requires a button with a double hole.

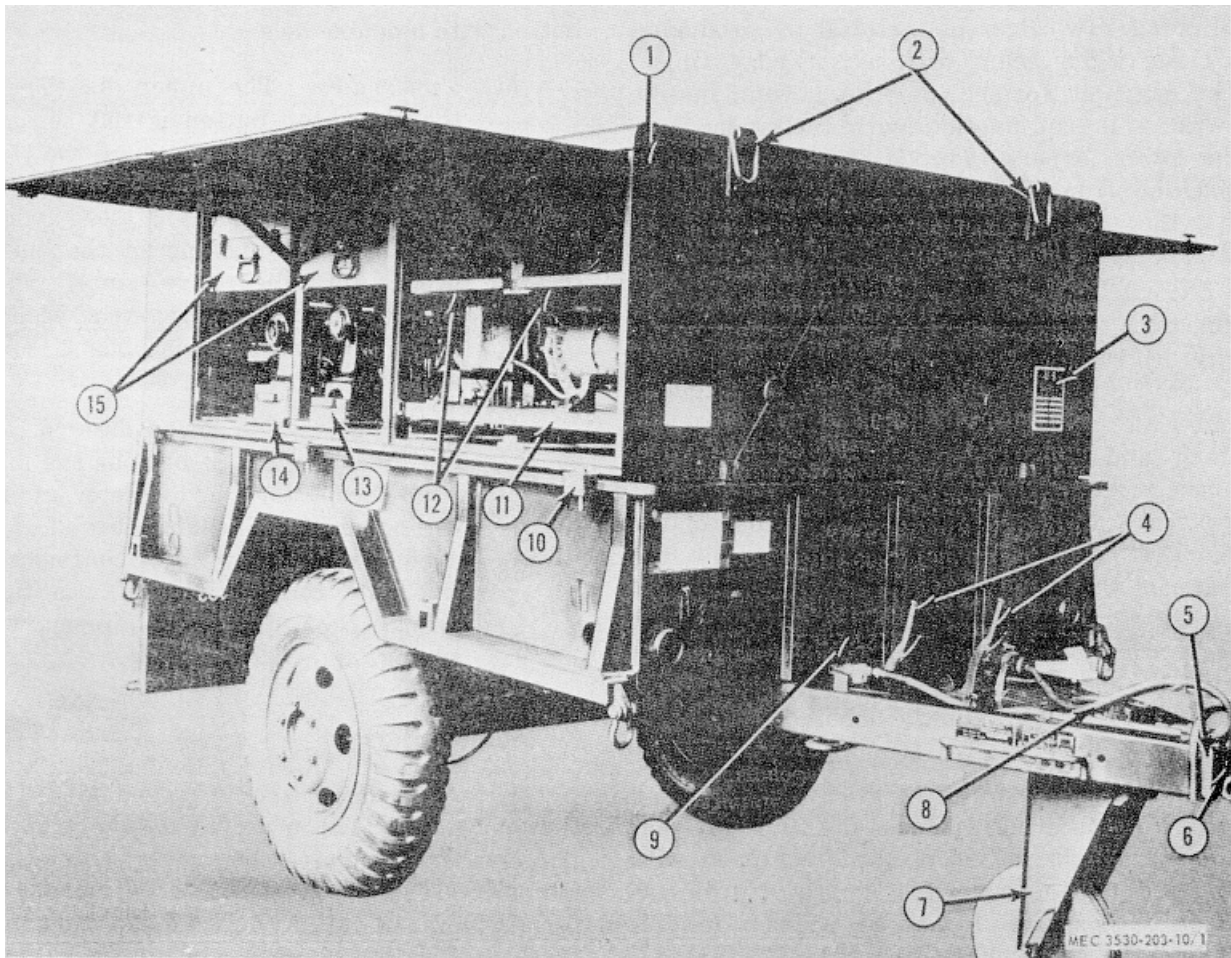
- (1) *Upper dies.* The upper die (7) for the closed-top button is flat so as to receive the flat surface of the button. The upper die (8) for the open-top button carries a stud which slips into the opening in the button head. Both dies have small wires which clamp the buttons in position while the machine is being operated.
- (2) *Lower dies.* The lower dies (6 and 9) for both types of buttons are identical except for the diameter of the die openings. The diameter of the openings in the two dies conforms in size with the diameter of the tackheads. Both dies are equipped with springs and sliding shanks.

## 7. Identification

The textile repair shop has one identification plate (fig. 12) mounted on the front of the cabinet assembly. The plate shows the manufacturer's stock, model, contract, and serial numbers; military model number; military specification number; and manufacturer's name and address.

## 8. Differences in Models

Part one of this manual covers only the York Astro Model D8700477 Trailer-Mounted Textile Repair Shop. However, the Hyde Models T2WT-51 and T2WT-51AC and the McCabe Powers Model M-4746T Trailer-Mounted Textile Repair Shops are still in use. The primary differences between the York Astro Model and the Hyde and the McCabe Powers Models are as follows: The York Astro Model has a trailer and a generator set that differ from those of the Hyde and the McCabe Powers Models. Also, the York Astro Model has a cabinet assembly, but the Hyde and the McCabe Powers Models do not.



- |   |                            |    |   |
|---|----------------------------|----|---|
| 1 | Cabinet assembly           | 9  | Trailer, cargo                            |
| 2 | Loop assemblies, lifting   | 10 | Clamp assembly, holddown                  |
| 3 | Plate, identification      | 11 | Table assembly, heavy-duty sewing machine |
| 4 | Handbrakes, right and left | 12 | Table assemblies                          |
| 5 | Coupler, drawbar           | 13 | Tray assembly, darning machine            |
| 6 | Chains, safety             | 14 | Tray assembly, clothing machine           |
| 7 | Caster                     | 15 | Box, storage                              |
| 8 | Cable, intervehicular      |    |   |

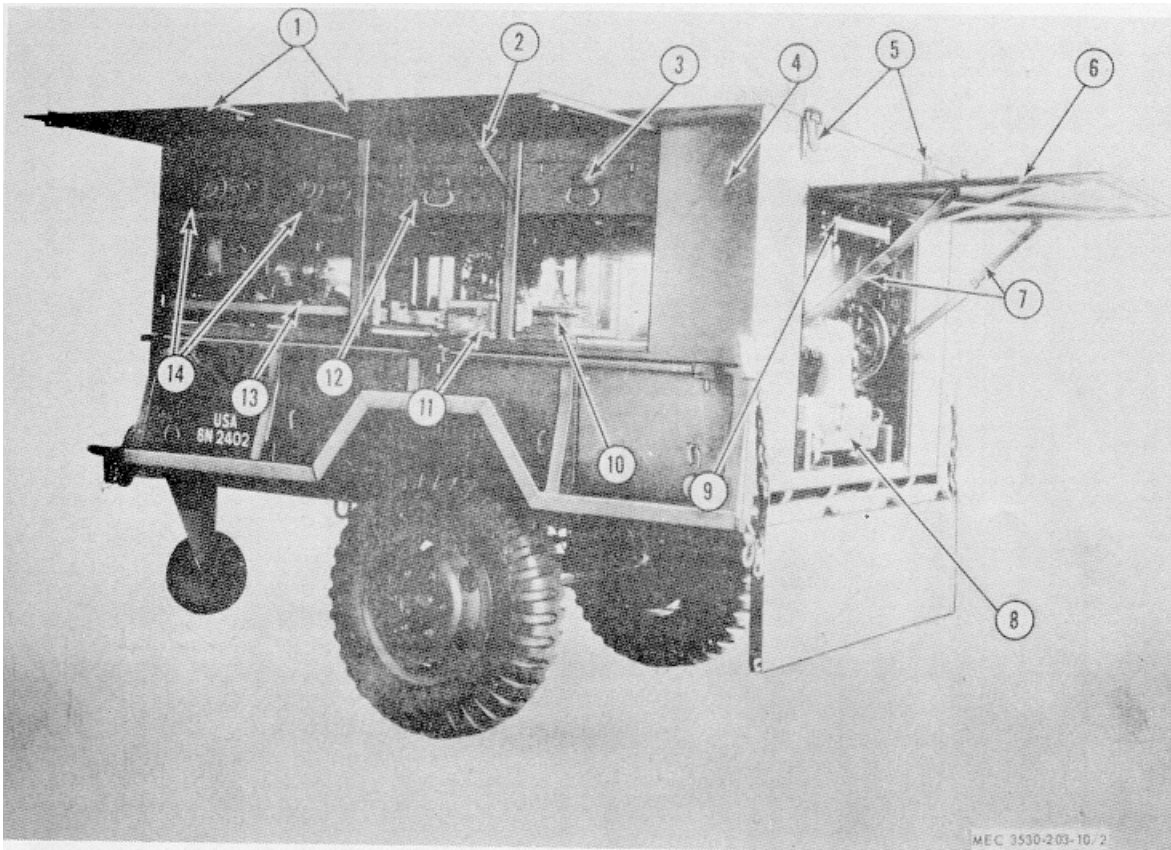
Figure 1. Trailer-mounted textile repair shop, three-quarter front view.

### 9. Components Comprising Textile -Repair Shop

The major components comprising the textile repair shop are a cargo trailer, a cabinet assembly, a clothing sewing machine, a darning machine, an overedge sewing machine, a textile sewing machine, two heavy-duty sewing machines, a grommet press, and a tack-button attaching machine. The auxiliary items or components used with the textile repair shop are the fire extinguisher and the generator set. The purpose of each

component is as follows:

Major Components	Purpose
Cargo trailer.	Transporting textile repair shop.
Cabinet assembly.	Storing equipment against weather conditions.
Clothing sewing machine.	Sewing or stitching clothing.



- |   |                            |    |                                    |
|---|----------------------------|----|------------------------------------|
| 1 | Doors, side                | 8  | Tray assembly, heavy-duty machine  |
| 2 | Stay, side door            | 9  | Table assemblies                   |
| 8 | Box, stowage               | 10 | Tray assembly, overedge            |
| 4 | Cabinet assembly           | 11 | Tray assembly, textile             |
| 5 | Hooks, rear lifting        | 12 | Box, stowage                       |
| 6 | Door, rear                 | 13 | Table assembly, heavy-duty machine |
| 7 | Stay assemblies, rear door | 14 | Table assemblies, sewing machine   |

Figure 2. Trailer-mounted textile repair shop, three-quarter rear view.

Major Components	Purpose	Major Components	Purpose
Darning machine.	Darning holes in clothing or canvas.	Textile sewing machine.	Sewing or stitching textiles, webbing, tentage, upholstery, and flat leather.
Heavy-duty sewing machine.	Sewing or stitching medium and heavy canvas and duck and light-leather materials.	Auxiliary Components	Purpose
Grommet press.	Installing snap fastener sets on items.	Fire extinguisher.	Extinguishing fires.
Tack-button attaching machine.	Fastening button to tack on items.	Generator set.	Furnishing electric power for sewing machines and lights.
Overedge sewing machine.	Finishing or covering raw edges with a close tight seam.		

**10. Tabulated Data**

For the tabulated data on the cargo trailer refer to TM 9-2330-213-14, and on the generator set refer to TM 5-6115-271-12. Refer to the following tabulated data for the textile repair shop.

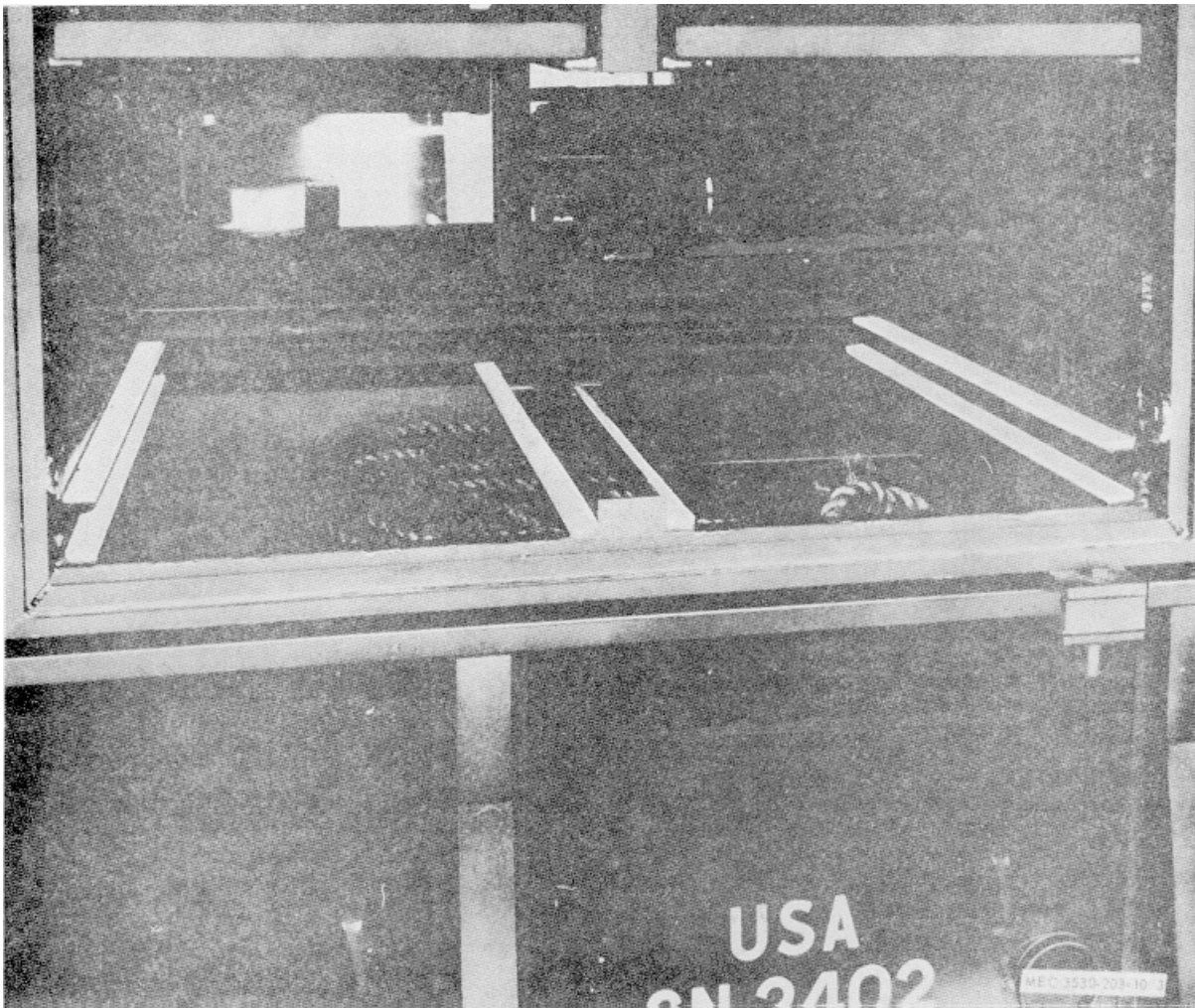


Figure 3. Cabinet assembly folding stand compartments, inside view.

a. *Textile Repair Shop (Overall).*

Dimensions and weight:

Height	8 ft. 2 in.
Length	13 ft. 9 in.
Weight (gross)	5, 360 lb.
Width	6 ft. 11 in.
Drawbar height of trailer	2 ft. 6 in.
Shipping cubage	863 cu. ft.

General information:

Manufacturer	York Astro (Division of Wicks Industries, Inc.)
Manufacturer model number	D8700477
Army model number	SPV 35

Registration  
numbers

10-M-64001 thru  
10-M-64059

b. *Cabinet Assembly.*

Dimensions:

Height	4 ft. 4 1/2 in.
Length	9 ft. 3 in.
Width	6 ft. 11 in.

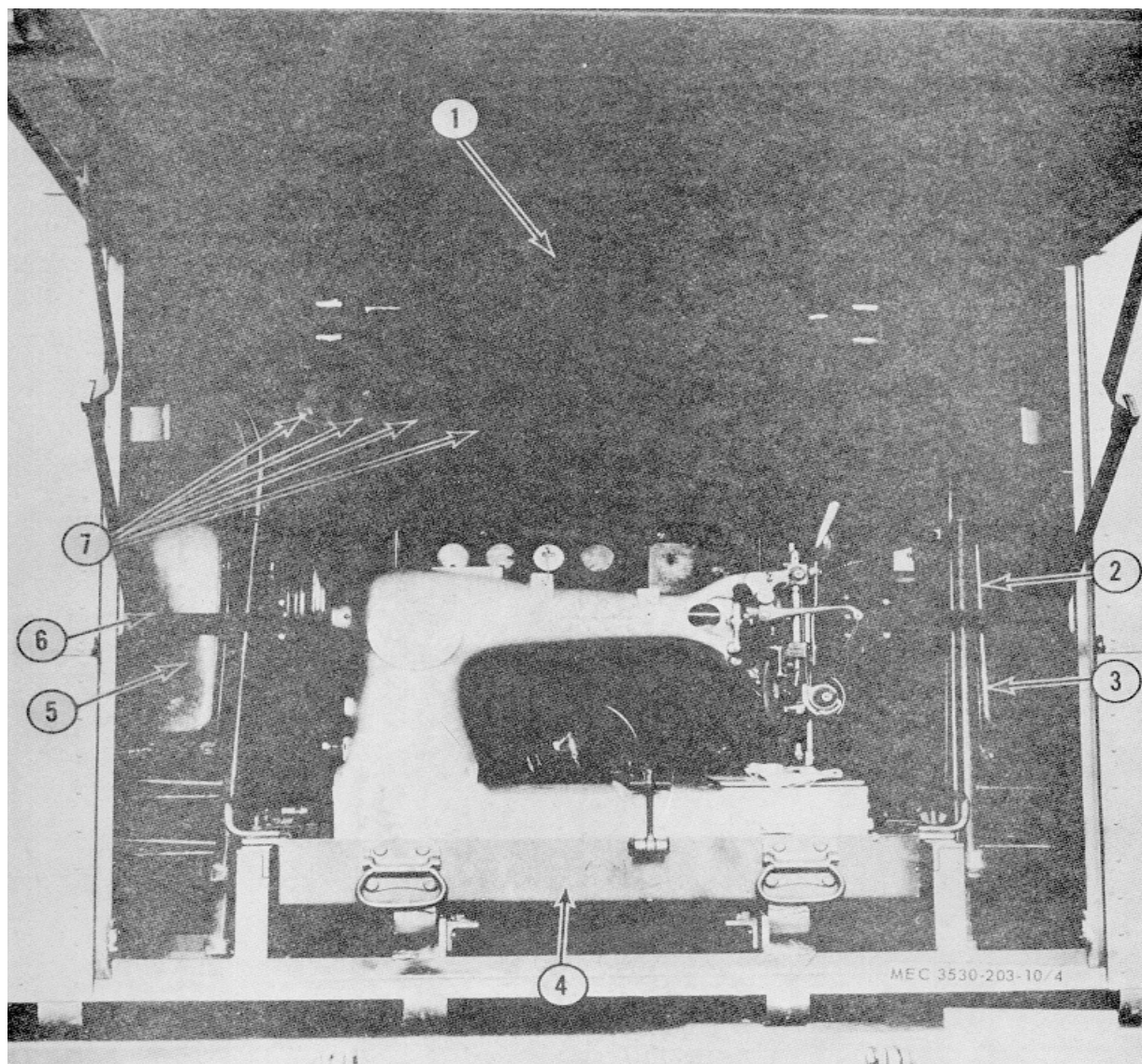
Torque data:

Holddown clamp capscrew	30 ft.-lb.
Generator skid adapter screw	18-20 ft. lb.

c. *Clothing Sewing Machine.*

General information:

Manufacturer	The Singer Manufacturing Company
Model number	31-15



- |   |  |   |                               |
|---|--|---|-------------------------------|
| 1 | Table assemblies                         | 5 | Chairs, folding               |
| 2 | Chairs, folding                          | 6 | Strap assembly, folding chair |
| 3 | Strap assembly, folding chair            | 7 | Pins, tent                    |
| 4 | Tray assembly, heavy-duty sewing machine |   |                               |

Figure 4. Loaded cabinet assembly with rear door raised.

Motor

Cycles 60  
 Horsepower 1/4  
 Speed 1,725 r.p.m.

Volts 105-115  
 Machine performance(:  
 Speed (maximum) 2,200 stitches per min.  
 Stitch lengths 7 to 32 stitches per in.

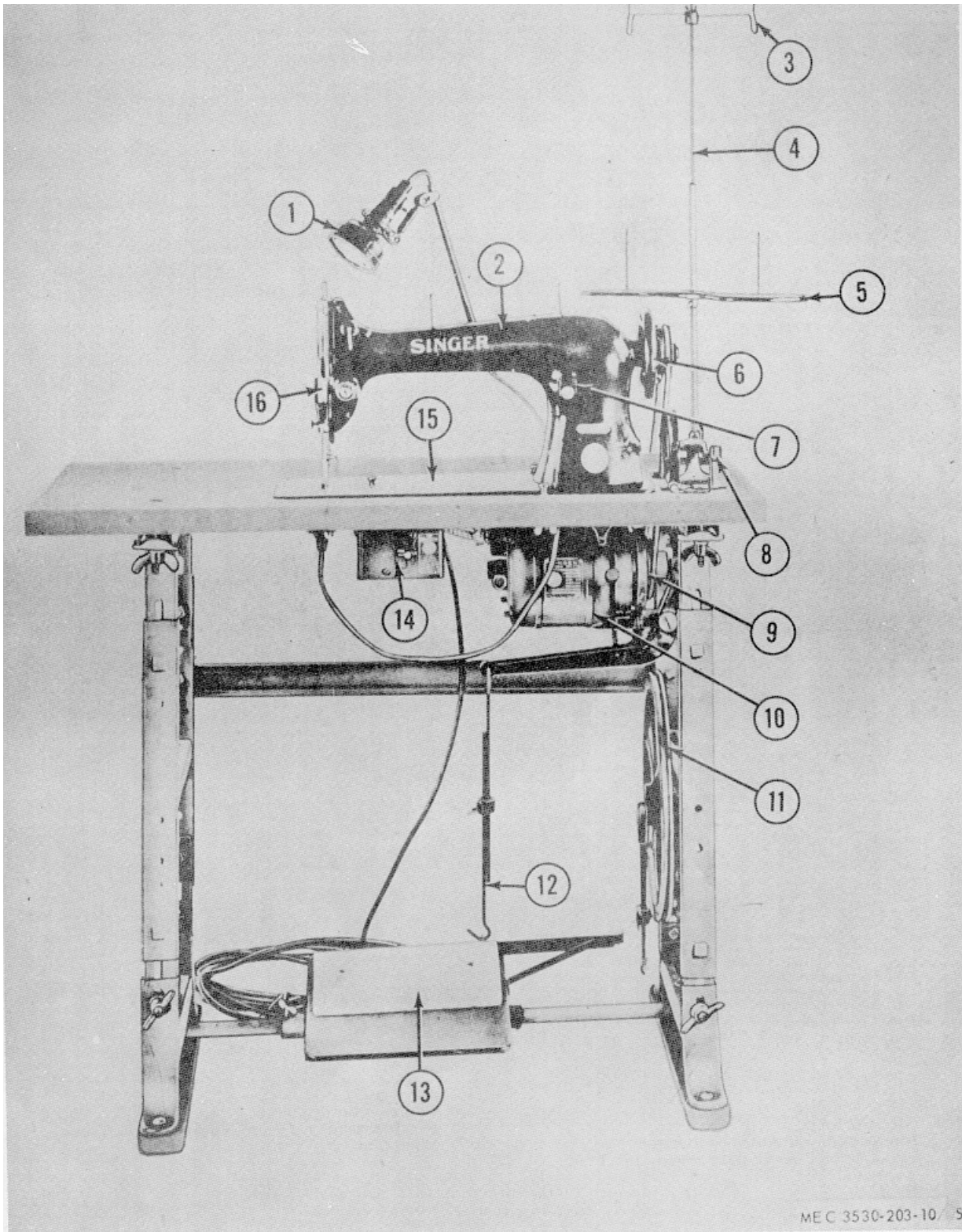


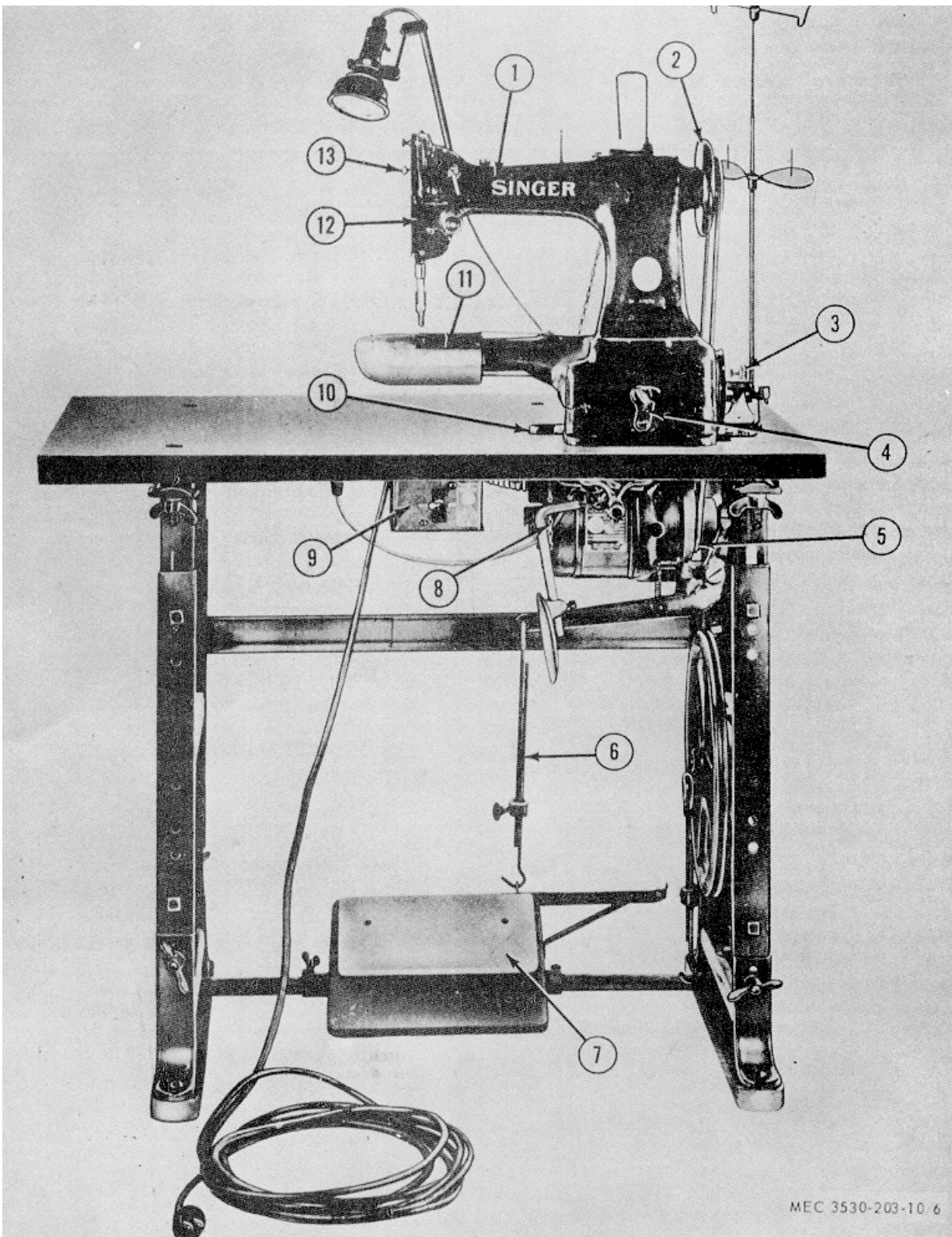
Figure 5. Clothing sewing machines, front view.

- |   |                                 |    |                        |
|---|---------------------------------|----|------------------------|
| 1 | Lamp assembly                   | 9  | Clutch assembly        |
| 2 | Arm, machine                    | 10 | Motor, electric        |
| 3 | Guide, thread                   | 11 | Wheel, treadle driving |
| 4 | Unwinder, thread                | 12 | Rod                    |
| 5 | Rest, thread cone               | 13 | Treadle, starting      |
| 6 | Pulley and balance wheel, drive | 14 | Switch, motor          |
| 7 | Thumbscrew, feed regulator      | 15 | Bed, machine           |
| 8 | Winder, bobbin                  | 16 | Face, machine          |

Figure 5-Continued.

---

<p>Dimensions: Working space 10 1/4 in. to right of needle</p> <p><i>d. Darning Machine.</i> General information: Manufacturer The Singer Manufac- turing Company Model number 47W70 Motor: Cycles 60 Horsepower 1/4 Speed 1,725 r.p.m. Volts 105-115 Machine performance: Speed (maximum) 2,800 stitches per min.</p> <p><i>e. Heavy Duty Sewing Machine.</i> General information: Manufacturer The Singer Manufac- turing Company Model number 7-33 Motor: Cycles 60 Horsepower 1/8 Speed 1,750 r.p.m. Volts 105-115 Machine performance: Speed (maximum) 550 stitches per min. Stitches (length) 2 to 8 per in. Dimensions:, Working space 9/16 under presser foot Clearance on bed 15 7/8 in. at right of needle Length of bed 25 1/4 in.</p> <p><i>f. Overage Sewing Machine.</i> General information: Manufacturer The Singer Manufac- turing Company Model number 246-15</p>	<p>Motor: Cycle 60 Horsepower 1/4 Speed 1,725 r.p.m. Volts 105-115 Machine performance: Speed (stitches 5,000 (max.) per minute) 4,300 long runs Number of 3 threads</p> <p><i>g. Textile Sewing Machine.</i> General information: Manufacturer The Singer Manufac- turing Company Model number 11W156 Motor: Cycle 60 Horsepower 1/4 Speed 1,752 r.p.m. Volts 105-115 Machine performance: Speed (maximum) 2,9000 stitches per min (max.) Length of stitches 0-G per in.</p> <p><i>h. Grommet Press.</i> Model M-483 Type Hand-lever</p> <p><i>i. Tack-Button Attaching Machine.</i> Model Scovill Manufacturing Company Type A-E</p> <p><i>j. Fire Extinguisher.</i> Type Carbon dioxide Capacity 5 lb. Weight (empty) 10 7/8 lb. Weight (total) 16 lb.</p>
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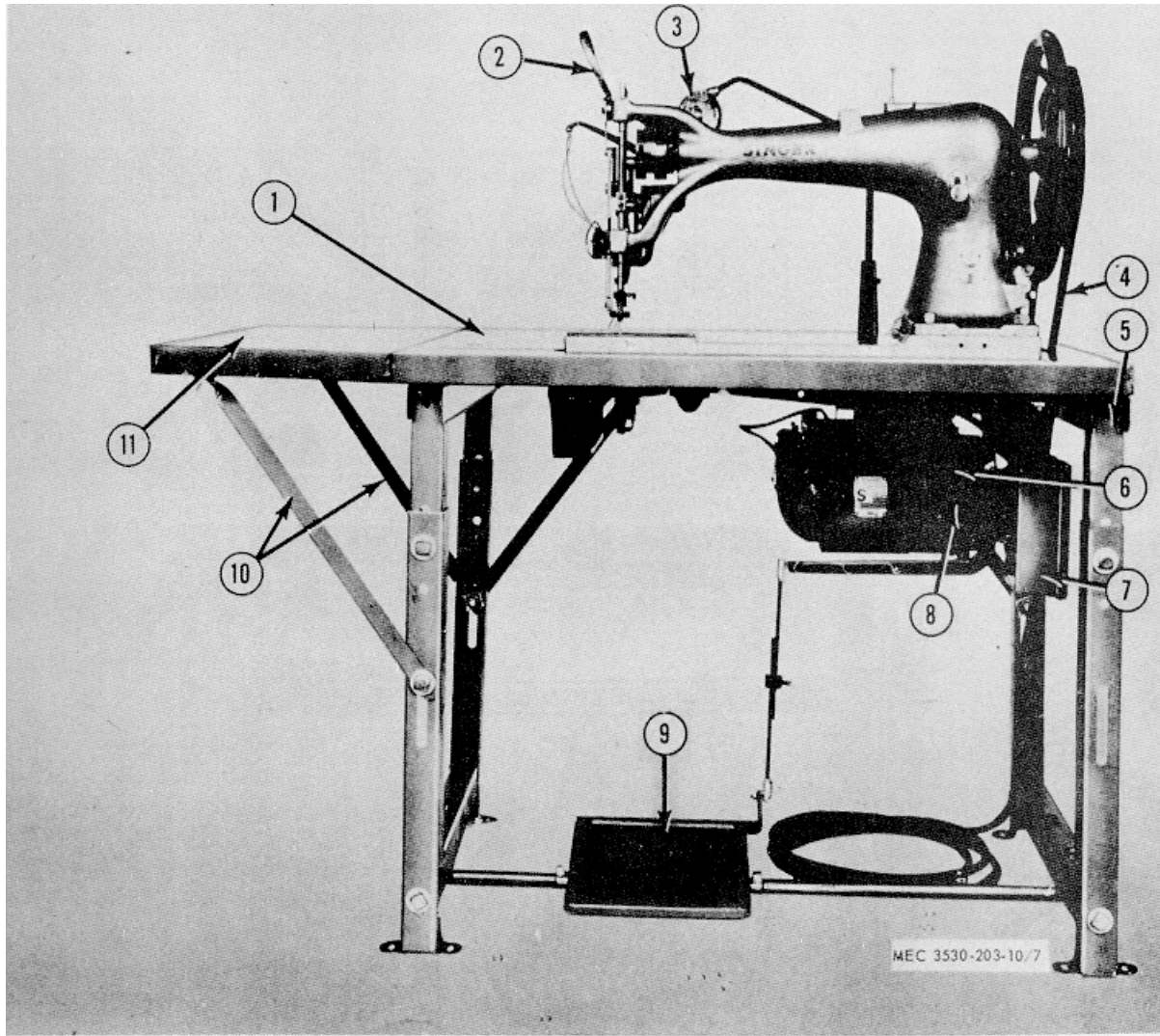
- |   |                                  |   |                 |
|---|----------------------------------|---|-----------------|
| 1 | Arm, machine                     | 4 | Clamp, bed      |
| 2 | Pulley with balance wheel, drive | 5 | Clutch assembly |
| 3 | Winder, bobbin                   | 6 | Rod             |

Figure 6. Darning machine, front view.



- |    |                   |    |                                   |
|----|-------------------|----|-----------------------------------|
| 7  | Treadle, starting | 11 | Bed, machine                      |
| 8  | Lever knee lifter | 12 | Face, machine                     |
| 9  | Switch, motor     | 13 | Thumbscrew, presser bar adjusting |
| 10 | Base, machine     |    |                                   |

Figure 6-Continued.



- |   |                      |    |                      |
|---|----------------------|----|----------------------|
| 1 | Block, cutout        | 7  | Switch, motor        |
| 2 | Lifter, pressing bar | 8  | Nut, adjusting       |
| 3 | Lever knee lifter    | 9  | Treadle              |
| 4 | Belt                 | 10 | Braces, leg          |
| 5 | Stand, folding       | 11 | Extension, table top |
| 6 | Motor                |    |                      |

Figure 7. Heavy-duty sewing machine, front view.

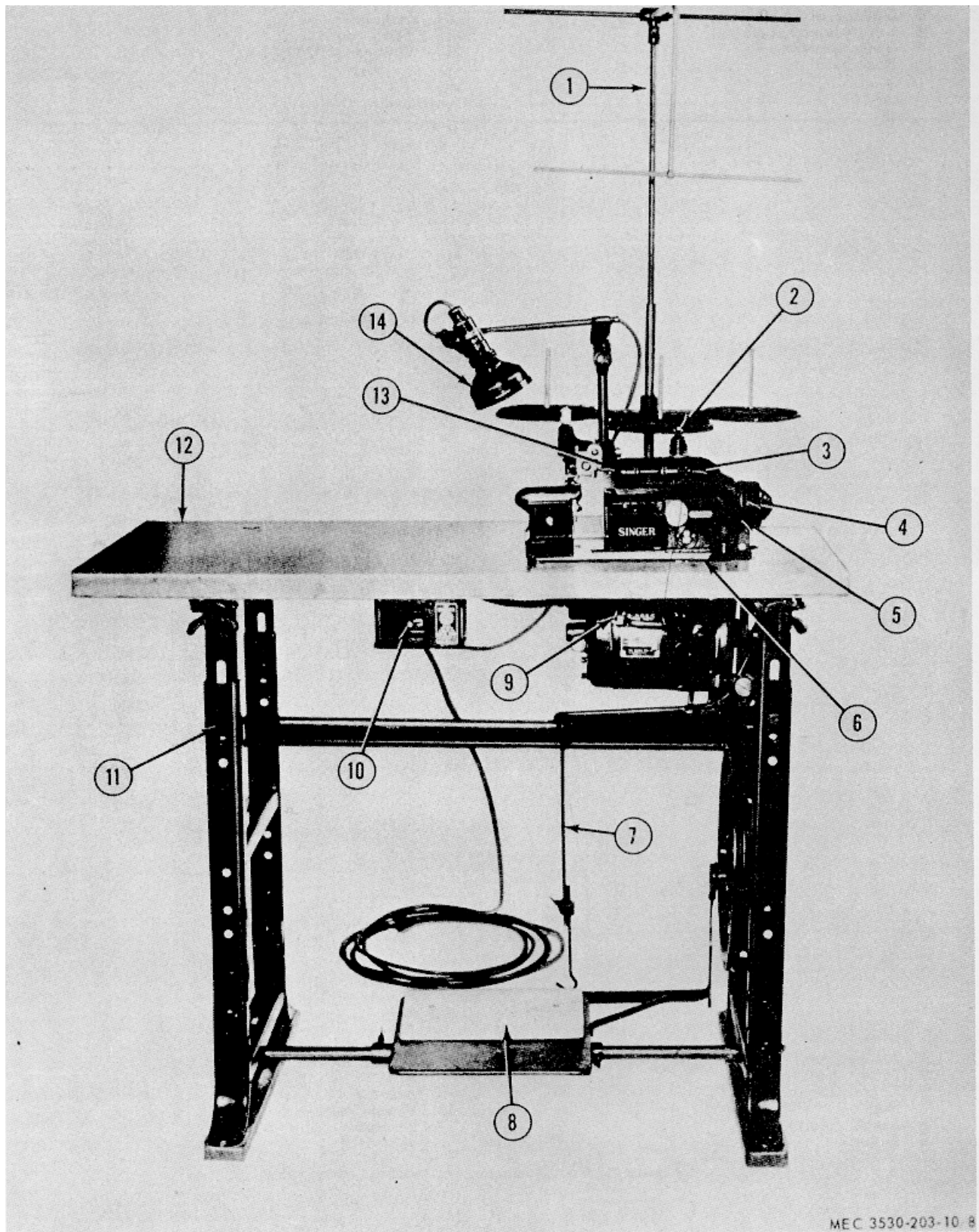


Figure 8. Overedge sewing machine, front view.

- |   |                           |    |                           |
|---|---------------------------|----|---------------------------|
| 1 | Unwinder, thread          | 8  | Treadle                   |
| 2 | Nut, thread tension thumb | 9  | Motor                     |
| 3 | Nut, thread tension thumb | 10 | Switch, motor             |
| 4 | Pulley drive shaft        | 11 | Stand, machine folding    |
| 5 | Belt, drive               | 12 | Top, table                |
| 6 | Base, machine             | 13 | Nut, thread tension thumb |
| 7 | Rod                       | 14 | Lamp                      |

Figure 8-Continued.

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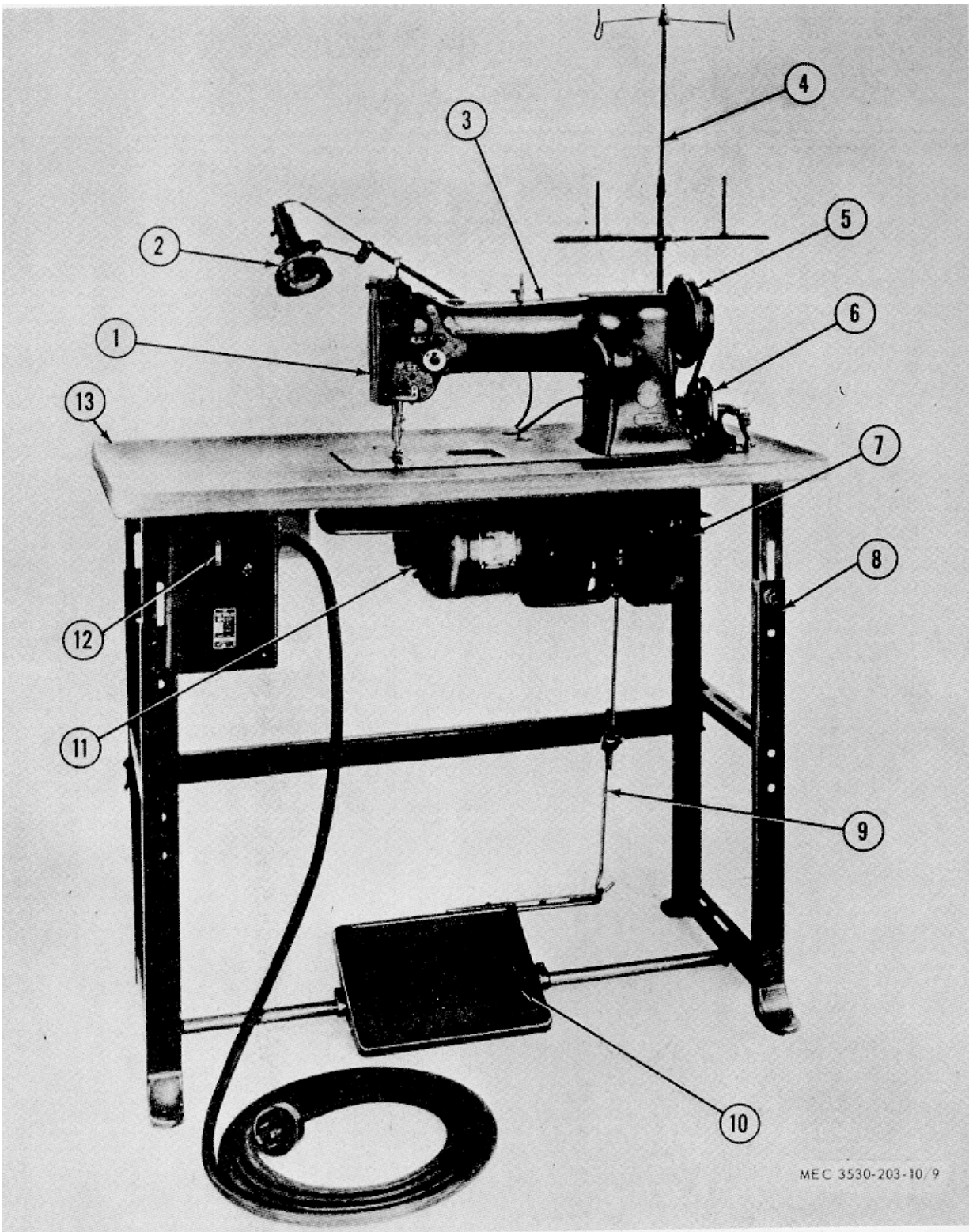
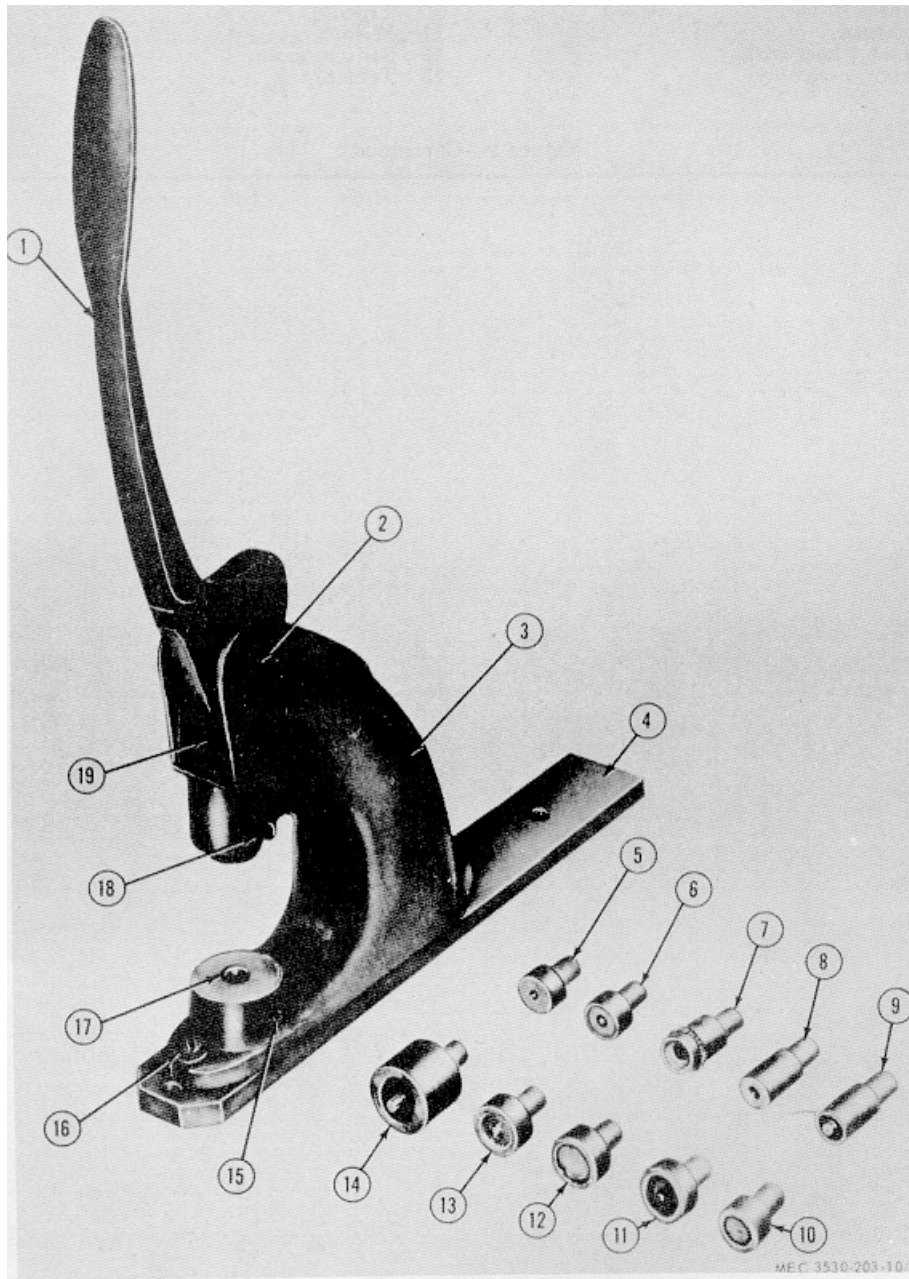


Figure 9. Textile sewing machine, front view.

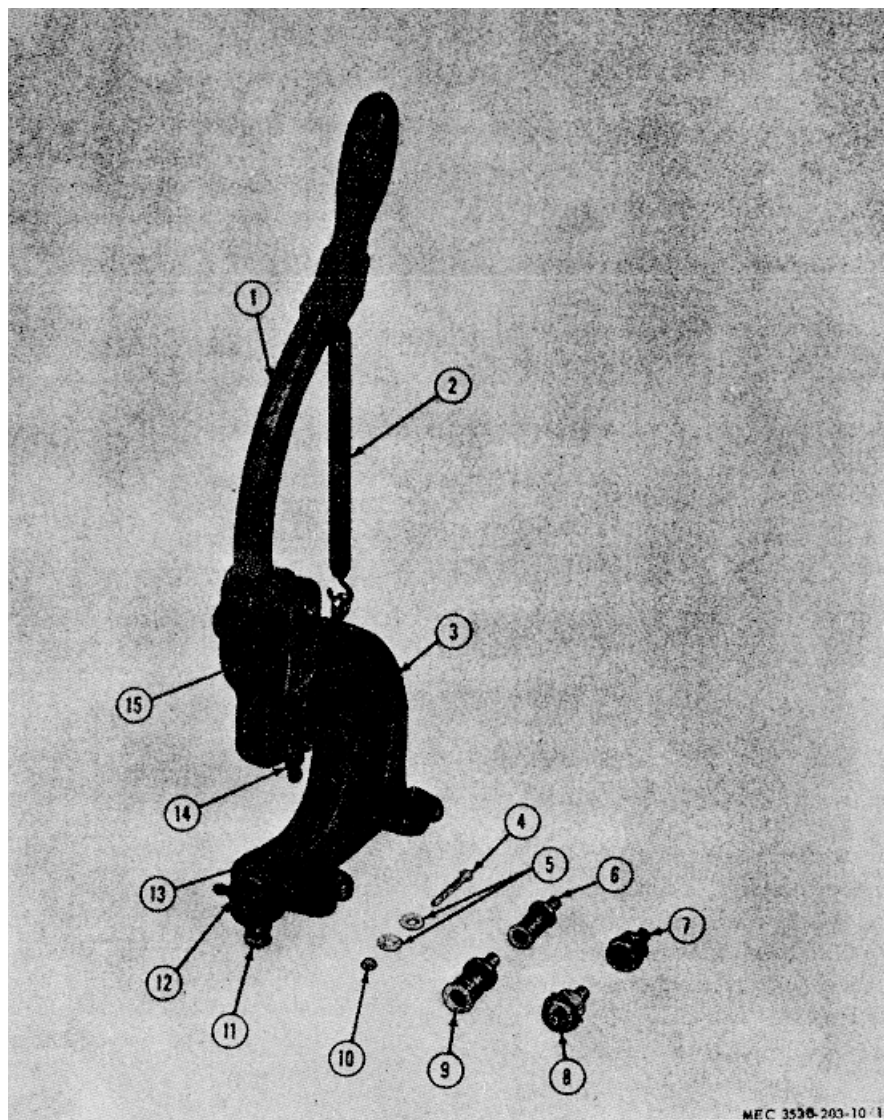
1	Face, machine	8	Frame
2	Lamp	9	Rod
3	Arm, machine	10	Treadle
4	Unwinder, thread	11	Motor
5	Pulley, balance wheel with	12	Switch, motor
6	Winder, bobbin, assembly	13	Tabletop
7	Guard, belt		

*Figure 9--Continued.*



- |    |  |    |  |
|----|--|----|--|
| 1  | Lever, hand                                | 11 | Chuck, miniature lift-the-dot socket     |
| 2  | Pivot pin                                  | 12 | Die, baby durable tool fastener          |
| 3  | Frame                                      | 13 | Die, eyelet baby durable                 |
| 4  | Base                                       | 14 | Die, miniature lift-the-dot clinch plate |
| 5  | Die, sigma eyelet                          | 15 | Setscrew, die                            |
| 6  | Die, fastener tool                         | 16 | Screw and washer                         |
| 7  | Tool, stud miniature lift-the-dot fastener | 17 | Bolt (for dies)                          |
| 8  | Chuck, sigma stud                          | 18 | Setscrew, plunger                        |
| 9  | Chuck, sigma socket                        | 19 | Plunger                                  |
| 10 | Die, sigma button fastener tool            |    |  |

Figure 10. Grommet press with chucks and dies.



- |   |                    |    |            |    |                      |
|---|--------------------|----|------------|----|----------------------|
| 1 | Lever, hand        | 6  | Die, lower | 11 | Screw                |
| 2 | Spring, hand lever | 7  | Die, upper | 12 | Screw, lower die     |
| 3 | Frame              | 8  | Die, upper | 18 | Hole (for lower die) |
| 4 | Screw, mounting    | 9  | Die, lower | 14 | Screw, plunger       |
| 5 | Washers            | 10 | Nut        | 15 | Plunger              |

Figure 11. Tack-button attaching machine with dies.



Figure 12. Identification plate for trailer-mounted textile repair shop



## CHAPTER 2

### OPERATING INSTRUCTIONS

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#### Section I. SERVICE UPON RECEIPT OF TEXTILE REPAIR SHOP

##### 11. General

When a new or a used textile repair shop is received by an organization, it must be serviced to prepare it for operation. The services performed upon receipt of the textile repair shop are the responsibility of the using organization and will be performed by organizational maintenance personnel. The operator(s) will assist in these services when directed to do so by the commanding officer.

##### 12. Inspecting and Servicing Equipment

Set up the equipment (para 14) and perform the daily preventive maintenance services (para 56) for the textile repair shop. Also, perform the necessary lubrication services (para 56) for the textile repair shop.

##### 13. Disconnecting Trailer From Towing Vehicle

Select a dry site or area that is free of dust and as level as possible to set up the textile repair shop. Then proceed as follows to disconnect the cargo trailer from the towing vehicle:

- a. Set the right and left handbrakes (4, fig. 1), located on the front of the trailer, by pulling the handbrakes forward to apply the brakes.
- b. Lower and lock the caster (7) in the vertical position.
- c. Disconnect the intervehicular cable (8) from the towing vehicle, and place the cable in the bracket provided on the frame of the trailer.

- d. Close the air shutoff valve on the towing vehicle. Disconnect the intervehicular air hose from the towing vehicle and put it in the bracket provided on the trailer.

- e. Unhook the safety chains (6) from the towing vehicle and hook them to the lifting bars located on the sides of the trailer E.3 shown in figure 1.

- f. Unlatch the pintle and lift the drawbar coupler (5) from the pintle of the towing vehicle and move the towing vehicle from the site.

- g. Lower the rear support leg to ground to give the trailer rear-end stability during loading or unloading.

##### 14. Unloading Equipment From Cabinet Assembly and Setting Up Equipment

Turn the two locking latch handles on each door simultaneously to unlock and to open each door on the cabinet assembly. Raise the doors and position the stays to hold the doors in the open position as shown in figure 2. Unload the equipment from the cabinet and set it up according to the instructions given below.

- a. *Machine Table Assemblies, Folding Stands, and Stowage Boxes.*

- (1) Slide the table assemblies (11, fig. 1) and (13, fig. 2) from the racks and out of the cabinet.

*Note.* These table assemblies have to be removed in order to gain access to the following stands which are located in the compartments under the table assemblies. The

folding stands are used to support the table assemblies which in turn support the sewing machine heads.

- (2) Remove the block and tackle from the top of the folding stands in the compartment.
- (3) Unfasten the holddown straps that secure the folding stands in the compartments.
- (4) Remove the cross braces from the tops of the folding stands and from the cabinet.
- (5) Remove the folding stands from the compartments and set up each as follows:
 

*Note.* The folding stands are placed and stored in the compartments of the cabinet assembly with the feet up.

  - (a) Loosen the wingnuts at each corner of the folding stand.
  - (b) Raise the ends of the folding stand to the vertical position.
  - (c) Press down on the ends of the folding stand until the bottoms come in contact with the top of the foot section.
  - (d) Tighten the wingnuts securely.
  - (e) Place the foot treadle in its operating position.
  - (f) Install a cross brace to the back of each folding stand.
  - (g) Install a table assembly on each stand following the procedure in (7) below.
- (6) Slide and remove the four stowage boxes (15, fig. 1) and (3 and 12, fig. 2) from the left and right sides of the cabinet assembly. Place them in a convenient location to gain access to the bolts, clamps, and wing-nuts used to secure the table tops to the stands.
- (7) Install a table assembly on each folding stand. Insert the bolts through the tabletop, into the slots in the top of the steel stand through the holes in the clamps, and then fasten them securely with the wing-nuts.

*b. Clothing Sewing Machine Head.* The clothing machine head is stored and carried in a tray (14, fig. 1) in the cabinet.

- (1) Pull or slide the tray and with the clothing machine head out until it hits the stop located on the bottom of the tray. Remove the thumb-screw that secures the holddown strap assembly to the clothing machine head; open the straps and remove the clothing machine head from the tray. Install the clothing machine head on the top of the table as shown in figure 5.
- (2) Remove the rod (12) from the stowage box and connect it to the clutch arm of the clutch assembly (9) and to the treadle (13).
- (3) Remove the bobbin winder and the wood screws from the stowage box and install the bobbin winder (8) on the tabletop.
- (4) Remove the thread unwinder (4), thread unwinder base, cone rests, set-screws, and screws from the stowage box.
- (5) Install the thread unwinder base on the tabletop.
- (6) Place the thread cone rests (5) on the thread unwinder (4), and install a setscrew in them (underneath the cone rests).
- (7) Place the thread unwinder in the base and tighten the setscrew securely.
- (8) Install the machine rest pin in the tabletop.
- (9) Plug the light cord in the receptacle located underneath the tabletop.
- (10) Install the belt on the motor drive pulley and on the machine drive pulley (6).

*c. Darning Machine Head.* Follow the instructions in b above to set up the darning machine as shown in figure 6.

*d. Heavy-Duty Sewing Machine Head.* Remove each heavy-duty sewing machine head, stored in a tray (4, fig. 4), from the cabinet and set up each one as follows:

- (1) Loosen the wing screws that hold the four clamps to the machine head tray and turn the clamps opposite the machine head tray, leaving them on the brace supports.
- (2) Remove the tray with the machine head in it, from the cabinet.
- (3) Loosen the two wing screws that hold the machine head holddown strap to the tray and remove the strap from the machine head.
- (4) Lift the machine head from the tray and place the head on the tabletop as shown in figure 7.
- (5) Place the cutout block (1) in the tabletop.
- (6) Place the tabletop extension (11) on the hinges on the tabletop and attach the two leg braces (10) to the tabletop extension.
- (7) Follow the instructions (b (2) through (9) above), which apply to both the clothing and the heavy-duty sewing machine.
- (8) Locate, install, and secure the lamp assembly (3) in a convenient place on the tabletop.
- (9) Install the belt (4) on the drive pulley and on the motor transmitter pulley. Adjust the belt by tightening or loosening the screw on the transmitter.

*e. Overedge Sewing Machine.* Follow the instructions in b (1) and (2) and (4) through (10) above to set up the overedge sewing machine as shown in figure 8.

*f. Textile Sewing Machine.* Follow the instructions in b above to set up the textile sewing machine as shown in figure 9.

*g. Generator Set.* Remove the generator set (after the tray assemblies with heavy-duty sewing machine heads in them have been re-moved) from the cabinet as follows:

- (1) Loosen the wing screws (3, fig. 13) on the generator rear holddown assembly (2) that secure the generator set (1) to the slide tracks (4) and remove the generator holddown assembly from the cabinet.
- (2) Loosen the wing screws on the generator front holddown assembly, slide the generator set

away from the hold-down assembly, and lift the generator set from the slide tracks and out of the cabinet.

- (3) Place the generator set in a convenient location to furnish the power for the lights and the sewing machines. If it is to be used indoors, install a gastight exhaust line to pipe the exhaust gases outdoors. Provide metal shields for the exhaust line if it passes through flammable walls. Wrap the line with asbestos paper if there is danger of anyone's touching it.

**Warning: Do not operate the generator set in an enclosed area unless the exhaust gages are piped to the outside. Inhalation of exhaust fumes will result in serious illness or death.**

*h. Folding Chairs.*

- (1) Unfasten the straps (3 and 6, fig. 4) that hold the folding chairs (2 and 5) in the rear of the cabinet.
- (2) Remove the folding chairs from the cabinet and place one chair in the operator's position in front of each sewing machine.

*i. Table Assemblies With Folding Legs.*

There are two table assemblies with folding legs (1 fig. 4)--one is used as worktable during the operation of the textile repair shop -the other one is used for the installation and operation of the grommet press at one end and the tack-button attaching machine at the other end of the table (fig. 14).

- (1) Remove the two table assemblies (1, fig. 4) from the slides in the rear of the cabinet.  
*Note.* Turn the two table assemblies top to top when placing them on the slides in the cabinet.
- (2) Unfold the legs and lock them by sliding the locks downward into position to set up the tables as shown in figure 14.

*j. Grommet Press.*

- (1) Remove the grommet press (3) from the stowage box.
- (2) Using the nuts, washers and screws from the top of the table assembly, install the grommet press on the

tabletop as shown in figure 14. Tighten the nuts securely.

k. *Tack-Button Attaching Machine.*

- (1) Remove the tack-button attaching machine (1, fig. 14) from the stowage box
- (2) Remove the nuts, washers and screws from the tabletop, and install the tack-button attaching machine to the tabletop as shown in figure 14.

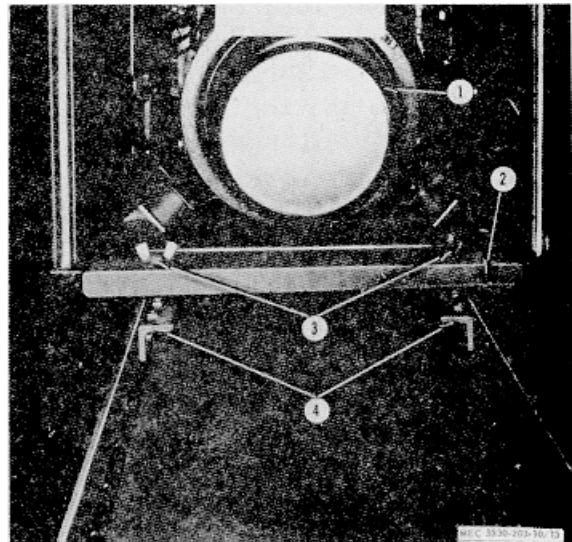
Tighten the nuts securely.

l. *Power Cables and Light Cords.* Remove the four power cables and the four light cords from the cabinet. Connect the power cables and the light cords according to the schematic diagram (fig. 15) and according to the following instructions:

- (1) Connect the 3 receptacle outlet power cable (2) to the generator set (1).
- (2) Connect the three 2-duplex outlet power cables to the 3-receptacle out-let power cable (connected to t h e generator set).
- (3) Connect the four light cords to the 2-duplex outlet power cable receptacles marked with the letter L.
- (4) Connect the sewing machine power cords to the 2-duplex outlet power cable receptacles marked with the letter M.

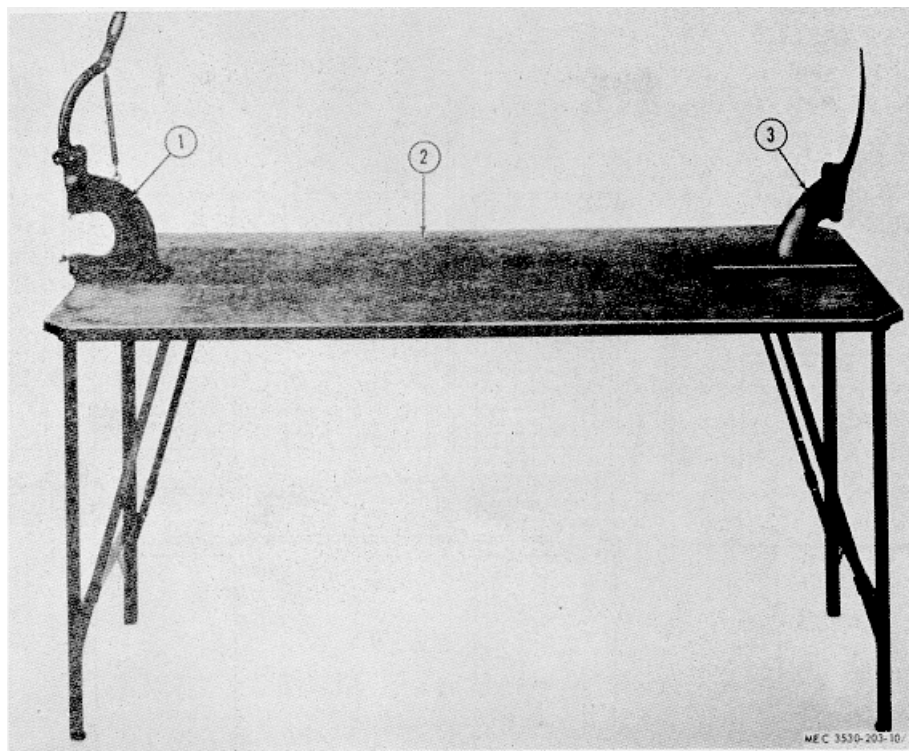
*Note.* The receptacles on the three 2-duplex outlet power cables are marked with letters M and L for proper load distribution. The sewing machines must be plugged in the receptacles marked with the letter M and the light cords must be plugged in the receptacles marked with the letter L.

m. *Fire Extinguisher.* Open the fire extinguisher bracket, and remove the fire extinguisher from the cabinet. Place it in a convenient location near the work area.



- 1 Generator set
- 2 Holddown assembly
- 3 Screws, wing
- 4 Tracks, slide

Figure 13. Generator set in cabinet assembly



- 1 Attaching machine, tack-button
- 2 Table assembly

- 3 Press grommet

*Figure 14. Tack-button attaching machine and grommet press installed on tabletop.*

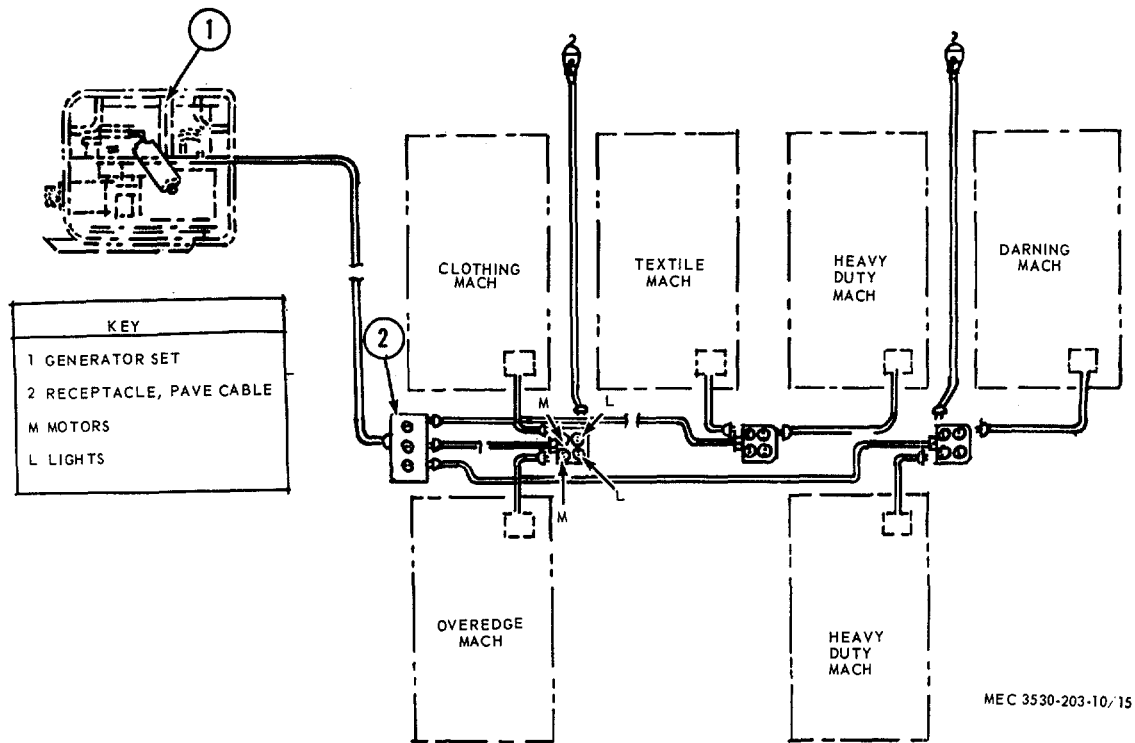


Figure 15. Schematic diagram showing sewing machines for textile repair shop connected to generator set.

## Section II. CONTROLS AND INSTRUMENTS

### 15. General

This section describes, locates, illustrates and furnishes the operator(s) sufficient information pertaining to the various controls and instruments provided for the proper operation of the textile repair shop. Refer to TM 5-6115-271-12 for information on the controls for the generator set and to TM 9-2330-213-14 for information on the controls for the cargo trailer.

### 16. Controls on Clothing Sewing Machine

The controls on the clothing sewing machine are as follows:

a. *Motor Switch.* The toggle-type motor switch (14, fig. 5) is located at the front of and on the underside of the tabletop. It is used for starting and stopping the motor. Move the switch to the ON position to turn on the power and to the OFF position to turn off the power.

b. *Treadle.* The foot-type treadle (13) is located at the bottom of the stand. It is used to operate or to work the clutch which connects the motor to the motor driving pulley. Press the treadle downward to connect the motor to the machine. Release the treadle to stop the machine or to put on the brake.

*c. Presser Bar Lifter.* The presser bar lifter (3, fig. 16) is located on the back of the machine head and it is used to raise and to lower the presser foot. Raise the presser bar lifter to lift and to lock the presser foot in its raised position. Lower the presser bar lifter to lower the presser foot.

#### 17. Controls on Darning Machine

The controls on the darning machine are as follows:

*a. Motor Switch.* The toggle-type motor switch (9, fig. 6) is located at the front of and on the underside of the tabletop. It is used for starting and stopping the motor. Move the switch to the ON position to turn on the power and to the OFF position to turn off the power.

*b. Treadle.* The foot-type treadle (7) is located at the bottom of the stand. It is used to operate or to engage the clutch which connects the motor to the motor driving pulley. Press it downward to engage the clutch. Release the treadle to disengage the clutch or to stop the machine.

*c. Presser Bar Adjusting Thumbscrew.* The presser bar adjusting thumbscrew (13) is located on the upper face of the machine. It is used to vary the heights of the presser foot for darning heavy or light materials. Pull the thumbscrew toward the operator to lower the presser foot for darning light weight materials and push it backward to raise the presser foot to darn heavy weight materials.

*d. Knee Lifter Lever.* The knee lifter lever (8) is located in front of the motor and it is operated with the knee. It is used to raise and to lower the presser foot and to release the tension on the thread. Press the knee lifter to the right to raise the presser foot and to release the tension on the thread.

Release the knee lifter to lower the presser foot.

#### 18. Controls on Heavy-Duty Sewing Machine

The controls on the heavy-duty sewing machine are as follows:

*a. Motor Switch.* The motor switch (7, fig. 7) is located at the front and on the under-side of the tabletop. It is used to start and to stop the motor. Move the switch to the ON position to turn on the power and turn it to the OFF position to turn off the power.

*b. Treadle.* The treadle (9) is located at the bottom of the stand. It is used to operate the clutch and brake assembly that connects the motor to the motor driving pulley. Push down on the back of the treadle to start the machine and to regulate the speed of the machine. Push down on the front of the treadle to stop the machine.

*c. Presser Bar Lifter.* The presser bar lifter (2), located behind the machine face assemblies, is used to raise and to lower the presser foot. Pull the presser bar lifter upward to raise the presser foot; push it downward to lower it. Raise the presser foot when inserting, turning, or removing material, and when operating the machine with no material between the presser foot and the feed dog.

*d. Adjusting Nut.* The adjusting nut (8), located on the motor mounting bracket under the tabletop, is used to adjust the tensions of the round belt. Loosen the adjusting nut to lift up on the motor to loosen the round belt; push the adjusting nut downward to tighten the round belt. Adjust the belt to ½-inch finger-pressure deflection midway between the pull-up. Tighten the adjusting nut securely.

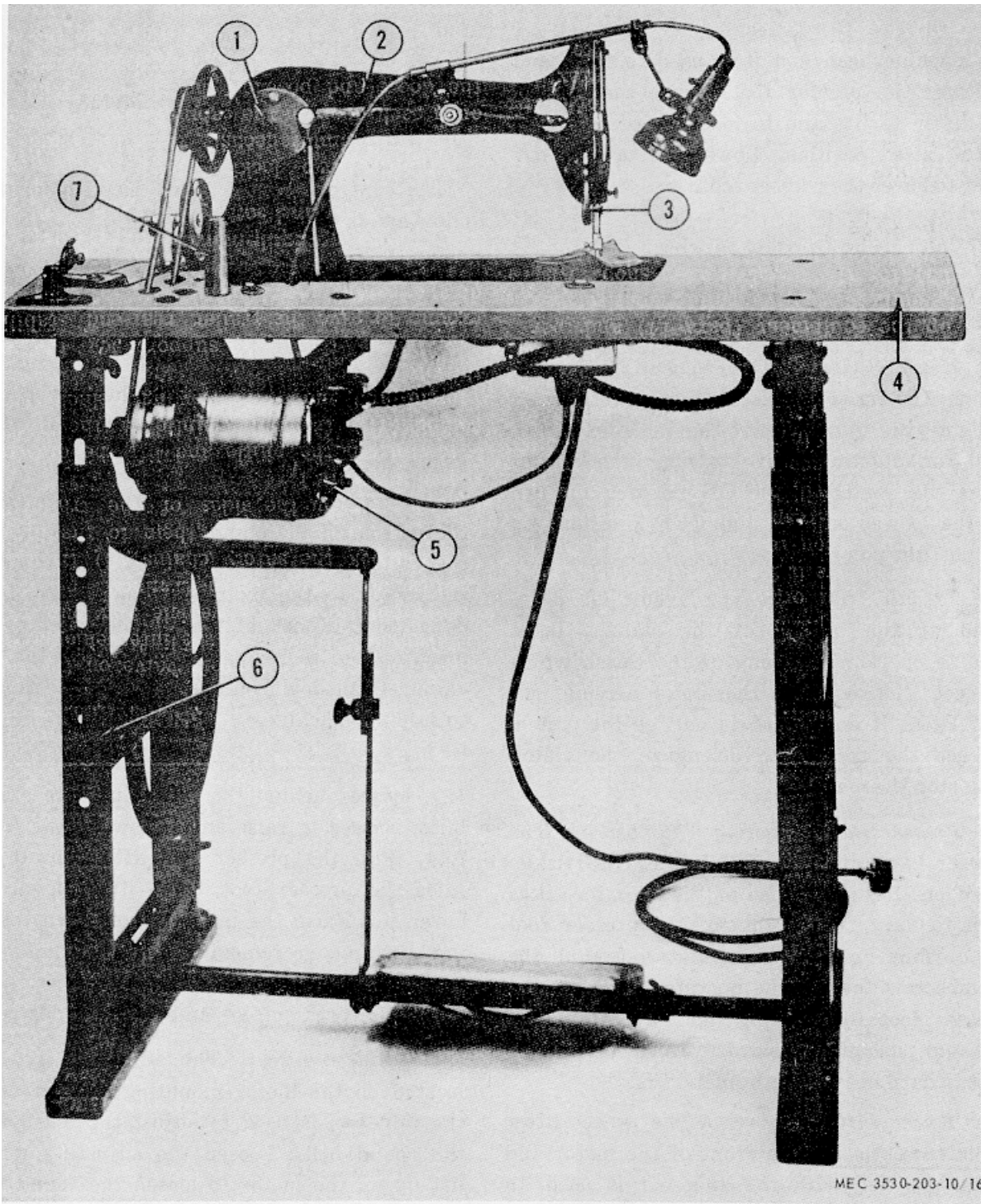


Figure 16. Clothing sewing machine, rear, view



1	Cover, side	4	Tabletop	7	Pin, machine rest
2	Arm, machine	5	Motor, electric		
3	Lifter, presser bar	6	Stand, folding		

Figure 16--Continued.

## 19. Controls on Overedge Sewing Machine

The controls on the overedge sewing machine are as follows:

*a. Motor Switch.* The toggle-type motor switch (10, fig. 8) is located at the front of and on the underside of the tabletop. It is used for starting and stopping the motor. Move the switch to the ON position to turn on the power and to the OFF position to turn off the power.

*b. Treadle.* The foot-type treadle (8) is located at the bottom of the stand. It is used to operate or to engage the clutch which connects the motor to the motor driving pulley. Press in downward to engage the clutch. Release the treadle to disengage the clutch or to stop the machine.

*c. Knee Lifter.* The knee lifter, attached to the underside of the tabletop, is located in front of the motor. It is used to raise and to lower the presser foot and to release the tension on the thread. Exert pressure on the knee lifter to raise the presser foot and to release tension on the thread. Release the pressure on the knee lifter to lower the presser foot.

## 20. Controls on Textile Sewing Machine

The controls on the textile sewing machine are as follows:

*a. Motor Switch.* The toggle-type motor switch (12, fig. 9) is located at the front of and on the underside of the tabletop. It is used for starting and

stopping the motor. Move the switch to the ON position to turn on the power and to the OFF position to turn off the power.

*b. Treadle.* The treadle (10, fig. 9) is located at the bottom of the stand. It is used to operate or to engage the clutch. Press it downward to engage the clutch and to start the machine to operate at a low speed. Press it harder for a high speed. Release the treadle to disengage the clutch or to stop the machine.

*c. Presser Bar Lifter.* The presser bar lifter, located behind the machine face assemblies, is used to raise and to lower the presser foot. Pull the presser bar lifter upward to raise the presser foot; push it downward to lower it. Raise the presser foot when inserting, turning, or removing material, and when operating the machine with no material between the presser foot and the feed dog.

*d. Knee Lifter.* The knee lifter, attached to the underside of the tabletop, is located in front of the motor. It is used to raise and to lower the presser foot and to release the tension on the thread. Exert pressure on the knee lifter to raise the presser foot and to release tension on the thread. Release the pressure on the knee lifter to lower the presser foot.

## 21. Instruments

The only instruments on the textile repair shop are those instruments on the generator set. Refer to TM 5-6115-271-12 for the information covering the instruments on the generator set.

### Section III. OPERATION UNDER USUAL CONDITIONS

#### 22. General

The instructions in this section are published for the information and guidance of personnel responsible for operating the components of the textile repair shop. The operator(s) must know how to perform every operation of which the components of the textile repair shop are capable. This section gives instructions for preparing the components for operation and for operating and stopping the components. This section also gives instructions for preparing the textile repair shop for movement to another work-site. Because nearly every situation presents a different problem, the operator(s) may have to vary given procedures to fit the individual situation.

#### 23. Preparation Clothing Sewing Machine For Operation

After the clothing sewing machine has been set up (para 14), perform the preliminary inspections prescribed in the daily preventive maintenance services (para 56), and then perform the following steps to prepare the clothing sewing machine for operation.

*a. Selecting Needle.* Select the needle of the correct size (17 or 19) according to the type of left-twist thread and weight of material to be used for sewing. Left-twist thread must be used in the needle, but right-twist thread may be used on the bobbin. The thread must pass freely through the eye of the needle. Rough or uneven thread or thread which for any reason does not slip easily through the eye of the needle interferes with the operation of the machine. The class number (16) and the variety number (87) are expressed by placing the letter X between the two numbers; for example, 16 X 87 needles. The class number describes the shank of the needle, the variety number describes the length of the needle and the type of the point, and the size describes the gage and the eye of the needle.

*b. Installing Needle.* Install a good needle (never a bent needle or one with a dull or a blunt point) of the correct class number, variety number, and size as follows:

- (1) Turn the balance wheel forward toward the operator until the needle bar moves up to its highest point.
- (2) Loosen the needle clamp screw (8, fig. 17) and remove the needle from the clamp. Then install the shank of the needle up into the clamp as far as it will go with the long groove of the needle toward the left, and the eye of the needle directly in line with the arm of the machine.
- (3) Tighten the needle clamp screw securely. If the screw is too loose, the needle will turn, slip, or fall out of the clamp.

*c. Threading Needle.* Thread the needle following the instructions below and according to the points in the order in which they are numbered on figure 18. Start and run the thread freely from the thread unwinder and through the hole in the right-hand spool pin thread guide, and

- (1) From right to left through the top hole (1) in the left-hand spool pin thread guide;
- (2) From right to left through the top hole (2) and from left to right through the middle hole in the thread retainer;
- (3) From right to left through the bottom hole (3) in the thread retainer;
- (4) Down between the tension disks (4), with the thread running from right to left under the tension controller stud;
- (5) Under the hook (5) of the thread take-up spring;
- (6) Under the thread take-up spring regulator (6);
- (7) Up and from right to left through the hole (7) in the end of the thread take-up lever;
- (8) Down through the top eyelet (8) on the faceplate;
- (9) Down through the bottom eyelet (9) on the faceplate;
- (10) Down through the eyelet (10) on the needle bar thread guard; and

(11) From left to right through the eye (11) of the needle, and pull and leave about 4 inches of thread through the eye of the needle.

*d. Removing Bobbin.* Remove the bobbin from the bobbin case as follows:

- (1) Turn the balance wheel toward the operator until the needle bar moves up to its highest point.
- (2) Pull out the slide plate (view plate) in the bed of the machine.
- (3) Open the latch on the bobbin case and, holding the bobbin case by the latch, lift the bobbin case to the left and out of the shuttle race as shown in figure 19. As long as the latch is held open, a sliding lug inside the bobbin case holds the bobbin inside the case.
- (4) Turn the open end of the bobbin case downward, release the latch, and the bobbin will drop out. Do not try to force the bobbin out of the case while the latch is open.

*e. Winding Bobbin.* Fasten the bobbin winder on the top of the table assembly with its driving pulley in front of the machine belt so that the pulley will drop away from the belt when sufficient thread has been wound upon the bobbin. Wind the thread on the bobbin as follows:

- (1) Place the bobbin (7, fig. 20) on the bobbin winder spindle (14) and push it on as far as it will go.
- (2) Pass the thread from the bobbin thread cone on the thread unwinder down through the thread hole in the tension bracket (3), and down between the bobbin winder tension disks (2).
- (3) Pull the thread from the lower side of the tension disks to the bobbin (7).
- (4) Pass the thread around the bottom side of the bobbin, wind the end of the thread around the bobbin a few times, push the bobbin winder pulley (13) over against the machine belt by pressing on the stop latch thumb lever (11) until the automatic

stop latch (8) catches and holds the pulley against the driving belt.

- (5) Depress the treadle to connect the motor with the machine, and operate the machine until the bobbin is full. If the bobbin winder is properly adjusted, the automatic stop latch (8) will operate and throw the bobbin winder pulley (13) away from the machine belt when the bobbin is full.

*Note.* The bobbin may be wound while the machine is in operation. However, if no material is under the needle, pull the needle thread out of the eye of the needle. Pull the needle thread from the needle to prevent it from catching the bobbin thread and balling up under the throat plate, and raise the presser foot to prevent undue wear upon the feed dog.

- (6) Regulate the amount of thread wound on the bobbin by adjusting the bobbin winder stop latch screw (9). To wind more thread on the bobbin, turn the screw to the right. To wind less thread on the bobbin, turn the screw to the left.

*Note.* If the thread fails to wind evenly on the bobbin or piles up on one side of the bobbin, loosen the screw (4), which holds the tension bracket (3) to the base (5), and move the tension bracket to the right or the left as required. Then tighten the screw securely.

*f. Threading Bobbin Case.* Refer to figure 21A to show the relative positions of the bobbin, the case, and the thread when the bobbin is put into the bobbin case. Draw the thread over the top of the bobbin from left to right before placing the bobbin into the case.

- (1) Hold the bobbin case with the slot in the edge near the top as shown in figure 21A, and place the bobbin into the case so that the thread pulls over the top of the bobbin and away from the operator.
- (2) Pull the thread into the bobbin case thread slot, as shown in figure 21B, and draw thread down under the bobbin case tension spring and into

the delivery eye .at the end of the tension spring as shown in figure 21C.

*g. Installing Bobbin Case.* Follow the steps below to install the bobbin case in the ma-chine.

- (1) See that the needle is raised above the throat plate.
- (2) Hold the threaded bobbin case with the latch out so the bobbin will not drop out of the case.
- (3) Place the bobbin case on the center stud of the shuttle body so that the position finger on the bobbin case is opposite the notch at the top of the shuttle race (fig. 19).
- (4) Release the latch, and press the bob-bin case back into the shuttle race until the latch snaps into the groove near the end of the stud of the shuttle body. The position finger on the bobbin case should be in the notch at the top of the shuttle race. About 3 inches of thread should be left hanging down from the bobbin case. Refer to *h* below for instructions on catching the bobbin thread by the needle thread.
- (5) Close the slide plate and keep it closed while the machine is in opera-tion.

*h. Catching Bobbin Thread.* After the needle has been threaded and the bobbin case has been placed in the machine, use the needle thread to catch and to draw the bobbin thread up through the hole in the throat plate, as illustrated in figure 22 and as follows:

- (1) Raise the presser bar lifter to lock the presser foot in its raised position.
- (2) With the left hand hold the end of the needle thread a little slack and towards the upright of the arm of the machine.
- (3) With the right hand turn the balance wheel toward the operator until the needle moves from its highest position, down, and back up to its highest position. If the needle thread is held with a light tension during this operation, and if the

needle is correctly timed, the needle thread will catch the bobbin thread.

- (4) Pull the needle thread up, drawing the bobbin thread up through the hole in the throat plate. Lay both threads (about 3 inches of each) back under and behind the presser foot.

*i. Adjusting Length of Stitch.* Use the feed regulator thumbscrew (3, fig. 17) on the front of the machine arm to regulate the length of stitch. To measure the number of stitches being sewed to the inch, draw two parallel lines (1 inch apart) on a scrap of cloth, sew across these lines, and count the number of stitches between them. To change the length of the stitch, loosen the thumb-screw and move it downward to lengthen the stitch and upward to shorten the stitch. When the desired stitch length is being sewed, tighten the thumbscrew securely.

*j. Adjusting Tension on Bobbin and Needle Threads.* Lock the bobbin and needle threads in the center of the thickness of the material, when making the stitch, as illustrated in figure 23A. If the tension on the needle thread is too tight, or if that on the bobbin is too loose, the needle thread will be straight along the upper surface of the material, as illustrated in figure 23B. If the tension on the bobbin thread is too tight, or if that on the needle thread is too loose, the bobbin thread will be straight along the underside of the material, as illustrated in figure 23C. If both threads are too tight, the material will be puckered and drawn together by the stitches and the threads will break. Adjust the tension on the bobbin with the shuttle tension regulating screw and on the needle thread with the needle thread tension regulating thumb nut as follows:

- (1) *Tension on bobbin thread.* Adjust the tension on the shuttle bobbin thread with the shuttle tension regulating screw (2, fig. 24). Turn the screw to the right to increase the tension, and turn the screw to the left to decrease the tension.
- (2) *Tension on needle thread.* Adjust the tension on the needle thread by the tension regulating thumb nut

(9, fig. 17) located at the front of the tension disks. Lower the presser lifter so the presser foot will rest upon the feed dog and the tension disks will be closed. Turn the regulating thumb nut to the right to increase the tension and to the left to decrease the tension.

*Note.* The tension should be adjusted or regulated only when the presser foot is down.

*k. Adjusting Pressure on Presser Foot (and on Material).* Turn the pressure regulating thumbscrew (1, fig. 17) on top of the machine to the right to increase the pressure and turn it to the left to decrease the pressure on the presser foot (and on the material). The correct pressure of the presser foot upon the material enables the feed dog to push the material forward each time the needle goes up. For the needle to make an even stitch, the material must move forward at a uniform speed. If the pressure is too light, the dog does not feed the material, the needle hits in one place on the material, and the bobbin thread knots or balls up. If the pressure is too great, the feed dog is worn unnecessarily and feeds the bottom material (fabric or cloth) faster than it feeds the upper material.

*l. Checking and Testing for Proper Operation.* Turn on the motor switch. Use two pieces of test material and make a few stitches, following the procedures in paragraph 24. Check the lock of the stitch (fig. 23). Make any necessary adjustments, and check or test the machine for proper sewing or operation.

## 24. Operating Clothing Sewing Machine

After the machine has been prepared for operation (para 23), operate it as follows:

*a. Inserting Material in Machine.* Lift the presser bar lifter to raise the presser foot which has about 3 inches of bobbin and needle threads under and behind it. Place the edge of the material under the presser foot, hold the needle thread and at the same time hand-turn the balance wheel until the needle is in the material at the desired starting point. Place the end of the needle

thread toward the rear of the presser foot, and then lower the presser foot on the needle thread and material.

*b. Turning on Power Source.* Turn on the power source with the motor switch (14, fig 5).

*c. Sewing Material.* Hand-turn the balance wheel toward the operator and simultaneously hold the needle and bobbin threads until a few stitches are made. Press the treadle (13) slowly to engage the clutch with the motor. Hold the material flat and do not pull or push on the material while sewing it or stitching it because the needle will bend, will strike the throat plate and then will be dull or more likely will break. Let the feed dog carry the material evenly under the presser foot and needle. When sewing across a seam or an unusually thick or uneven place in the material, release the treadle to disengage the clutch and hand-turn the balance wheel until the rough place is stitched; otherwise, the needle may break. If the material is unusually thick, as a comforter for example, decrease the tension on the presser foot by turning the pressure regulating thumbscrew (1, fig. 17) to the left.

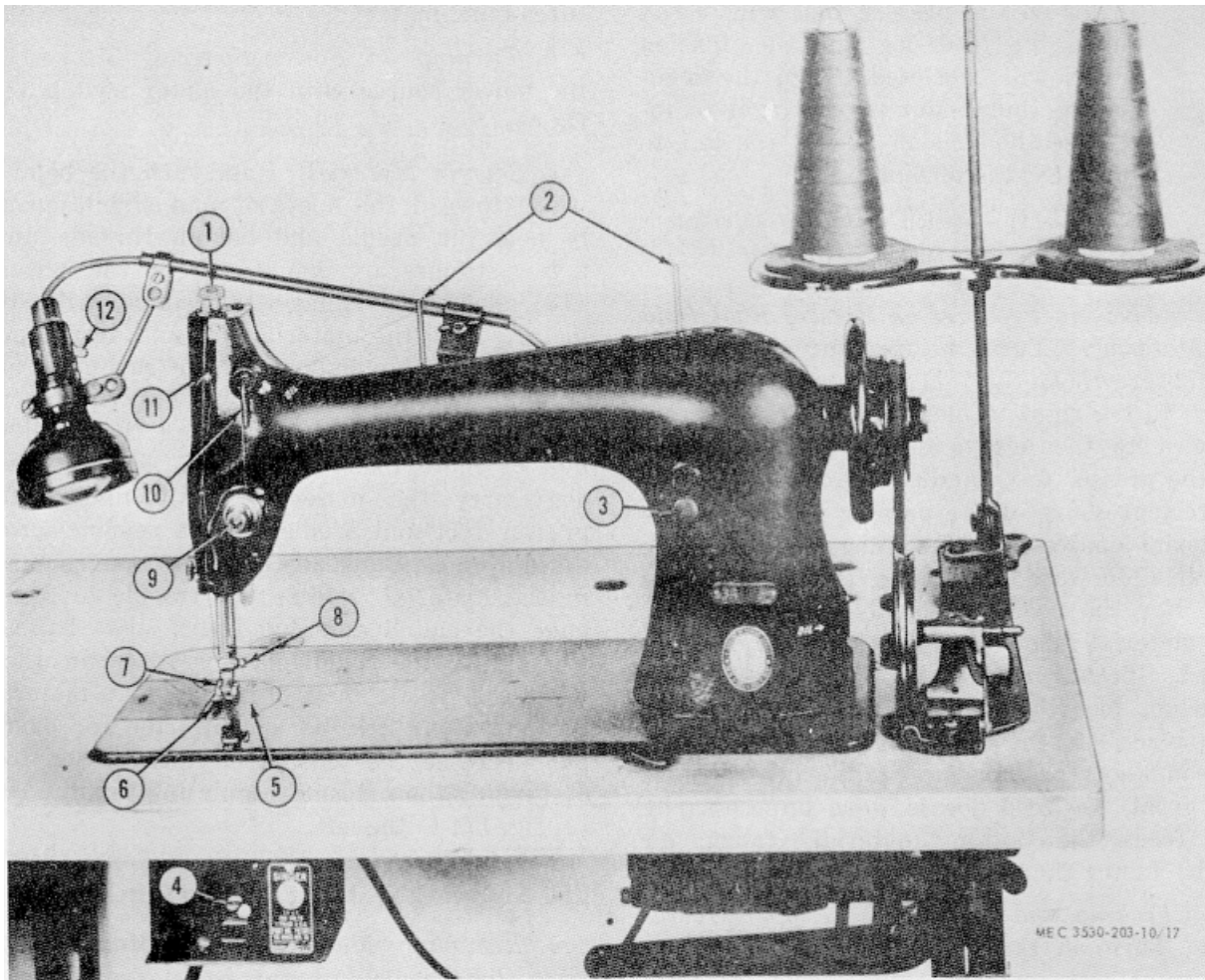
## 25. Stopping Clothing Sewing Machine

*a. Removing Material From Machine* Release the treadle (13, fig. 5) to stop the machine. Hand-turn the balance wheel until the stitch is completed and the thread take-up lever (11, fig. 17) is at its highest point, and then lift the presser bar lifter to raise the presser foot. Draw the material straight behind the presser foot, and break or cut the needle and bobbin threads so that about 3 inches will be under and behind the presser foot.

*b. Turning Off Power Source.* Turn off the motor switch.

## 26. Preparation Darning Machine For Operation

After the darning machine has been removed from the cabinet and it has been set up for operation (para 14), perform the preliminary inspections prescribed in the



- |   |   |    |                                      |
|---|---|----|--------------------------------------|
| 1 | Thumbscrew, presser bar pressure regulating | 7  | Foot, presser                        |
| 2 | Pins, spool                                 | 8  | Screw, needle clamp                  |
| 3 | Thumbscrew, feed regulator                  | 9  | Nut, thread tension regulating thumb |
| 4 | Switch, motor                               | 10 | Retainer, thread                     |
| 5 | Plate, throat                               | 11 | Lever, thread take-up                |
| 6 | Dog, feed                                   | 12 | Switch, lamp assembly                |

Figure 17. Clothing sewing machine head, front view.

daily preventive maintenance services (para 56) and then perform the following steps to prepare the darning machine for operation.

*a. Selecting Needle.* Select the needle of the correct size (18 or 20) according to the type of left-twist thread and the weight of material to be darned. Left-twist thread must be used in the needles, but right-twist thread may be used on the bobbin. The thread must pass freely through the eye of the needle. Rough or

uneven thread or thread which for any reason does not slip easily through the eye of the needle interferes with the operation of the machine. The class number (126) and the variety number (3) are expressed by placing the letter X between the two numbers; for example, 126 X 3 needles. The class number describes the shank of the needle, the variety number describes the length of the needle and the type of the point, and the size describes the gage and the eye of the needle.

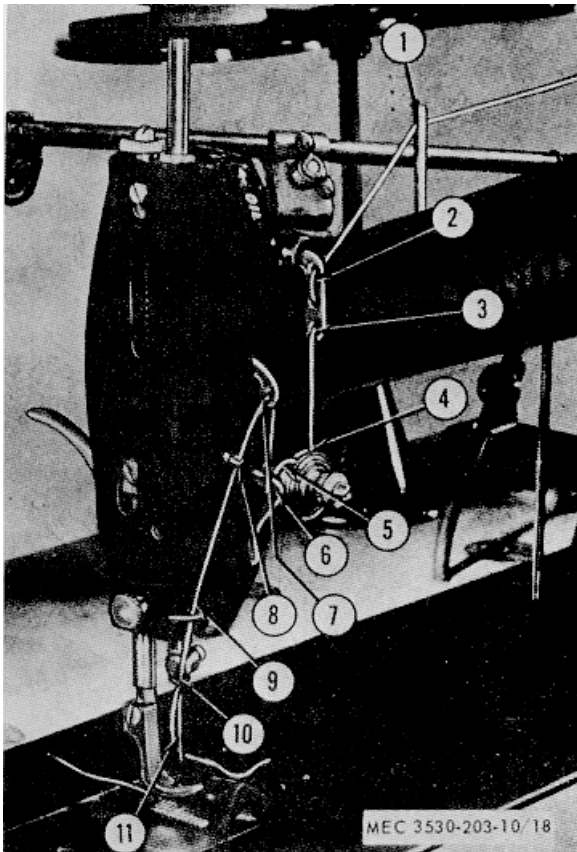


Figure 18. Threading sequence for clothing sewing machine.

b. *Installing Needle.* Use a good needle (never a bent one or one with a dull or a blunt point) of class 126 and variety 3, and of a suitable size for the material to be darned. Hand-turn the balance wheel toward the front of the machine until the needle bar is at its highest point. Then loosen the needle setscrew (9, fig. 25), and remove the needle from the needle bar. Install needle, with the long groove to the left, as far up in the needle bar as it will go. Tighten setscrew securely.

c. *Threading Needle.* Thread the needle, following the instructions below and according to the points in the order in which they are numbered on figure 26. With the thread take-up lever at its highest point, start and run the thread freely from the thread unwinder, and

- (1) From back to front through the top hole (1) in the thread guide on top of the arm;
- (2) From right to left through the bottom hole (2) in the thread guide;
- (3) From top to bottom through the first hole (3) in the thread retainer;
- (4) From bottom to top through the middle hole (4) in the thread retainer;
- (5) From top to bottom through the last hole (5) in the thread retainer;
- (6) Down and between the tension disks (6);
- (7) Around the tension stud and into the fork (7) of the front tension disk;
- (8) Under the thread control spring (8) so that the thread pulls against the spring;
- (9) Up and through the thread take-up lever (9);
- (10) From right to left through the hole (10) in the thread guide;
- (11) Down through the thread guide (11);
- (12) Down through the thread guide (12);
- (13) Down through the thread guide (13);
- (14) Down through the thread guide (14) on the needle bar bushing;
- (15) Down through the needle bar thread guide (15); and
- (16) From left to right through the eye of the needle (16), and pull about 3 inches of thread through the eye of the needle.

d. *Removing Bobbin.* Swing back the slide stop (6, fig. 25), move back the slide, raise the bobbin latch, and remove the bobbin from the bobbin shuttle case.

e. *Winding Bobbin.* Follow the instructions in paragraph 23e for winding the bobbin.

f. *Installing Bobbin and Threading Bobbin Case.* Replace or install the bobbin in the bobbin case and thread the bobbin case as follows:

- (1) Hold the bobbin with the thread drawing on the bottom from the left

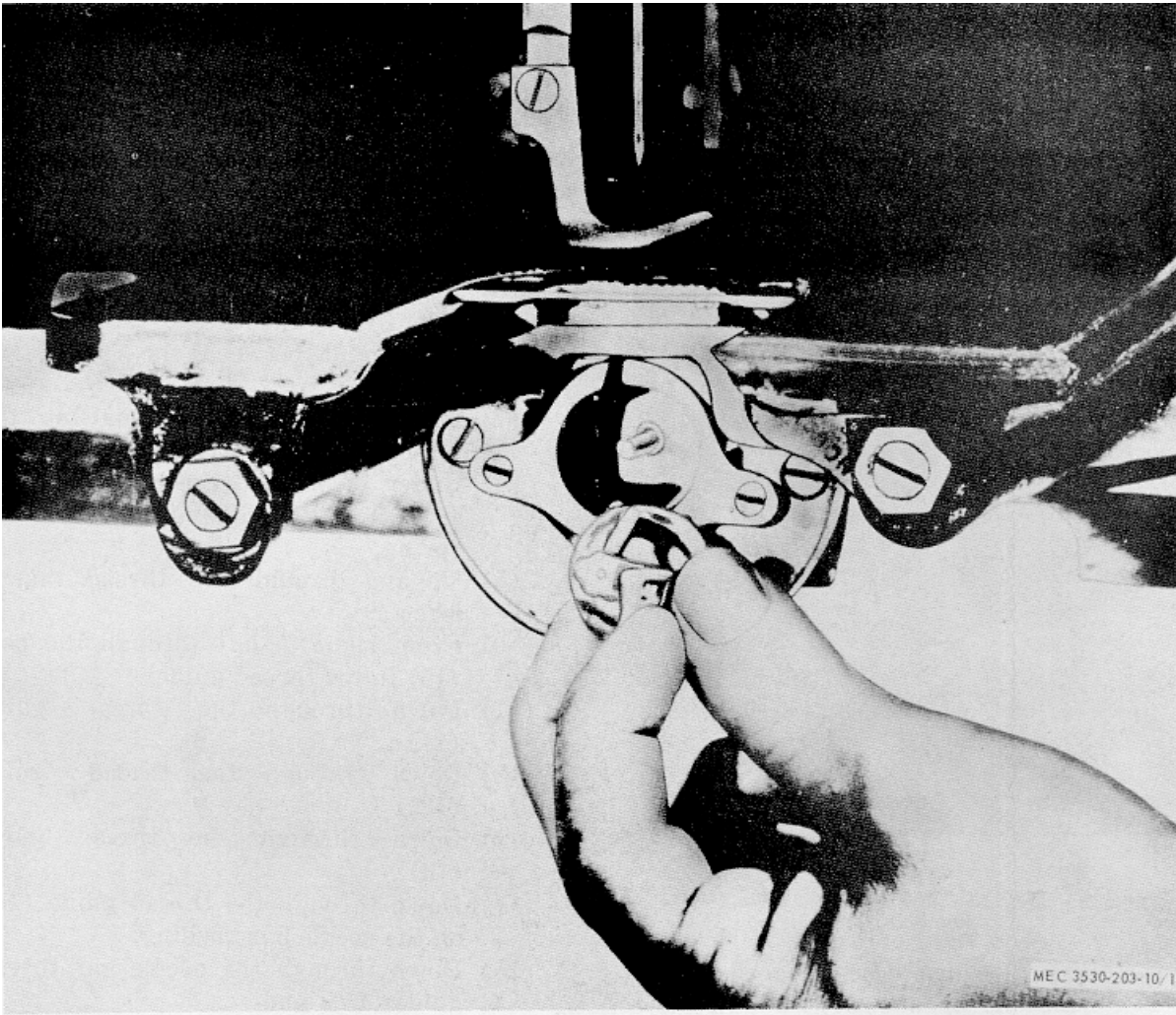


Figure 19. Bobbin case and shuttle ace.

toward the right; place the bobbin on the center stud of the bobbin shuttle case, and then push down the latch.

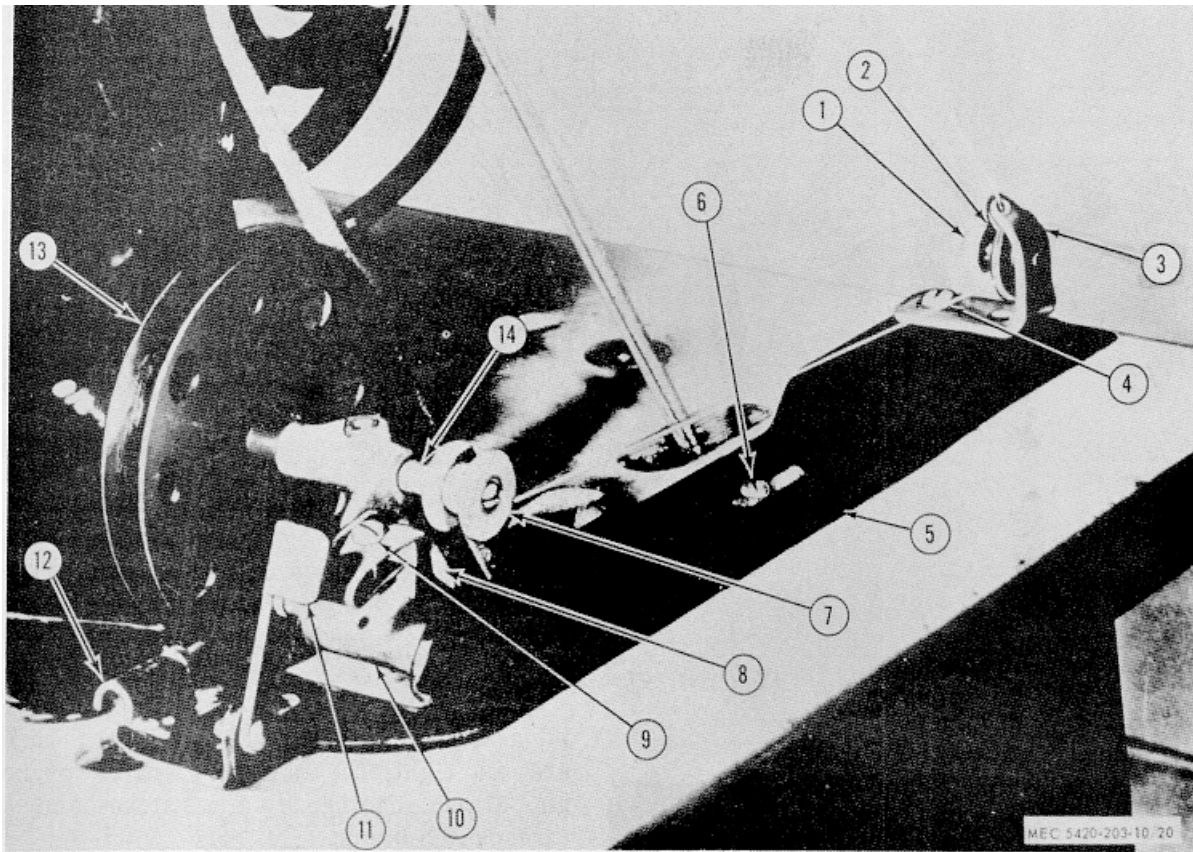
- (2) Draw the thread into the slot and to the left of the projection on the bobbin case.
- (3) Lift about 2 inches of the bobbin thread above the slide and close the slide, leaving enough space for the bobbin thread to slip through after it is caught by the needle thread as explained in *g* below.

- (4) Close or pull the slide stop over the slide after the bobbin thread is caught by the needle thread in *g* below.

*g. Catching Bobbin Thread.* After the needle has been threaded and the bobbin placed in the bobbin shuttle case, use the needle thread to catch and to draw the bobbin thread up from the bobbin as follows:

- (1) Raise the presser foot to its highest position and hold the needle thread upright.





- |   |                            |
|---|----------------------------|
| 1 Nut, stud thumb                         | 8 Latch, stop              |
| 2 Disks, tension                          | 9 Screw, stop latch        |
| 3 Bracket, tension                        | 10 Frame                   |
| 4 Screw, tension bracket                  | 11 Lever, stop latch thumb |
| 5 Base, bobbin winder and tension bracket | 12 Brake (leather)         |
| 6 Screw, wood                             | 13 Pulley                  |
| 7 Bobbin, shuttle                         | 14 Spindle                 |

Figure 20. Bobbin winder.

- (2) Turn the balance wheel toward the operator until the needle descends and comes back. If the needle is correctly timed, the hook will catch the needle thread and pass it around the bobbin case.
- (3) Pull the threads (needle thread has caught the bobbin thread) under the projection on the bobbin case, under the bobbin case tension spring, and out through the hole in the throat plate.

- (4) Lay both threads (about 3 inches of each) back under and behind the presser foot.

*h. Adjusting Tension on Bobbin and Needle Threads.* Lock the bobbin and: needle threads when making the stitch in the center of the material as shown in figure 23A. If the tension on the needle thread is too tight or if that on the bobbin thread is too loose, the needle thread will be straight along the upper surface of the material as shown in figure 23B. If the tension on the bobbin

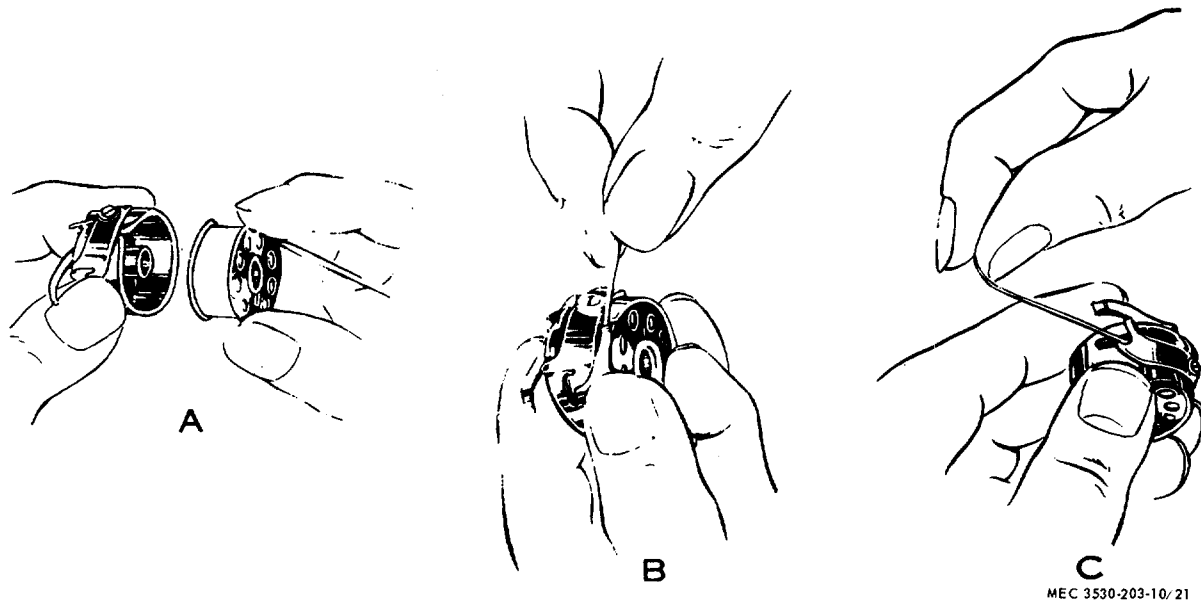


Figure 21. Threading bobbin case.

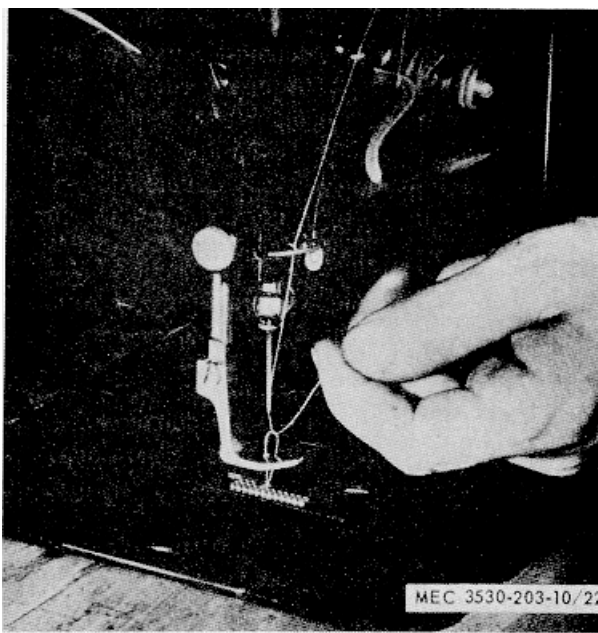
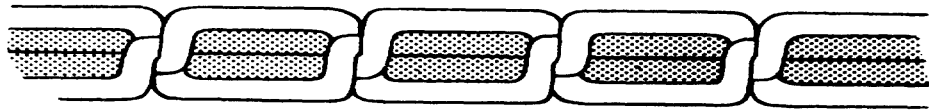


Figure 22. Drawing bobbin thread up through hole in throat plate.

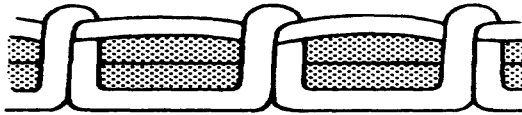
threads are too tight, the material will be puckered and drawn together by the stitches and the threads will break.

- (1) *Tension on bobbin thread.* Adjust or regulate the tension on the bobbin thread with the tension regulating screw located in the center of the tension spring on the outside of the bobbin case. Do not take the bobbin case out of the hook assembly to adjust the tension but use a small screwdriver to turn the screw. Turn the screw to the right to increase the tension and to the left to decrease the tension.
- (2) *Tension on needle thread.* Adjust the tension on the needle thread with the tension thumb nut (10, fig. 25) located on the thread tension stud. Turn the thumb nut to the right to increase the tension and turn it to the left to decrease the tension on the needle thread.
  - i. *Adjusting Length of Stitch.* Adjust the length of the stitch at the time of sewing or stitching material by moving or feeding the

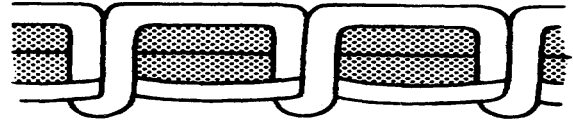
thread is too tight or if that on the needle thread is too loose, the bobbin thread will be straight along the underside of the material as shown in figure 23C. If both



A



B



C

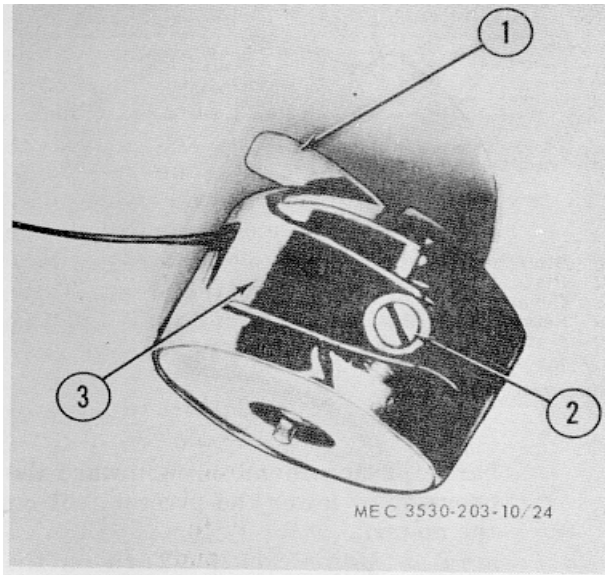
MEC 3530-203-10/23

A-Correct stitch

B-Needle thread tension too strong.

C-Needle thread tension too weak

Figure 23. Effect of tension on stitch



MEC 3530-203-10/24

- 1 Projection on shuttle bobbin case
- 2 Screw, shuttle tension regulating
- 3 Spring, shuttle case tension

material-the length of the stitch depends on how fast the material is fed to the machine.

*j. Checking and Testing for Proper Operation.* Use a piece of test or scrap material to make a few stitches, following the operation procedures in paragraph 27. Check the lock of the stitch (fig. 23). Adjust the tension on the threads as necessary and according to the procedures in *h* above.

**27. Operating Darning Machine**

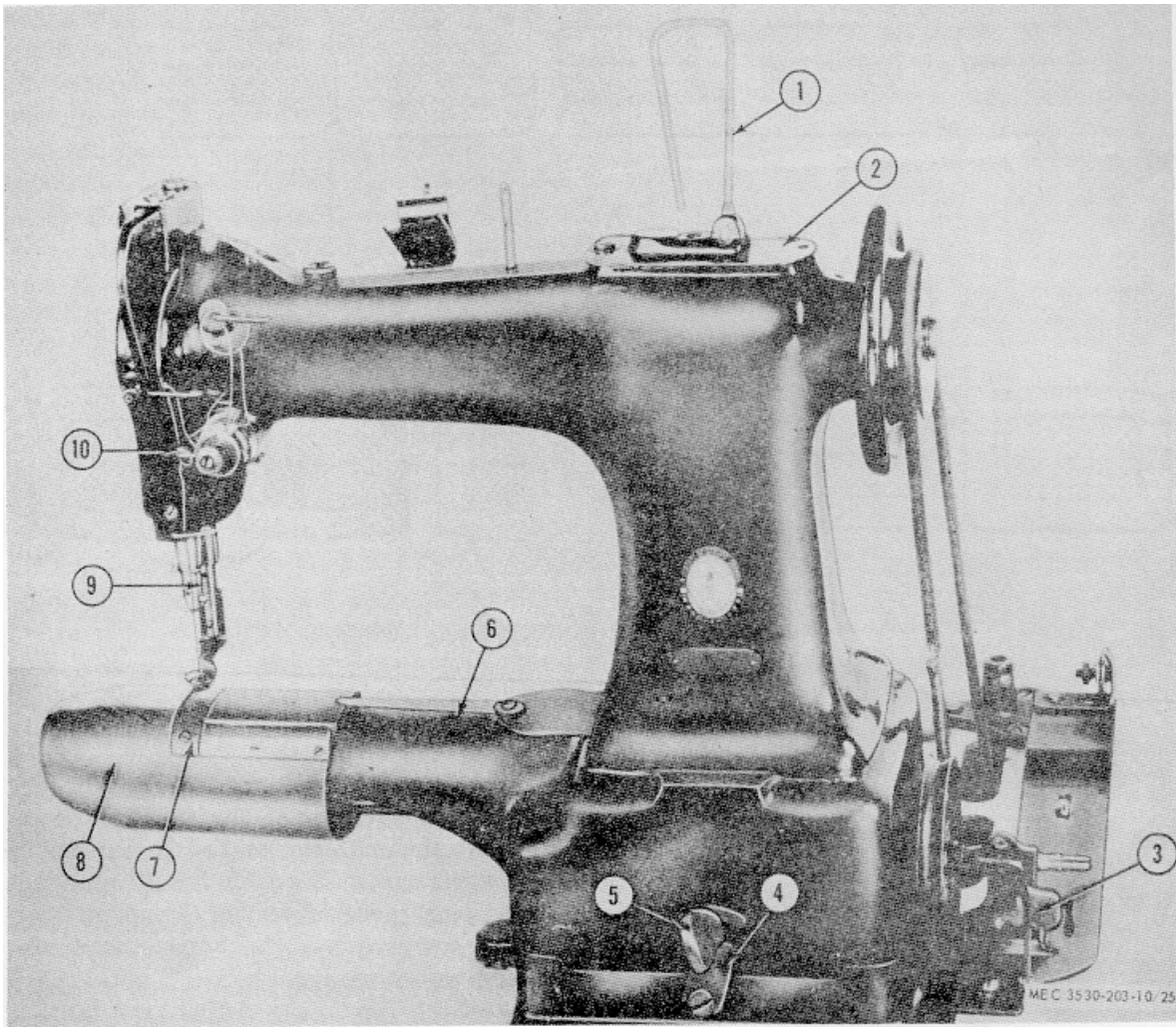
After the darning machine has been prepared for operation (par. 26), operate it as follows:

*a Inserting Material in Machine.*

(1) Turn the balance wheel toward the operator until the thread takeup lever is at its highest point.

(2) Press the knee lifter to the right to raise the presser foot or push the presser bar adjusting thumbscrew (13, fig. 6) backward or away from the operator to raise the presser foot.

Figure 24. Shuttle bobbin case.



- |   |                                       |    |                                |
|---|---------------------------------------|----|--------------------------------|
| 1 | Base, spool holder                    | 6  | Stop, bed slide                |
| 2 | Cap with spool holder                 | 7  | Plate, needle throat           |
| 3 | Lever, bobbin winder stop latch thumb | 8  | Cover, cylinder bed end        |
| 4 | Clamp, bed-to-base                    | 9  | Setscrew, needle               |
| 5 | Thumbscrew, bed clamp                 | 10 | Nut, thread tension stud thumb |

Figure 25. Darning machine head, front view.

- (3) Lay both threads (about 3 inches of each) back under the presser foot.
- (4) Place the item (material or garment) on the cylinder end cover of the machine and flatten out the part of the item to be darned.
- (5) Release the knee lifter to lower the presser foot or push the presser bar adjusting thumbscrew toward the operator to lower the presser foot on the material.
  - b. *Turning on Motor Switch.* Turn on the motor switch.
  - c. *Darning Material.* Hand-turn the balance wheel toward the front and simultaneously hold the needle and bobbin threads until

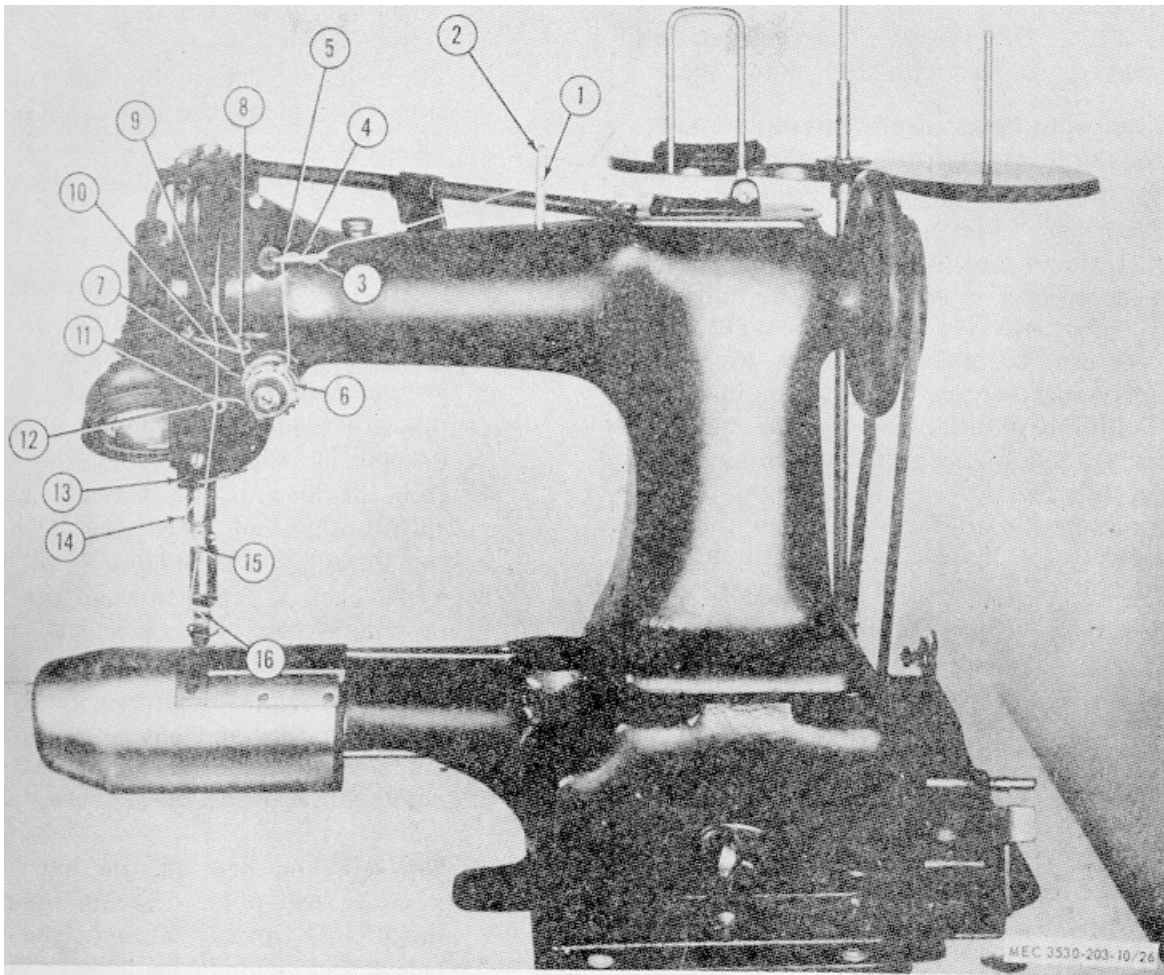


Figure 26. Threading sequence for darning machine.

a few stitches are made. Press the treadle (7) to engage the clutch to start the machine. Hold the material to be darned with both hands—one hand on one side and one hand on the other side of the material close to the presser foot. Start darning by making a line of stitches a little to the left of the hole and a little longer than the width of the hole; then continue to make parallel lines of stitches across the hole, moving the garment backward and forward and at the same time gradually moving the garment side-wise until the hole is covered with lines of stitches running across the hole; then turn the garment and stitch across the parallel lines of stitches until the back of the machine and cut the threads close

hole is completely covered with lines of cross-stitches.

## 28. Stopping Darning Machine

a. *Removing Material From Machine.* Release the treadle to stop the machine. Hand-turn the balance wheel until the thread take-up lever is at its highest point. Press the knee lifter to the right to raise the presser foot and to release the tension on the thread. Move the garment, with threads attached, toward the

to the place that has been darned. Pull and leave about 3 inches of thread under and back of the presser foot.

*b. Turning Off Power Source.* Turn off the power source with the motor switch.

## 29. Preparing Heavy -Duty Sewing Machine for Operation

After the heavy-duty sewing machine has been removed from the cabinet and set up for operation (para 14), perform the preliminary inspections prescribed in the daily preventive maintenance services (para 56), and then perform the following steps to prepare the heavy-duty sewing machine for operation.

*A Selecting Needle.* Select the needle of the correct size (22 or 26) according to the type of left-twist thread and weight of the material to be used for sewing on the over edge sewing machine. Left-twist thread must be used in the needle, but right-twist thread must be used on the bobbin. The thread must pass freely through the eye of the needle. rough or uneven thread or thread which for any reason does not slip easily through the eye of the needle interferes with the operation of the machine. The class number (7) and the variety number (1) are expressed by placing the letter X between the two numbers; for example, 7 X 1 needles. The class number describes the shank of the needle, the variety number describes the length of the needle and the type of the point, and the size describes the gage and the eye of the needle.

*b. Installing Needle.* Turn the balance wheel toward the operator until the needle bar reaches its highest point. Loosen the thumbscrew, remove the needle, and insert the needle into the needle clamp as far as it will go. The long thread groove should face to the left and the needle eye should be directly in line with the machine arm. Tighten the thumbscrew securely.

*c. Threading Needle.* Thread the needle, following the instructions below and according to the points in the order in which they are numbered in figure 27. With the thread takeup lever at its highest point, start and run the thread freely from the thread unwinder, and

- (1) Through the thread eyelet (1);
- (2) Through the hole (2) in the balance wheel end of the oil cap if the thread is to be oiled;
- (3) (3) Through the hole in the oil cap stud (3), under the oil cap cover. Close the cover and let the thread pass through the notch in the oil- cup;
- (4) Through the thread eyelet (4);
- (5) Over from right to left between the thread tension disks (5); and
- (6) Down under and from right to left around the tension wheel (6), loop- ing lightweight threads once or twice around the tension wheel;
- (7) Into the loop of the thread takeup spring (7), and under the hook in the thread takeup spring staple (8);
- (8) From back to front through the hole in the takeup lever (9), and down through the thread eyelet (10);
- (9) Down through the thread guide slot (11) into the guide hole in the nee- dle clamp (12), and from left to right through the needle eye (13); and
- (10) Through the hole in the lifting presser foot (14), drawing about 4 inches of thread through the hole below and behind the presser foot.

*d. Removing Bobbin.* Remove the bobbin as follows:

- (1) Turn the balance wheel toward the operator until the needle bar moves down to its lowest point of travel.
- (2) Remove the wood cover plate from the tabletop and put the small curved tip of the shuttle cylinder opener into the slot in the spring latch beneath the cylinder.
- (3) Lift the bobbin from the machine.

*e. Winding Bobbin.* Wind the bobbin as follows:

- (1) Slide the bobbin onto the bobbin winder spindle (1, fig. 28) as far as it will go. Make sure the small pin

on the shaft shoulder (5) goes into the hole in the right-hand bobbin rim (4).

- (2) Pass the thread from the unwinder tension disks through one of the holes in the left-hand bobbin rim (2).
- (3) Pull up on the bobbin winder stop latch (12) until the friction pulley ring (7) presses against the balance wheel.

*Note.* The bobbin may be wound while the machine is in operation. If no material is under the needle, pull the needle thread out of the needle eye to prevent tangling the thread beneath the throat plate and raise the presser foot to prevent undue wear on the feed dog. (

- (4) Depress the treadle to connect the motor with the machine, and operate the machine until the bobbin is full. With the machine running, the bobbin will continue to wind until the thread on it comes in contact with the stop latch. As the winding thread comes in contact with the stop latch, it forces the stop latch out and disengages the friction pulley ring from the balance wheel.
- (5) Increase or decrease the amount of thread wound on the bobbin by loosening the tripping arm clamping screw (11) and pushing the stop latch closer to or farther away from the bobbin shaft.

*f. Installing Bobbin.* Install the bobbin in the machine as follows:

- (1) Hold the bobbin (in the left hand) with the thread drawing off the top toward the left.
- (2) Slide the bobbin (5, fig. 29) up into the cylinder.
- (3) Pull the thread (4) into the spring slot and up through the delivery eye (3).
- (4) Push the cylinder back into position in the shuttle frame, making sure the shuttle latch locks the cylinder in place.
- (5) Leave about 3 inches of bobbin thread hanging from the delivery eye, and install the wood cover plate in the machine tabletop.

*g. Adjusting Tension on Needle and Bobbin Threads.* Adjust the tension as follows:

- (1) *Needle thread tension.* Use the thread retaining regulating thumb nut, located on the tension disks, to adjust or to regulate the tension, and, also use the tension wheel regulating thumb nut, located on the tension wheel to adjust the needle thread tension. Tighten the thumb nuts to increase the tension and loosen it to decrease the tension on the needle thread. These two thumb nuts work in conjunction with each other.

- (2) *Bobbin thread tension.* Use the shuttle tension regulating screw, located on the closed end of the shuttle, to adjust the bobbin thread tension. Tighten the screw to increase the tension and loosen the screw to decrease the tension on the bobbin thread.

*h. Adjusting Pressure on the Presser Foot.* Adjust the pressure on the presser foot and the material so that the stitches are uniform and the material is not puckered. Use the vibrating presser bar spring stud, located in the center of and on top of the machine arm, to make the adjustment. Loosen the locknut and turn the stud to the right to increase the pressure and turn it to the left to decrease the pressure on the presser foot and on the material.

*i. Regulating Length of Stitch.* Turn the feed regulator thumbscrew, located on the arm of the machine near the balance wheel, to regulate the number of length of stitches per inch. Loosen the thumbscrew and move it upward to increase the number of stitches per inch. Tighten the thumbscrew securely.

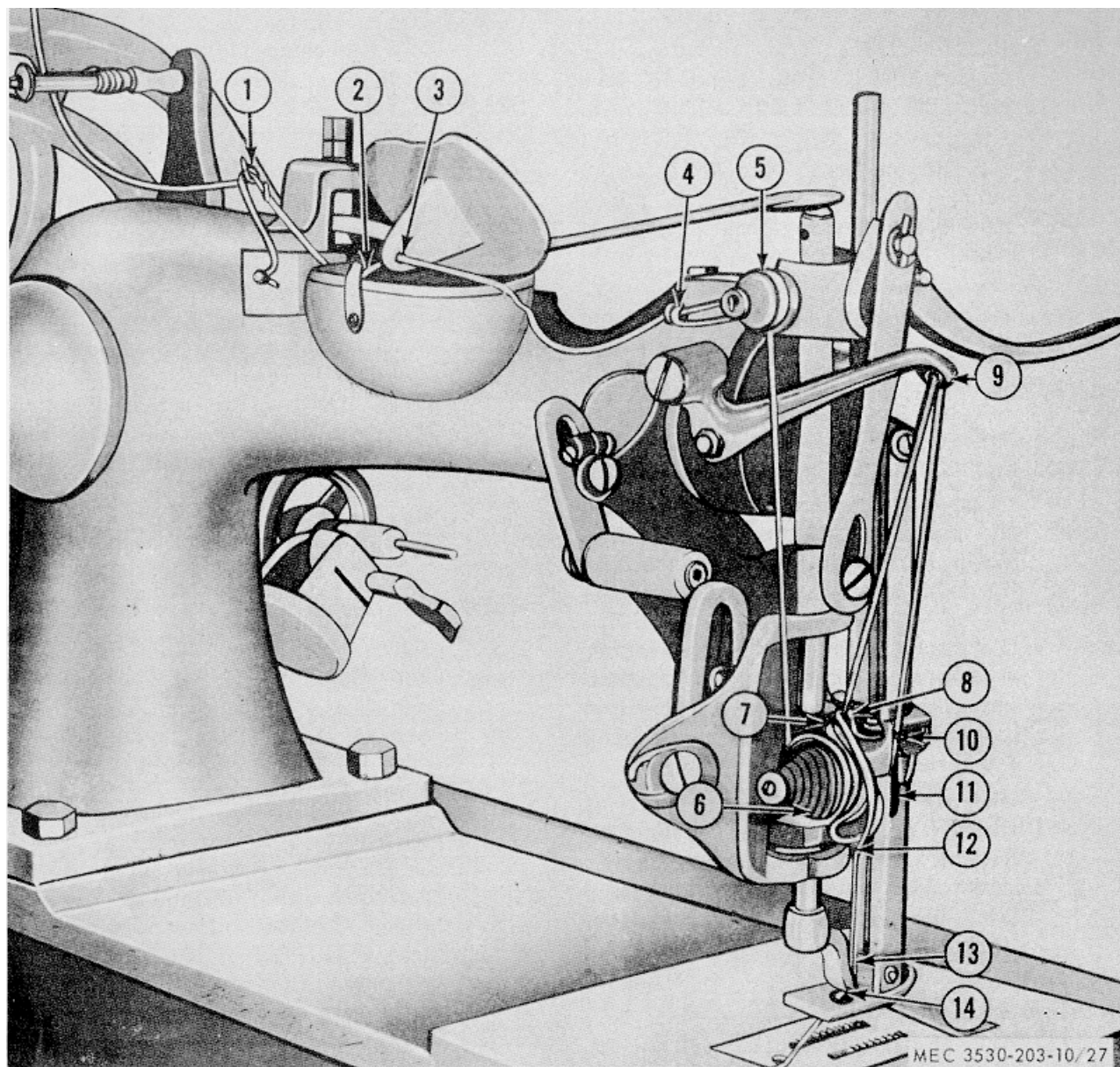


Figure 27. Threading sequence for heavy-duty sewing machine.

### 30. Operating Heavy-Duty Sewing Machine

After the heavy-duty sewing machine has been prepared for operation (para 29), operate it as follows:

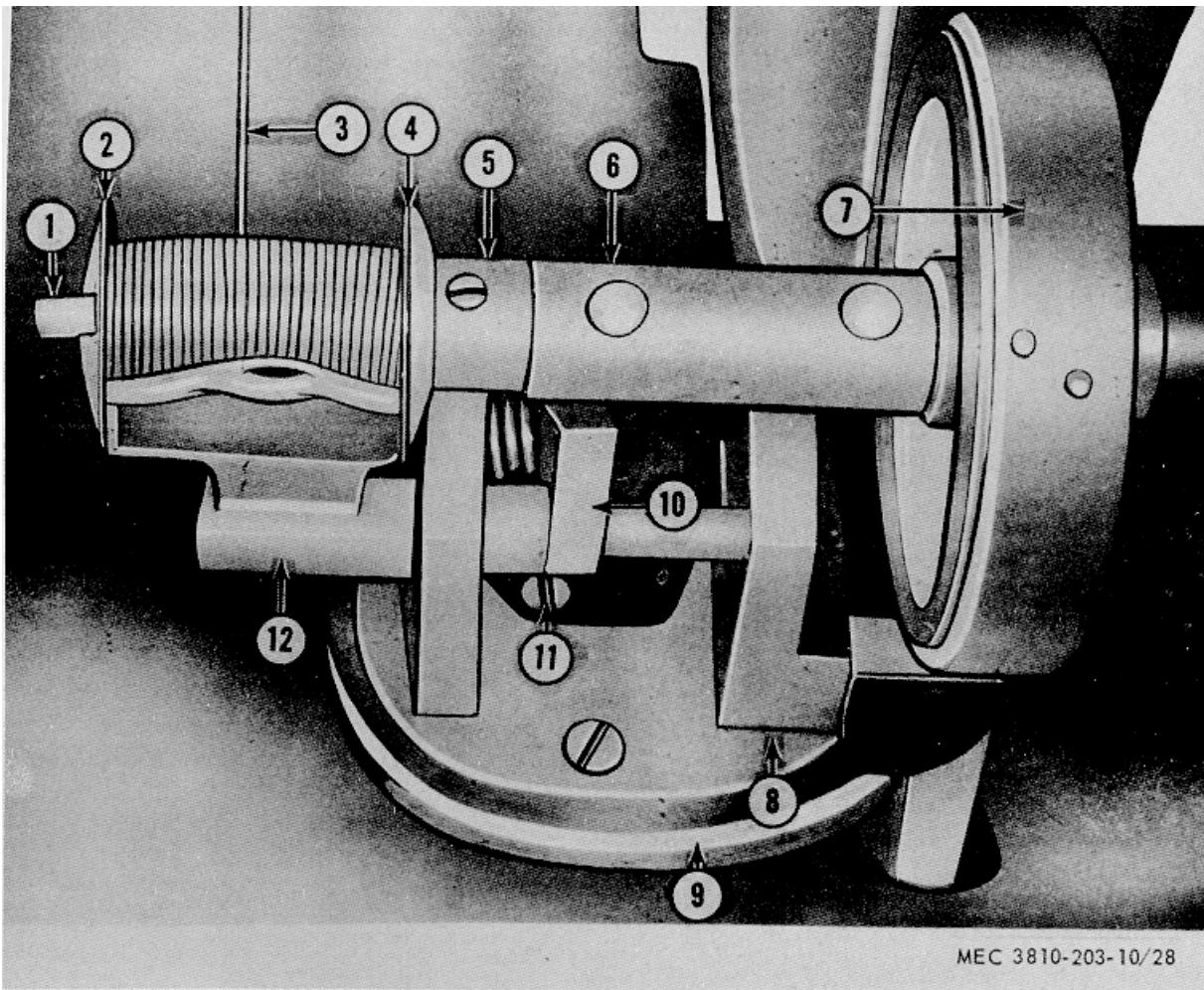
*a. Inserting Material in Machine.* Turn in balance wheel until the needle bar moves up to its highest position. Raise the presser foot and the upper puller feed roll and place the material under the needle; then lower the presser foot and the puller feed roll to hold the material in place. Turn the balance wheel until the

needle is in the material.

*b. Turning on Power Source.* Turn on the power source with the motor switch.

*c. Sewing Material.* Hand-turn the balance wheel toward the operator and simultaneously hold the needle and bobbin threads until a few stitches are made. Press the treadle





- |   |                           |    |                              |
|---|---------------------------|----|------------------------------|
| 1 | Spindle                   | 7  | Ring, friction pulley        |
| 2 | Rim, left-hand bobbin     | 8  | Base                         |
| 3 | Stand, thread-from-thread | 9  | Bracket                      |
| 4 | Rim, right-hand bobbin    | 10 | Arm, tipping                 |
| 5 | Shoulder, shaft           | 11 | Screw, tripping arm clamping |
| 6 | Frame                     | 12 | Latch, stop                  |

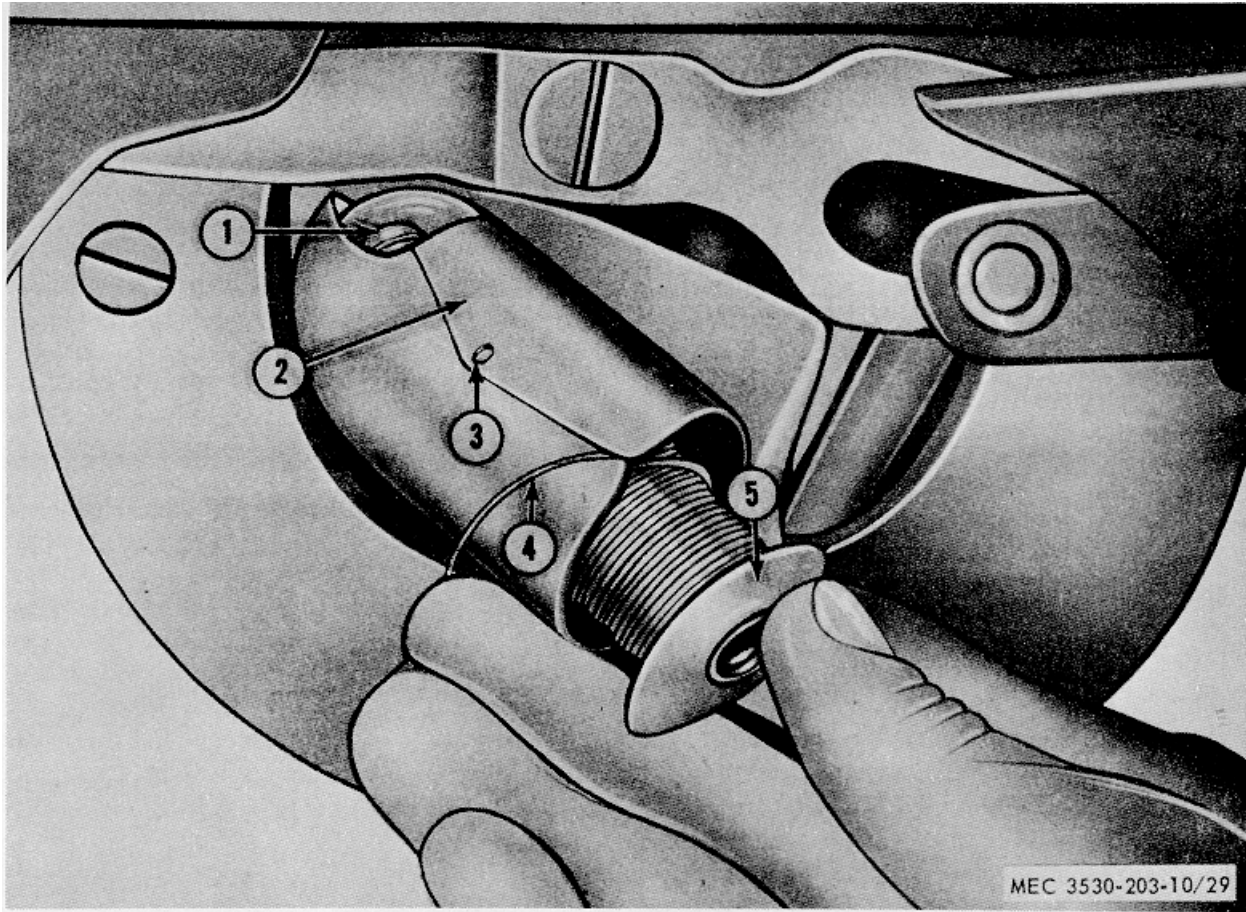
Figure 28. Winding bobbin on heavy duty sewing machine.

slowly to engage the clutch with the motor. Hold the material flat and do not pull or push on the material while sewing it or stitching it because the needle will bend, will strike the throat plate and then it will become dulled, or more likely will break. Let the feed dog carry the material evenly under the presser foot and needle. When sewing across a seam or an unusually thick or uneven place in the material, release the treadle to disengage the clutch and hand-turn the balance wheel until the rough place is stitched;

otherwise, the needle may break. If the material is unusually thick, as a comforter for example, decrease the tension on the presser foot by turning the pressure regulating thumbscrew to the left.

### 31. Stopping Heavy-Duty Sewing Machine

a. *Removing Material from Machine.* Release the treadle to stop the machine. Hand-turn the balance wheel until the stitch is completed and the thread takeup lever is at its highest point, and then lift the presser bar



- 1 Spring, shuttle tension regulating spring
- 2 Spring, shuttle tension
- 3 Eye, bobbin thread delivery

- 4 Thread (in spring slot), bobbin
- 5 Bobbin

Figure 29. Installing bobbin in heavy-duty sewing machine.

lifter to raise the presser foot. Draw the material straight behind the presser foot, and break or cut the needle and bobbin threads so that about 3 inches will be under and behind the presser foot.

b. *Turning Off Power Source.* Turn off the motor switch.

### 32. Preparing Overedge Sewing Machine for Operation

After the overedge machine has been removed from the cabinet and it has been set up for operation (para 14), perform the preliminary inspections prescribed in paragraph 56, and then perform the following steps to prepare it for operation.

a. *Selecting Needle.* Select the needle of the correct size (16 or 18) according to the type of left-twist thread and weight of material to be used for sewing on the overedge sewing machine. Left-twist thread must be used in the needle but right-twist thread may be used on the bobbin. The thread must pass freely through the eye of the needle. Rough or uneven thread or thread which for any reason does not slip easily through the eye of the needle interferes with the operation of the machine. The class number (151) and the variety number (1) are expressed by placing the letter X between the two numbers; for example, 151 X 1 needles. The class number describes the shank of the needle, the variety

number describes the length of the needle and the type of the point, and the size describes the gage and the eye of the needle.

*b. Installing Needle.* Use a good needle (never a bent one or one with a dull or a blunt point) of a suitable size for the material. Turn the machine's drive shaft pulley toward the front of the machine until the needle drive shaft is at its highest point. Raise the presser bar opening lever to disengage the swing-out presser bar and swing the presser bar to the left. Loosen the clamping nut at the lower end of the needle drive shaft and remove the needle. Install the needle through the needle clamp and needle holder as far as it will go against the needle stop pin. Tighten the clamping nut securely.

*c. Threading Unwinder.* Refer to figure 30. Pass the needle thread from the cone over from back to front through the loop (1), down and from top to bottom through the eyelet (2), and from top to bottom through the eyelet (3). Pass the left looper thread from the cone from right to left through the loop (4), down and from top to bottom through the eyelet (5), and from top to bottom through the eyelet (6). Pass the right looper thread from the cone over from back to front through the loop (7), down and from top to bottom through the eyelet (8), and from top to bottom through the eyelet (9).

*d. Threading Needle.* Refer to figure 31. After threading the unwinder, pass the needle thread from back to front through the needle thread tension guide (1) behind the tension disks. Pass the thread clockwise between the tension disks (2). Revolve drive shaft pulley away from the operator until the needle reaches its highest position. Using the threading wire, guide the thread from right to left through the thread tube (3). Remove the thread from the threading wire and pass the thread up and from right to left through the eyelet (4). Pass the thread down and from front to back through the needle eye (5). Draw about 2 inches of thread through the needle eye.

*e. Threading Right Looper.* Refer to figure 32. Turn the drive shaft pulley away from the operator until the needle is at its lowest point. From the unwinder,

guide the right looper thread from back to front through the tension thread eyelet (1), down under the thread guide (2), and over and between the thread tension disks (3). With looper thread plate cover open, pass the thread down

through the stationary eyelet (4), from right to left through the adjustable eyelet (5), from right to left between the right takeup and its wire guard (6), and from right to left through the rear eye in the left takeup (7). Using the threading wire, guide the thread in to the right looper thread tube opening (8). Draw thread out of the tube exit (9), and pass thread from front to back through the eye of the right looper (10). Draw about 2 inches of thread through the right looper.

*f. Threading Left Looper.* Refer to figure 33. From the unwinder, guide the left looper thread from back to front through the tension thread eyelet (1), down under the thread guide (2), then over and between the tension disks (3). With the looper thread plate cover open, pass the thread from top to bottom through the movable eyelet (4) and from right to left between the right takeup and its wire guard (5). Run the thread from right to left through the front eyelet (6) in the left takeup and from right to left through the eyelet in the right takeup (7). Using the threading wire, guide the thread from right to left through the tube (8) and up the groove (9). Revolve the drive shaft pulley away from the operator enough to place the eye of the left looper (11) directly in line with the tube (10). Pass the thread from front to back through the tube (10) and through the eye of the left looper (11). Draw about 2 inches of thread through the looper eye.

*g. Adjusting Thread Tensions.* Adjust the tensions by turning the tension stud thumb nuts (5 and 8, fig. 34) on each thread until the proper tension is secured. Keep the thread taut to make a close, tight stitch. Turn the thumb nuts to the right to increase the tension and to the left to decrease the tension on the threads.

*h. Adjusting Pressure on Presser Foot.* Adjust the pressure on the presser foot (17) and

the material with the pressure regulating thumbscrew (23). Turn the thumbscrew clockwise (downward) to increase the pressure and turn it counterclockwise (upward) to decrease the pressure.

*i. Regulating Length of Stitch.* The differential feed consists of two feed dogs, which are independently activated by two feed bar connector eccentrics. Regulate the length of the stitch with the feed bar connector eccentric in use. Each eccentric is marked with the number of stitches it makes. When both eccentrics are used for the same stitch length, the two feed dogs act as one, feeding the material evenly. To regulate the eccentrics, proceed as follows:

- (1) Swing the cloth plate (20) and the feed eccentric cover (13, fig. 35) out to the left.
- (2) Remove the feed lifting and movable knife lever eccentric nut (11) and washer.
- (3) Screw the feed eccentric extractor into the threaded hole in the front feed bar connector eccentric, and pull gently with the extractor to remove the front feed eccentric. If the extractor is not available, a paper clip or a small piece of wire may be used. The improvised tool should be bent approximately 45°, one-eighth of an inch from the end. Insert this end into the feed eccentric, push it against the threads, and gently pull the eccentric out of the front feed bar connector.
- (4) Repeat instructions in (3) above to remove the rear feed bar connector eccentric.
- (5) Place the feed bar connector eccentrics on the shaft, making sure that the stamped number is on the outside face of each eccentric. (6) Replace the eccentric nut washer and screw the eccentric nut (11), securely on the drive shaft when both feed eccentrics are firmly in position.

*j. Checking and Testing for Proper Operation.*

Use test material to make a few stitches, following the operation procedures in paragraph 33. Make any necessary adjustments according to the procedures in g through i above.

### 33. Operating Overedge Sewing Machine

After the overedge sewing machine has been prepared for operation (para 32), operate it as follows:

*a. Inserting Material in Machine.* Depress the treadle to lift the presser foot. Place the material on the feed dog beneath the presser foot and sufficiently to the right of the needle to permit it to be trimmed by the knives. The bulk of the material will be at the operator's left. Release the treadle. The cloth will now be held firmly between the presser foot and the feed dog.

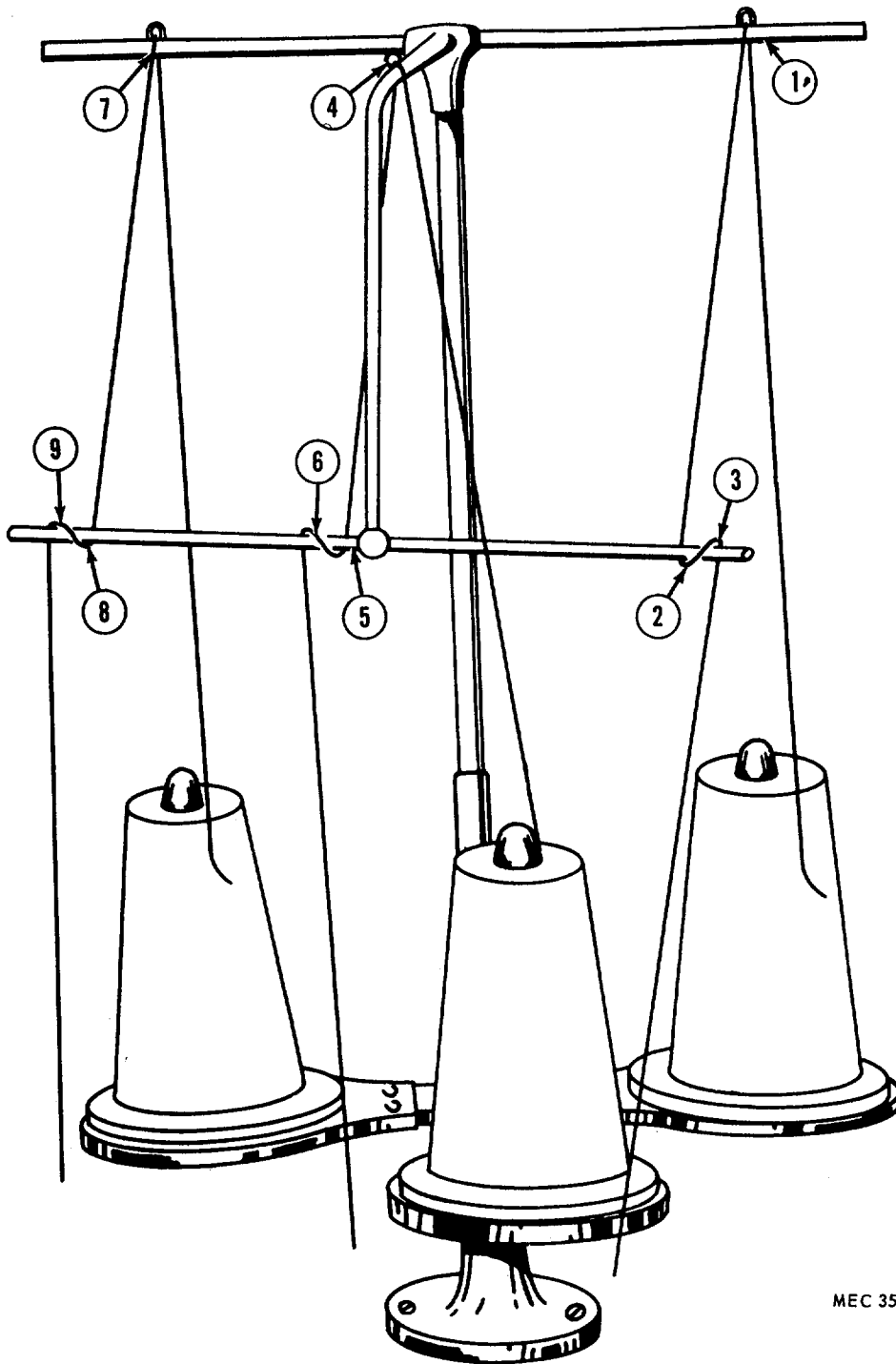
*Note.* If both trimming and overedging are required, place the edge of the material sufficiently to the right so that it extends past the knives. The width of the strip to be trimmed can be varied by moving the edge of the material closer to or farther beyond the cutting point. Do not attempt to trim off too wide a strip from the edge or the cloth will clog the machine. If only overedging is required, insert the cloth so that its edge reaches up to but not beyond the cutting point. In feeding, use the flat sides of the knives as a guide.

*b. Turning Motor Switch.* Turn on the motor switch.

*c. Sewing Material.* Hand-turn the balance wheel toward the front and simultaneously hold the threads until a few stitches are made. Depress the treadle and let the material feed into the machine. Leave the hinged cloth plate in its normal closed position. Do not pull or force the material into the machine. The machine will feed itself without assistance from the operator. Crowding or jamming the material under the presser foot may break the presser foot lever or otherwise damage the needle and trimming assemblies.

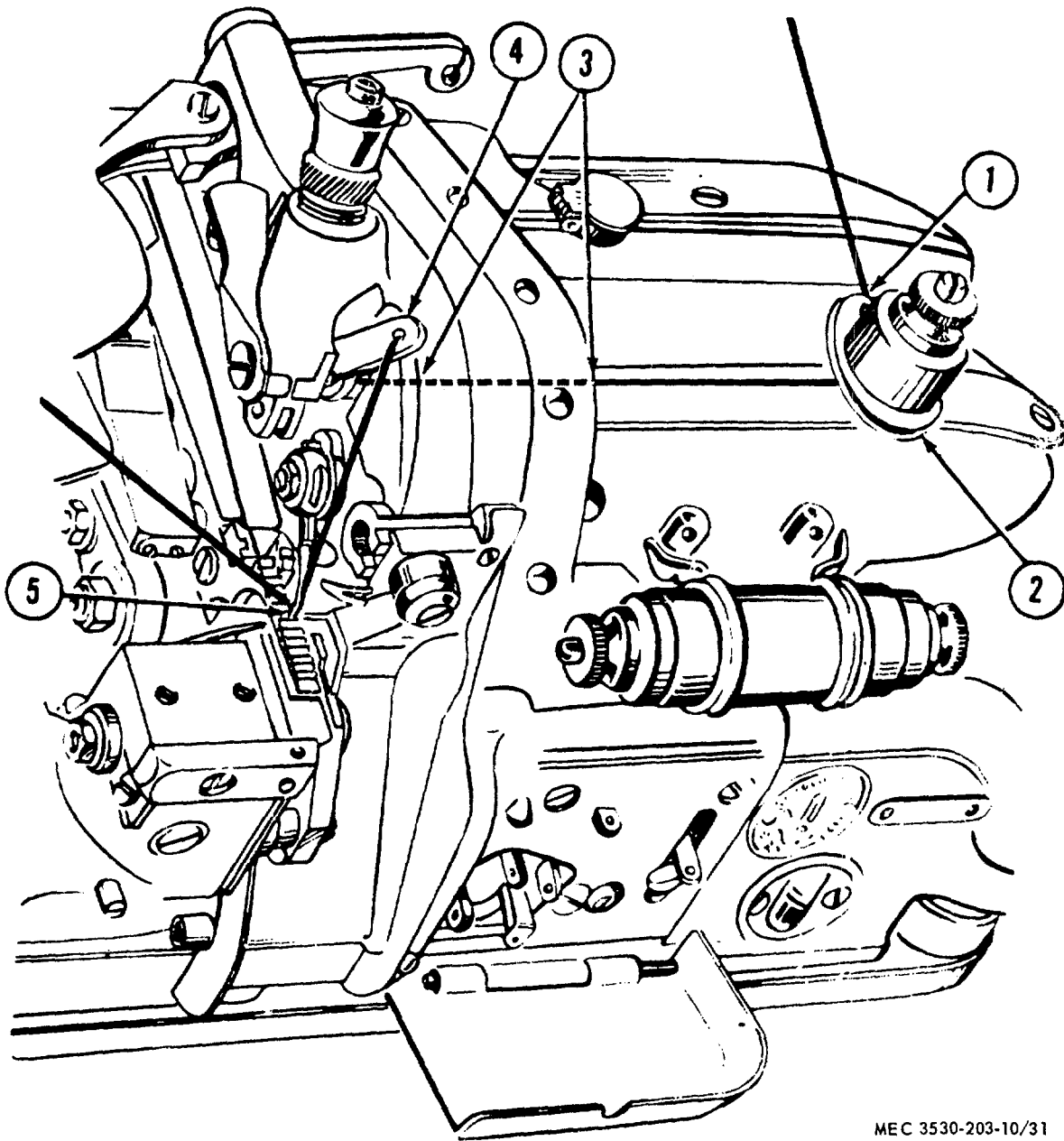
### 34. Stopping Overedge Sewing Machine *a.*

*Removing Material from Machine.* Chain off an additional 6 inches of thread when the edge of the material has been completed. Remove foot from the treadle. Move the thread



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Figure 30. Threading sequence for unwinder (overedge sewing machine).



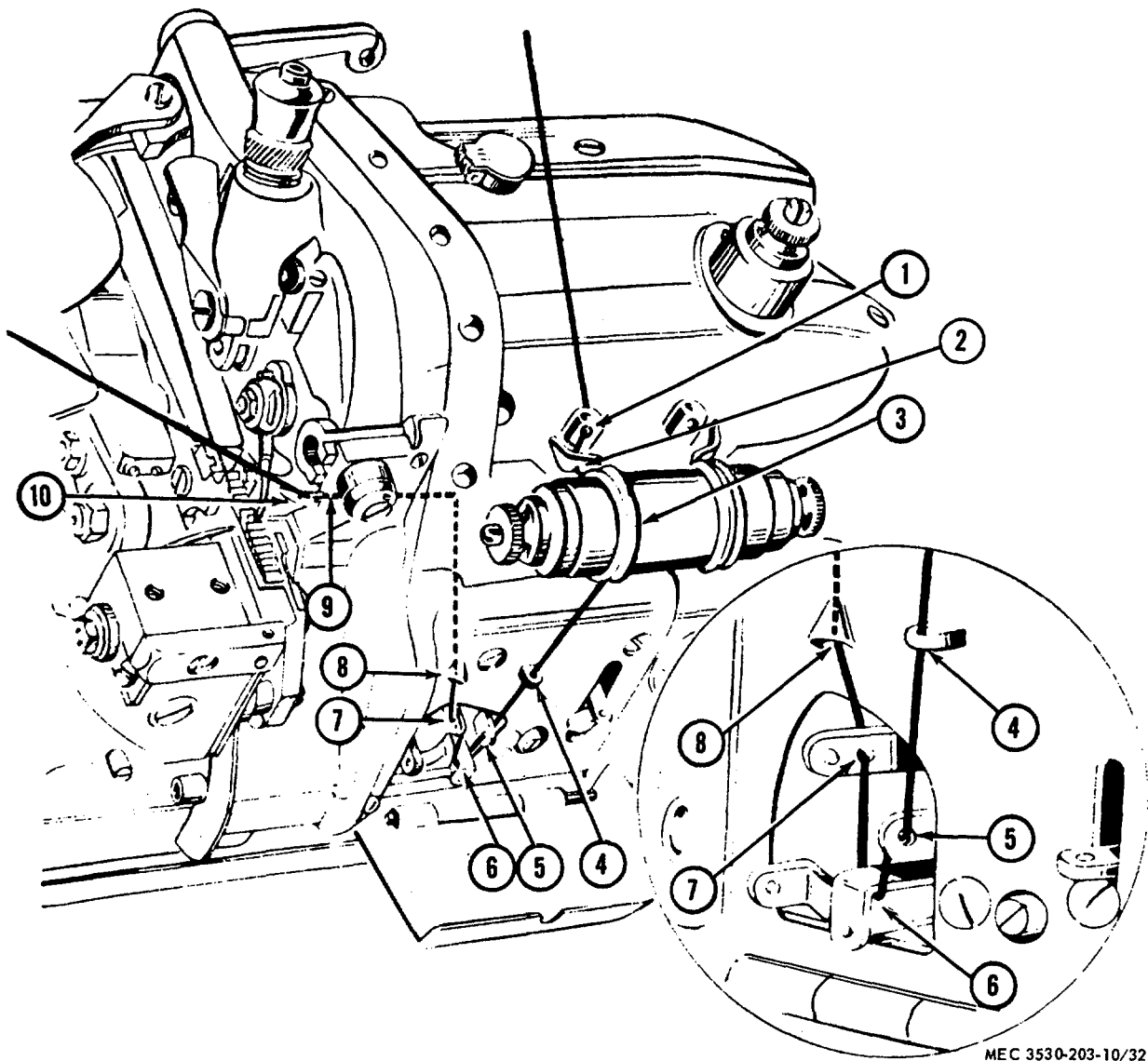
MEC 3530-203-10/31

Figure 31. Threading sequence for overedge sewing machine.

chain around toward the front of the machine. Hold the thread chain and pull a section of it taut and cut it by stepping briefly on the treadle and running the taut section through the knives. Remove the material from the machine.

*Note.* Making the thread chain after the sewing has been completed keeps the machine from becoming unthreaded.

*b. Turning Off Power Source.* Turn the motor switch to the OFF position.



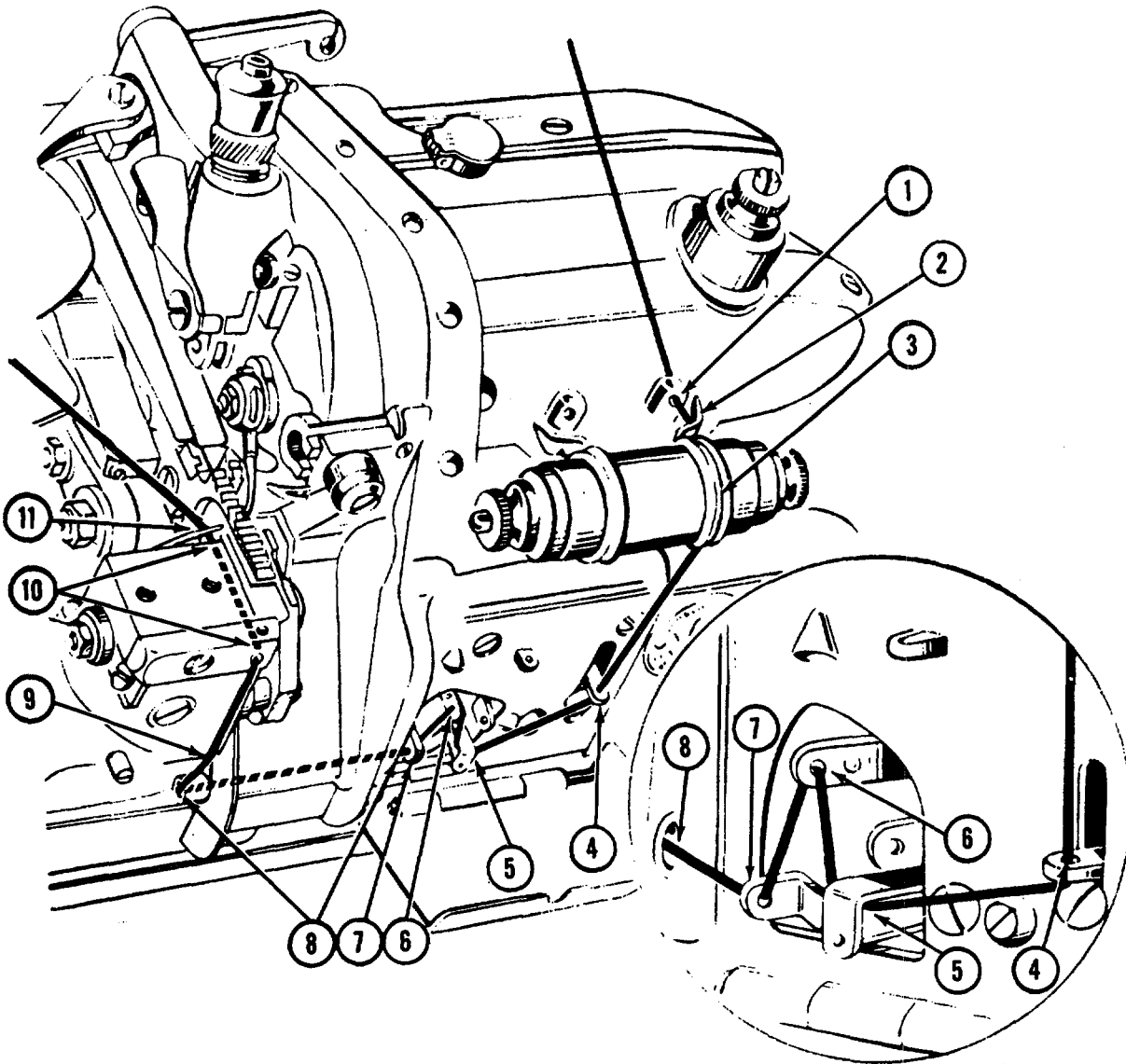
MEC 3530-203-10/32

Figure 32. Threading sequence for right looper (overedge sewing machine).

### 35. Preparing Textile Sewing Machine for Operation

After the textile sewing machine has been removed from the cabinet and it has been set up for operation (para 14), perform the preliminary inspections prescribed in the daily preventive maintenance services (para 56), and then perform the following steps to prepare the textile machine for operation.

a. *Selecting Needle.* Select the needle of the correct size (20 or 22) according to the type of left-twist thread and the weight of material to be used for sewing on the textile sewing machine. Left-twist thread must be in the needles but right-twist thread may be used on the bobbin. The thread must pass freely through the eye of the needle. Rough or uneven thread or thread which, for any



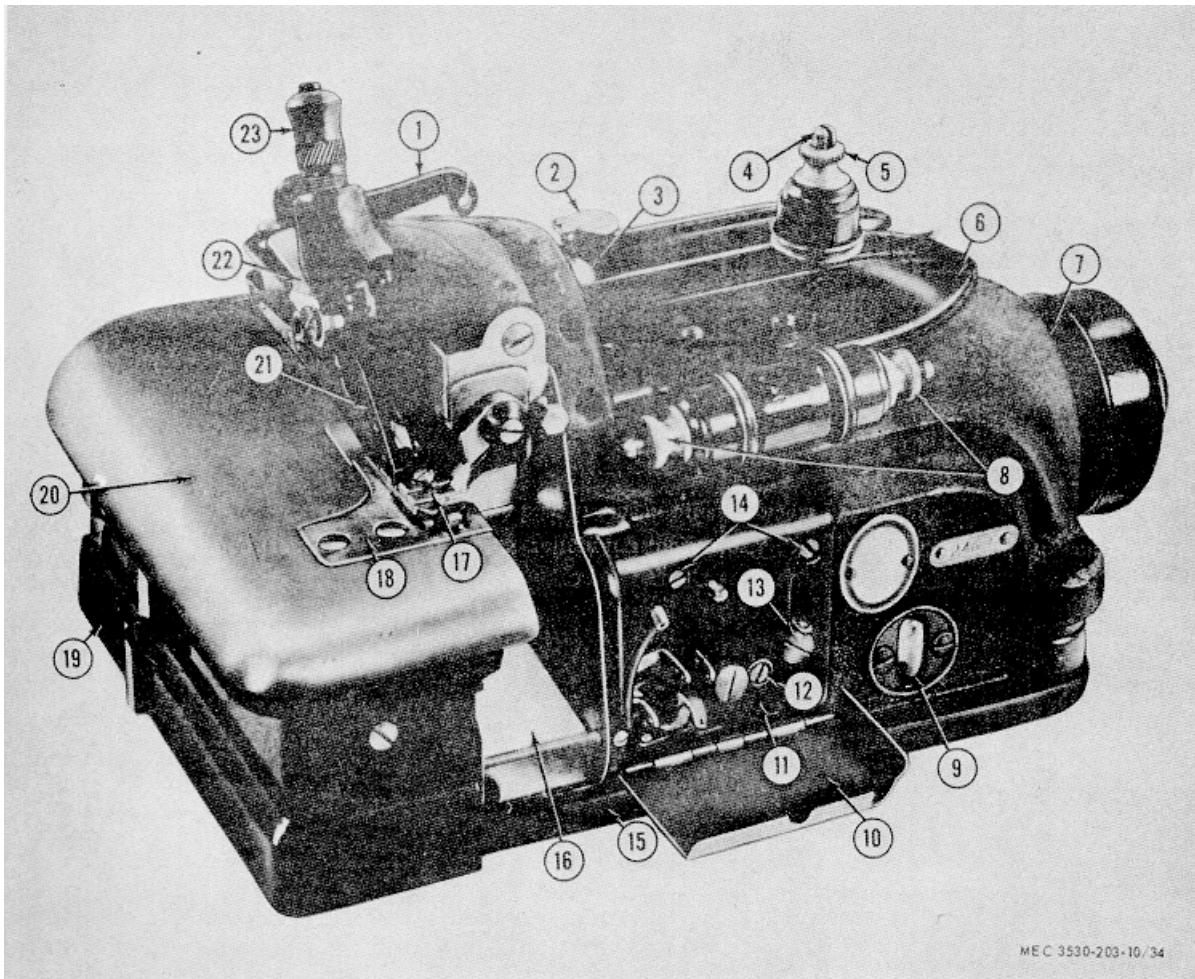
MEC 3530-203-10/33

Figure 33. Threading sequence for left looper (overedge sewing machine).

reason, does not slip easily through the eye of the needle, interferes with the operation of the machine. The class number (135) and the variety number (17) are expressed by placing the letter X between the two numbers; for example, 135 X 17 needles. The class number describes the shank of the needle, the variety number describes the length of the needle and the type of the point, and the size describes the gage and the eye of the needle.

*b. Installing Needle.* Use a good needle (never a bent one or one with a dull or a blunt point) of the correct class number, variety number, and size for the material to be darned. Turn the balance wheel toward the front until the needle bar is at its highest point; then loosen the needle setscrew and remove the needle from the needle bar.





- |    |                                |    |                                      |
|----|--------------------------------|----|--------------------------------------|
| 1  | Lever, presser bar lifting     | 13 | Screw, right looper eyelet           |
| 2  | Cup, oil filter                | 14 | Screws, thread plate                 |
| 3  | Stripper, lint                 | 15 | Base, machine                        |
| 4  | Stud, thread tension           | 16 | Guard, chip                          |
| 5  | Nut, thumb                     | 17 | Foot, presser                        |
| 6  | Cover, top frame               | 18 | Plate, throat                        |
| 7  | Pulley, drive shaft            | 19 | Cover, rear                          |
| 8  | Nuts, thumb                    | 20 | Plate, cloth                         |
| 9  | Gage, oil sight                | 21 | Bar, swing-out presser               |
| 10 | Cover, thread plate            | 22 | Lever, swing-out presser bar opening |
| 11 | Plate, thread                  | 23 | Thumbscrew, pressure' regulating     |
| 12 | Screw, right looper takeup arm |    |                                      |

Figure 34. Overedge sewing machine, three-quarter front view.

Install the needle, with the long groove to the left, as far up in the needle bar as it will go. Tighten the setscrew securely.

c. *Threading Needle.* Thread the needle, following the instructions below and according to the

points in the order in which they are numbered on figure 36. With the thread takeup lever at its highest point, start and run the thread freely from the thread unwinder, and

(1) Pass the thread from back to front through the top hole (1) in the thread pin on top of the machine,

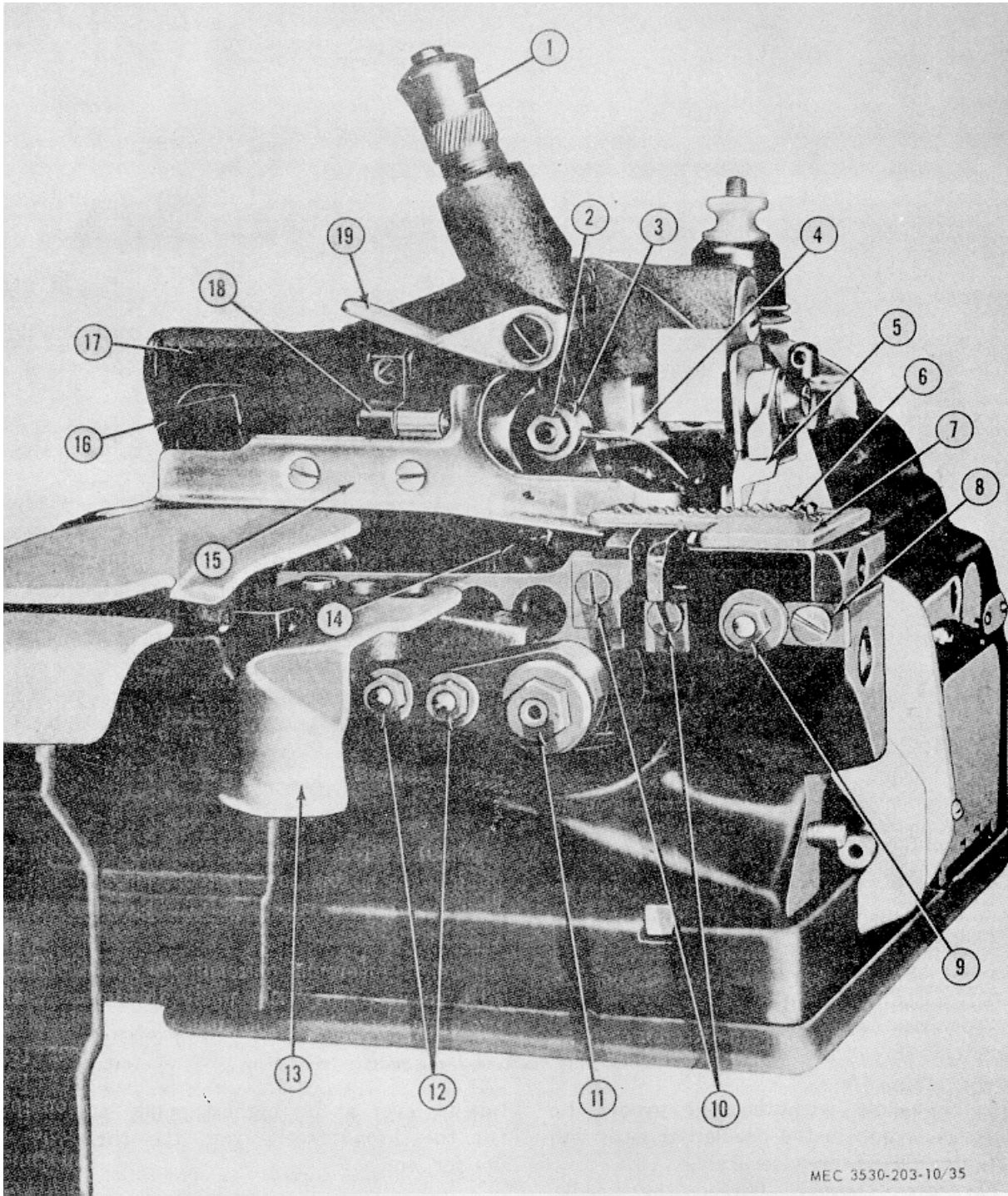


Figure 35. Overedge sewing machine, left view, showing cloth overedge plate opened.

- |    |                                     |    |   |
|----|-------------------------------------|----|---|
| 1  | Thumbscrew, pressure regulating     | 11 | Nut, feed lifting and movable knife lever eccentric |
| 2  | Nut, needle clamp                   | 12 | Nuts, feed bar connector hinge screw stud           |
| 3  | Clamp, needle                       | 13 | Cover, feed eccentric                               |
| 4  | Needle                              | 14 | Screw, needle thread control                        |
| 5  | Knife, movable                      | 15 | Guard, oil splash                                   |
| 6  | Dogs, feed                          | 16 | Bracket, needle bar                                 |
| 7  | Plate, throat                       | 17 | Housing, movable knife lever and presser bar        |
| 8  | Retainer, knife holder spring       | 18 | Bracket, presser bar lifting                        |
| 9  | Knife, clamping stud nut stationary | 19 | Lever, presser bar opening                          |
| 10 | Screws, feed dog                    |    |   |

Figure 35-Continued.

- and from right to left through the bottom hole (2) in the same pin;
- (2) Down through the first hole (3) in the thread guide;
  - (3) Up through the middle hole (4) in the thread guide;
  - (4) Down through the last hole (5) in the thread guide;
  - (5) From left to right between the tension disks (6) and around the tension stud (7);
  - (6) Down and from left to right behind the thread controller disk (8);
  - (7) Around the thread controller stud (9);
  - (8) Into the fork of the thread controller disk (10);
  - (9) Against the pressure of the thread controller spring (11);
  - (10) Up through the thread guide (12);
  - (11) Through the hole in the thread takeup lever (13);
  - (12) Back through the thread guide (14);
  - (13) Between the felt pad and the retainer finger (15) of the thread lubricator;
  - (14) Through the needle bar thread guide (16); and
  - (15) From left to right through the needle eye (7), pulling about 3 inches of thread through the needle eye.

*d. Removing Bobbin.* Remove the slide plate (4, fig. 37) from the machine bed to expose the bobbin. Insert a finger under the latch as shown in figure 38, raise the latch, and lift the bobbin from the machine.

*e. Winding Bobbin.* Wind thread on the textile sewing machine bobbin according to the instructions in

paragraph 23e for the clothing sewing machine.

*f. Installing Bobbin.*

(1) Hold the bobbin so the thread unwinds to the right.

(2) Slip the bobbin over the latch and center stud and push down the latch.

(3) Draw the thread into the slot between the bobbin case opener (3, fig. 39) and the triangular projection on the bobbin case.

(4) Lift about 3 inches of the bobbin thread above the throat plate. Close the slide plate, but leave space between the slide and the throat plates large enough for the thread to slip through when it is caught by the needle thread.

*g. Catching Bobbin Thread.* Follow the instructions in paragraph 23h for catching the bobbin thread.

*h. Adjusting Pressure on Material.* Adjust the pressure of the lifting presser foot on material with the regulating thumbscrew (1, fig. 40). Turn the thumbscrew to the right to increase the pressure and to the left to decrease the pressure. The pressure should be just enough to hold the material firmly against the feed dog while the vibrating presser foot (6, fig. 37) moves forward.

*i. Adjusting Pressure on Vibrating Presser Foot.* Adjust the pressure of the front or vibrating presser foot (6, fig. 37) with the thumbscrew on top of the face. Turn, the thumbscrew to the right to increase the pressure and to the left to decrease the pressure.

*j. Adjusting Length of Stitch.* Adjust the length of stitch as follows: Hold down the stud (2), closest to the needle bar, until it

drops into the slot or notch in the feed driving adjusting disk of the adjustable feed eccentric cam. Turn the balance wheel back ward to shorten the stitch or forward to lengthen the stitch.

*k. Adjusting Bobbin and Needle Thread*

*Tensions.* Adjust the tension on the bobbin and needle threads as follows:

- (1) *Bobbin thread tension.* Adjust the tension on the bobbin thread with the spring on the outside of the bobbin case. Do not take the bobbin case out of the hook assembly to change the tension, but use a small screwdriver to turn the screw which is in the center of the spring near the thread slot in the bobbin case. Turn the screw to the right to increase the tension and to the left to decrease the tension on the bobbin thread.
- (2) *Needle thread tension.* Adjust the tension on the needle thread with the thumb nut (7), located in front of the tension disks. To change the needle thread tension, lower the lifting presser foot to cause the tension disks to close, and then turn the thumb nut to the right to increase the tension and to the left to decrease the tension on the needle thread.

**Caution: Adjust the needle thread tension only when the lifting presser foot is down.**

*l. Checking and Testing for Proper Operation.* Use test material to make a few stitches, following the operating procedures in paragraph 36. Make any necessary adjustments according to the above procedures in this paragraph.

### 36. Operating Textile Sewing Machine

After the textile sewing machine has been prepared for operation (para 35), operate it as follows:

*a. Inserting Material in Machine.* Lift the presser bar lifter to raise the presser foot which has about 3 inches of bobbin and needle threads under and behind it. Place the edge of the material under the presser foot, hold the needle thread and at the same time handturn the balance wheel until the needle is in the material at the desired starting point. Place the end of the needle thread toward the rear of the presser foot, and then lower the presser foot on the needle thread and material.

*b. Turning on Power Source.* Turn on the power source with the motor switch (12, fig. 9).

*c. Sewing Material.* Hand-turn the balance wheel toward the operator and simultaneously hold the needle and bobbin threads until a few stitches are made. Press the treadle (10) slowly to engage the clutch with the motor. Hold the material flat and do not pull or push on the material while sewing or stitching it because the needle will bend, strike the throat plate, and become dulled, or more likely broken. Let the feed dog carry the material evenly under the presser foot and needle. When sewing across a seam or an unusually thick or uneven place in the material, release the treadle to disengage the clutch and hand-turn the balance wheel until the rough place is stitched; otherwise, the needle may break. If the material is unusually thick, as a comforter for example, decrease the tension on the presser foot by turning the pressure regulating thumbscrew to the left.

### 37. Stopping Textile Sewing Machine

*a. Removing Material From Machine.* Release the treadle (10, fig. 9) to stop the machine. Hand-turn the balance wheel until the stitch is completed and the thread takeup lever is at its highest point, and then lift the presser bar lifter (3, fig 40) to raise the press foot. Draw the material straight behind the presser foot, and break or cut the needle and bobbin threads so that about 3 inches will be under and behind the presser foot.

*b. Turning Off Power Source.* Turn off the motor switch.

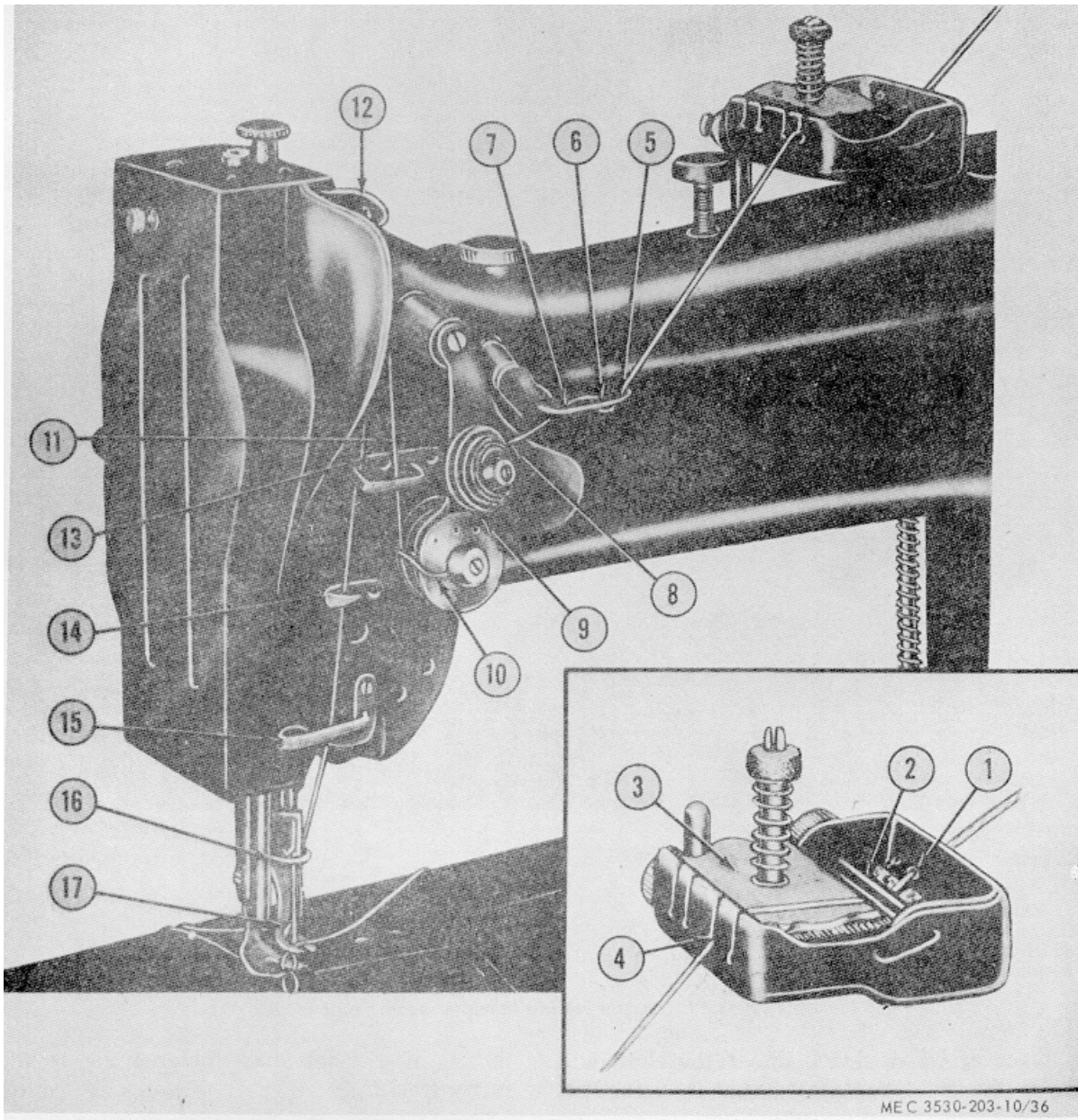


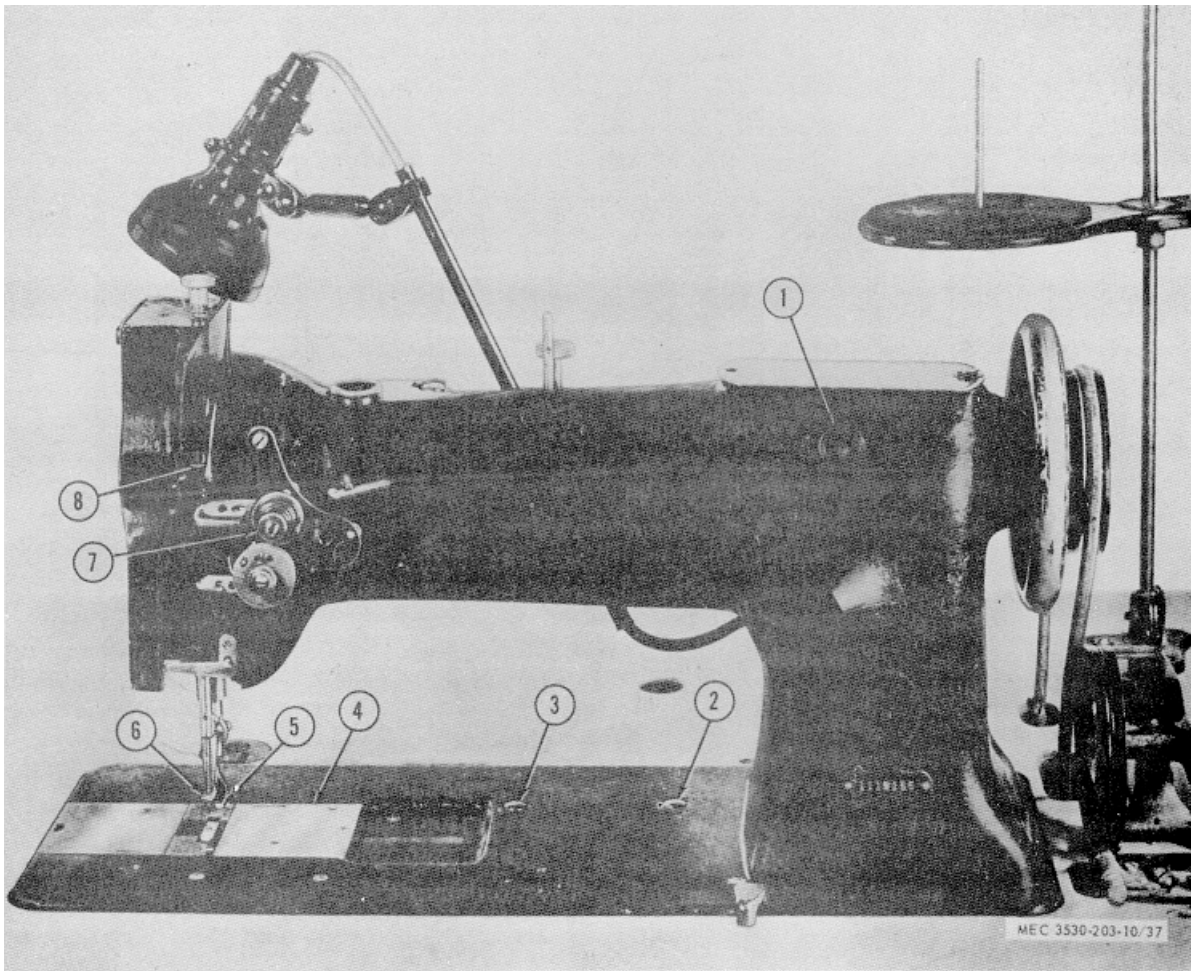
Figure 36. Threading sequence for textile sewing machine.

### 38. Preparing Grommet Press for Operation

After the grommet press has been installed on the tabletop (para 14j), perform the preliminary inspections prescribed in the daily preventive maintenance services

(para 56), and then perform the following steps to prepare it for operation.

- a. *Punching Holes.* Use hammer and punch to punch holes through the material or cloth for insertion of the snap fastener parts. A



- |   |                                    |   |                                     |
|---|------------------------------------|---|-------------------------------------|
| 1 | Disk, stitch indicator             | 5 | Foot, lifting presser               |
| 2 | Stud, thread hook drive shaft lock | 6 | Foot, vibrating presser             |
| 3 | Stud, feed regulator               | 7 | Nut, thread tension adjusting thumb |
| 4 | Plate, slide                       | 8 | Lever, takeup                       |

Figure 37. Textile sewing machine head, front view.

flat piece of wood placed under the cloth will provide the solid surface needed in using the punch.

**Caution:** When striking the punch with hammer, keep hand well away from the sharp edges of the punch and from the striking area.

*b. Selecting Chuck and Die.* Select the proper chuck and die (fig. 10) to fit the particular snap fastener set being used. The baby durable button and eyelet snap fastener set is shown in figure 41 and the cap-and-post miniature lift-the-dot snap fastener set is shown

in figure 42.

*c. Inserting Chuck in Machine.* Insert the chuck in the grommet press as follows:

*Note.* All chucks are inserted in the same manner.

- (1) Loosen the setscrew (18, fig. 10) in the plunger (19).
- (2) Insert the chuck all the way into the plunger with the flat side of the chuck shaft toward or facing the setscrew.

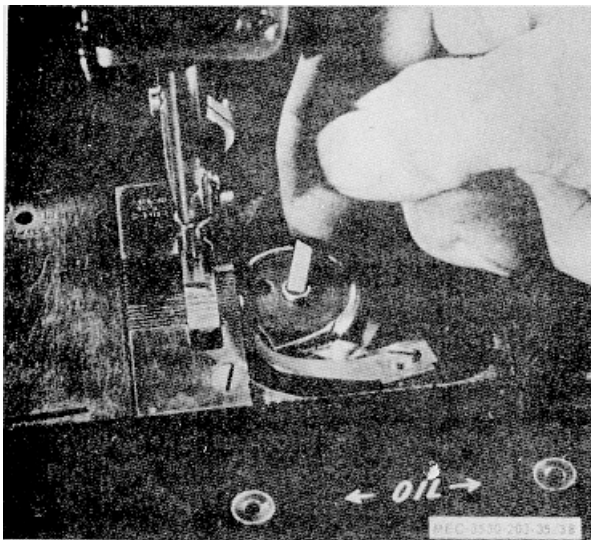


Figure 38. Lifting bobbin case latch to remove bobbin.

*Note.* When the flat side of the chuck is facing the setscrew, the numerals on the chuck will always be visible to the operator.

(3) Tighten the setscrew (18) securely.

*d. Inserting Die in Machine.* Insert the proper die in hole (17) of the grommet press as follows:

(1) Loosen the setscrew (15) in the lower part of the grommet press.

(2) Drop the die into position with the flat side of the die toward or facing the setscrew.

*Note.* When the flat side of the die shaft is facing the setscrew, the numerals on the die will always face the operator.

(3) Tighten the setscrew (15) securely.

*e. Inserting Snap Fastener Set in Chuck and Die.* A snap fastener set consists of a socket assembly (female portion) and a stud assembly (male portion) as shown in figures 41 and 42. The female portion consists of a socket (or cap) and a clinch plate (or socket). The male portion consists of a stud and a washer (or post) depending upon the style of the snap fastener set. Either the female portion or the male portion may be installed or

fastened in material separately or independently of the other portion.

(1) Female portion. Insert or snap the appropriate socket (or cap) firmly in- to the chuck. The socket should fit snugly in the chuck. Place the appropriate clinch plate (or socket) in the die so the prongs on the clinch plate point upward.

(2) Male portion. Insert or snap the appropriate stud up into the chuck. Place appropriate washer (or post) in the die.

### 39. Operating Grommet Press

After the grommet press has been prepared for operation including installation of the appropriate die and chuck and snap fastener parts, proceed as follows to operate the grommet press:

*a. Placing Material in Grommet Press.* Place the material or cloth over the die and under the chuck with the snap fastener parts in them. The hole or holes in the material should coincide exactly with the hole or holes in the snap fastener parts. Position the hole in the material over the center of the washer or over the stem of the post for the male portions of the snap fastener sets. Be sure to keep the hand lever all the way up whenever inserting material in the grommet press,

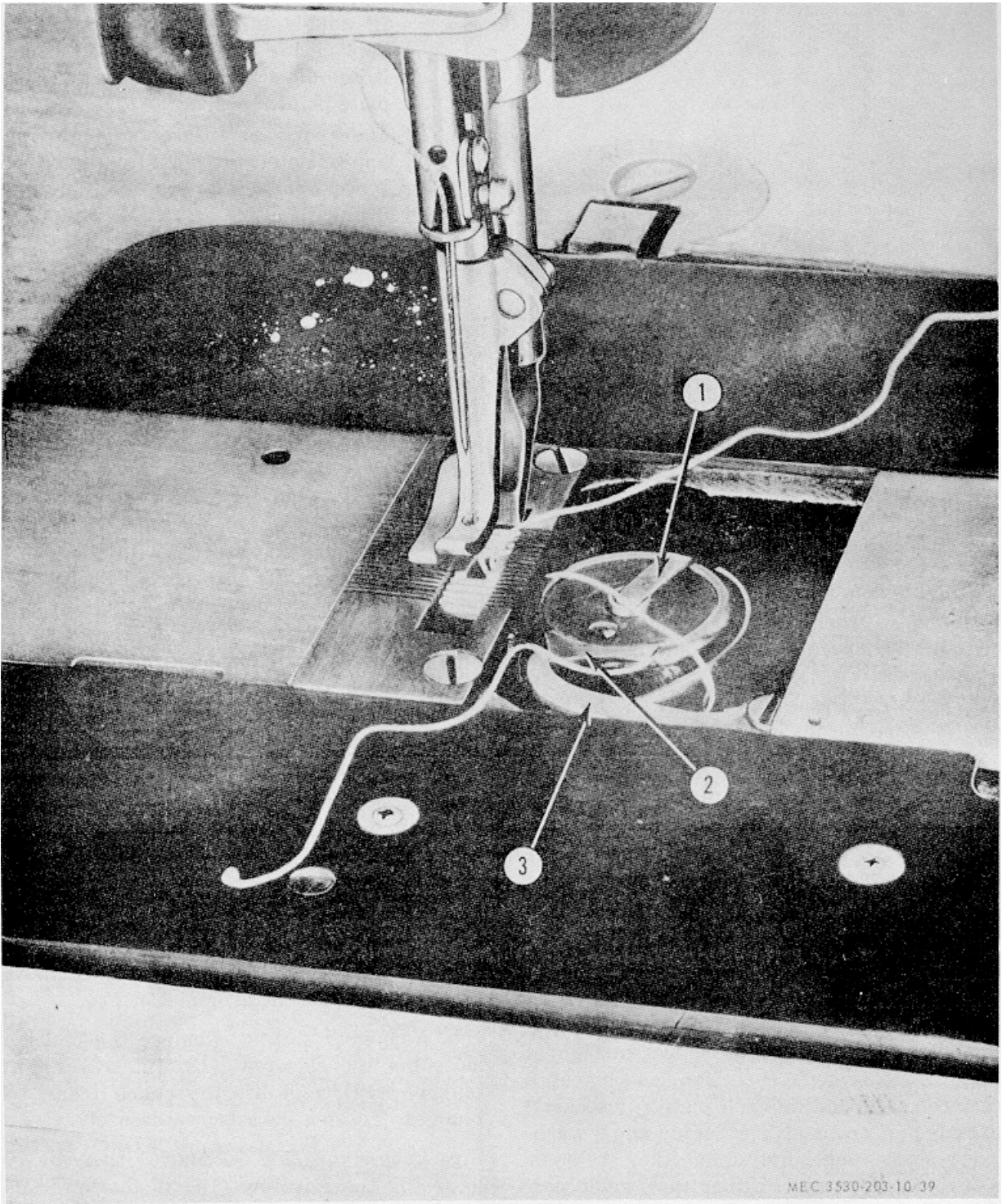
*b. Depressing Hand Lever.* Depress the hand lever firmly to apply pressure to attach the snap fastener parts to the material securely.

### 40. Stopping Grommet Press

*a. Removing Material.* Raise the hand lever, and remove the material (with snap fastener parts) from the grommet press.

*b. Removing Chuck.* Remove the chuck by loosening the setscrew (18, fig. 10) in the plunger (19), and lift the chuck from the plunger. Tighten the setscrew securely.

*c. Removing Die.* Remove the die by loosening the setscrew (15) in the lower part of the grommet press, and lift the die from the grommet press. Tighten the setscrew securely.



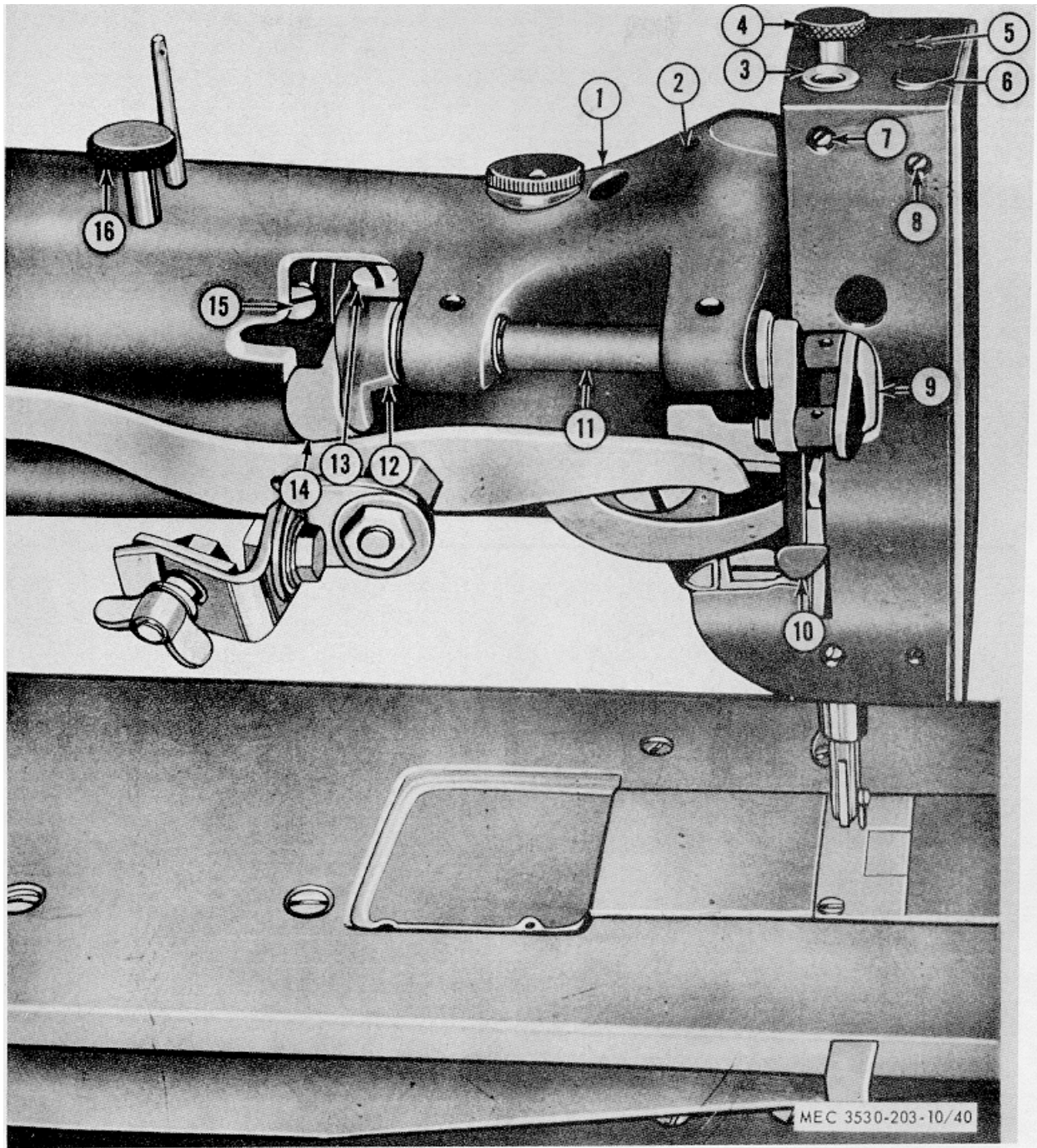
1 Latch (closed), bobbin case

2 Projection, triangular

3 Opener, bobbin case

*Figure 39. Hook passing needle thread around bobbin case.*

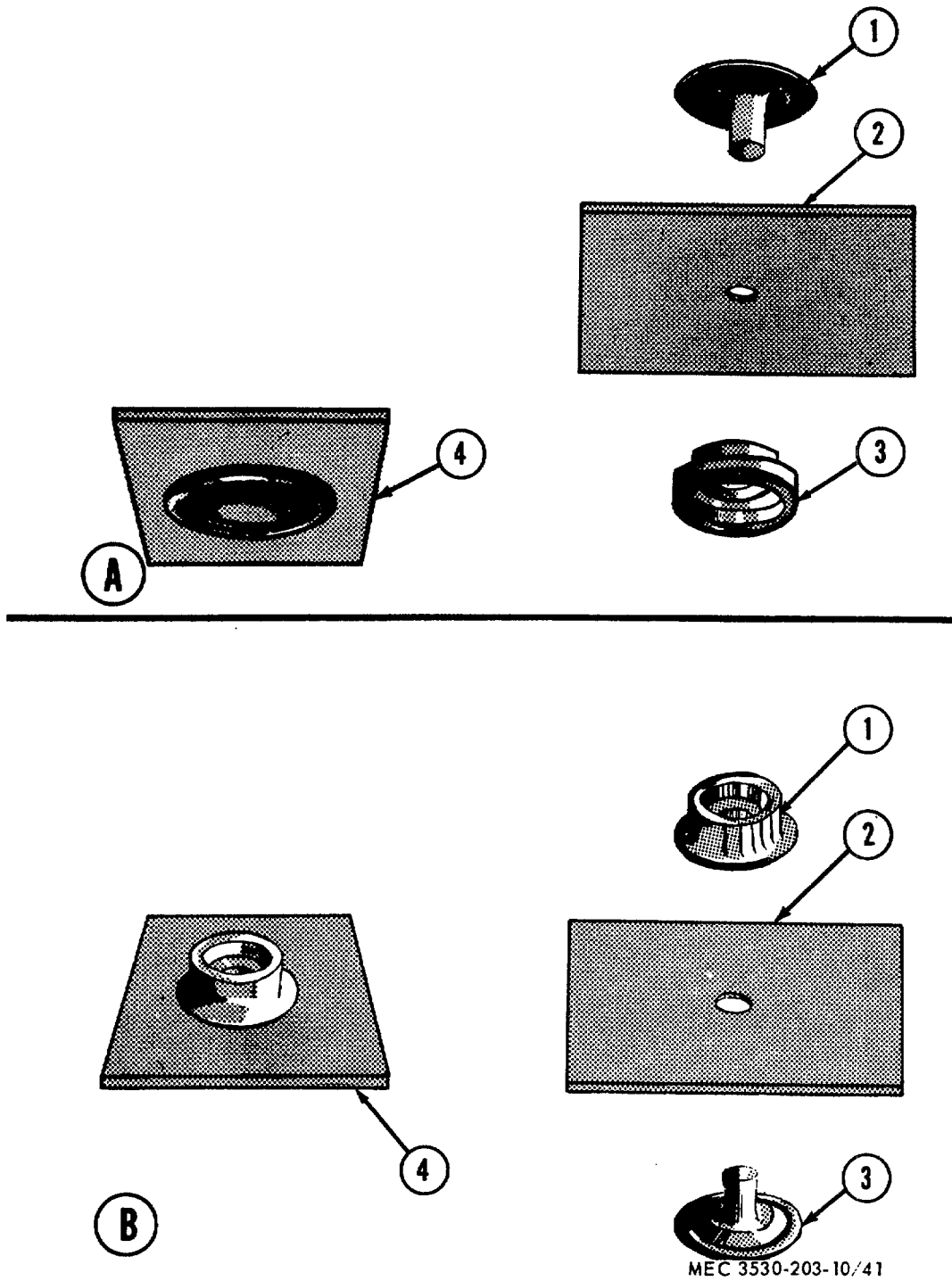




1 Thumbscrew, presser bar spring regulating  
2 Thumbscrew, presser bar vibrating

3 Lifter, presser bar

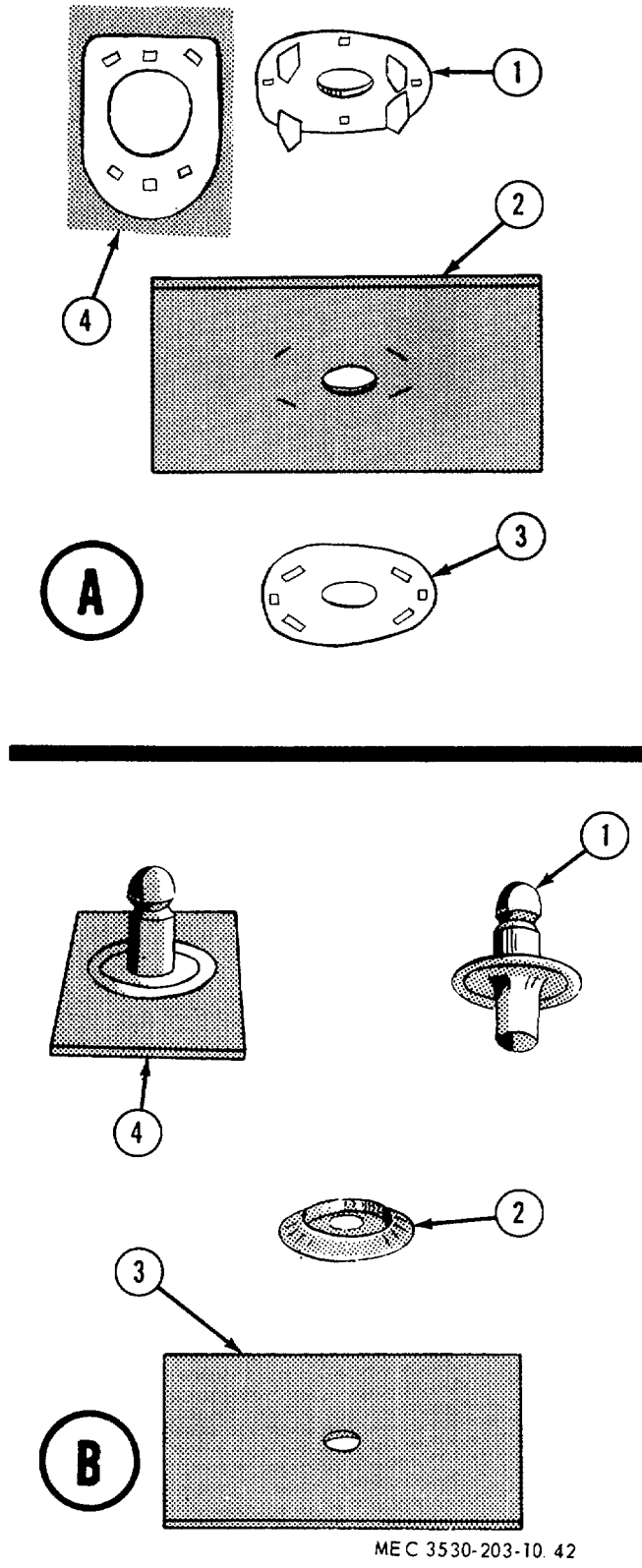
Figure 40. Top and rear of face and arm of textile sewing machine.



- 1 Cap
  - 2 Material with hole
  - 3 Socket
  - 4 Material with cap and socket
- A-Socket assembly (female portion)

- 1 Stud
  - 2 Material with hole
  - 3 Post
  - 4 Material with stud and post
- B-Stud assembly (male portion)

Figure 41. Baby durable snap fastener set.



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Figure 42. Miniature lift-the-dot snap fastener set.

- 1 Socket
- 2 Material with hole
- 8 Plate, clinch
- 4 Material with socket and clinch plate.  
A-Socket assembly (female portion)

- 1 Stud
- 2 Washer
- 3 Material with hole
- 4 Material with stud and washer
- B Stud assembly (male portion)

Figure 42-Continued.

**41. Preparing Tack-Button Attaching Machine**

After the tack-button attaching machine has been installed on the table (para 14k), perform the preliminary inspections prescribed in the daily preventive maintenance services (para 56), and then perform the following steps to prepare it for operation.

*a. Selection Dies.* Select the appropriate upper die either for the closed-top button or the open-top button. Use the appropriate lower die, depending upon them diameter of the tackhead being used.

*b. Inserting Dies.*

- (1) Loosen the screw (14, fig. 11) in the plunger (15), and insert the appropriate upper die (7 or 8) into the plunger with the flat side facing the screw. Tighten the screw securely.
- (2) Loosen the screw (12) and drop or insert the appropriate lower die (6 or 9) into the hole (13) in the frame. (3). Do not fasten the lower die in position until the pinch has been adjusted properly (c below).

*c. Adjusting Pinch.* Use and insert sample testing material in the tack-button attaching machine, and adjust the pinch as follows:

- (1) Turn the screw (11) in the base of the machine to obtain the proper pinch on the material. Adjust the pinch until the button is just tight on the material. Test the pinch by operating the tack-button attaching machine (para 42).

**Caution: If the pinch is too tight the material will be cut.**

- (2) Tighten the screw (12) holding the lower die in the machine when the pinch has been adjusted properly.

**(3) 42. Operating Tack-Button Attaching Machine**

After the tack-button attaching machine has been prepared for operation, operate it as follows:

*a. Inserting Button in Machine.* Raise the hand lever (1, fig. 11) and slip the closed-top button (3, fig. 43) into the upper die so that the wires on the die fit and snap firmly over the button edge.

*b. Inserting Tack in Machine.* Drop the tack into the lower die with the tack prong pointed toward the upper die. When using the double-pronged tack, align the prongs so that when the hand lever is depressed, the prongs will pass freely into the holes in the bottom.

*c. Inserting Material in Machine.* Place cloth or material over the lower die and the tack.

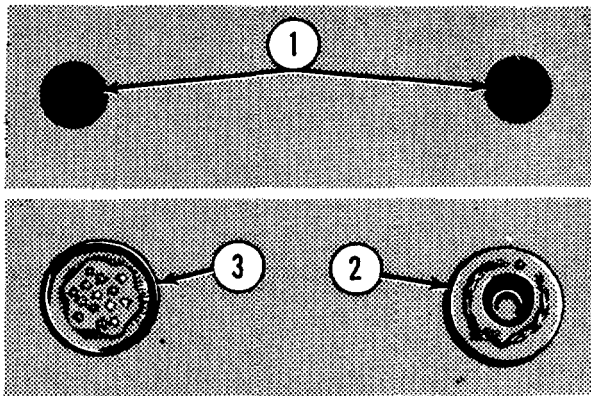
*d. Depressing Hand Lever.* Depress the hand lever firmly, clamping the button (that is in the upper die) upon the tack (that is in the lower die) on the material.

**43. Stopping Tack-Button Attaching Machine**

*a. Removing Material.* Raise the hand lever (1, fig. 11) and remove the cloth or material, with attached tack and button, from the machine.

*b. Removing Upper Die.* Loosen the screw (14) and remove the upper die from the plunger and from the machine; tighten the screw securely.

*c. Removing Lower Die.* Loosen the screw (12) and remove the lower die from the machine; tighten the screw securely.



MEC 3530-203-10/43

Figure 43. Tacks and buttons attached to material (cloth)

- 1 Tacks for open- and closed-top buttons
- 2 Open-top button
- 3 Closed-top button

Figure 43-Continued.

**44. Preparing Textile Repair Shop for Movement to Another Location**

Dismantle the components of the textile repair shop and load everything in the cabinet assembly by reversing the unloading and setting up procedures in paragraph 14. Before closing the cabinet doors, make sure all tray and table assemblies and stowage boxes are secured in their proper positions to prevent damage to equipment and doors.

**Section IV. OPERATION OF MATERIEL USED IN CONJUNCTION WITH TEXTILE REPAIR SHOP**

**45. General**

This section contains the necessary instructions, illustrations, descriptions, and references for operating the auxiliary materiel or components used in conjunction with the clothing repair shop. The auxiliary components include a fire extinguisher and a generator set. The necessary instructions for the operation and the maintenance of the fire extinguisher and for the operation of the generator set are given in paragraphs 46 and 47.

**46. Fire Extinguisher**

A 5-pound carbon dioxide (CO<sub>2</sub>) fire extinguisher, is issued with the textile repair shop.

*a. Operation.* Operate the fire extinguisher by following the procedures in the order in which they are listed below.

- (1) Carry the fire extinguisher by the handle to the fire.
- (2) Pull out the safety pin, breaking the wire seal, and swing the horn toward the base of the fire.

- (3) Depress the operating lever to open the valve, and direct the discharge or dog toward the base of the fire.

**Caution: Do not let hands or body come directly in contact with the fog.**

*b. Maintenance.* Inspect the fire extinguisher for broken wire seal. Recharge the fire extinguisher immediately after it has been used or if the loss of gas exceeds one-half of a pound.

**47. Generator Set**

The military model SF 3.0 MD generator set is a static-excited, 60-cycle alternating current generator. The generator output is 120/240 volts, single phase or 120/208 volts, 3-phase. However, only the 120 volts, 8-phase output is used with the clothing repair shop. The control box contains all instruments and electrical components and controls necessary for operating the generator set. The generator set is used with the clothing repair shop to furnish the power for the lights and for the operation of the machines.

*a. Preparation for Starting.* After the generator set has been set up and connected (para 14) and properly grounded (TM 5-6115-271-12), proceed as follows to prepare the generator set for starting:

- (1) Perform the daily preventive maintenance services listed in TM 5-6115-271-12.
- (2) Connect the auxiliary fuel line if an external fuel source is to be used.
- (3) Connect the load cable to the load terminals L1, L2, and LB.

*b. Manual Starting.*

- (1) Turn variable resistor knob fully counterclockwise.
- (2) Be sure the circuit breaker is in the OFF position.
- (3) Place the fuel selector valve in SET TANK on in AUX. TANK position, depending on the source of fuel supply.
- (4) Place the air intake shutter in the proper position, depending on ambient temperature.
- (5) Place the governor control in START AND IDLE position.
- (6) Close the choke with the choke control lever.
- (7) Place the OFF-RUN switch in RUN position.
- (8) Wrap the starter rope around the flange and pull it with a quick steady motion. Repeat as necessary until the engine starts.
- (9) Use the choke control lever to open the choke gradually as the engine attains operating temperature.

*c. Operating Generator Set.* The generator set is designed to operate continuously at 3,600 revolutions per minute in accordance with the engine governor setting. If the generator set is operating indoors, keep the room well ventilated at all times so the generator set will receive a maximum supply of air.

- (1) Set the governor control in the operating position.
- (2) Use the variable resistor knob to adjust the voltage output.
- (3) Turn the circuit breaker to the ON

position.

*d. Stopping Generator Set.*

- (1) Place the circuit breaker in the OFF position.
- (2) Turn the variable resistor knob fully counterclockwise.
- (3) Place the governor control in the START AND IDLE position and allow the engine to idle for 3 to 5 minutes.
- (4) Place the OFF-RUN switch in OFF position.
- (5) Place the fuel selector valve in the OFF position.

*e. Operating Generator Set in Extreme Cold (Below 0° F.).* In addition to the normal operating instructions covered above for the generator set, perform the following steps to operate it in extreme cold conditions.

- (1) Keep the fuel tank as full as possible at all times to prevent condensation.
- (2) Drain and service the fuel filter more frequently.
- (3) Remove any ice or snow which may have accumulated on the engine, generator, or wiring.

**Caution: Do not bend or kink wiring as it becomes brittle with extreme cold.**

- (4) Place the air intake shutter in the WINTER (down) position when the ambient temperature is 32° F. Or lower.
- (5) Allow sufficient time for the generator set to reach normal operating temperature before connecting the load.
- (6) Observe the shutter at the top of the winterization shroud. If it does not operate properly, the engine will not reach operating temperature.

*f. Operating Generator Set in Extreme Heat,* In addition to the normal operating instructions covered for the generator set, perform the following to operate it in extreme heat.

- (1) Inspect the covers, hood, and shrouds frequently to make sure they are clean and properly installed. Place the air intake shutter in the SUMMER

(up) position when the ambient temperature is above 320 F.

- (2) Check the meter frequently to make sure the generator set is not overloaded.

*g. Operating Generator Set in Dusty or Sandy Areas.*

In addition to the normal operating instructions previously covered for the generator set, perform the following to operate it in dusty or sandy areas.

- (1) Shield the generator set from dust. Take advantage of the natural barriers which offer protection from dust and sand.
- (2) Service the air cleaner daily to keep the carburetor free of dirt and sand.
- (3) Clean area around the oil filler cap before inspecting it and adding oil.
- (4) Prevent sand from entering the fuel while pouring. Clean the fuel tank strainer prior to adding fuel.

*h. Operating Generator Set in Rainy or Humid Conditions.* In addition to the normal operating instructions previously covered for the generator set,

perform the following to operate it in rainy or humid conditions.

- (1) Keep the fuel tank as full as possible to prevent condensation.
- (2) Keep the electrical components and wiring clean and dry. Humid conditions can cause corrosion and deterioration of electrical components.

*i. Operating Generator, Set in Salt Water Areas.* In addition to the normal operating instructions previously covered for the generator set, perform the following to operate it in salt water areas.

- (1) Wipe the generator set with a clean cloth dampened with clear, fresh water before operation. Use care not to contaminate the fuel supply or damage the electrical system with water.

**Caution: Never clean the generator set during operation.**

- (2) Use care to keep salt water from entering the engine when adding or changing oil.

## Section V. OPERATION UNDER UNUSUAL CONDITIONS

### 48. General

This section covers the necessary operating instructions, in addition to those previously covered, that are necessary for the components of the textile repair shop to function properly under unusual conditions, such as in extreme heat and cold and in dusty and sandy areas.

### 49. Operation in Extreme Heat and Cold Areas

Extremes of heat and cold have little or no effect upon the operation of the components of the clothing repair shop. Extremes of humidity, however, may require the sewing machines to be lubricated (paras 53 and 54) more frequently because even

ordinary humidity will cause the machines to rust or to corrode unless they are kept thoroughly oiled. Also; extremes of humidity will cause the thread to deteriorate and, therefore, to break easily during operation. All possible precautions should be taken to keep the thread dry.

### 50. Operation in Sandy and Dusty Areas

In extremely sandy and dusty areas, the working parts of the sewing machines will require more frequent cleaning and lubrication (paras 53 and 54). Be sure to remove all sand or grit from the material to be stitched; sand or grit will work into the parts of the machines and cause unnecessary wear.

## CHAPTER 3

## MAINTENANCE INSTRUCTIONS

## Section I. SPECIAL TOOLS AND EQUIPMENT

**51. Special Tools**

No special tools are needed by the operator for the maintenance of the components of the textile repair shop. The common tools are authorized in the appropriate table of organization and equipment or table of allowances.

**52. Special Equipment**

No special equipment is needed by the operator for the maintenance of the components of the textile repair shop.

## Section II. LUBRICATION

**53. General**

*a.* This section contains a reproduction of the lubrication orders and lubrication instructions which are supplemental to, and not specifically covered in the lubrication orders.

*b.* The lubrication orders shown in figures 44, 46, 48, 50, 52 and 54 are exact re-productions of the approved lubrication orders for the textile repair shop darning and sewing machines. Lubrication instructions for the generator set and for the cargo trailer are contained in TM 5-6115-271-12 and TM 9-2330-213-14 respectively. For current lubrication orders refer to DA Pamphlet 310-4.

*c.* Lubricate or oil the cabinet assembly latches and hinges, the grommet press, and the tack-button attaching machine when and if they become difficult to operate.

**54. Detailed Lubrication Information**

*a General.* Keep all lubricants in closed containers and store them in a clean, dry place away

from external heat. Allow no dust, dirt, or other foreign material to mix with the lubricants. Keep all lubrication equipment clean and ready for use.

*b. Points of Lubrication.* Refer to figures 45, 47, 49, 51 and 53 for illustrations of the lubrication points shown on the lubrication orders (para 53*b*). The numbers inserted on the borders of each lubrication order are listed consecutively, and refer to specific lubrication points. The illustrations of the specific lubrication points follow each lubrication order to which they apply.

*c. Cleaning.* Keep all external parts that do not require lubrication free of lubricants. Before lubricating the equipment, wipe dirt and grease from all lubrication points.

*d. Operation Immediately After Lubrication.* Operate the machines immediately after lubrication to distribute the oil on all moving parts.



**LUBRICATION  
ORDER**

**L010-3530-203-10-2**

**CLOTHING, REPAIR SHOP, TRAILER MTD, ARMY MODEL SPV34,  
YORK ASTRO MODEL D8700337, TEXTILE REPAIR SHOP,  
TRAILER MTD, ARMY MODEL SPV35, YORK ASTRO  
MODEL D8700447, MACHINE, SEWING, CLOTHING,  
SINGER MODEL 31-15**

Reference: LO 10-3530-203-10-1 and 3, C9100-IL

Intervals are based on normal hours of operation. Reduce to compensate for abnormal operation and severe conditions. During inactive periods, sufficient lubrication must be performed for adequate preservation.

Clean parts with SOLVENT drycleaning. Dry before lubricating.

Apply two to three drops of LO at each friction point unless otherwise noted.

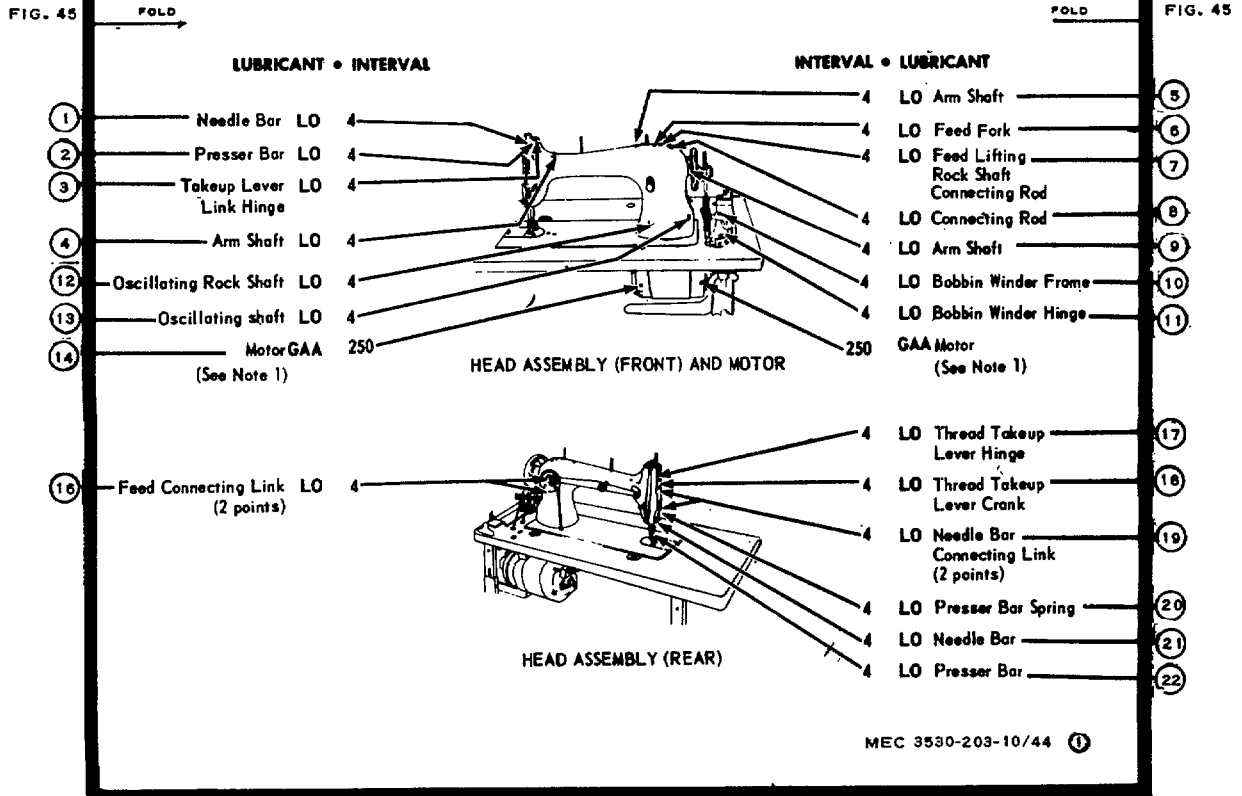


Figure 44 (1). Lubrication Order 10-3530-203-10-2 for clothing sewing machine.

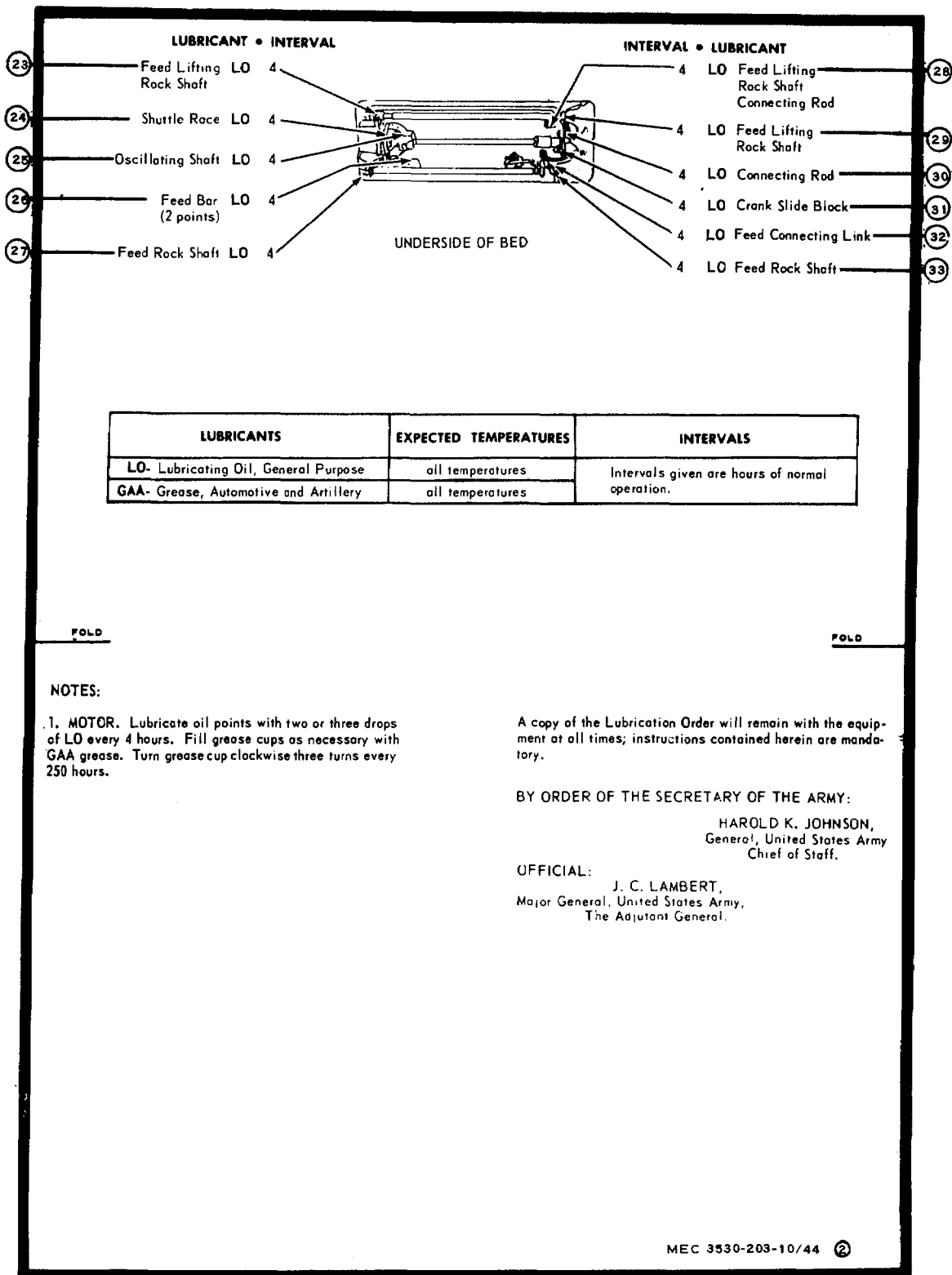


Figure 44 (2) - Continued.

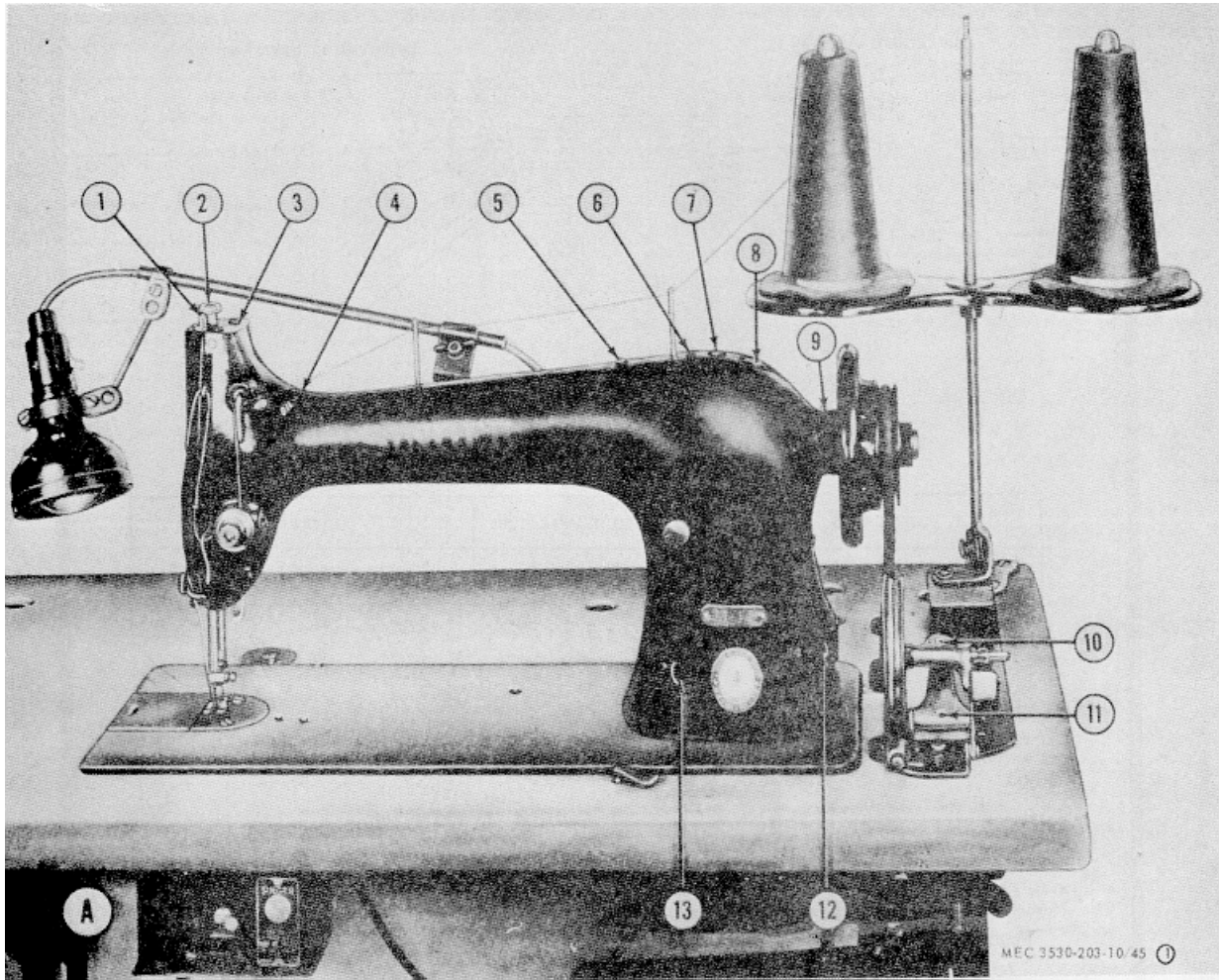


Figure 45 (1). Lubrication points on clothing sewing machine.

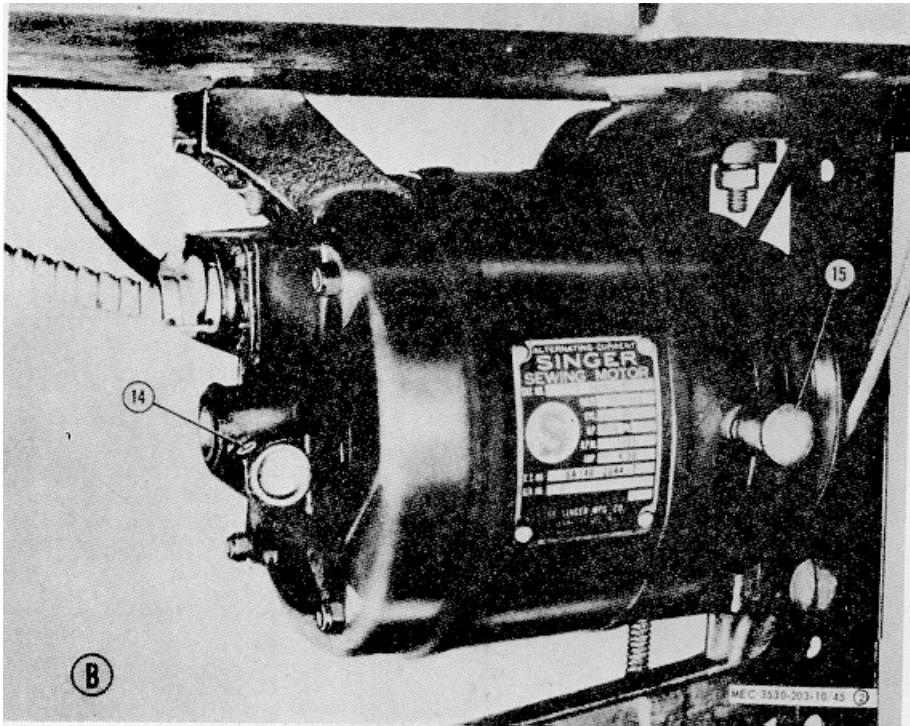


Figure 45 (2) -- Continued.

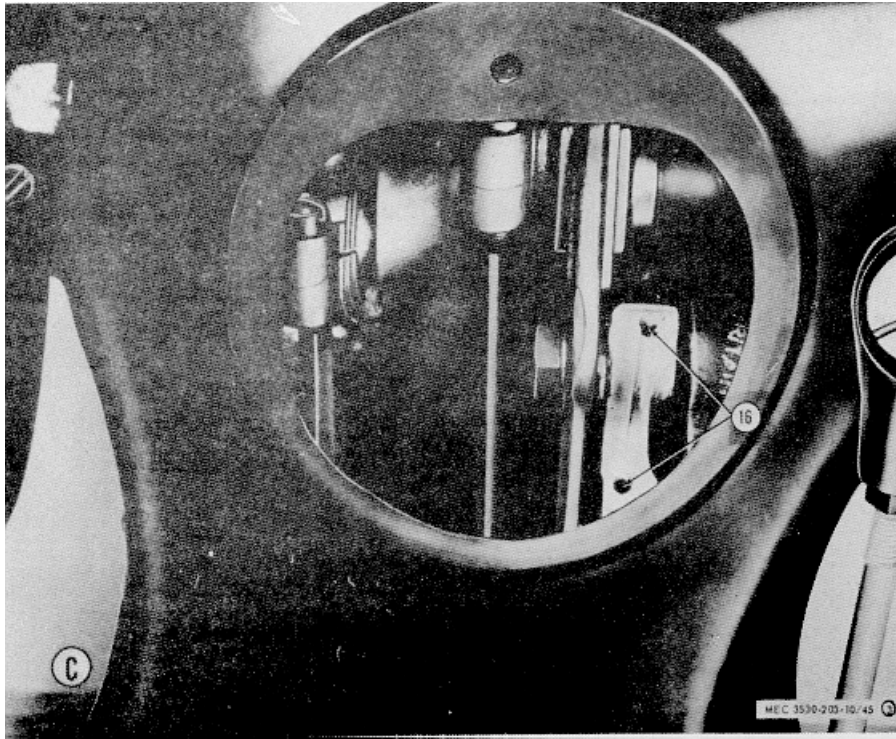


Figure 45 (3) -- Continued.

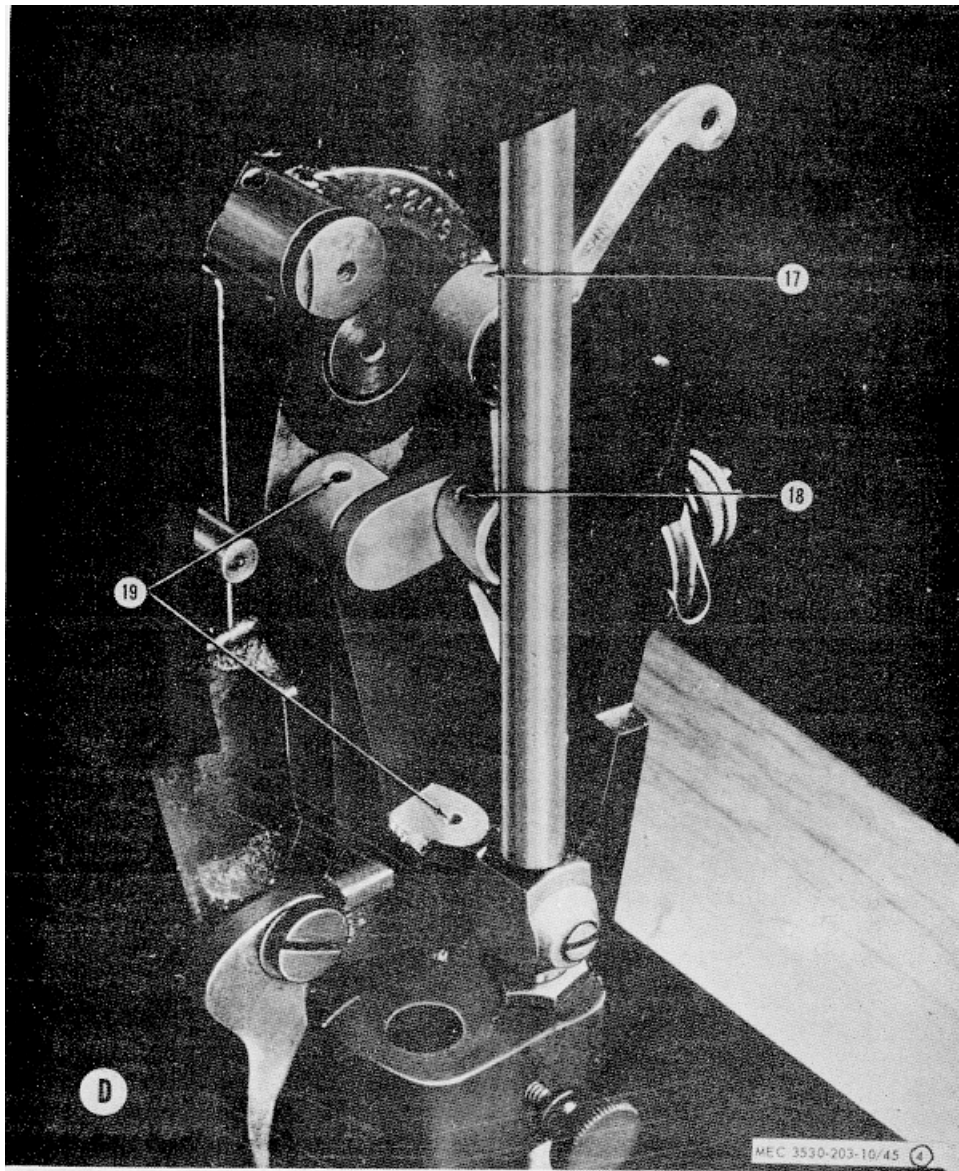


Figure 45 (4) - Continued.

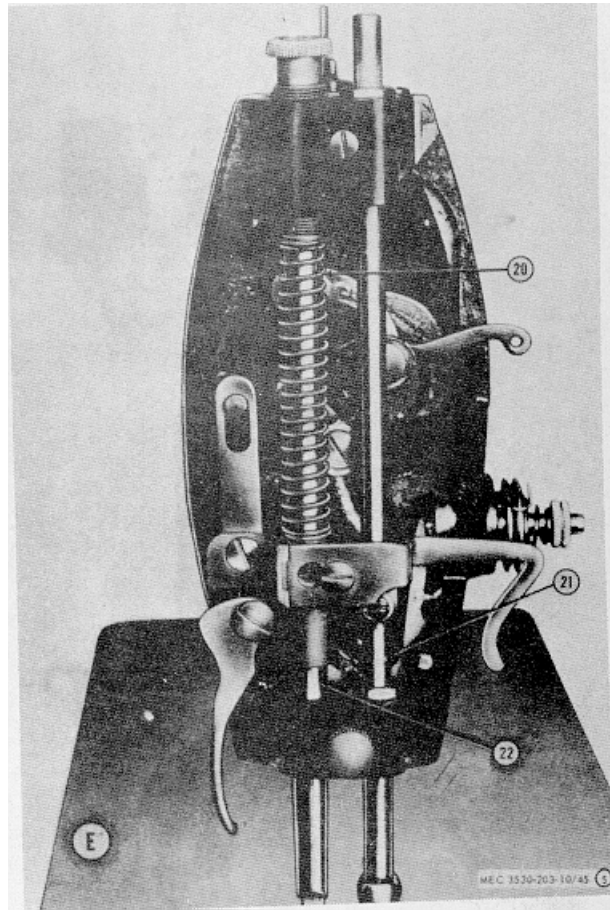


Figure 45 (5) - Continued.

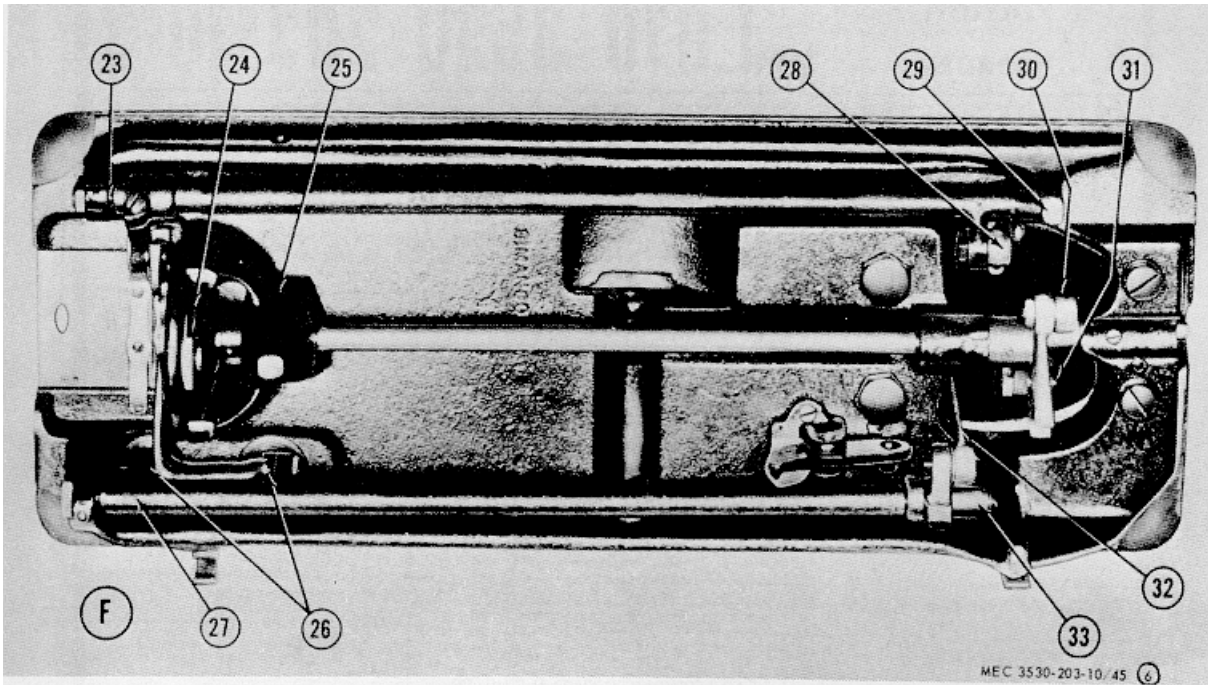


Figure 45 (6) - Continued.



**LUBRICATION  
ORDER**

**L010-3530-203-10-3**

**CLOTHING, REPAIR SHOP, TRAILER MTD, ARMY MODEL SPV34,  
YORK ASTRO MODEL D8700337, TEXTILE REPAIR SHOP,  
TRAILER MTD, ARMY MODEL SPV35, YORK ASTRO  
MODEL D8700447, MACHINE, SEWING, DARNING  
SINGER MODEL 47W70**

Reference LO 10-3530-203-10-1 and 2, C9100-IL

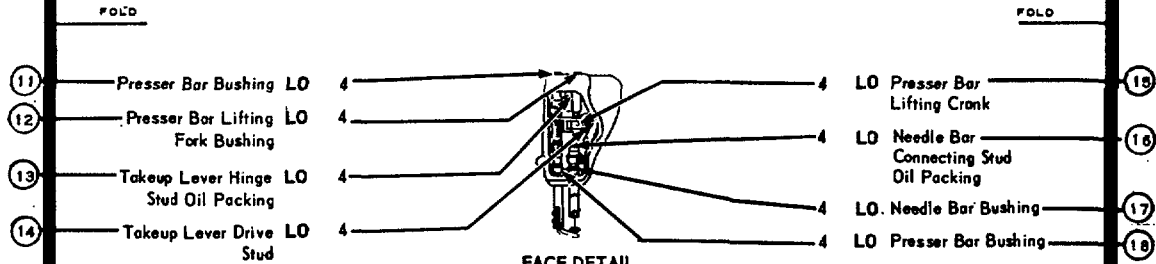
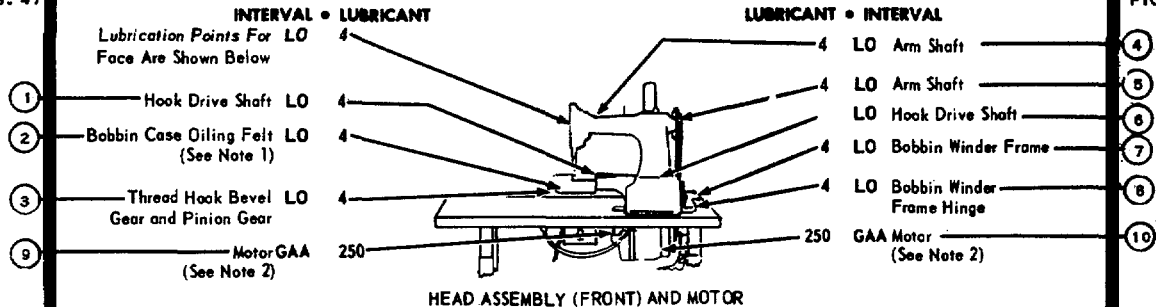
Intervals are based on normal hours of operations. Reduce to compensate for abnormal operations and severe conditions. During inactive periods sufficient lubrication must be performed for adequate preservation.

Clean parts with SOLVENT drycleaning. Dry before lubricating.

Apply two to three drops of LO at each friction point unless otherwise noted.

FIG. 47

FIG. 47



- KEY -

LUBRICANTS	EXPECTED TEMPERATURES	INTERVALS
LO. Lubricating Oil, General Purpose	all temperatures	Intervals given are in hours of normal operation.
GAA. Grease, Automotive and Artillery	all temperatures	

**NOTES:**

1. **BOBBIN CASE OILING FELT.** Keep felt pad on the side of the bobbin case to lubricate the hook race. When this pad is wet with oil it appears nearly black; when it appears light green it is dry. Check pad for oil each time a bobbin is replaced and oil if necessary.

2. **MOTOR.** Lubricate oil points with two or three drops of LO every 4 hours. Fill grease cups as necessary with GAA grease. Turn grease cups clockwise three turns every 250 hours.

Copy of this Lubrication Order will remain with the equipment at all times; instructions contained herein are mandatory.

**BY ORDER OF THE  
SECRETARY OF THE ARMY:**  
  
HAROLD K. JOHNSON,  
General, United States Army,  
Chief of Staff.

**OFFICIAL:**  
J. C. LAMBERT,  
Major General, United States Army,  
The Adjutant General.

MEC 3530-203-10/46

Figure 46. Lubrication Order 10-353 0-203-10-3 for darning machine.

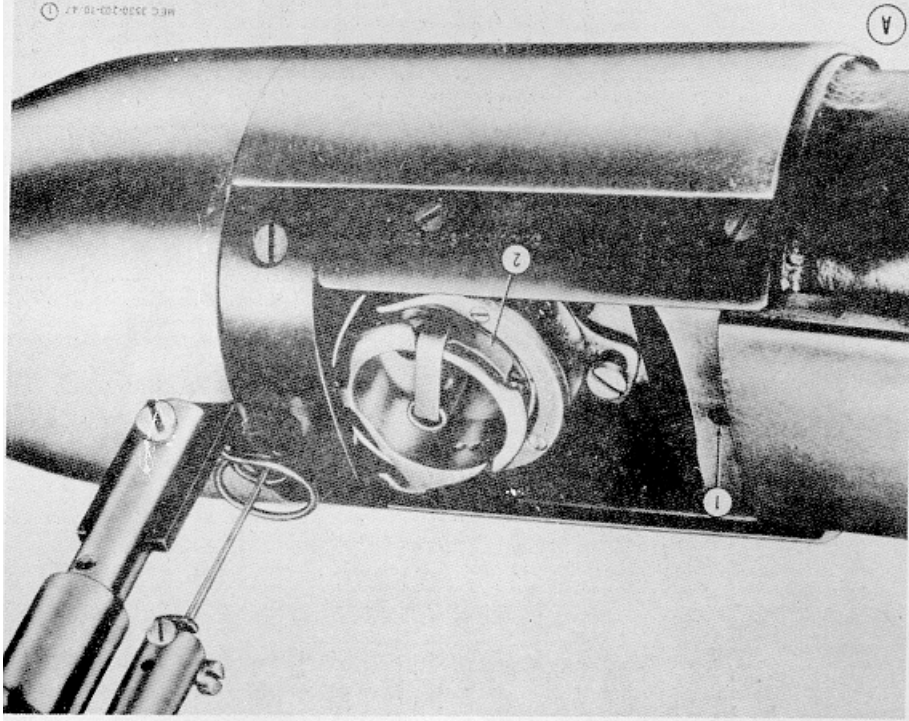


Figure 47 (1). Lubrication ,points on darning machine.

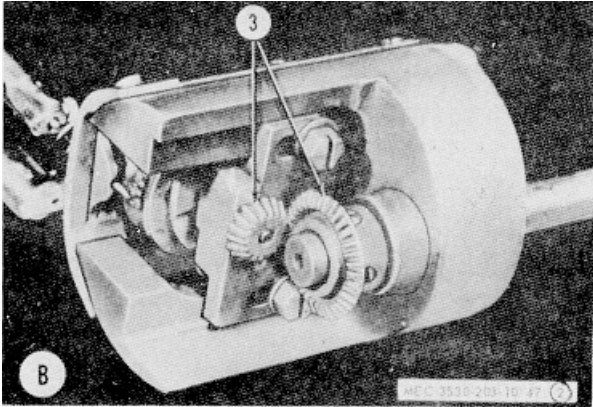


Figure 47 (2) - Continued.

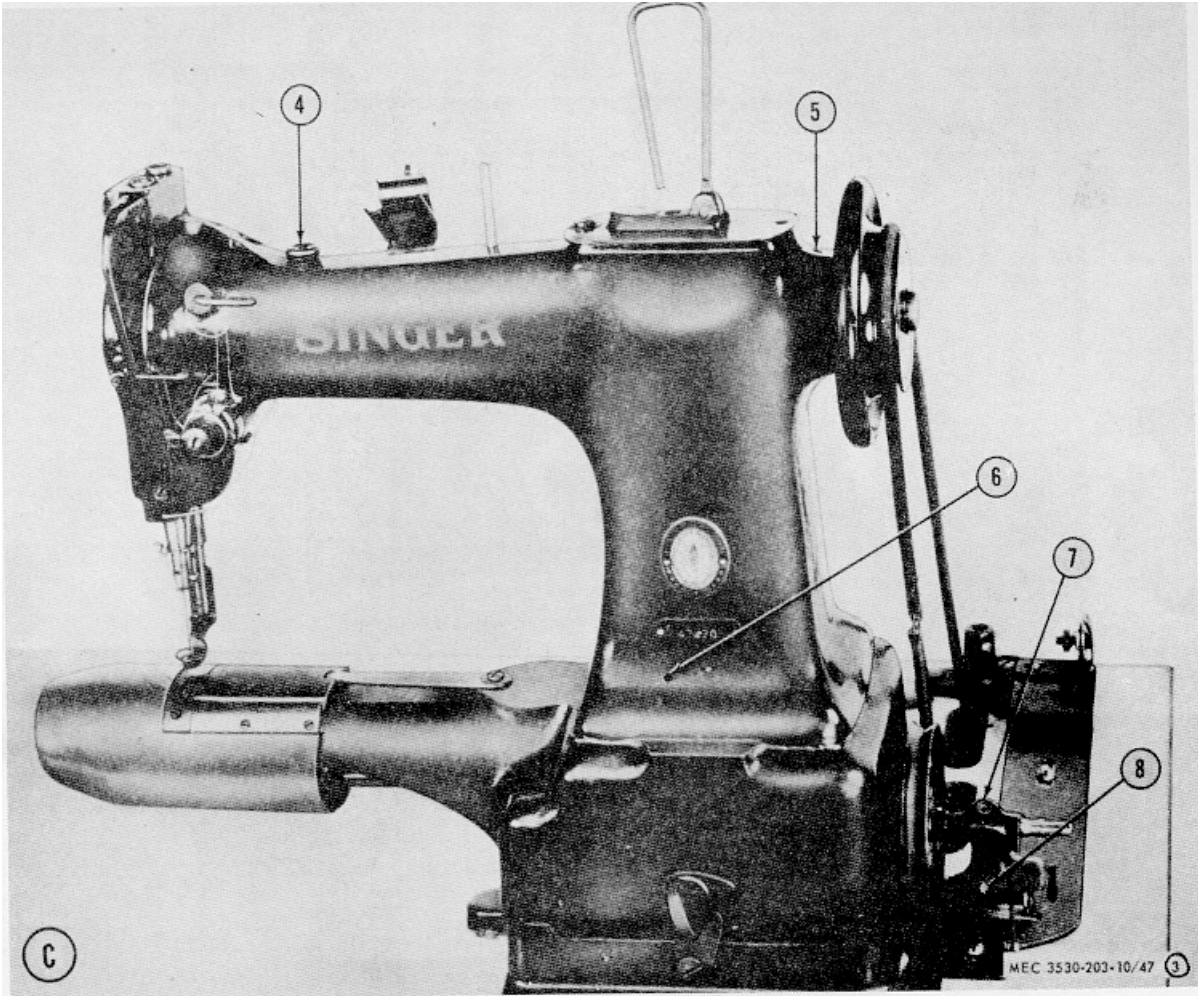


Figure 47 (3) - Continued.

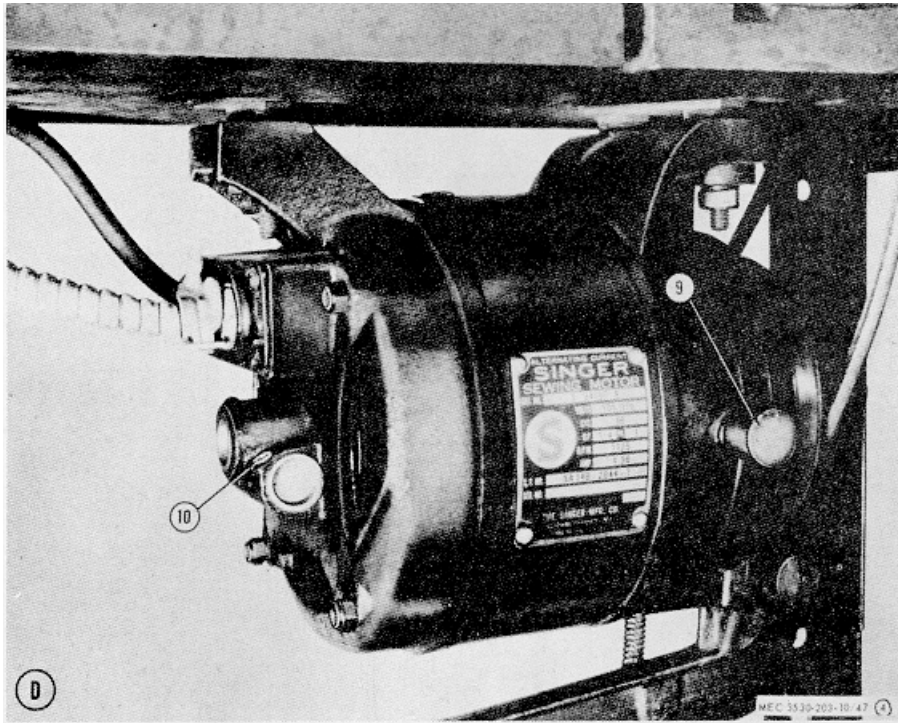


Figure 47 (4) - Continued.

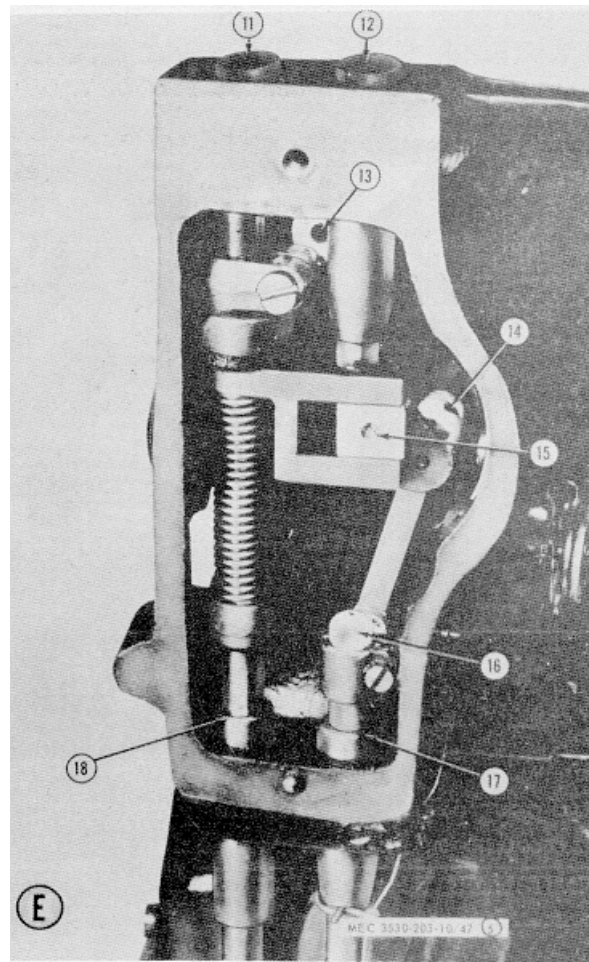


Figure 47 (5) - Continued.

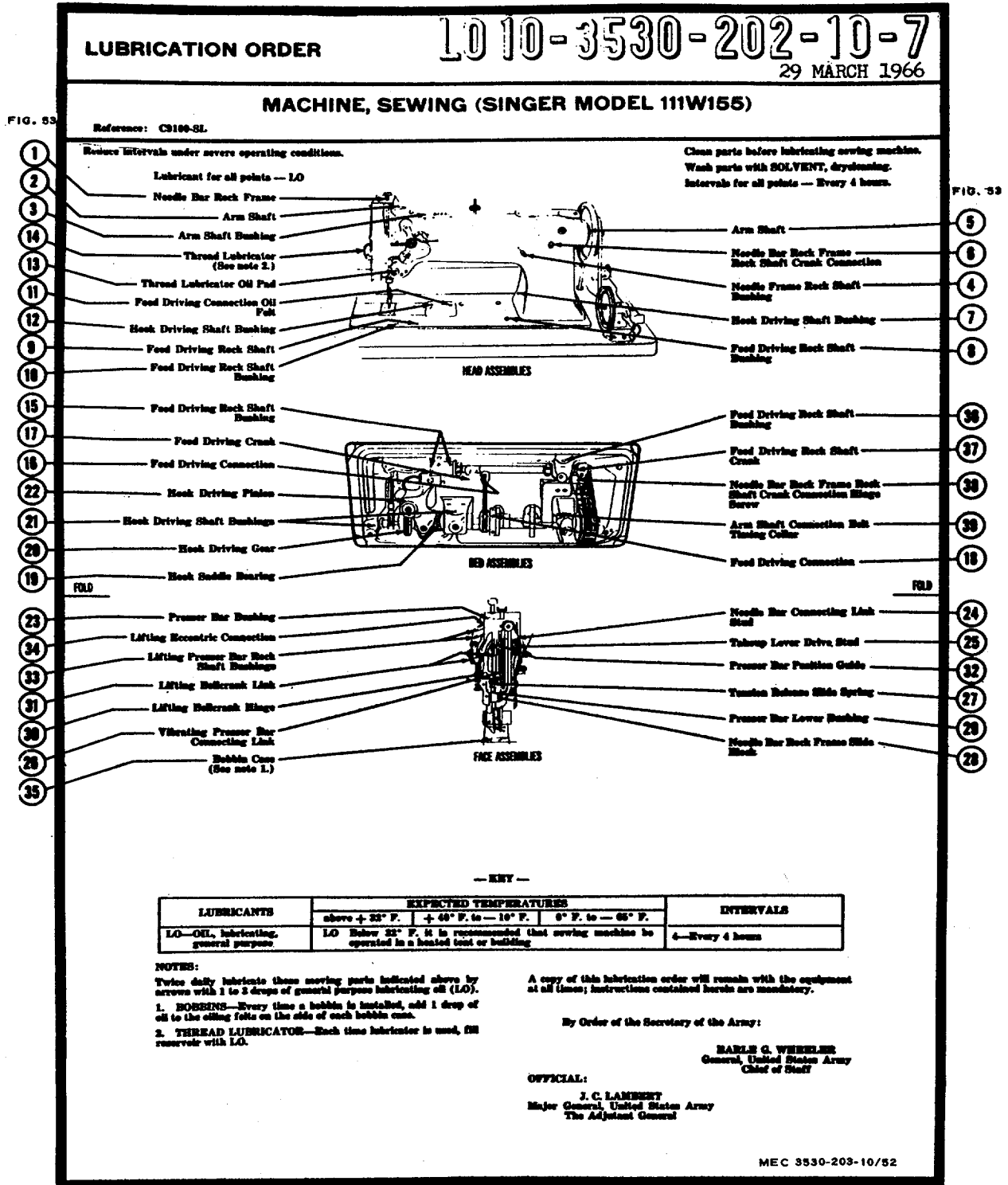


Figure 48. Lubrication Order 10-3530-202-10 for heavy-duty sewing machines.

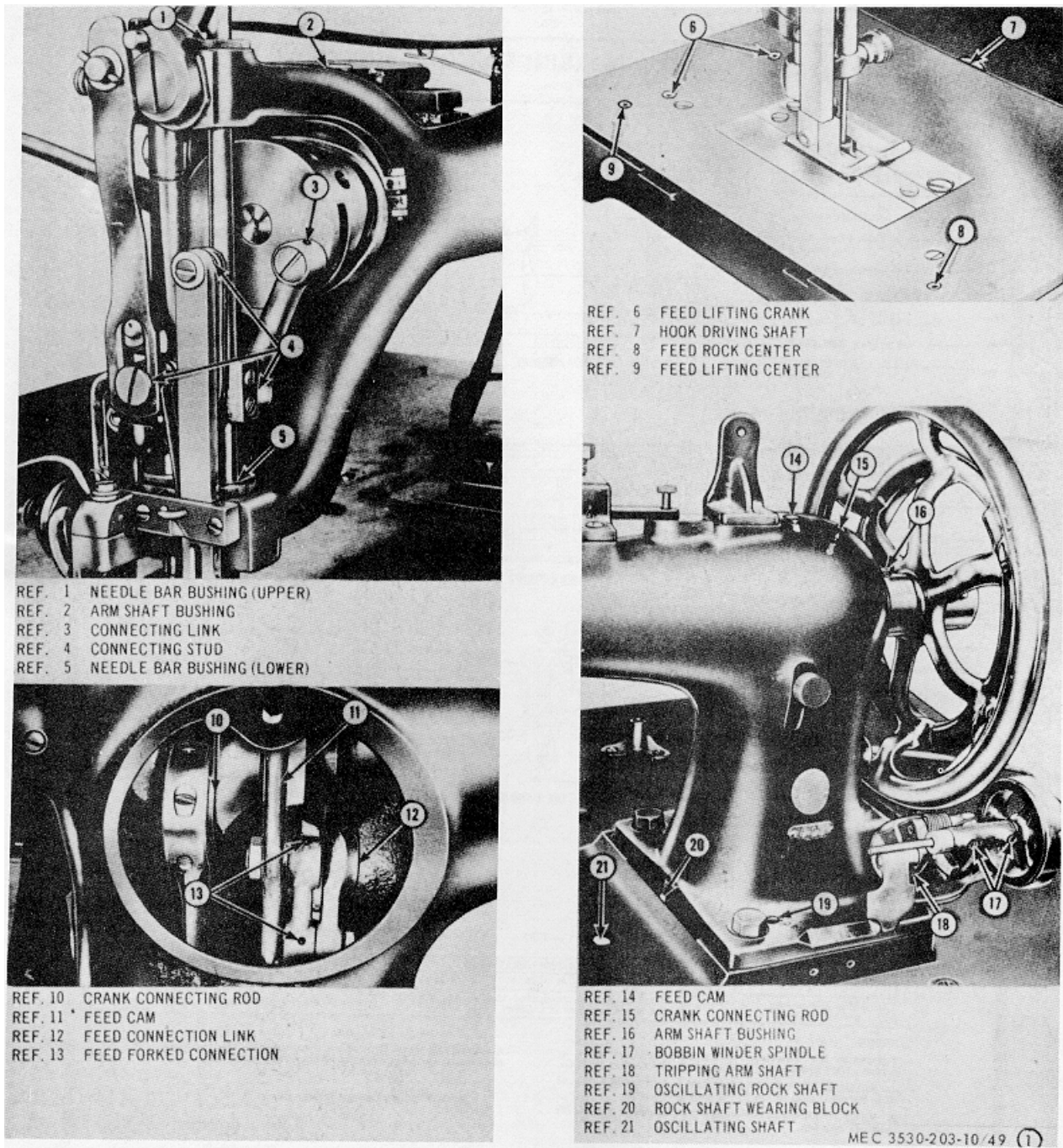
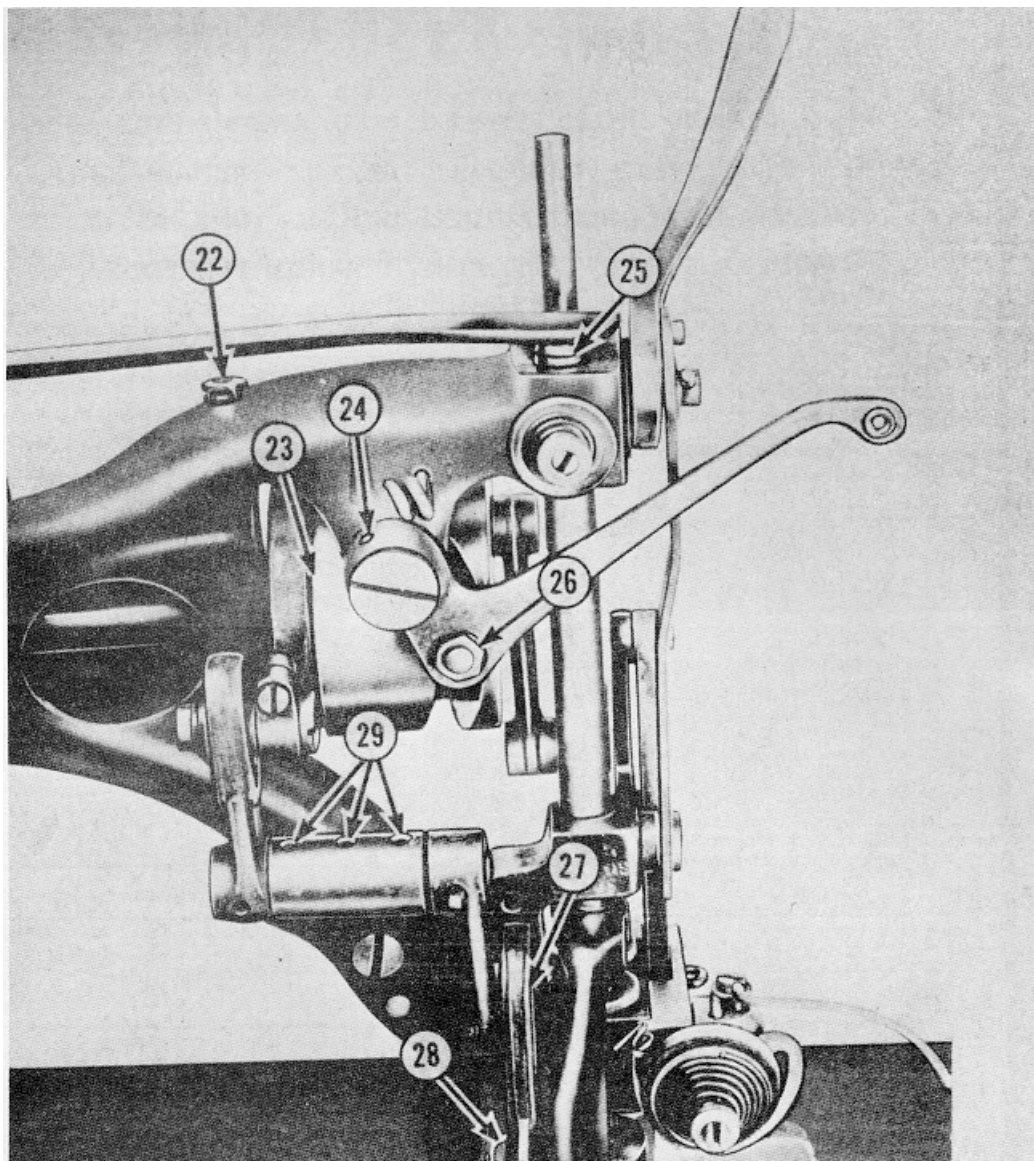


Figure 49. Lubrication points on heavy-duty sewing machines.



- REF. 22 ARM SHAFT BUSHING
- REF. 23 ECCENTRIC STRAP
- REF. 24 LEVER HINGE SCREW
- REF. 25 PRESSER BAR SLEEVE
- REF. 26 LEVER ROLLER AND CAM GROOVE
- REF. 27 CRANK ROLLER
- REF. 28 BELLCRANK SLIDE BLOCK
- REF. 29 ROCK SHAFT BUSHING

MEC 3530-203-10/49 (2)

Figure 49 -- Continued.



**LUBRICATION  
ORDER**

**L010-3530-203-10-4**

**CLOTHING, REPAIR SHOP, TRAILER MTD, ARMY MODEL SPV34,  
YORK ASTRO MODEL D8700337, TEXTILE REPAIR SHOP,  
TRAILER MTD, ARMY MODEL SPV35, YORK ASTRO  
MODEL D8700477, MACHINE, SEWING, OVEREDGE,**

**SINGER MODEL 246-15**

Reference: C9100-1L

Intervals are based on normal eight hour day of continuous operation. Reduce intervals for abnormal conditions. During inactive periods, sufficient lubrication must be performed for adequate preservation.

Clean parts with SOLVENT drycleaning. Dry before lubricating.

Apply two to three drops of LO at each friction point unless otherwise noted.

Fig. 52

1

LUBRICANT • INTERVAL

Oil Drain  
(See Note 1)

100

INTERVAL • LUBRICANT

4 LO Oil Filler Cap  
(See Note 1)

4 Oil Sight Gage  
(See Note 1)

250 LO Motor

250 GAA Motor  
(See Note 2)

Fig. 52

2

3

4

5

FOLD

FOLD

— KEY —

LUBRICANTS	EXPECTED TEMPERATURES	INTERVALS
LO-Lubricating Oil, General Purpose	All Temperatures	Intervals given are in hours of normal operation
GAA-Grease, Automotive and artillery	All Temperatures	

**NOTES:**

1. OIL SIGHT GAGE—Every 4 hours, check the oil sight gage and maintain the oil level at the midpoint of the gage. Drain oil reservoir once every 100 hours and refill with fresh oil. Drain oil by tilting machine.

2. MOTOR—Every 250 hours, lubricate oil point with two to three drops of LO. Turn grease cup clockwise three turns. Fill grease cup as necessary.

A copy of this lubrication order will remain with the equipment at all times; instructions contained herein are mandatory.

By Order of the Secretary of the Army:

HAROLD K. JOHNSON  
General, United States Army  
Chief of Staff

OFFICIAL:

J. C. LAMBERT  
Major General, United States Army  
The Adjutant General

MEC 3530-203-10/50

Figure 50. Lubrication Order 1035S0-203-10-4 for overedge sewing machine.

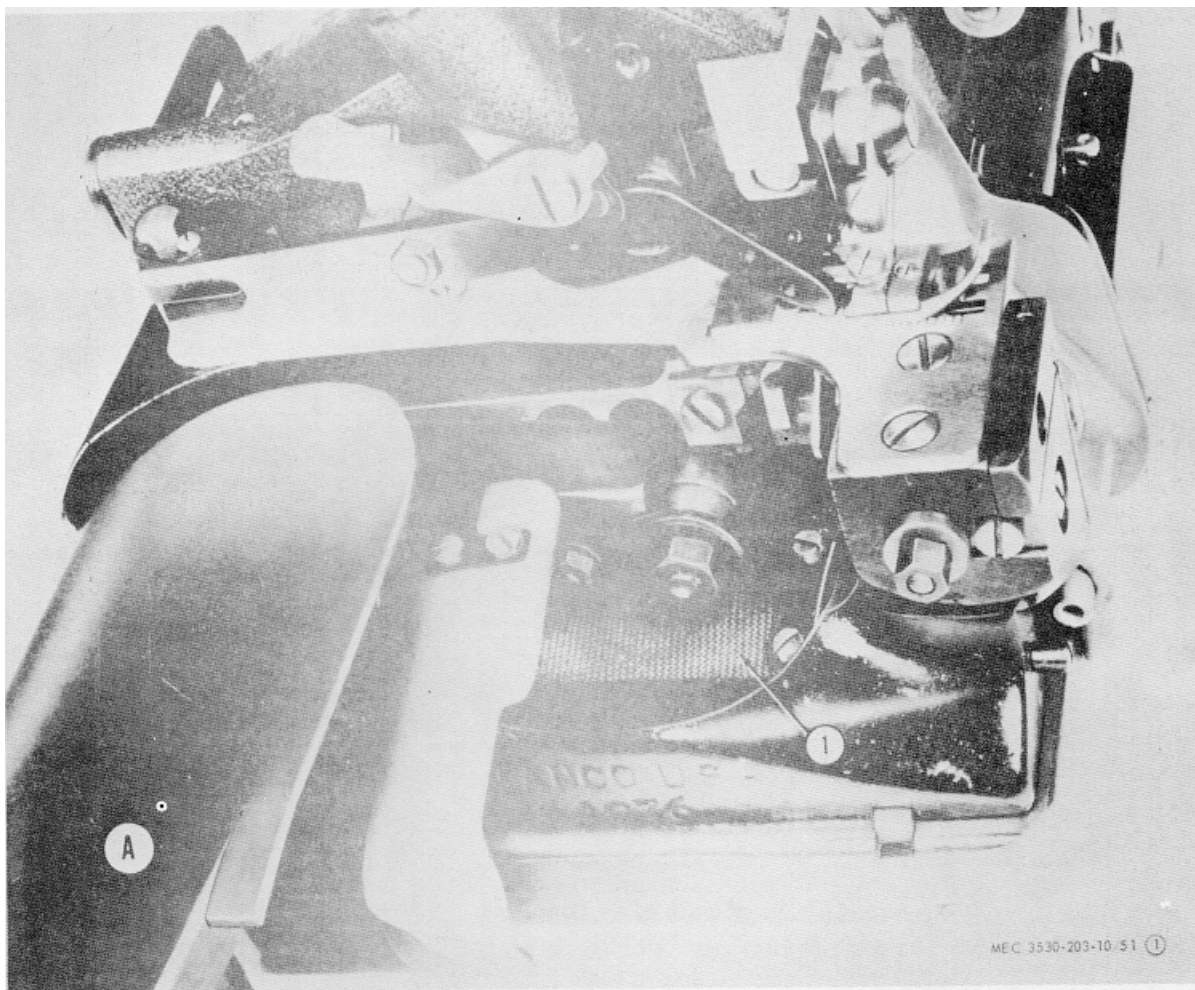


Figure 51. Lubrication points on overedge sewing machine.

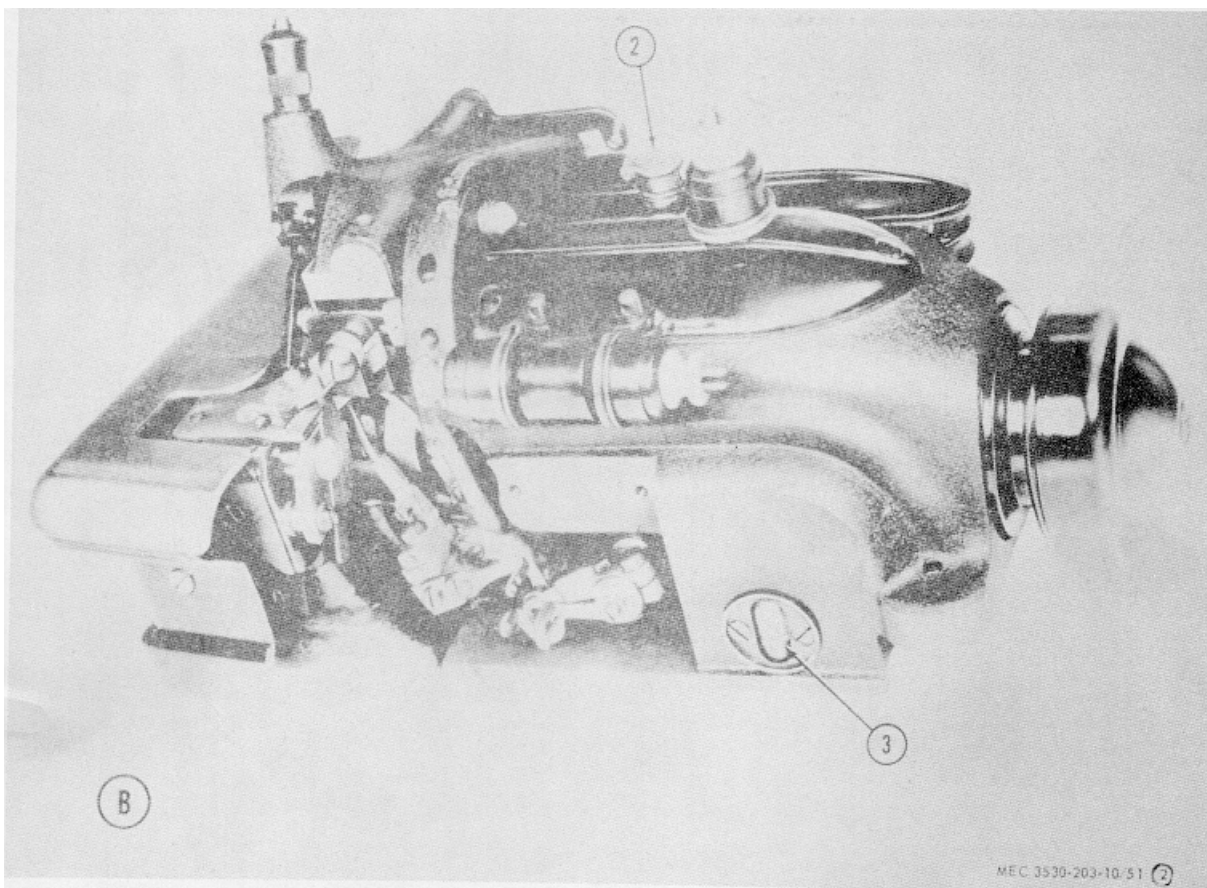


Figure 51 -- Continued.

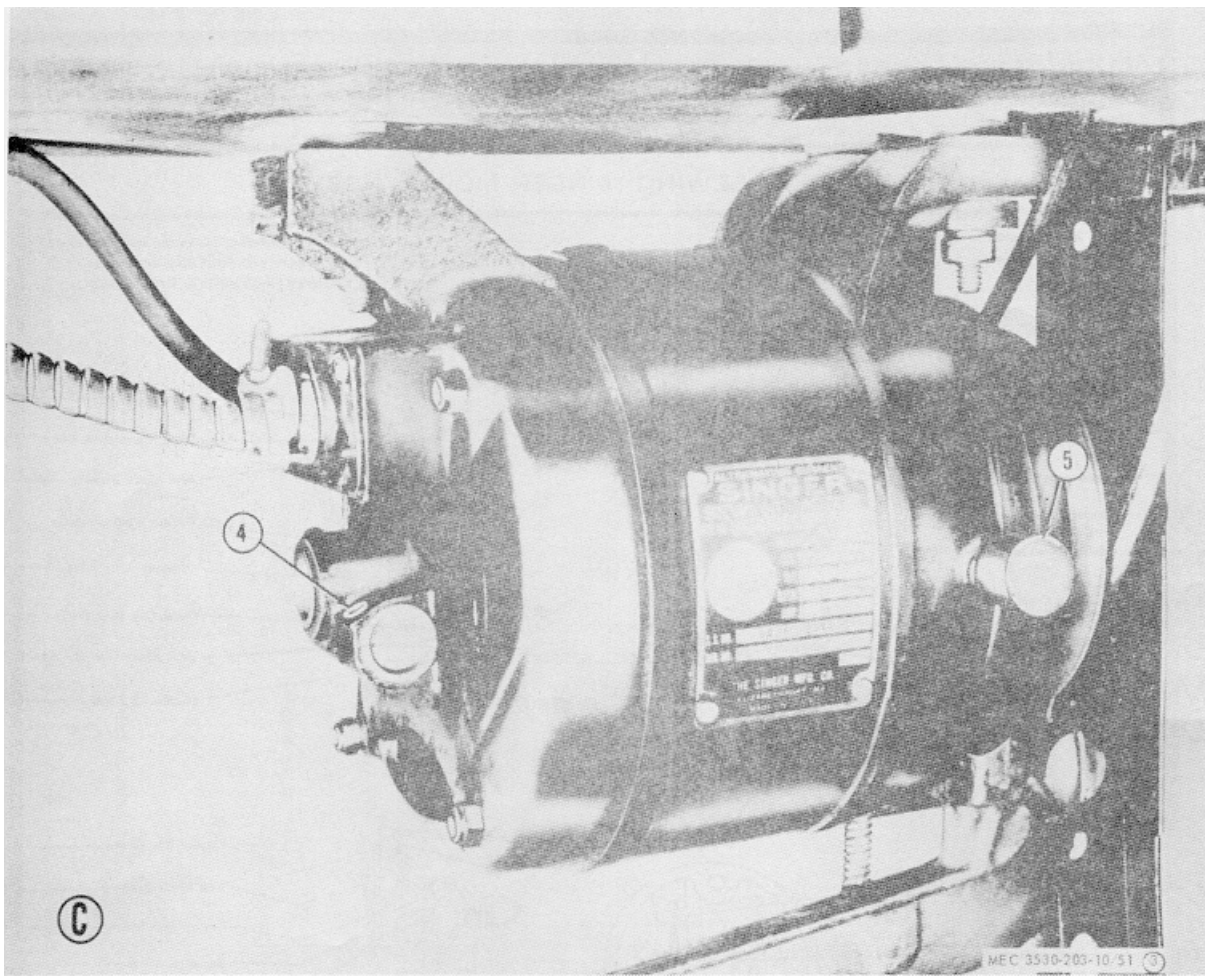


Figure 51—Continued

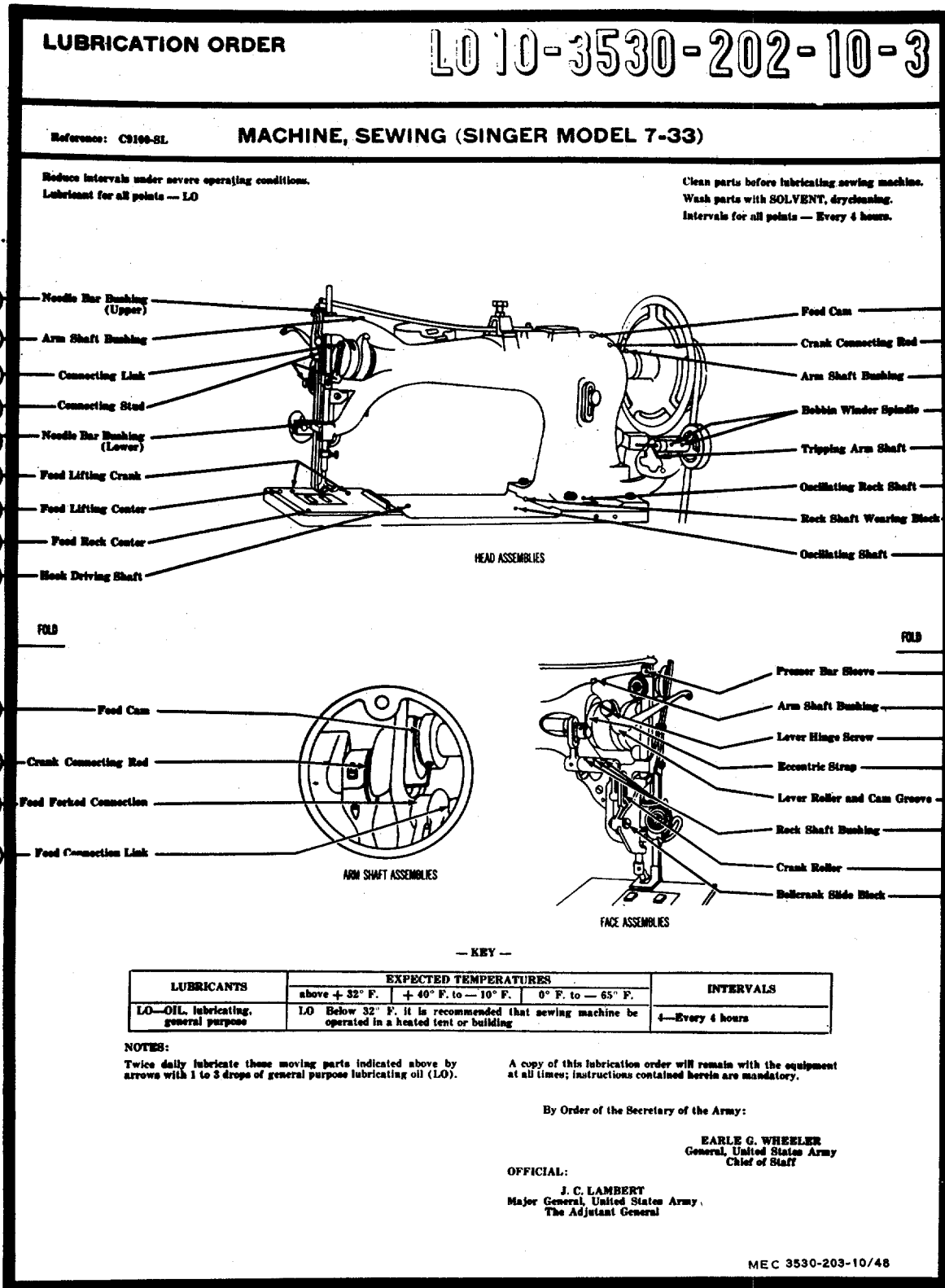
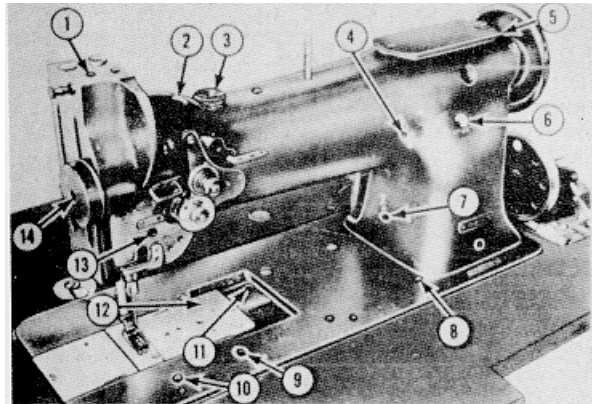
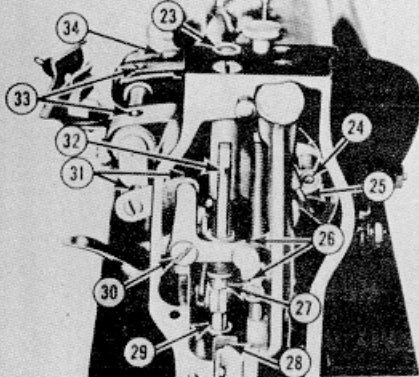


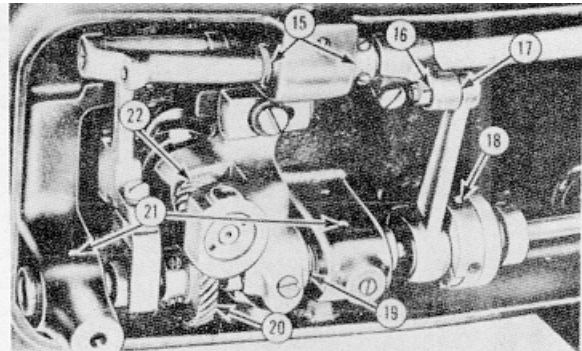
Figure 52. Lubrication Order 10-3530-202--10-7 for textile sewing machine.



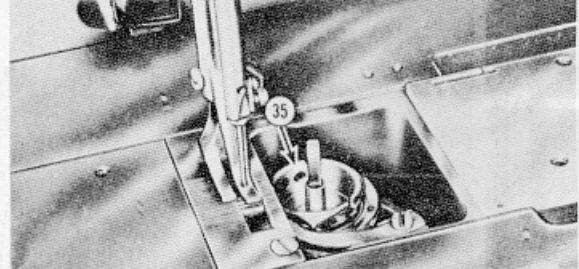
- REF. 1 NEEDLE BAR ROCK FRAME
- REF. 2 ARM SHAFT
- REF. 3 ARM SHAFT BUSHING
- REF. 4 NEEDLE FRAME ROCK SHAFT BUSHING
- REF. 5 ARM SHAFT
- REF. 6 NEEDLE BAR ROCK FRAME ROCK SHAFT CRANK CONNECTION
- REF. 7 HOOK DRIVING SHAFT BUSHING
- REF. 8 FEED DRIVING ROCK SHAFT BUSHING
- REF. 9 FEED DRIVING ROCK SHAFT
- REF. 10 FEED DRIVING ROCK SHAFT BUSHING
- REF. 11 FEED DRIVING CONNECTION OIL FELT
- REF. 12 HOOK DRIVING SHAFT BUSHING
- REF. 13 THREAD LUBRICATOR OIL PAD
- REF. 14 THREAD LUBRICATOR



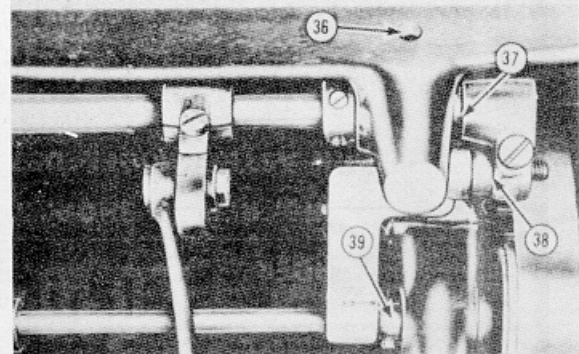
- REF. 23 PRESSER BAR BUSHING
- REF. 24 NEEDLE BAR CONNECTING LINK STUD
- REF. 25 TAKEUP LEVER DRIVE STUD
- REF. 26 VIBRATING PRESSER BAR CONNECTING LINK
- REF. 27 TENSION RELEASE SLIDE SPRING
- REF. 28 NEEDLE BAR ROCK FRAME SLIDE BLOCK
- REF. 29 PRESSER BAR LOWER BUSHING
- REF. 30 LIFTING BELLCRANK HINGE
- REF. 31 LIFTING BELLCRANK LINK
- REF. 32 PRESSER BAR POSITION GUIDE
- REF. 33 LIFTING PRESSER BAR ROCK SHAFT BUSHINGS
- REF. 34 LIFTING ECCENTRIC CONNECTION



- REF. 15 FEED DRIVING ROCK SHAFT BUSHING
- REF. 16 FEED DRIVING CONNECTION
- REF. 17 FEED DRIVING CRANK
- REF. 18 FEED DRIVING CONNECTION
- REF. 19 HOOK SADDLE BEARING
- REF. 20 HOOK DRIVING GEAR
- REF. 21 HOOK DRIVING SHAFT BUSHINGS
- REF. 22 HOOK DRIVING PINION



- REF. 35 BOBBIN CASE



- REF. 36 FEED DRIVING ROCK SHAFT BUSHING
- REF. 37 FEED DRIVING ROCK SHAFT CRANK
- REF. 38 NEEDLE BAR ROCK FRAME ROCK SHAFT CRANK CONNECTION HINGE SCREW
- REF. 39 ARM SHAFT CONNECTION BELT TIMING COLLAR

MEC 3530-203-10 53

Figure 53. Lubrication points on textile sewing machine.

**LUBRICATION ORDER**

1010-3530-202-10-8

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COMPONENTS COMMON TO SINGER MODELS 112W116, 131W113,  
17W15, 55-5, AND 111W155

Reference: C9100-SL.

Reduce intervals under severe operating conditions.  
Lubricant for all points — I.O.

Clean parts before lubricating components.  
Wash parts with SOLVENT, drycleaning.  
Intervals for all points — Every 4 hours.

FIG. 55

MOTOR AND CLUTCH ASSEMBLY

FOLD

BOBBIN WINDER

FOLD

— KEY —

LUBRICANTS	EXPECTED TEMPERATURES			INTERVALS
	above + 32° F.	+ 40° F. to - 10° F.	0° F. to - 65° F.	
I.O.—Oil, lubricating, general purpose	I.O.	Below 32° F. it is recommended that sewing machines be operated in a heated tent or building		4—Every 4 hours

**NOTES:**

Twice daily lubricate those moving parts indicated above by arrows with 1 to 3 drops of general purpose lubricating oil (I.O).

1. CLUTCH SHAFT—Every month, lubricate clutch shaft with 3 to 5 drops of I.O.

A copy of this lubrication order will remain with the equipment at all times; instructions contained herein are mandatory.

By Order of the Secretary of the Army:

**EARLE G. WHEELER**  
General, United States Army  
Chief of Staff

OFFICIAL:

**J. C. LAMBERT**  
Major General, United States Army  
The Adjutant General

MEC 3530-203-10/54

Figure 54. Lubrication Order 10--3530-202-10-8 for components common to textile sewing machine.

92

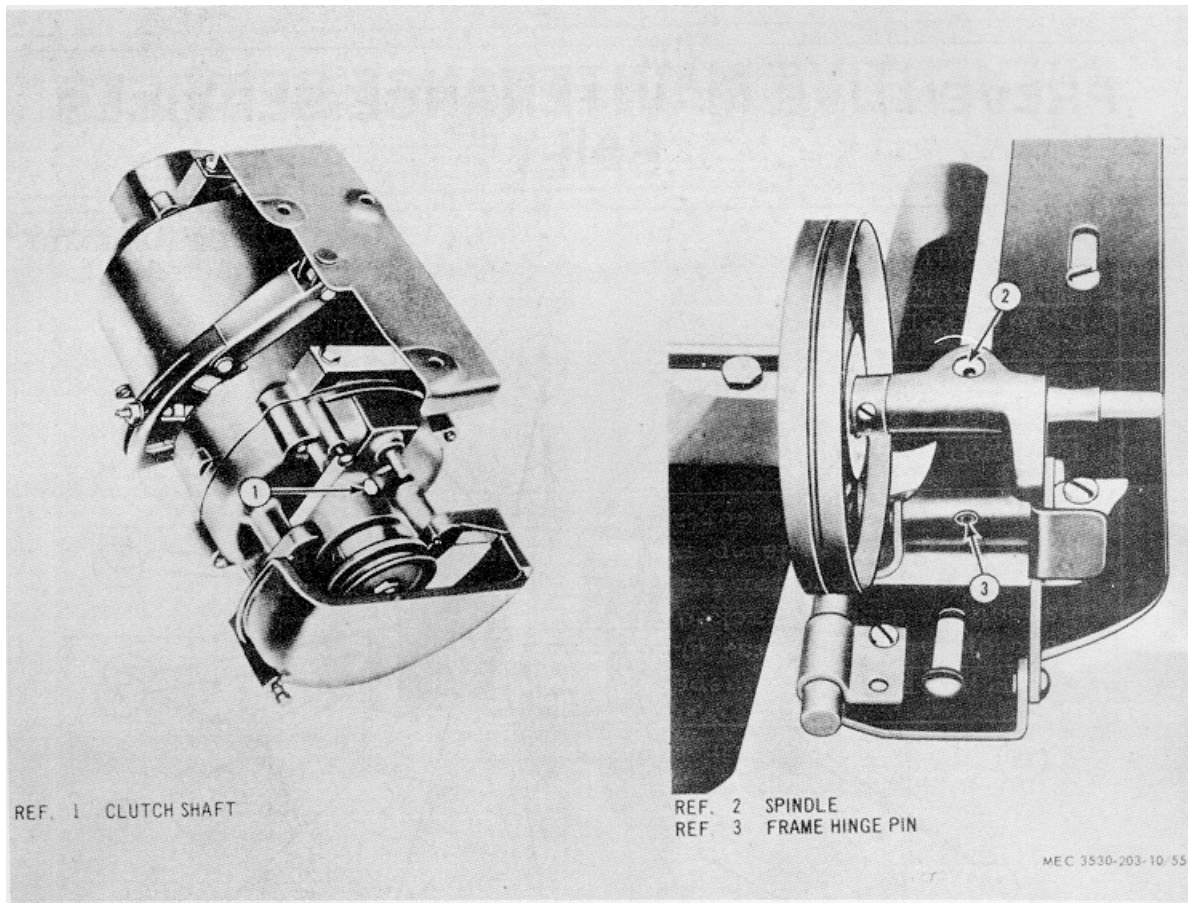


Figure 55. Lubrication points on components common to textile sewing machine.

### Section III. PREVENTIVE MAINTENANCE SERVICES

#### 55. General

To insure that the textile repair shop is ready for operation at all times, its components must be inspected systematically so that defects may be discovered and corrected before they result in serious damage or failure. The necessary preventive maintenance services to be performed are listed and described in paragraph 56. The item numbers indicate the sequence of minimum inspection requirements. Defects discovered during operation of the components of the textile repair shop shall be noted for future correction, to be made as soon as the operation has ceased. Stop operation immediately if a deficiency is noticed which would damage the equipment if operation

were continued. All deficiencies and shortcomings, together with the corrective action taken, will be recorded on DA Form 2404 (Equipment Inspection and Maintenance Worksheet) at the earliest possible opportunity.

#### 56. Daily Preventive Maintenance Services

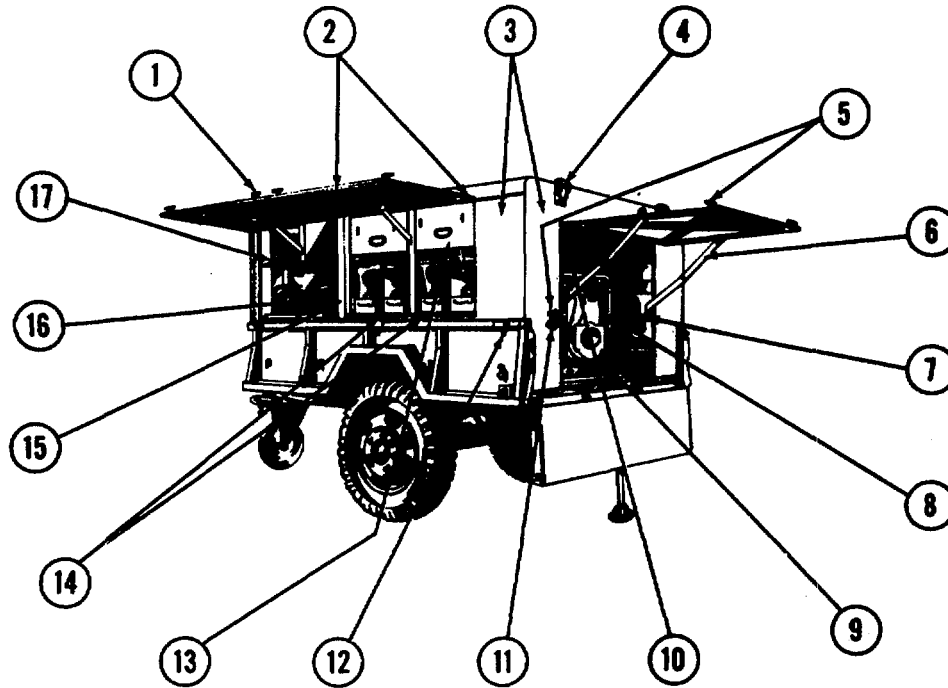
This paragraph contains an illustrated tabulated listing of preventive maintenance services for the components of the textile repair shop (figs. 56-63) which must be performed by the operator. Refer to the daily preventive maintenance services for the generator set in TM 5-6115-271-12 and the cargo trailer in TM 9-2330-213-14.



# PREVENTIVE MAINTENANCE SERVICES DAILY

TM 10-3530-203-10

CABINET ASSEMBLY



ITEM

PAR  
REF

- |   |   |  |
|---|---|--|
| 1 | <p><b>FOLDING HANDLE LOCKS.</b> Inspect the folding handle locks for bent, broken, or loose handles; for loose or missing nuts and screws; and for loose mounting. Check the operation of the handles to see that they unlock and lock the doors. Make certain the handles will fold into the lock wells.</p> |  |
|---|---|--|

MEC 3530-203-10/56 ①

*Figure 56. Daily preventive maintenance services for cabinet assembly.*

ITEM		PAR REF
2	<p><u>DOORS'AND HINGES.</u> Inspect the rear and side doors for dirty, cut, broken, or dented surface ; for broken welds; and for deteriorated gasket. Inspect for bent, broken, or loose door hinges. deteriorated gasket. Inspect for bent, broken, or loose door Inspect the hinges for loose or missing rivets and binding. Make certain the door is not jammed and will open and close without mechanical binding.</p>	
3	<p><u>PANELS.</u> Inspect the panels for dirty, cut, broken, or dented surfaces; for broken welds; for loose or missing rivets; and for loose mounting.</p>	
4	<p><u>LIFTING LOOP ASSEMBLIES.</u> Inspect the lifting loop assemblies for bent cracked, or, broken lifting loops, lifting loop plates, and spring clips; for loose or missing nuts and screws ; for broken welds; and for' loose mounting</p>	
5	<p><u>DOOR AND PANEL LOCKING LATCHES.</u> Inspect for bent or broken door or panel latches. Inspect the latches for binding, broken welds, loose mounting, and improper alinement of door latches with panel latches.</p>	
6	<p><u>DOOR STAYS.</u> Inspect for bent or broken rear and side door stays. Inspect the stays for loose or missing rivets, mechanical binding, and loose mounting. Make certain the stays will lock and door in the open position.</p>	
7	<p><u>CHAIR HOLDDOWN STRAP ASSEMBLIES.</u> Inspect the chair hold-down strap assemblies for cracked, broken, loose, or missing footman loops; for loose or missing, screws; for cut, torn, or frayed webbing straps; for broken or loose buckles; and for loose mounting. Make certain the straps hold the chairs securely in position.</p>	
8	<p><u>FIRE EXTINGUISHER AND BRACKET.</u> Inspect the fire extinguisher for broken seal and for bent or broken nozzle. Inspect the bracket for bent or broken frame and locking latch, and for loose mounting.</p>	

MEC 3530-203-10/56 ②

Figure 56 - Continued.

ITEM		PAR REF
9	<p><u>GENERATOR HOLDDOWN ASSEMBLY.</u> Inspect the generator hold-down assembly for cracked, bent, or broken tracks, stops, and holddowns; for broken welds; for bent, broken loose, or missing wing screws; for stripped threads on the wing screws and in the holddown clips; and for loose mounting.</p>	
10	<p><u>TABLE ASSEMBLY SLIDES.</u> Inspect the table assembly slides for broken welds and for torn, excessively worn, loose, or missing felt.</p>	
11	<p><u>PADLOCKS.</u> Inspect for bent, broken, or missing brass padlocks. Make certain the padlocks lock the door latches to the panel latches, and that the padlock keys are not missing, bent, or broken. See that the padlocks open and close without mechanical binding</p>	
12	<p><u>HOLDDOWN CLAMP ASSEMBLIES.</u> Inspect the holddown clamp assemblies for cracked, broken, loose, or missing clamp plates and arms, and for loose mounting. Inspect the capscrews for stripped threads and loose or missing retaining pins. Make certain the holddown clamp assemblies lock the cabinet assembly securely to the trailer.</p>	
13	<p><u>STOWAGE BOXES.</u> Inspect the stowage boxes for dirty, cut, dented, and broken surfaces; for loose or missing rivets; and for bent, broken, or loose handles, hooks, latches, and hinges. Make certain the hooks and latches will open and lock, and the hinges will operate without mechanical binding.</p>	
14	<p><u>SEWING MACHINE TRAY ASSEMBLIES.</u> Inspect the tray assemblies for chipped, cracked, or broken wood; for bent or broken straps and tray pulls; for broken, loose, or missing tray stops and strikes; for loose or missing screws; for stripped threads in thumbscrews; and for mechanical binding of strap hinges. Inspect for excessively worn, torn, loose, or missing felt, and for excessively worn or deteriorated rubber on the bumpers.</p>	

MEC 3530-203-10/56 ③

Figure 56 - Continued.

ITEM		PAR REF
15	FRAMEWORK. Inspect for cracked, broken, or bent framework. Inspect the framework for broken welds and loose mounting.	
16	FOLDING STAND HOLDDOWN STRAP ASSEMBLIES. Inspect the sewing machine folding stand holddown strap assemblies for cracked, broken, loose, or missing loops; for loose or missing screws; for cut, torn, or frayed webbing straps; for broken or loose strap buckles; and for loose mounting. Make certain the straps hold the sewing machine stands securely in position.	
17	TABLE ASSEMBLY SLIDES. Inspect the sewing machine table assembly slides for broken welds and excessively worn, torn, loose, or missing felt .	

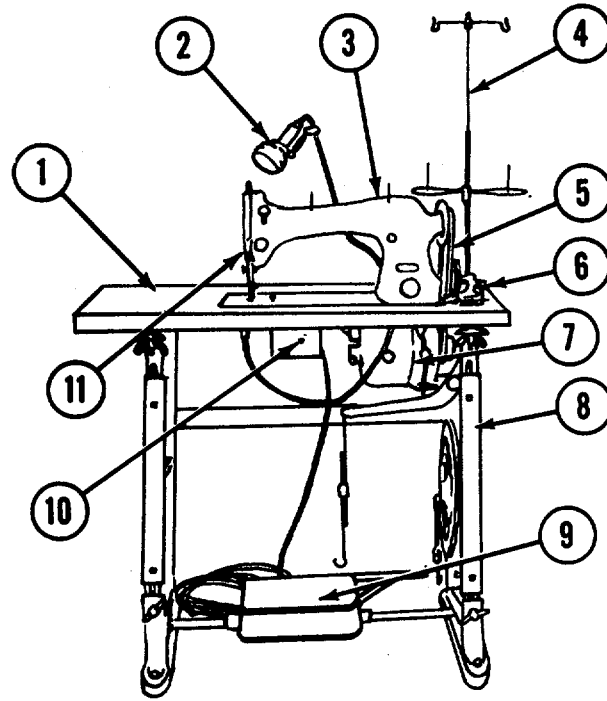
MEC 3530203-10/56 ④

Figure 56 - Continued

# PREVENTIVE MAINTENANCE SERVICES DAILY

TM 10-3530-203-10

MACHINE, SEWING, CLOTHING



LUBRICATE IN ACCORDANCE WITH CURRENT LUBRICATION ORDER

ITEM	PAR REF
1	<p><b>TABLE ASSEMBLY.</b> Inspect the table assembly for cut, cracked, broken, warped, and dirty tabletop; for loose or missing bolts and nuts; and for loose mounting to the folding stand. Make certain the table assembly is level. Inspect for bent or broken components. Inspect the components for loose or missing bolts and nuts, and for loose mounting to the table assembly.</p>

MEC 3530-203-10/57 (1)

Figure 57. Daily preventive maintenance services for clothing sewing machine.

ITEM		PAR REF
2	<u>LAMP ASSEMBLY.</u> Inspect the lamp assembly and bracket for loose or missing bolts, nuts, and screws, and loose mounting. Inspect for dirty, cracked, or broken housing and lens. Inspect the electrical cord for frayed insulation and broken wiring. Inspect for a broken lamp switch. Check the switch for improper operation, and make certain the lamp (bulb) is not burned out.	
3	<u>CLOTHING MACHINE HEAD.</u> Inspect the clothing machine head for dirty surfaces and grease deposits; for bent, broken, or missing components; and for loose mounting. Inspect the needle for broken or excessively worn point; for bent or broken shaft; and for loose mounting. Make certain the needle is installed with the long groove to the operator's left.	
4	<u>THREAD UNWINDER.</u> Inspect the thread unwinder for loose or missing bolts, nuts, and screws; for bent or broken components; and for loose mounting.	
5	<u>DRIVE BELT AND PULLEYS.</u> Inspect for broken, frayed, and excessively worn drive belt. Inspect the belt for loose mounting on the pulleys. Inspect the pulleys for cracked, chipped, or broken edges, and loose mounting. Check for a 1-inch distance between the sides of the belt when both sides of the belt are pressed inward midway between the pulleys.	
6	<u>BOBBIN WINDER.</u> Inspect the bobbin winder for bent, broken, loose, or missing components, and loose mounting. Inspect for excessively worn leather brake; for incorrect tension of the thread tension spring; and for improper adjustment of the pulley with the drive belt.	
7	<u>ELECTRIC MOTOR.</u> Inspect the electric motor for dirty surfaces and grease deposits; for bent, cracked, or broken housing; for loose or missing bolts and nuts; for loose electrical connections; and for loose mounting. Observe the motor for unusual noise and excessive vibration (during operation).	

Figure 57 - Continued.

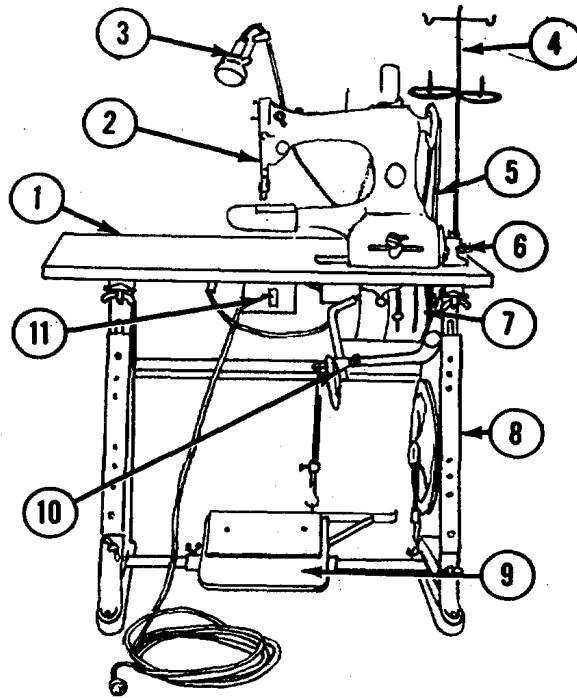
ITEM		PAR REF
8	<u>FOLDING STAND.</u> Inspect the folding stand for bent or broken components; for loose or missing bolts and nuts; and for loose mounting to the table assembly. Make certain the folding stand is level on the floor.	
9	<u>STARTING TREADLE.</u> Inspect the treadle for bent, broken, or loose components, and loose mounting. Operate the treadle to see that the pulley brake lever engages the motor drive pulley with the drive motor when the treadle is depressed. Make certain the pulley brake lever disengages the drive pulley from the motor and stops the pulley when the treadle is released (during operation).	
10	<u>MOTOR SWITCH.</u> Inspect for broken or bent motor switch. Inspect it for loose mounting in the switch box. Check the switch for improper operation; make certain it turns the motor on and off.	
11	<u>PRESSER BAR LIFTER.</u> Inspect for bent or broken presser bar lifter. Inspect the lifter for loose mounting. Make certain the lifter raises, locks, unlocks, and lowers the presser foot.	
	<u>NOTE 1. OPERATION.</u> During operation observe for any unusual noise or excessive vibration.	

Figure 57 - Continued.

# PREVENTIVE MAINTENANCE SERVICES DAILY

TM 10-3530-203-10

MACHINE, DARNING



LUBRICATE IN ACCORDANCE WITH CURRENT LUBRICATION ORDER

PAR  
REF

ITEM

- |   |   |  |
|---|---|--|
| 1 | <p><b>TABLE ASSEMBLY.</b> Inspect the table assembly for cut, cracked, broken, warped, and dirty tabletop; for loose or missing bolts and nuts; and for loose mounting to the folding stand. Make certain the table assembly is level. Inspect for bent or broken components. Inspect the components for loose or missing bolts and nuts, and for loose mounting to the table assembly.</p> |  |
|---|---|--|

MEC 3530-203-10/58 (1)

Figure 58. Daily preventive maintenance services for darning machine.



ITEM		PAR REF
2	<u>DARNING MACHINE HEAD</u> . Inspect the darning machine head for dirty surfaces and grease deposits; for bent, broken, loose, or missing components; and for loose mounting. Inspect the needle for broken or excessively worn point; for bent or broken shaft; and for loose mounting.	
3	<u>LAMP ASSEMBLY</u> . Inspect the lamp assembly and bracket for loose or missing bolts, nuts, and screws, and for loose mounting. Inspect for a dirty, cracked, or broken housing and lens. Inspect the electrical cord for frayed insulation and broken wiring. Inspect for broken lamp switch. Check the switch for improper operation, and make certain the lamp (bulb) is not burned out.	
4	<u>THREAD UNWINDER</u> . Inspect the thread unwinder for loose or missing bolts, nuts and screws; for bent or broken components; and for loose mounting.	
5	<u>DRIVE BELT AND PULLEYS</u> . Inspect for broken, frayed, and excessively worn drive belt. Inspect the belt for loose mounting on the pulleys. Inspect the pulleys for cracked, chipped, or broken edges, and for loose mounting. Check for a 3/4-inch distance between the sides of the belt when both sides of the belt are pressed inward midway between the pulleys.	
6	<u>BOBBIN WINDER</u> . Inspect the bobbin winder for bent, broken, loose, or missing components, and for loose mounting. Inspect for excessively worn leather brake; for incorrect tension of the thread tension spring; and for improper adjustment of the pulley with the drive belt.	
7	<u>ELECTRIC MOTOR</u> . Inspect the electric motor for dirty surfaces and grease deposits; for bent, cracked, or broken housing; for loose or missing bolts and nuts; for loose electrical connections; and for loose mounting. Observe the motor for unusual noise and excessive vibration (during operation).	

Figure 58 - Continued.

ITEM		PAR REF
8	<p><u>FOLDING STAND.</u> Inspect the folding stand for bent or broken components; for loose or missing bolts and nuts; and for loose mounting to the table assembly. Make certain the folding stand is level on the floor.</p>	
9	<p><u>STARTING TREADLE.</u> Inspect the treadle for bent, broken, or loose components, and loose mounting. Operate the treadle to see that the pulley brake lever engages the motor drive pulley with the drive motor when the treadle is depressed. Make certain the pulley brake lever disengages the drive pulley from the motor and stops the pulley when the treadle is released (during operation).</p>	
10	<p><u>KNEE LIFTER.</u> Inspect the knee lifter for bent, broken, loose, or missing components, and for loose mounting. Operate the knee lifter to see that it raises and lowers the presser foot.</p>	
11	<p><u>MOTOR SWITCH.</u> Inspect for broken or bent motor switch. Inspect it for loose mounting in the switch box. Check the switch for improper operation; make certain it turns the motor on and off.</p>	
	<p><u>NOTE 1. OPERATION.</u> During operation observe for any unusual noise or vibration.</p>	

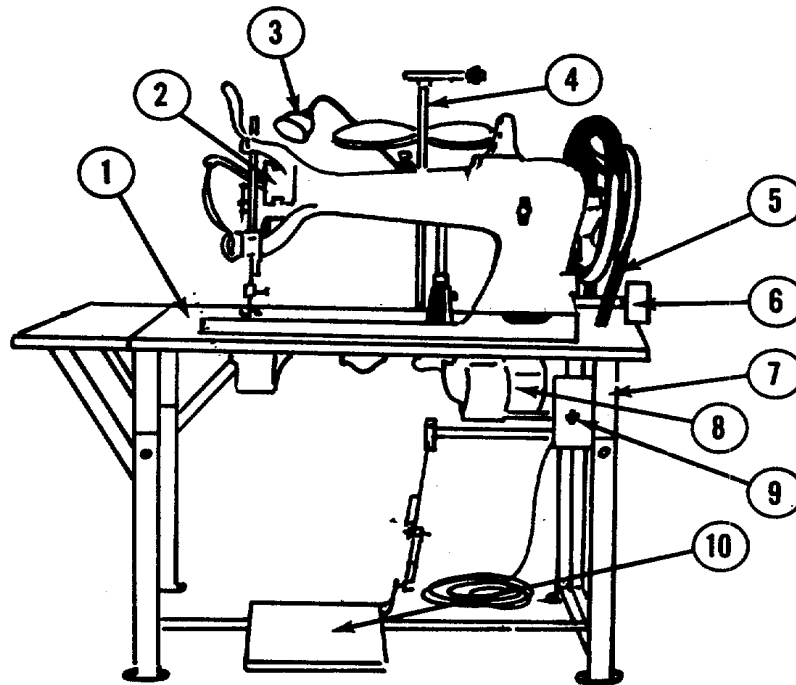
Figure 58 -- Continued.

# PREVENTIVE MAINTENANCE SERVICES

## DAILY

TM 10-3530-203-10

MACHINE, SEWING, HEAVY DUTY



LUBRICATE IN ACCORDANCE WITH CURRENT LUBRICATION ORDER

	ITEM	PAR REF
1	<b>TABLE ASSEMBLY.</b> Inspect the table assembly for cut, cracked, broken, warped, and dirty tabletop; for loose or missing bolts and nuts; and for loose mounting to the folding stand. Make certain the table assembly is level.	
2	<b>MACHINE HEAD.</b> Inspect the machine head for dirty surfaces and grease deposits; for bent, broken, or missing components; and for loose mounting. Inspect the needle for broken or excessively worn point; for bent or broken shaft; and for loose mounting. Make certain the needle is properly installed.	

MEC 3530-203-10/59 (1)

*Figure 59. Daily preventive maintenance services for heavy-duty sewing machine.*

ITEM		PAR REF
3	<u>LAMP ASSEMBLY</u> . Inspect the lamp assembly and bracket for loose or missing bolts, nuts, and screws, and loose mounting. Inspect for dirty, cracked, or broken housing and lens. Inspect the electrical cord for frayed insulation and broken wiring. Inspect for a broken lamp switch. Check the switch for improper operation, and make certain the lamp (bulb) is not burned out.	
4	<u>THREAD UNWINDER</u> . Inspect the thread unwinder for loose or missing bolts, nuts, and screws; for bent or broken components; and for loose mounting.	
5	<u>DRIVE BELT AND PULLEYS</u> . Inspect for broken, frayed, and excessively worn drive belt. Inspect the belt for loose mounting on the pulleys. Inspect the pulleys for cracked, chipped, or broken edges, and loose mounting. Check for 1/4-inch finger-pressure deflection midway between pulleys.	
6	<u>BOBBIN WINDER</u> . Inspect the bobbin winder for bent, broken, loose, or missing components and loose mounting. Inspect for excessively worn leather brake; for incorrect tension of the thread tension spring; and for improper adjustment of the pulley with the drive belt.	
7	<u>FOLDING STAND</u> . Inspect the folding stand for bent or broken components; for loose or missing bolts and nuts; and for loose mounting to the table assembly, Make certain the folding stand is level on the floor.	
8	<u>ELECTRIC MOTOR</u> . Inspect the electric motor for dirty surfaces and grease deposits; for bent, cracked, or broken housing; for loose or missing bolts and nuts; for loose electrical connections; and for loose mounting. Observe the motor for unusual noise and excessive vibration (during operation).	
9	<u>MOTOR SWITCH</u> . Inspect for bent or broken motor switch. Inspect the switch for loose mounting in the switchbox. Check the switch for improper operation; make certain it turns the motor on and off.	

MEC 3530-203-10/59②

*Figure 59 - Continued.*

ITEM		PAR REF
10	<p><u>STARTING TREADLE</u>. Inspect the starting treadle for bent, broken, loose, or missing components. Press the treadle and make certain it engages the motor with the machine.</p> <p><u>NOTE 1. OPERATION</u>. During operation observe for any unusual noise or vibration.</p> <p>NOTE 2. Damage to any item (1 through 10) will be reported as stipulated in TM 38-750.</p>	

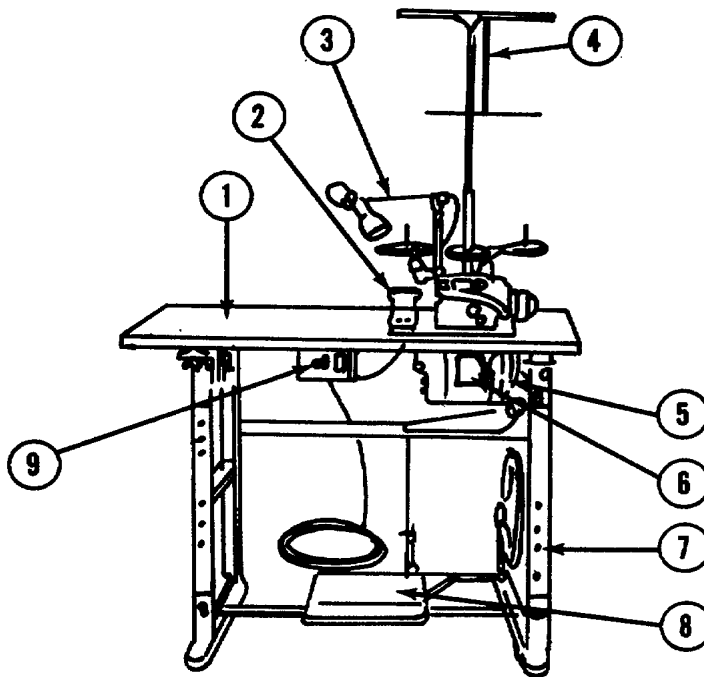
MEC 3530-203-10/59©

Figure 59 - Continued.

# PREVENTIVE MAINTENANCE SERVICES DAILY

TM 10-3530-203-10

MACHINE, SEWING, OVEREDGE



LUBRICATE IN ACCORDANCE WITH CURRENT LUBRICATION ORDER

ITEM		PAR REF
1	<p><b>TABLE ASSEMBLY.</b> Inspect the table assembly for cut, cracked, broken, warped, and dirty tabletop; for loose or missing bolts and nuts; and for loose mounting to the folding stand. Make certain the table assembly is level.</p>	

MEC 3530-203-10/60 ①

*Figure 60. Daily preventive maintenance services for overedge sewing machine.*

ITEM		PAR REF
2	<u>MACHINE HEAD.</u> Inspect the machine head for dirty surfaces and grease deposits; for bent, broken, or missing components; and for loose mounting. Inspect the needle for broken or excessively worn point, for bent or broken shaft; and for loose mounting. Make certain the needle is properly installed.	
3	<u>LAMP ASSEMBLY.</u> Inspect the lamp assembly and bracket for loose or missing bolts, nuts, and screws, and loose mounting. Inspect for dirty, cracked, or broken housing and lens. Inspect the electrical cord for frayed insulation and broken wiring. Inspect for a broken lamp switch. Check the switch for improper operation, and make certain the lamp (bulb) is not burned out.	
4	<u>THREAD UNWINDER.</u> Inspect the thread unwinder for loose or missing bolts, nuts, and screws; for bent or broken components; and for loose mounting.	
5	<u>DRIVE BELT AND PULLEYS.</u> Inspect for broken, frayed, and excessively worn drive belt. Inspect the belt for loose mounting on the pulleys. Inspect the pulleys for cracked, chipped, or broken edges, and loose mounting. Check for 1/4-inch finger-pressure deflection midway between pulleys.	
6	<u>ELECTRIC MOTOR.</u> Inspect the electric motor for dirty surfaces and grease deposits; for bent, cracked, or broken housing; for loose or missing bolts and nuts; for loose electrical connections; and for loose mounting. Observe the motor for unusual noise and excessive vibration (during operation).	
7	<u>FOLDING STAND.</u> Inspect the folding stand for bent or broken components; for loose or missing bolts and nuts; and for loose mounting to the table assembly. Make certain the folding stand is level on the floor.	
8	<u>STARTING TREADLE.</u> Inspect the starting treadle for bent, broken, loose, or missing components. Press the treadle and make certain it engages the motor with the machine.	

MEC 3530-203-10/60②

Figure 60 - Continued

ITEM		PAR REF
9	<p><u>MOTOR SWITCH.</u> Inspect for bent or broken motor switch. Inspect the switch for loose mounting in the switchbox. Check the switch for improper operation; make certain it turns the motor on and off.</p> <p><u>NOTE 1. OPERATION.</u> During operation observe for any unusual noise or vibration.</p>	

MEC 3530-203-10/60©

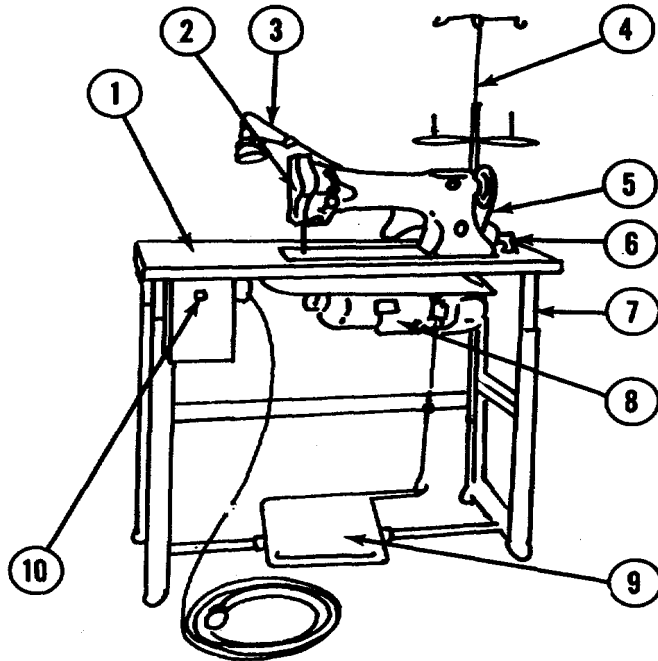
Figure 60 - Continued.



# PREVENTIVE MAINTENANCE SERVICES DAILY

TM 10-3530-203-10

MACHINE, SEWING, TEXTILE



LUBRICATE IN ACCORDANCE WITH CURRENT LUBRICATION ORDER

ITEM		PAR REF
1	<b>TABLE ASSEMBLY.</b> Inspect the table assembly for cut, cracked, broken, warped, and dirty tabletop; for loose or missing bolts and nuts; and for loose mounting to the folding stand. Make certain the table assembly is level.	

MEC 3530-203-10/61 ①

Figure 61. Daily preventive maintenance services for textile sewing machine.

ITEM		PAR REF
2	<u>MACHINE HEAD.</u> Inspect the machine head for dirty surfaces and grease deposits; for bent, broken, or missing components; and for loose mounting. Inspect the needle for broken or excessively worn point; for bent or broken shaft; and for loose mounting. Make certain the needle is properly installed.	
3	<u>LAMP ASSEMBLY.</u> Inspect the lamp assembly and bracket for loose or missing bolts, nuts, and screws, and loose mounting. Inspect for dirty, cracked, or broken housing and lens. Inspect the electrical cord for frayed insulation and broken wiring. Inspect for a broken lamp switch. Check the switch for improper operation, and make certain the lamp (bulb) is not burned out.	
4	<u>THREAD UNWINDER.</u> Inspect the thread unwinder for loose or missing bolts, nuts, and screws; for bent or broken components; and for loose mounting.	
5	<u>DRIVE BELT AND PULLEYS.</u> Inspect for broken, frayed, and excessively worn drive belt. Inspect the belt for loose mounting on the pulleys. Inspect the pulleys for cracked, chipped, or broken edges, and loose mounting. Check for 1/4-inch finger-pressure deflection midway between pulleys.	
6	<u>BOBBIN WINDER.</u> Inspect the bobbin winder for bent, broken, loose, or missing components; and loose mounting. Inspect for excessively worn leather brake; for incorrect tension of the thread tension spring; and for improper adjustment of the pulley with the drive belt.	
7	<u>FOLDING STAND.</u> Inspect the folding stand for bent or broken components; for loose or missing bolts and nuts; and for loose mounting to the table assembly. Make certain the folding stand is level on the floor.	
8	<u>ELECTRIC MOTOR.</u> Inspect the electric motor for dirty surfaces and grease deposits, for bent, cracked, or broken housing; for loose or missing bolts and nuts; for loose electrical connections; and for loose mounting. Observe the motor for unusual noise and excessive vibration (during operation).	

MEC 3530-203-10/61②

Figure 61 - Continued.

ITEM		PAR REF
9	<p><u>STARTING TREADLE</u>. Inspect the starting treadle for bent, broken, loose, or missing components. Press the treadle and make certain it engages the motor with the machine.</p>	
10	<p><u>MOTOR SWITCH</u>. Inspect for bent or broken motor switch. Inspect the switch for loose mounting in the switchbox. Check the switch for improper operation; make certain it turns the motor on and off.</p> <p><u>NOTE 1. OPERATION</u>. During operation observe for any unusual noise or vibration.</p>	

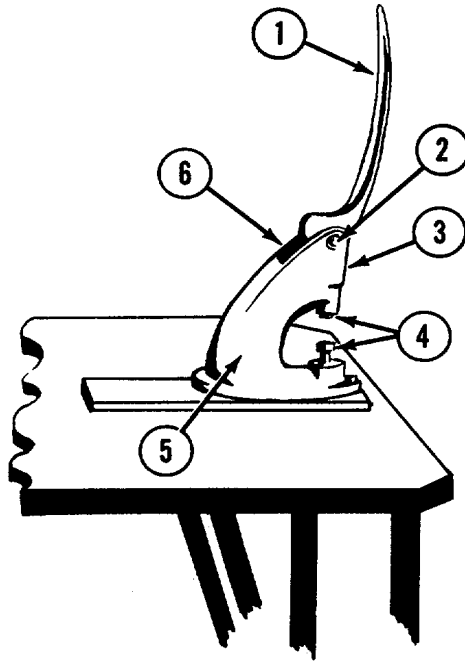
MEC 3530-203-10/61©

Figure 61 - Continued.

# PREVENTIVE MAINTENANCE SERVICES DAILY

TM 10-3530-203-10

PRESS, GROMMET



ITEM		PAR REF
1	<u>HAND LEVER.</u> Inspect for cracked or broken hand lever. Inspect the lever for loose mounting and mechanical binding.	
2	<u>PIVOT PIN.</u> Inspect for bent, broken, loose, or missing pivot pin.	

MEC 3530-203-10/62 ①

Figure 62. Daily preventive maintenance Services for grommet press.

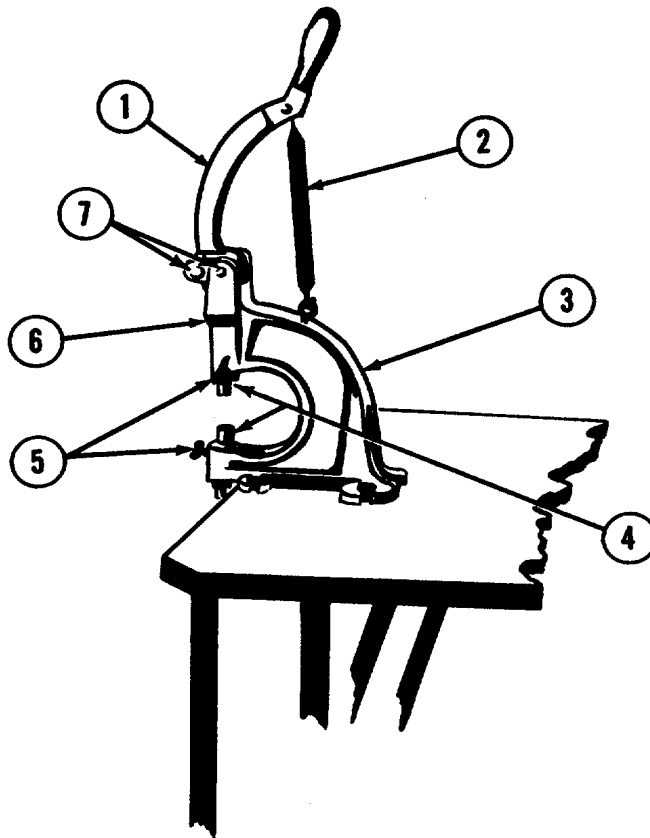
ITEM		PAR REF
3	<u>PLUNGER</u> : Inspect the plunger for dirty, burred, nicked, or corroded surfaces; for mechanical binding; and for loose mounting.	
4	<u>CHUCKS AND DIES</u> . Inspect the chucks and dies for dirty, nicked, burred, or corroded surfaces, and loose mounting. Make certain the chucks and dies will fit into position without mechanical binding.	
5	<u>FRAME</u> . Inspect for cracked or broken frame. Inspect the frame for dirty surfaces; for loose or missing nuts and screws; and for loose mounting to the table.	
6	<u>PLUNGER RETURN SPRING</u> . Inspect the plunger return spring for dirty, bent, or broken coils, incorrect tension, and loose mounting.	
	<p><u>NOTE 1. OPERATION</u>. During operation observe any mechanical binding, and make certain the plunger returns to its original position.</p> <p style="text-align: right;">MEC 3530-203-10/62②</p>	

Figure 62 - Continued.

# PREVENTIVE MAINTENANCE SERVICES DAILY

TM 10-3530-203-10

ATTACHING MACHINE, TACK BUTTON



ITEM		PAR REF
1	<b>HAND LEVER.</b> Inspect for cracked or broken hand lever. Inspect the lever for loose mounting and mechanical binding.	
2	<b>HAND LEVER SPRING.</b> Inspect the spring for bent or broken coils, incorrect tension, and loose mounting.	
3	<b>FRAME.</b> Inspect for cracked or broken frame. Inspect the frame for dirty surfaces; for loose or missing nuts and screws; and for loose mounting to the table.	

MEC 3530-203-10/63 (1)

Figure 63. Daily preventive maintenance services for tack-button attaching machine.

ITEM		PAR REF
4	<u>DIES</u> . Inspect the dies for dirty, nicked, burred, or corroded surfaces; and for bent or broken shafts, and springs. Make certain the dies will fit into position without mechanical binding.	
5	<u>WING SCREWS</u> . Inspect for cracked or broken wing screws. Inspect the wing screws for stripped threads.	
6	<u>PLUNGER</u> . Inspect the plunger for dirty, burred, nicked, or corroded surfaces; for mechanical binding; and for loose mounting.	
7	<u>PINS AND LOCKS</u> . Inspect for bent, broken, burred, corroded, loose or missing pins and locks. Inspect the locks for loose mounting on the pins.	
	<u>NOTE 1. OPERATION</u> . During operation observe any mechanical binding, and make certain the handle returns to its original position.	

MEC 3530-203-10/63©

Figure 63 - Continued.

**Section IV. TROUBLESHOOTING**

**57. General**

This section provides information useful in diagnosing and correcting unsatisfactory operation of each major component of the textile repair shop. Each trouble symptom stated is followed by a list of probable causes of the trouble. The possible remedy recommended is described opposite the probable cause. Any trouble that is beyond the ability of the operator to remedy must be reported according to the instructions given in TM 38-750. Refer to the troubleshooting information below for the cabinet assembly, the clothing sewing machine, the darning machine, the heavy-duty sewing machine, the overedge sewing machine, the textile sewing machine, the grommet press, and the tack-button attaching machine. Refer to the troubleshooting information for the generator set in TM 5-6115-271-12 and the cargo trailer in TM 9-2330-213-14.

*CABINET ASSEMBLY*

**58. Holddown Clamp Assembly is Loosely Mounted**

<p>Probable cause Capscrew and machine screws are loose. Capscrew, clamp arm, machine screws, and nuts have stripped threads.</p>	<p>Possible remedy Tighten capscrew and machine screws. Report this condition as stipulated in TM 38-750.</p>
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**59. Rear Door or a Side Door Cannot be Opened**

<p>Probable cause Folding handle lock is broken.</p>	<p>Possible remedy Report this condition as stipulated in TM 38-750</p>
--	---

**60. Rear Door or a Side Door Does Not Close Securely**

<p>Probable cause Hinge is bent or broken.  Gasket is defective.  Folding handle lock is broken.</p>	<p>Possible remedy Report this condition as stipulated in TM 38-750. Report this condition as stipulated in TM 38-750. Report this condition as stipulated in TM 38-750.</p>
--	--

**61. Sewing Machine Head is Loosely Mounted in Wooden Tray**

<p>Probable cause Thumbscrew is loose in</p>	<p>Possible remedy Tighten thumbscrew. tray strap assembly.</p>
--	---

<p>Probable cause Thumbscrew or tray strap assembly has stripped threads. Tray strap assembly hinge (on wooden tray) is loosely mounted.</p>	<p>Possible remedy Report this condition as stipulated in TM 38-75s. Tighten wood screws in the strap hinge.</p>
--	--

**62. Heavy-Duty Sewing Machine Head is Loosely Mounted in Metal Tray**

<p>Probable Cause Holddown tray strap is loose. Clamp is loose.</p>	<p>Possible remedy Tighten wing screws securely. Tighten wing screw securely.</p>
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**63. Stowage Box Does Not Close Securely**

<p>Probable cause Hinge is bent or broken.  Latch or hook is defective.</p>	<p>Possible remedy Report this condition as stipulated in TM 38-750. Report this condition as stipulated in TM 38-756.</p>
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**64. Generator is Loosely Mounted on Slides**

<p>Probable cause Wing screws loose in generator holddown assembly. Wing screws or holddown clips have stripped threads.</p>	<p>Possible remedy Tighten wing screws.  Report this condition as stipulated in TM 38-750.</p>
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**65. Sewing Machine Trays or Table Assemblies Slide Unevenly**

<p>Probable cause Felt is excessively worn or missing from slides.</p>	<p>Possible remedy Report this condition as stipulated in TM 38-750.</p>
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*CLOTHING SEWING MACHINE*

**66. Needle Breaks**

<p>Probable cause Needle is bent or has a blunt point. Needle is loose in clamp. Needle is of the wrong size, class, or variety for fabric. Operator is pulling on fabric. Presser foot is loose or out of alinement.</p>	<p>Possible remedy Install serviceable needle (para 23b). Tighten clamp screw. Install needle of correct size, class, and variety (para 23a). Follow sewing instructions (para 24). Report this condition as stipulated in TM 38-7b.</p>
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**67. Needle Thread Breaks**

Probable cause	Possible remedy
Thread is too heavy for needle.	Use correct size thread (para 23a).
Right-twist thread being used.	Use left-twist thread.
Thread is damp or defective.	Use dry smooth thread.
Machine is incorrectly threaded.	Follow threading instructions (para 23c).
Needle is improperly installed.	Install needle properly (para 23b).
Upper tension is too great.	Adjust tension properly (para 23j).
Thread controller spring is out of adjustment.	Report this condition as stipulated in TM 38-750.
Sharp edges on shuttle, bobbin case, or tension controller.	Report this condition as stipulated in TM 38-750.
Needle is bent, has a blunt point, or is defective.	Install serviceable needle (para 23b).
Needle is rubbing against presser foot.	Report this condition as stipulated in TM 38-750.

**68. Bobbin Thread Breaks**

Probable cause	Possible remedy
Thread is damp or defective.	Use dry smooth thread.
Bobbin tension is too great.	Adjust bobbin tension (para 23j).
Bobbin case is incorrectly threaded.	Thread bobbin case correctly (para 23f).
Bobbin is wound too full to revolve freely.	Remove thread down to rim of bobbin and reset bobbin winder to wind correctly (para 23e).
Rounds of thread on bobbin are lapped over one another.	Rewind bobbin correctly (para 23e).
Bobbin case is sticky with oil and lint.	Report this condition as stipulated in TM 38-750.
Sharp edge on shuttle bobbin case, bobbin, or needle point.	Report this condition as stipulated in TM 38-750.

**69. Stitches Skip or Fail to Lock**

Probable cause	Possible remedy
Wrong class and variety of needle.	Use correct class and variety of needle (para 23a).
Needle bar is out of adjustment.	Report this condition as stipulated in TM 38-750.

**70. Seam Draws**

Probable cause	Possible remedy
Threads are too tight.	Adjust tension on threads (para 23j).
Stitches are too long for the fabric.	Adjust feed regulating thumbscrew for proper stitch length (para 23i).

**71. Stitches are Uneven or Pile Up**

Probable cause	Possible remedy
Presser foot is out of adjustment.	Adjust presser foot pressure (para 23k).

**72. Feed Dog Strikes Throat Plate**

Probable cause	Possible remedy
Feed dog is out of adjustment.	Report this condition as stipulated in TM 38-750.

**73. Machine Vibrates**

Probable cause	Possible remedy
Belt is too tight.	Report this condition as stipulated in TM 38750.
Pulley with balance wheel mounted improperly.	Report this condition as stipulated in TM 38750.

**74. Lamp Does Not Light When Switch is in ON Position**

Probable cause	Possible remedy
Light cord is not plugged into electrical power receptacle.	Plug cord into electrical power receptacle.
Light cord is broken.	Report this condition as stipulated in TM 38750.
Incandescent lamp (bulb)	Replace lamp. is burned out.
Lamp assembly or switch is defective.	Report this condition as stipulated in TM 38-750.
Electrical power receptacle is defective.	Report this condition as stipulated in TM 38750.

**75. Motor Fails to Start When Switch is in ON Position**

Probable cause	Possible remedy
Power cable is not plugged into electrical power receptacle.	Plug power cable into power receptacle.
Power cable is broken.	Report this condition as stipulated in TM 38-750.
Switch is defective.	Report this condition as stipulated in TM 38-750.
Motor is defective.	Report this condition as stipulated in TM 38-750.

**76. Unusual Noise in Motor**

Probable cause	Possible remedy
Motor is defective.	Shut down sewing machine and report this condition as stipulated in TM 38-750.

**77. Motor Does Not Pull Load**

Probable cause	Possible remedy
Drive belt is slipping.	Report this condition as stipulated in TM 38750.
Improper voltage or motor is faulty.	Report this condition as stipulated in TM 38-750.

*DARNING MACHINE*

**78. Needle Thread Breaks**

Probable cause	Possible remedy
Needle thread tension is too tight.	Adjust thread tension (para. 26b).
Thread is too heavy for needle.	Use correct size thread for needle (para 26a).
Right-twist thread is being used.	Use left-twist thread.
Thread is damp or defective.	Use dry smooth thread.
Machine is incorrectly threaded.	Thread machine correctly (para 26c).
Needle is incorrectly installed.	Install needle properly (para 26b).
Needle is bent or has blunt or dull point.	Install serviceable needle (para 26b).
Bobbin case, tension controller, and hook have sharp edges.	Report this condition as stipulated in TM 3-750.

**79. Needle Breaks**

Probable cause	Possible remedy
Needle is loose.	Tighten needle.
Needle is wrong class, variety, or size.	Install correct needle (para. 26b).
Presser foot is loose.	Report this condition as stipulated in TM 38-750.

**80. Bobbin Thread Breaks**

Probable cause	Possible remedy
Thread is damp or defective.	Use dry smooth thread.
Bobbin tension is too great.	Adjust bobbin tension (para. 26h).
Bobbin case is incorrectly threaded.	Thread bobbin case correctly (para 26f).
Bobbin is wound unevenly, too full to revolve freely, or too loose.	Reset bobbin winder to wind bobbin correctly, and rewind bobbin (para 23e).
Bobbin case is sticky with oil and lint.	Report this condition as stipulated in TM 38-750.
Bobbin, bobbin case, hook, and needle have sharp edges.	Report this condition as stipulated in TM 38-750.

**81. Stitches Skip or Fail to Lock**

Probable cause	Possible remedy
Needle is incorrectly installed.	Install needle according to instructions (para. 26b).
Needle fails to catch bobbin thread because sewing hook is out of adjustment.	Report this condition as stipulated in TM 38-750.
Needle bar is out of adjustment.	Report this condition as stipulated in TM 38-750.

**82. Seams Draw**

Probable cause	Possible remedy
Thread tension is too tight.	Adjust bobbin and needle thread tension (para 26h).
Operator is feeding material at improper speed.	Feed material in relation to speed of machine.

**83. Lamp Does Not Light When Switch is in ON Position**

Probable cause	Possible remedy
Light cord is not plugged into electrical power receptacle.	Plug cord into electrical power receptacle.
Light cord is broken.	Report this condition as stipulated in TM 38-750. Replace lamp.
Incandescent lamp (bulb) is burned out.	Report this condition as stipulated in TM 38-750.
Lamp assembly or switch is defective.	Report this condition as stipulated in TM 38750.
Electrical power receptacle is defective.	Report this condition as stipulated in TM 38750.

**84. Motor Fails to Start When Switch is in ON Position**

Probable cause	Possible remedy
Power cable is not plugged into electrical power receptacle.	Plug power cable into power receptacle.
Power cable is broken.	Report this condition as stipulated in TM 38-750.
Switch is defective.	Report this condition as stipulated in TM 38-750.
Motor is defective.	Report this condition as stipulated in TM 38-750.

**85. Unusual Noise in Motor**

Probable cause	Possible remedy
Motor is defective.	Shut down sewing machine and report this condition as stipulated in TM 38-750.

**86. Motor Does Not Pull the Load**

Probable cause	Possible remedy
Drive belt is slipping.	Report this condition as stipulated in TM 38-750.
Improper voltage or motor is faulty.	Report this condition as stipulated in TM 38-750.

*HEAVY-DUTY SEWING MACHINE*

**87. Needle Thread Breaks**

Probable cause	Possible remedy
Needle is too light for fabric.	Use correct needle (para 29a).
Machine is incorrectly threaded.	Rethread machine properly (para. 29c).

Probable cause  
Thread tension is too tight  
Thread is damp or defective.  
Needle is incorrectly installed.  
Needle is defective, bent, or blunt.

Possible remedy  
Adjust thread tension (para. 29g).  
Replace with dry, smooth thread (para. 29a).  
Install needle properly (para. 29b).  
Install serviceable needle (para., 29a and b).

**88. Needle Breaks**

Probable cause  
Needle is loose in clamp.  
Needle is of wrong class, variety, or size.  
Presser foot is loose.

Possible remedy  
Tighten needle.  
Use correct needle (para. 29a).  
Report this condition as stipulated in TM 38-750.

**89. Bobbin Thread Breaks**

Probable cause  
Thread is damp or defective.  
Bobbin tension is too great.  
Bobbin case is incorrectly threaded.  
Bobbin case is wound unevenly, too loose, or too full to revolve freely.

Possible remedy  
Use dry, smooth thread (para. 29a).  
Adjust bobbin tension (para. 29g).  
Thread bobbin case correctly (para. 29f).  
Reset bobbin winder to wind bobbin correctly, and rewind bobbin (para. 29e).

**90. Stitches Skip or Fail to Lock**

Probable cause  
Needle is incorrectly installed.  
Needle bar is out of adjustment.

Possible remedy  
Install needle properly (para. 29b).  
Report this condition as stipulated in TM 38-750.

**91. Thread Balls Up Under Throat Plate**

Probable cause  
Thread tension is out of adjustment.

Possible remedy  
Adjust thread tension (para. 29g).

**92. Stitches Are Uneven or Pile Up**

Probable cause  
Presser foot pressure is too weak.  
Feed dog is too low.

Possible remedy  
Adjust presser foot pressure (para. 29h).  
Report this condition as stipulated in TM 38-750.

**93. Seams Draw**

Probable cause  
Thread tension is too tight.  
Operator is feeding material at improper speed.

Possible remedy  
Adjust tension (para. 29g).  
Feed material in relation to speed of machine.

**94. Feed Dogs Strike Throat Plate**

Probable cause  
Feed dogs out of adjustment.

Possible remedy  
Report this condition as stipulated in TM 38-750.

**95. Lamp Does Not Light When Switch is in ON Position**

Probable cause  
Light cord is not plugged into electrical power receptacle.  
Light cord is broken  
Incandescent lamp bulb is burned out.  
Lamp assembly or switch is defective.  
Electrical power receptacle is defective.

Possible remedy  
Plug cord into electrical power receptacle.  
Report this condition as stipulated in TM 38-750.  
Replace lamp.  
Report this condition as stipulated in TM 3-750.  
Report this condition as stipulated in TM 38-750.

**96. Motor Does Not Start When Switch is in ON Position**

Probable cause  
Power cable is not plugged into electrical power receptacle.  
Power cable is broken.  
Switch is defective.  
Motor is defective.

Possible remedy  
Plug power cable into power receptacle.  
Report this condition as stipulated in TM 38750.  
Report this condition as stipulated in TM 38-750.  
Report this condition as stipulated in TM 38-750.

**97. Unusual Noise in Motor**

Probable cause  
Motor is defective.

Possible remedy  
Shut down sewing machine and report this condition as stipulated in TM 38-750.

**98. Motor Does Not Pull Load**

Probable cause  
Drive belt is slipping.  
Improper voltage or motor is defective.

Possible remedy  
Report this condition as stipulated in TM 38-750.  
Report this condition as stipulated in TM 38750.

*OVEREDGE SEWING MACHINE*

**99. Needle Thread Breaks**

Probable cause  
Needle thread tension is too tight.  
Thread too heavy for needle.  
Right-twist thread is being used.  
Thread is damp or defective.  
Machine is incorrectly threaded.

Possible remedy  
Adjust thread tension (para. 32g).  
Use correct size thread for needle (para 32a).  
Use left-twist thread (para. 32a).  
Use dry, smooth thread (para. 32a).  
Thread machine correctly (paras. 32c, d, and e).

Probable cause  
Needle is incorrectly installed.  
Needle is bent or has a dull or blunt point.

Possible remedy  
Install needle properly (para 32b).  
Install a serviceable needle (para. 32b).

**100. Needle Breaks**

Probable cause  
Needle loose in clamp.  
Needle too large.  
  
Presser foot loose or out of adjustment.  
Needle bent.  
  
Needle deflecting loopers.

Possible remedy  
Tighten needle (para. 32b).  
Use proper size needle (para. 32a).  
Adjust presser foot (para. 32b).  
Use proper size needle (para. 32a).  
Report this condition as stipulated in TM 38-750.

**101. Stitches Skip or Fail to Lock**

Probable cause  
Needle is incorrectly installed.  
Needle bar is out of adjustment.

Possible remedy  
Install needle properly (para. 32b).  
Report this condition as stipulated in TM 38-750.

**102. Stitch Does Not Chain**

Probable cause  
Improper threading or threads broken.

Possible remedy  
Check for proper threading (paras. 32c, d, and e).

**103. Stitch is Too Tight**

Probable cause  
Left looper tension too great.

Possible remedy  
Adjust tension (para. 32g).

**104. Stitch is Too Loose**

Probable cause  
Loose tensions.

Possible remedy  
Adjust tension (para. 32g).

**105. Seams Draw**

Probable cause  
Thread tension is too tight.  
Operator is feeding material at improper speed.

Possible remedy  
Adjust tension (para. 32g).  
Feed material in relation to speed of machine.

**106. Imperfect Trimming**

Probable cause  
Knives dull or out of adjustment.

Possible remedy  
Report this condition as stipulated in TM 38-750.

**107. Machine Runs Hard**

Probable cause  
Knife contact too great.

Possible remedy  
Report this condition as stipulated in TM 38-750.

**108. Cloth Does Not Feed**

Probable cause  
Not enough pressure on presser foot.  
Feed dogs too low.

Possible remedy  
Increase pressure (para. 32h).  
Report this condition as stipulated in TM 38-750.

**109. Feed Dogs Strike Throat Plate**

Probable cause  
Feed dogs out of adjustment.

Possible remedy  
Report this condition as stipulated in TM 38750.

**1 10. Lamp Does Not Light When Switch is in ON Position**

Probable cause  
Light cord is not plugged into the electrical power receptacle.  
Light cord is broken.  
  
Incandescent lamp (bulb) is burned out.  
Lamp assembly or switch is defective.  
Electrical power receptacle is defective.

Possible remedy  
Plug cord into the electrical power receptacle.  
Report this condition as stipulated in TM 38-750.  
Replace lamp.  
  
Report this condition as stipulated in TM 38-750.  
Report this condition as stipulated in TM 38-750.

**111. Motor Does Not Start When Switch is in ON Position**

Probable cause  
Power cable is not plugged into electrical power receptacle.  
Power cable is broken.  
  
Switch is defective.  
  
Motor is defective.

Possible remedy  
Plug power cable into power receptacle.  
  
Report this condition as stipulated in TM 38-750.  
Report this condition as stipulated in TM 38-750.  
Report this condition as stipulated in TM 38-750.

**112. Unusual Noise in Motor**

Probable cause  
Motor is defective.

Possible remedy  
Shut down sewing machine and report this condition as stipulated in TM 38-750.

**113. Motor Does Not Pull Load**

Probable cause  
Drive belt is slipping.  
  
Improper voltage or motor is faulty.

Possible remedy  
Report this condition as stipulated in TM 38-750.  
Report this condition as stipulated in TM 38-750.

**114. Machine Pulley Turns Toward Operator**

Probable cause  
Improper rotation of motor.

Possible remedy  
Report this condition as stipulated in TM 38-750.

**115. Machine Does Not Turn**

Probable cause	Possible remedy
Loose or broken drive belt or defective motor.	Report this condition as stipulated in TM 38-75n.

*TEXTILE SEWING MACHINE*

**116. Needle Thread Breaks**

Probable cause	Possible remedy
Thread is too heavy.	Use correct size (para 35a).
Thread is damp or defective.	Use dry, smooth thread (para 35a).
Machine is incorrectly threaded.	Thread machine correctly (para. 35c).
Needle is incorrectly installed.	Install needle properly (para. 35b).
Thread tension is too great.	Adjust tension (para. 35k).
Needle is defective, blunted, or bent at point.	Install serviceable needle (paras. 35a and b).

**117. Needle Breaks**

Probable cause	Possible remedy
Needle is loose in clamp.	Tighten needle (para. 35b).
Needle is of wrong class or variety.	Use correct needle (para. 35a).
Presser foot is loose.	Report this condition as stipulated in TM 38750.

**118. Bobbin Thread Breaks**

Probable cause	Possible remedy
Thread is damp or defective.	Use dry, smooth thread.
Bobbin tension is too great.	Adjust bobbin tension (para. 35k).
Bobbin case is incorrectly threaded.	Thread bobbin case correctly (para. 35f).
Bobbin is wound unevenly, too loose, or too full to revolve freely.	Reset bobbin winder to wind bobbin correctly, and rewind bobbin (para. 23e).

**119. Stitches Skip or Fail to Lock**

Probable cause	Possible remedy
Needle is incorrectly installed.	Install needle properly (para. 35b).
Needle bar is out of adjustment.	Report this condition as stipulated in TM 38-750.

**120. Thread Balls Up Under Throat Plate**

Probable cause	Possible remedy
Thread tension is out of adjustment.	Adjust thread tension (para. 35k).

**121. Stitch Does Not Chain**

Probable cause	Possible remedy
Improper threading or threads broken.	Check for proper threading (para. 35c).

**122. Stitch is Too Tight**

Probable cause	Possible remedy
Left looper tension too great.	Adjust tension (para. 35k).

**123. Stitch is Too Loose**

Probable cause	Possible remedy
Thread tension loose.	Adjust tension (para. 35k).

**124. Seams Draw**

Probable cause	Possible remedy
Thread tension is too tight.	Adjust tension (para. 35k).
Operator is feeding material at improper speed.	Feed material in relation to speed of machine.

**125. Stitches Are Uneven or Piled Up**

Probable cause	Possible remedy
Not enough pressure on presser foot.	Increase pressure (para. 35k and i).
Feed dogs too low.	Report this condition as stipulated in TM 38750.

**126. Feed Dogs Strike Throat Plate**

Probable cause	Possible remedy
Feed dogs out of adjustment.	Report this condition as stipulated in TM 38-750.

**127. Lamp Does Not Light When Switch is in ON Position**

Probable cause	Possible remedy
Light cord is not plugged into the electrical power receptacle.	Plug cord into the electrical power receptacle.
Light cord is broken.	Report this condition as stipulated in TM 38-750.
Incandescent lamp (bulb) is burned out.	Replace lamp.
Lamp assembly or switch is defective.	Report this condition as stipulated in TM 38-750.
Electrical power receptacle is defective.	Report this condition as stipulated in TM 38-750.

**128. Motor Does Not Start When Switch is in ON Position**

Probable cause	Possible remedy
Power cable is not plugged into electrical power receptacle.	Plug power cable into power receptacle.
Power cable is broken.	Report this condition as stipulated in TM 38-750.
Switch is defective.	Report this condition as stipulated in TM 38-750.
Motor is defective.	Report this condition as stipulated in TM 38-750.

**129. Unusual Noise in Motor**

Probable cause	Possible remedy
Motor is defective.	Shut down sewing machine and report this condition as stipulated in TM 38-750.

**130. Motor Does Not Pull Load**

Probable cause	Possible remedy
Drive belt is slipping.	Report this condition as stipulated in TM 38-750.
Improper voltage or motor is faulty.	Report this condition as stipulated in TM 38-750.

*GROMMET PRESS*

**131. Hand Lever Sticks on Downstroke**

Probable cause	Possible remedy
Dirt in frame.	Clean inside of frame.

**132. Fasteners Are Loose**

Probable cause	Possible remedy
Pressure insufficient on hand lever.	Apply pressure on hand lever more firmly.
Snap fastener parts are not inserted properly in chucks and dies.	Insert snap fastener parts properly in chucks and dies (para. 38e).

**133. Machine Cuts Material**

Probable cause	Possible remedy
Pressure is too great on hand lever.	Decrease pressure on hand lever.

*TACK-BUTTON ATTACHING MACHINE*

**134. Hand Lever Sticks on Downstroke**

Probable cause	Possible remedy
Dirt in frame.	Clean inside of frame.

**135. Buttons Are Not Held Securely in Upper Die**

Probable cause	Possible remedy
Upper die wires are loose or broken.	Report this condition as stipulated in TM 38-750.

**136. Double-Pronged Tack Does Not Fit Properly Into Holes in Button**

Probable cause	Possible remedy
Tack is inserted in lower die improperly.	Insert tack in lower die properly (para. 42b).

**137. Machine Cuts Material**

Probable cause	Possible remedy
Pinch is adjusted too tightly.	Adjust pinch properly (para. 41c).

**138. Shank of Lower Die Binds**

Probable cause	Possible remedy
Pin on lower die is interfering with spring.	Report this condition as stipulated in TM 38-750.

**PART TWO**  
**CLOTHING REPAIR SHOP, TRAILER-MOUNTED**  
**CHAPTER 4**  
**INTRODUCTION**

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**Section I. GENERAL**

**139. Scope**

The instructions covered in part two of this manual are published for the use of personnel to whom the trailer-mounted clothing repair shop is issued. They provide information on the operation, the lubrication, and the maintenance of the clothing repair shop. Also, they include descriptions of the major components and their functions in relationship to other components of the clothing repair shop.

**140. Appendixes**

*a.* Appendix I contains a list of publications applicable to the clothing repair shop and available to the operator.

*b.* Appendix II contains the basic issue item list of the items required for the initial operation of the clothing repair shop.

**141. Maintenance Forms and Records**

The maintenance forms, records, and reports which are to be used by the operator in the maintenance of the clothing repair shop are listed and described in TM 38-750.

**142. Reporting of Equipment Manual Improvements**

Refer to the instructions in paragraph 4.

**143. Orientation**

Refer to the instructions in paragraph 5.

**Section II. DESCRIPTION AND DATA**

**144. General Description**

The trailer-mounted clothing repair shop (fig. 64) is complete with all equipment including auxiliary or support equipment necessary for the repair of clothing, and is designed for field use where it is normally set up in tents or in temporary shelters. The clothing repair shop is equipped with one button sewing machine, six clothing sewing machines, one darning machine, one grommet press, and one tack-button attaching machine. The shop is also equipped with a fire

extinguisher and a self-contained portable generator set. For a description on the generator set, refer to TM 5-6115-271-12 and for a description on the cargo trailer, refer to TM 9-2330-213-14. Refer to the following descriptions on the cabinet assembly, the button sewing machine, the clothing sewing machine, the darning machine, the grommet press, and the tack-button attaching machine.

*a. Cabinet Assembly.* The weatherproofed, rectangular-shaped aluminum cabinet assembly (figs 64 and 65) is designed to store and to

carry all of the equipment for the operation of the clothing repair shop. It has two doors on both the left and the right sides and one door on the rear for easy access to the equipment in the cabinet. The cabinet assembly is mounted in the bed of a 1 1/2-ton cargo trailer as shown in figure 64. The holddown clamp assemblies (11, fig. 65) are used for fastening the cabinet assembly securely to the cargo trailer. The cabinet assembly is comprised of the following:

(1) Four compartments (two on the left and two on the right) for the storage boxes (15, fig. 64) and (5 and 14, fig. 65) which are used for storing the grommet press, tack-button attaching machine, hardware, accessories, and attachments necessary for operation the clothing repair shop.

(2) Eight wooden tray assemblies (12, 13, and 14, fig. 64) and (12, fig. 65) for stowing the sewing machine heads.

(3) Eight compartments with slides for the machine table assemblies (10 and 11, fig. 64) and (15 and 17, fig. 65).

(4) Four lower compartments, two on each side under the table assemblies for the folding stands (1 and 2, fig. 66).

(5) One compartment with slides (14, fig. 67) for the two table assemblies (1).

(6) Slide tracks (8) in the bottom rear center for the generator set (9).

(7) Space behind the folding chairs (5) for the fire extinguisher.

(8) Space in the rear on each side for the folding chairs (5 and 11) and space between the generator set (9) and the wheel cover for the power cables and light cords (10).

*b. Button Sewing Machine.* The button sewing machine (fig. 68) powered by a 1/3 horsepower electric motor sews with needle

thread only; it, therefore, has no bobbin. It is equipped with a vibrating needle bar and with a clamp for sewing two-hole and four-hole flat buttons, with through-and-through stitching, close to the material. It makes a single-thread chain stitch and sews buttons (on material) with sixteen stitches including a crossover stitch and a knotting stitch. For example in four-hole buttons, it makes seven stitches in the back pair of holes, a crossover stitch to the front pair of holes, seven stitches in the front pair of holes, and a knotting stitch.

*c. Clothing Sewing Machine.* Refer to paragraph 6b.

*d. Darning Machine.* Refer to paragraph 6c.

*e. Grommet Press.* Refer to paragraph 6g.

*f. Tack-Button Attaching Machine.* Refer to paragraph 6h.

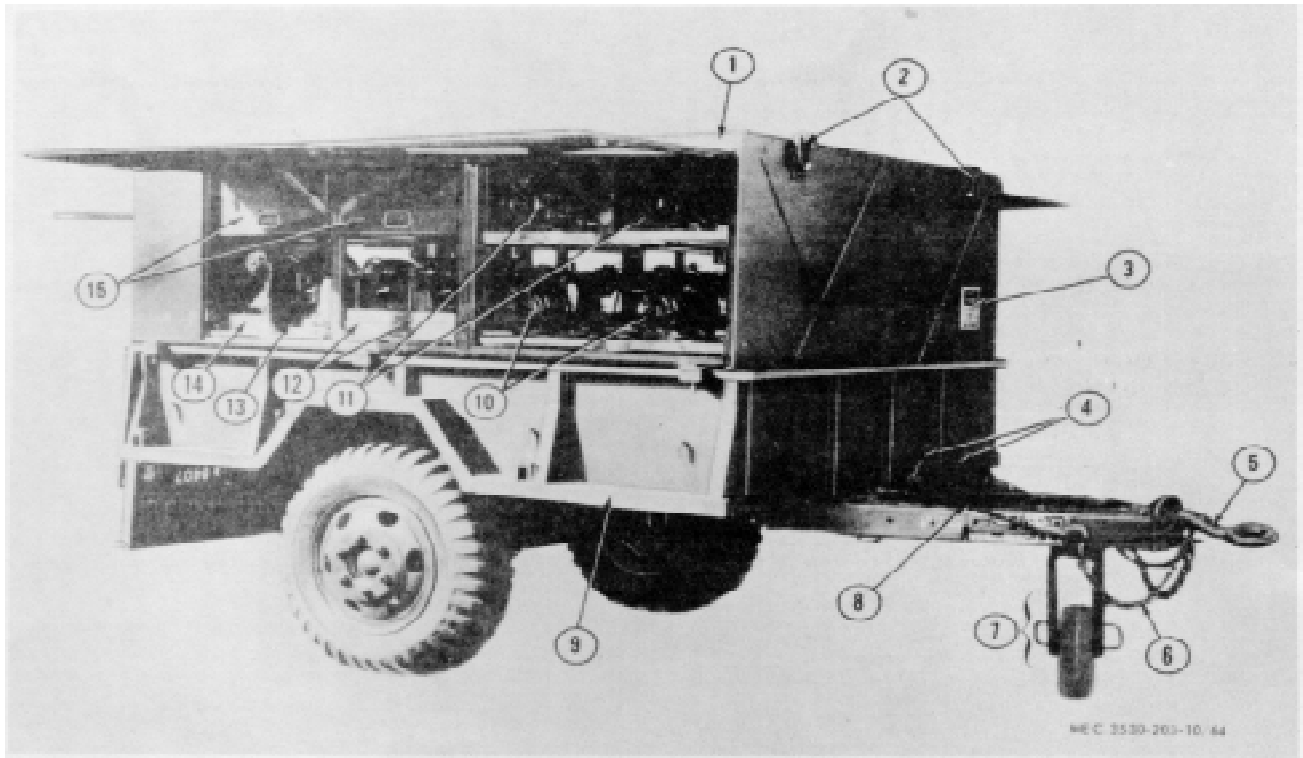
#### 145. Identification

The clothing repair shop has one identification plate (3, fig. 64) and (fig.69) mounted on the front of the cabinet assembly (1, fig. 5). The plate shows the manufacturer's stock, model, contract, and serial numbers; military model number; military specification number; and manufacturer's name and address.

#### 146. Differences in Models

Part one of this manual covers only the York Astro Model D8700337 Trailer-Mounted Clothing Repair Shop. However, the Hyde Models T2WC-51 and T2WC-51AC and the McCabe Powers Model M-4746C Trailer-Mounted Clothing Repair Shops are still in use. The primary differences between York Astro model and the Hyde and the McCabe Powers models are as follows: The York Astro model has a trailer and a generator set that differ from those of the Hyde and the McCabe Powers models. Also, the York Astro model has a cabinet assembly, but the Hyde and the McCabe Powers models do not.





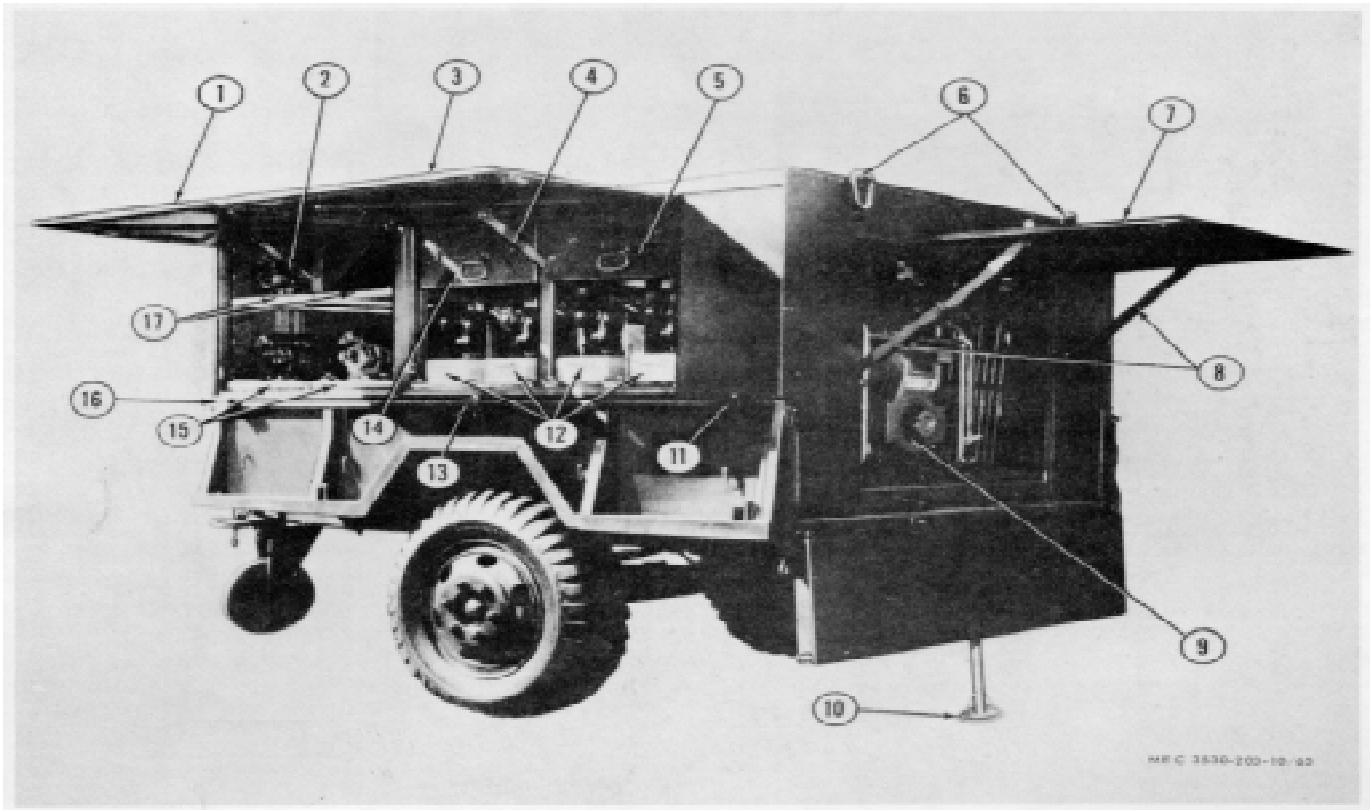
- |                              |                                      |
|------------------------------|--------------------------------------|
| 1 Cabinet assembly           | 9 Trailer, cargo                     |
| 2 Loop assemblies, lifting   | 10 Table assemblies                  |
| 3 Plate, identification      | 11 Table assemblies                  |
| 4 Handbrakes, right and left | 12 Tray assemblies, clothing machine |
| 5 Coupler, drawbar           | 13 Tray assembly, darning machine    |
| 6 Chains, safety             | 14 Tray assembly, button machine     |
| 7 Caster                     | 15 Box, stowage                      |
| 8 Cable, intervehicular      |                                      |

Figure 64. Trailer-mounted clothing repair shop, three-quarter front view.

**147. Components Comprising Clothing Repair Shop**

The major components comprising the clothing repair shop are a cargo trailer, a cabinet assembly, a button sewing machine, six clothing sewing machines, a darning machine, a grommet press, and a tack-button attaching machine. The auxiliary items or components used with the clothing repair shop are the fire extinguisher and the generator set. The purpose of each component is as follows:

Major Components	Purpose
Cargo trailer.	Transporting clothing repair shop.
Cabinet assembly.	Storing equipment against weather conditions.
Button sewing machine.	Sewing buttons on clothing.
Clothing sewing machine.	Sewing or stitching clothing.
Darning machine.	Darning or repairing clothing.
Grommet press.	Installing snap fastener sets on clothing or material.



- |   |                               |    |                                   |
|---|-------------------------------|----|-----------------------------------|
| 1 | Door, side                    | 10 | Leg, rear support                 |
| 2 | Stay, side door               | 11 | Clamp assembly, holddown          |
| 3 | Door, side                    | 12 | Tray assemblies, clothing machine |
| 4 | Stay, side door               | 13 | Clamp -assembly, holddown         |
| 5 | Box, stowage                  | 14 | Box, stowage                      |
| 6 | Loop assemblies, rear lifting | 15 | Table assemblies, sewing machine  |
| 7 | Stay assemblies, rear door    | 16 | Clamp assembly, holddown          |
| 8 | Chairs, folding               | 17 | Table assemblies, sewing machine  |
| 9 | Generator set                 |    |                                   |

Figure 65. Trailer-mounted clothing repair shop, three-quarter rear view.

Major Components  
Tack-button attaching machine.

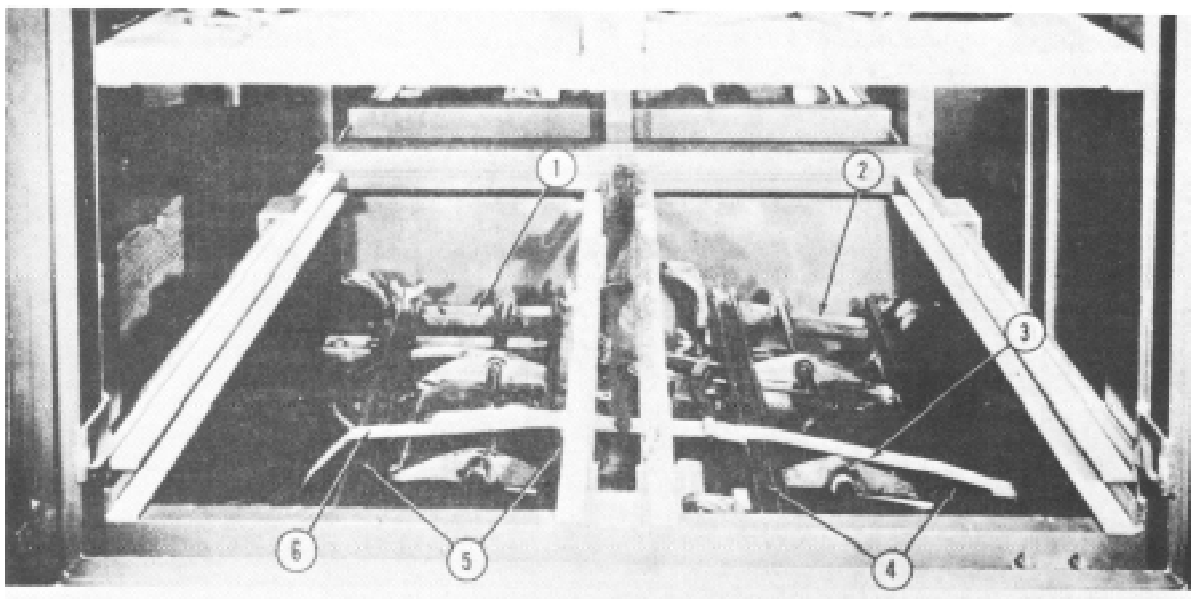
Auxiliary Components  
Fire extinguisher.  
Generator set.

Purpose  
Fastening button to tack on clothing or material.

Purpose  
Putting out fires.  
Furnishing electric power for button, clothing, and darning sewing machines and lights.

**148. Tabulated Data**

For the tabulated data on the cargo trailer, refer to TM 9-2330-213-14; and on the generator set, TM5-6115-271-12. Refer to the following tabulated data for the clothing repair shop.



- |                            |                            |
|----------------------------|----------------------------|
| 1 Stand, folding           | 4 Braces, cross            |
| 2 Stand, folding           | 5 Braces cross             |
| 3 Strap assembly, holddown | 6 Strap assembly, holddown |

Figure 66. Folding stands shown in cabinet assembly compartments.

a. *Clothing Repair Shop.*

Dimensions and Weights:

Height 8 ft. 2 in.  
 Length 13 ft. 9 in.  
 Weight (gross) 5, 350 lb.  
 Width 6 ft. 11 in.  
 Drawbar height of trailer 2 ft. 6 in.

Shipping cubage 863 cu. ft.

General Information:

Manufacturer York Astro (Division of Wickes Industries, Inc.)

Manufacturer model D8700337 number

Army model number SPV 34

Registration numbers 10-H-63001 through 10-H-63093

b. *Cabinet Assembly.*

Dimensions:

Height 4 ft. 4 1/2 in.  
 Length 9 ft. 3 in.  
 Width 6 ft. 11 in.

Torque Data:

Holddown clamp 30 ft.-lb. Capscrew

Skid adapter screw for generator set) 18 to 20 ft.-lb.

c. *Button Sewing Machine.*

General Information:

Manufacturer The Singer Manufacturing Company

Model 175-62

Motor:

Cycle 60  
 Horsepower 1/3  
 Speed 1, 725 r.p.m.  
 Volts 105-115

Machine Performance:

Speed (maximum)1, 000 stitches per min.

d. *Clothing Sewing Machine.*

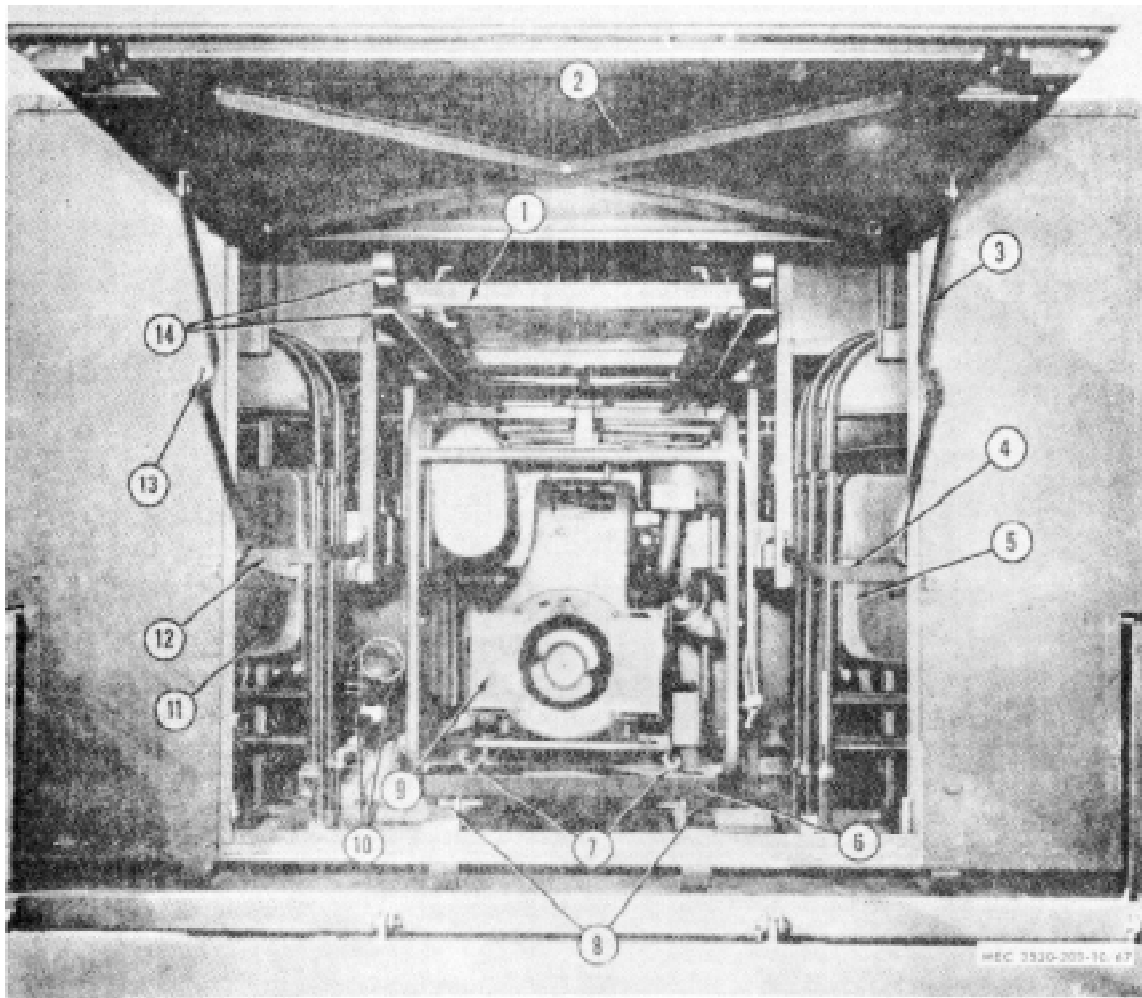
General Information:

Manufacturer The Singer Manufacturing Company

Model number 31-15

Motor:

Cycle 60  
 Horsepower 1/4  
 Speed 1, 725 r.p.m.  
 Volts 105-115



- |                                      |                                   |
|--------------------------------------|-----------------------------------|
| 1 Table assemblies with folding legs | 8 Tracks, slide                   |
| 2 Door, rear                         | 9 Generator set                   |
| 3 Stay assembly, rear door           | 10 Cords and cables               |
| 4 Strap assembly, chair holddown     | 11 Chairs, folding                |
| 5 Chairs, folding                    | 12 Strap assembly, chair holddown |
| 6 Holddown assembly, generator set   | 13 Stay assembly, rear door       |
| 7 Screws, wing                       | 14 Slides, table assembly         |

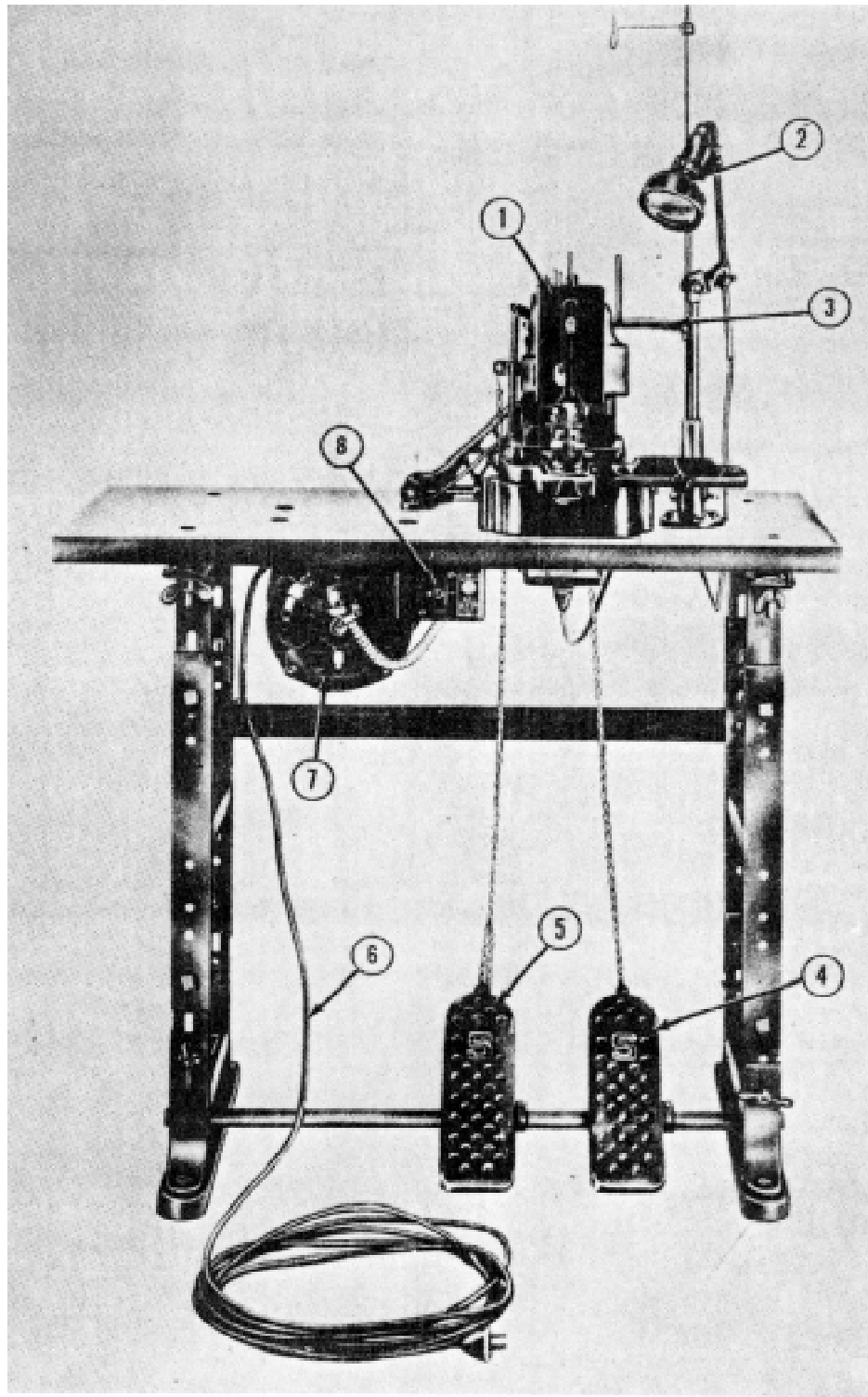
Figure 67. Loaded cabinet assembly with rear door raised

Machine Performance:  
 Speed (maximum) 2,200 stitches per in.  
 Stitch lengths 7 to 32 stitches per in.

Dimensions:  
 Working space to right of needle 10 1/4 in.

e. Darning Machine.  
 General Information:

Manufacturer The Singer Manufacturing Company  
 Model number 47W70



- |                 |                    |                                |                   |
|-----------------|--------------------|--------------------------------|-------------------|
| 1 Head, machine | 3 Unwinder, thread | 5 Treadle, button clamp lifter | 7 Motor, electric |
| 2 Lamp assembly | 4 Treadle          | 6 Cord, power                  | 8 Switch, motor   |

Figure 68. Button sewing machine, front view.



Motor:

Cycle	60
Horsepower	1/4
Speed	1, 725 r.p.m.
Volts	105-115

Machine Performance:

Speed (maximum) 2, 800 stitches per min.

f. *Frommet Press.*

Model YM-483

Type Hand-lever

g. *Tack-Button Attaching Machine.*

Manufacturer	Scovill Manufacturing Company
Model	A-E

h. *Fire Extinguisher.*

Type	Carbon dioxide
Capacity	5 lb.
Weight (empty)	10 7/8 lb.
Weight (total)	16 lb.

Figure 69. Identification plate for trailer-mounted clothing repair shop.

## CHAPTER 5

## OPERATING INSTRUCTIONS

## Section I. SERVICE UPON RECEIPT OF

## CLOTHING REPAIR SHOP

**149. General**

When a new or a used clothing repair shop is received by an organization, it must be serviced to prepare it for operation. The services performed upon receipt of the clothing repair shop are the responsibility of the using organization and will be performed by organization- al maintenance personnel. The operator(s) will assist in these services when he is directed to do so by the commanding officer.

**150. Inspecting and Servicing Equipment**

Set up the equipment (para 152) and perform the daily preventive maintenance services referenced in paragraph 183 for the clothing repair shop. Also, perform the necessary lubrication services referenced in paragraphs 180 and 181 for the clothing repair shop.

**151. Disconnecting Trailer from Towing Vehicle**

Select a dry site or area that is free of dust and as level as possible to set up the clothing repair shop. Then proceed as follows to disconnect the trailer from the towing vehicle:

- a. Set the right and left handbrakes (4, fig. 64) located on the front of the trailer, by pulling the handbrakes forward to apply the brakes.
- b. Lower and lock the caster (7) in the vertical position.
- c. Disconnect the intervehicular cable (8) from the towing vehicle, and place the cable in the bracket provided on the frame of the trailer.

d. Close the air shutoff valve on the towing vehicle. Disconnect the intervehicular air hose from the towing vehicle, and put it in the bracket provided on the trailer.

e. Unhook the safety chains (6) from the towing vehicle and hook them to the lifting bars, located on the sides of the trailer as shown in figure 1.

f. Unlatch the pintle and lift the drawbar coupler (5) from the pintle of the towing vehicle and move the towing vehicle from the site.

g. Lower the rear support leg (10, fig. 65) to the ground to give the trailer rear-end stability during loading or unloading.

**152. Unloading Equipment from Cabinet Assembly and Setting Up Equipment**

Turn the two locking latch handles on each door simultaneously to unlock and to open each door on the cabinet assembly. Raise the doors and position the stays to hold the doors in the open position as shown in figure 2. Unload the equipment from the cabinet and set it up according to the instructions given below.

a. *Generator Set.*

- (1) Loosen the wing screws (7, fig. 67) on the generator rear holddown assembly (6) that secure the generator set (9) to the slide tracks (8), and remove the holddown assembly from the cabinet.
- (2) Loosen the wing screws on the generator front holddown assembly, slide the generator set away from the front

holddown assembly, and lift the generator set from the slide tracks and out of the cabinet.

- (3) Place the generator set in a convenient location to furnish the power for the lights and for operating the machines. If it is to be used indoors, install a gastight exhaust line to pipe the exhaust gases outdoors. Provide metal shields for the exhaust line if it passes through flammable walls. Wrap the line with asbestos paper if there is any danger of anyone touching it.

**Warning: Do not operate the generator set in an enclosed area unless the exhaust gases are piped to the outside. Inhalation of exhaust fumes will result in serious illness or death.**

*b. Machine Table Assemblies, Folding Stands, and Stowage Boxes.*

- (1) Slide the four sewing machine table (top) assemblies (10 and 11, fig. 64) and (15 and 17, fig. 65) from the lower racks and out of the cabinet.

*Note.* The tables have to be removed in order to gain access to the folding stands which are located in the compartments under the table assemblies. The folding stands are used to support the table assemblies, which, in turn, support the sewing machine heads.

- (2) Unfasten the holddown straps (3 and 6, fig. 66) that secure the four folding stands (1 and 2) in the lower left side compartment of the cabinet; then remove the holddown straps that secure the other four folding stands in the lower right side compartment of the cabinet.
- (3) Remove the cross braces (4 and 5) from the tops of the folding stands and from the cabinet.
- (4) Remove the folding stands from the compartments, and set up each one as follows:

*Note.* The folding stands are placed and stored in the compartments of the cabinet with the feet up as shown in figure 66.

- (a) Loosen the wingnuts at each corner of the folding stand.
  - (b) Raise the ends of the folding stand to the vertical position.
  - (c) Press down on the ends of the folding stand until the bottoms come in contact with the top of the foot section.
  - (d) Tighten the wingnuts securely.
  - (e) Place the foot treadle in its operating position.
  - (f) Install a cross brace to the back of each folding stand.
- (5) Slide and remove the four stowage boxes (15, fig. 64) and 5 and 14, fig. 65) from the left and the right sides of the cabinet. Place the boxes in a convenient location to gain access to the bolts, clamps, and wingnuts used to secure the table tops to the stands.
  - (6) Install a table assembly on each folding stand. Insert the bolts through the tabletop, into the slots in the top of the steel stand, through the holes in the clamps, and then fasten them securely with the wingnuts.

*c. Clothing Sewing Machine Heads.* The clothing machine heads are stored and carried in six trays in the cabinet. Two are shown in figure 64 and four are shown in figure 65.

- (1) Pull or slide the tray with machine head, out until it hits the stop located on the bottom of the tray. Remove the thumbscrew that secures the holddown strap assembly to the machine head; open the straps and remove the machine head from the tray. Install the machine head on the top of the table as shown in figure 5
- (2) Remove the rod (12) from the stowage box and connect it to the clutch arm of the clutch assembly (9) and to the treadle (13).
- (3) Remove the bobbin winder and the wood screws from the stowage box and install the bobbin winder (8) on the tabletop.



- (4) Remove the thread unwinder (4), thread unwinder base, cone rest, set- screws, and screws from the stowage box.
- (5) Install the thread unwinder base on the tabletop.
- (6) Place the thread cone rests (5) on the thread unwinder (4), and install a setscrew in them (underneath the cone rests).
- (7) Place the thread unwinder in the base and tighten the setscrew securely.
- (8) Install the machine rest pin in the tabletop.
- (9) Plug the light cord in the receptacle located underneath the tabletop.
- (10) Install the belt on the motor drive pulley and on the machine drive pulley (6).

d. *Darning Machine Head.* Follow the instructions in c(l) through (10) above to setup the darning machine as shown in figure 6.

e. *Button Machine Head.*

- (1) Slide the tray with the button machine head until it hits the stop located under the bottom of the tray; remove the thumbscrew that secures the holddown strap assembly to the button machine head; open the straps and remove the button machine head from the tray. Install the button machine head (1, fig. 68) on the machine base which is mounted on the top of the table.

*Note.* Always leave the button machine base mounted on the tabletop so the button machine head can be placed easily into the tray.

- (2) Remove the rod from the stowage box and connect it to the clutch arm and to the starting treadle (4).
- (3) Remove the thread unwinder, thread unwinder base, cone rest, setscrews, and screws from the stowage box.
- (4) Install the thread unwinder base on the tabletop as shown in figure 5.
- (5) Place the thread cone rests (5) on the thread unwinder (4), and install a setscrew in them (underneath the cone rests).

- (6) Place the thread unwinder in the base and tighten the setscrew securely.
- (7) Install the machine rest pin in the tabletop.
- (8) Remove the lamp assembly, bracket, and stand from the stowage box, and install the stand on the tabletop.
- (9) Install the lamp assembly in the stand, and tighten the setscrew securely.
- (10) Plug the light cord in the receptacle located underneath the tabletop.
- (11) Install the belt on the motor drive pulley and on the machine drive pulley.
- (12) Remove the belt guard from the stowage box, and install the belt guard on the tabletop.

f. *Folding Chairs.*

- (1) Unfasten the strap assemblies (4 and 12, fig. 67) that hold the eight folding chairs (5 and 11), four on each side, in the rear of the cabinet. (2) Remove the folding chairs from the cabinet and place one chair in the operator's position in front of each sewing machine.

g. *Table Assemblies With Folding Legs.* There are two table assemblies with folding legs: one is used as a worktable during the operation of the clothing repair shop and one is used for the installation and operation of the grommet press at one end and the tack-button attaching machine' at the other (fig. 14).

- (1) Remove the two table assemblies (1, fig. 67) from the slides in the rear of the cabinet.

*Note.* Turn the two table assemblies top to top when placing them on the slides in the cabinet.

- (2) Unfold the legs and lock them by sliding the locks downward into position to set up the tables.

h. *Grommet Press.*

- (1) Remove the grommet press (3, fig. 14) from the stowage box.
- (2) Remove the nuts, washers and screws from the end of the top of the table

assembly, and install the grommet press. Tighten the nuts securely.

*i. Tack-Button Attaching Machine.*

- (1) Remove the tack-button attaching machine (1, fig. 14) from the stowage box.
- (2) Remove the nuts, washers and screws from the end of the tabletop and install the tack-button attaching machine on the tabletop. Tighten the nuts securely.

*j. Power Cables and Light Cords.* Remove the four power cables and the four light cords (10, fig. 67) from the cabinet. Connect the power cables and the light cords according to the schematic diagram (fig. 70) and according to the following instructions:

- (1) Connect the 3-receptacle outlet power cable to the generator set.
- (2) Connect the three 2-duplex outlet power cables to the 3-receptacle outlet power cable (connected to the generator set).
- (3) Connect the four light cords to the 2-

duplex outlet power cable receptacles marked with the letter L.

- (4) Connect the sewing machine power cords to the 2-duplex outlet power cable receptacles marked with the letter M.

*Note.* The receptacles on the three 2-duplex outlet power cables are marked with the letters M and L for proper load distribution. The sewing machines must be plugged in the receptacles marked with the letter M and the light cords must be plugged in the receptacles marked with the letter L.

*k. Fire Extinguisher.* Open the fire extinguisher bracket and remove the fire extinguisher (fig 71) from the cabinet. Place it in a convenient location near the work area.

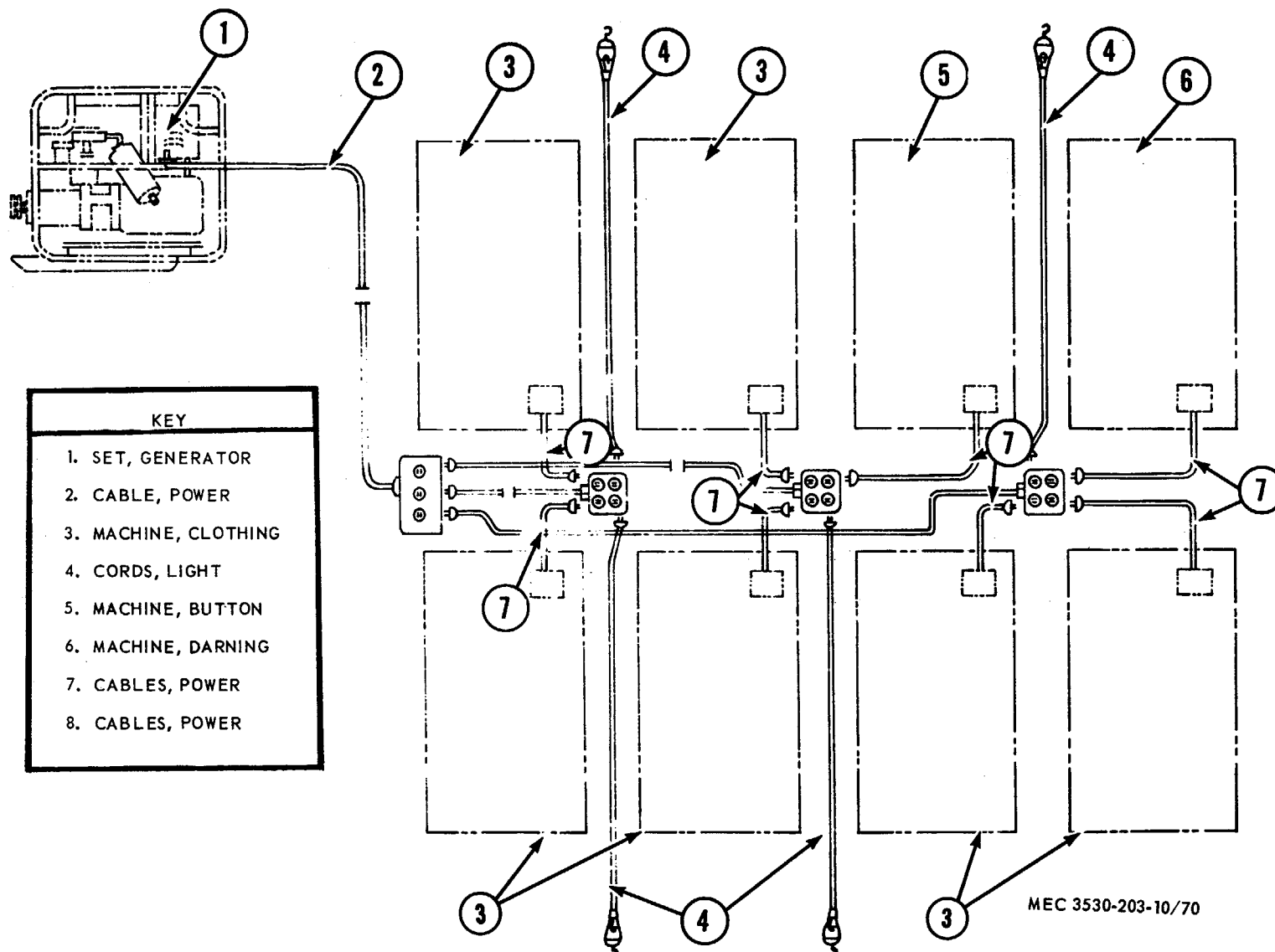


Figure 70. Schematic diagram showing sewing machines connected to generator set.

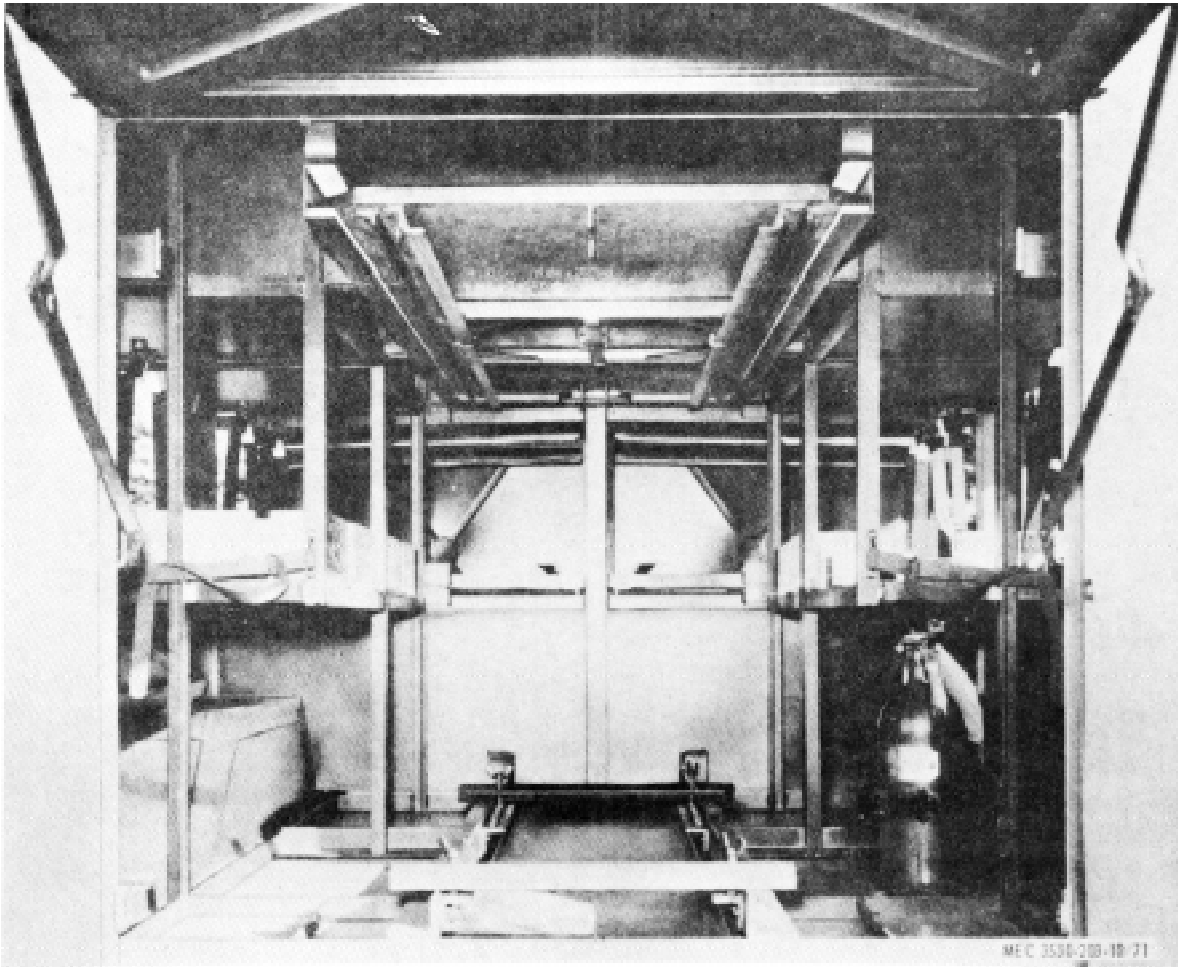


Figure 71. Fire extinguisher mounted in cabinet assembly.

## Section II. CONTROLS AND INSTRUMENTS

### 153. Controls

This section describes, locates, and illustrates the various controls provided for the proper operation of the appropriate components of the clothing repair shop. Refer to TM 5-6115-271-12 for the information on the controls on the generator set and to TM 9-2330-213-14 for the information on the controls on the cargo trailer.

### 154. Controls on Button Sewing Machine

The controls on the button sewing machine are as follows:

*a. Motor Switch.* The toggle-type motor switch (8, fig. 68) is located at the front of and on the underside of the tabletop. It is used to start and to stop the motor. Move the switch to the ON position to start the motor and to the OFF position to stop the motor.

*b. Treadle.* The foot-type treadle (4), is located in the bottom of the stand on the right of the button clamp lifter treadle (5). It is used to engage the clutch to the motor drive pulley. Press it downward to engage the clutch. Release the treadle to disengage the clutch or to stop the machine.

c. *Button Clamp Lifter Treadle.* The foot-type button clamp lifter treadle (5) is located in the bottom of the folding stand on the left of the starting treadle (4). It is used to raise or to lower the button clamp and to sever or cut the thread automatically. Press downward on the treadle to raise the clamp so a button can be inserted in the clamp, and material or cloth can be inserted between the clamp and the feed plate. Release the pressure from the treadle and the clamp automatically moves down.

### 155. Controls on Clothing Sewing Machine

Refer to the controls for the clothing sewing machine in paragraph 16.

### 156. Controls on Darning Machine

Refer to the controls for the darning machine in paragraph 17.

### 157. Instruments

The only instruments on the clothing repair shop are those instruments on the generator set. Refer to TM 5-6115-271-12 for the information covering the instruments on the generator set.

## Section III. OPERATION UNDER USUAL CONDITIONS

### 158. General

The instructions in this section are published for the information and the guidance of personnel responsible for operating the components of the clothing repair shop. The operator(s) must know how to perform every operation of which the components of the clothing repair shop are capable. This section gives instructions for preparing the components for operation and for operating and stopping the components. This section also gives instructions for preparing the clothing repair shop for movement to another work site. Because nearly every situation presents a different problem, the operator(s) may have to vary given procedures to fit the individual situation.

### 159. Preparing Button Sewing Machine for Operation

After the button sewing machine has been set up (para 152), perform the preliminary inspections prescribed in the daily preventive maintenance services (para 183), and then perform the following steps to prepare the button sewing machine for operation.

a. *Selecting Needle.* Select the correct needle of the correct size (16 or 18) and the class number and variety number (175 X 3 or 175 X 7) according to the thread and the material to be used for the operation of the button machine. The size of the needle describes the gage of the needle eye, and it is determined by the size of smooth left-twist thread which must pass freely

through the eye of the needle. Rough or uneven thread or thread which for any reason does not slip easily through the eye of the needle interferes with the operation of the machine. The class number describes the shank of the needle, the variety number describes the length of the needle and the type of point on the needle, and the size describes the gage and the eye of the needle.

b. *Installing Needle.* Loosen the needle setscrew and remove the needle from the needle bar. Then install the correct needle into the needle bar as far as it will go with the long groove of the needle in front of or facing the operator. Tighten the needle setscrew securely.

c. *Threading Needle.* Thread the needle following the instructions below and according to the points in the order in which they are numbered on figures 72 and 73. With the thread takeup lever at its highest point, start and run the thread freely from the thread unwinder, and

- (1) From right to left through the thread eyelet (1);
- (2) From right to left through the eyelet (2);
- (3) Behind the automatic tension and between the tension disks of the automatic tension (3);
- (4) Forward to the right-hand side of and between the stationary tension disks (4);

- (5) Forward through the eyelet (5);
- (6) Forward between the guide pins (6);
- (7) Under the thread nipper plate (7);

*Note.* In order to release the thread nipper to draw the thread forward while threading the machine, depress the thread nipper re-leasing screw (3, fig. 74) to release the thread from the grip of the thread nipper.

- (8) To the right of the guide pins (8);
- (9) Forward and through the eyelet (9);
- (10) Forward through the eyelet (10);
- (11) Forward through the guide (11) at the top of the faceplate;
- (12) Down and from left to right through the roller guide (12) near the bottom of the faceplate;
- (13) Up and from left to right through the needle bar connecting link hinge stud thread guide (13);
- (14) Down through the faceplate thread retainer (14) at the bottom of the faceplate;
- (15) Down through the guide at the lower end of the needle bar (15); and
- (16) Down and from front to back through the eye of the needle (16). This threading sequence completes the threading of the button machine.

*d. Adjusting Tension on Thread.* Adjust the tension on the thread with the thumb nut (2, fig. 74). If the tension is too tight on the thread, the thread will break-if it is too loose, the stitches in the button will not pull down close enough to make firm bars of thread and the thread will ball or knot up under the needle. Turn the thumb nut to the right to increase the tension on the thread and to the left to decrease it.

*e. Adjusting Opening in Button Clamp.* Use the button clamp spreader handle (10, fig. 74) to adjust the opening in the clamp (14, fig. 75) enough to hold the button. Loosen the thumbscrew (16, fig. 74), move the adjusting lever (8) to a point where it just clears the button stop screw (9), and tighten the thumbscrew (16) securely.

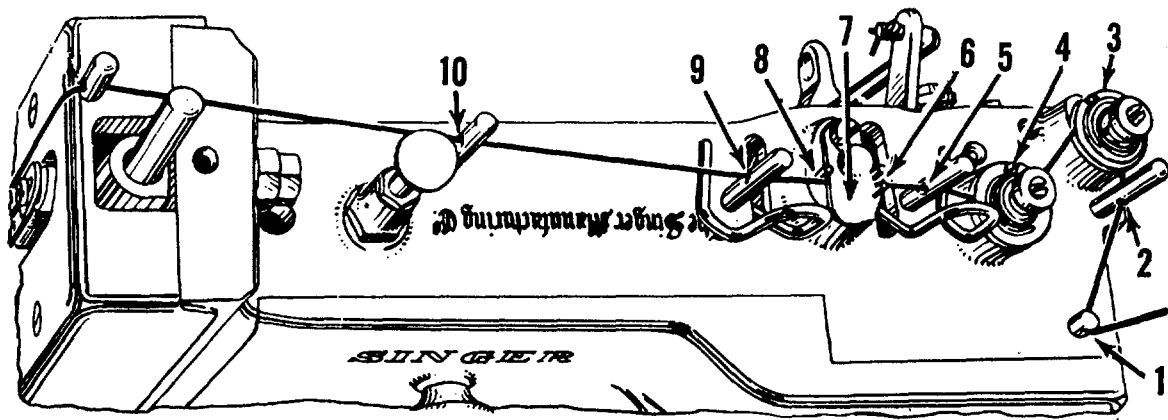
*f. Adjusting Pressure on Button Clamp.* Loosen the pressure regulating locknut (6) and then turn the thumbscrew (5) to the right to increase the pressure and to the left to decrease it. Tighten the locknut securely when the proper adjustment has been made.

*g. Adjusting for Two-Hole and Four-Hole Buttons.* Remove the hinge pin (12), which holds the button clamp, and insert the hinge pin in the upper hole (13) to adjust the button clamp (14, fig. 75) to hold two-hole buttons. Place the hinge pin in the lower pin hole to adjust the button clamp to hold four-hole buttons.

*h. Adjusting Forward and Backward Motion of Button Clamp.* Use the forward and backward motion of the button clamp (14) when sewing four-hole buttons to make the needle strike the two pairs of holes. After the first bar of stitches has been sewn in the two back holes of a four-hole button, the button clamp must move back just enough for the needle to strike through the two front holes of the button. Adjust or regulate the forward and backward motion of the button clamp with the feed plate carrier regulating nut (11, fig. 74); the regulating nut has four holes and the handle (3; fig. 76) may be installed in any of the holes. Install the handle into the hole that will bring the handle into a convenient position for turning the regulating nut. Move the handle to loosen and to turn the regulating nut; then move it to the left to increase the forward movement of the clamp and to the right to decrease the forward movement of the clamp. When the button clamp has been properly adjusted to make the needle strike the two pairs of holes, tighten the regulating nut.

*i. Regulating Needle Bar Vibration.* Regulate the needle bar vibration by loosening the locknut (4, fig. 74); then move the needle bar slide toward the needle to decrease the width of vibration, or away from the needle to increase the width of vibration on the needle bar. Tighten the locknut.

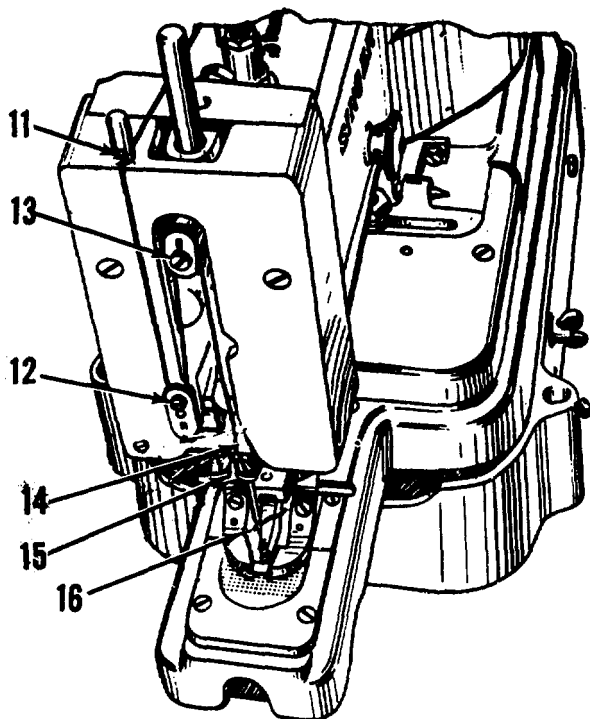
*j. Checking and Testing for Proper Operation.* Turn on the motor switch and operate the machine according to the procedures in paragraph 160. Make any necessary adjustments and test the machine for sewing on buttons.



MEC 3530-203-10/72

Figure 72. Sequence of threading points on top of button sewing machine arm.

NOTE: SEE FIGURE 72 FOR  
CALLOUTS 1 THRU 10



MEC 3530-203-10/73

Figure 73. Sequence of threading points on face of button sewing machine.

### 160. Operating Button Sewing Machine

After the button machine has been prepared for operation (par. 159) to include making the proper adjustments, sew buttons on material as follows:

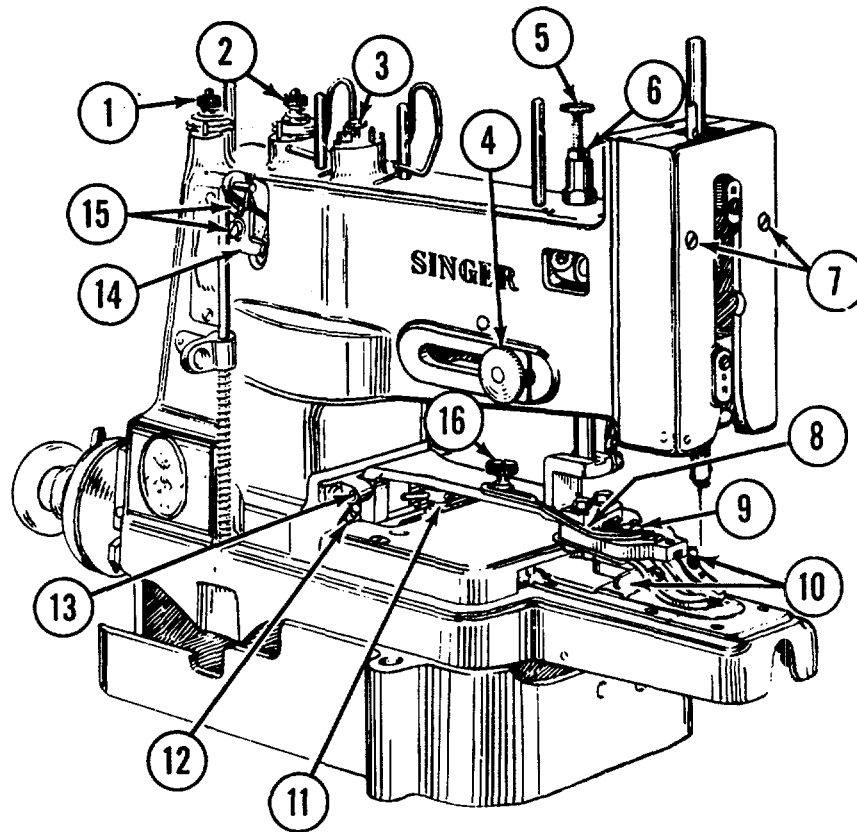
*a. Inserting Button and Material in Machine.* Depress the button clamp lifter treadle (5, fig. 68) to raise the button clamp (14, fig. 75) enough to insert the button in the jaws of the clamp. While the clamp is raised, insert the material between the clamp and the feed plate. Release the treadle so the button clamp will come down upon the material over the place where the button is to be sewn.

*b. Turning on Power Source.* Turn on the power source with the motor switch (8, fig. 68).

*c. Starting Procedure.*

- (1) Step firmly upon the treadle (4), thus making the pulley shifter (3, fig. 77) draw the pulley (2) against the stop dog (1).
- (2) Use a quick firm tread with a prompt release to start the button machine.

*d. Sewing Button on Material.* Release the treadle (4, fig. 68) and the machine will automatically make its cycle of 16 stitches and then will stop with the needle raised to its highest position.



MEC 3530-203-10/74

- |   |   |
|---|---|
| 1 Nut, stud tension (automatic) thumb           | 9 Screw, spreader and button stop           |
| 2 Nut, stud tension (stationary) thumb          | 10 Handle, button clamp spreader            |
| 3 Screw, thread nipper releasing                | 11 Nut, regulating feed plate carrier       |
| 4 Locknut, adjusting needle bar vibrating lever | 12 Pin, button clamp arm hinge              |
| 5 Thumbscrew, pressure regulating               | 13 Hole, hinge pin bracket                  |
| 6 Locknut, pressure regulating thumbscrew       | 14 Plate, button clamp lifting rod arm stop |
| 7 Screws, faceplate                             | 15 Screws, stop plate                       |
| 8 Lever, button clamp adjusting                 | 16 Thumbscrew, adjusting lever              |

Figure 74. Button sewing machine, left-side view.

### 161. Stopping Button Sewing Machine

The button sewing machine automatically stops after it has made its cycle for sewing on a button.

*Note.* Do not raise the button clamp until the machine stops.

*a. Removing Material from Machine.* Press on the button clamp lifter treadle (5, fig. 68) to raise the clamp. This step severs or cuts the thread from the looper under the needle. Pull the material with button

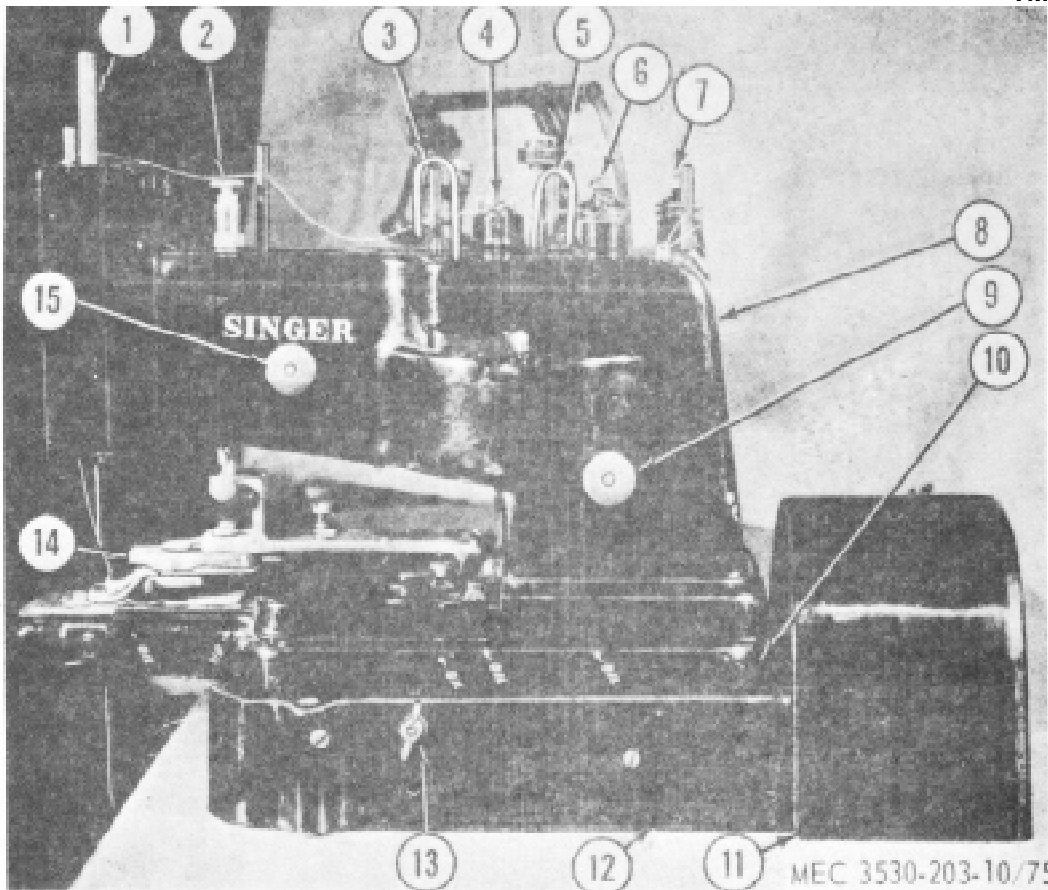
sewn on it from the jaws of the button clamp.

*b. Turning Off Power Source.* Turn off the power source with the motor switch.

### 162. Preparing Clothing Sewing Machine for Operation

After the clothing sewing machine has been set up (para 152c), perform the preliminary inspections prescribed in the daily preventive maintenance service (par. 183), and then perform the steps in paragraph 23 to prepare the clothing sewing machine for operation.





- |  |                           |
|--|---------------------------|
| 1 Bar, needle                          | 9 Nut, cover stud thumb   |
| 2 Thumbscrew, pressure regulating      | 10 Bed, machine           |
| 3 Pulloff, front thread                | 11 Guard, belt and pulley |
| 4 Nipper, thread                       | 12 Base, machine          |
| 5 Pulloff, rear thread                 | 13 Wingnut, machine lock  |
| 6 Nut, stud tension (stationary) thumb | 14 Clamp, button          |
| 7 Nut, stud tension (automatic) thumb  | 15 Nut, cover stud thumb  |
| 8 Arm, machine                         |                           |

Figure 75. Button sewing machine, right-side view.

### 163. Operating Clothing Sewing Machine

After the machine has been prepared for operation (par. 23), operate it according to the instructions in paragraphs 24 and 25.

### 164. Preparing Darning Machine for Operation

After the darning machine has been removed from the cabinet and it has been set up for operation (par. 152d), perform the preliminary inspections prescribed in the daily preventive maintenance services (par 183), and then perform the steps in paragraph 26 to prepare the

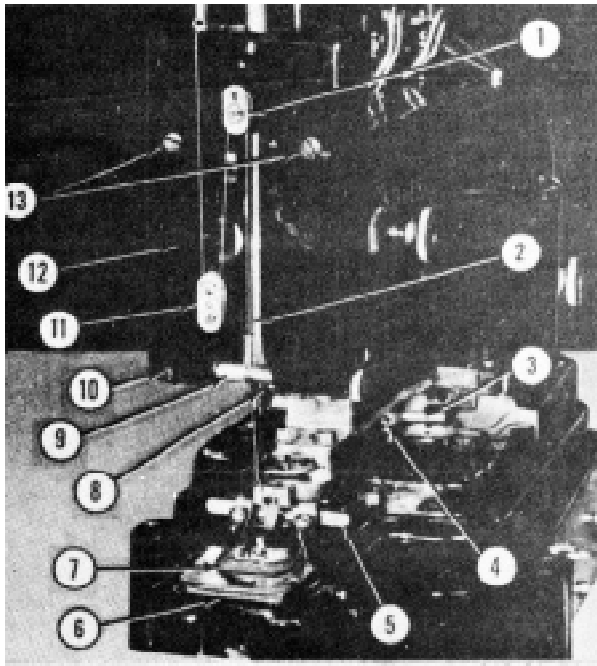
darning machine for operation.

### 165. Operating Darning Machine

After the darning machine has been prepared for operation (par. 26), operate it according to the instructions in paragraph 27.

### 166. Stopping Darning Machine

Stop the darning machine according to the instructions in paragraph 28.



- 1 Guide, hinge stud thread
- 2 Bar, needle
- 8 Handle, regulating nut
- 4 Nut, regulating
- 5 Handle, button clamp opener
- 6 Plate, needle
- 7 Plate, feed
- 8 Setscrew, needle
- 9 Retainer, faceplate thread
- 10 Setscrew, faceplate thread retainer stud
- 11 Guide, faceplate (lower) thread
- 12 Faceplate
- 13 Screws, faceplate

Figure 76. Face of button sewing machine.

**167. Preparing Grommet Press for Operation**

After the grommet press has been installed on the tabletop (para 152h), perform the preliminary inspections prescribed in the daily preventive maintenance services

(para 183), and then perform the steps in paragraph 38 to prepare it for operation.

**168. Operating Grommet Press**

After the grommet press has been prepared for operation, including the installation of the appropriate die and chuck and snap fastener parts, follow the instructions in paragraphs 39 and 40 to operate the grommet press.

**169. Preparing Tack-Button Attaching Machine for Operation**

After the tack-button attaching machine has been installed on the table (par. 14), perform the preliminary inspections prescribed in the daily preventive maintenance services (par. 183), and then perform the steps in paragraph 41 to prepare it for operation.

**170. Operating Tack-Button Attaching Machine**

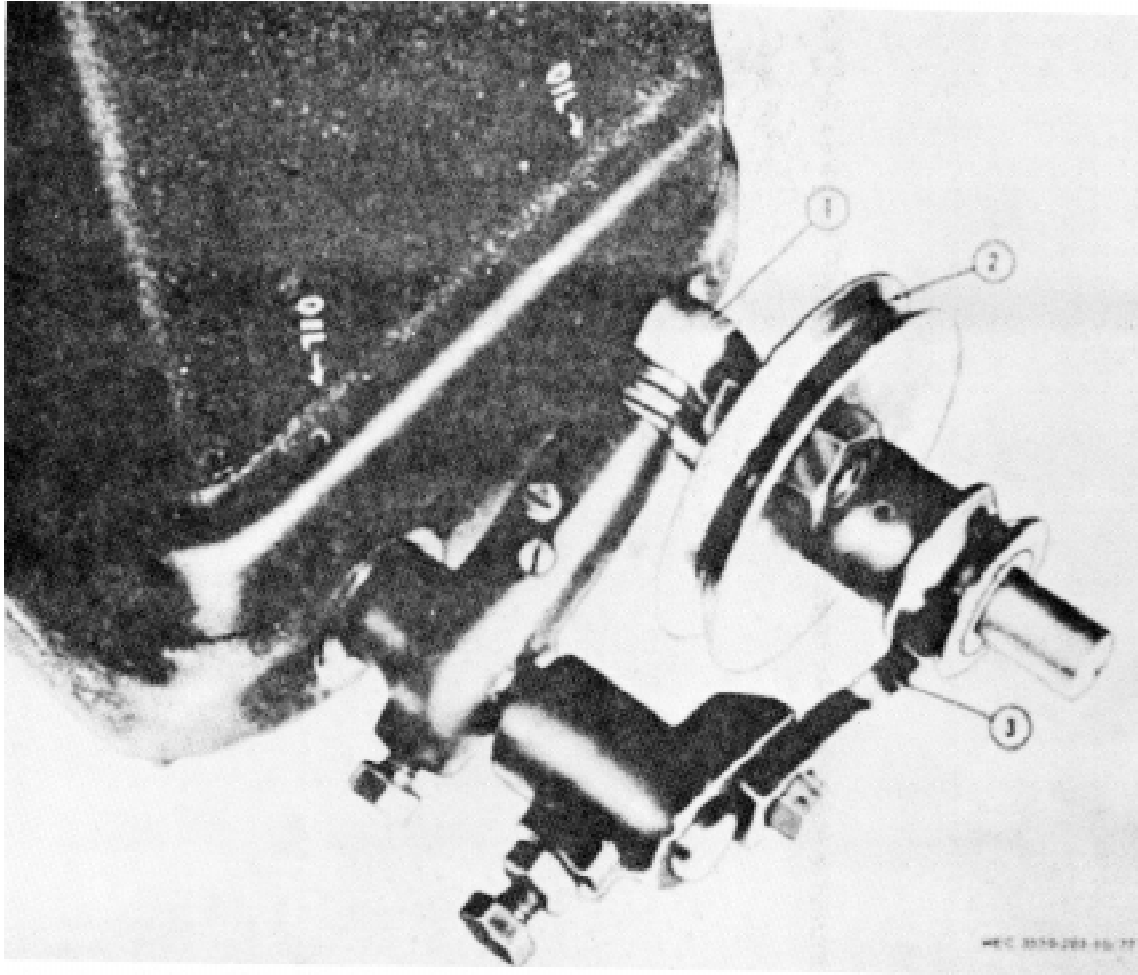
After the tack-button attaching machine has been prepared for operation (par. 41), operate it according to the instructions in para- graph 42.

**171. Stopping Track-Button Attaching Machine**

Stop the tack-button attaching machine according to the instructions in paragraph 43.

**172. Preparing Clothing Repair Shop for Movement to Another Worksite**

Dismantle the components of the clothing repair shop, and load everything in the cabinet by reversing the unloading and setting up procedures in paragraph 152. Before closing the cabinet doors, make sure all tray and table assemblies and stowage boxes are secured in their proper positions to prevent damages to equipment and doors.



1 Dog, stop

2 Pulley

3 Shifter, pulley

Figure 77. Pulley and pulley shifter.

#### Section IV. OPERATION OF MATERIEL USED IN CONJUNCTION WITH CLOTHING REPAIR SHOP

##### 173. General

This section contains the necessary instructions, illustrations, descriptions, and references for operating the auxiliary materiel or components used in conjunction with the operation of the major components of the clothing repair shop. The auxiliary components include a fire extinguisher and a generator set.

##### 174. Fire Extinguisher

Refer to the instructions in paragraph 46 for the operation and the maintenance of the fire extinguisher.

##### 175. Generator Set

Refer to the instructions in paragraph 47 for the operation of the generator set.

#### Section V. OPERATION UNDER UNUSUAL CONDITIONS

##### 176. Operation in Extreme Heat and Cold Areas

Refer to paragraph 49.

##### 177. Operation in Sandy and Dusty Areas

Refer to paragraph 50.

## CHAPTER 6

## MAINTENANCE INSTRUCTIONS

## Section I. SPECIAL TOOLS AND EQUIPMENT

**178. Special Tools**

No special tools are needed by the operators for the maintenance of the components of the clothing repair shop. The common tools are authorized in the appropriate table of organization and equipment or table of allowances.

**179. Special Equipment**

No special equipment is needed by the operator(s) for the maintenance of the components of the clothing repair shop.

## Section II. LUBRICATION

**180. General**

a. This section contains a reproduction of the lubrication orders and lubrication instructions which are supplemental to, and not specifically covered in the lubrication orders.

b. The lubrication orders shown in figures 44, 46, and 78 are exact reproductions of the approved lubrication orders for the clothing repair shop darning and sewing machines. Lubrication instructions for the generator set and for the cargo trailer are contained in TM 5-6115-271-12 and TM 9-2330-213-14 respectively. For current lubrication orders refer to DA Pam 310-4.

c. Lubricate or oil the cabinet assembly latches and hinges, the grommet press, and the tack-button attaching machine when and if they become difficult to operate.

**181. Detailed Lubrication Information**

a. *General.* Keep all lubricants in closed containers and store them in a clean, dry place away from external heat. Allow no dust, dirt or foreign material

to mix with the lubricants. Keep all lubrication equipment clean and ready for use.

b. *Points of Lubrication.* Refer to figures 45, 47 and 79 for illustrations of the lubrication points shown on the lubrication orders (paras 53b and 180b). The numbers inserted on the borders of each lubrication order are listed consecutively, and refer to specific lubrication points. The illustrations of the specific lubrication points follow each lubrication order to which they apply.

c. *Cleaning.* Keep all external parts that do not require lubrication free of lubricants. Before lubricating the equipment, wipe dirt and grease from all lubrication points.

d. *Operation Immediately After Lubrication.* Operate the machines immediately after lubrication to distribute the oil on all moving parts.

**LUBRICATION  
ORDER**

# LO 10-3530-203-10-1

20 OCTOBER 1965

**CLOTHING, REPAIR SHOP, TRAILER MTD, ARMY MODEL SPV34,  
YORK' ASTRO MODEL D8700337, TEXTILE, REPAIR SHOP,  
TRAILER MTD, ARMY MODEL SPV35, YORK ASTRO  
MODEL D8700447, MACHINE, SEWING BUTTON  
SINGER MODEL 175-60/62**

Reference: LO 10-3530-203-10-2 and 3, C9100-IL

Intervals are based on normal hours of operation. Reduce to compensate for abnormal operation and severe conditions. During inactive periods, sufficient lubrication must be performed for adequate preservation.

Clean parts with SOLVENT drycleaning. Dry before lubricating.

Apply two to three drops of LO at each friction point unless otherwise noted.

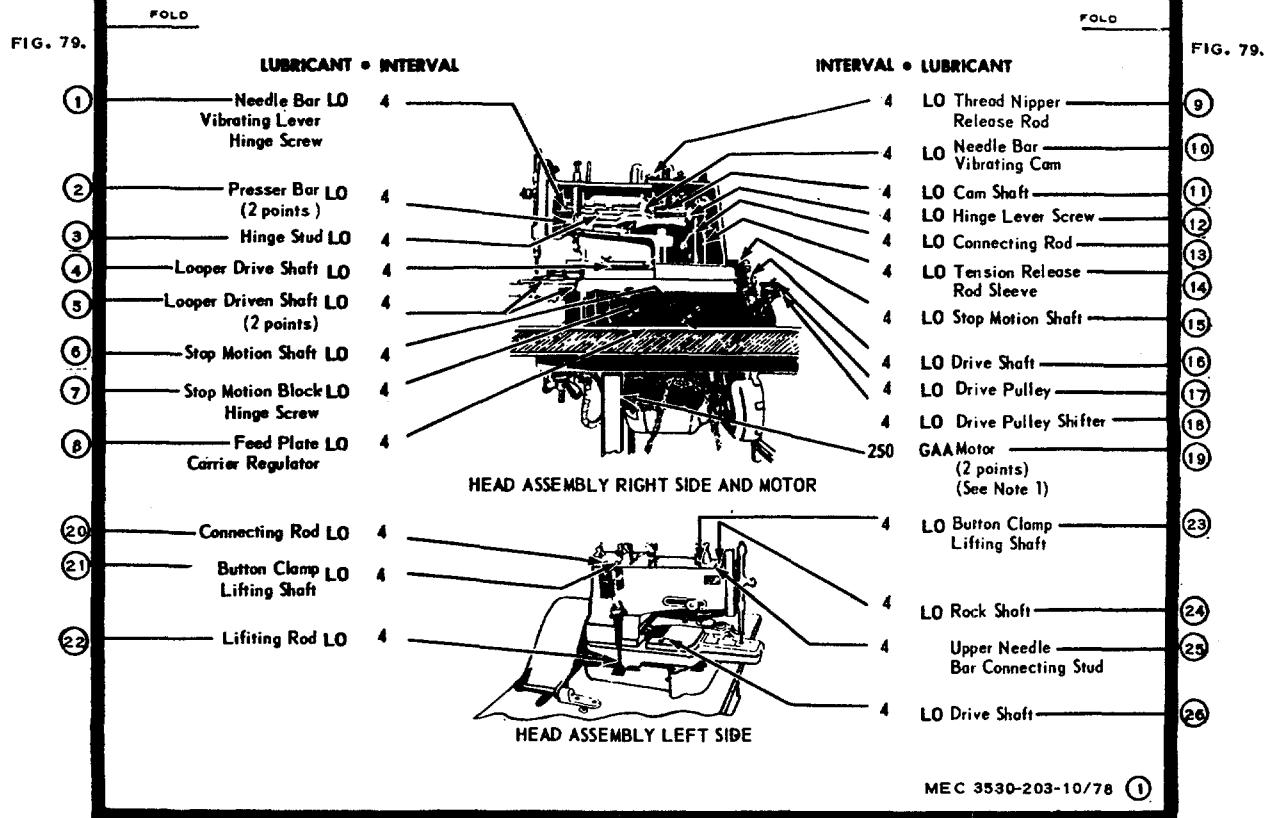


Figure 78. Lubrication Order 10-3530-203-10-1 for button sewing machine.

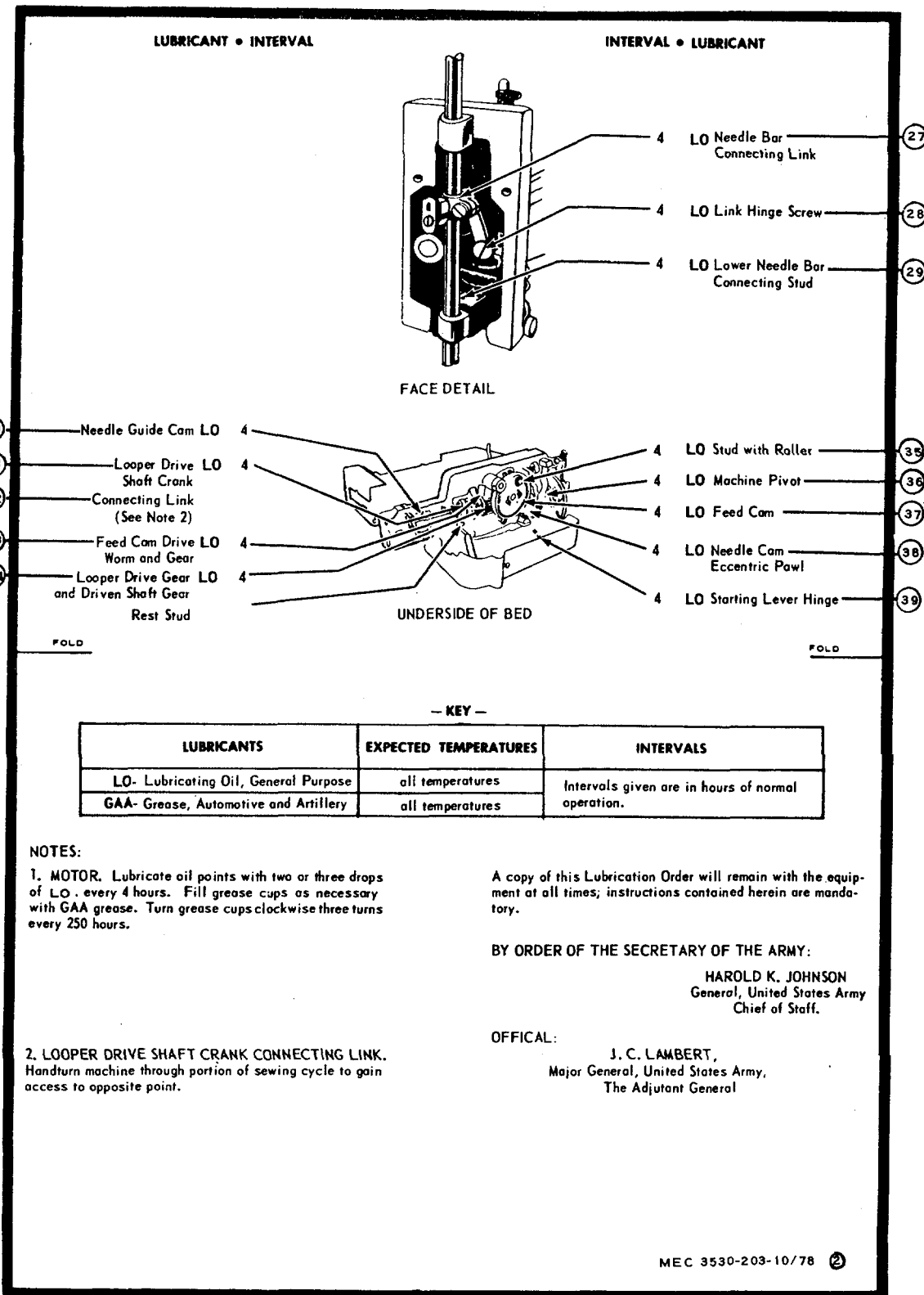


Figure 78 - Continued.

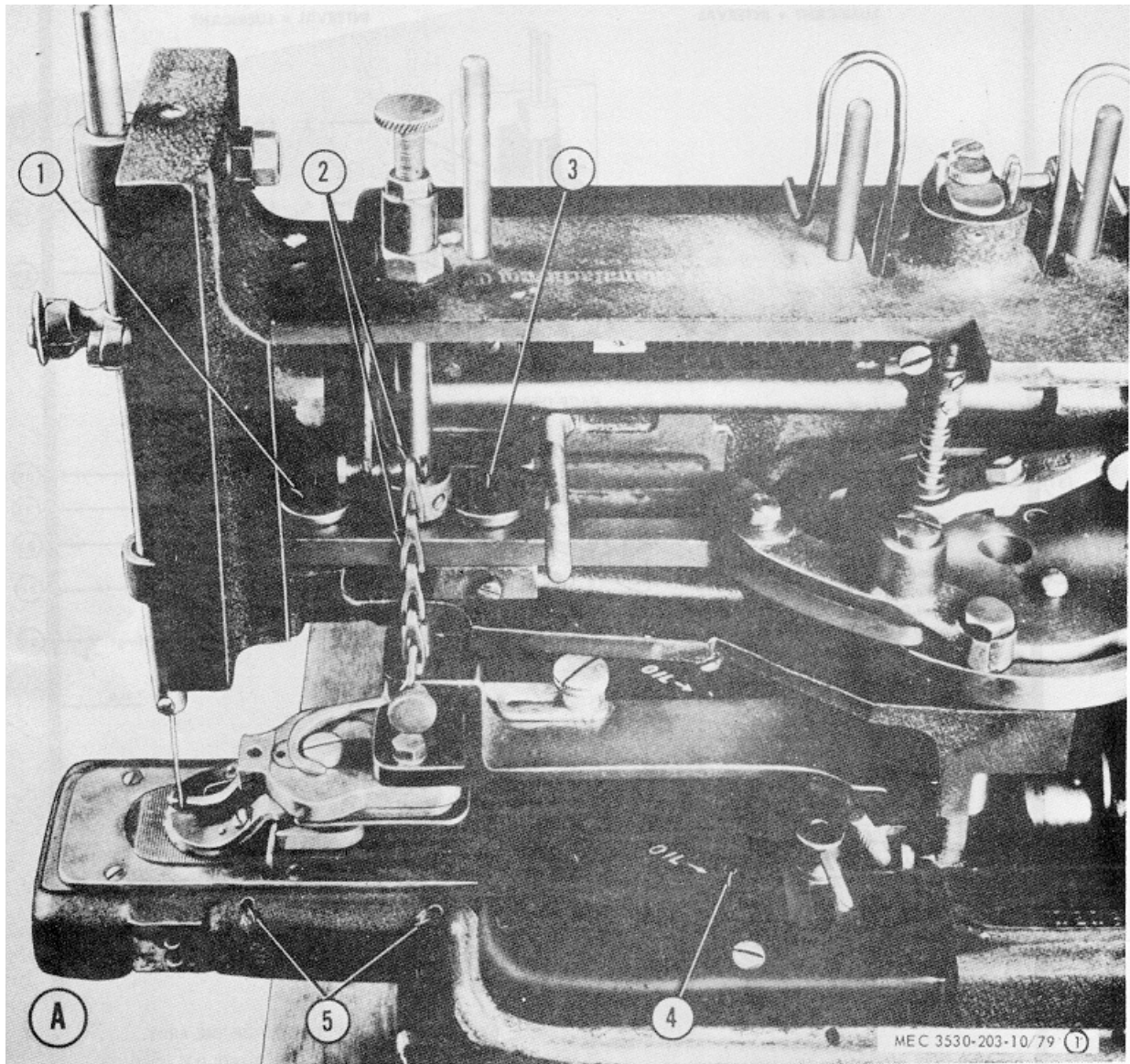


Figure 79. Lubrication points on button sewing machine.

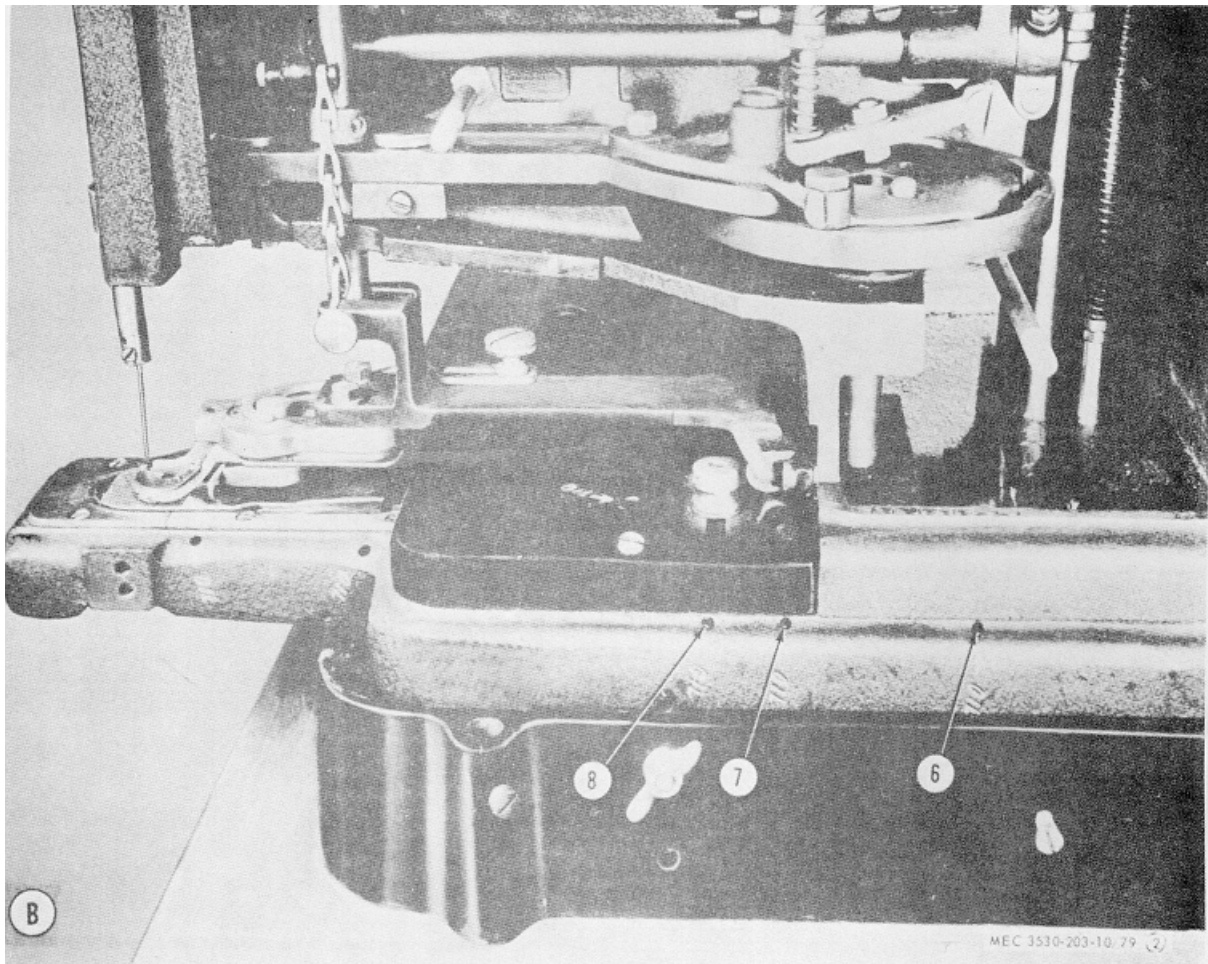
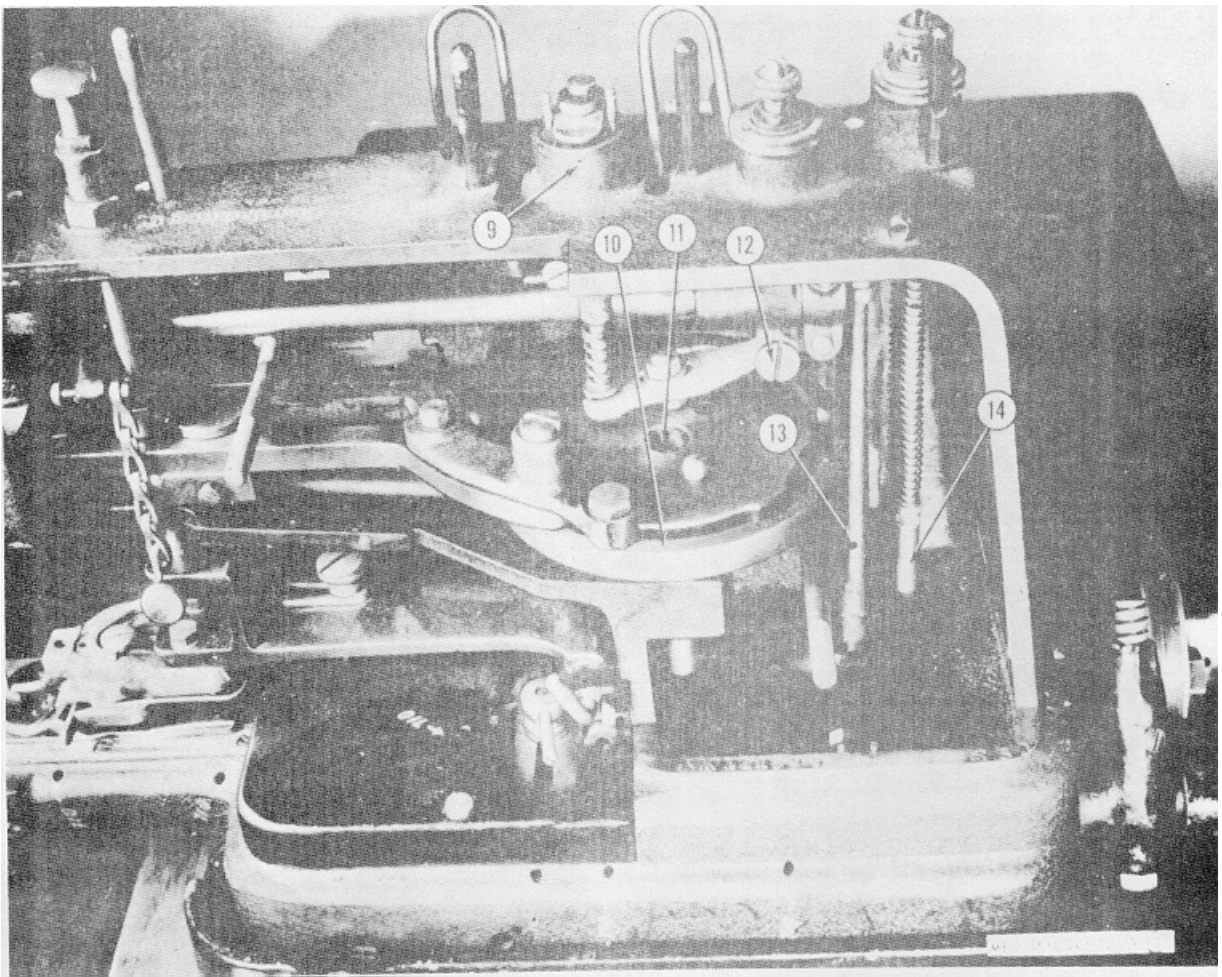


Figure 79 - Continued.





*Figure 79 -- Continued.*

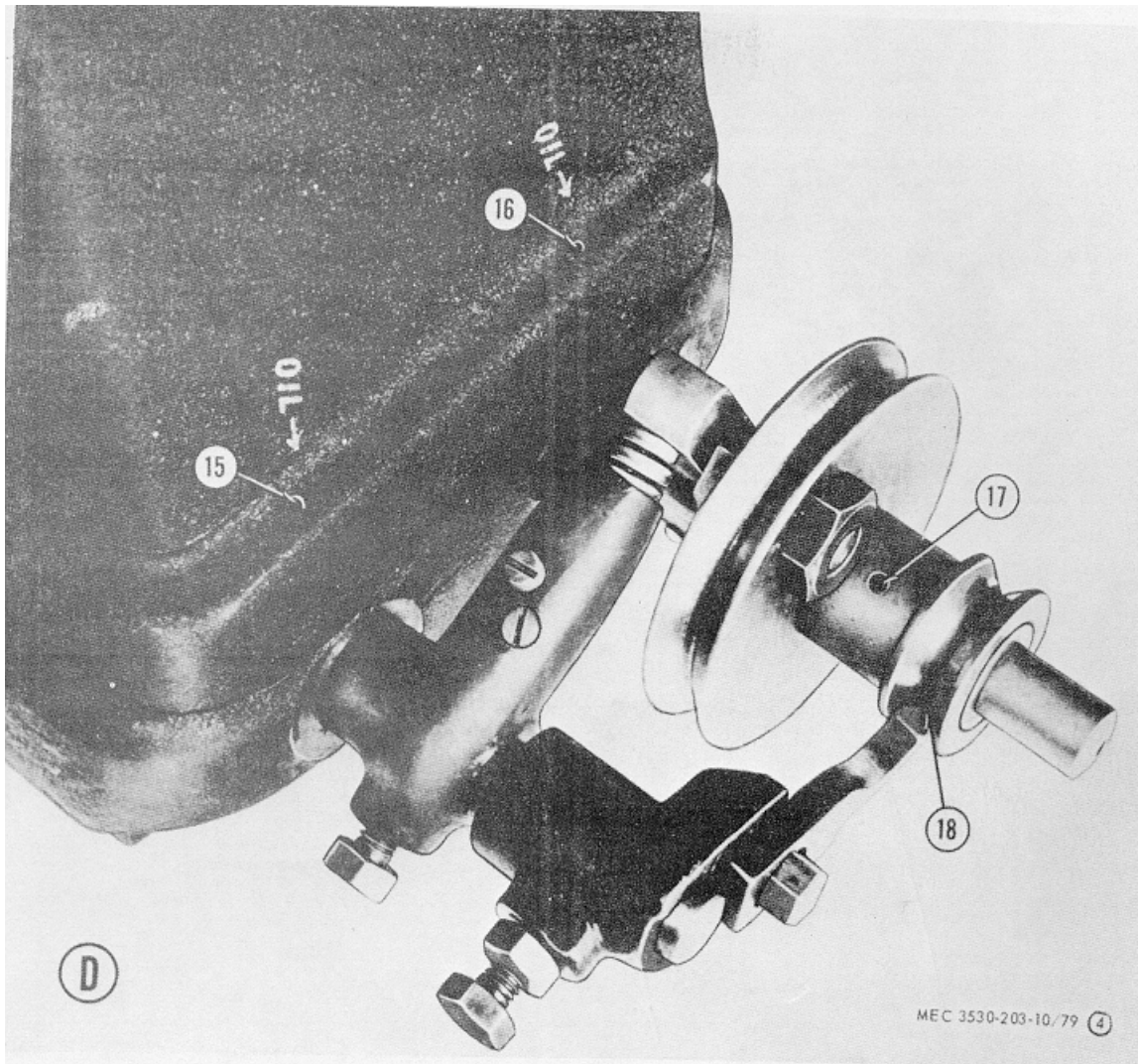


Figure 79 - Continued.

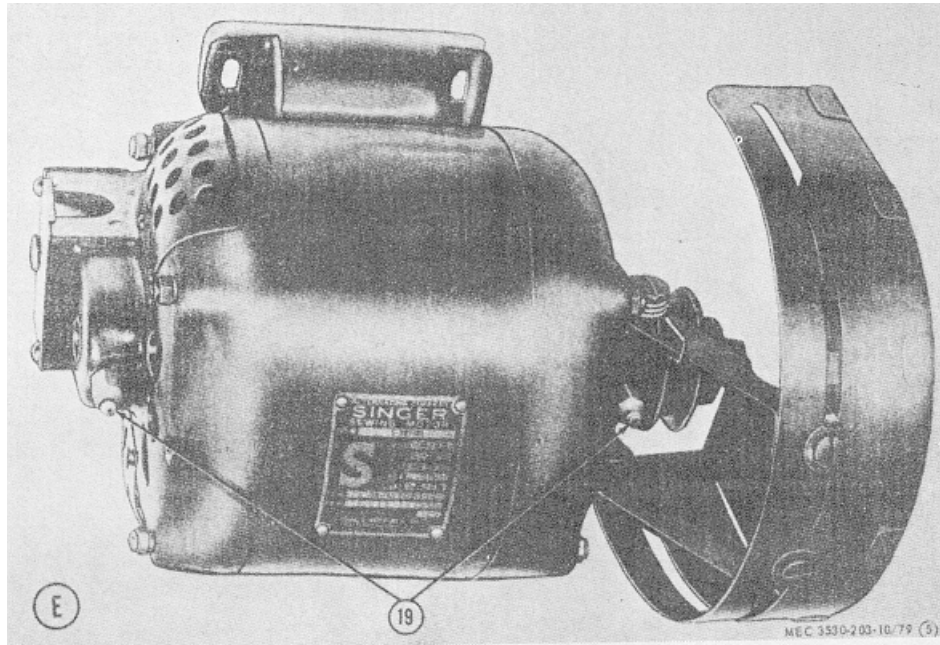
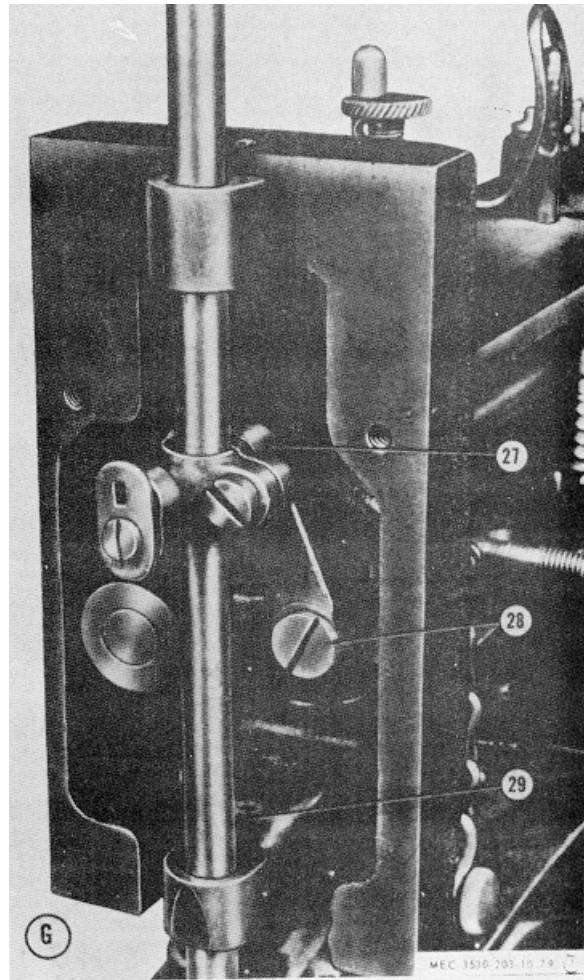


Figure 79 - Continued.



Figure 79 - Continued.



*Figure 79 - Continued.*

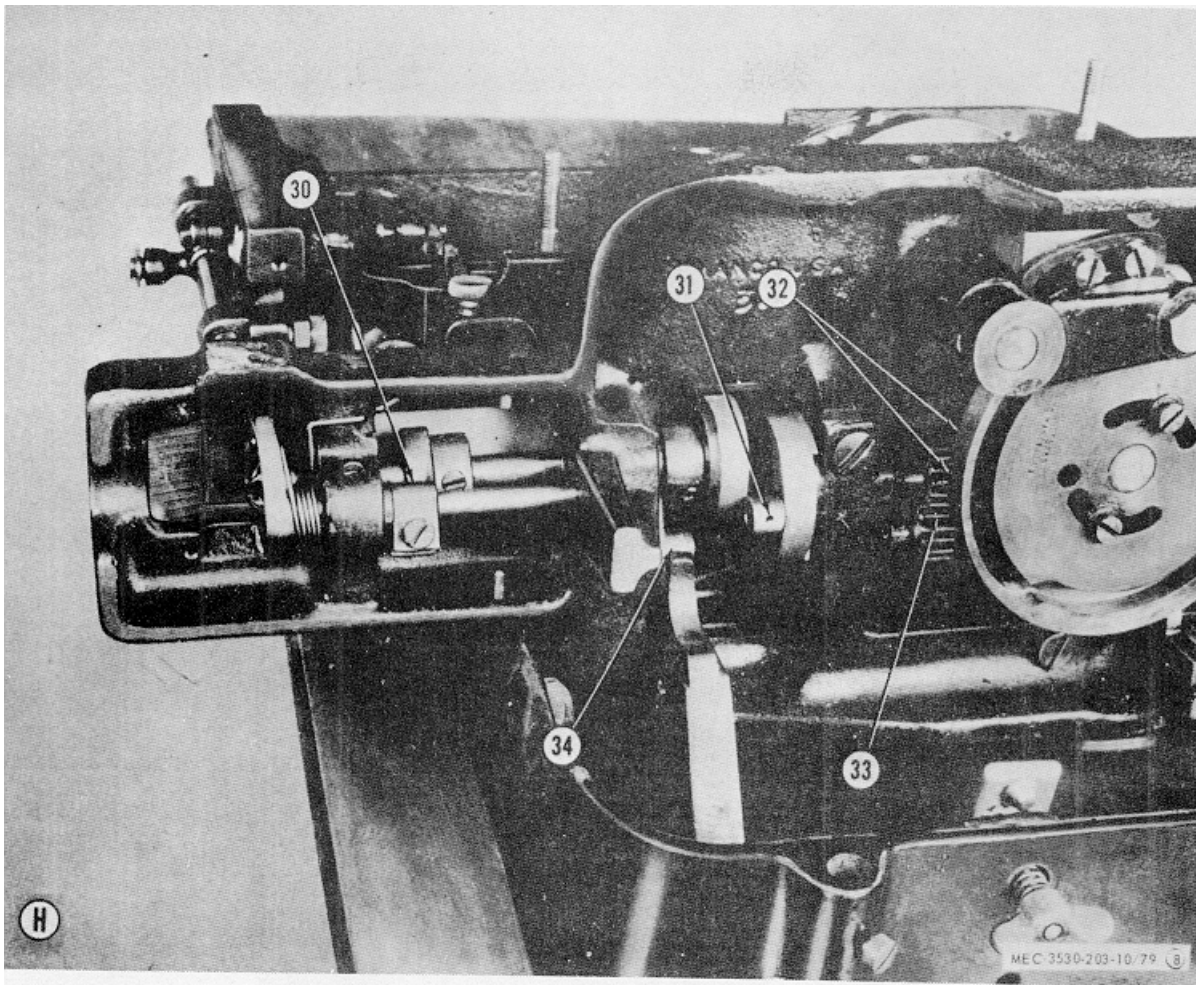


Figure 79 - Continued.

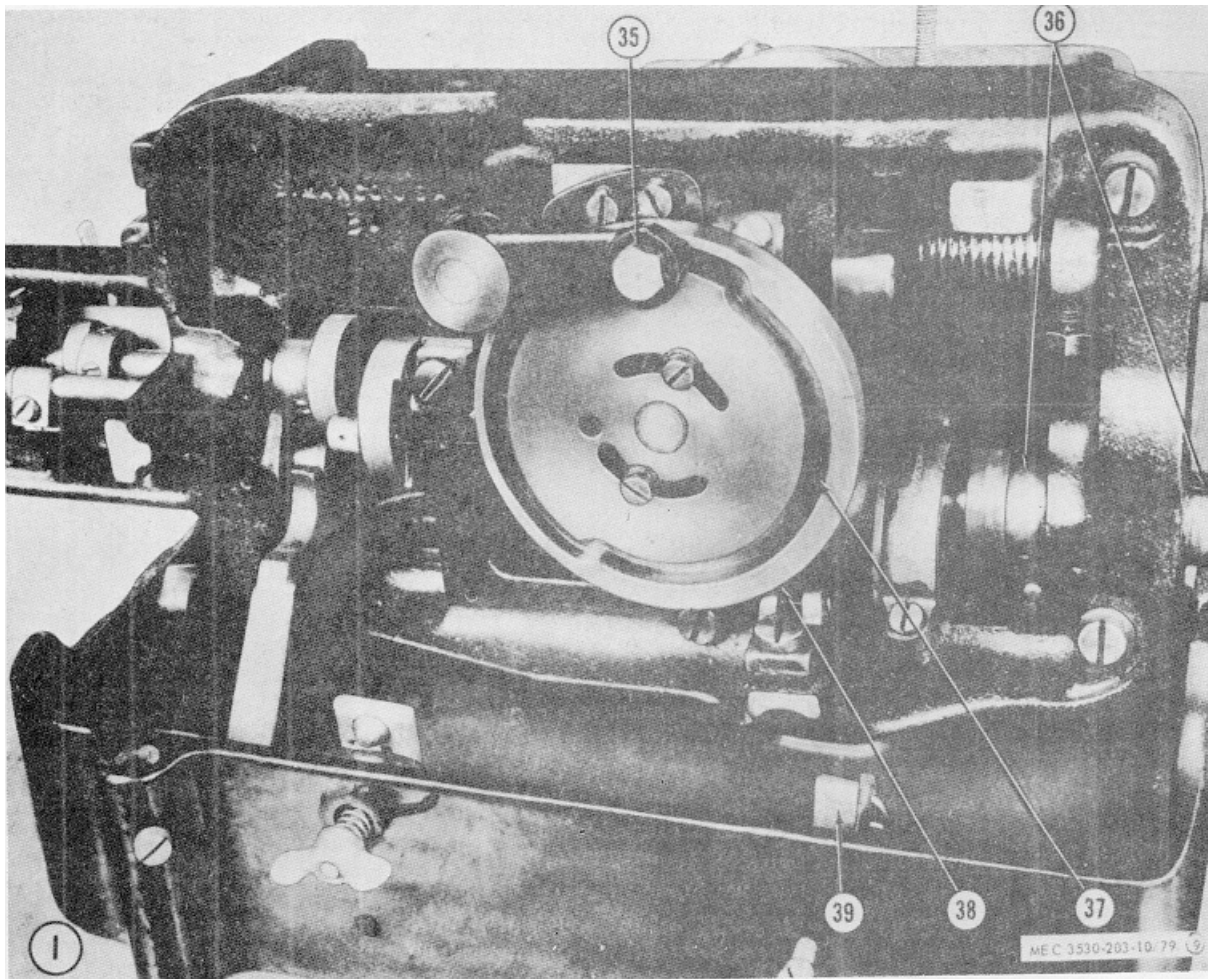


Figure 79 - Continued.

### Section III. PREVENTIVE MAINTENANCE SERVICES

#### 182. General

To insure that the clothing repair shop is ready for operation at all times, its components must be inspected systematically so that defects may be discovered and corrected before they result in serious damage or failure. The necessary preventive maintenance services to be performed are listed and described in paragraph 183. The item numbers indicate the sequence of minimum inspection requirements. Defects discovered during operation of the components of the clothing repair shop shall be noted for future correction to be

made as soon as the operation has ceased. Stop operation immediately if a deficiency is noticed which would damage the equipment if operation were continued. All deficiencies and shortcomings, together with the corrective action taken, will be recorded on DA Form 2404 at the earliest possible opportunity.

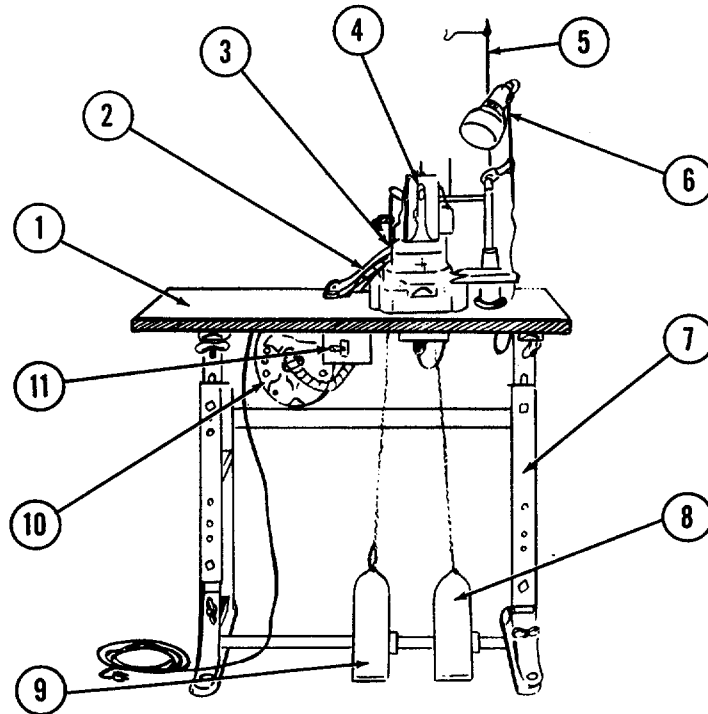
#### 183. Daily Preventive Maintenance Services

This paragraph contains an illustrated tabulated listing of preventive maintenance services for the components of the clothing repair

# PREVENTIVE MAINTENANCE SERVICES DAILY

TM 10-3530-203-10

MACHINE, SEWING, BUTTON



LUBRICATE IN ACCORDANCE WITH CURRENT LUBRICATION ORDER

ITEM		PAR REF
1	<p><b>TABLE ASSEMBLY.</b> Inspect the table assembly for cut, cracked, broken, warped, and dirty tabletop; for loose or missing bolts and nuts; and for loose mounting to the folding stand. Make certain the table assembly is level. Inspect for bent or broken components. Inspect the components for loose or missing bolts and nuts, and for loose mounting to the table assembly.</p>	

MEC 3530-203-10/80 (1)

*Figure 80. Daily preventive maintenance services for button sewing machine.*



ITEM		PAR REF
2	<u>DRIVE BELT GUARD.</u> Inspect the drive belt guard for bends, dirty surface, loose or missing screws, and loose mounting.	
3	<u>DRIVE BELT AND PULLEYS.</u> Inspect for broken, frayed, and excessively worn drive belt. Inspect the belt for loose mounting on the pulleys. Inspect the pulleys for cracked, chipped or broken edges, and loose mounting. Check for a 1-inch distance between the sides of the belt when both sides of the belt are pressed inward midway between the pulleys.	
4	<u>BUTTON MACHINE HEAD.</u> Inspect the button machine head for dirty surfaces and grease deposits; for bent, broken, loose, or missing components; and for loose mounting. Inspect the needle for broken or excessively worn point; for bent or broken shaft; and for loose mounting.	
5	<u>THREAD UNWINDER.</u> Inspect the thread unwinder for loose or missing bolts, nuts, and screws; for bent or broken components; for corroded surfaces; and for loose mounting.	
6	<u>LAMP ASSEMBLY.</u> Inspect the lamp assembly, bracket, and stand for loose or missing bolts, nuts, and screws, and loose mounting. Inspect for dirty, cracked, or broken housing and lens. Inspect the electrical cord for frayed insulation and broken wiring. Inspect for a broken lamp switch. Check the switch for improper operation, and make certain the lamp (bulb) is not burned out.	
7	<u>FOLDING STAND.</u> Inspect the folding stand for bent or broken components; for loose or missing bolts and nuts; and for loose mounting to the table assembly. Make certain the folding stand is level on the floor.	
8	<u>STARTING TREADLE.</u> Inspect the starting treadle for bent, broken, loose, or missing components, and loose mounting. Press the treadle and make certain that the pulley shifter engages with the machine drive pulley.	

MEC 3530-203-10/80 (3)

Figure 80 - Continued.

ITEM		PAR REF
9	<u>BUTTON CLAMP LIFTER TREADLE</u> . Inspect the button clamp lifter treadle for bent, broken, loose, or missing components, and loose mounting. Press the treadle to make certain that the lifting rod raises and lowers the button clamp.	
10	<u>ELECTRIC MOTOR</u> . Inspect the electric motor for dirty surfaces and grease deposits; for bent, cracked, or broken housing; for loose or missing bolts and nuts; for loose electrical connections; and for loose mounting. Observe the motor for unusual noise and excessive vibration (during operation).	
11	<u>MOTOR SWITCH</u> . Inspect for broken or bent motor switch. Inspect it for loose mounting in the switch box. Check the switch for improper operation; make certain it turns the motor on and off.	
	<u>NOTE 1. OPERATION</u> . During operation observe for any unusual noise or excessive vibration.	

MEC 3530-203-10/80 (3)

Figure 80 - Continued.

shop which must be performed by the operator. The item numbers are listed consecutively and indicate the sequence of minimum requirements for each component. Refer to figure 56 for the daily preventive maintenance services for the cabinet assembly; to figure 80 for the button sewing machine; to figure 57 for the

clothing sewing machine; to figure 58 for the darning machine; to figure 62 for the grommet press; and to figure 63 for the tack-button attaching machine. Refer to the daily preventive maintenance services for the generator set in TM 5-6115-271-12 and for the cargo trailer in TM 9-2330-213-4.

**Section IV. TROUBLESHOOTING**

**184. General**

This section provides information useful in diagnosing and correcting unsatisfactory operation of each major component of the clothing repair shop. Each trouble symptom stated is followed by a list of probable causes of the trouble. The possible remedy recommended is described opposite the probable cause. Any trouble that is beyond the ability of the operator to remedy must be reported according to the instructions given in TM 38-750. Refer to TM 5-6115-271-12 for troubleshooting information for the generator set and to TM 9-2330-213-14 for the cargo trailer.

**185. Cabinet Assembly, Clothing Sewing Machine, Darning Machine, Grommet Press and Tack-Button Attaching Machine**

For troubleshooting information pertaining to the cabinet assembly, refer to paragraphs 58 through 65; clothing sewing machine, refer to paragraphs 66 through 77; darning machine, refer to paragraphs 78 through 86; grommet press, refer to paragraphs 131 through 133; and to the tack-button attaching machine, refer to paragraphs 134 through 138.

*BUTTON SEWING MACHINE*

**186. Needle Breaks**

Probable cause	Possible remedy
Needle is of wrong size, class, and variety. (para. 159a and b).	Install needle of correct size, class, and variety
Needle is bent or has a blunt point.	Install serviceable needle (para. 159a and b).
Button is not alined firmly and correctly in clamp	Aline button firmly and correctly in clamp (para. 159g and hi, 162)
Stepping on starting treadle before letting button clamp down firmly on material.	Do not step on starting treadle before letting clamp down firmly.
Raising button clamp be-	Do not raise button clamp

Probable cause	Possible remedy
fore machine stops. Button clamp is not set to correspond to number of holes in button.	before machine stops. Set button clamp to correspond with number of holes in button (paras. 159g and h).
Feed plate is not locked in. Button clamp is out of adjustment.	Lock feed plate in securely. Report this condition as stipulated in TM 38-750.
Needle bar vibration not coinciding with distance between holes.	Report this condition as stipulated in TM 38-750.
Clamp adjusting lever is out of adjustment.	Adjust lever thumbscrew (para. 159e).
Needle guide is out of adjustment.	Report this condition as stipulated in TM 38-750.
Thread finger is out of time.	Report this condition as stipulated in TM 38-750.
Looper is out of adjustment or out of time.	Report this condition as stipulated in TM 38-750.
Needle bar or feed plate operating cam is out of time.	Report this condition as stipulated in TM 38-750.
Thread nipper is out of adjustment.	Report this condition as stipulated in TM 38-750.

**187. Thread Breaks**

Probable cause	Possible remedy
Machine is improperly threaded.	Rethread machine (para. 159c).
Needle is of wrong size, class, or variety.	Install needle of correct size, class, or variety (paras. 159a and b).
Needle point is blunt or broken.	Install serviceable needle (para. 159a and b).
Thread tension is too tight or too loose.	Adjust thread tension (para. 159d).
Thread is damp or defective.	Use good dry thread.
Right-twist thread being used.	Use left-twist thread for needle.

Probable cause	Possible remedy
Incorrect size of thread is being used	Use correct size of thread for needle and material (para. 159a).
Needle strikes button	Report this condition as stipulated in TM 38-750.
Needle bar is incorrectly installed in needle bar.	Install needle correctly (para. 159b).
Looper is out of adjustment.	Report this condition as stipulated in TM 38-750.
Looper has rough edges or looper point is bent.	Report this condition as stipulated in TM 38-750.
Needle guide is out of adjustment	Report this condition as stipulated in TM 38-750.
Needle guide is bent, burred, or broken.	Report this condition as stipulated in TM 38-750.
Thread finger is bent, burred, or broken.	Report this condition as stipulated in TM 38-750.
Needle guide oscillating	Report this condition as stipulated in TM 38-750.
crank spring is broken.	Report this condition as stipulated in TM 38-750.
Automatic tension is out of adjustment.	Report this condition as stipulated in TM 38-750.
Thread nipper is out of adjustment.	Report this condition as stipulated in TM 38-750.

**188. Lamp Does Not Light When Switch is in ON Position**

Probable cause	Possible remedy
Light cord is not plugged into electrical power receptacle.	Plug cord into receptacle.
Light cord is broken.	Report this condition as stipulated in TM 38-750.

Probable cause	Possible remedy
----------------	-----------------

Incandescent lamp (bulb) is burned out.	Replace lamp.
Lamp assembly or switch is defective.	Report this condition as stipulated in TM 38-750.
Electrical power receptacle is defective.	Report this condition as stipulated in TM 38-750.

**189. Motor Fails to Start When Switch is in the ON Position**

Probable cause	Possible remedy
Power cable is not plugged into power receptacle.	Plug power cable into receptacle.
Power cable is broken.	Report this condition as stipulated in TM 38-750.
Switch is defective.	Report this condition as stipulated in TM 38-750.
Motor is defective.	Report this condition as stipulated in TM 38-750.

**190. Unusual Noise in Motor**

Probable cause	Possible remedy
Motor is defective.	Shut down sewing machine and report this condition as stipulated in TM 38-750.

**191. Motor Does Not Pull Load**

Probable cause	Possible remedy
Drive belt is slipping.	Report this condition as stipulated in TM 38-750.
Improper voltage or motor is faulty.	Report this condition as stipulated in TM 38-750.

## APPENDIX I

## REFERENCES

**1. Dictionaries of Terms and Abbreviations**

AR 320-5 Dictionary of United States Army Terms (Short Titles: AD).  
 AR 320-50 Authorized Abbreviations and Brevity Codes.

**2. Fire Protection**

TB 5-4200-200-10 Hand Portable Fire Extinguishers Approved for Army Users.  
 TM 5-687 Repairs and Utilities; Fire Protection Equipment and Appliances: Inspections, Operations, and Preventive Maintenance.

**3. Lubrication**

LO 5-2805-203-14 Engine, Gasoline: 6 HP; Military Standard model 4A032-1 and model 4A032-11.  
 LO 10-3530-202-10-3 Machine, Sewing (Singer Model 7-33).  
 LO 10-3530-202-10-7 Machine, Sewing (Singer Model IIIW155).  
 LO 10-3530-202-10-8 Components common to Singer models 112W116, 131W113, 17W15, 55-5, and 111W155.  
 LO 10-3530-203-10-1 Clothing, Repair Shop, Trailer Mtd, Army Model SPV 34, York Astro Model D8700337, Textile Repair Shop, Trailer Mtd, Army Model SPV 35, York Astro Model D8700447, Machine, Sewing, Button, Singer Model 175-60/62.  
 LO 10-3530-203-10-2 Clothing, Repair Shop, Trailer Mtd, Army Model SPV 34, York Astro Model D8700337, Textile Repair Shop, Trailer Mtd, Army Model SPV 35, York Astro Model D8700447, Machine, Sewing, Clothing, Singer Model 31-15.  
 LO 10-3530-203-10-3 Clothing, Repair Shop, Trailer Mtd, Army Model SPV 34, York Astro Model D8700337, Textile Repair Shop, Trailer Mtd, Army Model SPV 35, York Astro Model D8700447, Machine, Sewing, Darning, Singer Model 47W40.  
 LO 10-3630-203-10-4 Clothing, Repair Shop, Trailer Mtd, Army Model SPV 34, York Astro Model D8700337, Textile Repair Shop, Trailer Mtd, Army Model SPV 35, York Astro Model D8700447, Machine, Sewing, Overedge, Singer Model 246-15.

**4. Operating Instructions**

TM 5-2805-203-14 Organizational, DS and GS Maintenance Manual, Engine, Gasoline, Military Standard Models (Model 4A032-I) FSN 2805-776-0483 and (Model 4A032-II) FSN 2805-068-7512.  
 TM 5-6115-271-12 Operator and Organizational Maintenance Manual, Generator Set, Gasoline Engine, 3 KW, (Less Engine): AC, 400 Cycle, . (Military Model HF3.0 MD).

TM 9-2330-213-14	Operator, Organizational and Field Maintenance Manual, Including Repair Parts and Special Tool Lists for Chassis Trailer; 1-1/2-ton, 2-Wheel. M103A1.
TM 103530-202-10	Operator's Manual, Sewing Machines for the Repair of Parachutes and Allied Equipment, Singer Models 112W116 (FSN 3530-892-4636) and 111W155 (FSN 3530359-8856).
TM 10-3530-203-10	Operator's Manual, Textile Repair Shop, Trailer Mounted, York Astro Model D8700447, Army Model SPV 35 (FSN 3530-819-2008) and Clothing Repair Shop, Trailer Mounted, York Astro Model D8700337, Army Model SPV 34 (FSN 3530-819-2007).

**5. Preventive Maintenance**

AR 385-40	Accident Reporting and Records.
AR 700-58	Report of Damaged or Improper Shipment.
AR 750-5	Organization, Policies, and Responsibilities for Maintenance Operation.
AR 750-10	Materiel Readiness (Serviceability of Unit Equipment).
TM 38750	Army Equipment Record Procedures.

**6. Publication Indexes**

DA Pam 310-2	Military Publications: Index of Blank Forms.
DA Pam 310-4	Military Publications: Index of Technical Manuals, Technical Bulletins, Supply Manuals (Types 7, 8, and 9) Supply Bulletins, Lubrication Orders and Modification Work Orders.

**7. Supply Publications**

AR 735-35	Supply Procedures for TOE and TDA units or Activities.
FSC C9100-ML	FSC Group 91 - Fuels, Lubricants, Oils, and Waxes.

**8. Training Aids**

FM 5-20	Camouflage, Basic Principles and Field Camouflage.
FM 21-5	Military Training Management.
FM 21-6	Techniques of Military Instruction.
FM 2130	Military Symbols.
TM 3-220	Chemical, Biological, and Radiological (CBR) Decontamination.
TM 10-267	General Repair for Clothing and Textiles.

APPENDIX II

BASIC ISSUE ITEMS

Section I. INTRODUCTION

1. General

Section II of this appendix lists all equipment, tools, repair parts, and publications required for maintenance and operation by the operator, initially issued with, or authorized for the components of the clothing repair shop.

2. Explanation of Columns Contained in Section II

a. *Source Codes.* The information provided in each column is as follows:

- (1) *Source.* The selection status and the source of supply for each part are indicated by one of the following code symbols:

"P"-Applied to high-mortality repair parts which are not stocked in or supplied from the supply service depot system, and authorized for use at indicated maintenance levels.

"P1"-Applied to repair parts which are low-mortality parts, stocked in or supplied from supply service depots, and authorized for installation at indicated maintenance levels.

"X1"-Applied to assemblies which are not procured or stocked as such but are made up of two or more units, each of which carry individual stock numbers and descriptions and are procured and stocked and can be assembled by units at indicated

maintenance levels.

- (2) *Maintenance.* The lowest maintenance level authorized to use, stock, install, or manufacture a part is indicated by the following code symbol:

"O"-Organizational maintenance.

- (3) *Recoverability.* Repair parts and/or tool and equipment items that are recoverable are indicated by the following code symbol:

"R"-Applied to repair parts and assemblies which are economically repairable at direct support and general support maintenance activities, and normally are furnished by supply on an exchange basis.

*Note.* When no code is shown in the recoverability column the part is considered expendable.

b. *Federal Stock Number.* When a Federal stock number is available for a part, it will be shown in this column, and will be used for requisitioning purposes.

c. *Description.*

- (1) The item name and a brief description of the part are shown.
- (2) A five-digit Federal supply code for manufacturers and/or other supply services is shown in parentheses followed by the manufacturer's part number. This number shall be used for requisitioning purposes when

no Federal stock number is indicated in the Federal stock number column.

Example: (08645) 86453.

d. *Unit of Issue.* If no abbreviation is shown in this column, the unit of issue is "each."

e. *Quantity Authorized.* This column lists the quantities of equipment, repair parts, tools, or publications authorized for issue to the equipment operator.

f. *Quantity Issued with Equipment.* This column lists the quantities of equipment, repair parts, tools, or publications that are initially issued with each item of equipment. Those indicated by an asterisk are to be requisitioned through normal supply channels as required.

g. *Illustrations.* This column is subdivided into two columns which provide the following information:

- (1) *Figure number.* Provides the identifying number of the illustration.

- (2) *Item number.* Provides the referenced number for the part shown in the illustration.

**3. Abbreviations**

Some abbreviations used in section II are as follows:

- AR - As required
- Dia. - diameter(s)
- ea. -- each
- FSN - Federal Stock Number
- ft. - foot (feet)
- in. - inch (inches)
- kw. - kilowatt(s)
- lb. - pound(s)
- lg. - length (long)
- no. - number(s)
- o/a - overall
- rd - round
- SPV - Special Purpose Vehicle
- w/ -- with

**Section II. BASIC ISSUE ITEMS LIST**

Source Codes				Federal stock no.	Description	Unit of Issue	Qty auth	Qty issued w/equip	Illustration	
Material	Source	Maintenance	Recoverability						Fig.	Item
					<p><b>Major Item: Textile Repair Shop, Trailer-Mounted, York Astro Model D8700477, Army Model SPV 35, FSN 3530-819-2008</b></p> <p>GROUP 31- BASIC ISSUE ITEMS, MANUFACTURER INSTALLED                      3100 - BASIC ISSUE ITEMS, MANUFACTURER OR DEPOT INSTALLED EQUIPMENT</p>					
	P1	0		5120-.293-0269	ATTACHING MACHINE, tack, button, hand, (AE) (53705)		1	1		
	P1	0		3030-359-5707	BELTING, leather, rd, 1/4" (unit of measure ft)				AR	
	P1	0		3030-242-6669	BELTING, leather, rd, 5/16" (unit of measure ft) (246-15)				AR	
	P1	0		35303828267	BRACE, w/bolts and nuts, cross, machine folding stand leg (SER182273).44					
	X1				CABINET ASSEMBLY, complete, QMC drawing 6-1-1100		1	1		



Source Codes				Federal stock no.	Description	Unit of Issue	Qty auth	Qty issued w/equip	Illustration	
Material	Source	Maintenance	Recoverability						Fig.	Item
	P1	O		35309068063	CABLE, power, w/2 duplex outlets 2conductor, No. 10 stranded, rubber covered, 25 ft. lg.		3	3		
	P1	O		35309068064	CABLE, power, w/3 duplex outlets 3conductor, No. 10 AWG, rubber covered, 25 ft. lg.		1	1		
	P1	O		71052698463	CHAIR, folding, front to back, metal		6	6		
	P1	O	R	35303597326	CLOTHING MACHINE, sewing, less stand, (Model 3115).		1	1		
	P	O		62306155384	CORD, Light, w/side outlet, 25 ft w/bulb.		4	4		
	P	O	R	35303597437	DARNING MACHINE, sewing, less stand (Model 47W70).		1	1		
	P1	O		42102704512	EXTINGUISHER, fire, carbon dioxide permanent shutoff, hand, 5 lb., type I, class 1, MILE468.		1	1		
	P1	O	R	6110751640	GENERATOR SET, GED, skd mtd 3 kw, 60 Cycle.		1	1		
	P1	O		35307165598	HOOKS, belt, No. 15 (24615)		3	AR		
	P1	O		53407157769	HOOKS, belt, No. 16 (25127)		16	AR		
	P	O		62401433094	LAMP, incandescent, rough service, 100 w, 115 v.		4	4		
	P1	O			62508486098 LAMP ASSEMBLY, w/bracket, complete 194871 (77948).		2	2		
	P1	O	R	35303597873	OVEREDGE MACHINE, sewing, less stand (Model 24615).		1	1		
	P1	O		83402619751	PIN, tent, wood, type 2		16	16		
	P1	O		83402052758	PLATE, ridge, type 13		2	2		
	P1	O		83401888411	POLE, tent, section, type 1, class 2		2	2		
	P1	O		40202312581	ROPE, manila, 3/8" x 10( ft.	2	2	2		
	P1	O	R	35309991057	SEWING MACHINE, heavy duty, less stand (Model 733).		2	2		
	P1	O		35303598797	STAND, folding (used as follows) (SER186552). 1Clothing Machine 1Darning Machine 1Overedge Machine 1Textile Machine		4	4		
	P1	O		35308486092	STAND, metal, heavy duty sewing machine 601037 (77948).		2	2		
	P1	O		71954745859	TABLE ASSEMBLY, w/folding legs, D8700501 (17162).		2	2		
	P1	O	R	35303598856	TEXTILE MACHINE, sewing, less stand (Model 11iW165).		1	1		
	P1	O		35303598886	THREAD UNWINDER, three cone, overedge machine, (151031).		1	1		

Source Codes				Federal stock no.	Description	Unit of Issue	Qty auth	Qty issued w/equip	Illustration	
Material	Source	Maintenance	Recoverability						Fig.	Item
	P1	O		35303598878	THREAD UNWINDER, two cone, (used as follows) (225258). 1Clothing Machine 1Darning Machine 1Textile Machine		3	3		
	P1	O		23301418050	TRAILER, cargo, 1 1/2ton, 2wheel, M105A2.		1	1		
	P1	O		35304910036	UNWINDING ASSEMBLY, thread, 2spool 41823 (77948). LIST OF TOOLS ACCOMPANYING UNIT		2	2		
	P	O		394C2022204	BLOCK AND TACKLE, w/100 ft 3/4 in. manila rope, self lubricating bearings, 2800 lb. safe working load.		2	2		
	P	O		80202633873	BRUSH, paint, oval, no. 2.1 in. by 5/8 in.		2	2		
	P	O		79202237647	BRUSH, wire, scratch, w/wood handle, 4 by 14 rows, 14 in. lg.		2	2		
	P	O		51203575594	CHUCK, socket, fastener tool (for attaching Part No. 1901 and 17101) 9470.		1	1		
	P	O		51203575596	CHUCK, stud, fastener tool (for attaching Part No. 22311 and 22325) 9219.		1	1		
	P	O		51203575751	DIE, button, fastener tool (for attaching Part No. 12108) 1483.		1	1		
	P	O		51203596503	DIE, button, fastener tool (for attaching Part No. 21107) 9182.		1	1		
	P	O		51203575752	DIE, clinch plate, fastener tool (attaching Part No. 1901A) 9471.		1	1		
	P	O		51204493744	DIE, eyelet, fastener tool (for attaching Part No. 12404) 1488.		1	1		
	P	O		51201442101	DIE, fastener, attaching tool (for fastening United Carr Corp, washer No. 844A) 9940		1	1		
	P	O		35306964854	GAGE. adjusting, for dog, looper and carrier, overedge machine.		1	1		
	P	O		51103576177	HOLDER, chuck, for M100 chucks		1	1		
	P	O		51103576181	HOLDER, die, for M100 dies		1	1		
	P	O		51102237782	KNIFE, craftsman's, 5/8 in. wide, straight, 3 1/4 in. lg.		1	1		
	P	O		51202222211	MALLET, wood, tinner's 2 1/2 in. din. head, 5 1/2 in. lg. of head.		1	1		
	P	O		83151631549	NEEDLE, sail maker's, steel, straight shank, triangular point size no. 15 (25 per pkg.).		1	1		
	P	O		49302669182	OILER, hand, push bottom, steel, 4 in. rigid spout, 1/2 pint capacity		2	2		

Source Codes				Federal stock no.	Description	Unit of Issue	Qty auth	Qty issued w/equip	Illustration	
Material	Source	Maintenance	Recoverability						Fig.	Item
	P	O		53409060626	PADLOCK, brass, 1 1/2 in. style A, class 2.		4	4		
	P1	O		51203576687	PRESS, grommet, hand, lever type, 1 1/2 in. depth of throat, 6 1/2 in. by 1 1/2 in. base, w/chucks and dies.		1	1		
	P	O		51105969604	PUNCH, cuttings, revolving head.		1	1		
	P	O		51202211150	PUNCH AND DIE, grommet inserting, for spur grommet, size 4.		1	1		
	P	O		51202211151	PUNCH AND DIE, grommet inserting, for spur grommet, size 5.		1	1		
	P	O		51202569259	PUNCH AND DIE, grommet inserting, for washer grommet, size 2.		1	1		
	P	O		51202569262	PUNCH AND DIE, grommet inserting, for washer grommet, size 5.		1	1		
	P	O		51203596565	PUNCH, dot fastener.		1	1		
	P	O		51206007865	PUNCH, snap fastener, socket.		1	1		
	P	O		51204497312	PUNCH, snap fastener, socket, style		1	1		
	P	O		51203577168	SCREWDRIVER, fastener stud, screw stud, cinch.		1	1		
	P	O		51204228586	SCREWDRIVER, snap fastener, stud (for large hexagon base studs).		1	1		
	P	O		51202933180	SCREWDRIVER, flat tip, wood handle, 1/8" tip x 2" blade lgth (used on 3115).		1	1		
	P	O		51202781282	SCREWDRIVER, flat tip, wood handle, 1/4" tip x 4" blade lgth (used on 3115).		1	1		
	P	O		51205219510	SCREWDRIVER, flat tip, plastic handle, 3/32" tip x 2 1/2" blade lgth (used on 47W70).		1	1		
	P	O		51202362127	SCREWDRIVER, flat tip, plastic handle, 3/16" tip x 3" blade lgth (used on 47W70).		1	1		
	P1	O		51105969604	PUNCH, cutting, revolving head		1	1		
	P	O		51202237397	PLIERS, slip joint 8" O.A. lgth		1	1		
	P	O		51203577234	SET, fastener, button and eyelet, baby durable (9932).		1	1		
	P	O		51202930860	SET, inserting, eyelet, (for eyelets No. 4094 and 4211 and washer No. 4096).		1	1		
	P	O		51202930861	SET, inserting, eyelet, (for eyelets No. 4212 and 4213 and washer No. 4097).		1	1		
	P	O		51204224960	SET, snap fastener, stud, style 1.		1	1		
	P	O		51203226193	SET, snap fastener, style 2, durable.		1	1		
	P	O		51203226192	SET, snap fastener, style 1, lift the dot.		1	1		
	P	O		83152271393	THIMBLE, sewing, aluminum, closed, large size.		4	4		

Source Codes				Federal stock no.	Description	Unit of Issue	Qty auth	Qty issued w/equip	Illustration	
Material	Source	Maintenance	Recoverability						Fig.	Item
	P	O		83152221417	THIMBLE, sewing, aluminum, closed, medium size.		4	4		
	P	O		83152172416	THREADER, needle, overedge machine (164196).		6	1		
	P	O		51202931180	TWEEZERS, craftsman's, w/1/8 in. thread hook, 1 15/16 in. lg 6 1/2 in. O.A. lgth (used on model 24615) (164204).		1	1		
	P	O		51204498083	WRENCH, adjustable, crescent type, single open end, 10" lg, 1.135" jaw opening.		1	1		
	P	O		51101616918	SHEARS, bent, trimmers, 10" O.A. length.		2	2		
	P	O		51205961252	WRENCH, open end, fixed, double head clothing machine (19221).		1	1		
	P	O		51205968564	WRENCH, open end, fixed, double head, straight and angle, clothing and overedge machine (8908).		2	2		
	P	O		51205968624	WRENCH, open end, fixed, double head, straight, clothing machine 8909).		1	1		
	P	O		51205968567	WRENCH, open end, fixed, double head, straight, darning and textile machines (225554).		2	2		
	P	O		51205959223	WRENCH, open end, fixed, single head, clothing machine (4822).		1	1		
	P	O		51205654148	WRENCH, socket, screwdriver type, overedge machine (164197).		1	1		
					REPAIR PARTS					
	P1	O		30302325940	BELT, V, 1/2" x 66" sewing machine heavy duty 151113 (77948).		2	2		
	P	O		35304493981	BOBBIN, clothing machine bed shuttle (2996).		5	1		
	P	O		35303597200	BOBBIN, darning and textile machine bed shuttle (203470).		8	2		
	P	O		35307394638	BOBBIN, heavy duty sewing machine 16901 (77948).		6	2		
	P	O		35302543445	NEEDLE, sewing machine, clothing 16 x 87, size 17.		50	1		
	P	O		35302573544	NEEDLE, sewing machine, clothing 16 x 87, size 19.		50	1		
	P	O		35302572830	NEEDLE, sewing machine, darning 126 x 3, size 18.		50	1		
	P	O		35302573548	NEEDLE, sewing machine, darning 126 x 3, size 20.		50	1		
	P	O		35302543387	NEEDLE, sewing machine, heavy duty 7 x 1, size 22.		100	2		

Source Codes				Federal stock no.	Description	Unit of Issue	Qty auth	Qty issued w/equip	Illustration			
Material	Source	Maintenance	Recoverability						Fig.	Item		
	P	O		35302543396	NEEDLE, sewing machine, heavy duty 7 x 1, size 26.		100	2				
	P	O		35302458027	NEEDLE, sewing machine, overedge 151 x 1, size 16.		50	1				
	P	O		35302458027	NEEDLE, sewing machine, overedge 151 x 1, size 18.		50	1				
	P	O		35302572819	NEEDLE, sewing machine, textile 135 x 17, size 20.		100	1				
	P	O		353025643418	NEEDLE, sewing machine, textile 135 x 17, size 22.		50	1				
					<p>DEPARTMENT OF ARMY LUBRICATION ORDERS</p> <p>LO 103530202103 LO 103530202107 LO 103530202108 LO 103530203102 LO 103530203103 LO 103530203104</p> <p>TM 5280520314, Operator, Organizational and Field Maintenance Manual, Engine, Gasoline, 6 HP: Military Standard Model 4A 032.1, FSN 2805 7760483.</p> <p>TM 5611527112, Operator and Organizational Maintenance Manual, Generator Set, Gasoline Engine, 3 kw.</p> <p>TM 9233021314, Operator, Organizational, and Field Maintenance Instructions, including Repair Parts and Special Tools List for Trailer, Cargo, 1 1/2ton, 2wheel, M105A2.</p> <p>TM 10267, Repair of Clothing and Textile.</p> <p>TM 10353020310, Operator's Manual Textile Repair Shop and Clothing Repair Shop, Trailer Mounted.</p> <p>COMMERCIAL PUBLICATIONS</p> <p>Singer Manufacturing Company Instructions for 3115 Sewing Machine Singer Form 8268.</p> <p>List of Parts for 3115 Sewing Machine Singer Form 18930 (Rev.).</p> <p>Instructions for 47W70 Sewing Machine Singer Form 2592W (Rev.).</p> <p>List of Parts for 47W70 Sewing Machine Singer Form 2564W (Rev.).</p> <p>Instructions for IIW155 Sewing Machine Singer Form 2663W.</p>		1	1	1	1	1	1

Source Codes				Federal stock no.	Description	Unit of Issue	Qty auth	Qty issued w/equip	Illustration	
Material	Source	Maintenance	Recoverability						Fig.	Item
					List of Parts for IIW155 Sewing Machine Singer Form 3039W. Instructions for 24615 Sewing Machine Singer Form. List of Parts for 24615 Sewing Machine Singer Form 20448. Instructions for 788 Sewing Machine Singer Form 205387. List of Parts for 7833 Sewing Machine Singer Form 20588.  <p style="text-align: center;"><b>174</b></p>		1 1 1 1 1			

Source Codes				Federal stock no.	Description	Unit of Issue	Qty auth	Qty issued w/equip	Illustration	
Material	Source	Maintenance	Recoverability						Fig.	Item
					<b>Major Item: Clothing Repair Shop, Trailer Mounted, York Astro Model D8700337, Army Model SPV 34, FSN 35308192007</b>					
					GROUP 31 - BASIC ISSUE ITEMS, MANUFACTURER INSTALLED					
					3100 - BASIC ISSUE ITEMS, MANUFACTURER OR DEPOT INSTALLED EQUIPMENT					
	P1	O		51202930269	ATTACHING MACHINE, tack button, hand, AE (53705).		1	1		
	P1	O		30303595707	BELTING, leather, rd, 1/4 in. (unit of measure ft).			AR		
	P	O		35303828267	BRACE, w/bolts and nuts, cross, machine folding stand leg (SER182273) 8 lb.		8	8		
	P1	O			R35305705445 BUTTON MACHINE, sewing machine head only 17562.		1	1		
	X1				CABINET ASSEMBLY, complete QMC drawing 611100.		1	1		
	P1	O		35309068064	CABLE, power, w/3 duplex outlets, 3conductor, No. 10 stranded rubber covered, 25 ft.		1	1		
	P	O		35309068063	CABLE, w/2 duplex outlets, power, 2conductor, No. 10 stranded, rubber covered, 25 ft.		3	3		
	P1	O		71052698463	CHAIR, folding, front to back, metal.		8	8		
	P1	O	R	35303597326	CLOTHING MACHINE, sewing machine head only 3115.		6	6		
	P	O		62306155384	CORD, light, w/side outlet 25 ft.		4	4		
	P1	O	R	35303597437	DARNING MACHINE, sewing machine head only 47W70.		1	1		
	P1	O		42102704512	EXTINGUISHER, fire, carbon dioxide, permanent, shutoff, hand, 5 lb, Type I, Class 1, MIL.E468.		1	1		
	P1	O	R	61150751640	GENERATOR SET, GED, skid mtd., 3 kw, 60 cycle.		1	1		
	P	O		53407157769	HOOKS, belt, No. 16 (25127)		8	16		
	P	O		62401433094	LAMP, incandescent, rough service, 100 w., 115 v.		4	4		
					LAMP ASSEMBLY, w/bracket and 11 stand, button machine, consisting of the following:					
	P1	O		35303465391	Lamp assembly SER49853		1	1		
	P1	O		35303465386	Bracket & Stand, lamp assembly 194396.		1	1		

Source Codes				Federal stock no.	Description	Unit of Issue	Qty auth	Qty issued w/equip	Illustration	
Material	Source	Maintenance	Recoverability						Fig.	Item
					LAMP ASSEMBLY, w/bracket, clothing machine, consisting of the following:		6	6		
	P1	O		35303465391	Lamp assembly SER49853		6	6		
	P1	O		3530346388	Bracket, lamp assembly 194331		6	6		
					LAMP ASSEMBLY, w/bracket, darn ing machine, consisting of the fol lowing:		1	1		
	P1	O		35303465391	Lamp assembly SER49853		1	1		
	P1	O		35303465387	Bracket, lamp assembly 194628		1	1		
	P1	O		53409060626	PADLOCK, brass, 1 1/2 in. A4701156		4	4		
	P1	O		51203576687	PRESS, grommet, lever type, M483 (1964).		1	1		
	P1	O		35303598798	STAND, folding, button machine SER187067.		1	1		
	P1	O		35308598797	STAND, folding, clothing and darning machines SER186552.		7	7		
					TABLE ASSEMBLY, button machine, (consisting of the following):		1	1		
	P1	O		59353596030	Box, w/receptacle SER48782		1	1		
	P1	O		61503596144	Cable, power SER48901		1	1		
	P1	O		35303596145	Harness Assy, wiring 67630		1	1		
	P1	O		35303598853	Table, wood SER186528		1	1		
	P1	O		71954745859	TABLE ASSEMBLY w/folding legs D8700501.		2	2		
	P1	O		35303698879	THREAD UNWINDER, single cone, button machine 225260.		1	1		
	P1	O		35303598878	THREAD UNWINDER, two cone, clothing & darning machine 225258.		7	7		
	P1	O		23301418050	TRAILER, cargo 1 1/2ton, 2wheel, M105A2.		1	1		
	P	O		49302669182	OILER, hand, push bottom, steel, 4 in. rigid sprout, 1/2pint capacity.		4	4		
					TOOLS					
	P1	O		51202237397	PLIERS, slip joint 8 in. O.A.	1		1		
	P1	O		51105969604	PUNCH, cutting, revolving head		1	1		
	P1	O		51205219510	SCREWDRIVER, flat tip, plastic handle, 3/32 in. tip x 2 1/2 in. blade lg (used on 47W70).		1	1		
	P1	O		51202362127	SCREWDRIVER, flat tip, plastic handle, 3/16 in. tip x 3 in. blade lg. (used on 47W70).		1	1		
	P1	O		51202933180	SCREWDRIVER, flat tip, wood handle, 1/8 in. tip x 2 in. blade lg. (used on 3115).		1	1		



Source Codes				Federal stock no.	Description	Unit of Issue	Qty auth	Qty issued w/equip	Illustration	
Material	Source	Maintenance	Recoverability						Fig.	Item
	P1	O		51202781282	SCREWDRIVER, flat tip, wood handle, 1/4 in. tip x 4 in. blade lg. (used on 3115 & 17562).		1	1		
	P1	O		51203577234	SET, fastener, button and eyelet, baby durable, 9932.		1	1		
	P1	O		51203226193	SET, snap fastener, cap and post, style2.		1	1		
	P	O		51101616918	SHEARS, bent, trimmers, 10 in. o/a length.		4	4		
	P	O		83152271393	THIMBLE, sewing, aluminum, closed, large size.		4	4		
	P	O		83152221417	THIMBLE, sewing, aluminum, closed, medium size.		4	4		
	P1	O		51205961252	WRENCH, open end, fixed, double head clothing machine (19221).		1	1		
	P1	O		51205654147	WRENCH, open end, fixed, double head, double offset, single angle, button machine (175625).		1	1		
	P1	O		51205968564	WRENCH, open end, fixed, double head, straight and angle, clothing machine 8908).		1	1		
	P1	O		51205968624	WRENCH, open end, fixed, double head, straight, clothing machine (8909).		1	1		
	P1	O		51205968567	WRENCH, open end, fixed double head, straight, darning machine (225554).		1	1		
	P1	O		51205959223	WRENCH, open end, fixed, single head, clothing machine (4822).		1	1		
	P1	O		51204498083	WRENCH, adjustable, crescent type, single, open end, 10 in. lg.		1	1		
REPAIR PARTS										
	P	O		35304493981	BOBBIN, clothing machine, bed shuttle (2996).		15	15		
	P	O		35303597200	BOBBIN, darning machine, bed shuttle (203470).		3	3		
	P	O		35302457997	NEEDLE, sewing machine, button 175 x 3, Size 16.		50	50		
	P	O		35302458026	NEEDLE, sewing machine, button 175 x 3, Size 18.		50	50		
	P	O		35302458001	NEEDLE, sewing machine, button 175 x 7, Size 18.		50	50		
	P	O		35302543445	NEEDLE, sewing machine, clothing 16 x 87, Size 17.		200	200		
	P	O		35302573544	NEEDLE, sewing machine, clothing 16 x 87, Size 19.		200	200		
	P	O		35302572830	NEEDLE, sewing machine, darning 126 x 3, Size 18.		40	40		
	P	O		35302573548	NEEDLE, sewing machine, darning 126 x 3, Size 20.		40	40		

Source Codes				Federal stock no.	Description	Unit of Issue	Qty auth	Qty issued w/equip	Illustration		
Material	Source	Maintenance	Recoverability						Fig.	Item	
					<p>DEPARTMENT OF ARMY LUBRICATION ORDER LO 103530203101</p> <p>DEPARTMENT OF ARMY PUBLICATIONS TM 5280520314, Operator, Organizational, and Field Maintenance Manual, Engine, Gasoline, 6 HP: Military Standard Model 4A0321, FSN 28057760483. TM 5611527112, Operator and Organizational Maintenance Manual, Generator Set, Gasoline Engine 3 kw. TM 9233021314, Operator, Organizational, and Field Maintenance Instructions, including Repair Parts and Special Tools List for Trailer, Cargo, 1 1/2ton, 2Wheel, M105A2. TM 10267 Repair of Clothing and Textile. TM 10353020310, Operator's Manual for Textile Repair Shop, Trailer Mounted, York Astro Model D8700477, Army Model SPV 35 for Clothing Repair Shop, TrailerMounted, York Astro Model D8700337, Army Model SPV 34.</p> <p>COMMERCIAL PUBLICATIONS</p> <p>The Singer Manufacturing Company Instructions for 17562 Sewing Machine Singer Form 19155. List of Parts for 17562 Sewing Machine: Singer Form 19235 (Rev). Instructions for 3115 Sewing Machine. Singer Form 8268. List of Parts for 3115 Sewing Machine Singer Form 18930 (Rev). Instructions for 47W70 Sewing Machine. Singer Form 2592W (Rev). List of Parts for 47W70 Sewing Machine. Singer Form 2564W (Rev).</p>						
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