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TECHNICAL MANUAL

FOOD SERVICE EQUIPMENT BREAD SLICER

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RECORD OF CHANGES

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FOREWORD

This manual contains information necessary to operate, maintain, troubleshoot, and repair the bread slicer, model MB, at organizational, intermediate, and depot levels.

This manual consists of one volume arranged in eight chapters as follows:

Chapter 1 - General Information and Safety Precautions

Chapter 2 - Operation

Chapter 3 - Functional Description

Chapter 4 - Scheduled Maintenance

Chapter 5 - Troubleshooting

Chapter 6 - Corrective Maintenance

Section I. Adjustment

Section II. Repair

Chapter 7 - Illustrated Parts Breakdown

Section I. Introduction

Section II. Illustrations and Group Assembly Parts Lists

Section III. Numerical Index

Chapter 8 - Engineering Drawings

The technical content of this manual is based on existing engineering documents/configuration data and information gathered during shorecheck conducted on 23 January 1984.

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TABLE OF CONTENTS

Chapter/Paragraph	Page
1 GENERAL INFORMATION AND SAFETY PRECAUTIONS	1-1
1-1. SAFETY PRECAUTIONS.	1-3
1-2. INTRODUCTION.	1-3
1-2.1 PURPOSE.	1-3
1-2.2 SCOPE.	1-3
1-2.3 SUPERSEDURE DATA.	1-4
1-2.4 APPLICABILITY.	1-4
1-2.5 MAINTENANCE PHILOSOPHY.	1-4
1-3. GENERAL DESCRIPTION.	1-4
1-3.2 COMPONENTS AND ASSEMBLIES.	1-4
1-3.2.1 Controls.	1-4
1-3.2.2 Crankshaft and Motor.	1-4
1-3.2.3 Inner Frame.	1-5
1-3.2.4 Springs.	1-5
1-3.2.5 Dashpot Assembly.	1-5
1-3.2.6 Rack Arrangement.	1-5
1-3.2.7 Bagging Trough.	1-5
1-3.2.8 Cams, Linkages, and Scrap Pan Assembly.	1-5
1-3.2.9 Cover Assembly.	1-6
1-3.2.10 Outer Frame Assembly.	1-6
1-4. REFERENCE DATA.	1-6
2 OPERATION	2-1
2-1. INTRODUCTION.	2-1
2-1.1 SCOPE.	2-1
2-1.2 SAFETY REQUIREMENTS.	2-1
2-1.3 OPERATOR-EQUIPMENT RELATIONSHIP.	2-1
2-2. CONTROLS.	2-1
2-3. OPERATING PROCEDURES.	2-1
2-3.1 NORMAL SHIPBOARD OPERATING PROCEDURE.	2-1
2-3.2 NORMAL SHORE OPERATING PROCEDURE.	2-4
2-3.3 OPERATING PROCEDURE WHEN SLICING HARD-CRUST OR ROUND LOAVES.	2-5
3 FUNCTIONAL DESCRIPTION	3-1
3-1. INTRODUCTION.	3-1
3-2. COMPONENTS AND ASSEMBLIES.	3-1

TABLE OF CONTENTS - Continued

Chapter/Paragraph	Page
3-2.2 ON-OFF SWITCH.	3-1
3-2.3 MERCURY SWITCH AND OPERATING LEVER ASSEMBLY.	3-1
3-2.4 SWITCH OPERATING ROD AND OPERATING ARM.	3-3
3-2.5 CRANKSHAFT AND MOTOR.	3-4
3-2.6 INNER FRAME AND BLADE AND FRAME ASSEMBLY.	3-4
3-2.7 SPRINGS.	3-5
3-2.8 DASHPOT ASSEMBLY.	3-5
3-2.9 RACK ARRANGEMENT.	3-5
3-2.10 BAGGING TROUGH.	3-7
3-2.11 CAMS, LINKAGES, AND SCRAP PAN ASSEMBLY.	3-7
3-2.12 COVER ASSEMBLY.	3-8
3-2.13 OUTER FRAME ASSEMBLY.	3-8
4 SCHEDULED MAINTENANCE	4-1
4-1. INTRODUCTION.	4-1
4-2. DASHPOT MINERAL OIL LEVEL.	4-1
4-2.2 REPLENISHMENT PROCEDURE.	4-1
5 TROUBLESHOOTING	5-1
5-1. INTRODUCTION.	5-1
5-1.1 SCOPE.	5-1
5-1.2 SAFETY REQUIREMENTS.	5-1
5-2. TROUBLESHOOTING PROCEDURES.	5-1
5-2.1 GUIDE TO TROUBLESHOOTING.	5-1
5-2.2 TROUBLESHOOTING TABLE.	5-2
5-2.2.1 Symptom/Malfunction Identification.	5-2
5-2.2.2 Probable Cause Identification.	5-2
5-2.2.3 Corrective Action.	5-2
6 CORRECTIVE MAINTENANCE	6-1
6-1. INTRODUCTION.	6-1
6-1.1 SCOPE.	6-1
6-1.2 SAFETY REQUIREMENTS.	6-1
6-2. TOOLS AND EQUIPMENT.	6-1
6-2.2 SPECIAL TOOLS AND EQUIPMENT.	6-1
SECTION I. ADJUSTMENT	6-2
6-3. INTRODUCTION.	6-2
6-3.2 DASHPOT ASSEMBLY.	6-2
6-3.3 SPRING TENSION.	6-3

TABLE OF CONTENTS - Continued

Chapter/Paragraph	Page
6-3.4 BELTS.	6-4
6-3.5 LEVELING.	6-6
6-3.6 MERCURY SWITCH.	6-6
SECTION II. REPAIR	6-7
6-4. INTRODUCTION.	6-7
6-4.1 SCOPE.	6-7
6-5. CLEANING AND INSPECTION.	6-7
6-5.1 CLEANING.	6-7
6-5.2 INSPECTION.	6-7
6-6. REPAIR AND REPLACEMENT.	6-8
6-6.1 REPAIR.	6-8
6-6.2 REPLACEMENT.	6-8
6-7. REPAIR PROCEDURES.	6-9
6-7.2 COVER ASSEMBLY.	6-9
6-7.2.1 Removal.	6-9
6-7.2.2 Cleaning and Inspection.	6-9
6-7.2.3 Repair and Replacement.	6-9
6-7.2.4 Reassembly.	6-9
6-7.3 RACK ARRANGEMENT.	6-9
6-7.3.1 Removal and Disassembly.	6-9
6-7.3.2 Cleaning and Inspection.	6-10
6-7.3.3 Repair and Replacement.	6-10
6-7.3.4 Reassembly and Reinstallation.	6-10
6-7.4 INNER FRAME AND BAGGING ASSEMBLY.	6-10
6-7.4.1 Removal and Disassembly.	6-10
6-7.4.2 Cleaning and Inspection.	6-11
6-7.4.3 Repair and Replacement.	6-11
6-7.4.4 Reassembly and Reinstallation.	6-11
6-7.5 BLADE AND FRAME ASSEMBLY.	6-11
6-7.5.1 Removal and Disassembly.	6-11
6-7.5.2 Cleaning and Inspection.	6-12
6-7.5.3 Repair and Replacement.	6-12
6-7.5.4 Reassembly and Reinstallation.	6-12
6-7.6 CAMS, LINKAGES, AND SCRAP PAN ASSEMBLY.	6-12
6-7.6.1 Removal and Disassembly.	6-12
6-7.6.2 Cleaning and Inspection.	6-13
6-7.6.3 Repair and Replacement.	6-13
6-7.6.4 Reassembly and Reinstallation.	6-13
6-7.7 CRANKSHAFT AND MOTOR.	6-13
6-7.7.1 Removal and Disassembly.	6-14
6-7.7.2 Cleaning and Inspection.	6-14
6-7.7.3 Repair and Replacement.	6-14

TABLE OF CONTENTS - Continued

Chapter/Paragraph	Page
6-7.7.4 Reassembly and Reinstallation.	6-14
6-7.8 SWITCH MECHANISM.	6-15
6-7.8.1 Removal and Disassembly.	6-15
6-7.8.2 Cleaning and Inspection.	6-15
6-7.8.3 Repair and Replacement.	6-15
6-7.8.4 Reassembly and Reinstallation.	6-15
6-7.9 OUTER FRAME ASSEMBLY.	6-16
6-7.9.1 Removal and Disassembly.	6-16
6-7.9.2 Cleaning and Inspection.	6-16
6-7.9.3 Repair and Replacement.	6-16
6-7.9.4 Reassembly and Reinstallation.	6-16
7 ILLUSTRATED PARTS BREAKDOWN	7-1
SECTION I. INTRODUCTION	7-1
7-1. SCOPE.	7-1
7-1.1 PRESENTATION.	7-1
7-1.2 REPAIR PARTS IDENTIFICATION AND PROCUREMENT.	7-1
7-1.2.1 Group Assembly Parts List.	7-1
7-1.2.2 Coordinated Shipboard Allowance List.	7-1
7-1.2.2.1 Allowance Parts List/National Stock Number.	7-1
7-1.2.2.2 Group Assembly Parts List Versus Allowance Parts List.	7-2
7-1.3 MANUFACTURERS' CODES.	7-5
7-1.4 ABBREVIATIONS AND ACRONYMS.	7-5
7-1.5 CROSS-REFERENCE.	7-6
SECTION II. ILLUSTRATIONS AND GROUP ASSEMBLY PARTS LISTS	7-9
7-2. SCOPE.	7-9
7-2.1 EQUIPMENT BREAKDOWN.	7-9
7-2.1.1 Major Equipment/Installation.	7-9
7-2.1.2 Major Assemblies/Components.	7-9
7-2.1.3 Subassemblies/Components.	7-9
7-2.1.4 Bubble Presentation.	7-11
7-2.2 GROUP ASSEMBLY PARTS LIST DESCRIPTION.	7-11
7-2.2.1 Figure and Index Number Column.	7-11
7-2.2.2 Reference Designation Column.	7-11
7-2.2.3 Part Number Column.	7-11
7-2.2.3.1 Commercial and No Number Entries.	7-12
7-2.2.3.2 Drawing Number Entries.	7-12
7-2.2.3.3 Drawing Number Table.	7-12
7-2.2.4 Indent Column.	7-12
7-2.2.5 Description Column.	7-12
7-2.2.6 Manufacturer's Code Column.	7-13
7-2.2.7 Quantity Per Assembly Column.	7-13

TABLE OF CONTENTS - Continued

Chapter/Paragraph	Page
7-2.2.8 Used On Code Column.	7-13
SECTION III. NUMERICAL INDEX	7-32
7-3. SCOPE.	7-32
7-3.1 DESCRIPTION.	7-32
7-3.2 BREAKDOWN.	7-32
7-3.2.1 Part Number Column.	7-32
7-3.2.2 Figure and Index Number Column.	7-32
7-3.2.3 Reference Designation Column.	7-32
8 ENGINEERING DRAWING	8-1
8-1. INTRODUCTION.	8-1

LIST OF TABLES

Table	Title	Page
1-1.	U.S.-to-Metric Conversion Factors	1-3
1-2.	General Reference Data	1-6
2-1.	Bread Slicer Controls	2-3
5-1.	Troubleshooting	5-2
7-1.	Manufacturer's Code, Name, and Address	7-5
7-2.	Abbreviations and Acronyms	7-5
7-3.	Illustrated Parts Breakdown Illustration	7-11
7-4.	Drawing Number	7-12

LIST OF ILLUSTRATIONS

Figure	Title	Page
1-1.	Bread Slicer Model MB	1-2
1-2.	Bread Slicer in Operating Position	1-5
2-1.	Bread Slicer Controls	2-2
2-2.	Bread Slicer with Inner Frame Raised	2-3
3-1.	Bread Slicer, Model MB	3-2
3-2.	Bread Slicer Controls	3-3
3-3.	Ship and Shore Installations Electrical Wiring Diagrams	3-3
3-4.	Crankshaft and Motor	3-4
3-5.	Inner Frame in Operating Position	3-5
3-6.	Springs and Dashpot Assembly	3-6
3-7.	Rack Arrangement	3-7
3-8.	Cams, Linkages, and Scrap Pan Assembly	3-8
4-1.	Dashpot Maintenance	5-1
6-1.	Dashpot Adjustment	6-3
6-2.	Spring Tension Adjustment	6-4
6-3.	Belt Adjustment and Leveling	6-5
7-A1.	Allowance Parts List	7-3
7-A2.	Part Identification, Research, and Procurement Flow Chart	7-4
7-A3.	How To Use the Illustrated Parts Breakdown When the Part Number Is Known	7-7
7-A4.	How To Use the Illustrated Parts Breakdown When the Part Number Is Not Known	7-8
7-A5.	Top-Down Breakdown	7-10
7-1.	Bread Slicer, Model MB (Sheet 1 of 9)	7-14
8-1.	MB 7/16 Bread Slicer, Electric	8-3

SAFETY SUMMARY

GENERAL SAFETY NOTICES

The following general safety notices supplement the specific warnings and cautions appearing elsewhere in this manual. They are recommended precautions that must be understood and applied during operation and maintenance of the equipment covered herein. Should situations arise that are not covered in the general or specific safety precautions the commanding officer or other authority will issue orders as deemed necessary to cover the situation.

DO NOT REPAIR OR ADJUST ALONE Under no circumstances should repair or adjustment of energized equipment be attempted alone. The immediate presence of someone capable of rendering aid is required. Before making adjustments, be sure to protect against grounding. If possible, adjustments should be made with one hand, with the other hand free and clear of equipment. Even when power has been removed from equipment circuits, dangerous potentials may still exist due to retention of charges by capacitors. Circuits must be grounded and all capacitors discharged prior to attempting repairs.

TEST EQUIPMENT Make certain test equipment is in good condition. If a test meter must be held, ground the case of the meter before starting measurement; do not touch live equipment or personnel working on live equipment while holding a test meter. Some types of measuring devices should not be grounded; these devices should not be held when taking measurements.

FIRST AID An injury, no matter how slight, shall never go unattended. Always obtain first aid or medical attention immediately.

RESUSCITATION Personnel working with or near high voltage shall be familiar with approved methods of resuscitation. Should someone be injured and stop breathing, initiate resuscitation immediately. A delay could cost the victim his life.

GENERAL PRECAUTIONS The following general precautions are to be observed at all times.

1. All electrical components associated with this equipment shall be installed and grounded in accordance with applicable Navy regulations and approved shipboard practices.
2. All maintenance operations shall comply with Navy Safety Precautions, OPNAVINST 5100 series.
3. Precautions set forth in Naval Ships' Technical Manual (NSTM), chapters 300, 302, 310, and 320, shall be observed with respect to electrical equipment and circuits.
4. Proper installation and maintenance of protective guards around moving parts of machinery and high voltage sources shall also be observed.
5. Special precautionary measures are essential to prevent applying power to the equipment at any time maintenance work is in progress.
6. Do not make any unauthorized alterations to equipment or components.
7. Before working on electrical equipment, check with voltmeter to ensure that system is not energized.
8. All circuits not known to be "dead" must be considered "live" and dangerous at all times.
9. Do not wear loose clothing while working around moving parts of machinery.

SAFETY SUMMARY - Continued

10. When working near electricity, do not use metal rules, flashlights, metallic pencils, or any other objects having exposed conducting material.
11. Be sure to deenergize all equipment before connecting or disconnecting meters or test leads.
12. When connecting a meter to terminals for measurement, use range higher than expected voltage.
13. Before operating equipment or performing any test or measurements, ensure that frame of motor is securely grounded.
14. Ensure that area is well-ventilated when using cleaning solvent. Avoid prolonged breathing of fumes and solvent contact with skin or eyes.

WARNINGS AND CAUTIONS Specific warnings and cautions applying to the equipment covered by this manual are summarized below. These warnings and cautions appear elsewhere in the manual following paragraph headings and immediately preceding the text to which they apply. They are repeated here for emphasis.

WARNING

Identifies an operating or maintenance procedure, practice, condition, statement, which if not strictly followed could result in death or injury. (Page 1-3)

WARNING

Before applying ac power, ensure that cover assembly is in place. Injury to personnel may result from contact with moving parts. (Page 2-3, page 2-4, page 6-2, page 6-4, page 6-6)

WARNING

Slicing blades are extremely sharp. To prevent injury, keep hands out of bread slicer during operation. (Page 2-4, page 2-4, page 2-5, page 6-2, page 6-6)

WARNING

Ensure that ON-OFF switch is in OFF position before removing bread. Failure to do so may result in serious injury to personnel. (Page 2-4)

WARNING

Before applying ac power, ensure that cover assembly is in place. Injury to personnel can result from contact with moving parts. (Page 2-5)

WARNING

Failure to disconnect power and tag out of service in accordance with ship procedures may result in serious injury to or death of personnel. (Page 4-1, page 6-2, page 6-3, page 6-4, page 6-7, page 6-9, page 6-10, page 6-11, page 6-12, page 6-13, page 6-14, page 6-15, page 6-16)

WARNING

Use cleaning solvent in well-ventilated area. Avoid prolonged breathing of fumes and solvent contact with skin or eyes. Avoid use near heat or open flame. Failure to do so may result in serious injury to or death of personnel. (Page 6-7)

CAUTION

Identifies an operating or maintenance procedure, practice, condition, statement, which if not strictly followed could result in destruction of or damage to equipment, or could interfere with operation of equipment. (Page 1-3)

CAUTION

Belts shall be tightened just enough to eliminate slippage. Excessive tension will cause rapid belt wear and stress on motor bearings. (Page 6-5)

CHAPTER 1

GENERAL INFORMATION AND SAFETY PRECAUTIONS

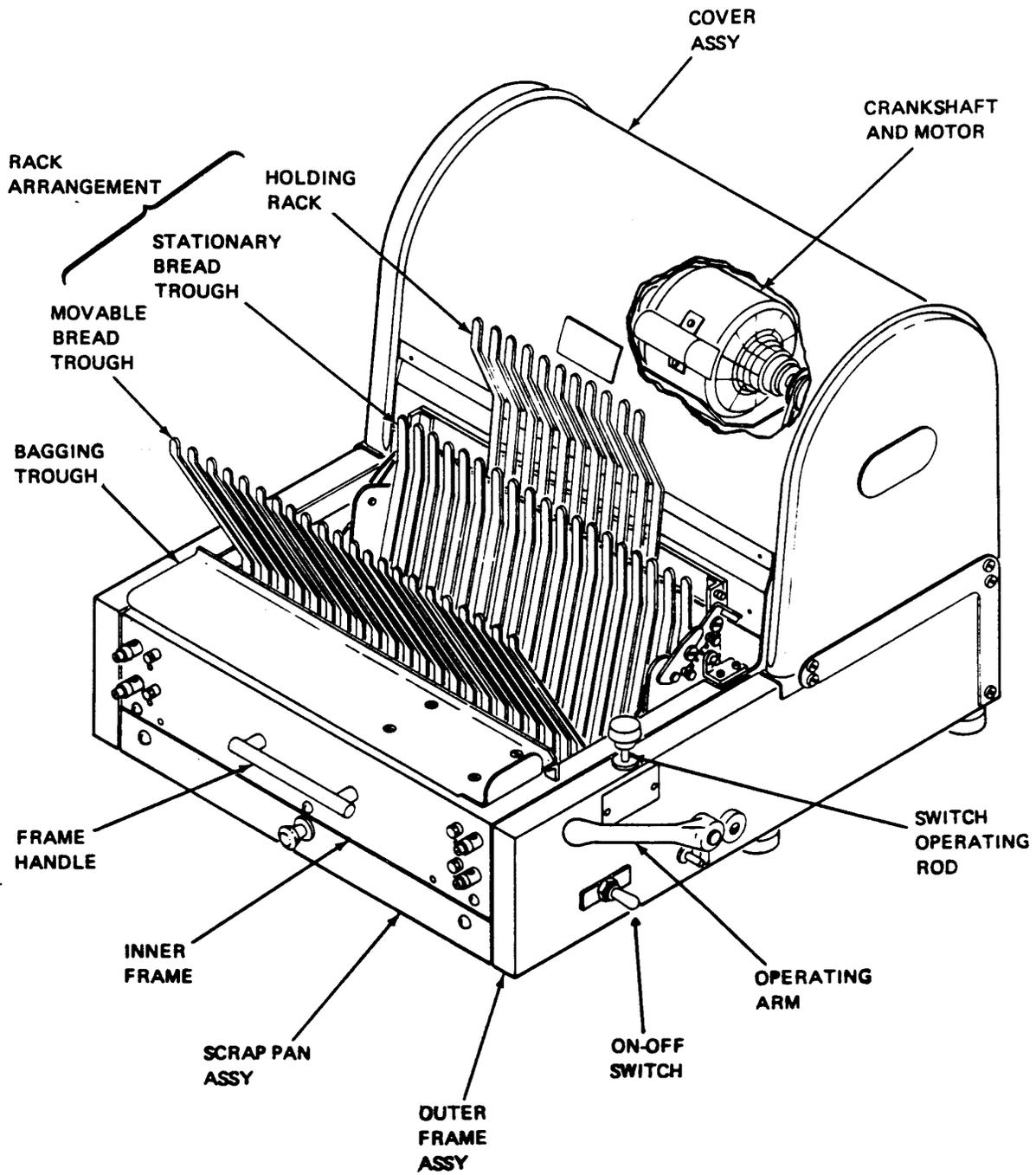


Figure 1-1. Bread Slicer, Model MB

Figure 1-1. Bread Slicer Model MB

1-1. SAFETY PRECAUTIONS.

1-1.1 Warnings and cautions appearing throughout this manual are of paramount importance to personnel and equipment safety. Before operating, troubleshooting, or performing any maintenance action on the bread slicer, model MB, review all warnings and cautions in this technical manual. Refer to the Safety Summary, located in the front portion of the manual, for a complete list of warnings and cautions. Warnings, cautions, and notes are defined as follows:

WARNING

Identifies an operating or maintenance procedure, practice, condition, statement, which if not strictly followed could result in death or injury.

CAUTION

Identifies an operating or maintenance procedure, practice, condition, statement, which if not strictly followed could result in destruction of or damage to equipment, or could interfere with operation of equipment.

NOTE

Used to highlight certain operating or maintenance conditions or statements which are essential but not of known hazardous nature as indicated by warnings and cautions.

1-2. INTRODUCTION.

1-2.1 PURPOSE. This technical manual has been prepared as the operation and maintenance document for the bread slicer, model MB (figure 1-1).

1-2.2 SCOPE. This manual complies with the content requirements of MIL-M-15071 for type I Technical Manual and with the style and format requirements of MIL-M-38784. Detailed physical and functional descriptions of the bread slicer are given, as well as operating, maintenance, troubleshooting, and repair information. The illustrated parts breakdown (IPB) in chapter 7 contains parts listings and cross-referencing for all bread slicer components. A list of abbreviations and acronyms is also presented in chapter 7. Measurement conversion information is presented in table 1-1.

Table 1-1. U.S.-to-Metric Conversion Factors

When You Know	Multiply by	To Determine
	Length	
inches	2.540	centimeters
feet	30.480	centimeters
yards	0.914	meters

Table 1-1. U.S.-to-Metric Conversion Factors - Continued

When You Know	Multiply by	To Determine
miles (survey)	1.609	kilometers
square inches	6.452	square centimeters
square feet	0.093	square meters
square yards	0.836	square meters
square miles (survey)	2.590	square kilometers
fluid ounces	29.574	milliliters
pints	0.473	liters
quarts	0.946	liters
gallons	3.785	liters
cubic feet	0.028	cubic meters
cubic yards	0.765	cubic meters
ounces	28.350	grams
pounds	0.454	kilograms
tons - short	0.907	metric tons

1-2.3 SUPERSEDURE DATA. This manual supersedes NAVSEA 0334-LP-195-9002, dated October 1965, and NAVSEA 0934-LP-087-0010, dated June 1975.

1-2.4 APPLICABILITY. This manual applies to the bread slicer, model MB, drawing number 2300-282.

1-2.5 MAINTENANCE PHILOSOPHY. This manual provides organizational-,intermediate-, and depot-level maintenance information. Where adequate information for the equipment is provided in other Department of the Navy publications, such publications are properly referenced in this manual. The information is not duplicated herein.

1-3. GENERAL DESCRIPTION.

1-3.1 The bread slicer, model MB, is manually operated with electric-motor-driven slicing blades. The bread slicer cuts a loaf of bread into uniform slices (7/16-inch thick).

1-3.2 COMPONENTS AND ASSEMBLIES. The bread slicer consists of the motor controls, crankshaft and motor, knife bearing bracket (inner frame), springs, dashpot assembly, rack arrangement, bagging trough, cams, linkages, and scrap pan assembly, cover assembly, and outer frame assembly.

1-3.2.1 Controls. The controls are comprised of the toggle switch (ON-OFF switch) ([figure 1-1](#)), the mercury switch and operating lever assembly (not shown), and the switch operating rod and operating handle (operating arm).

1-3.2.2 Crankshaft and Motor. The crankshaft and motor are belt-connected. When power is supplied to the 1/3 hp ac motor, the motor shaft rotation is transferred to the crankshaft. The crankshaft connects the two knife frames in the inner frame and moves the knife frames back and forth for slicing.

1-3.2.3 Inner Frame. The inner frame contains two counter-moving knife frames (upper and lower). Each knife frame contains 18 blades for slicing bread. The inner frame is in the raised position to begin operating procedure (figure 1-2).

1-3.2.4 Springs. The springs (figure 1-2) are connected between the top of outer frame assembly and the bottom of the inner frame to provide closing action during bread slicing operation.

1-3.2.5 Dashpot Assembly. The dashpot assembly is a hydraulic device that regulates the downward travel time of the inner frame during operation.

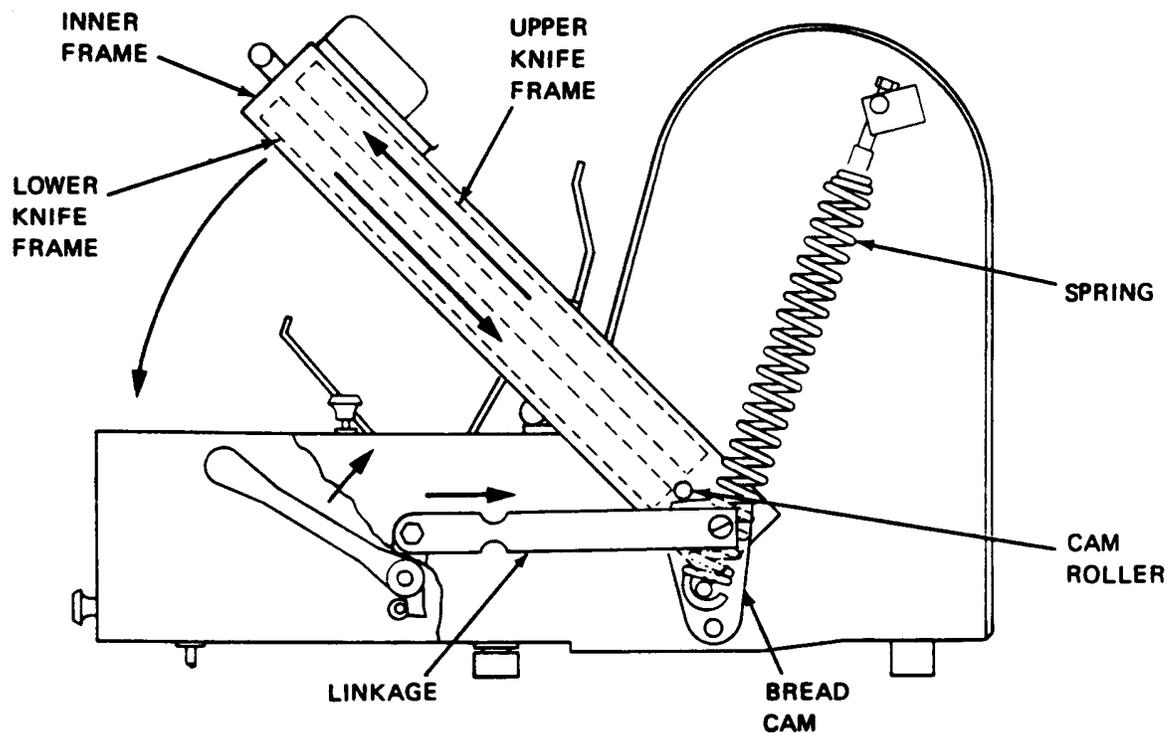


Figure 1-2. Bread Slicer in Operating Position

Figure 1-2. Bread Slicer in Operating Position

1-3.2.6 Rack Arrangement. The rack arrangement (figure 1-1) is comprised of movable and stationary trough assemblies (movable and stationary bread troughs) and a holding rack. Bread is placed on the movable bread trough; the stationary trough supports the side of the loaf of bread, and the holding rack holds the bread in place from the top while it is being sliced.

1-3.2.7 Bagging Trough. The bagging trough (figure 1-1) holds the sliced bread while it is bagged.

1-3.2.8 Cams, Linkages, and Scrap Pan Assembly. The cams and linkages (figure 1-2) allow the inner frame to lock into and out of the raised position and permit operator access to the bread troughs. The scrap pan (figure 1-1) receives the bread crumbs produced during the slicing operation.

1-3.2.9 Cover Assembly. The cover assembly (figure 1-1) protects the operator from the bread slicer moving parts. The cover assembly also shields the bread slicer moving parts from damage due to excessive bread crumbs.

1-3.2.10 Outer Frame Assembly. The outer frame assembly is the main housing unit for the bread slicer components and assemblies.

1-4. REFERENCE DATA.

1-4.1 General reference data for the bread slicer, model MB, is provided in table 1-2.

Table 1-2. General Reference Data

Equipment/Characteristic	Description/Specification
Manufacturer	Berkel, Inc.
Model	MB
Master Drawing No.	2300-282
Motor	1/3 hp, 115 Vac, 1 ph, 60 Hz
Overall Dimensions	
Width	24-3/8 in.
Height	18-1/2 in.
Depth	27 in.
Rack Arrangement	
Movable Bread Trough	7/16 in.
Stationary Bread Trough	7/16 in.
Holding Rack	7/16 in.

CHAPTER 2

OPERATION

2-1. INTRODUCTION.

2-1.1 SCOPE. The purpose of this chapter is to identify the bread slicer, model MB, control locations and functions and to provide operating procedures.

2-1.2 SAFETY REQUIREMENTS. Before operating the bread slicer, review all warnings and cautions in the Safety Summary, located in the front portion of this manual.

2-1.3 OPERATOR-EQUIPMENT RELATIONSHIP. The operator must physically raise the knife bearing bracket (inner frame) until it locks in the raised position, place bread loaves on the movable trough assembly (movable bread trough), ensure that power is provided, and raise operating handle (operating arm) to start the slicing operation.

2-2. CONTROLS.

2-2.1 The external controls ([figure 2-1](#)) include the toggle switch (ON-OFF switch), operating arm, and switch operating rod and are located on the outer frame assembly. The frame operating handle (frame handle), located on the inner frame assembly, is a manual control. Control functions are listed in [table 2-1](#).

2-3. OPERATING PROCEDURES.

2-3.1 NORMAL SHIPBOARD OPERATING PROCEDURE. Perform the following steps to slice bread.

1. Grasp frame handle and raise inner frame until it locks in open position ([figure 2-2](#)). Movable bread trough will drop down to level position and holding rack will drop down to hold bread from top while slicing.
2. Place bread to be sliced on movable bread trough.

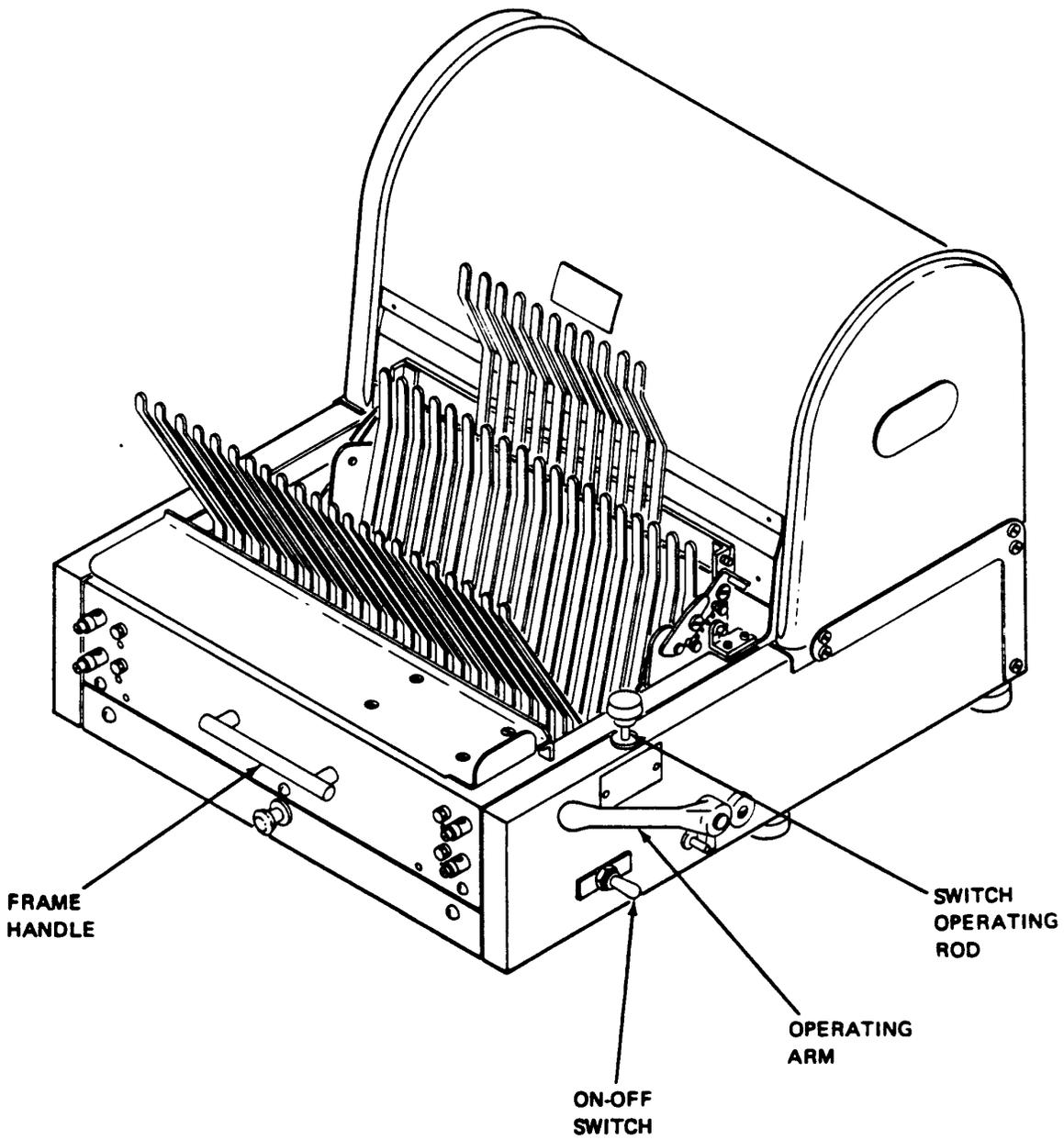


Figure 2-1. Bread Slicer Controls

Figure 2-1. Bread Slicer Controls

Table 2-1. Bread Slicer Controls

Control	Function
ON-OFF Switch	Activates ac power to motor on shipboard installations. Activates ac power to motor through mercury switch on shore installations.
Operating Arm	On shipboard installations, operating arm disengages inner frame assembly from locked position. On shore installations, operating arm disengages inner frame assembly from locked position and activates switch operating lever and mercury switch (applying ac power to motor).
Switch Operating Rod	On shipboard installations, this control is not functional. Due to ship rolling motion, the mercury switch is disconnected and/or removed. On shore installations, switch operating rod automatically activates switch operating lever and mercury switch (applying ac power to motor) when pulled upwards.
Frame Handle	Used to raise inner frame assembly to locked position allowing placement of bread on movable bread trough for slicing. (Inner frame assembly contains blades for slicing.)

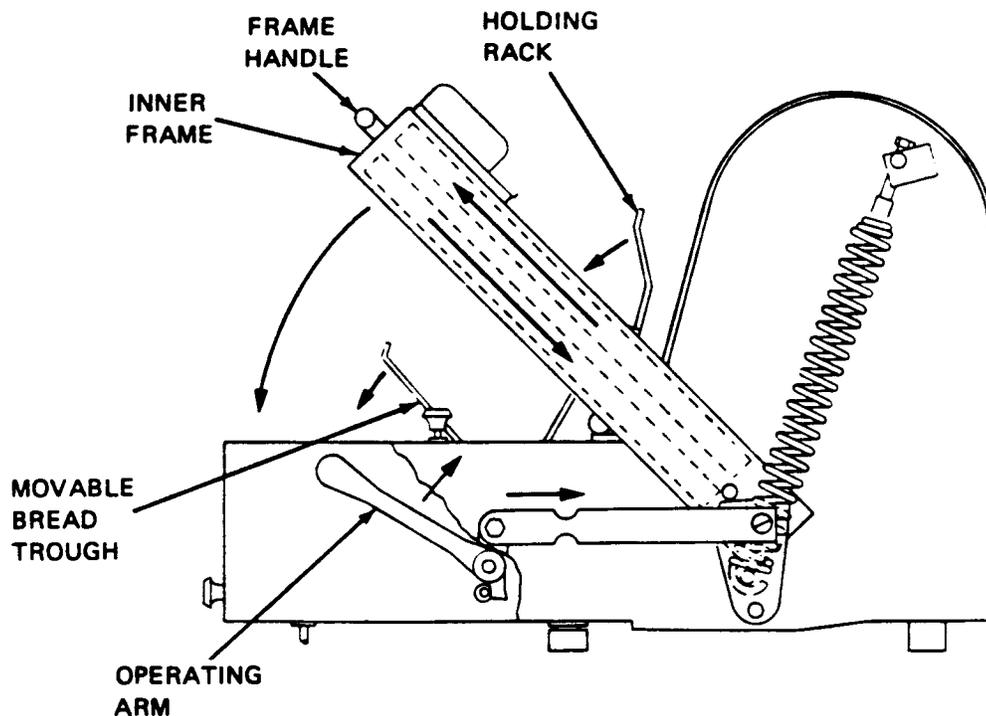
**Figure 2-2. Bread Slicer with Inner Frame Raised**

Figure 2-2. Bread Slicer with Inner Frame Raised

WARNING

Before applying ac power, ensure that cover assembly is in place. Injury to personnel may result from contact with moving parts.

WARNING

Slicing blades are extremely sharp. To prevent injury, keep hands out of bread slicer during operation.

3. Place ON-OFF switch in ON position and raise operating arm to disengage inner frame from locked position. Inner frame will be pulled down by springs to closed position, slicing through bread.

WARNING

Ensure that ON-OFF switch is in OFF position before removing bread. Failure to do so may result in serious injury to personnel.

4. Place ON-OFF switch in OFF position. Remove sliced bread from movable bread trough and place on bagging trough.
5. Bag sliced bread.
6. After slicing operation is completed, pull out scrap pan and empty bread crumbs. Replace scrap pan.

2-3.2 NORMAL SHORE OPERATING PROCEDURE. Perform following steps to slice bread.

1. Grasp frame handle and raise inner frame until it locks in open position ([figure 2-2](#)). Movable bread trough will drop down to level position and holding rack will drop down to hold bread from top while slicing.
2. Place bread to be sliced on movable bread trough.

WARNING

Before applying ac power, ensure that cover assembly is in place. Injury to personnel may result from contact with moving parts.

3. Ensure that ON-OFF switch is in ON position. (ON-OFF switch can be left in ON position continuously; power is supplied to motor only when operating handle is raised thus activating mercury switch.)

WARNING

Slicing blades are extremely sharp. To prevent injury, keep hands out of bread slicer during operation.

4. Ensure that operator hands are clear of slicer moving parts. Raise operating arm. Inner frame assembly will be pulled down by springs to closed position, slicing through bread.
5. Remove sliced bread from movable bread trough and place on bagging trough.
6. Bag sliced bread.
7. After slicing operation is completed, pull out scrap pan and empty bread crumbs. Replace scrap pan.

2-3.3 OPERATING PROCEDURE WHEN SLICING HARD-CRUST OR ROUND LOAVES. Perform the following steps to slice hard-crust or round loaves of bread.

1. Grasp frame handle and raise inner frame until it locks in open position.
2. Place bread to be sliced on movable bread trough.

WARNING

Before applying ac power, ensure that cover assembly is in place. Injury to personnel can result from contact with moving parts.

3. Place ON-OFF switch in ON position.
4. Pull up on switch operating rod to start motor.

WARNING

Slicing blades are extremely sharp. To prevent injury, keep hands out of bread slicer during operation.

5. Carefully raise movable bread trough upwards until slicing blades start cutting bread.
6. Raise operating arm to disengage inner frame from locked position, and remove hand from bread slicer. Inner frame will be pulled down by springs to closed position, slicing through bread.
7. Place ON-OFF switch in OFF position.
8. Remove sliced bread from movable bread trough and place on bagging trough.
9. Bag sliced bread.
10. After slicing operation is completed, pull out scrap pan and empty bread crumbs. Replace scrap pan.

CHAPTER 3

FUNCTIONAL DESCRIPTION

3-1. INTRODUCTION.

3-1.1 This chapter provides a functional description of the bread slicer, model MB, its major components and assemblies and their interactions. The bread slicer, manually operated with electric motor-driven blades, cuts a loaf of bread into uniform slices (7/16-inch thick). The bread slicer requires 115-Vac, 60-Hz, single-phase power from either ship power or commercial power at on-shore installations.

3-2. COMPONENTS AND ASSEMBLIES.

3-2.1 The bread slicer ([figure 3-1](#)) consists of the toggle switch (ON-OFF switch), mercury switch and operating lever assembly, switch operating rod and operating handle (operating arm), crankshaft and motor, inner frame and blade and frame assembly, springs, dashpot assembly, rack arrangement, bagging trough, cams, linkages, and scrap pan assembly, cover assembly, and outer frame assembly.

3-2.2 ON-OFF SWITCH. The ON-OFF switch ([figure 3-2](#)) starts and stops the bread slicer motor and is mounted externally on the outer frame assembly. On shipboard installations, when the ON-OFF switch is placed in the ON position, it closes the motor control circuit. This activates the motor with 115-Vac, 60-Hz power. On shore installations, the ON-OFF switch is left in the ON position. The motor is not activated until the mercury switch closes the motor control circuit.

3-2.3 MERCURY SWITCH AND OPERATING LEVER ASSEMBLY. On shore installation, a mercury switch is attached to the operating lever assembly. When the operating lever assembly is tilted, it moves the attached mercury switch to complete the power connection to the motor. The operating lever assembly is tilted by lifting either the switch operating rod or the operating arm. On shipboard installations, the mercury switch is disconnected and/or removed due to the rolling motion of ships which might trigger the mercury switch accidentally. Electrical wiring diagrams for both ship and shore installations are shown in [figure 3-3](#).

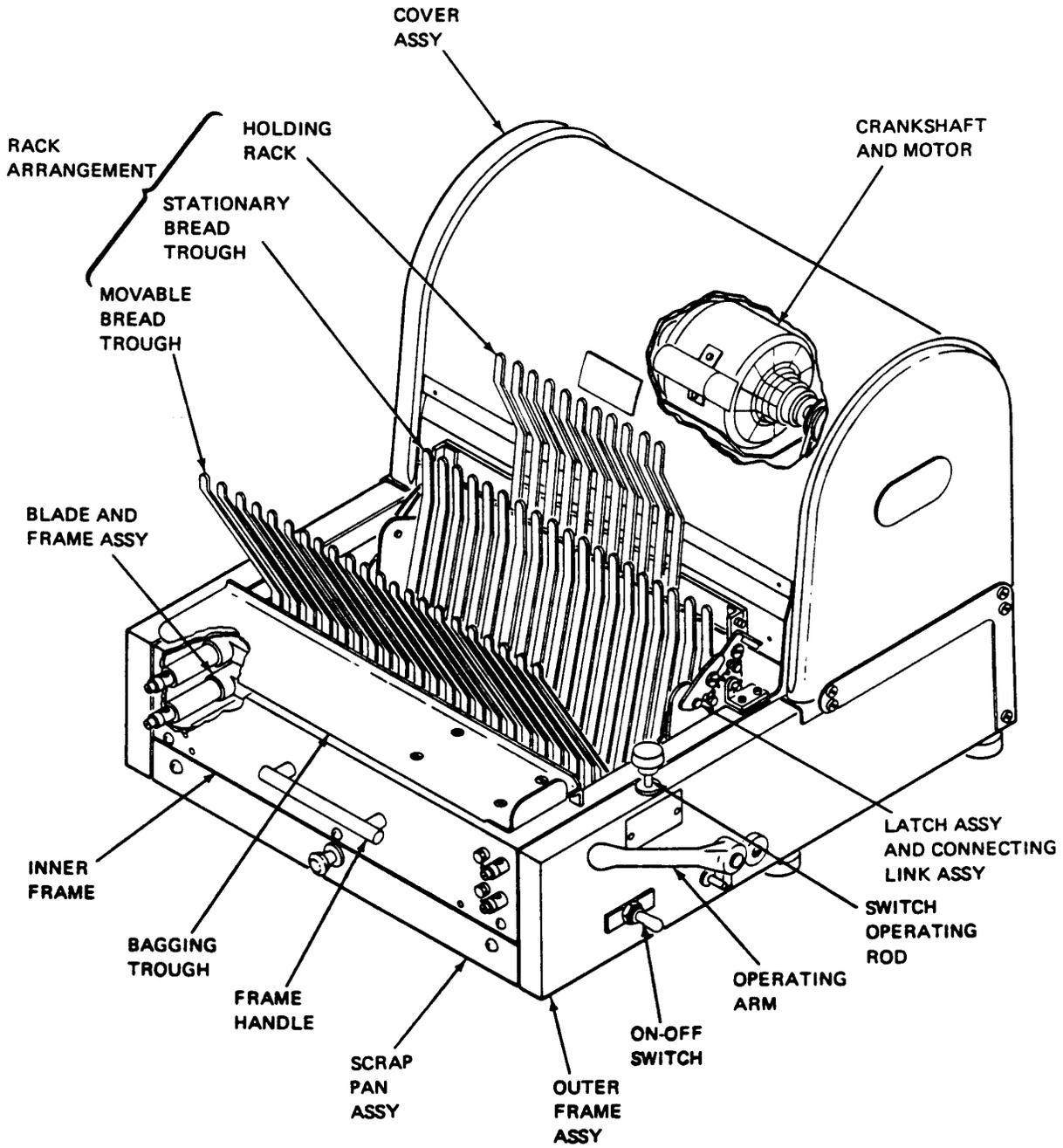


Figure 3-1. Bread Slicer, Model MB

Figure 3-1. Bread Slicer, Model MB

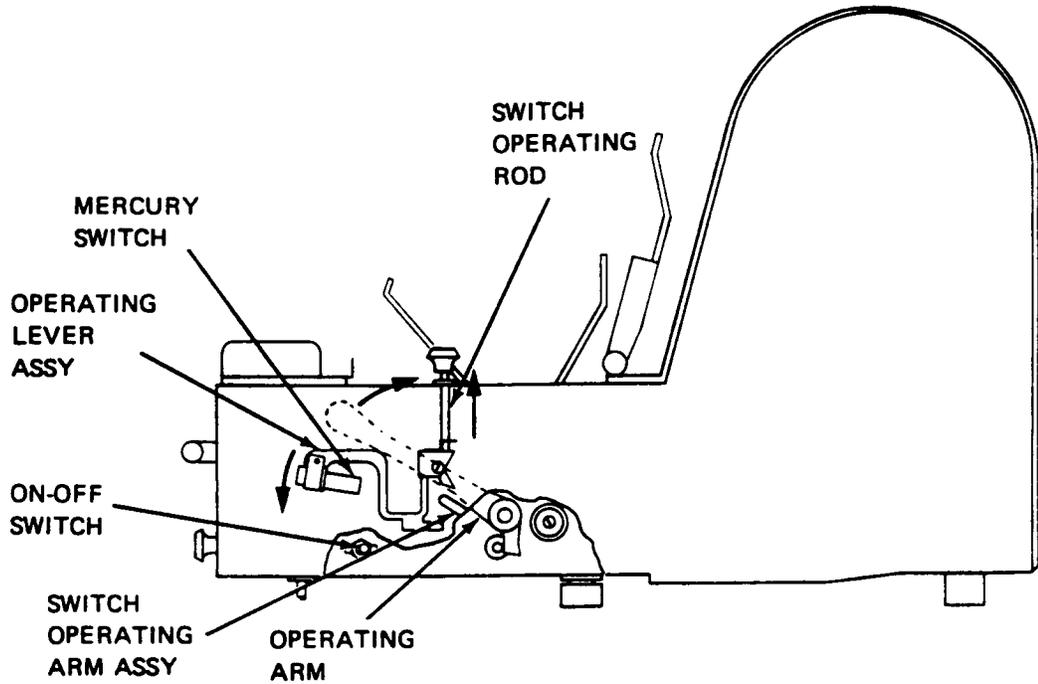


Figure 3-2. Bread Slicer Controls

Figure 3-2. Bread Slicer Controls

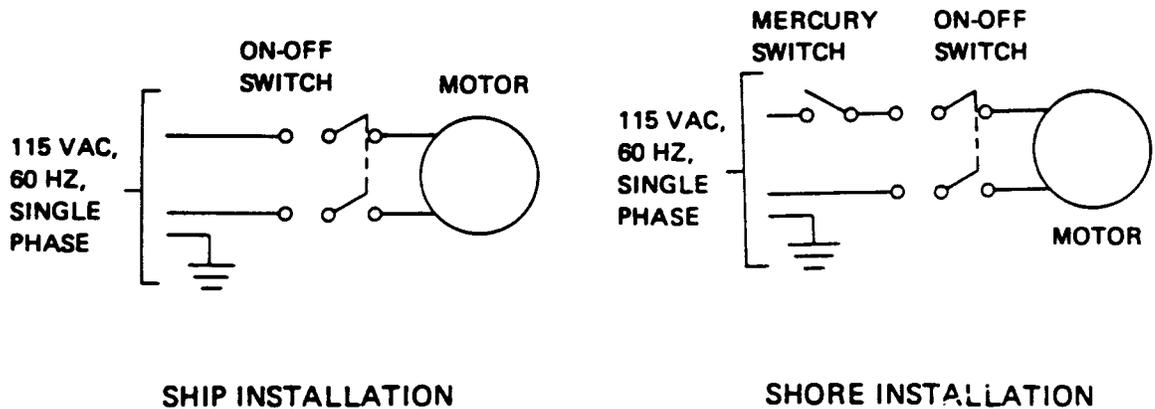


Figure 3-3. Ship and Shore Installations Electrical Wiring Diagrams

Figure 3-3. Ship and Shore Installations Electrical Wiring Diagrams

3-2.4 SWITCH OPERATING ROD AND OPERATING ARM. The switch operating rod and the operating arm are part of the bread slicer controls (figure 3-2). They are mounted on the outer frame assembly. On shore instal-

lations only, lifting the switch operating rod tilts the operating lever assembly. This moves the attached mercury switch to complete the power connection to the motor. (The switch operating rod is used to start the motor when slicing hard-crust or round loaves.) Employing the switch operating rod allows the operator to lift the movable trough assembly (movable bread trough) manually. The operating arm, also, starts the motor on shore installations. Lifting the operating arm causes the attached switch operating arm assembly to tilt the operating lever assembly. This moves the attached mercury switch to complete the power connection to the motor. On both ship-board and shore installations, lifting the operating arm moves the bread cams to unlock the inner frame when it is in the raised position. This allows the springs to pull down the inner frame and the bread slicing operation to begin.

3-2.5 CRANKSHAFT AND MOTOR. The crankshaft and motor (figure 3-4) are connected by two belts looped around the crankshaft pulley. When power is supplied to the motor, the motor shaft rotation is transferred to the crankshaft by the belts. As the crankshaft pulley rotates, the crankshaft connecting rods are forced back and forth which activates the slicing motion of the upper and lower knife frames.

3-2.6 INNER FRAME AND BLADE AND FRAME ASSEMBLY. The inner frame encloses the blade and frame assembly which contains the upper and lower knife frames. Each knife frame holds 18 blades. When in operation, these blades are driven in opposite directions by the ac motor and crankshaft and provide the bread slicing action. The inner frame is placed in operating position (figure 3-5) by lifting the frame operating handle (frame handle) until it is locked in the raised position by the cam rollers resting on top of the bread cams. When the operating arm is raised to the operating position, the inner frame is unlocked. Springs pull the inner frame down to the closed position; as the inner frame moves downward, the knife frames and blades perform the slicing operation.

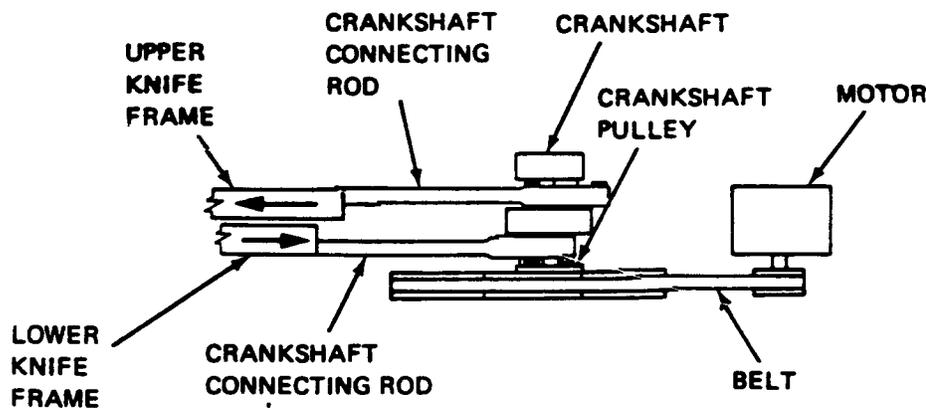


Figure 3-4. Crankshaft and Motor

Figure 3-4. Crankshaft and Motor

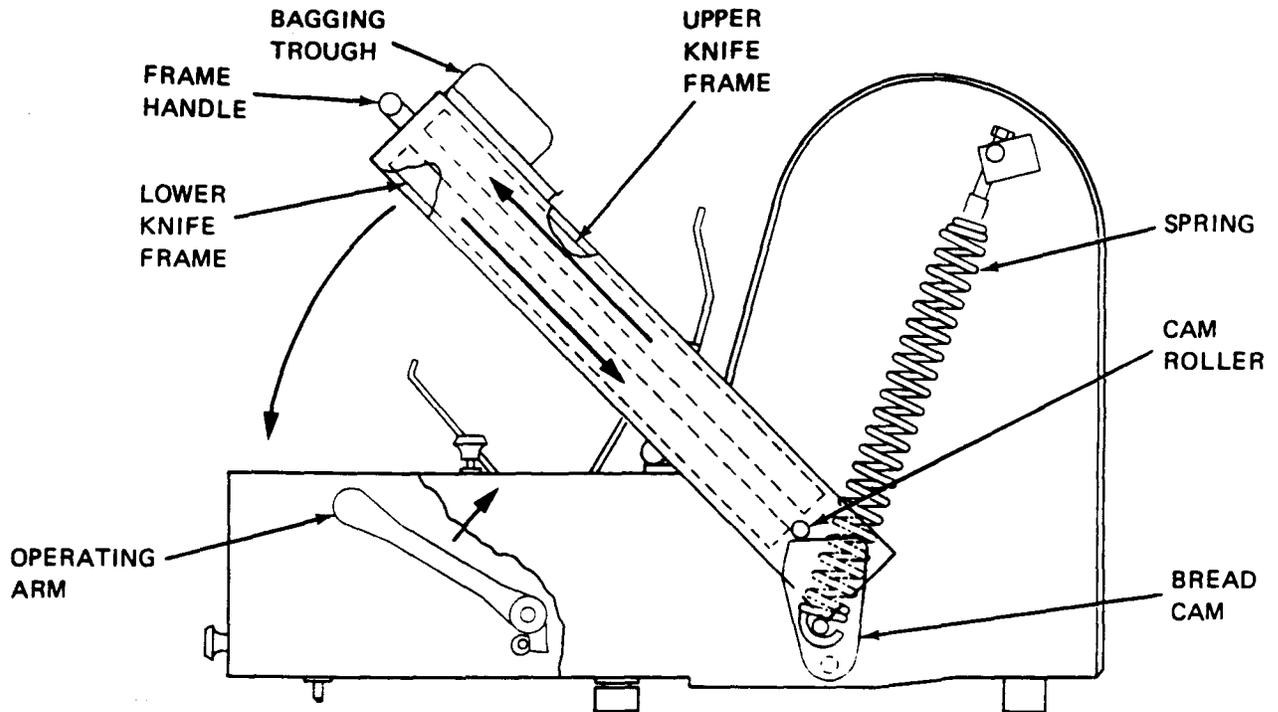


Figure 3-5. Inner Frame in Operating Position

Figure 3-5. Inner Frame in Operating Position

3-2.7 SPRINGS. The two springs (figure 3-6) are connected between the top of the outer frame assembly and bottom of the inner frame. The springs provide the force that pulls the inner frame down for the slicing operation after the inner frame is unlocked from the raised position.

3-2.8 DASHPOT ASSEMBLY. The dashpot assembly (figure 3-6) is a hydraulic device that regulates the downward travel time of the inner frame to accommodate hard or soft crust bread. The device is a piston cylinder with a piston rod and uses mineral oil for operating fluid. The dashpot assembly is connected between a pivot bar on the inner frame and the outer frame assembly.

3-2.9 RACK ARRANGEMENT. The rack arrangement (figure 3-7) is comprised of the movable and stationary trough assemblies (movable and stationary bread troughs) and the holding rack. When the inner frame is locked in the raised position, the latch and connecting link assemblies (figure 3-1) drop the movable bread trough to a level position. At the same time, the holding rack is mechanically unlatched and drops to a lowered position. The movable bread trough serves as a loading platform on which to place the bread, while the stationary bread trough supports the side of the loaf of bread. The holding rack holds the bread in place from the top while it is being sliced. When the inner frame is traveling downward during the slicing function, the latch and connecting link assemblies raise the movable bread trough and holding rack to their raised positions.

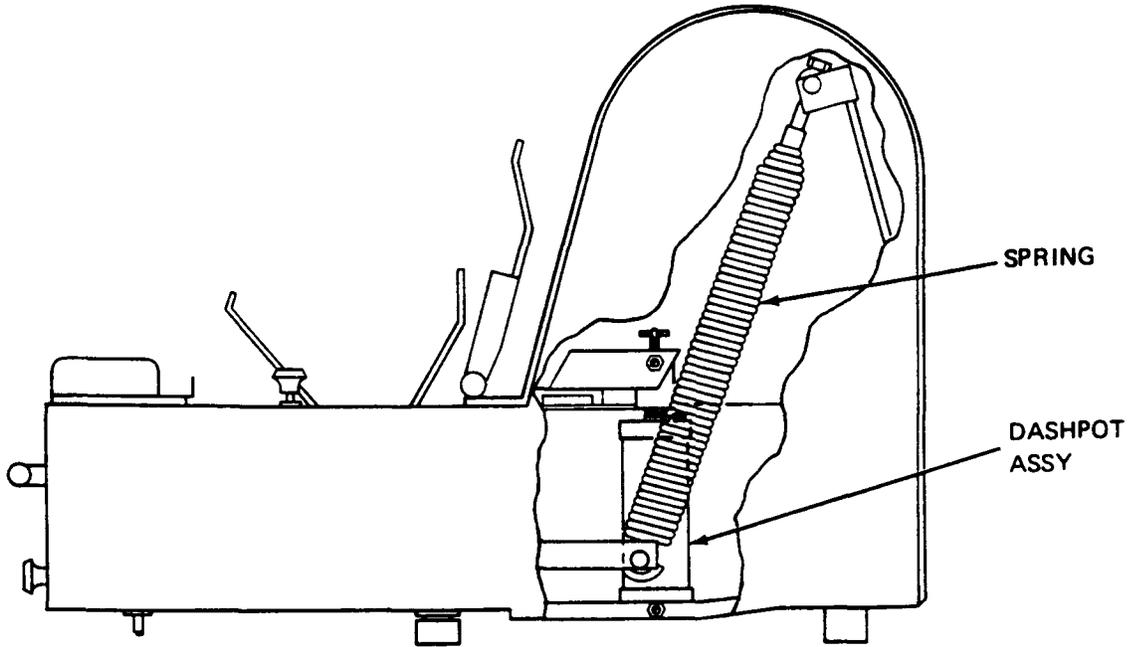


Figure 3-6. Springs and Dashpot Assembly

Figure 3-6. Springs and Dashpot Assembly

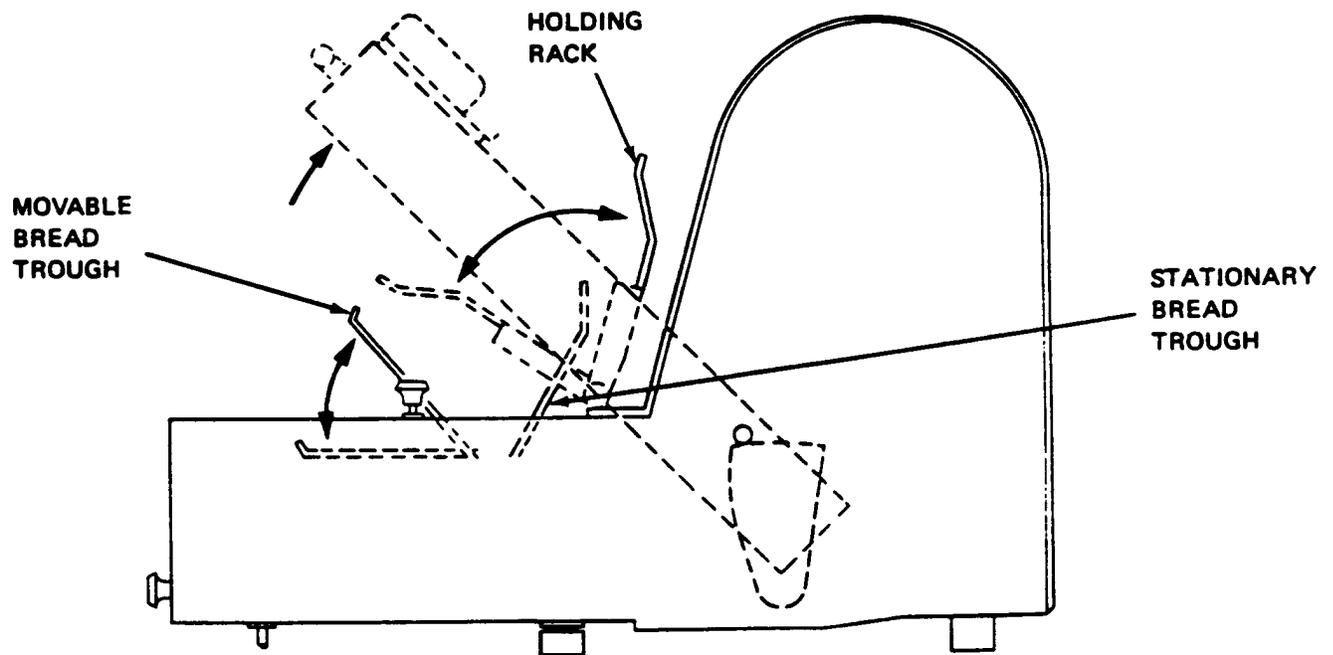


Figure 3-7. Rack Arrangement

Figure 3-7. Rack Arrangement

3-2.10 BAGGING TROUGH. The bagging trough, which is connected to the inner frame, holds the sliced bread while it is being bagged.

3-2.11 CAMS, LINKAGES, AND SCRAP PAN ASSEMBLY. This assembly consists of bread cams, connecting cam linkages, cam rollers, and a scrap pan assembly (figure 3-8). As the operating arm is raised to its operating position, connecting cam linkages are forced backwards. This backward motion pushes the bread cams backwards to unlock the inner frame from the raised position. The scrap pan catches the bread crumbs from the sliced bread.

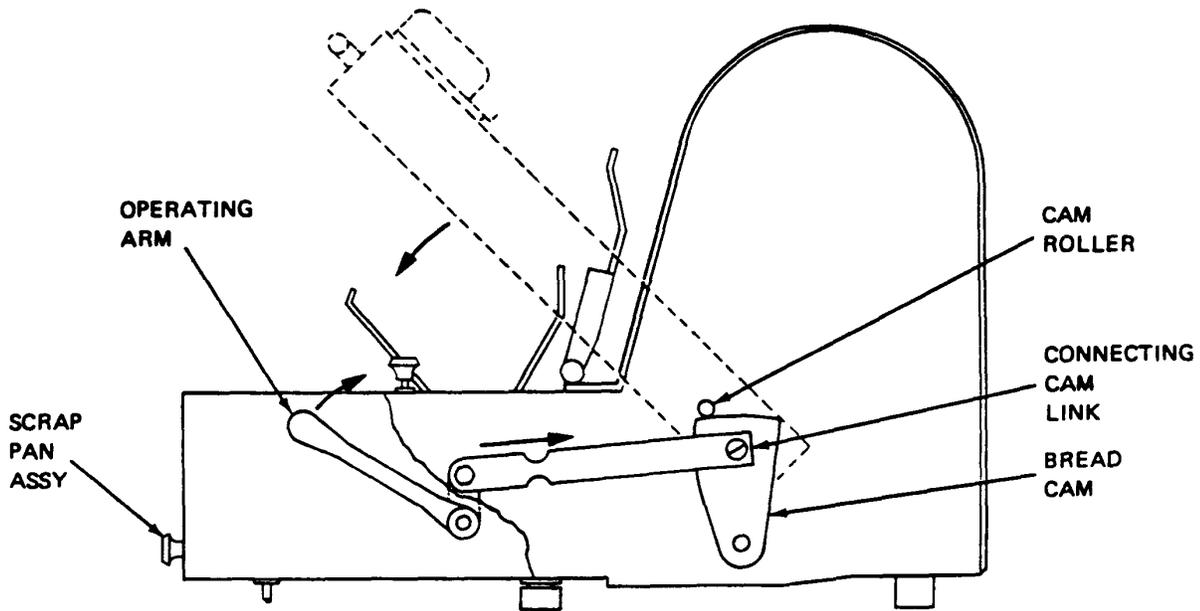


Figure 3-8. Cams, Linkages, and Scrap Pan Assembly

Figure 3-8. Cams, Linkages, and Scrap Pan Assembly

3-2.12 COVER ASSEMBLY. The cover assembly (figure 3-1) is a protective cover that prevents bread crumbs from getting into the ac motor, crankshaft, and other mechanical components. It also protects the bread slicer operator from moving parts. It is attached to the outer frame.

3-2.13 OUTER FRAME ASSEMBLY. The outer frame assembly (figure 3-1) functions as the main housing unit for the other major components and assemblies.

CHAPTER 4

SCHEDULED MAINTENANCE

4-1. INTRODUCTION.

4-1.1 Required preventive maintenance procedures to be performed on a scheduled basis are provided in Planned Maintenance System (PMS) documentation. OPNAVINST 4790.4 describes this system, which also covers departmental and work center recordkeeping, as well as the Maintenance Index Page (MIP) and Maintenance Requirement Cards (MRC's). MRC's cover scheduled inspection and lubrication procedures for the bread slicer, model MB.

4-1.2 The extensive and comprehensive scheduled maintenance provided for the bread slicer, model MB, by MRC's eliminates the need for any coverage but dashpot mineral oil replenishment. Should any conflict exist between the information provided in PMS and the procedures in this chapter, PMS takes precedence. Specific corrective maintenance procedures (adjustment, repair, and replacement) are provided in [chapter 6](#) of this manual.

4-2. DASHPOT MINERAL OIL LEVEL.

4-2.1 It is recommended that the mineral oil level be replenished annually unless required more or less frequently as determined by experience. The following mineral oil is recommended.

Berkel oil 4675-00182	2 ounce bottle
Berkel oil 4675-00183	16 ounce bottle
Berkel oil 4675-00184	1 gallon bottle

4-2.2 REPLENISHMENT PROCEDURE. The following procedure should be used to replenish dashpot mineral oil.

WARNING

Failure to disconnect power and tag out of service in accordance with ship procedures may result in serious injury to or death of personnel.

1. Disconnect ac input cord from outlet and tag out of service in accordance with ship procedures.
2. Remove flathead screws (1, [figure 7-1, sheet 2](#)) on both sides of machine cover (10) and remove cover assembly (items 1 through 10 as unit).
3. Remove dashpot setscrew ([figure 4-1](#)) and fill to top of filler hole. Reinstall setscrew.
4. Reinstall cover assembly.
5. Remove out of service tag in accordance with ship procedures and plug ac cord into outlet.

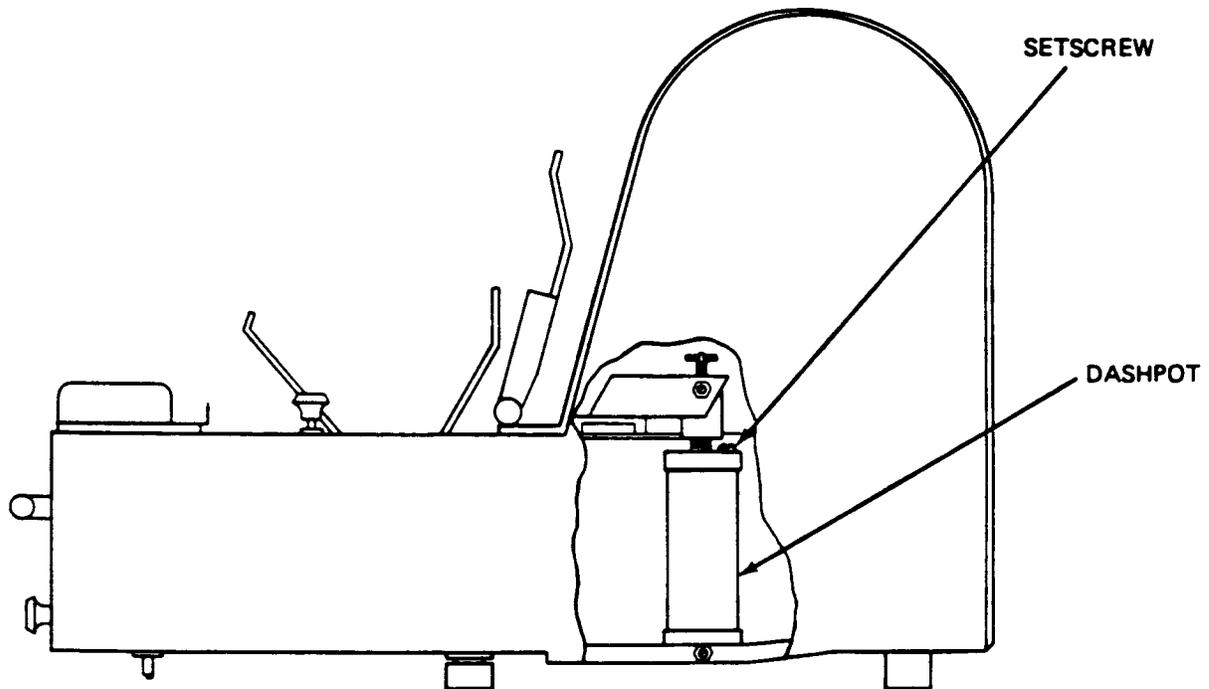


Figure 4-1. Dashpot Maintenance

Figure 4-1. Dashpot Maintenance

CHAPTER 5

TROUBLESHOOTING

5-1. INTRODUCTION.

5-1.1 SCOPE. This chapter provides the troubleshooting procedures necessary to aid maintenance personnel in isolating, identifying, and correcting malfunctions of the bread slicer, model MB. Troubleshooting procedures are described and use of the troubleshooting table is explained. Reference to [chapter 6](#) (Corrective Maintenance) is provided for adjustment and replacement procedures. Conversion factors for U.S.-to-metric measurements are listed in [table 1-1](#). Refer to Naval Ships' Technical Manual (NSTM), chapter 302, for additional troubleshooting information.

5-1.2 SAFETY REQUIREMENTS. Prior to performing any troubleshooting procedure, maintenance personnel shall review and become thoroughly familiar with the general safety notices and precautions listed in the Safety Summary.

5-2. TROUBLESHOOTING PROCEDURES.

5-2.1 GUIDE TO TROUBLESHOOTING. Troubleshooting is the systematic analysis of a malfunction used to identify the cause of that malfunction. It requires an understanding of equipment operation and an ability to rec-

ognize the symptoms of faulty operation. Troubleshooting procedures are based on the assumption that all operating and maintenance procedures have been followed correctly. These troubleshooting procedures may be divided into three phases: identification of the symptom or malfunction, identification of the probable cause, and performance of corrective action.

5-2.2 TROUBLESHOOTING TABLE. [Table 5-1](#) will assist in troubleshooting operational problems. It contains common symptoms/malfunctions, probable causes, and corrective actions listed in three columns for easy reference.

5-2.2.1 Symptom/Malfunction Identification. Most bread slicer symptoms/malfunctions may be detected by sight (obvious damage). Initially checking components which have been recently repaired or which have a history of failure often eliminates the need for further troubleshooting. Symptoms/malfunctions are listed in the left-hand column of the troubleshooting table.

5-2.2.2 Probable Cause Identification. All known probable causes of a malfunction are listed in the middle column of the troubleshooting table opposite the appropriate symptom/malfunction.

5-2.2.3 Corrective Action. Corrective actions are listed in the right-hand column of the troubleshooting table opposite each probable cause. Most corrective actions refer to [chapter 6](#) for adjustment and/or replacement procedures.

Table 5-1. Troubleshooting

Symptom/Malfunction	Probable Cause	Corrective Action
1. Motor inoperative when toggle switch in ON position and inner frame and bagging assembly in raised position.	1. Power input cord not plugged into ac outlet. 2. No power at ac outlet. 3. Faulty toggle switch. 4. Faulty mercury switch (shore installations only). 5. Broken or loose wiring.	1. Plug power input cord into ac outlet. 1. Check circuit breaker supplying ac power to compartment. 1. Disconnect power input cord. Use multimeter to perform continuity check across contacts of toggle switch. Remove and replace toggle switch (para 6-7.8). 1. Disconnect power input cord. Use multimeter to perform continuity check across contacts of mercury switch. Remove and replace place mercury switch (para 6-7.8). 1. Disconnect power input cord and perform continuity check of wiring. Refer to figure 3-3 for electrical wiring diagram. Replace wiring as required.
2. Bread tearing (not smoothly sliced).	6. Faulty motor. 1. Belts slipping. 2. Dull blades.	1. Remove and replace motor (para 6-7.7). 1. Tighten belt tension (para 6-3.4). 1. Remove and replace blades (para 6-7.5).

Table 5-1. Troubleshooting - Continued

Symptom/Malfunction	Probable Cause	Corrective Action
3. Bread is smashed during slicing operation.	1. Inner frame and bagging assembly drops extremely fast.	1. Dashpot assembly mineral oil level low. Replenish mineral oil (para 4-2). 2. Dashpot assembly out of adjustment. Adjust (para 6-3.2) to slow inner frame and bagging assembly downward travel. 3. Adjust spring tension (para 6-3.3) to slow inner frame and bagging assembly downward travel time.
4. Motor shuts off on after inner frame and bagging assembly fully seated.	1. Mercury switch misadjusted (shore installations only).	1. Readjust mercury switch adjustment socket head screw (para 6-3.6).

CHAPTER 6

CORRECTIVE MAINTENANCE

6-1. INTRODUCTION.

6-1.1 SCOPE. This chapter provides maintenance procedures for the bread slicer, model MB. The procedures are presented in two sections. [Section I](#) contains adjustment procedures and [section II](#) contains repair and replacement procedures.

6-1.2 SAFETY REQUIREMENTS. Prior to performing any corrective maintenance on the bread slicer, maintenance personnel shall review and become thoroughly familiar with the general safety notices and precautions listed in the Safety Summary. Specific adjustment/alinement and repair or replacement procedures, along with their individual warnings and cautions, shall be read in full prior to beginning corrective maintenance.

6-2. TOOLS AND EQUIPMENT.

6-2.1 The following standard tools and equipment are recommended for use in maintenance procedures.

Table 6-1 Parts List

1. Clean, lint-free rags	For specific cleaning after general cleaning.
2. Safety tags	For tagging equipment out of service.
3. Bearing puller, GGG-P-781, type VII and puller attachment, type XII	For pulling bearings from crankshaft.
4. Wiping rags	For general cleaning.
5. Grease, general purpose, MIL-G-24139	For greasing bearings.
6. Clean light oil (Symbol 2135 or equivalent)	For oiling slide bars.
7. Oiler, hand, rigid spout	For oiling slide bars.
8. Adjustable wrench, 6 inch, heavy duty	For general maintenance.
9. Screwdriver, flat tip	For general maintenance.
10. Allen wrenches	For general maintenance.
11. Cleaning solvents	For general cleaning procedures.
12. Multimeter	For electrical continuity checks.
13. Snapping pliers	For snapping removal.
14. Wheel puller	For motor and crankshaft pulley removal.
15. Crocus cloth, grit 400	For polishing nicks and scratches and removing corrosion from metal.
16. Liquid metal polish	For polishing metal.

6-2.2 SPECIAL TOOLS AND EQUIPMENT. The following special equipment may be required for maintenance of the bread slicer dashpot.

1. Berkel mineral oil 4675-00182 (2 ounce bottle)
2. Berkel mineral oil 4675-00183 (16 ounce bottle)
3. Berkel mineral oil 4675-00184 (1 gallon bottle)

**SECTION I.
ADJUSTMENT**

6-3. INTRODUCTION.

6-3.1 This section provides procedures to adjust the following:

	Page
1. Dashpot assembly	6-3
2. Spring tension	6-4
3. Belts	6-6
4. Leveling	6-8
5. Mercury switch	6-8

6-3.2 DASHPOT ASSEMBLY. The dashpot assembly (figure 6-1) is adjusted to increase or decrease the downward travel time of the inner frame and bagging assembly which contains the slicing blades. For slicing soft-crust bread slow downward travel time is required, and for hard-crust bread fast downward travel time is required. Adjustment of the dashpot is provided in the following procedure.

WARNING

Failure to disconnect power and tag out of service in accordance with ship procedures may result in serious injury to or death of personnel.

1. Disconnect ac input cord from outlet and tag out of service in accordance with ship procedures.
2. Remove top two screws on cover fastening strip (each side) and remove cover assembly.
3. Turn dashpot adjusting screw clockwise to decrease downward travel time or counterclockwise to increase downward travel time, depending on type of bread being sliced.
4. Reinstall cover assembly and screws.

WARNING

Before applying ac power, ensure that cover assembly is in place. Injury to personnel may result from contact with moving parts.

5. Remove out of service tag in accordance with ship procedures and plug ac input cord into ac outlet.

WARNING

Slicing blades are extremely sharp. To prevent injury, keep hands out of bread slicer during operation.

6. Perform bread slicing operation as described in [paragraph 2-3](#) and observe slicing operation. Repeat [step 1 through step 5](#) if further adjustment is required.

6-3.3 SPRING TENSION. Two springs ([figure 6-2](#)) are connected between the top of the outer frame assembly and bottom of the inner frame and bagging assembly to pull the inner frame and bagging assembly downward after it is unlatched. If adjustment of the dashpot assembly does not increase or decrease downward travel time sufficiently, the hex head bolts securing the springs may be adjusted. Adjustment of the spring tension is provided in the following procedure.

WARNING

Failure to disconnect power and tag out of service in accordance with ship procedures may result in serious injury to or death of personnel.

1. Disconnect ac input cord from outlet and tag out of service in accordance with ship procedures.
2. Remove top two screws on cover fastening strip (each side) and remove cover assembly.
3. Turn hex head bolts clockwise to increase inner frame and bagging assembly downward travel time and turn counterclockwise to decrease travel time, depending on type of bread being sliced.

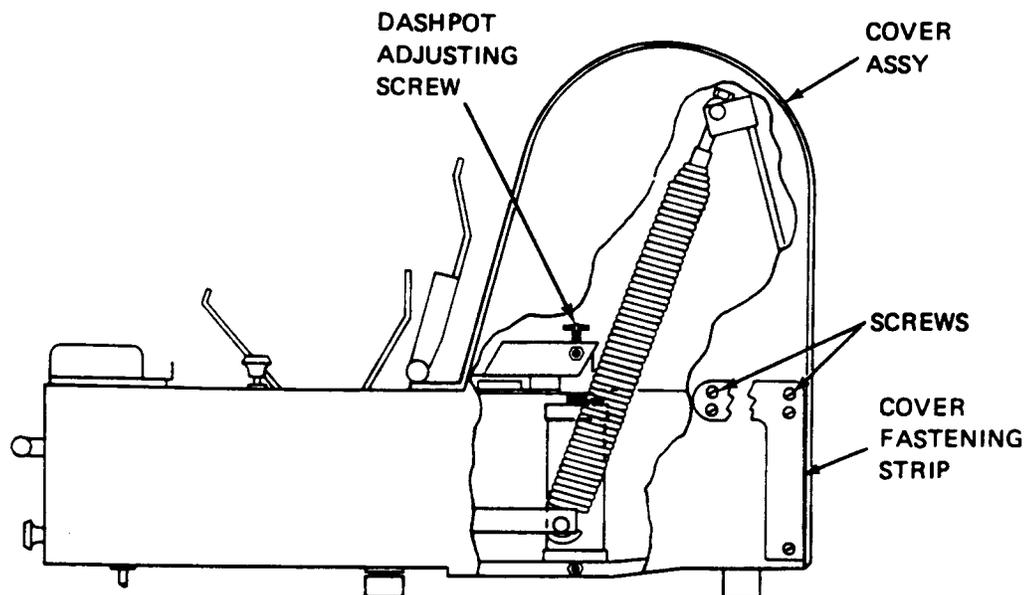


Figure 6-1. Dashpot Adjustment

Figure 6-1. Dashpot Adjustment

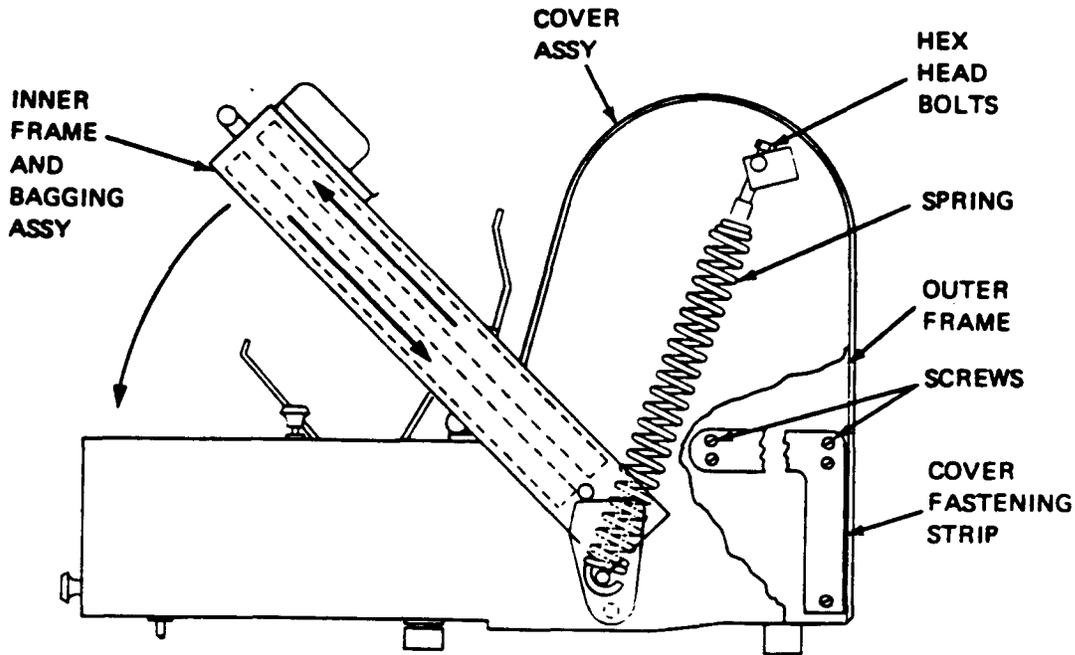


Figure 6-2. Spring Tension Adjustment

Figure 6-2. Spring Tension Adjustment

4. Reinstall cover assembly and screws.

WARNING

Before applying ac power, ensure that cover assembly is in place. Injury to personnel may result from contact with moving parts.

5. Remove out of service tag in accordance with ship procedures and plug ac input cord into ac outlet.
6. Perform bread slicing operation as described in [paragraph 2-3](#) and observe slicing operation. Repeat [step 1 through step 5](#) if further adjustment is required.

6-3.4 BELTS. Belt adjustment is required when the slicing blade cutting motion slows. Pressure adjustment for the belts is provided in the following procedure.

WARNING

Failure to disconnect power and tag out of service in accordance with ship procedures may result in serious injury to or death of personnel.

1. Disconnect ac input cord from outlet and tag out of service in accordance with ship procedures.
2. Remove top two screws on cover fastening strip (each side) (figure 6-3) and remove cover assembly.
3. Loosen four hex nuts and square head screw with locknut.

CAUTION

Belts shall be tightened just enough to eliminate slippage. Excessive tension will cause rapid belt wear and stress on motor bearings.

4. Turn hex head bolt clockwise to raise motor mounting bracket, thus tightening belts.
5. Tighten square head screw to level motor and tighten square head screw locknut.

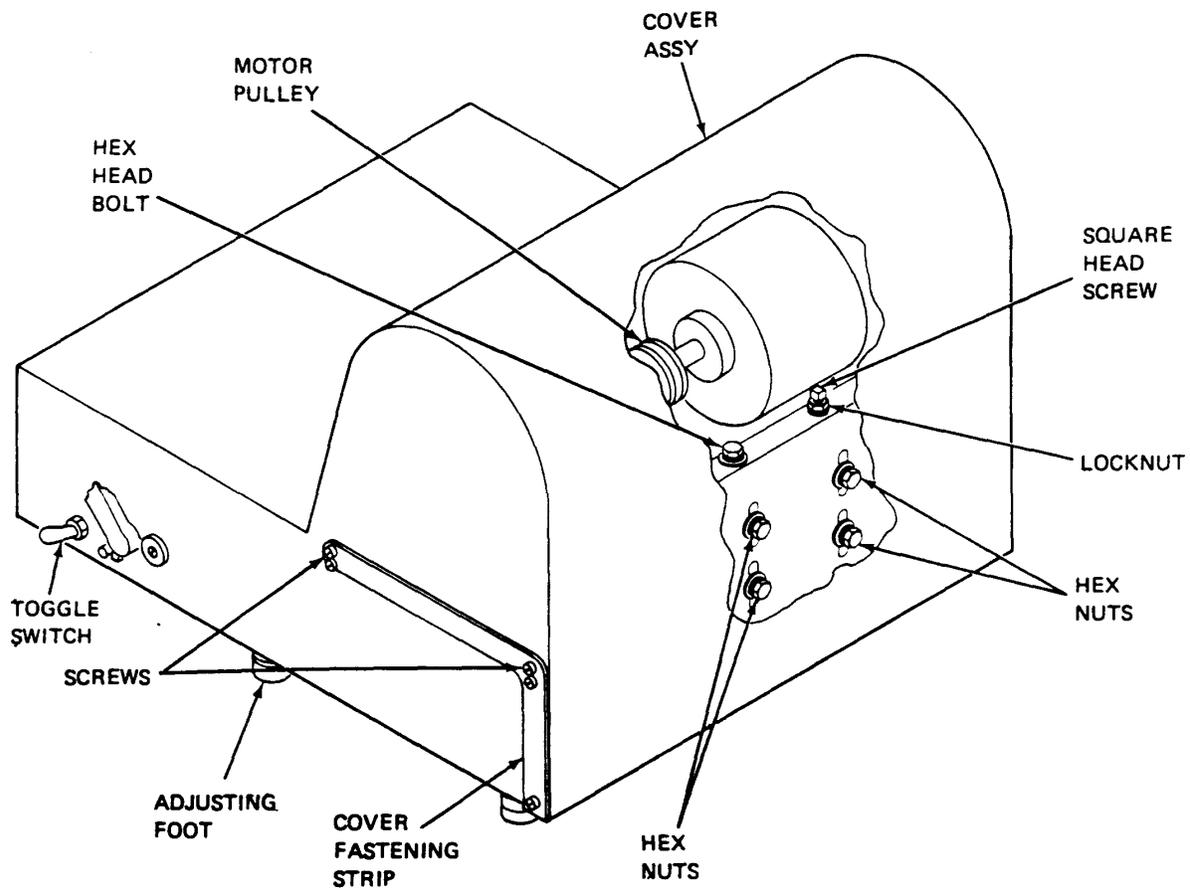


Figure 6-3. Belt Adjustment and Leveling

Figure 6-3. Belt Adjustment and Leveling

6. Tighten four hex nuts.

7. Reinstall cover assembly and screws.

WARNING

Before applying ac power, ensure that cover assembly is in place. Injury to personnel may result from contact with moving parts.

8. Remove out of service tag in accordance with ship procedures and plug ac input cord into ac outlet.

6-3.5 LEVELING. Leveling of the bread slicer is provided in the following procedure.

1. Place bread slicer on mounting platform where it will be operated.
2. Loosen locknut on adjusting foot ([figure 6-3](#)) and turn adjusting foot clockwise to lower or counterclockwise to raise right front side of bread slicer.
3. Tighten adjusting foot locknut.

6-3.6 MERCURY SWITCH. Mercury switch adjustment at shore installations is provided in the following procedure. (The mercury switch is not used on shipboard installations.)

1. Raise inner frame and bagging assembly ([figure 6-2](#)) until it locks in raised position.

WARNING

Slicing blades are extremely sharp. To prevent injury, keep hands out of bread slicer during operation.

2. Place toggle switch (ON-OFF) in ON position.
3. Raise operating handle (operating arm) and observe at what time motor shuts off during downward swing of inner frame and bagging assembly.
 - 3.1 If motor stops before inner frame and bagging assembly is fully seated, socket head screw (184, [figure 7-1, sheet 8](#)) must be lowered.
 - 3.2 If motor keeps running after inner frame and bagging assembly is fully seated, socket head screw must be raised.
4. Raise inner frame and bagging assembly until it locks in raised position.
5. Loosen hex nut (179) and turn socket head screw clockwise to lower or counterclockwise to raise.
6. Repeat [step 1 through step 5](#) if required for further adjustment.

SECTION II. REPAIR

6-4. INTRODUCTION.

6-4.1 SCOPE. This section contains removal and disassembly, cleaning and inspection, repair and replacement, and reassembly and reinstallation procedures for the following components of the model MB bread slicer.

	Page
1. Cover assembly	6-11
2. Rack arrangement	6-12
3. Inner frame and bagging assembly	6-13
4. Blade and frame assembly	6-14
5. Cams, linkages, and scrap pan assembly	6-15
6. Crankshaft and motor	6-17
7. Switch mechanism	6-18
8. Outer frame assembly	6-20

6-5. CLEANING AND INSPECTION.

6-5.1 CLEANING. The following general cleaning procedure shall be used during repair work.

WARNING

Failure to disconnect power and tag out of service in accordance with ship procedures may result in serious injury to or death of personnel.

1. Prior to performing repair procedures, ensure that bread slicer power is disconnected and tagged out of service in accordance with ship procedures.

WARNING

Use cleaning solvent in well-ventilated area. Avoid prolonged breathing of fumes and solvent contact with skin or eyes. Avoid use near heat or open flame. Failure to do so may result in serious injury to or death of personnel.

2. Wash all metal parts, except blade assembly, in mineral-base cleaning solvent and wipe dry with clean, lint-free cloth.
3. Wash blade assembly with warm soapy water, rinse in clear warm water, and dry with clean lint-free cloth.
4. Wipe excess grease and oil off components with wiping rags.

6-5.2 INSPECTION. The following general inspection procedure shall be used during repair work. When possible, components shall be visually inspected under strong light and/or magnification.

1. Check parts for fractures, corrosion, and discoloration caused by overheating.
2. Examine all parts for deformities, pitting, scoring, scratches, nicks, and accumulation of dirt and other contaminants.
3. Inspect all parts for excessive wear and deterioration.
4. Inspect all threaded areas for stripped threads and evidence of cross-threading.
5. Inspect springs for rust, cracks, and bends; verify uniform expansion/retraction capability.
6. Inspect bearings for burrs and wear. Ensure smooth operation.

6-6. REPAIR AND REPLACEMENT.

6-6.1 REPAIR. Repair parts as indicated by inspection in accordance with standard shop practices, using standard shop tools as required. Minor repair to precision-machined parts may be performed if fits and clearances are maintained and part reliability is not impaired.

1. Disassemble components only so far as necessary to make repairs.
2. Do not discard used items until availability of replacement parts is determined.
3. Remove light surface discoloration from bare metal surfaces using cloth saturated with liquid metal polish. Remove discoloration by rubbing briskly, then polish with clean, lint-free cloth.
4. Remove corrosion from metal surfaces by polishing with crocus cloth (grit 400), then polish as indicated in [step 3](#).
5. Remove minor nicks and scratches from metal surfaces by polishing with crocus cloth (grit 400). Blend out edges of reworked area, then polish as indicated in [step 3](#).
6. If in doubt about serviceability or condition of repaired part, replace part.

6-6.2 REPLACEMENT. Parts not meeting inspection requirements, or not within allowable wear limits after repairs have been made, shall be replaced. Replace parts in accordance with standard shop practices using standard shop tools as required.

1. Replace any parts that show severe discoloration from overheating.
2. If serviceability of any part is questionable, replace part.
3. Replace all O-rings, seals, gaskets, and packing during reassembly.
4. Do not discard used items until availability of replacement parts is determined.
5. If replacement parts are not available and equipment must be reassembled (due to emergency), used O-rings, seals, gaskets, and packing may be reused.
6. If old parts are reused, equipment should be closely monitored for leakage.

6-7. REPAIR PROCEDURES.

6-7.1 There are normally six major evolutions involved with repair and replacement, removal, disassembly, cleaning and inspection, repair and replacement, reassembly, and reinstallation. Applicable guidelines listed in [paragraph 6-5](#) and [paragraph 6-6](#) shall be used along with specific procedures set forth in the following paragraphs for part repair or replacement.

6-7.2 COVER ASSEMBLY. The following paragraphs provide cover assembly removal and disassembly, cleaning and inspection, repair and replacement, and reassembly and reinstallation procedures.

6-7.2.1 Removal.

WARNING

Failure to disconnect power and tag out of service in accordance with ship procedures may result in serious injury to or death of personnel.

1. Disconnect ac input cord from ac outlet and tag out of service in accordance with ship procedures.
2. Remove flathead screws (1, [figure 7-1, sheet 2](#)) on both sides of machine cover (10) and remove cover assembly (items 1 through 10 as unit).
3. Do not disassemble items 2 through 9 unless damaged.

6-7.2.2 Cleaning and Inspection. Clean removed components in accordance with [paragraph 6-5.1](#). Inspect components in accordance with [paragraph 6-5.2](#).

6-7.2.3 Repair and Replacement. Repair and replace faulty components in accordance with [paragraph 6-6](#).

6-7.2.4 Reassembly.

1. Reinstall machine cover (10, [figure 7-1, sheet 2](#)), secure with flathead screws (1).
2. Remove out of service tag in accordance with ship procedures and plug ac cord into ac outlet.

6-7.3 RACK ARRANGEMENT. The following paragraphs provide rack arrangement removal and disassembly, cleaning and inspection, repair and replacement, and reassembly and reinstallation procedures.

6-7.3.1 Removal and Disassembly.

WARNING

Failure to disconnect power and tag out of service in accordance with ship procedures may result in serious injury to or death of personnel.

1. Disconnect ac input cord from ac outlet and tag out of service in accordance with ship procedures.
2. Raise inner frame and bagging assembly (items 51 through 79 as unit, [figure 7-1, sheet 4](#)) until it locks in raised position.
3. Remove screws (11, sheet 3) from left and right hand holding rack pivot brackets (14 and 15).
4. Push forward on holding rack (32) to disconnect latch and link assembly (items 22 through 27 as unit) from stationary trough assembly shoulder pins (38).
5. Remove holding rack with items 12 through 31 attached.
6. Remove items 12 through 17 from holding rack.
7. Remove hex locknuts (18), shims (19), spring washers (20), and shoulder screws (21).
8. Disconnect and remove tension springs (22).
9. Remove hex locknuts (23), shoulder screws (24), and remove left and right hand latches (25) from holding rack. (Do not remove bumpers (26) unless damaged.)
10. Remove connecting links (27). (Do not remove items 28 through 31 unless damaged.)
11. Remove hex head bolts (33), lockwashers (34), and movable trough assembly (35).
12. Remove hex head bolts (36), lockwashers (37), and stationary trough assembly (39).
13. Do not remove items 40 through 48 unless damaged.

6-7.3.2 Cleaning and Inspection. Clean removed and disassembled components in accordance with [paragraph 6-5.1](#). Inspect components in accordance with [paragraph 6-5.2](#).

6-7.3.3 Repair and Replacement. Repair and replace faulty components in accordance with [paragraph 6-6](#).

6-7.3.4 Reassembly and Reinstallation.

1. Reassemble and replace components by performing [step 12 through step 2](#) in reverse order of removal and disassembly ([paragraph 6-7.3.1](#)).
2. Remove out of service tag in accordance with ship procedures and plug ac cord into ac outlet.

6-7.4 INNER FRAME AND BAGGING ASSEMBLY. The following paragraphs provide removal and disassembly, cleaning and inspection, repair and replacement, and reassembly and reinstallation procedures.

6-7.4.1 Removal and Disassembly.

WARNING

Failure to disconnect power and tag out of service in accordance with ship procedures may result in serious injury to or death of personnel.

1. Disconnect ac input cord from ac outlet and tag out of service in accordance with ship procedures.
2. Remove flathead screws (1, [figure 7-1, sheet 2](#)) on both sides of machine cover (10) and remove cover assembly (items 1 through 10 as unit).
3. Loosen hex head bolts (197, sheet 9) to release spring tension. (Note amount of turns used to release tension and use same amount of turns to tighten tension when replacing springs.) Disconnect lower ferrules (199) from inner frame and bagging assembly.
4. Disassemble rack arrangement in accordance with [paragraph 6-7.3.1, step 3 through step 12](#).
5. Loosen and remove hex nuts (49, sheet 4) and special screws (50) to disconnect top of dashpot assembly from inner frame and bagging assembly.
6. Remove setscrews (51), hex nuts (52), pivot bolts (53), and bushings (54); remove knife bearing bracket (79) with items 55 through 78 attached from outer frame assembly.
7. Remove setscrews (55), retaining rings (56), washers (57), bushings (58), cam rollers (59), and eccentric pins (60).
8. Remove flathead screws (61). (Do not remove items 62 through 67 unless damaged.)
9. Remove bagging trough (68) and bagging trough spacer (69).
10. Remove items 70 through 77.

6-7.4.2 Cleaning and Inspection. Clean removed and disassembled components in accordance with [paragraph 6-5.1](#). Inspect components in accordance with [paragraph 6-5.2](#).

6-7.4.3 Repair and Replacement. Repair and replace faulty components in accordance with [paragraph 6-6](#).

6-7.4.4 Reassembly and Reinstallation. The procedure to reassemble and reinstall components of the inner frame and bagging assembly follows.

1. Reassemble and replace components by performing [step 10 through step 2](#) in reverse order of removal and disassembly ([paragraph 6-7.4.1](#)).
2. Remove out of service tag in accordance with ship procedures and plug ac cord into ac outlet.

6-7.5 BLADE AND FRAME ASSEMBLY. The following paragraphs provide removal and disassembly, cleaning and inspection, repair and replacement, and reassembly and reinstallation procedures.

6-7.5.1 Removal and Disassembly.

WARNING

Failure to disconnect power and tag out of service in accordance with ship procedures may result in serious injury to or death of personnel.

1. Disconnect ac input cord from ac outlet and tag out of service in accordance with ship procedures.
2. Disassemble rack arrangement and inner frame and bagging assembly in accordance with [paragraph 6-7.3.1](#) and [paragraph 6-7.4.1](#).
3. Rotate crankshaft pulley (136, sheet 7) until hex head screw (80, sheet 5) on upper knife frame (90) is visible. Remove hex head screw (80) and slide upper knife frame with items 81 through 89 attached out of inner frame and bagging assembly.
4. Repeat [step 3](#) to remove lower knife frame (91) from inner frame and bagging assembly.
5. Remove revolving sleeve oilers (81) and bushings (82).
6. Remove blade retaining nuts (83), washers (84), and knife pin washers (85). Push blade assembly (86) to rear, lift rear end of blades out of lug plate set (89), and pull threaded end of blade out of front lug plate.
7. Remove bushings (87).
8. Remove lug plate screws (88) and remove lug plate set (89).
9. Remove socket head screws (92), lockwashers (93), flat washers (94), and hex screws (97) to remove shims (95), slide bars (96), slide bar straps (98) and slide bar brackets (99) from knife bearing bracket (79, sheet 4).

6-7.5.2 Cleaning and Inspection. Clean removed and disassembled components in accordance with [paragraph 6-5.1](#). Inspect components in accordance with [paragraph 6-5.2](#).

6-7.5.3 Repair and Replacement. Repair and replace faulty components in accordance with [paragraph 6-6](#).

6-7.5.4 Reassembly and Reinstallation. The procedure to reassemble and reinstall components of the blade and frame assembly follows.

1. Reassemble and replace components by performing [step 7 through step 2](#) in reverse order of removal and disassembly ([paragraph 6-7.5.1](#)).
2. Remove out of service tag in accordance with ship procedures and plug ac cord into ac outlet.

6-7.6 CAMS, LINKAGES, AND SCRAP PAN ASSEMBLY. The following paragraphs provide removal and disassembly, cleaning and inspection, repair and replacement, and reassembly and reinstallation procedures.

6-7.6.1 Removal and Disassembly.

WARNING

Failure to disconnect power and tag out of service in accordance with ship procedures may result in serious injury to or death of personnel.

1. Disconnect ac input cord from ac outlet and tag out of service in accordance with ship procedures.
2. Remove hex head bolts (33, sheet 3) and lockwashers (34) to remove movable trough assembly (35), if not previously removed.
3. Remove scrap pan (106, sheet 6) with items 100 through 105 attached from outer frame assembly.
4. Do not remove items 100 through 105 and 107 through 110 unless damaged.
5. Raise inner frame and bagging assembly until it locks in raised position. Use metal rods or other suitable means to support inner frame and bagging assembly in raised position while removing cams and linkages.
6. Remove taper pin (111) from operating handle (112); remove operating handle from bread trough pivot bar (115).
7. Remove taper pins (111 and 113) from locating brackets (120) and support brackets (121).
8. Loosen setscrews (114) on switch operating arm assembly (117) and support brackets.
9. Tap bread trough pivot bar (115) through the outer frame assembly and remove spacer (116) and switch operating arm assembly (117).
10. Loosen setscrews (118) and remove hex head bolts (119) from connecting cam links (124) and locating brackets (120).
11. Remove locating brackets and support brackets (121).
12. Remove hex nuts (122), shoulder screws (123), and connecting cam links (124).
13. Remove hex head bolts (125) and bread cams (126). Remove metal support rod.

6-7.6.2 Cleaning and Inspection. Clean removed and disassembled components in accordance with [paragraph 6-5.1](#). Inspect components in accordance with [paragraph 6-5.2](#).

6-7.6.3 Repair and Replacement. Repair and replace faulty components in accordance with [paragraph 6-6](#).

6-7.6.4 Reassembly and Reinstallation. The procedure to reassemble and reinstall components of the cams, linkages, and scrap pan follows.

1. Reassemble and replace components by performing [step 12 through step 2](#) in reverse order of removal and disassembly ([paragraph 6-7.6.1](#)).
2. Remove out of service tag in accordance with ship procedures and plug ac cord into ac outlet.

6-7.7 CRANKSHAFT AND MOTOR. The following paragraphs provide removal and disassembly, cleaning and inspection, repair and replacement, and reassembly and reinstallation procedures.

6-7.7.1 Removal and Disassembly. Crankshaft and motor disassembly procedure follows. Disassemble only to the part or component requiring repair or replacement.

WARNING

Failure to disconnect power and tag out of service in accordance with ship procedures may result in serious injury to or death of personnel.

1. Disconnect ac input cord from ac outlet and tag out of service in accordance with ship procedures.
2. Remove top two flathead screws (1, sheet 2) on both sides of machine cover (10) and remove cover assembly (items 1 through 10 as unit).
3. Disconnect switch-to-motor cord (127, sheet 7) at ac motor terminals.
4. Loosen hex nuts (158) securing motor base (163) to rear brace assembly (222). Loosen hex nut (154) and square head screw (155).
5. Turn hex head bolt (156) counterclockwise to lower ac motor (134) and motor base (163).
6. Remove belts (128) of motor pulley (132) and crankshaft pulley (136).
7. Remove hex head bolts (129) and lockwashers (130).
8. Remove setscrew (131), pull motor pulley (132), and square key (133) from ac motor (134).
9. Repeat [step 4 through step 10](#) of [paragraph 6-7.4.1](#) to gain access to hex head screws securing plate assembly (148) to knife frames (90 and 91, sheet 5).
10. Rotate crankshaft pulley (136, sheet 7) until hex head screw (80, sheet 5) on upper knife frame is visible and remove hex head screw. Repeat this step to remove hex head screw from lower knife frame.
11. Remove setscrew (135, sheet 7) and pull crankshaft pulley (136) and square key (137) from crankshaft (149).
12. Remove hex head bolts (138), lockwashers (139), and crankshaft bracket caps (140).
13. Pull ball bearings (141) off crankshaft.
14. Remove cotter pins (142), shims (143), bushings (144), and rubber bushings (145). Loosen setscrews (146) and remove connecting rod pins (147), plate assembly (148), and crankshaft (149).
15. Remove hex head bolts (152), hex nuts (150), and lockwashers (151) to remove crankshaft bracket assembly (153).
16. Do not remove items 154 through 163 unless damaged.

6-7.7.2 Cleaning and Inspection. Clean removed and disassembled components in accordance with [paragraph 6-5.1](#). Inspect components in accordance with [paragraph 6-5.2](#).

6-7.7.3 Repair and Replacement. Repair and replace faulty components in accordance with [paragraph 6-6](#).

6-7.7.4 Reassembly and Reinstallation.

1. Reassemble and replace components by performing [step 15 through step 2](#) in reverse order of removal and disassembly ([paragraph 6-7.7.1](#)). During reassembly ([step 14](#)) replace rubber bushing (145).
2. Adjust belt in accordance with [paragraph 6-3.4](#).
3. Remove out of service tag in accordance with ship procedures and plug ac cord into ac outlet.

6-7.8 SWITCH MECHANISM. The following paragraphs provide removal and disassembly, cleaning and inspection, repair and replacement, and reassembly and reinstallation procedures.

6-7.8.1 Removal and Disassembly.

WARNING

Failure to disconnect power and tag out of service in accordance with ship procedures may result in serious injury to or death of personnel.

1. Disconnect ac input cord from ac outlet and tag out of service in accordance with ship procedures.
2. Raise inner frame and bagging assembly until it locks in raised position.
3. Remove flathead screws (164, [figure 7-1, sheet 8](#)) and switch box cover (165) from right hand side frame assembly (247, sheet 9).
4. Remove pan head screw (166, sheet 8), lockwasher (167), shims (168), and external tooth lockwasher (169); disconnect wire nut (171) and remove mercury switch clamp (170) and mercury switch (172), if applicable. (Mercury switch is disconnected and/or removed in shipboard installations.)
5. Remove cotter pin (173), washer (174), switch operating rod (176) with operating rod knob (175), and grommet (177).
6. Disconnect and remove tension spring (178) from spring bracket (194) and operating lever assembly (186).
7. Remove hex nuts (179), special screw (180), lever latch (182), and torsion spring (181).
8. Remove pivot bushing nut (183), socket head screw (184), and needle bearing (185) from operating lever assembly (186). Remove operating lever assembly.
9. Disconnect ac power leads from toggle switch (190).
10. Remove switch seal (187), locknut (188), internal tooth lockwasher (189) to remove toggle switch (190).
11. Do not remove items 191 through 196 unless damaged.

6-7.8.2 Cleaning and Inspection. Clean removed and disassembled components in accordance with [paragraph 6-5.1](#). Inspect components in accordance with [paragraph 6-5.2](#).

6-7.8.3 Repair and Replacement. Repair and replace faulty components in accordance with [paragraph 6-6](#).

6-7.8.4 Reassembly and Reinstallation.

1. Reassemble and replace components by performing [step 10 through step 3](#) in reverse order of removal and disassembly ([paragraph 6-7.8.1](#)).
2. Adjust mercury switch after reinstallation in accordance with [paragraph 6-3.6](#).
3. Remove out of service tag in accordance with ship procedures and plug ac cord into ac outlet.

6-7.9 OUTER FRAME ASSEMBLY. The following paragraphs provide removal and disassembly, cleaning and inspection, repair and replacement, and reassembly and reinstallation procedures.

6-7.9.1 Removal and Disassembly. Outer frame assembly disassembly procedure follows. Disassemble only to the part or component requiring repair or replacement.

WARNING

Failure to disconnect power and tag out of service in accordance with ship procedures may result in serious injury to or death of personnel.

1. Disconnect ac input cord from ac outlet and tag out of service in accordance with ship procedures.
2. Remove top two flathead screws (1, sheet 2) on both sides of machine cover (10) and remove cover assembly (items 1 through 10 as unit).
3. Remove four hex nuts (49, sheet 4) and two special screws (50) to remove dashpot assembly.
4. Loosen hex head bolts (197, sheet 9) to release spring tension. Note amount of turns used to release tension and use same amount of turns to tighten tension.
5. Disconnect upper and lower ferrules (198 and 199) from spring bracket assemblies (205) and lower mounting bracket welded to inner frame and bagging assembly. Remove springs (201), upper and lower ferrules, and taper nuts (200).
6. Remove hex nuts (206) and pivot screws (207) to release bottom of dashpot assembly (208).
7. Do not remove items 202 through 205 and 209 through 245 unless damaged.

6-7.9.2 Cleaning and Inspection. Clean removed and disassembled components in accordance with [paragraph 6-5.1](#). Inspect components in accordance with [paragraph 6-5.2](#).

6-7.9.3 Repair and Replacement. Repair and replace faulty components in accordance with [paragraph 6-6](#).

6-7.9.4 Reassembly and Reinstallation.

1. Reinstall components by performing [step 6 through step 2](#) in reverse order of removal and disassembly ([paragraph 6-7.9.1](#)).
2. Adjust dashpot and spring tension after reinstallation in accordance with [paragraph 6-3.2](#) and [paragraph 6-3.3](#).
3. Remove out of service tag in accordance with ship procedures and plug ac cord into ac outlet.

CHAPTER 7

ILLUSTRATED PARTS BREAKDOWN

SECTION I.

INTRODUCTION

7-1. SCOPE.

7-1.1 PRESENTATION. This chapter provides the illustrated parts breakdown (IPB) for the bread slicer, model MB. The chapter is divided into three sections. [Section I](#), Introduction, outlines the scope and content of this chapter. It also provides general procedures for using the data in the IPB and Group Assembly Parts List (GAPL) to identify and requisition repair parts. Supportive information, such as manufacturer codes/Federal Supply Codes for Manufacturers (FSCM's), abbreviations and acronyms, and IPB cross-referencing is also provided. [Section II](#), Illustrations and Group Assembly Parts Lists, details how the equipment is broken down/disassembled and how the GAPL is arranged. It includes illustrations and parts lists for the equipment. [Section III](#), Numerical Index, tells how the numerical index is arranged and lists cross-references between part numbers and figure and index numbers of the GAPL. Measurement conversion information for units of measure appearing throughout all chapters is presented in [table 1-1](#).

7-1.2 REPAIR PARTS IDENTIFICATION AND PROCUREMENT. The information contained in this chapters combined with the Coordinated Shipboard Allowance List (COSAL) and related Allowance Parts Lists (APL's) for the equipment, will assist in identifying and procuring repair parts needed for maintenance repair.

7-1.2.1 Group Assembly Parts List. The primary purpose of the IPB and related GAPL's is to help identify the needed repair parts and to provide a part number for procurement if at all possible. The IPB also shows the equipment/assembly/subassembly breakdown in disassembly order. When the needed part has been identified in the individual illustration of the IPB, the information provided in the related GAPL can be used to requisition the needed part. Such GAPL information may include: APL number, National Stock Number (NSN), part or drawing number, and any additional detailed description which would help to further identify the part. (Specific details of the information provided in the GAPL are presented in [section II](#) of this chapter.)

7-1.2.2 Coordinated Shipboard Allowance List. Another important document relative to repair parts support aboard ship is the COSAL. A ship is provisioned with repair parts based on the COSAL prepared for that specific ship. The COSAL is generated from APL's, which are equipment/system configuration oriented. For additional information regarding the COSAL, refer to SPCCINST 4441.170, COSAL Use and Maintenance Manual.

7-1.2.2.1 Allowance Parts List/National Stock Number. Equipment APL's describe the equipment and list those parts considered necessary for its support. System and complex-equipment APL's may list other applicable APL's, as well as parts that apply to the overall system/equipment. The APL's list the corresponding NSN for the applicable part listed (as shown in [figure 7-A1](#)). If the information has been obtainable, the applicable APL's and NSN's for the respective parts shown in the illustration are presented in the GAPL description column. However, the APL may be checked to verify part number accuracy and/or to detect recent changes in repair part support. It can also be determined if the part identified by the NSN is stocked aboard ship by checking either the COSAL, Part III, Stock Number Sequence List (SNSL) or the Integrated Stock List (ISL). The ISL is a summary of SNSL's/APL's that is prepared upon completion of a ship overhaul.

7-1.2.2.2 Group Assembly Parts List Versus Allowance Parts List. Not all of the parts listed in the GAPL are listed in the APL nor carried aboard ship as repair parts. (A typical step-by-step procedure for obtaining a repair part is shown in [figure 7-A2](#).) A part number listed in the GAPL that does not have an APL part number or NSN in the description column may be checked against the COSAL, Part III, Section D, which is a cross-reference listing. If a needed part listed in the GAPL is not listed in the COSAL or the APL's, it is not likely to be carried aboard ship. It must be obtained from another source, usually a Navy supply depot. Procedures for obtaining repair parts from the supply department will vary slightly from ship to ship. A requisition containing a part number (if available), FSCM, and all of the information listed in the GAPL description column is required by the supply department.

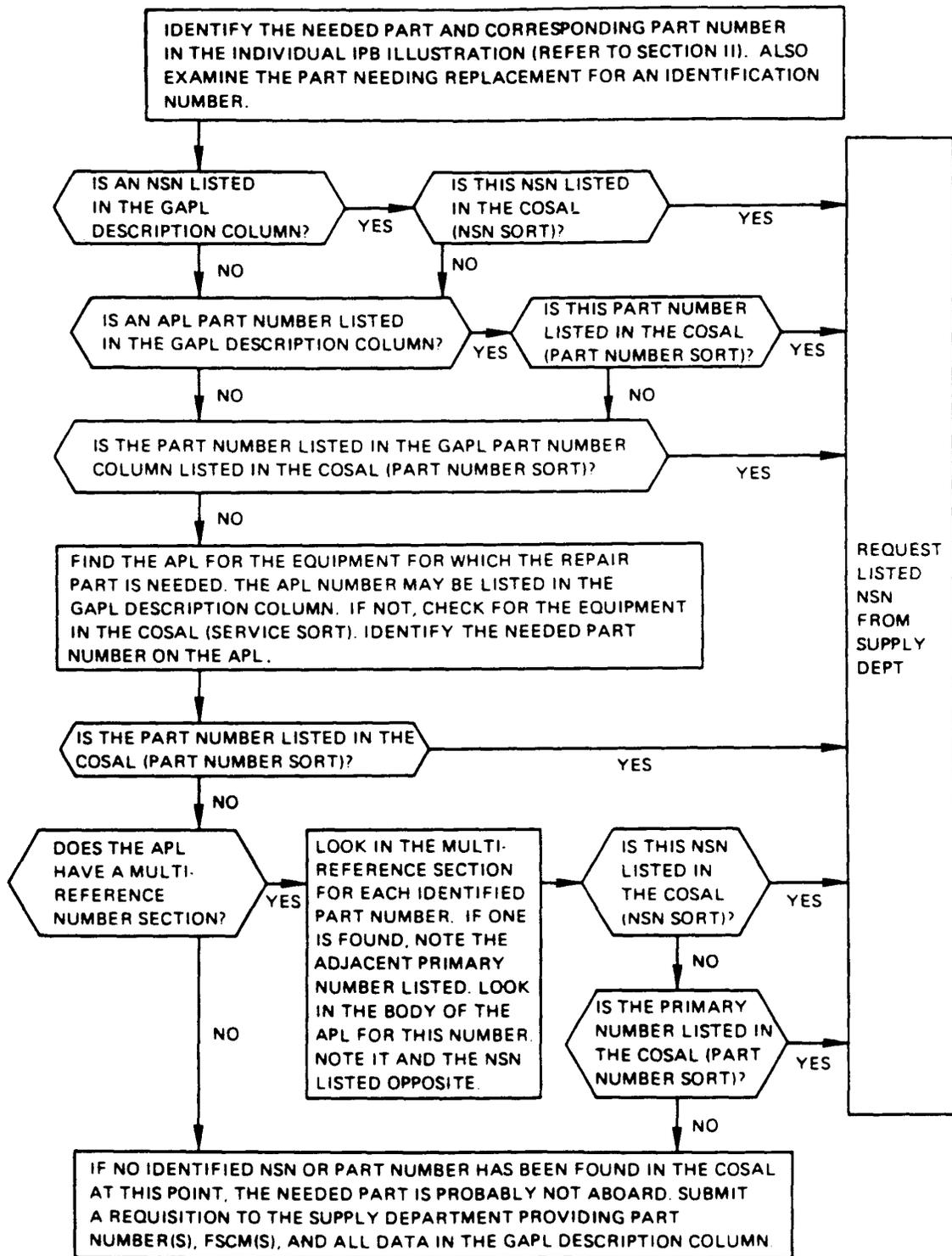


Figure 7-A2. Part Identification, Research, and Procurement Flow Chart

Figure 7-A2. Part Identification, Research, and Procurement Flow Chart

7-1.3 MANUFACTURERS' CODES. The manufacturer and supplier of the equipment/components used in the GAPL is listed in [table 7-1](#) by FSCM number. The corresponding name and address is provided for the FSCM.

Table 7-1. Manufacturer's Code, Name, and Address

Code	Name	Address
61482	Berkel Incorporated	One Berkel Drive La Porte, IN 46350

7-1.4 ABBREVIATIONS AND ACRONYMS. The abbreviations and acronyms listed in [table 7-2](#) appear in the GAPL and in the text of this manual. They are in accordance with MIL-STD-12, except for certain shipboard placard data that are reproduced here as they appear on shipboard placards/nameplates. Abbreviations used in the text of this manual may be in lowercase letters, initial capitals with lowercase letters, or all capitals. Abbreviations used in the GAPL are in all capitals. Acronyms used, both in the text and in the GAPL, are in all capitals. The abbreviations and acronyms listed in [table 7-2](#) are capitalized for consistency and presented in alphabetical order.

Table 7-2. Abbreviations and Acronyms

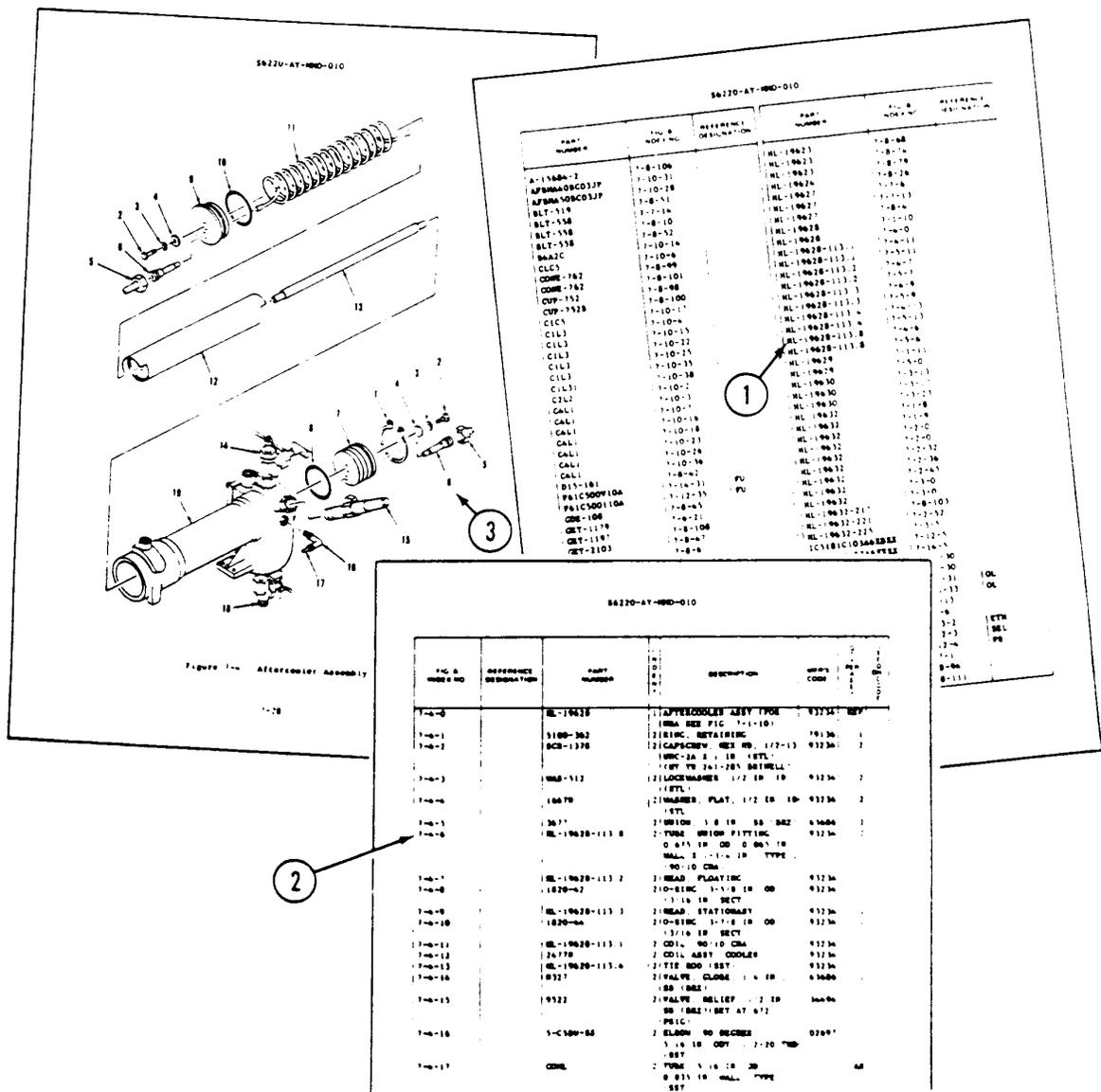
Abbreviation/Acronym	Definition
AC	Alternating Current
AP	Attaching Part
APL	Allowance Parts List
AR	As Required
ASSY	Assembly
BRG	Bearing
COML	Commercial
COSAL	Coordinated Shipboard Allowance List
DWG	Drawing
EXT	External
FIG.	Figure
FL	Flat
FLH	Flat Head
FR	Frame
FSCM	Federal Supply Code For Manufacturers
GAPL	Group Assembly Parts List
HD	Head
HEX	Hexagonal
HEX HD	Hexagonal Head
HP	Horsepower
HZ	Hertz
ID	Identification/Inside Diameter
IN.	Inch
INCL	Includes
INTL	Internal
IPB	Illustrated Parts Breakdown
ISL	Integrated Stock List
LH	Left Hand
LWR	Lower
MACH	Machine

Table 7-2. Abbreviations and Acronyms - Continued

Abbreviation/Acronym	Definition
MFR	Manufacturer
MIP	Maintenance Index Page
MRC	Maintenance Requirement Card
NHA	Next Higher Assembly
NO.	Number
NSN	National Stock Number
NSTM	Naval Ships' Technical Manual
OPNAVINST	Office of Chief of Naval Operations Instructions
PARA	Paragraph
PH	Phase
PMS	Planned Maintenance System
PN	Part Number
RBR	Rubber
RH	Right Hand
RTNG	Retaining
SCH	Socket Read
SDI	Ship's Drawing Index
SNSL	Stock Number Sequence List
SPR	Spring
SQ	Square
SQH	Square Head
STA	Stationary
STD	Standard
TDBD	Top-Down Breakdown
THRU	Through
UPR	Upper
V	Volt(s)
VAC	Volt Alternating Current

7-1.5 CROSS-REFERENCE. The IPB is arranged so that maximum cross-referencing of the table of contents, GAPL, and numerical index is possible for easier location of part numbers. The cross-reference procedures for locating a part number when the part number is known and when the part number is not known are explained and illustrated in [figure 7-A3](#) and [figure 7-A4](#).

HOW TO USE THE ILLUSTRATED PARTS BREAKDOWN



WHEN THE PART NUMBER IS KNOWN

1. Refer to section III, Numerical Index. Locate the part number and note the figure and index number(s) assigned to the part number.
2. Turn to the figure number(s) indicated, determine the applicable equipment (if more than one figure number is provided), and locate the index number referenced in the Numerical Index.
3. If a pictorial representation of the part or its location is desired, refer to the same index number on the accompanying illustration.

Figure 7-A3. How To Use the Illustrated Parts Breakdown When the Part Number Is Known

Figure 7-A3. How To Use the Illustrated Parts Breakdown When the Part Number Is Known

SECTION II.

ILLUSTRATIONS AND GROUP ASSEMBLY PARTS LISTS

7-2. SCOPE.

7-2.1 EQUIPMENT BREAKDOWN. This section provides illustrations and related parts lists for the bread slicer, model MB, in top-down breakdown/disassembly sequence. Each illustration is assigned a figure number based on the chapter number and number of illustrations required in the chapter. For example, figure 7-2 is the second figure in [chapter 7](#). A top-down breakdown (TDBD) in block diagram form is shown in [figure 7-A5](#). This breakdown shows how the major equipment/installation and its related assemblies, subassemblies, and component parts are organized and broken down in disassembly sequence. Applicable APL's and drawing/part numbers are shown in the individual figure blocks if available. This TDBD is the basis of the individual illustrations and GAPL's presented herein.

7-2.1.1 Major Equipment/Installation. The top or primary block of the diagram represents the major equipment/installation covered in the manual. It is shown as the first illustration in the IPB. If the top block of the TDBD represents an installation or location view (showing the equipment location within a ship), it will not usually have a top drawing or part number. In this case, a second block flowing directly from the first block represents the major equipment itself. The second block then (figure 7-2) contains the top drawing or part number and applicable APL's for the equipment identified within that block.

7-2.1.2 Major Assemblies/Components. The major assemblies are shown as blocks flowing directly from the major equipment/installation block. These blocks list applicable drawing numbers and accessory APL's. On the major equipment illustration these are shown assembled (not broken down/exploded within that figure). Each of these major assemblies is also illustrated in its own (exploded-view) figure as indicated in [figure 7-A5](#). Some individual components/parts that are removed directly from the major equipment (during removal of assemblies) appear in the detailed exploded view of the major equipment illustration itself and do not appear in the block diagram.

7-2.1.3 Subassemblies/Components. Subassemblies of the major assemblies are shown as blocks flowing directly from the major assembly block(s). These are presented individually as exploded-view figures, with applicable drawing/part numbers and APL's also provided when available.

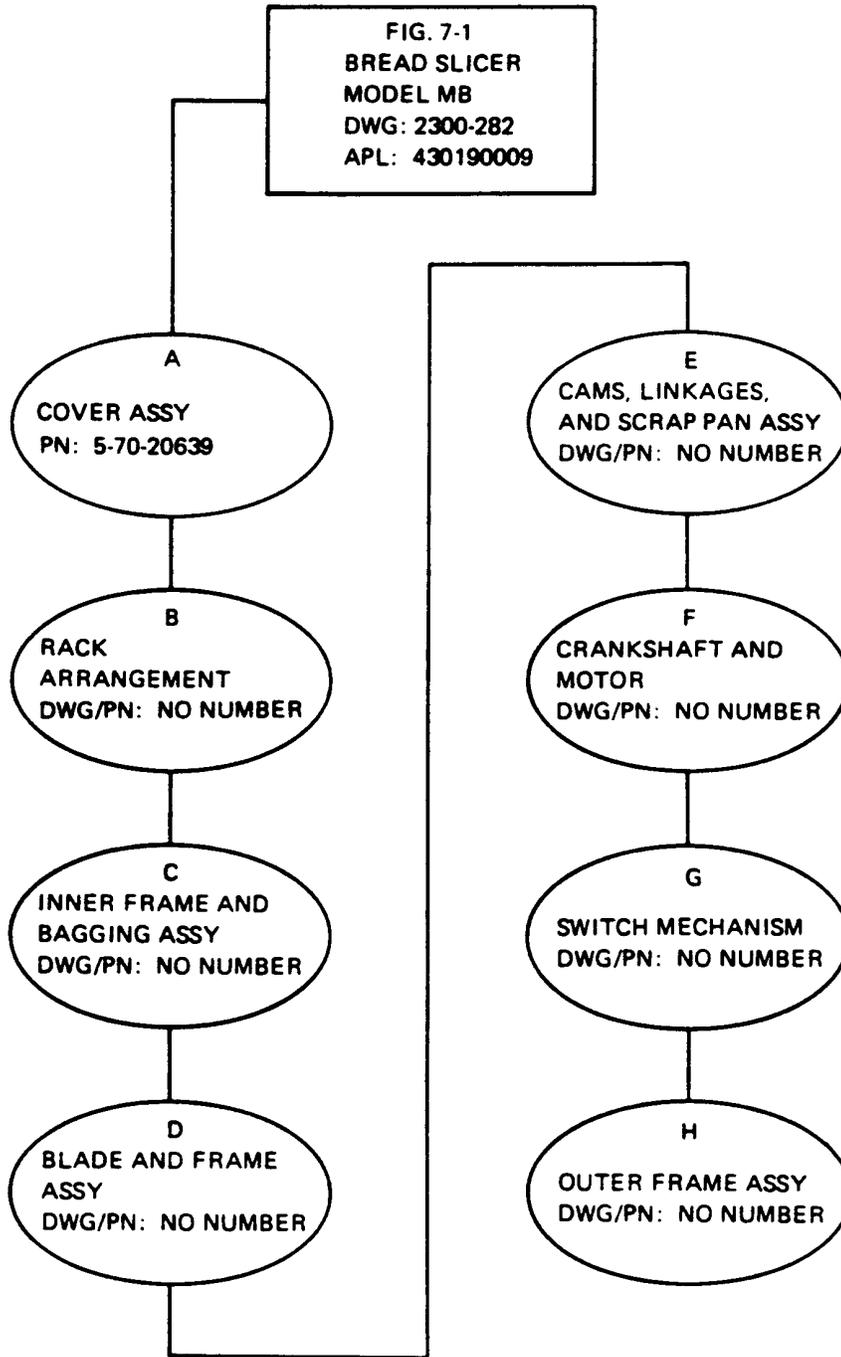


Figure 7-A5. Top-Down Breakdown

Figure 7-A5. Top-Down Breakdown

7-2.1.4 Bubble Presentation. Subassemblies that are too complex or detailed to be shown on the first sheet of the illustration are shown on following sheets. These are identified by an arc "bubble". The "bubbled" areas are identified by alpha characters, such as A, B, or C, and are shown as ellipses or circles in [figure 7-A5](#).

7-2.2 GROUP ASSEMBLY PARTS LIST DESCRIPTION. A GAPL is provided for each figure identified in the TDBD and illustrated in the IPB. Each component shown disassembled in the IPB is assigned an index number. Index numbers indicate the disassembly sequence for the illustrated assembly or subassembly. Index numbers on the illustration also correspond to numbers in the GAPL. For example, the component with index number 26 in [figure 7-2 \(chapter 7, second figure\)](#) is listed as 7-2-26 in the corresponding GAPL. Some assemblies that are too complex to be shown in one figure are indexed and listed in the GAPL with reference to another figure where that assembly is shown disassembled. The GAPL's for each of these figures cross-reference each other (refer to [paragraph 7-2.2.5](#)). The following paragraphs further describe the information contained in each column of the GAPL. [Table 7-3](#) identifies the illustration in the IPB.

Table 7-3. Illustrated Parts Breakdown Illustration

Figure	Title	Page
7-1	Bread Slicer, Model MB (9 Sheets)	7-16

7-2.2.1 Figure and Index Number Column. The figure and index number column lists, in numerical order, the figure and index number of each part shown on the corresponding illustration.

7-2.2.2 Reference Designation Column. The reference designation column lists the established reference designation for each electrical, electronic, hydraulic, or pneumatic part. Since there are no such parts in this equipment, the column is blank.

7-2.2.3 Part Number Column. The part number column lists the part identification for all parts shown on the applicable disassembly drawing. Numbers listed in this column are obtained from engineering design drawings/drawing parts lists, manufacturer assembly drawings, vendor parts lists, shipcheck verification, photographs, previous manuals, and other source material. Entries include some or all of the following examples.

Shipcheck Part Number Identification

NAVSEA Drawing Number

NAVSEA Drawing and Item/Piece Number

Manufacturer Drawing Number

Manufacturer Drawing and Item/Piece Number

Manufacturer Part or Identification (ID) Number

Commercial (COML)

NO NUMBER

In every case, the number listed identifies the part in some way. When ordering or requesting replacement parts, each number must be written as listed, including dashes, slashes, periods, and spaces, in order for the supply department to identify and procure the part.

7-2.2.3.1 Commercial and No Number Entries. The entry COML indicates that the item is a common hardware item (such as nut, screw/bolt, or washer). It may be carried as consumable stock in general stores aboard ship or is available through a variety of commercial sources, and is identified by the data in the description column. The entry NO NUMBER indicates that the item is a general arrangement or grouping/installation of equipment assemblies, or that the assembly/part has no identified applicable part number. Should such a part have to be ordered, the order/request shall include all the data in the description column.

7-2.2.3.2 Drawing Number Entries. A drawing number entry consists of a number or number/alpha set followed by (DWG), such as 4497172(DWG). Drawing numbers are listed when no other part identification is available; however, sometimes the drawing number and part number are considered the same by the manufacturer of the part. The drawing permits further research of the equipment being maintained, if required. It can assist the supply office in identifying and procuring parts not normally stocked nor identifiable as repair/replacement parts. After initial introduction of an assembly/component drawing number followed by (DWG), subsequent entries of the same drawing plus dash number for piece parts will not repeat the (DWG).

Example:

PART NUMBER	INDENT	DESCRIPTION
4497172(DWG)	2	EMERGENCY DOGGING MECHANISM
4497172-10	3	PIN, COTTER, 1/8 X 1-3/4 IN.
4497172-13	3	BUSHING

7-2.2.3.3 Drawing Number Table. Some of the engineering/manufacturer drawings for this equipment may be found in the last chapter of this manual or may be obtained by use of the Ship's Drawing Index (SDI). The engineering/manufacturer drawing used to develop the IPB/GAPL, and also identified as such in the GAPL, is presented in [table 7-4](#). The location column indicates if the drawing may be found in the last chapter of this manual or in the SDI. If the drawing cannot be found in either location, the column will be blank.

Table 7-4. Drawing Number

Drawing Number	Brief Title	FSCM	Location
2300-282	MB 7/16 Bread Slicer, Electric	61482	Chapter 8

7-2.2.4 Indent Column. The numbers 1 through 4 in the indent column show the relationship of subassemblies and parts to major assemblies. The indent system lists the principal (or top) item (equipment installation/general arrangement/assembly) in a particular figure as indent 1. The detail parts and subassemblies which make up the top item are indent 2. If an "indent-2" subassembly is further broken down in the same figure, its detail parts are indent 3. Further breakdown of subassemblies into sub-subassemblies and/or parts is indicated by the next higher number, as required. Generally, indent numbers will not exceed 5.

7-2.2.5 Description Column. The description column contains descriptions of all parts as illustrated in the applicable disassembly drawings. Modifiers are included to identify the characteristics of a particular item. When a separate illustration is used to show the detail parts of an assembly/subassembly, the description column contains the appropriate figure cross-reference (FOR DETAILS SEE FIG. _____). This cross-reference appears in the listing where the assembly is first described, and a corresponding "reverse" cross-reference for the next higher assembly (NHA) appears in the listing in which the assembly is broken down (FOR NHA SEE FIG. _____). For every "reverse" cross-reference entry, the abbreviation REF appears in the quantity per assembly column ([paragraph 7-2.2.7](#)). If a component part is listed in the APL, the APL number(s) are provided in parentheses (example 1). If the number in the part number column is the same as the APL part number, the NSN is shown in parentheses (NSN _____) (example 2). The NSN can be used to obtain the repair part. If the number in the

part number column is different from the part number in the APL, the APL part number and NSN are shown in parentheses (APL PN ____/NSN _____) (example 3). The NSN can be used to obtain a repair part and determine whether or not it is a good replacement part. If not, all information provided in the GAPL should be used to obtain an exact replacement part.

	PART NUMBER	INDENT	DESCRIPTION
Example 1:	D-02N-099-005 (DWG)	1	NAVY STD CLOSE-COUPLED PUMP (APL 017030249)
Example 2:	A-014-01N-0-03	2	SPACER, SEAL (NSN 4720-00-470-6540)
Example 3:	A-007-02N-01U/S	2	RING, WEARING (APL PN A007-02NA01-253US/NSN 4320-00-470-6364)

The description column may also contain the entry (AP), which means that the item is an attaching part for the previously listed item having a figure and index number. Abbreviations used in the description column are in accordance with MIL-STD-12, except for certain shipboard placarded data, which are reproduced as stated on the shipboard placards and nameplates. Abbreviations and acronyms are discussed in detail in [paragraph 7-1.4](#).

7-2.2.6 Manufacturer's Code Column. The manufacturer's code column lists the Federal Supply Code for Manufacturers, a number that identifies the manufacturer (supplier) of the part. [Table 7-1](#) lists manufacturers' codes, names, and addresses, which are also available in the Federal Supply Code for Manufacturers, Cataloging Handbooks H4-1 and H4-2.

7-2.2.7 Quantity Per Assembly Column. The quantity per assembly column contains one of the following entries: a number, indicating the quantity of the item at the indicated location only; the abbreviation REF, indicating that the required quantity is listed with the figure referenced as the NHA in the description column; or the abbreviation AR, indicating that the item is used in quantity, size, or length, as required.

7-2.2.8 Used On Code Column. The used on code column contains letters and/or numbers to indicate equipment variations or specific system or ship applicability. If no code appears in this column, the item is applicable to all top assemblies/subassemblies listed in the GAPL.

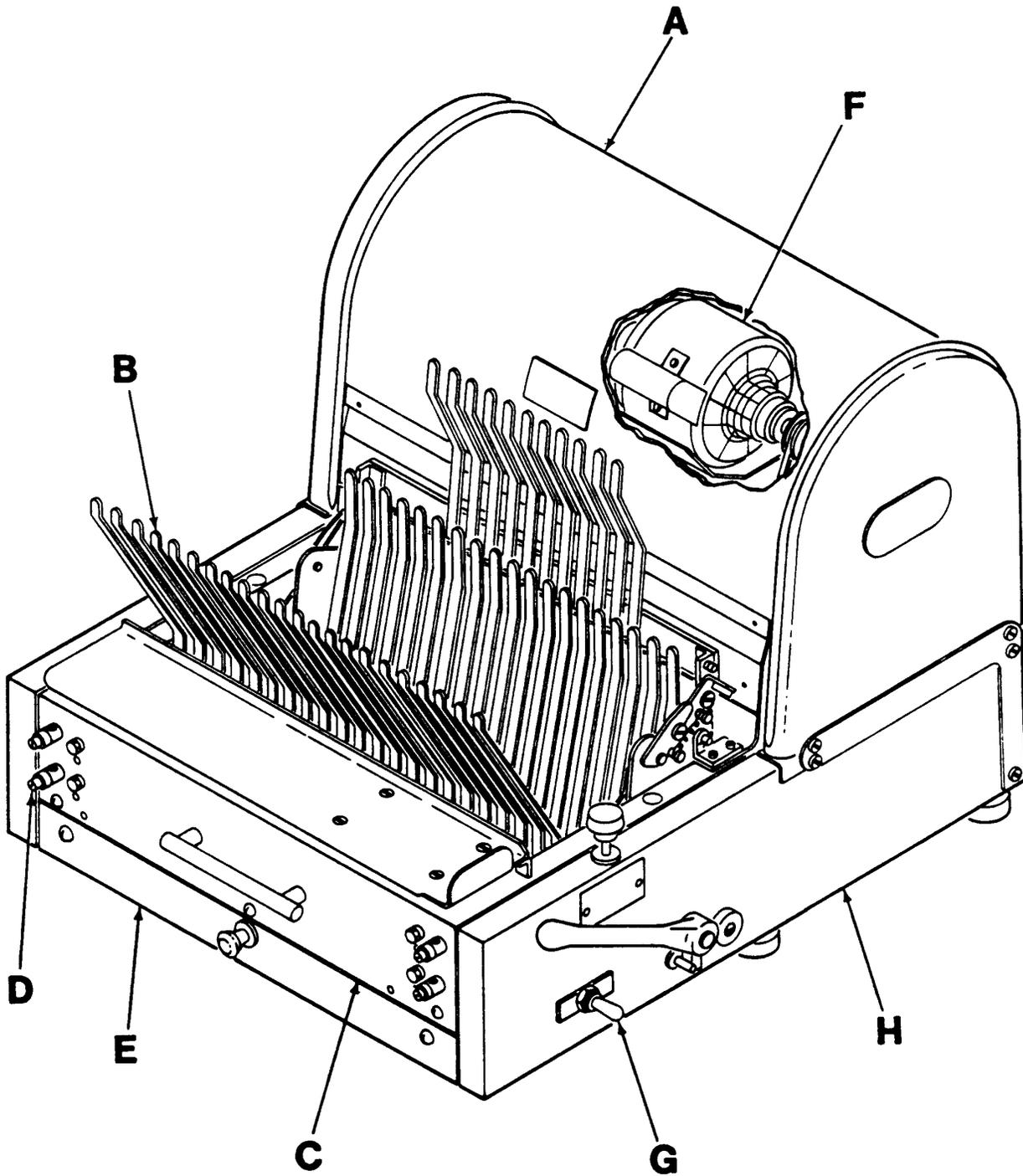
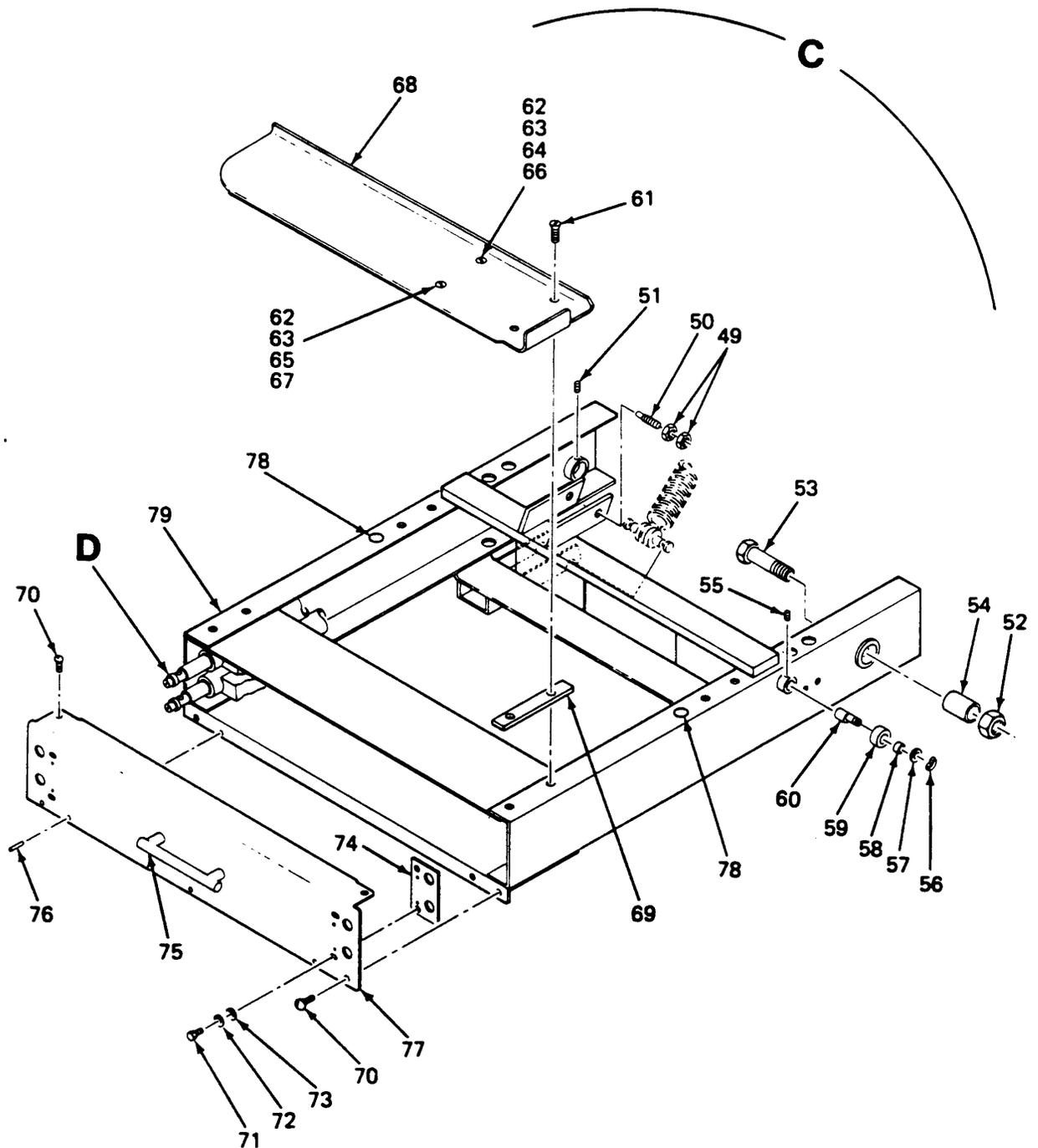


Figure 7-1. Bread Slicer, Model MB (Sheet 1 of 9)

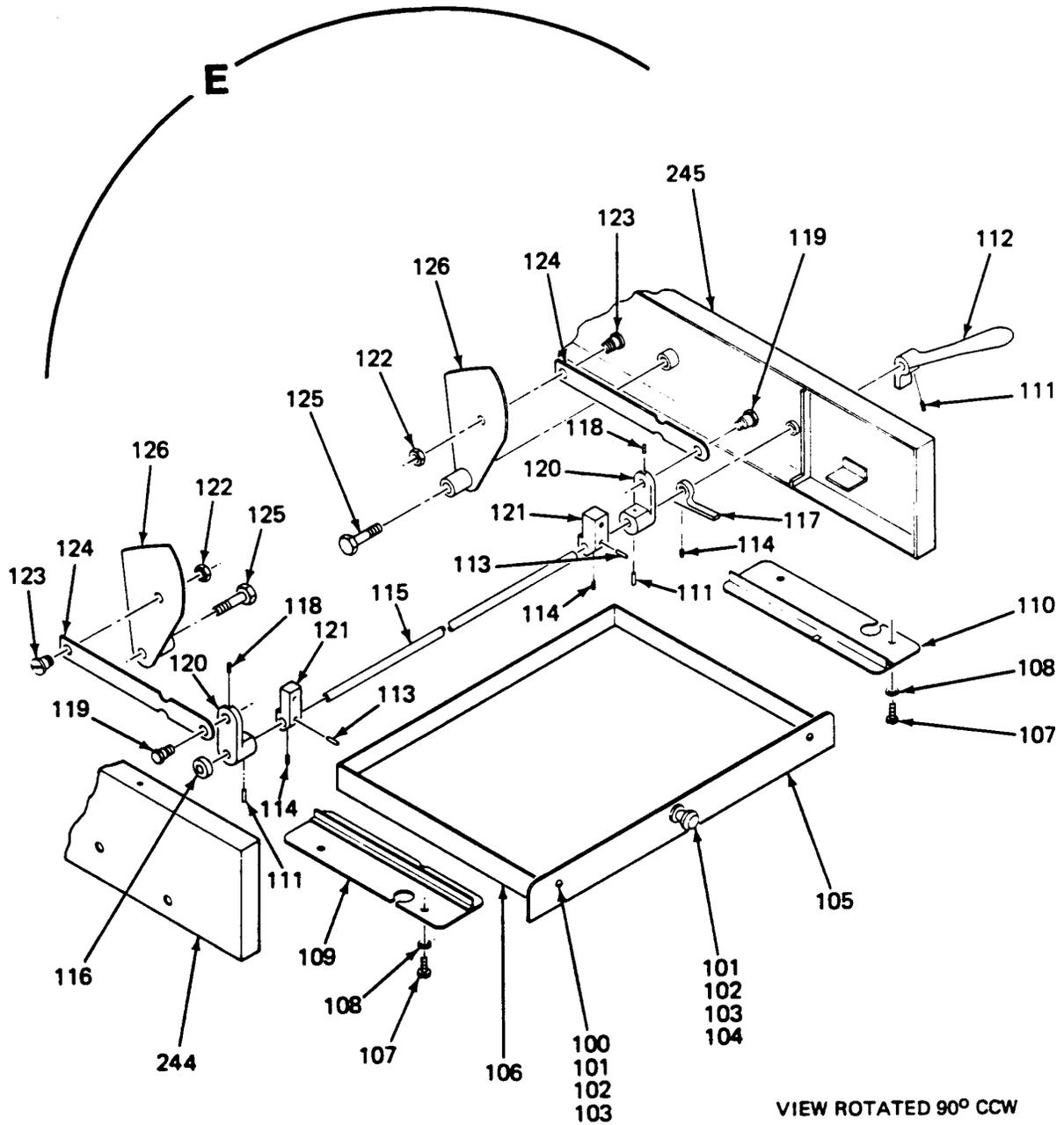
Figure 7-1. Bread Slicer, Model MB (Sheet 1 of 9)



INNER FRAME AND BAGGING ASSEMBLY

Figure 7-1. Bread Slicer, Model MB (Sheet 4 of 9)

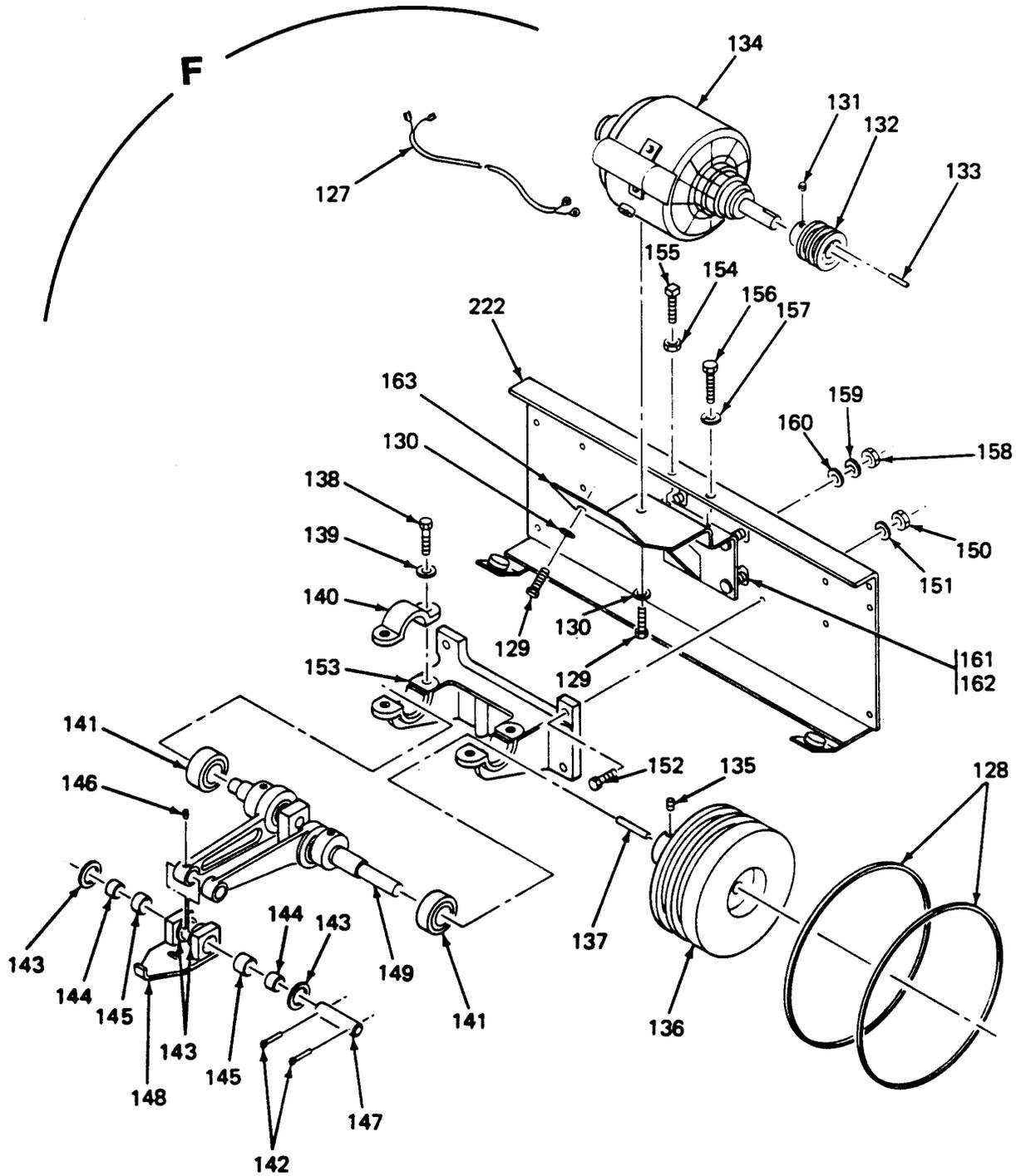
Figure 7-1. Bread Slicer, Model MB (Sheet 4 of 9)



CAM, LINKAGES, AND SCRAP PAN ASSEMBLY

Figure 7-1. Bread Slicer, Model MB (Sheet 6 of 9)

Figure 7-1. Bread Slicer, Model MB (Sheet 6 of 9)



CRANKSHAFT AND MOTOR

Figure 7-1. Bread Slicer, Model MB (Sheet 7 of 9)

Figure 7-1. Bread Slicer, Model MB (Sheet 7 of 9)

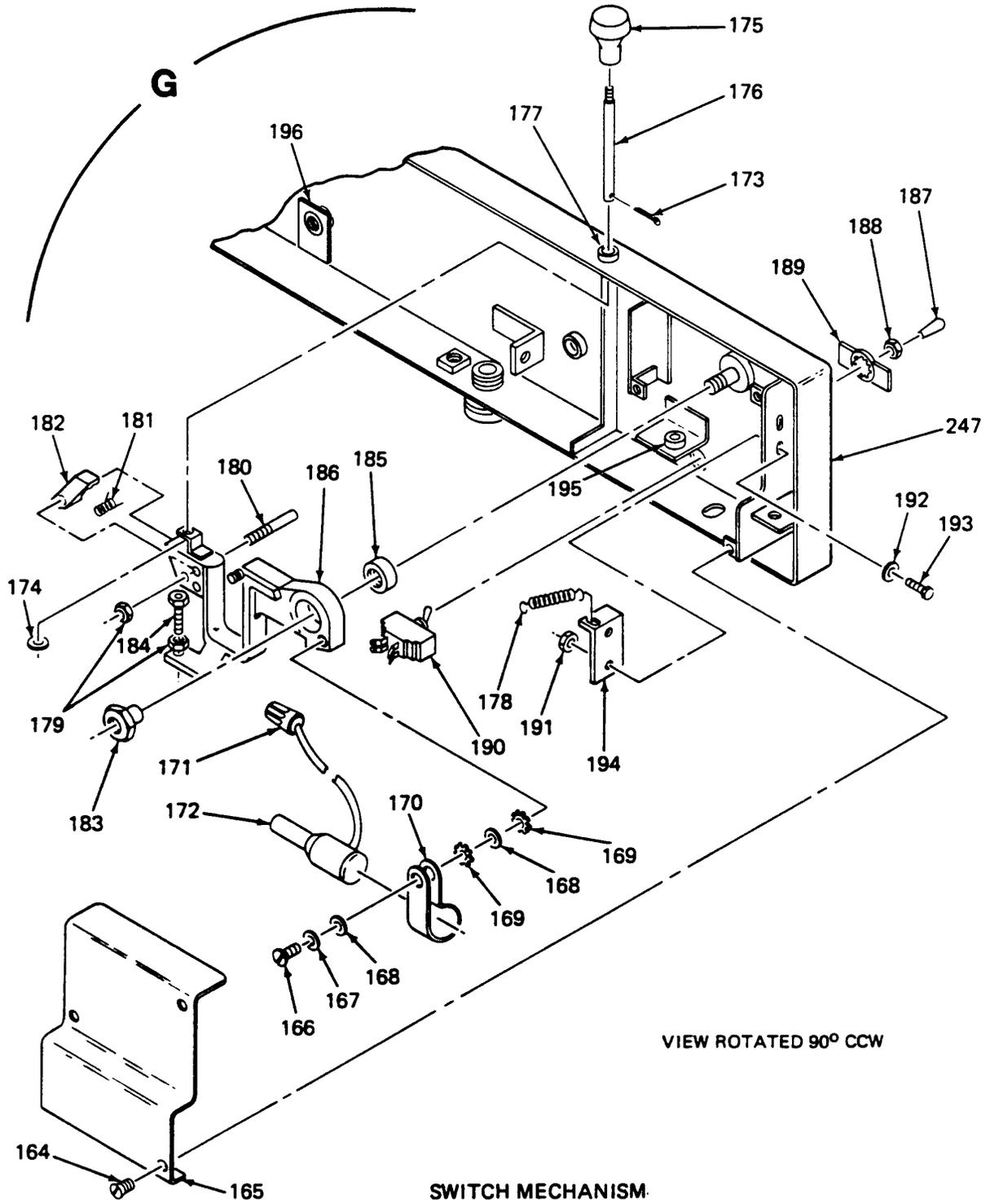
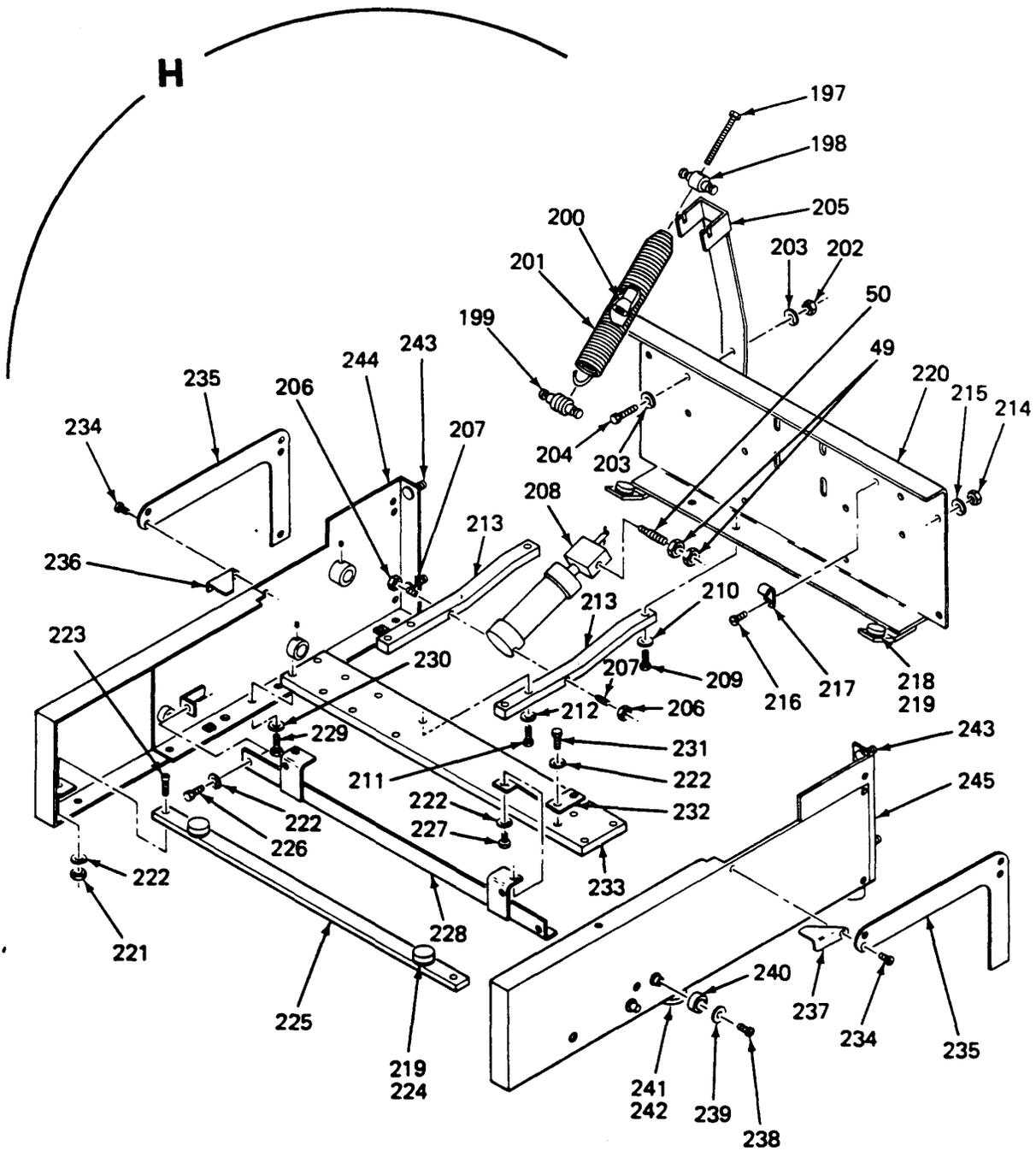


Figure 7-1. Bread Slicer, Model MB (Sheet 8 of 9)

Figure 7-1. Bread Slicer, Model MB (Sheet 8 of 9)



OUTER FRAME ASSEMBLY

Figure 7-1. Bread Slicer, Model MB (Sheet 9 of 9)

Figure 7-1. Bread Slicer, Model MB (Sheet 9 of 9)

Table 7-5 Parts List

FIG. & INDEX NO.	REFERENCE DESIGNATION	PART NUMBER	INDENT	DESCRIPTION	MFR'S CODE	QTY PER ASSY	USED ON CODE
7-1-0		2300-282 (DWG)	1	BREAD SLICER, MODEL MB (APL 430190009) (NSN 0000-LL- CC5-5015)	61482	1	
		5-70-20639	2	COVER ASSY (ALSO PN 4675- 00370)	61482	1	
7-1-1		2175-00189	3	SCREW, FLH	61482	4	
7-1-2		2175-00190	3	SCREW, PAN	61482	4	
7-1-3		07327-3A	3	GUARD, FRONT	61482	1	
7-1-4		2175-07030	3	NUT, HEX	61482	10	
7-1-5		00942-30	3	SHIM	61482	10	
7-1-6		08604	3	SCREW, SPECIAL	61482	10	
7-1-7		07327-3	3	STRIP, DECORATIVE	61482	2	
7-1-8		3175-00090	3	PLATE, MONOGRAM	61482	2	
7-1-9		3175-00054	3	PLATE, CAUTION	61482	1	
7-1-10		4575-00248	3	COVER, MACH	61482	1	
		NO NUMBER	2	RACK ARRANGEMENT	61482	1	
7-1-11		2175-05851	3	SCREW	61482	4	
7-1-12		2275-03430	3	PIN, COTTER	61482	2	
7-1-13		09157-12	3	SHIM	61482	AR	
7-1-14		07324-8A	3	BRACKET, HOLDING RACK PIVOT (LH)	61482	1	
7-1-15		07324-8	3	BRACKET, HOLDING RACK PIVOT (RH)	61482	1	
7-1-16		07324-7K	3	GROMMET (RBR)	61482	2	
7-1-17		07324-8B	3	SHAFT, PIVOT	61482	1	
7-1-18		2175-00082	3	LOCKNUT, HEX	61482	4	
7-1-19		09161-06	3	SHIM	61482	2	
7-1-20		08723	3	WASHER, SPR	61482	2	
7-1-21		10854	3	SCREW, SHOULDER	61482	2	
		2A-07324-7U	3	LATCH AND LINK ASSY (LH)	61482	1	
		2A-07324-7V	3	LATCH AND LINK ASSY (RH)	61482	1	
7-1-22		08722	4	SPRING, TENSION	61482	2	
7-1-23		2175-00082	4	LOCKNUT, HEX	61482	2	
7-1-24		10855	4	SCREW, SHOULDER	61482	2	
7-1-25		A-07324-7U	4	LATCH (LH)	61482	1	
		A-07324-7V	4	LATCH (RH)	61482	1	

Table 7-5 Parts List - Continued

FIG. & INDEX NO.	REFERENCE DES- IGNATION	PART NUM- BER	INDENT	DESCRIPTION	MFR'S CODE	QTY PER ASSY	USED ON CODE
7-1-26		07324-7T	4	BUMPER (RBR)	61482	2	
7-1-27		A-07324-8E	4	CONNECTING LINK ASSY (LH)	61482	1	
		A-07324-8D	3	CONNECTING LINK ASSY (RH)	61482	1	
7-1-28		07324-7Q	3	ROLLER	61482	2	
7-1-29		08720	3	SCREW, SHOULDER	61482	2	
7-1-30		10632-S	3	SCREW, HEX HD	61482	1	
7-1-31		02112-1C	3	PAD (RBR)	61482	1	
7-1-32		A-07324-8H	3	RACK, HOLDING, 7/16 IN.	61482	1	
7-1-33		2175-00210	3	BOLT, HEX HD	61482	2	
7-1-34		2275-03055	3	LOCKWASHER	61482	2	
7-1-35		5-70-20578	3	TROUGH ASSY, 7/16 IN. (MOV- ABLE) (ALSO PN A-07324-12)	61482	1	
7-1-36		2175-00231	3	BOLT, HEX HD	61482	2	
7-1-37		2275-03065	3	LOCKWASHER	61482	2	
7-1-38		07324-10F	3	PIN, SHOULDER	61482	2	
7-1-39		4-70-20571	3	TROUGH ASSY, 7/16 IN. (STA) (ALSO PN 3A-07324-10C)	61482	1	
7-1-40		2275-00202	3	FASTENER, PUSH-ON	61482	2	
7-1-41		2275-00304	3	WASHER	61482	6	
7-1-42		07323-2D	3	GROMMET (RBR)	61482	4	
7-1-43		07323-2E	3	LINK, CONNECTING	61482	2	
7-1-44		07323-2G	3	PIN, LINK	61482	4	
7-1-45		3475-00345	3	COVER, HINGED	61482	1	
7-1-46		3475-00344	3	COVER, REAR	61482	1	
7-1-47		2175-00202	3	NUT, HEX	61482	4	
7-1-48		07320-3E	3	HOOK, HINGE COVER CON- NECTING LINK	61482	1	
		NO NUMBER	2	INNER FRAME AND BAGGING ASSY	61482	1	
7-1-49		2175-00137	3	NUT, HEX	61482	4	
7-1-50		07306-3G	3	SCREW, SPECIAL	61482	2	
7-1-51		2175-05152	3	SETSCREW	61482	2	
7-1-52		08482	3	NUT, HEX	61482	2	
7-1-53		08469	3	BOLT, PIVOT	61482	2	
7-1-54		07320-1X	3	BUSHING	61482	2	

Table 7-5 Parts List - Continued

FIG. & INDEX NO.	REFERENCE DESIGNATION	PART NUMBER	INDENT	DESCRIPTION	MFR'S CODE	QTY PER ASSY	USED ON CODE
7-1-55		2175-00198	3	SETSCREW	61482	2	
7-1-56		2175-00078	3	RING, RTNG	61482	2	
7-1-57		09161-18	3	WASHER	61482	2	
7-1-58		10151	3	BUSHING	61482	2	
7-1-59		07322-12	3	ROLLER, CAM	61482	2	
7-1-60		07322-10	3	PIN, ECCENTRIC	61482	2	
7-1-61		2175-03653	3	SCREW, FLH	61482	2	
7-1-62		2175-07030	3	NUT, HEX	61482	2	
7-1-63		02112-1C	3	PAD, RAISING	61482	2	
7-1-64		08516	3	SPACER	61482	1	
7-1-65		09577-30	3	SHIM	61482	1	
7-1-66		08291-S	3	SCREW, FLH	61482	1	
7-1-67		09987-S	3	SCREW, FLH	61482	1	
7-1-68		5-70-20537	3	TROUGH, BAGGING (ALSO PN 07324-6)	61482	1	
7-1-69		A-07324-6A	3	SPACER, BAGGING TROUGH	61482	1	
7-1-70		12223	3	SCREW	61482	4	
7-1-71		2175-00200	3	SCREW, HEX HD	61482	4	
7-1-72		2275-03055	3	LOCKWASHER	61482	4	
7-1-73		2275-00304	3	WASHER	61482	4	
7-1-74		07322-7C	3	BLOCK, FRONT	61482	2	
7-1-75		07303-1F	3	HANDLE, FRAME OPERATING	61482	1	
		2175-05851	3	SCREW (AP)	61482	2	
		2275-03057	3	LOCKWASHER, INTL TOOTH (AP)	61482	2	
7-1-76		2275-01140	3	PIN, GROOVE	61482	6	
7-1-77		3475-00346	3	COVER, FRONT	61482	1	
7-1-78		3475-00176	3	PLATE, STOP	61482	2	
7-1-79		4575-00249	3	BRACKET, KNIFE BRG	61482	1	
		NO NUMBER	2	BLADE AND FRAME ASSY	61482	1	
7-1-80		NO NUMBER	3	SCREW, HEX HD	61482	1	
7-1-81		08594	3	OILER, REVOLVING SLEEVE	61482	4	
7-1-82		07322-1E	3	BUSHING, 5/8 IN. ID	61482	4	
7-1-83		07322-5B	3	NUT, BLADE RETAINING	61482	36	
7-1-84		09664-60	3	WASHER	61482	AR	

Table 7-5 Parts List - Continued

FIG. & INDEX NO.	REFERENCE DES- IGNATION	PART NUM- BER	INDENT	DESCRIPTION	MFR'S CODE	QTY PER ASSY	USED ON CODE
7-1-85		270-25391	3	WASHER, KNIFE PIN	61482	36	
7-1-86		A-07322-5	3	BLADE ASSY (STD) (NSN 7320-00-967-7758)	61482	36	
7-1-87		07322-1F	3	BUSHING, 3/4 IN. ID	61482	4	
7-1-88		00916-S	3	SCREW, LUG PLATE	61482	36	
7-1-89		4975-00182	3	LUG PLATE SET (FRONT AND REAR)	61482	2	
7-1-90		4975-00199	3	FRAME, KNIFE (UPR) (INCL ITEMS 82 THRU 89)	61482	1	
7-1-91		4975-00200	3	FRAME, KNIFE (LWR) (INCL ITEMS 82 THRU 89)	61482	1	
		4675-00016	3	SLIDE BAR ASSY (LH)	61482	1	
		4675-00017	3	SLIDE BAR ASSY (RH)	61482	1	
7-1-92		2175-00233	4	SCREW, SCH	61482	8	
7-1-93		2275-03055	4	LOCKWASHER	61482	8	
7-1-94		09463-60	4	WASHER, FL	61482	8	
7-1-95		25390-06	4	SHIM (SIZE AR)	61482	AR	
		25390-18	4	SHIM (SIZE AR)	61482	AR	
		25390-28	4	SHIM (SIZE AR)	61482	AR	
7-1-96		270-25387	4	BAR, SLIDE	61482	4	
7-1-97		2175-01061	4	SCREW, HEX	61482	4	
7-1-98		270-25389	4	STRAP, SLIDE BAR	61482	2	
7-1-99		270-25388	4	BRACKET, SLIDE BAR	61482	2	
		NO NUMBER	2	CAMS, LINKAGES, AND SCRAP PAN ASSY	61482	1	
		5-70-20630	3	SCRAP PAN ASSY	61482	1	
7-1-100		2175-00199	4	NUT, HEX	61482	2	
7-1-101		2275-03045	4	LOCKWASHER	61482	3	
7-1-102		2275-03041	4	WASHER	61482	3	
7-1-103		10883	4	SCREW	61482	3	
7-1-104		04903-1F	4	KNOB, SCRAP PAN	61482	1	
7-1-105		3475-00354	4	PLATE, SCRAP PAN FRONT	61482	1	
7-1-106		4575-00265	4	PAN, SCRAP	61482	1	
7-1-107		00920	3	SCREW	61482	4	
7-1-108		2275-03045	3	LOCKWASHER	61482	4	

Table 7-5 Parts List - Continued

FIG. & INDEX NO.	REFERENCE DESIGNATION	PART NUMBER	INDENT	DESCRIPTION	MFR'S CODE	QTY PER ASSY	USED ON CODE
7-1-109		4575-00251	3	SCRAP PAN SUPPORT ASSY (LH)	61482	1	
7-1-110		4575-00250	3	SCRAP PAN SUPPORT ASSY (RH)	61482	1	
7-1-111		2275-00159	3	PIN, TAPER	61482	3	
7-1-112		5-70-20442	3	HANDLE, OPERATING (ALSO PN 07322-A)	61482	1	
7-1-113		09201	3	PIN, TAPER	61482	2	
7-1-114		2175-00198	3	SETSCREW	61482	3	
7-1-115		07324-4	3	BAR, BREAD TROUGH PIVOT	61482	1	
7-1-116		07324-4A	3	SPACER	61482	1	
7-1-117		3775-00080	3	SWITCH OPERATING ARM ASSY	61482	1	
7-1-118		2175-00187	3	SETSCREW	61482	2	
7-1-119		08588	3	BOLT, HEX HD	61482	2	
7-1-120		07324-D	3	BRACKET, LOCATING	61482	2	
7-1-121		07304-2F	3	BRACKET, SUPPORT	61482	2	
7-1-122		2175-00137	3	NUT, HEX	61482	2	
7-1-123		08589	3	SCREW, SHOULDER	61482	2	
7-1-124		0732A-5A	3	LINK, CONNECTING CAM	61482	2	
7-1-125		08587	3	BOLT, HEX HD	61482	2	
7-1-126		470-25358	3	CAM, BREAD (PAIR)	61482	1	
		NO NUMBER	2	CRANKSHAFT AND MOTOR	61482	1	
7-1-127		3-25-20003	3	CORD, SWITCH-TO-MOTOR (ALSO PN 4175-00092)	61482	1	
7-1-128		3-70-20431	3	BELT (ALSO PN 07321-1B)	61482	2	
7-1-129		08748	3	BOLT, HEX HD	61482	2	
7-1-130		2275-03065	3	LOCKWASHER	61482	2	
7-1-131		08180	3	SETSCREW	61482	1	
7-1-132		07321-1A	3	PULLEY, MOTOR	61482	1	
7-1-133		2275-04822	3	KEY, SQ, 3/16 IN.	61482	1	
7-1-134		3-70-20434	3	AC MOTOR, 1/3 HP, 115 V, 1 PH, 60 HZ (STD) (ALSO PN 07321-1H)	61482	1	
7-1-135		2175-05163	3	SETSCREW	61482	1	

Table 7-5 Parts List - Continued

FIG. & INDEX NO.	REFERENCE DES- IGNATION	PART NUM- BER	INDENT	DESCRIPTION	MFR'S CODE	QTY PER ASSY	USED ON CODE
7-1-136		3775-00161	3	PULLEY, CRANKSHAFT	61482	1	
7-1-137		2275-04826	3	KEY, SQ	61482	1	
		5-70-20663	3	CRANKSHAFT AND BRACKET ASSY (ALSO PN 3A-07320-A)	61482	1	
7-1-138		08915	4	BOLT, HEX HD	61482	4	
7-1-139		2275-03055	4	LOCKWASHER	61482	4	
7-1-140		07300-1E	4	CAP, CRANKSHAFT BRACKET	61482	2	
7-1-141		2375-00010	4	BEARING, BALL	61482	2	
7-1-142		2275-03441	4	PIN, COTTER	61482	2	
7-1-143		09313-30	4	SHIM	61482	4	
7-1-144		2275-00249	4	BUSHING	61482	2	
7-1-145		07320-6L	4	BUSHING (RBR)	61482	2	
7-1-146		2175-07152	4	SETSCREW	61482	2	
7-1-147		07320-6H	4	PIN, CONNECTING ROD	61482	2	
7-1-148		A-07320-6M	4	PLATE ASSY	61482	2	
7-1-149		A-07320-U	4	CRANKSHAFT (INCLUDES CONNECTING ROD AND BEAR- ING ASSY, PN 4975-00049)	61482	1	
7-1-150		2175-00120	4	NUT, HEX	61482	4	
7-1-151		2275-03065	4	LOCKWASHER	61482	4	
7-1-152		09799	4	BOLT, HEX HD	61482	4	
7-1-153		A-07320-A	4	CRANKSHAFT BRACKET ASSY (INCL ITEMS 142, 143, AND 144)	61482	1	
7-1-154		2175-00173	3	NUT, HEX	61482	1	
7-1-155		12225	3	SCREW, SQH	61482	1	
7-1-156		08580	3	BOLT, HEX HD	61482	1	
7-1-157		2275-03061	3	WASHER, FL	61482	1	
7-1-158		2175-00120	3	NUT, HEX	61482	4	
7-1-159		2275-03065	3	LOCKWASHER	61482	4	
7-1-160		2275-03061	3	WASHER, FL	61482	4	
7-1-161		NO NUMBER	3	STUD	61482	4	
7-1-162		07327-4B	3	SPACER (RBR)	61482	2	
7-1-163		A-07321-2	3	BASE, MOTOR	61482	1	
		NO NUMBER	2	SWITCH MECHANISM	61482	1	
7-1-164		10960	3	SCREW, FLH	61482	3	

Table 7-5 Parts List - Continued

FIG. & INDEX NO.	REFERENCE DESIGNATION	PART NUMBER	INDENT	DESCRIPTION	MFR'S CODE	QTY PER ASSY	USED ON CODE
7-1-165		3475-00348	3	COVER, SWITCH BOX	61482	1	
7-1-166		2175-01322	3	SCREW, PAN HD	61482	1	
7-1-167		2275-03025	3	LOCKWASHER	61482	1	
7-1-168		00942-30	3	SHIM	61482	2	
7-1-169		2275-00343	3	LOCKWASHER, EXT TOOTH	61482	2	
		4975-00170	3	KIT, MERCURY SWITCH AND CLAMP	61482	1	
7-1-170		3675-00152	4	CLAMP, MERCURY SWITCH	61482	1	
7-1-171		2675-00024	4	NUT, WIRE	61482	1	
7-1-172		2675-00280	4	SWITCH, MERCURY	61482	1	
7-1-173		2275-03430	3	PIN, COTTER	61482	1	
7-1-174		09664-6D	3	WASHER	61482	1	
7-1-175		04903-1F	3	KNOB, OPERATING ROD	61482	1	
7-1-176		07325-8C	3	ROD, SWITCH OPERATING	61482	1	
7-1-177		07323-2D	3	GROMMET (RBR)	61482	1	
7-1-178		08660	3	SPRING, TENSION (NSN 0000-LL-CG9-7648)	61482	1	
7-1-179		2175-00199	3	NUT, HEX	61482	2	
7-1-180		08671	3	SCREW, SPECIAL	61482	1	
7-1-181		08670	3	SPRING, TORSION (NSN 0000-LL-CG9-7855)	61482	1	
7-1-182		07325-8A	3	LATCH, LEVER	61482	1	
7-1-183		07325-8K	3	NUT, PIVOT BUSHING	61482	1	
7-1-184		2175-00203	3	SCREW, SCH	61482	1	
7-1-185		08274	3	BEARING, NEEDLE	61482	1	
7-1-186		A-07325-C	3	OPERATING LEVER ASSY	61482	1	
7-1-187		2275-00060	3	SEAL, SWITCH	61482	1	
7-1-188		NO NUMBER	3	LOCKNUT	61482	1	
7-1-189		2275-01087	3	LOCKWASHER, INTL TOOTH	61482	1	
7-1-190		3-25-20139	3	SWITCH, TOGGLE (ALSO PN 2675-00028) (APL 7109-2P) (NSN 5930-00-401-4467)	61482	1	
7-1-191		NO NUMBER	3	NUT, HEX	61482	2	
7-1-192		2275-03041	3	WASHER	61482	2	
7-1-193		2175-00224	3	SCREW, HEX HD	61482	2	

Table 7-5 Parts List - Continued

FIG. & INDEX NO.	REFERENCE DES- IGNATION	PART NUM- BER	INDENT	DESCRIPTION	MFR'S CODE	QTY PER ASSY	USED ON CODE
7-1-194		3475-00053	3	BRACKET, SPR	61482	1	
7-1-195		12120	3	GROMMET (RBR)	61482	1	
7-1-196		07325-5F	3	SHIM, CABLE	61482	1	
		NO NUMBER	2	OUTER FRAME ASSY	61482	1	
		5-70-20396	3	KNIFE FRAME SPRING AND BRACKET ASSY	61482	1	
7-1-197		2175-00194	4	BOLT, HEX HD	61482	2	
7-1-198		07320-4G	4	FERRULE, UPR	61482	2	
7-1-199		07320-4K	4	FERRULE, LWR	61482	2	
7-1-200		07320-4F	4	NUT, TAPER	61482	2	
7-1-201		08595	4	SPRING	61482	2	
7-1-202		2175-00120	4	NUT, HEX	61482	4	
7-1-203		2275-03065	4	LOCKWASHER	61482	4	
7-1-204		08748	4	BOLT, HEX HD	61482	4	
7-1-205		A-07320-4H	4	SPRING BRACKET ASSY	61482	2	
7-1-206		2175-00214	3	NUT, HEX	61482	2	
7-1-207		08456	3	SCREW, PIVOT	61482	2	
7-1-208		5-70-20345	3	DASHPOT ASSY (COMPLETE) (ALSO PN 4575-00346)	61482	1	
7-1-209		2175-00210	3	BOLT, HEX HD	61482	2	
7-1-210		2275-03035	3	LOCKWASHER	61482	2	
7-1-211		2175-00256	3	BOLT, HEX HD	61482	4	
7-1-212		2275-01055	3	LOCKWASHER	61482	4	
7-1-213		07320-5B	3	SUPPORT, PLUNGER BOTTOM	61482	2	
7-1-214		2175-00120	3	NUT, HEX	61482	4	
7-1-215		2275-03065	3	LOCKWASHER	61482	4	
7-1-216		2175-00186	3	SCREW	61482	1	
7-1-217		07325-5E	3	CLAMP, WIRE	61482	1	
7-1-218		3275-00115	3	WASHER, SPECIAL	61482	2	
7-1-219		07320-3D	3	BUMPER (RBR)	61482	4	
7-1-220		A-07320-3	3	REAR BRACE ASSY	61482	1	
7-1-221		2175-00214	3	NUT, HEX	61482	2	
7-1-222		2275-03055	3	LOCKWASHER	61482	10	
7-1-223		2175-00188	3	SCREW, SCH	61482	2	
7-1-224		10297-12	3	SHIM (IF APPLICABLE)	61482	AR	

Table 7-5 Parts List - Continued

FIG. & INDEX NO.	REFERENCE DES- IGNATION	PART NUM- BER	INDENT	DESCRIPTION	MFR'S CODE	QTY PER ASSY	USED ON CODE
		10297-30	3	SHIM (IF APPLICABLE)	61482	AR	
7-1-225		07320-5	3	BRACE, FRONT	61482	2	
7-1-226		2175-00175	3	BOLT, HEX HD	61482	2	
7-1-227		2175-00200	3	BOLT, HEX HD	61482	2	
7-1-228		2A-07324-3	3	STA TROUGH SUPPORT ANGLE ASSY	61482	1	
7-1-229		2175-00210	3	BOLT, HEX HD	61482	4	
7-1-230		2275-03022	3	LOCKWASHER	61482	4	
7-1-231		2175-05851	3	BOLT, HEX HD	61482	4	
7-1-232		07320-5F	3	BRACE, STA TROUGH	61482	2	
7-1-233		4-70-20408	3	BRACE, BOTTOM FRAME (ALSO PN 07320-5D)	61482	1	
7-1-234		2175-00189	3	SCREW	61482	10	
7-1-235		3475-00347	3	STRIP, COVER FASTENING	61482	2	
7-1-236		07327-6A	3	GUARD, COVER (LH)	61482	1	
7-1-237		07327-6	3	GUARD, COVER (RH)	61482	1	
7-1-238		09129	3	SCREW	61482	2	
7-1-239		09405-30	3	SHIM	61482	1	
7-1-240		07324-4B	3	STOP, OPERATING HANDLE	61482	2	
		5-25-20140	3	FOOT ASSY (RBR) (ALSO PN A-03000-1)	61482	4	
7-1-241		07320-1Q	4	FOOT, ADJUSTING	61482	1	
7-1-242		07320-1R	4	LOCKNUT, FOOT ADJUSTING	61482	1	
7-1-243		NO NUMBER	3	STUD	61482	4	
7-1-244		4575-00241	3	SIDE FRAME ASSY (LH)	61482	1	
7-1-245		4575-00242	3	SIDE FRAME ASSY (RH)	61482	1	

**SECTION III.
NUMERICAL INDEX**

7-3. SCOPE.

7-3.1 DESCRIPTION. The numerical index is an alphanumeric listing of the part numbers included in the GAPL. Figure and index numbers are given for reference to the GAPL.

7-3.2 BREAKDOWN. The following paragraphs describe the information contained in the three columns of the numerical index.

7-3.2.1 Part Number Column. The part number column lists in alphanumeric order all part numbers appearing in the GAPL. The alphanumeric arrangement of part numbers starts with the extreme left character of the part number and continues from left to right, one character at a time, until part number alphanumeric arrangement is determined. The order of precedence in the alphanumeric arrangement is as follows:

First Position (Extreme Left)	Second (and Succeeding Positions)
Letters A through Z	Space (blank)
Numerals 0 through 9	Diagonal (/)
	Point (.)
	Dash (-)
	Letters A through Z
	Numerals 0 through 9

7-3.2.2 Figure and Index Number Column. The figure and index number column lists the figure and index number of each illustrated item for which a listed part number appears.

7-3.2.3 Reference Designation Column. The reference designation column lists the established reference designation for each electrical/electronic/hydraulic/pneumatic part identified in the numerical index. If there are no such parts in this equipment, there will be no entry in this column.

Table 7-6 Parts List

PART NUMBER	FIG. & INDEX NO.	REFERENCE DESIGNATION
A-07320-A	7-1-153	
A-07320-U	7-1-149	
A-07320-3	7-1-220	
A-07320-4H	7-1-205	
A-07320-6M	7-1-148	
A-07321-2	7-1-163	
A-07322-5	7-1-86	
A-07324-6A	7-1-69	
A-07324-7U	7-1-25	
A-07324-7V	7-1-25	
A-07324-8D	7-1-27	
A-07324-8E	7-1-27	
A-07324-8H	7-1-32	
A-07325-C	7-1-186	

Table 7-6 Parts List - Continued

PART NUMBER	FIG. & INDEX NO.	REFERENCE DESIGNATION
00916-S	7-1-88	
00920	7-1-107	
00942-30	7-1-5	
00942-30	7-1-168	
02112-1C	7-1-31	
02112-1C	7-1-63	
04903-1F	7-1-104	
04903-1F	7-1-175	
07300-1E	7-1-140	
07303-1F	7-1-75	
07304-2F	7-1-121	
07306-3G	7-1-50	
0732A-5A	7-1-124	
07320-1Q	7-1-241	
07320-1R	7-1-242	
07320-1X	7-1-54	
07320-3D	7-1-219	
07320-3E	7-1-48	
07320-4F	7-1-200	
07320-4G	7-1-198	
07320-4K	7-1-199	
07320-5	7-1-225	
07320-5B	7-1-213	
07320-5F	7-1-232	
07320-6H	7-1-147	
07320-6L	7-1-145	
07321-1A	7-1-132	
07322-1E	7-1-82	
07322-1F	7-1-87	
07322-10	7-1-60	
07322-12	7-1-59	
07322-5B	7-1-83	
07322-7C	7-1-74	
07323-2D	7-1-42	
07323-2D	7-1-177	
07323-2E	7-1-43	
07323-2G	7-1-44	
07324-D	7-1-120	
07324-10F	7-1-38	
07324-4	7-1-115	
07324-4A	7-1-116	
07324-4B	7-1-240	
07324-7K	7-1-16	
07324-7Q	7-1-28	
07324-7T	7-1-26	
07324-8	7-1-15	
07324-8A	7-1-14	

Table 7-6 Parts List - Continued

PART NUMBER	FIG. & INDEX NO.	REFERENCE DESIGNATION
07324-8B	7-1-17	
07325-5E	7-1-217	
07325-5F	7-1-196	
07325-8A	7-1-182	
07325-8C	7-1-176	
07325-8K	7-1-183	
07327-3	7-1-7	
07327-3A	7-1-3	
07327-4B	7-1-162	
07327-6	7-1-237	
07327-6A	7-1-236	
08180	7-1-131	
08274	7-1-185	
08291-S	7-1-66	
08456	7-1-207	
08469	7-1-53	
08482	7-1-52	
08516	7-1-64	
08580	7-1-156	
08587	7-1-125	
08588	7-1-119	
08589	7-1-123	
08594	7-1-81	
08595	7-1-201	
08604	7-1-6	
08660	7-1-178	
08670	7-1-181	
08671	7-1-180	
08720	7-1-29	
08722	7-1-22	
08723	7-1-20	
08748	7-1-129	
08748	7-1-204	
08915	7-1-138	
09129	7-1-238	
09157-12	7-1-13	
09161-06	7-1-19	
09161-18	7-1-57	
09201	7-1-113	
09313-30	7-1-143	
09405-30	7-1-239	
09463-60	7-1-94	
09577-30	7-1-65	
09664-6D	7-1-174	
09664-60	7-1-84	
09799	7-1-152	
09987-S	7-1-67	

Table 7-6 Parts List - Continued

PART NUMBER	FIG. & INDEX NO.	REFERENCE DESIGNATION
10151	7-1-58	
10297-12	7-1-224	
10297-30	7-1-224	
10632-S	7-1-30	
10854	7-1-21	
10855	7-1-24	
10883	7-1-103	
10960	7-1-164	
12120	7-1-195	
12223	7-1-70	
12225	7-1-155	
2A-07324-3	7-1-228	
2A-07324-7U	7-1-21	
2A-07324-7V	7-1-21	
2175-00078	7-1-56	
2175-00082	7-1-18	
2175-00082	7-1-23	
2175-00120	7-1-150	
2175-00120	7-1-158	
2175-00120	7-1-202	
2175-00120	7-1-214	
2175-00137	7-1-49	
2175-00137	7-1-122	
2175-00173	7-1-154	
2175-00175	7-1-226	
2175-00186	7-1-216	
2175-00187	7-1-118	
2175-00188	7-1-223	
2175-00189	7-1-1	
2175-00189	7-1-234	
2175-00190	7-1-2	
2175-00194	7-1-197	
2175-00198	7-1-55	
2175-00198	7-1-114	
2175-00199	7-1-100	
2175-00199	7-1-179	
2175-00200	7-1-71	
2175-00200	7-1-227	
2175-00202	7-1-47	
2175-00203	7-1-184	
2175-00210	7-1-33	
2175-00210	7-1-209	
2175-00210	7-1-229	
2175-00214	7-1-206	
2175-00214	7-1-221	
2175-00224	7-1-193	
2175-00231	7-1-36	

Table 7-6 Parts List - Continued

PART NUMBER	FIG. & INDEX NO.	REFERENCE DESIGNATION
2175-00233	7-1-92	
2175-00256	7-1-211	
2175-01061	7-1-97	
2175-01322	7-1-166	
2175-03653	7-1-61	
2175-05152	7-1-51	
2175-05163	7-1-135	
2175-05851	7-1-11	
2175-05851	7-1-75	
2175-05851	7-1-231	
2175-07030	7-1-4	
2175-07030	7-1-62	
2175-07152	7-1-146	
2275-00060	7-1-187	
2275-00159	7-1-111	
2275-00202	7-1-40	
2275-00249	7-1-144	
2275-00304	7-1-41	
2275-00304	7-1-73	
2275-00343	7-1-169	
2275-01055	7-1-212	
2275-01087	7-1-189	
2275-01140	7-1-76	
2275-03022	7-1-230	
2275-03025	7-1-167	
2275-03035	7-1-210	
2275-03041	7-1-102	
2275-03041	7-1-192	
2275-03045	7-1-101	
2275-03045	7-1-108	
2275-03055	7-1-34	
2275-03055	7-1-72	
2275-03055	7-1-93	
2275-03055	7-1-139	
2275-03055	7-1-222	
2275-03057	7-1-75	
2275-03061	7-1-157	
2275-03061	7-1-160	
2275-03065	7-1-37	
2275-03065	7-1-130	
2275-03065	7-1-151	
2275-03065	7-1-159	
2275-03065	7-1-203	
2275-03065	7-1-215	
2275-03430	7-1-12	
2275-03430	7-1-173	
2275-03441	7-1-142	

Table 7-6 Parts List - Continued

PART NUMBER	FIG. & INDEX NO.	REFERENCE DESIGNATION
2275-04822	7-1-133	
2275-04826	7-1-137	
2300-282 (DWG)	7-1-0	
2375-00010	7-1-141	
25390-06	7-1-95	
25390-18	7-1-95	
25390-28	7-1-95	
2675-00024	7-1-171	
2675-00280	7-1-172	
270-25387	7-1-96	
270-25388	7-1-99	
270-25389	7-1-98	
270-25391	7-1-85	
3-25-20003	7-1-127	
3-25-20139	7-1-190	
3-70-20431	7-1-128	
3-70-20434	7-1-134	
3175-00054	7-1-9	
3175-00090	7-1-8	
3275-00115	7-1-218	
3475-00053	7-1-194	
3475-00176	7-1-78	
3475-00344	7-1-46	
3475-00345	7-1-45	
3475-00346	7-1-77	
3475-00347	7-1-235	
3475-00348	7-1-165	
3475-00354	7-1-105	
3675-00152	7-1-170	
3775-00080	7-1-117	
3775-00161	7-1-136	
4-70-20408	7-1-233	
4-70-20571	7-1-39	
4575-00241	7-1-244	
4575-00242	7-1-245	
4575-00248	7-1-10	
4575-00249	7-1-79	
4575-00250	7-1-110	
4575-00251	7-1-109	
4575-00265	7-1-106	
4675-00016	7-1-91	
4675-00017	7-1-91	
470-25358	7-1-126	
4975-00170	7-1-169	
4975-00182	7-1-89	
4975-00199	7-1-90	
4975-00200	7-1-91	

Table 7-6 Parts List - Continued

PART NUMBER	FIG. & INDEX NO.	REFERENCE DESIGNATION
5-25-20140	7-1-240	
5-70-20345	7-1-208	
5-70-20396	7-1-196	
5-70-20442	7-1-112	
5-70-20537	7-1-68	
5-70-20578	7-1-35	
5-70-20630	7-1-99	
5-70-20639	7-1-0	
5-70-20663	7-1-137	

CHAPTER 8
ENGINEERING DRAWING

8-1. INTRODUCTION.

8-1.1 An engineering drawing from the superseded technical manual NAVSEA 0934-LP-087-0010 has been reproduced in this chapter to augment repair procedures and facilitate inspection/fabrication of certain components. Only a drawing that was reproducible from the superseded technical manual has been included.

8-1.2 The following list identifies the drawing that has been included in this chapter for reference purposes.

Figure No.	Figure Title
8-1.	MB 7/16 Bread Slicer, Electric

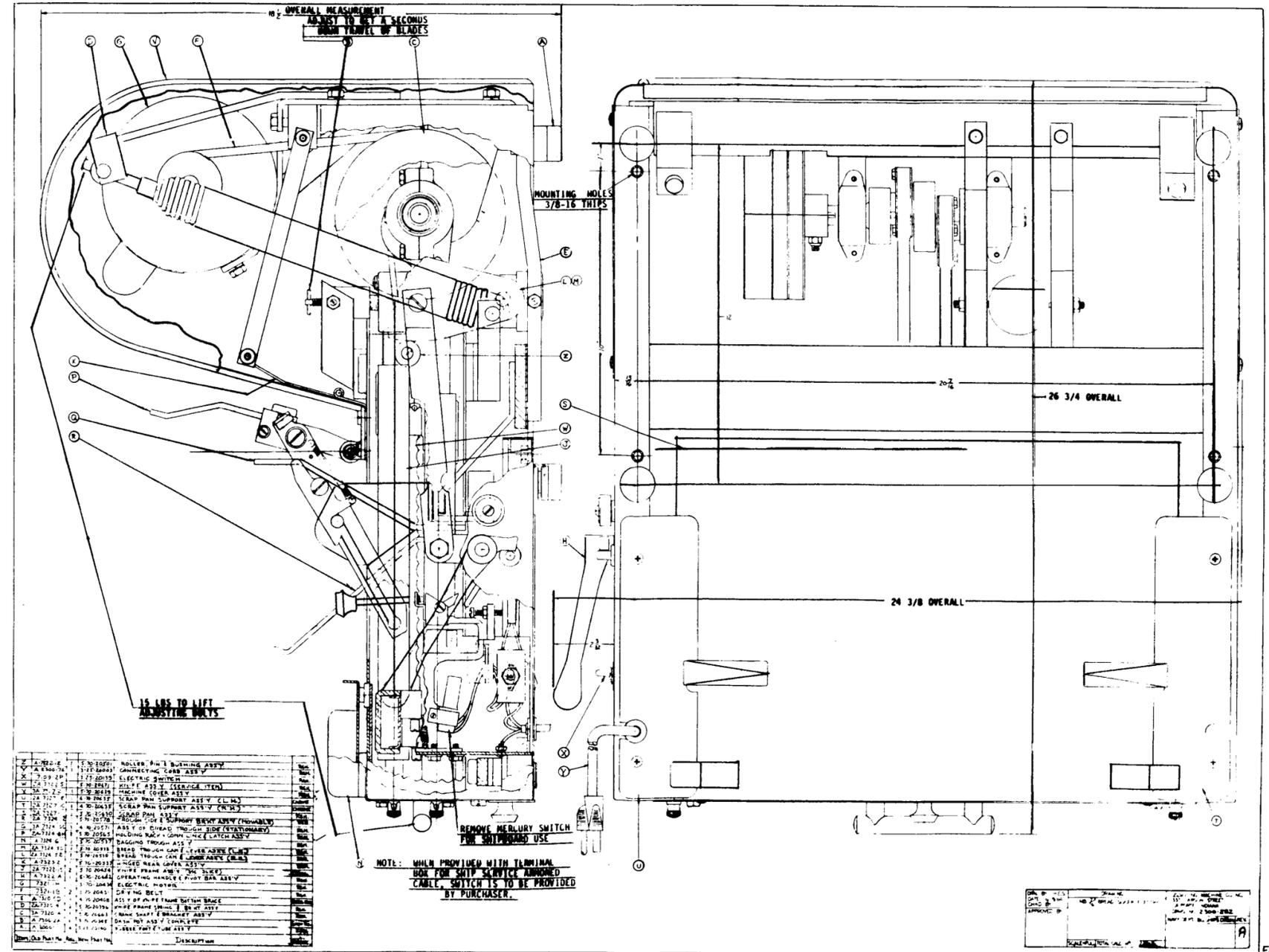


Figure 8-1. MB 7/16 Bread Slicer, Electric

Figure 8-1. MB 7/16 Bread Slicer, Electric

REAR SECTION

(Insert Classif. of TMDER Here and At Bottom of Page) CLASSIFICATION:

NAVSEA (USER) TECHNICAL MANUAL DEFICIENCY/EVALUATION REPORT (TMDER) (NAVSEA S0005-AA-GYD-030/TMMP & NAVSEAINST 4160.3)						
<i>INSTRUCTIONS: Insert classification at top and bottom of page. Read the following before completing this form. Continue on 8 1/2" x 11" paper if additional space is needed.</i>						
1. USE THIS REPORT TO INDICATE DEFICIENCIES, USER REMARKS, AND RECOMMENDATIONS RELATING TO PUBLICATION 2. BLOCKS MARKED WITH "*" ARE TO BE FILLED IN BY THE CONTRACTOR BEFORE PRINTING. 3. FOR UNCLASSIFIED TMDER'S, FILL IN YOUR RETURN ADDRESS IN SPACE PROVIDED ON THE BACK. FOLD AND TAPE WHERE INDICATED AND MAIL. (SEE OPNAVINST 5510.1E FOR MAILING CLASSIFIED TMDER'S) 4. FOR ADDITIONAL INFORMATION, CALL AUTOVON 360-4805/5084 OR COMMERCIAL 805-982-4805/5084						
1. NAVSEA NO. *		2. VOL. PART *	3. TITLE *			
S6161-G6-FSE-010			BREAD SLICER, MODEL MB			
4. REV. DATE OR TM CH. DATE		5. SYSTEM/EQUIPMENT		6. IDENTIFICATION/NOMENCLATURE (MK/MOD/AN)		
7. USER'S EVALUATION OF MANUAL (Check Appropriate blocks)						
A. EXCEL- LNT	B. GOOD	C. FAIR	D. POOR	E. COM- PLETE	F. INCOM- PLETE	
8. GENERAL COMMENTS						
9. RECOMMENDED CHANGES TO PUBLICATION						
PAGE NO. A.	PARA- GRAPH B.	LINE NO. C.	FIG. NO. D.	TABLE E.	F. RECOMMENDED CHANGES AND REASONS	
10. ORIGINATOR AND WORK CENTER (PRINT)			11. ORIGINATOR'S RANK, RATE OR GRADE, AND TITLE		12. DATE SIGNED	
13. SIGNATURE OF WORK CENTER HEAD			14. SIGNATURE OF DEPARTMENT OFFICER		15. AUTOVON COMM NO.	
16. SHIP HULL NO. AND/OR STATION ADDRESS (DO NOT ABBREVIATE)						
17. THIS SPACE ONLY FOR NSDSA						
A. CONTROL NO.	B. COG ISEA	C. DATE			D. PRIORITY	E. TRANSMITTED TO
		RECEIVED	FORWARDED	DUE		

NAVSEA 9086/10 (REV. 6-85) S/N 0116-LF-090-8651 CLASSIFICATION:
 (REPLACES 4-84 EDITION & NAVSEA 4160/1 -
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