



REPAIR PARTS CATALOG FOR SUNNEN® INDUSTRIAL HONING MACHINE

MODELS:

MBB-1660

THIS CATALOG COVERS THE
MODEL MBB-1660 BEGINNING
WITH SERIAL NO. 95142.



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SUNNEN® PRODUCTS COMPANY
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X-MBB-1660B

Like any machinery, this equipment may be dangerous if used improperly. Be sure to read and follow instructions for operation of equipment.

INTRODUCTION

Illustrations show all major components in exploded detail. Item numbers on each illustration are keyed to the corresponding parts list, providing a descriptive identification of each part.

The parts lists include assemblies as well as detail parts. An item listed without a part number can be obtained as a component of the complete assembly of which it is a part.

Standard hardware items are listed with complete descriptions, such as Item 29 below. **These may be purchased at your local hardware store**, but it is important to replace an item with one having the same dimensions as the original. In some places brand names and part numbers are shown. These may change depending upon availability.

Sunnen® Products Company reserves the right to make changes, without notice, to materials, specifications, colors, designs and accessories included with units.

HOW TO ORDER

When ordering replacement parts be sure to include the following information to ensure prompt shipment of correct parts:

1. The part number and description of each part desired, obtained from this parts catalog.
2. The quantity of each part desired.
3. The voltage, frequency and phase, when ordering electrical parts.
4. The model and serial number of the machine, obtained from the name plate, where there is any question concerning a part.

HOW TO USE THIS PARTS LIST

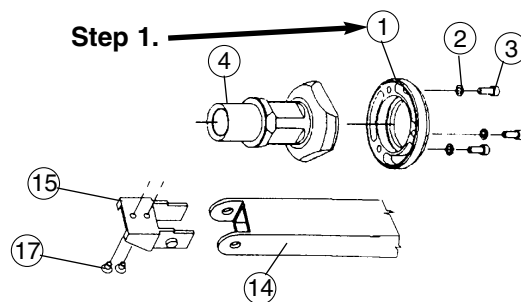
Step 1. – Locate desired part on illustration. Note item number.

Step 2. – Locate item number in the parts list.

Step 3. – If the item has a part number listed, order by part number and the description. A part number in light face type indicates that it is a component of the last preceding part number in bold face type.

Step 4. – If no number is listed, order the part number of the unit of which the desired part is a component. **ORDER ONLY BY PART NUMBER AND DESCRIPTION – NOT by item number.**

NOTE: In this manual, parts may be followed by “(For CE Machines)” or “(For Non-CE Machines)” to denote domestic machines from exported machines. The CE version is constructed to meet the requirements of the European market, and is available to any customer.



	ITEM NO.	ORDER BY PART NUMBER	QTY.	DESCRIPTION
Step 2.	1	MVH-4499A	1	....Spindle Cap <i>includes</i>
	2	PHSM-405	3	.....Screw (M6 x 1 x 16 SHCS)
Step 3.	3	PHW-354	3	.....Washer (M6)
	4	MVH-4422	1	....Inner Spindle Nose
	14	PEM-870A	1	....Cable Carrier <i>includes</i>
	15	PEM-871	1	.....Cable Carrier Bracket
Step 4.	16	PEM-872	1	.....Cable Carrier Bracket
	17	PHSM-600	1	....Screw (M3 x 0,5 x 5mm FHCS)

GENERAL INFORMATION

The SUNNEN® equipment has been designed and engineered for a wide variety of parts within the capacity and limitation of the equipment. With proper care and maintenance this equipment will give years of service.

READ THE FOLLOWING INSTRUCTIONS CAREFULLY AND THOROUGHLY BEFORE UNPACKING, INSPECTING, OR INSTALLING THIS EQUIPMENT.

IMPORTANT: Read any supplemental instructions BEFORE installing this equipment. These supplemental instructions give you important information to assist you with the planning and installation of your Sunnen equipment.

Sunnen Technical Service Department is available to provide telephone assistance for installation, programming, & troubleshooting of your Sunnen® equipment. All support is available during normal business hours, 8:00 AM to 4:30 PM Central Time. Emergency breakdown support is available on a 24 hour / 7 day basis.

Review all literature provided with your Sunnen equipment. This literature provides valuable information for proper installation, operation, and maintenance of your equipment. Troubleshooting information can also be found within the Instructions. If you cannot find what you need, call for technical support.

Where applicable, programming information for your Sunnen equipment is also included. Most answers can be found in the literature packaged with your equipment.

Help us help you. When ordering parts, requesting information, or technical assistance about your equipment, please have the following information available:

- Have ALL MANUALS on hand. The Customer Services Representative or Technician will refer to it.
- Have Model Number and Serial Number printed on your equipment Specification Nameplate.
- Where Applicable: Have Drive model and all nameplate data. Motor type, brand, and all nameplate data.

For Troubleshooting, additional information may be required:

- Power distribution information (type - delta, wye, power factor correction; other major switching devices used, voltage fluctuations)
- Installation Wiring (separation of power & control wire; wire type/class used, distance between drive and motor, grounding).
- Use of any optional devices/equipment between the Drive & motor (output chokes, etc.).

For fast service on your orders call:

Sunnen Automotive Customer Service toll free at: 1-800-772-2878

Sunnen Industrial Customer Service toll free at: 1-800-325-3670

Customers outside the USA, contact your local authorized Sunnen Distributor.

Additional information available at: <http://www.sunnen.com> or e-mail: sunnen@sunnen.com

NOTE: Sunnen reserves the right to change or revise specifications and product design in connection with any feature of our products contained herein. Such changes do not entitle the buyer to corresponding changes, improvements, additions, or replacements for equipment, supplies or accessories previously sold. Information contained herein is considered to be accurate based on available information at the time of printing. Should any discrepancy of information arise, Sunnen recommends that user verify the discrepancy with Sunnen before proceeding.

ESD PREVENTION REVIEW

Let's review the basics of a sound static control system and its effective implementation. First, in the three step plan:

1. Always ground yourself when handling sensitive components or assemblies.
2. Always use a conductive or shielded container during storage or transportation. These materials create a Faraday cage which will isolate the contents from static charges.
3. Open ESD safe containers only at a static safe work station.

At the static safe work station, follow these procedures before beginning any work:

- A. Put on your wrist strap or foot grounding devices.
- B. Check all grounding cords to make sure they are properly connected to ground, ensuring the effective dissipation of static charges.
- C. Make sure that your work surface is clean and clear of unnecessary materials, particularly common plastics.
- D. Anti-static bubble wrap has been included for use at the machine when an ESD safe workstation is not available.

You are now properly grounded and ready to begin work. Following these few simple rules and using a little common sense will go a long way toward helping you and your company in the battle against the hazards of static electricity. When you are working with ESD sensitive devices, make sure you:

**GROUND
ISOLATE
NEUTRALIZE**

SUNNEN® LIMITED PRODUCT WARRANTY

Sunnen® Products Company and its subsidiaries (SPC) warrant that all new SPC honing machines, gaging equipment, tooling, and related equipment will be free of defects in material and/or workmanship for a period of one year from the date of original shipment from SPC.

Upon prompt notification of a defect during the one-year period, SPC will repair, replace, or refund the purchase price, with respect to parts that prove to be defective (as defined above). Any equipment or tooling which is found to be defective from improper use will be returned at the customer's cost or repaired (if possible) at customer's request. Customer shall be charged current rates for all such repair.

Prior to returning any SPC product, an authorization (RMA#) and shipping instructions must be obtained from the Customer Service Department or items sent to SPC will be returned to the customer.

Warranty Limitations and Exclusions This Warranty does not apply to the following:

- Normal maintenance items subject to wear and tear: (belts, fuses, filters, etc).
- Damages resulting from but not limited to:
 - › Shipment to the customer (for items delivered to customer or customer's agent F.O.B., Shipping Point)
 - › Incorrect installation including improper lifting, dropping and/or placement
 - › Incorrect electric power (beyond +/- 10% of rated voltage) including intermittent or random voltage spikes or drops
 - › Incorrect air supply volume and/or pressure and/or contaminated air supply
 - › Electromagnetic or radio frequency interference from surrounding equipment (EMI, RFI)
 - › Storm, lightning, flood or fire damage
 - › Failure to perform regular maintenance as outlined in SPC manuals
 - › Improper machine setup or operation causing a crash to occur
 - › Misapplication of the equipment
 - › Use of non-SPC machines, tooling, abrasive, fixturing, coolant, repair parts, or filtration
 - › Incorrect software installation and/or misuse
 - › Non-authorized customer installed electronics and/or software
 - › Customer modifications to SPC software

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Shipping Damages

Except in the case of F.O.B., Buyer's destination shipments, SPC will not be liable for any settlement claims for obvious and/or concealed shipping damages. The customer bears the responsibility to unpack all shipments immediately and inspect for damage. When obvious and/or concealed damage is found, the customer must immediately notify the carrier's agent to make an inspection and file a claim. The customer should retain the shipping container and packing material.

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Any alteration or reverse engineering of the software is expressly forbidden and is in violation of this agreement.

SPC reserves the right to update the software covered by this agreement at any time without prior notice and any such updates are covered by this agreement.

SAFETY INSTRUCTIONS

READ FIRST

This machine, like any equipment, may be dangerous if used improperly. Please read all warnings and instructions before attempting to use this machine.

Always disconnect power at main enclosure before servicing machine.¹

Always wear eye protection when operating this machine.

NEVER open or remove any machine cover or protective guard with power "ON." Always disconnect power at main enclosure before servicing this equipment.¹

DO NOT attempt any repair or maintenance procedure beyond those described in this book. Contact your Sunnen® Field Service Engineer or Technical Services Representative for repairs not covered in these instructions.

Due to the wide variety of machine configurations, all possibilities cannot be described in these instructions. Instructions for safe use and maintenance of optional equipment ordered through Sunnen, will be provided through separate documentation and/or training provided by your Sunnen Field Service Engineer or Technical Services Representative.

DO NOT attempt to defeat any safety device on this machine or on any of the optional equipment.

If specially built automation components are added to this system, be sure that safety is not compromised. If necessary, obtain special enlarged work area safety system from Sunnen Products Co.

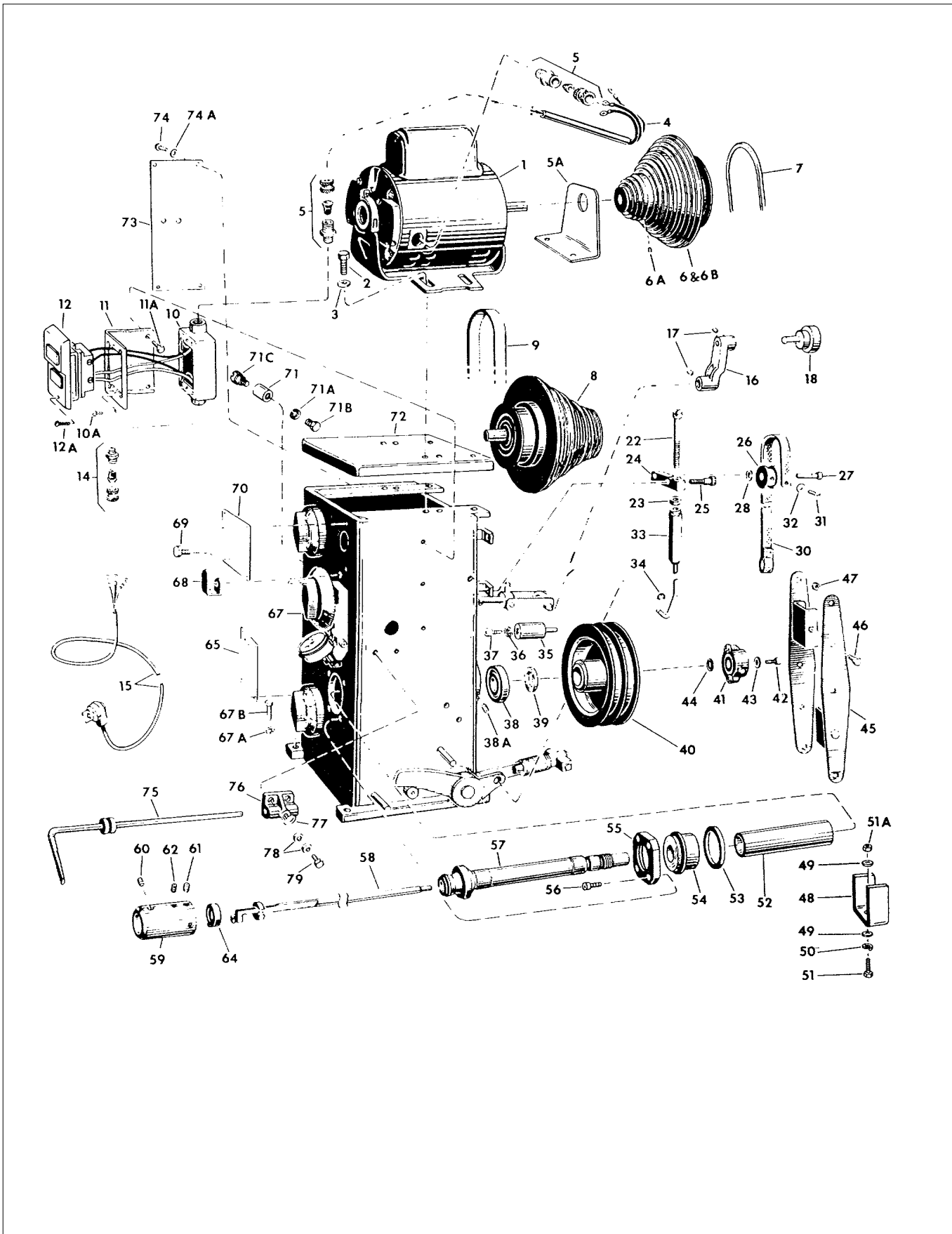
☐☐ Indicates CE version ONLY.

¹ DO NOT touch electrical components until main input power has been turned off and *CHARGE* lamps are extinguished. WARNING: The capacitors are still charged and can be quite dangerous.

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SECTION I - HONING MACHINE HEAD



PARTS LIST COVERING FIGURE "A"

ITEM NO.	ORDER BY PART NUMBER	QTY.	DESCRIPTION
1	PMO-312A	1	....Motor (1/2 H.P., Nema 56 Frame, O.D.P., 115/230 Volt, 60 Hz, 1 ph. 1725 RPM, 5/8 Dia. Shaft)
1	PMO-317A	1	....Motor (1/2 H.P., Nema 56 Frame, O.D.P., 220 Volt, 50 Hz, 1 ph., 1425 RPM, 5/8 Dia. Shaft)
1	PMO-364	1	....Motor (1/2 H.P., Nema 56 Frame, O.D.P., 220/380 Volt, 50 Hz, 3 ph., 1425 RPM, 5/8 Dia. Shaft)
1	PMO-345A	1	....Motor (1/2 H.P., Nema 56 Frame, O.D.P., 208/230/460 Volt, 60 Hz, 3 ph., 1725 RPM, 5/8 Dia. Shaft)
1	PMO-R345	1	....Motor (1/2 H.P., Nema 56 Frame, T.E.N.V., 440 Volt, 50 Hz, 3 ph. 1425 RPM, 5/8 Dia. Shaft)
2	KN-567	4	....Screw (5/16-18 x 3/4 Hex Hd. Cap)
3	KN-568	4	....Washer (5/16 Plain)
4	MBB-1665A*	1	....Wire Lead & Connector Set
5	PEC-114A*	2	....Cable Connector (Pkg. of 1)
5A	MBB-2606A	1	....Guard (For 208/230/460/440 Volt, 3 ph. Only)
6	MBB-2622A	1	....Drive Pulley (60 Hz Machines) <i>with</i>
6A	LN-1345	1	.....Set Screw (10-32 x 3/8 Soc. Cup Pt.)
6B	MBB-2632A	1	....Drive Pulley (50 Hz Machines) <i>with</i>
6A	LN-1345	1	.....Set Screw (10-32 x 3/8 Soc. Cup Pt.)
7	MBB-2620A	1	...."V" Belt
8	MBB-2665A	1	....Countershaft Pulley <i>with</i> Bearing (60 Hz Machines)
8A	MBB-2675A	1	....Countershaft Pulley <i>with</i> Bearing (50 Hz Machines)
9	MBB-910	1	....Flat Belt (37-1/4 Inside Circumference)
10	MBB-1671A*	1	....Switch Box <i>with</i>
10A	PHS-940	3	.....Screw (6-32 x 3/8 Self-Tapping Pan Hd.)
11	MBB-1672A*	1	....Switch Bracket <i>with</i>
11A	MSA-219	2	.....Screw (1/4-20 x 3/8 Hex Hd. Cap)
12	MBB-1676A*	1	....Switch & Cover <i>with</i>
12A	PHS-671	2	.....Screw (6-32 x 1" Pan Hd.)
14	PEC-112A*	1	....Cable Connector (For 115V and 230V)
15	PEC-62A*	1	....Cord Set (For 115 Volt, 1 phase)
15	PEC-61A	1	....Cord Set (For 230 Volt, 1 phase)
16	LBB-1129A	1	....Idler Arm <i>with</i>
17	MBB-312	2	.....Set Screw (3/8-16 x 1/2 Soc. Cup Pt.)
18	LBB-825A	1	....Idler Pulley Assembly
22	MBB-968A	1	....Brake Adjusting Screw <i>with</i>
23	LBN-431	1	.....Nut (1/4-20 Hex)
24	MBB-978A	1	....Brake Lever <i>with</i>
25	MBB-977	1	.....Shoulder Screw (5/16 x 5/8 with 1/4-20 x 7/16 th'd)
N/S	PHN-121	1	.....Locknut (1/4-20 Hex)
26	MBB-973A	1	....Brake Cam <i>with</i>
27	MBB-971	1	.....Screw (5/16-18 x 1" Soc. Hd. Cap)
28	MBB-972	1	.....Washer (5/16 Serrated Lock)
30	MBB-969A	1	....Brake Strap <i>with</i>
31	MSN-277	1	.....Screw (10-32 x 3/8 Rd. Hd.)
32	MBH-396	1	.....Washer (Bent)
33	MBB-985A	1	....Brake Rod Assembly <i>with</i>

N/S indicates Not Shown

(Parts continued on next page)

* This part is for MBB-1660 Single Phase Machines. Three Phase Machines differ only in electrical parts and their mounting. See Page 22. Always specify Voltage, Hertz and Phase when ordering any replacement electrical part for these machines.

SECTION I

HONING MACHINE HEAD

PARTS LIST COVERING FIGURE "A" (cont'd)

ITEM NO.	ORDER BY PART NUMBER	QTY.	DESCRIPTION
34	MBB-976A	1	.....Retaining Ring (Truarc No. 5133-25-PP)
35	MBB-2441A	1	....Brake Anchor with
36	MAN-1223	1	.....Washer (3/8 Lock)
37	PHS-605	1	.....Screw (3/8-16 x 1 " Soc. Hd. Cap)
38	PBR-57A	1	....Bearing (MRC #206SZZ)
38A	PHS-128A	1	....Set Screw (10-32 x 1/4 Soc. Nylon Tip)
39	MBB-2529A	1	....Spacer
40	MBB-2756A	1	....Spindle Pulley
41	MBB-365A	1	....Thrust Assembly with
42	MBB-646	1	.....Screw (3/8-16 x 3/4 Soc. Hd. Cap)
43	MBB-647	1	.....Washer (3/8 Special)
44	MBB-359	1	.....Washer (.555 Special)
45	LBN-385A	2	....Feed Arm Assembly (Pkg. of 2) with
46	LBN-386	4	.....Screw (5/16-18 x 1/2 Hex Hd. Cap)
47	KN-172	4	.....Nut (5/16-18 Hex)
48	MB-3088A	1	....Feed Arm Stabilizer with
49	LBN-401	2	.....Washer
50	PHW-118	1	.....Lockwasher
51	DL-66	1	.....Screw (1/4-25 x 7/8 Hex Hd. Cap)
51A	LBN-431	1	.....Nut (1/4-25 Hex)
52	MBB-3491A	1	....Bearing Spacer
53	MBB-2498A	1	....Bearing Sleeve
54	PBR-147A	1	....Bearing with Snap Ring
55	MBB-2497A	1	....Bearing Retainer with
56	PHS-582	4	.....Screw (1/4-20 x 3/4 Soc. Hd. Cap)
57	MBB-3495A	1	....Spindle with
N/S	PHP-425	1	.....Roll Pin
58	MBH-649	1	....Feed Rod Assembly with
59	MBB-343A	1	....Spindle Nose with
60	LBN-346A	1	.....Set Screw (1/2-13 x 7/16 Soc. Flat Pt.)
61	MBB-339A	4	.....Set Screws (5/16-24 x 7/16 Soc. Flat Pt.) Pkg. of 4
62	MBB-332A	1	.....Set Screw (1/4-20 x 3/8 Soc. Full Dog Pt.)
64	MBB-642A	1	....Drive Plate with
65	PNP-329	1	....Stone Feed Chart
67	MBB-2320	1	....Housing
67A	MAN-1223	4	....Washer (3/8 Lock)
67B	KN-416	4	....Screw (3/8-16 x 1-1/4 Hex Hd. Cop)
68	MBB-2563A	1	....Dial Pointer with
69	MAN-612	1	.....Screw (1/4-20 x 3/8 Hex Hd. Cap)
70	PNP-328	1	....Nameplate
71	PHM-306A	1	....Belt Cover Latch Pin with
71A	PHW-119	1	.....Washer (5/16 Lock)
71B	KN-567	1	.....Screw (5/16-18 x 3/4 Hex Hd. Cap)
71C	PHS-1016	1	.....Screw (5/16-18 Lock)
72	MBB-2538A	1	....Top Cover
73	MBB-2528A	1	....Cover with
74	PHS-532	4	.....Screw (10-32 x 1/4 But. Hd. Cap)
74A	LBA-451	4	.....Washer
75	MAN-375A	1	....Stroking Stop Rod (Optional, Not Supplied with Machine) with
76	MAN-374	1	.....Bracket

N/S indicates Not Shown

(Parts continued on next page)

PARTS LIST COVERING FIGURE "A" (cont'd)

ITEM NO.	ORDER BY PART NUMBER	QTY.	DESCRIPTION
77	MSN-233	1	.....Thumb Screw (1/4-20 x 5/8)
79	MAN-1028	2	.....Screw (1/4-20 x 3/4 Hex Hd. Cap)
78	MB-982	4	.....Washer (1 /4 Plain)
N/S	MBB-2332	1	....CE Motor Screen Guard (PMO-317 Motor ONLY)
N/S	MBB-2607	1	....Motor Guard (PMO-364 Motor ONLY)

N/S indicates Not Shown

PARTS LIST COVERING FIGURE "B"

ITEM NO.	ORDER BY PART NUMBER	QTY.	DESCRIPTION
1	MBB-2485A	1	....Pressure Dial Assembly Upper with
2	EL-11	1	.....Spring
3	LBA-437	1	.....Plate
4	LBN-450C	1	.....Set Collar with
5	LBN-369	1	.....Set Screw (1/4-20 x 1/4 Soc. Cup Pt.)
6	LBA-150	3	.....Nut (3/8-24 Hex)
7	LBA-445A	1	.....Spherical Socket with
8	MB-908	1	.....Spherical Washer
9	LBA-456A	1	.....Thread Nut & Jam Nut
10	LBA-438C	1	.....Pin with
11	MSA-63	1	.....Nut (10-32 Hex)
12	MBB-2475A	1	....Pressure Dial Assembly Lower with
2	EL-11	1	.....Spring
3	LBA-437	1	.....Plate
4	LBN-450C	1	.....Set Collar with
5	LBN-369	1	.....Set Screw (1/4-20 x 1/4 Soc. Cup Pt.)
6	LBA-150	3	.....Nut (3/8-24 Hex)
13	MSA-151	1	.....Washer (3/8 Hardened)
14	LBA-453A	1	.....Spring
7	LBA-445A	1	.....Spherical Socket with
8	MB-908	1	.....Spherical Washer
9	LBA-456A	1	.....Thread Nut & Jam Nut
10	LBA-438C	1	.....Pin with
11	MSA-63	1	.....Nut (10-32 Hex)
15	MBB-2525A	1	....Pressure Rod Assembly with
16	MBB-938	1	.....Spring Collor
17	MSN-345	1	.....Set Screw (5/16-18 x 5/16 Soc. Cup Pt.)
18	MBB-946A	1	.....Spring with
19	MBB-939	1	.....Washer (Special)
20	MBB-947C	1	....Lever with
21	MBB-2487A	1	.....Lever Pivot with
22	PHW-118	1	.....Washer (1/4 Reg. Lock)
23	LBN-431	1	.....Nut (1/4-20 Hex)
24	MBB-885A	1	....Spring Support Assembly
25	PBR-54A	1	....Bearing (Bunting #P50-4)
26	PBR-34A	2	....Bearing (Garlock #12DU10) Pkg. of 2
27	MBB-2520A	1	....Arm & Shaft Assembly with
28	MBB-2515A	1	.....Arm & Collor Assembly with
29	PHS-106	1	.....Set Screw (1/4-28 x 5/16 Soc. Cup Pt.)
30	MBB-858	1	.....Washer (Special)
31	MBB-859	1	.....Spring Washer
32	MBB-867A	2	.....Thrust Bearing-Nylon (Pkg. of 3)
34	MBB-312	1	.....Set Screw (3/8-16 x 1/2 Soc. Cup Pt.)
35	LBA-381 A	1	....Adjusting Nut Assembly
36	LBA-367C	1	....Sleeve
37	PBR-53A	2	....Bearing (Garlock #10DU08) Pkg. of 2
38	LBB-2413A	1	....Idler Shaft
39	MBB-1858A	1	....Thrust Bearing
40	LBN-337A	1	....Set Collar with
41	KN-456	1	.....Set Screw (1/4-20 x 3/8 Soc. Cup Pt.)

N/S indicates Not Shown

(Parts continued on next page)

SECTION I

HONING MACHINE HEAD

PARTS LIST COVERING FIGURE "B" (cont'd)

ITEM NO.	ORDER BY PART NUMBER	QTY.	DESCRIPTION
42	MBB-2420A	1	....Tension Assembly <i>consists of</i>
42A	LBN-489A	2	.....Spring Set (Pkg. of 2)
42B	LBN-486	1	.....Tension Bolt (1/4-20 x 4-3/4 Hex Hd. Cap Special)
42C	PHN-121	1	.....Locknut (1/4-20 Hex)
42D	LBN-482A	1	.....Tension Screw Assembly
42E	LBN-485	1	.....Set Screw (3/8-16 x 5/8 Soc. Cup Pt. Nylok)
42F	MAN-319	1	.....Washer
42G	LBN-491	1	.....Cotter Pin (1/ 16 x 1/2 Long)
43	LBA-334A	1	....Tension Arm Spring
44	LBN-409A	1	....Spring Anchor
45	LBA-446A	1	....Lever
46	MBB-2465A	1	....Crank Arm Lever <i>with</i>
47	PHS-612	1	.....Screw (1/4-28 x 3/4 Soc. Flat Hd. Cap)
48	PHW-145A	1	.....Washer (Spring)
49	MBB-2464A	1	....Bearing Insert
50	MBB-2460A	1	....Stub Crank Arm Assembly <i>with</i>
51	CK-3187	1	.....Washer (1/4 Plain)
52	LBN-491	1	.....Cotter Pin (1/ 16 X 1/2 Long)
53	LBA-395A	1	....Feed Arm Link Assembly
54	LBN-406A	2	....Stop Pin (Pkg. of 1) <i>with</i>
55	KN-568	2	.....Washer (5/16 Plain)
56	LBN-408	2	.....Nut (5/16-18 Hex)
57	MBB-2405A	1	....Feed Screw <i>with</i>
59	MBB-986A	1	.....Set Collar <i>with</i>
60	LBN-369	1	.....Set Screw (1/4-20 x 1/4 Soc. Cup Pt.)
58	LBN-379	1	.....Fiber Washer
62	LBN-372A	1	....Dial Assembly <i>with</i>
63	LBN-369	1	.....Set Screw (1/4-20 Soc. Cup Pt.)
64	MBB-719A	1	....Plate
65	MBB-2395A	1	....Body Assembly <i>with</i>
66	MBB-718A	2	.....Spring
67	MBB-716	1	.....Rocker
68	PG-587	2	.....Washer
70	PHS-583	1	.....Screw (1/4-20 x 1" Soc. Hd. Cap)
71	MBB-376	1	.....Pin
72	MBB-711	1	.....Screw (10-32 x 1" Soc. Hd. Cap)
81	KKN-1139A	1	....Spindle Nose Cover Clip <i>with</i>
82	MSN-277	1	.....Screw (10-32 x 3/8 Rd. Hd.)
83	MBB-707A	1	....Dial Indicator & Pin Assembly <i>complete with</i>
84	MBB-708TA	1	.....Dial Indicator Bezel & Crystal
85	MBB-709TA	1	.....Dial Indicator Face
86	MBB-705A	1	.....Cushion Indicator Tip
88	LBA-492A	1	....Cover Plate <i>with</i>
88A	KN-520	1	.....Screw (1/4-20 x 3/8 Rd. Hd.)
90	MBB-2519A	1	....Link <i>with</i>
91	PHS-648A	1	.....Shoulder Screw (3/8 x 3/8 <i>with</i> 5/16-18 x 1/2 Th'd)
92	KKN-1169A	1	.....Spacer
93	TN-84A	1	.....Spring Washer
94	PHS-661A	1	.....Shoulder Screw (1/4 x 3/8 <i>with</i> 10-24 x 3/8 thd)
N/S	PHW-128	1	.....Spring Washer

N/S indicates Not Shown

(Parts continued on next page)

PARTS LIST COVERING FIGURE "B" (cont'd)

ITEM NO.	ORDER BY PART NUMBER	QTY.	DESCRIPTION
95	MBB-2510A	1	....Lever Assembly <i>with</i>
96	PHS-701 A	1	.....Shoulder Screw (1/2 x 3/4 <i>with</i> 3/8-16 x 5/8 th'd)
97	TN-54A	1	.....Spring Washer
98	DL-36	1	.....Nut (3/8-16 Hex)
99	MBB-2518A	1	....Spring Bracket
100	PSP-307A	1	....Spring

N/S indicates Not Shown

SECTION II - HONING MACHINE BASE

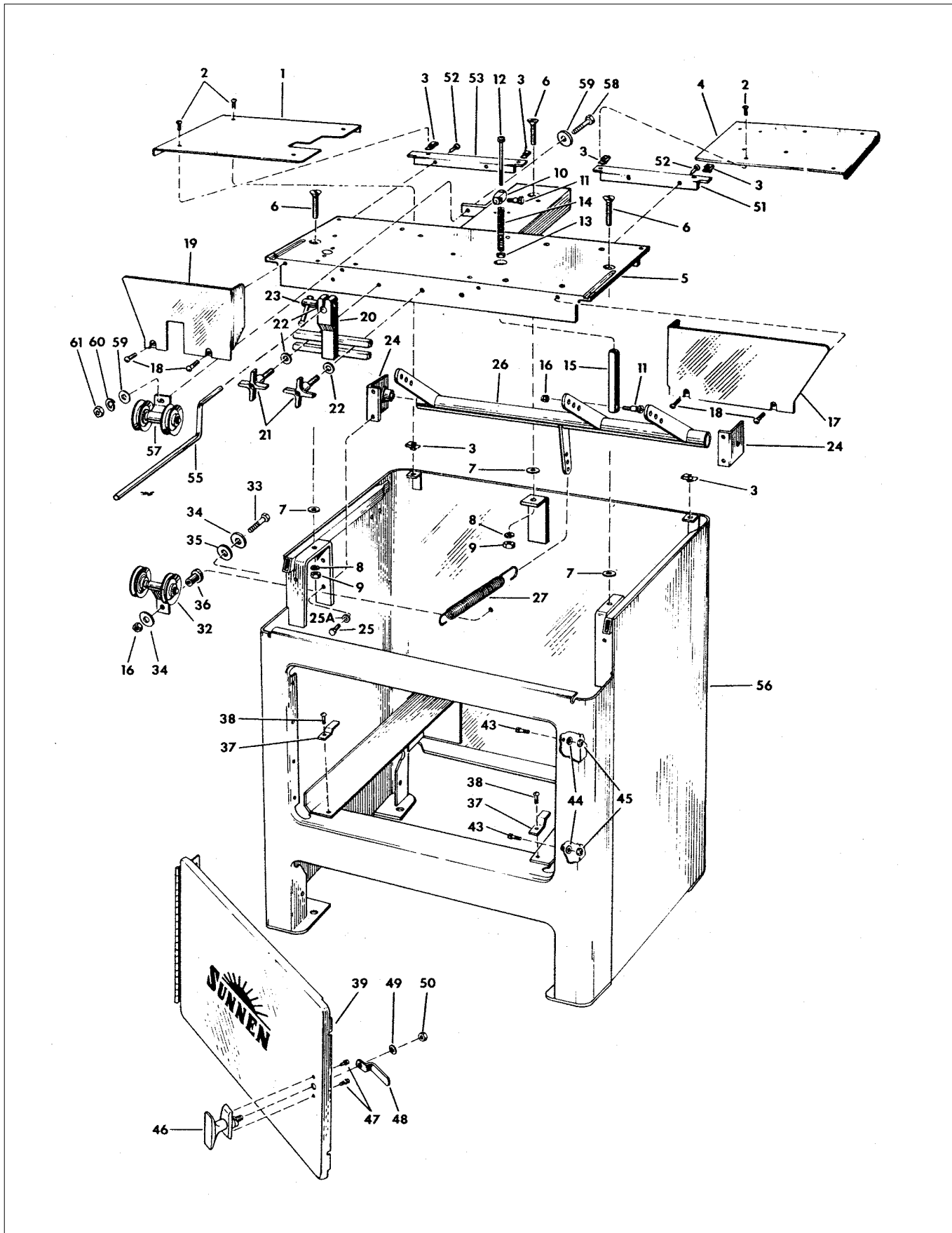


FIGURE C - BASE SUB-ASSEMBLY

PARTS LIST COVERING FIGURE "C"

ITEM NO.	ORDER BY PART NUMBER	QTY.	DESCRIPTION
1	MB-2264A	1	....Rear Cover - Left with
2	MBB-818	4	.....Screw (1/4-20 x 3/8 But. Hd. Cap)
3	PHN-120	3	.....Nut (1/4-20 Tinnerman)
4	MB-2263A	1	....Rear Cover - Right with
2	MBB-818	4	.....Screw (1/4-20 x 3/8 But. Hd. Cap)
3	PHN-120	3	.....Nut (1/4-20 Tinnerman)
5	MB-2095A	1	....Top Plate with
6	PHS-567	3	.....Screw (3/8-16 x 1-1/2 Flat Hd. Soc. Cap)
7	LBN-452	3	.....Washer (3/8 Plain)
8	MAN-1223	3	.....Washer (3/8 Lock)
9	KN-383	3	.....Nut (3/8-16 Hex)
10	MB-2148A	1	....Pivot Block with
11	MBB-977	1	.....Shoulder Screw (5/16 x 5/8 with 1/4-20 x 7/16 th'd)
12	PHS-595A	1	....Screw (5/16-24 x 3-1/2 Soc. Hd. Cap) with
13	PHN-122	1	.....Nut (5/16-24 Hex Jam)
14	MB-2147A	1	....Spring
15	MB-2146A	1	....Clutch Nut with
11	MBB-977	1	.....Shoulder Screw (5/16 x 5/8 with 1/4-20 x 7/16 th'd)
16	PHN-121	1	.....Nut (1/4-20 Hex Lock)
17	MB-2266A	1	....Rear Splash Guard - Right with
18	CRG-404	2	.....Screw (1/4-20 x 3/8 Rd. Hd.)
19	MB-2267A	1	....Rear Splash Guard - Left with
18	CRG-404	2	.....Screw (1/4-20 x 3/8 Rd. Hd.)
20	MB-2320A	1	....Torque Bar Support with
21	MB-2205A	2	.....Wing Hand Screw (Pkg. of 1) with
22	KN-538	2	.....Washer (1/2 Plain)
23	MB-2325A	1	.....Handle Screw with
22	KN-538	1	.....Washer (1/2 Plain)
24	MB-2140A	2	....Bearing & Bracket Assembly (Pkg. of 1) with
25	MAN-1028	4	.....Screw (1/4-20 x 3/4 Hex Hd. Cap)
25A	PHW-118	4	.....Washer (1/4 Lock)
26	MB-2135A	1	....Clutch Tube
27	MB-2143A	1	....Clutch Return Spring
32	LBA-539C	1	....Idler Assembly with
33	PHS-560	1	.....Screw (1/4-20 x 1-1/4 Hex Hd. Cap)
34	PHW-116	2	.....Washer (1/4 Plain)
35	PHW-117	1	.....Washer (1/4 Buna N)
36	PHN-126	1	.....Nut (1/4-20 Neoprene & Brass)
16	PHN-121	1	.....Nut (1/4-20 Hex Lock)
N/S	MB-2294A	1	....Ground Strap (Grounds item #32 to base)
37	MB-2299A	2	....Reservoir Retainer (Pkg. of 1) with
38	CRG-404	2	.....Screw (1 4-20 x 3/ 8 Rd. Hd.)
39	MB-2210A	1	....Door & Hinge with
N/S	LN-1253	4	.....Screw (10-32 x 1/2 Flat Head)
N/S	LBA-451	4	.....Washer (#10 Shakeproof)
N/S	MSA-63	4	.....Nut (10-32 Hex)
43	P-144	2	.....Screw (10-32 x 1/2 Soc. Hd. Cap)
44	LBA-451	2	.....Washer (#10 Shakeproof)
45	MSA-63	2	.....Nut (10-32 Hex)
N/S	PNP-310A	1	.....Nameplate with Rivets

N/S indicates Not Shown

(Parts continued on next page)

SECTION II
HONING MACHINE BASE

PARTS LIST COVERING FIGURE "C" (cont'd)

ITEM NO.	ORDER BY PART NUMBER	QTY.	DESCRIPTION
46	PF-288A	1	....Handle <i>with</i>
47	PG-459	2	.....Screw (8-32 x 1/4 Rd. Hd.)
48	MB-2214A	1	.....Cam
49	PHW-154	1	.....Washer (3/8 Shakeproof)
50	PHN-147	1	.....Nut (3/8-24 Hex Jam)
51	MB-2102A	1	....Cover Support - Right <i>with</i>
52	MSA-219	2	.....Screw (1/4-20 x 1/2 Hex Hd. Cap)
53	MB-2103A	1	....Cover Support - Left <i>with</i>
52	MSA-219	2	.....Screw (1/4-20 x 1/2 Hex Hd. Cap)
55	MB-2331A	1	....Offset Bar (13")
N/S	MB-2333A	1	....Offset Bar (23") Optional - Not Supplied with Machine
56	MB-2065	1	....Base Shell
57	LBA-539A	1	....Idler Assembly <i>with</i>
58	KN-422	1	.....Screw (3/ 8-16 x 1" Hex Hd. Cap)
59	LBN-452	2	.....Washer (3/8 Plain)
60	MAN-1223	1	.....Washer (3/8 Lock)
61	KN-383	1	.....Nut (3/8-16 Hex)

N/S indicates Not Shown

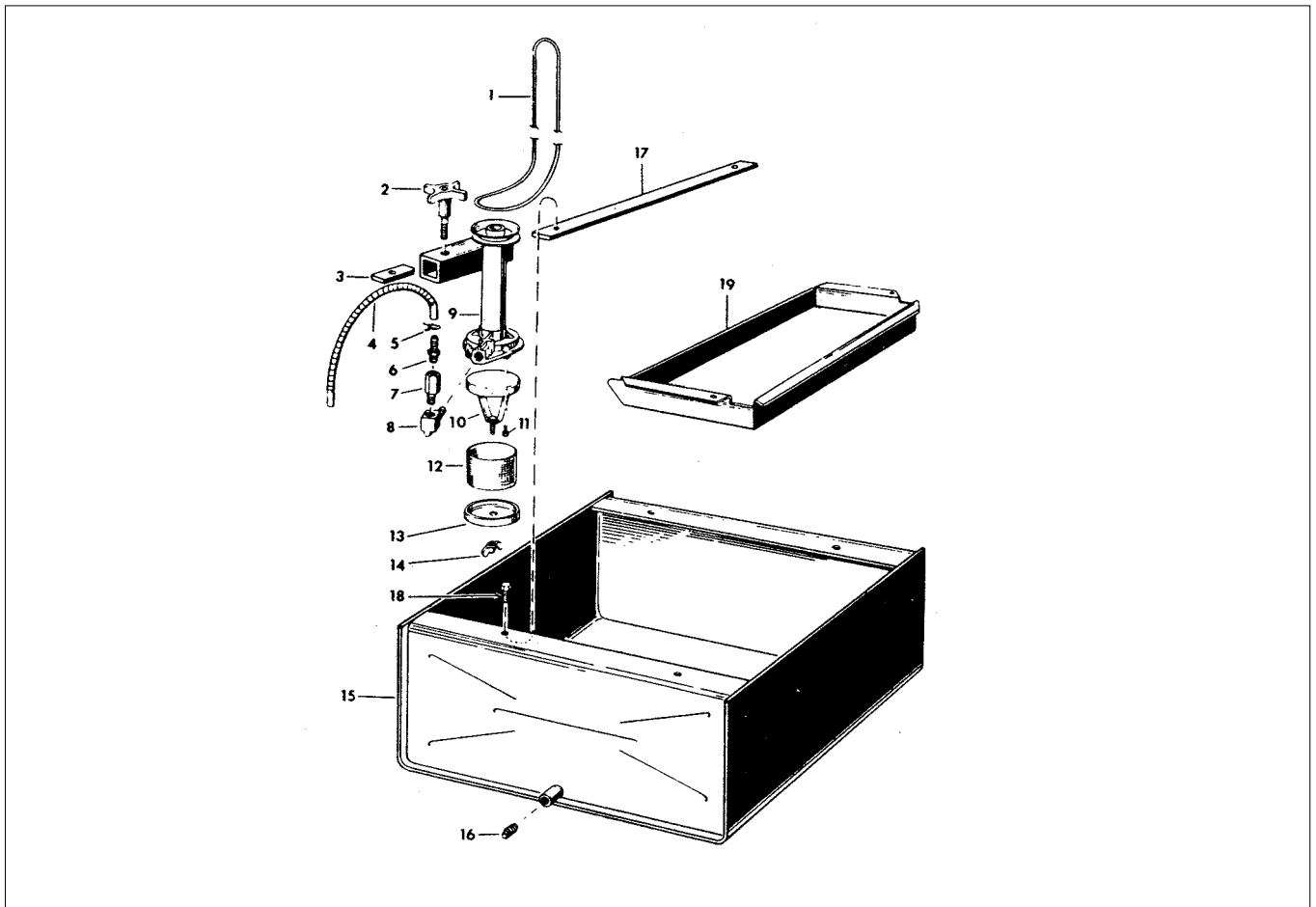


FIGURE D – COOLANT PUMP & RESERVOIR UNIT

PARTS LIST COVERING FIGURE “D”

ITEM NO.	ORDER BY PART NUMBER	QTY.	DESCRIPTION
1	MB-2292	1	....Pump Belt
2	MB-2205A	1	....Wing Hand Screw & Washer
3	MB-2363A	1	....Pump Clamp Nut
4	MB-2285A	1	....Tube & Spring Assembly <i>with</i> Clamp
5	PEM-334A	1	....Wire Hose Clamp
6	MB-2368A	1	....Hose Barb
7	MB-2365A	1	....Back Check
8	PF-319A	1	....Street Elbow (1 /4)
9	MB-2345A	1	....Pump <i>with</i>
10	MB-665	1	.....Screen Top Retainer <i>with</i>
11	MB-662	4	.....Screw (8-32 x 5/16 Self Tapping Binding Hd.)
12	MB-661A	1	.....Screen
13	MB-659	1	.....Screen Bottom Retainer
14	MB-656	1	.....Wing Nut (10-32)
15	MB-2275A	1	....Oil Reservoir <i>with</i>
16	MB-2281 A	1	.....Pipe Plug (3/8)
17	MB-2349A	1	....Pump Support <i>with</i>
18	MSA-219	2	.....Screw (1/4-20 x 1/2 Hex Hd. Cap)
19	MS-2262A	1	....Settlement Tray

N/S indicates Not Shown

SECTION II
HONING MACHINE BASE

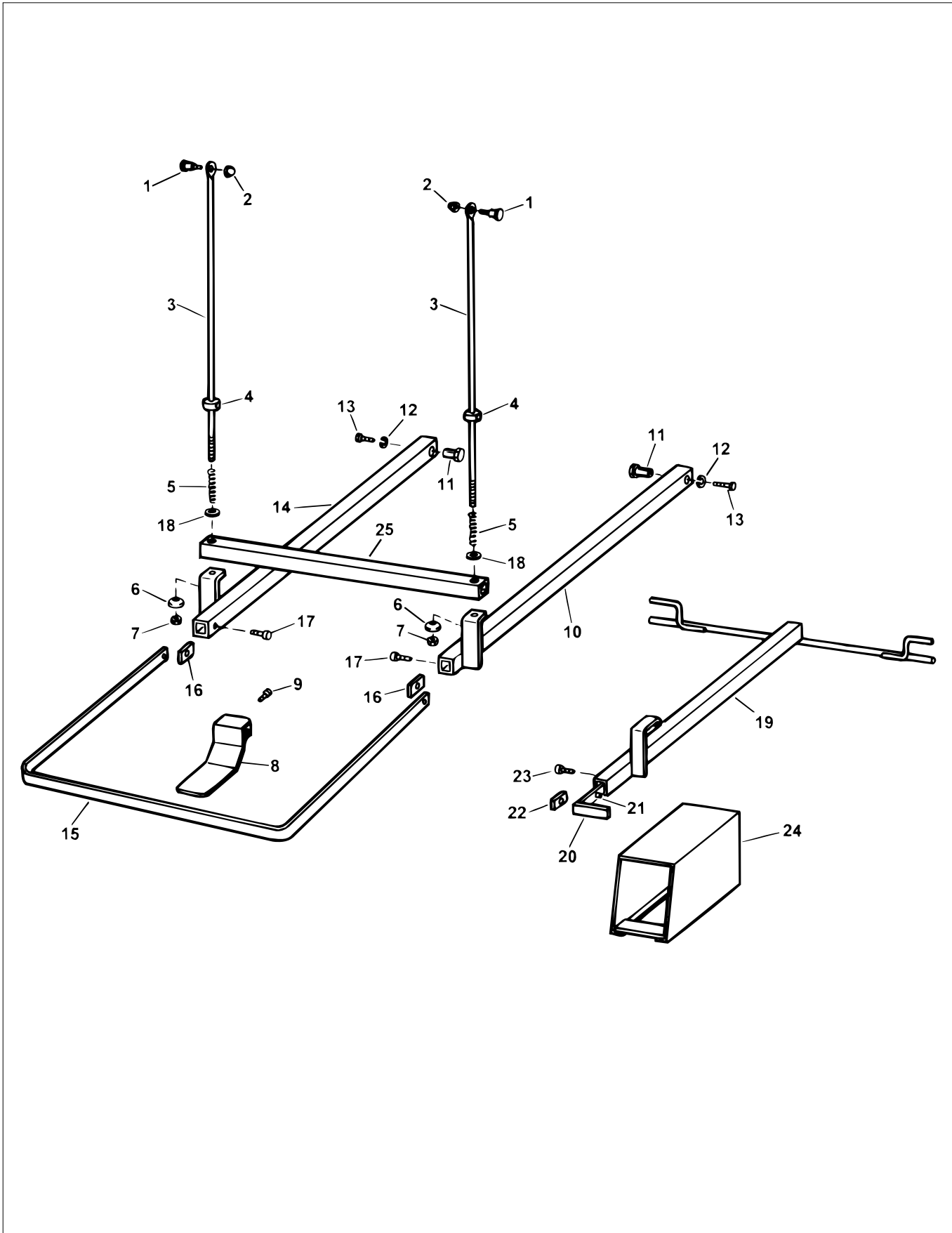


FIGURE E - FOOT PEDAL UNIT

PARTS LIST COVERING FIGURE "E"

ITEM NO.	ORDER BY PART NUMBER	QTY.	DESCRIPTION
1	PHS-594A	2	....Shoulder Screw (5/16 x 1/4 with 1/4-20 x 7/16 Thd.) (Pkg. of 1) with
2	PHN-121	1	.....Nut (1/4-20 Hex)
3	MB-2123A	2	....Pedal Link Assembly (Pkg. of 1) with
4	LBN-450C	1	.....Set Collar (Pkg. of 1) with
N/S	LBN-369	1	.....Set Screw (1/4-20 x 1/4 Soc. Cup Pt.)
5	PSP-308	1	.....Spring
6	MB-908	1	.....Spherical Washer
7	MB-907	1	.....Nut (3/8-16 Hex. Self Locking)
8	MB-2295A	1	....Thread Assembly with
9	KKN-37	1	.....Screw (5/16-18 x 1/2 Soc. Hd. Cap)
10	MB-3110A	1	....Foot Pedal Assembly - Right with
11	MB-2117A	1	.....Pedal Bushing
12	MAN-1223	1	.....Washer (3/8 Lock)
13	MAN-922	1	.....Screw (3/8-16 x 3/4 Hex. Hd. Cap)
14	MB-3115A	1	....Foot Pedal Assembly - Left with
11	MB-2117A	1	.....Pedal Bushing
12	MAN-1223	1	.....Washer (3/8 Lock)
13	MAN-922	1	.....Screw (3/8-16 x 3/4 Hex. Hd. Cap)
			FOLLOWING PARTS ARE FOR NON-CE MACHINES
15	MB-2122A	1	...."U" Bar
16	MB-2118	2	....Clamp Nut
17	MBB-971	2	....Screw (5/16-18 x 1 Soc. Hd. Cap)
18	LBN-452	2	....Washer (3/8 Plain)
			FOLLOWING PARTS ARE FOR CE MACHINES
19	MBC-710	1	....Pedal Assembly
20	MBC-720	1	....Pedal Extension Assembly
21	PHP-415	1	....Spring Pin
22	MB-2118	1	....Clamp Block
23	MBB-971	1	....Screw (5/16-18 x 1 Soc. Hd. Cap)
24	MBC-725	1	....Pedal Cover Assembly
25	MBC-728	1	....Pedal Yoke

N/S indicates Not Shown

SECTION II
HONING MACHINE BASE

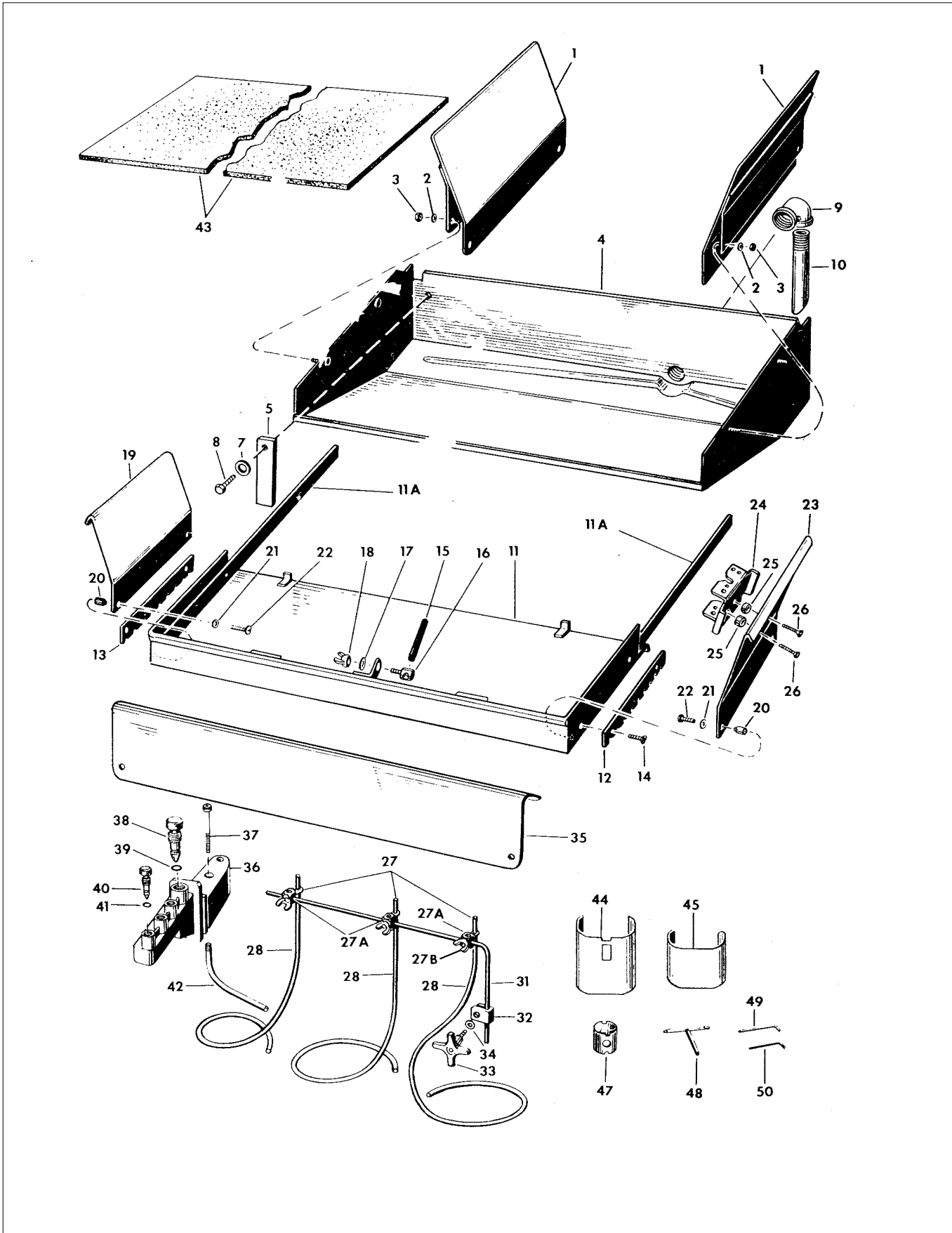


FIGURE F - DRIP TRAY & ACCESSORIES

PARTS LIST COVERING FIGURE "F"

ITEM NO.	ORDER BY PART NUMBER	QTY.	DESCRIPTION
1	MB-2230A	2	....Stationary Splash Guard (Pkg. of 1) <i>with</i>
2	MBB-982	4	.....Washer (1/4 Plain)
3	PHN-124	4	.....Nut (1/4-20 Hex Acorn)
4	MB-2220A	1	....Stationary Drip Tray <i>with</i>
5	MB-2224	2	.....Reinforcing Block
N/S		1	.....Caplug (Installed in right side panel of Drip Tray)
7	KN-99	2	.....Washer (3/8 Plain)
8	KN-422	2	.....Screw (3/8-16 x 1" Hex Hd. Cap)
9	MAN-1079A	1	....Elbow
10	MB-2228A	1	....Pipe Extension
11	MB-2235A	1	....Movable Tray Assembly <i>with</i>
11A	MB-2248A	2	.....Guide Rod
12	MB-2253	1	.....Detent Rail -Right
13	MB-2254	1	.....Detent Rail -Left
14	KN-972	4	.....Screw (10-24 x 3/8 Flat Hd. I.M.S.)
15	MB-2208A	1	....Rear Support Rod <i>with</i>
16	MB-2207	1	.....Rear Support Clamp
17	KN-568	1	.....Washer (5/16 Plain)
18	PHN-116	1	.....Wing Nut (5/16-24)
19	MB-2249A	1	....Movable Splash Guard <i>with</i>
20	MB-2251	1	.....Spacer
21	CRG-868	1	.....Washer (3/16 Plain)
22	PHS-601	1	.....Screw (10-24 x 5/8 But.,Hd. Cap)
23	MB-2258A	1	....Movable Splash Guard <i>with</i>
20	MB-2251	1	.....Spacer
21	CRG-868	1	.....Washer (3/16 Plain)
22	PHS-601	1	.....Screw (10-24 x 5/8 But. Hd. Cap)
24	MB-2256A	1	....Accessory Holder <i>with</i>
25	MB-2257	2	.....Spacer
26	PG-724	2	.....Screw (10-32 x 3/4 Soc. Flat Hd. Cop)
27	MB-2185A	3	....Jet Assembly (Pkg. of 1) <i>with</i>
27A	MB-2194A	3	.....Jet Clamp Pkg. of 1)
27B	PHN-116	3	.....Wing Nut
28	MB-2193A	3	....Flexible Tube Feeder (Pkg. of 1)
31	MB-2202A	1	....Support Rod
32	MB-2203A	1	....Support Rod Clamp
33	MB-2205A	1	....Wing Hand Screw Assembly <i>with</i>
34	KN-538	1	.....Washer (1/2 Plain)
35	MB-2252A	1	....Front Splash Guard
36	MB-2170A	1	....Valve Body Assembly <i>with</i>
37	PHS-599	1	.....Screw (1/4-20 x 2" Soc. Hd. Cap)
38	MB-2177A	1	.....Inlet Stem <i>with</i>
39	MB-2184A	1	....."O" Ring
40	MB-2176A	3	.....Outlet Stem (Pkg. of 1) <i>with</i>
41	MB-2182A	3	....."O" Ring (Pkg. of 3)
42	MB-2189A	1	.....Pipe
43	MB-2328C	2	....Anti-Splash Pad (Upper & Lower) Pkg. of 2
44	MBB-989A	1	....Spindle Nose Cover <i>with</i>
45	MBB-990A	1	.....Spindle Nose Cover Extension
47	LN-570A	1	....Concentric Sleeve
48	LBN-462A	1	....Mandrel Wrench
49	KN-575A	1	....Hex Key Wrench (5/32 across flats) Supplied in PHS-50A
50	KN-574A	1	....Hex Key Wrench (1/8 across flats) Supplied in PHS-50A
N/S	PHS-50A	1	....Hex Key Kit

N/S indicates Not Shown

SECTION II
HONING MACHINE BASE

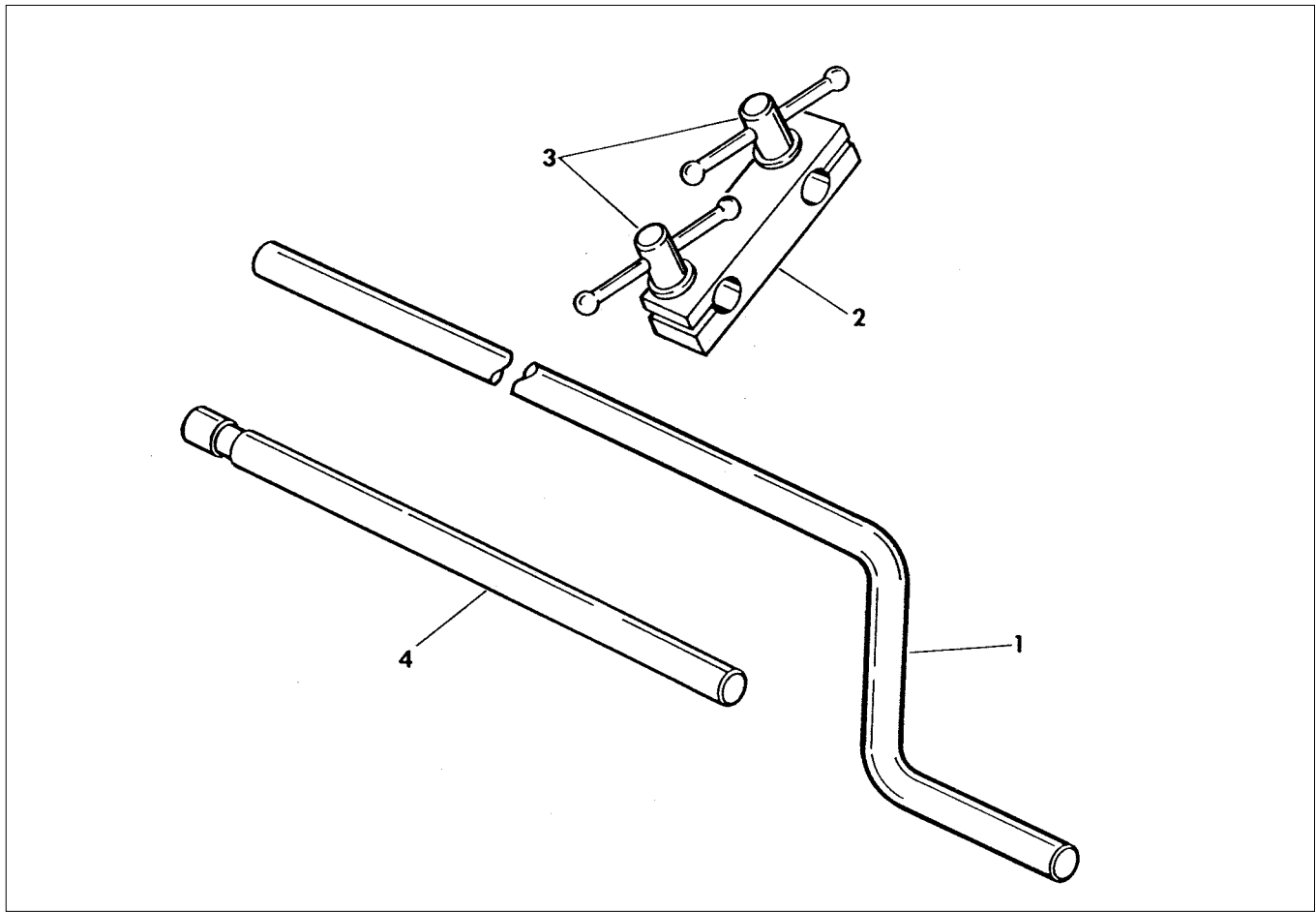


FIGURE G – WORK SUPPORT (Optional)

PARTS LIST COVERING FIGURE “G”

ITEM NO.	ORDER BY PART NUMBER	QTY.	DESCRIPTION
1	MB-2333A	1	....Offset Bar (23in./584mm)
2	LBN-738A	1	....Arm, Support with
3	MB-2325A	2	.....Handle Screw
N/S	KN-538	2	.....Washer (1/2 Plain)
4	LBN-721A	1	....Offset Bar (13in./330mm)

N/S indicates Not Shown

SECTION III - GUARDS

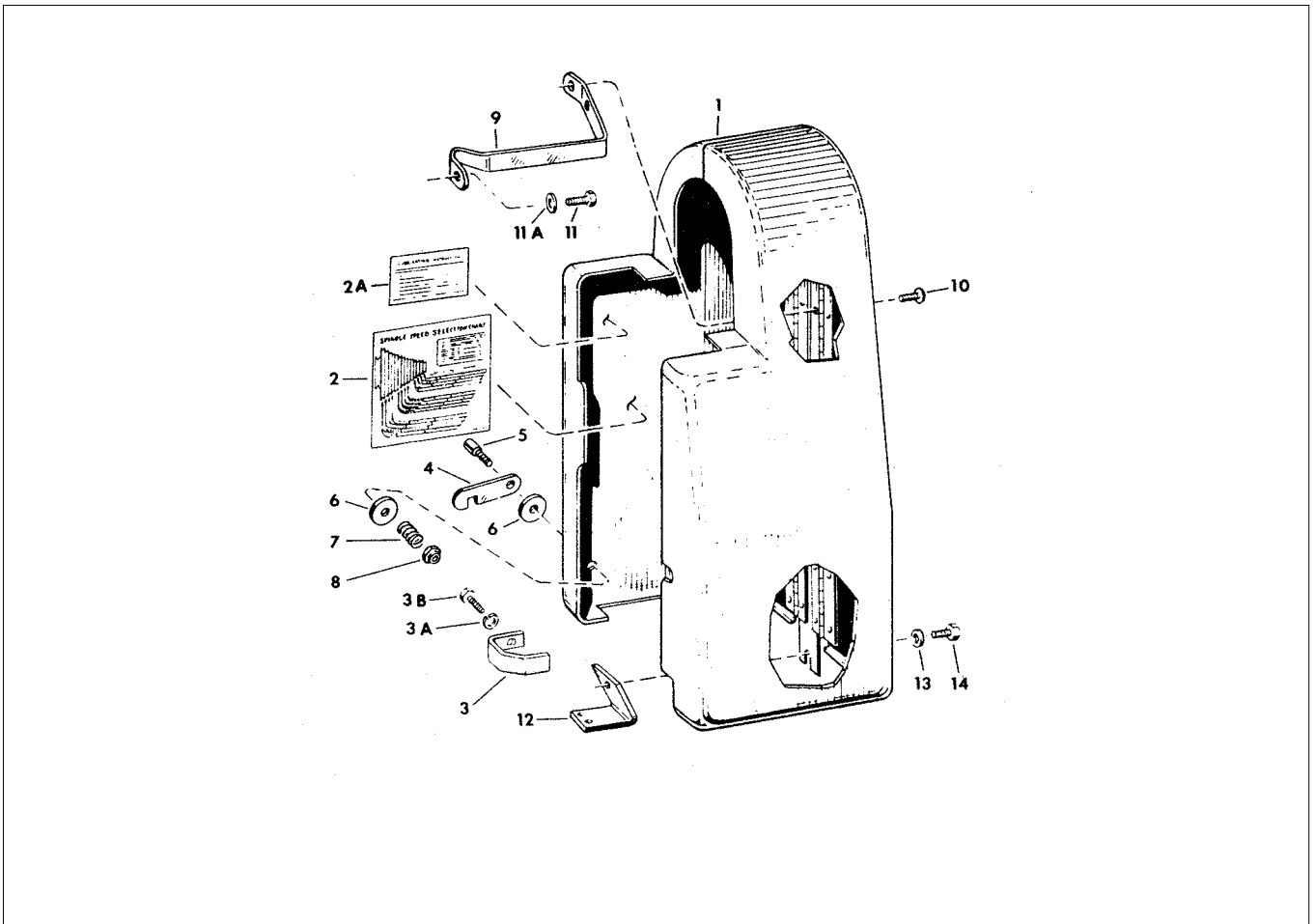


FIGURE H - BELT GUARD ASSEMBLY

PARTS LIST COVERING FIGURE "H"

ITEM NO.	ORDER BY PART NUMBER	QTY.	DESCRIPTION
1	MBB-2610A	1	....Belt Guard Assembly complete with
2	PNP-411A	1	.....Speed Selection Chart
2A	PNP-214A	1	.....Lubrication Chart
3	MBB-2545A	1	.....Knob & Bracket Assembly with
3A	PHW-118	1	.....Washer (1/4 Lock)
3B	MSA-219	1	.....Screw (1/4-20 x 1/2 Hex Hd. Cap)
4	MBB-807A	1	.....Latch with
5	MBB-806	1	.....Latch Pivot
6	MBB-804	2	.....Washer (1/4 Special)
7	AN-15	1	.....Spring
8	PHN-121	1	.....Locknut (1/4-20 Hex)
9	MBB-1019A	1	.....Upper Support
10	PHS-506	1	.....Screw (10-32 x 3/8 But. Hd. Cap)
11	MAN-1028	1	.....Screw (1/4-20 x 3/4 Hex Hd. Cap)
11A	LBN-401	1	.....Washer (1/4 Plain)
12	MB-2109A	1	....Belt Guard Bracket with
13	KN-568	1	.....Washer (5/16 Plain)
14	LBN-386	1	.....Screw (5/16-18 x 1/2 Hex Hd. Cap)

N/S indicates Not Shown

SECTION IV - 3-PHASE MACHINES

PARTS LIST COVERING 3-PHASE MACHINES

ITEM NO.	ORDER BY PART NUMBER	QTY.	DESCRIPTION
N/S	MBB-742C	1	....Motor Starting Switch <i>with</i>
N/S		3	.....Screw (10-32 x 3/8 Rd. Hd.)
N/S		3	.....Nut (10-32 Hex)
N/S	MBB-743A	1	....Switch Bracket
N/S	PEC-113A	1	....Cable Connector - At Switch
N/S	PEC-114A	1	....Cable Connector - At Motor

N/S indicates Not Shown

HEATER ELEMENTS & FUSES

Since heater elements and fuses may change with different models of motors and controls, replacements must be ordered by supplying the number appearing on the heater elements or fuses in your control box.

Heater elements are sold one per package, supplied from stock or contact your local electrical distributor if desired.

NOTE: Three Phase and Single Phase Machines are identical except for electrical parts and their mounting. This Parts List covers common replacement items, for other parts listed contact Customer Service, Sunnen Products Co. Always specify Operating Voltage, Frequency (Cycles per second) and Phase, when ordering any electrical part.

PARTS LIST COVERING 3-PHASE JIC MACHINES

ITEM NO.	ORDER BY PART NUMBER	QTY.	DESCRIPTION
N/S	MBB-768C	1	....Motor Starter
N/S	MBB-767A	1	....Push Button Control Station (Allen-Bradley)
N/S	MBB-752A	1	....Mounting Bracket (For Push Button Control Station)
N/S	MB-2263A-JIC	1	....Rear Cover - Right
N/S	MBB-2610A-JIC	1	....Belt Guard Assembly
N/S	PEM-519A	1	....Transformer

N/S indicates Not Shown

NOTE: Since control box components may vary in size, location, or manufacturer, ALWAYS SPECIFY PART NAME, CATALOG NUMBER, SIZE, ELECTRICAL SPECIFICATIONS and VOLTAGE AS LISTED ON COMPONENT, AND ALSO SUPPLY SERIAL NUMBER OF MACHINE.

HEATER ELEMENTS & FUSES

Since heater elements and fuses may change with different models of motors and controls, replacements must be ordered by supplying the number appearing on the heater elements or fuses in your control box.

Heater elements are sold one per package, supplied from stock or contact your local electrical distributor if desired.

NOTE: Three Phase and Single Phase Machines are identical except for electrical parts and their mounting. This Parts List covers common replacement items, for other parts listed contact Customer Service, Sunnen Products Co. Always specify Operating Voltage, Frequency (Cycles per second) and Phase, when ordering any electrical part.

Like any machinery, this equipment may be dangerous if used improperly. Be sure to read and follow the instructions for the operation of the equipment.

FRACTION / DECIMAL / MILLIMETER EQUIVALENTS CHART

INCH			INCH			INCH		
FRACTION	DECIMAL	MILLIMETER	FRACTION	DECIMAL	MILLIMETER	FRACTION	DECIMAL	MILLIMETER
....	.003937	0,1000	9/32	.281250	7,1438	21/32	.656250	16,6688
....	.007874	0,2000	19/64	.296875	7,5406	....	.669291	17,0000
....	.011811	0,3000	5/16	.312500	7,9375	43/64	.671875	17,0656
1/64	.015625	0,3969	....	.314961	8,0000	11/16	.687500	17,4625
....	.015748	0,4000	21/64	.328125	8,3344	45/64	.703125	17,8594
....	.019685	0,5000	11/32	.343750	8,7313	....	.708661	18,0000
....	.023622	0,6000	....	.354331	9,0000	23/32	.718750	18,2563
....	.027559	0,7000	23/64	.359375	9,1281	47/64	.734375	18,6531
1/32	.031250	0,7938	3/8	.375000	9,5250	....	.748031	19,0000
....	.031496	0,8000	25/64	.390625	9,9219	3/4	.750000	19,0500
....	.035433	0,9000	....	.393701	10,0000	49/64	.765625	19,4469
....	.039370	1,0000	13/32	.406250	10,3188	25/32	.781250	19,8438
3/64	.046875	1,1906	27/64	.421875	10,7156	....	.787402	20,0000
1/16	.062500	1,5875	....	.433071	11,0000	51/64	.796875	20,2406
5/64	.078125	1,9844	7/16	.437500	11,1125	13/16	.812500	20,6375
....	.078740	2,0000	29/64	.453125	11,5094	....	.826772	21,0000
3/32	.093750	2,3813	15/32	.468750	11,9063	53/64	.828125	21,0344
7/64	.109375	2,7781	....	.472441	12,0000	27/32	.843750	21,4313
....	.118110	3,0000	31/64	.484375	12,3031	55/64	.859375	21,8281
1/8	.125000	3,1750	1/2	.500000	12,7000	....	.866142	22,0000
9/64	.140625	3,5719	....	.511811	13,0000	7/8	.875000	22,2250
5/32	.156250	3,9688	33/64	.515625	13,0969	57/64	.890625	22,6219
....	.157480	4,0000	17/32	.531250	13,4938	....	.905512	23,0000
11/64	.171875	4,3656	35/64	.546875	13,8906	29/32	.906250	23,0188
3/16	.187500	4,7625	....	.551181	14,0000	59/64	.921875	23,4156
....	.196850	5,0000	9/16	.562500	14,2875	15/16	.937500	23,8125
13/64	.203125	5,1594	37/64	.578125	14,6844	....	.944882	24,0000
7/32	.218750	5,5563	....	.590551	15,0000	61/64	.953125	24,2094
15/64	.234375	5,9531	19/32	.593750	15,0813	31/32	.968750	24,6063
....	.236220	6,0000	39/64	.609375	15,4781	....	.984252	25,0000
1/4	.250000	6,3500	5/8	.625000	15,8750	63/64	.984375	25,0031
17/64	.265625	6,7469	....	.629921	16,0000	1	1.000000	25,4000
....	.275591	7,0000	41/64	.640625	16,2719	1-1/16	1.062500	26,9880

FORMULAS:

MULTIPLY BY TO GET
 INCHES (in) x 25.4 = MILLIMETERS (mm)
 FEET (ft) x 0.3048 = METERS (m)

MULTIPLY BY TO GET
 MILLIMETERS (mm) x 0.03937 = INCHES (in)
 METERS (m) x 3.281 = FEET (ft)

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