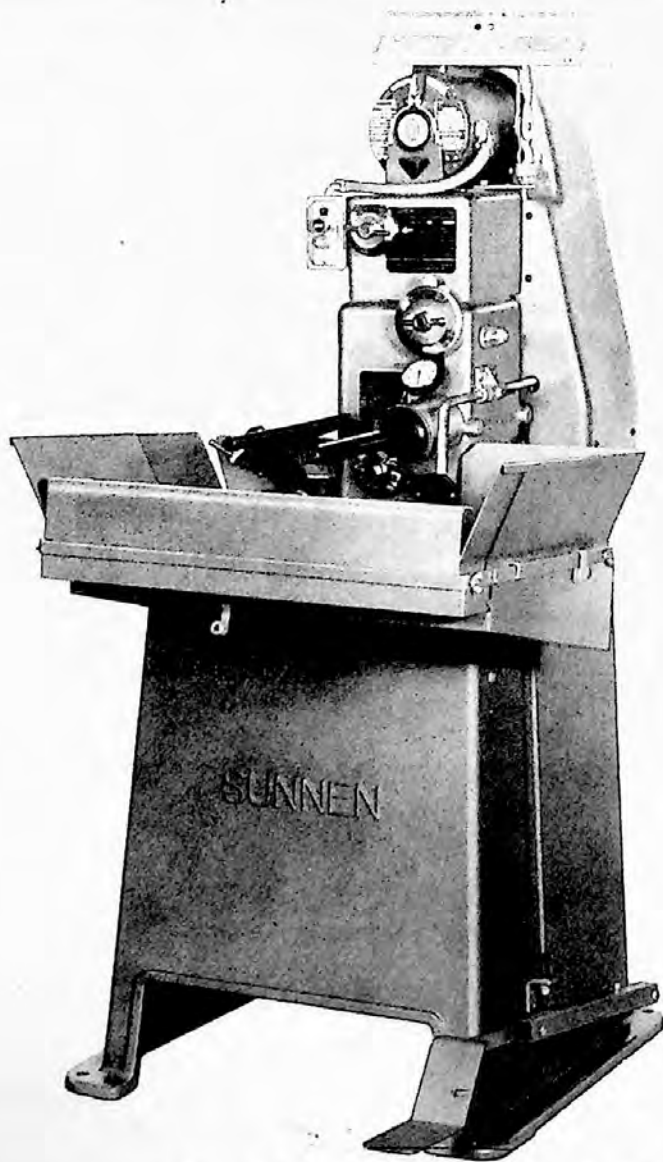


SUNNEN[®]

**REPAIR PARTS
CATALOG**

**INDUSTRIAL
HONING
MACHINES**



PARTS CATALOG

HONING MACHINES

MBB-1600

MBB-1600 JIC

MBB-1600 MS

SUNNEN PRODUCTS COMPANY

7910 Manchester Avenue

St. Louis, Missouri 63143

Sunnen Products Co., Ltd.,
Trademark Licensee

Chatham, Ontario

FORM X-MBB-5026C

INTRODUCTION

This parts catalog covers Sunnen Industrial Models MBB-1600, MBB-1600 JIC and MBB-1600 MS Precision Honing Machines.

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. Items 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. It is important to replace such an item with one having the same dimensions as the original.

CONTENTS

Section I — Honing Machine Head	Page 4
Section II — Coolant Pump & Base Sub-Assembly	Page 14
Section III — Miscellaneous Parts	Page 17

HOW TO ORDER

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

1. The model and serial number of the honing machine, obtained from the name plate.
2. The part number and description of each part desired, obtained from this parts catalog.
3. The quantity of each part desired.

SUNNEN PRODUCTS COMPANY
7910 MANCHESTER AVENUE
ST. LOUIS, MISSOURI 63143
PHONE: 314 ST. 1-2100

TELEX: 044-888

Canadian Plant: Chatham, Ontario

HOW TO USE THIS PARTS CATALOG

- Step 1. — Locate desired part on the proper illustration. Note its item number.
- Step 2. — Locate this item number in the parts list pertaining to the illustration.
- Step 3. — If the item has a part number listed, order by this part number and the description. Part numbers in light face type indicate sub-assemblies, which are also obtainable as a component of a preceding part number.
- Step 4. — If no part number is listed, order the part number of the unit of which the desired part is a component. Remember — **order only by part number and description** — never by item number.

STEP 1 points to part 5 in the main diagram.

STEP 2 points to part 5 in the parts list.

STEP 3 points to part 6 in the parts list.

STEP 4 points to part 2 in the parts list.

PARTS LIST COVERING FIGURE "C"

ITEM NO.	ORDER BY PART NUMBER	QUANTITY PER MACHINE	DESCRIPTION
1	MBB-913A	1	... Idler Shaft
2	LBN-490A	1	... Tension Assembly Unit <i>consists of</i>
		1	... Tension Lug
		1	... Set Screw (3/8-16 x 5/8 Hex Soc. Cup Pt. Nylok)
		1	... Tension Arm Assembly
		1	... Tension Screw Spring
		1	... Tension Adjusting Screw (1/4-20 x 4" Fil. Hd. Cap)
		1	... Tension Bolt (1/4-20 x 4-3/4 Hex. Hd. Cap, Special)
		1	... Nut (1/4-20 Hex)
		1	... Cotter Pin (1/16 Dia. x 1/2 Long)
		1	... Spring Set (2)
6	LBN-489A	1	... Set Collar <i>with</i>
		1	... Set Screw (1/4-20 x 3/8 Soc. Hd. Cup Pt.)
8	LBA-334A	1	... Tension Arm Spring
9		1	... Spring Anchor
10	LBN-404A	1	... Crank Arm Spring
11	LBA-395A	1	... Feed Arm Link Assembly

SECTION I HONING MACHINE HEAD ASSEMBLY

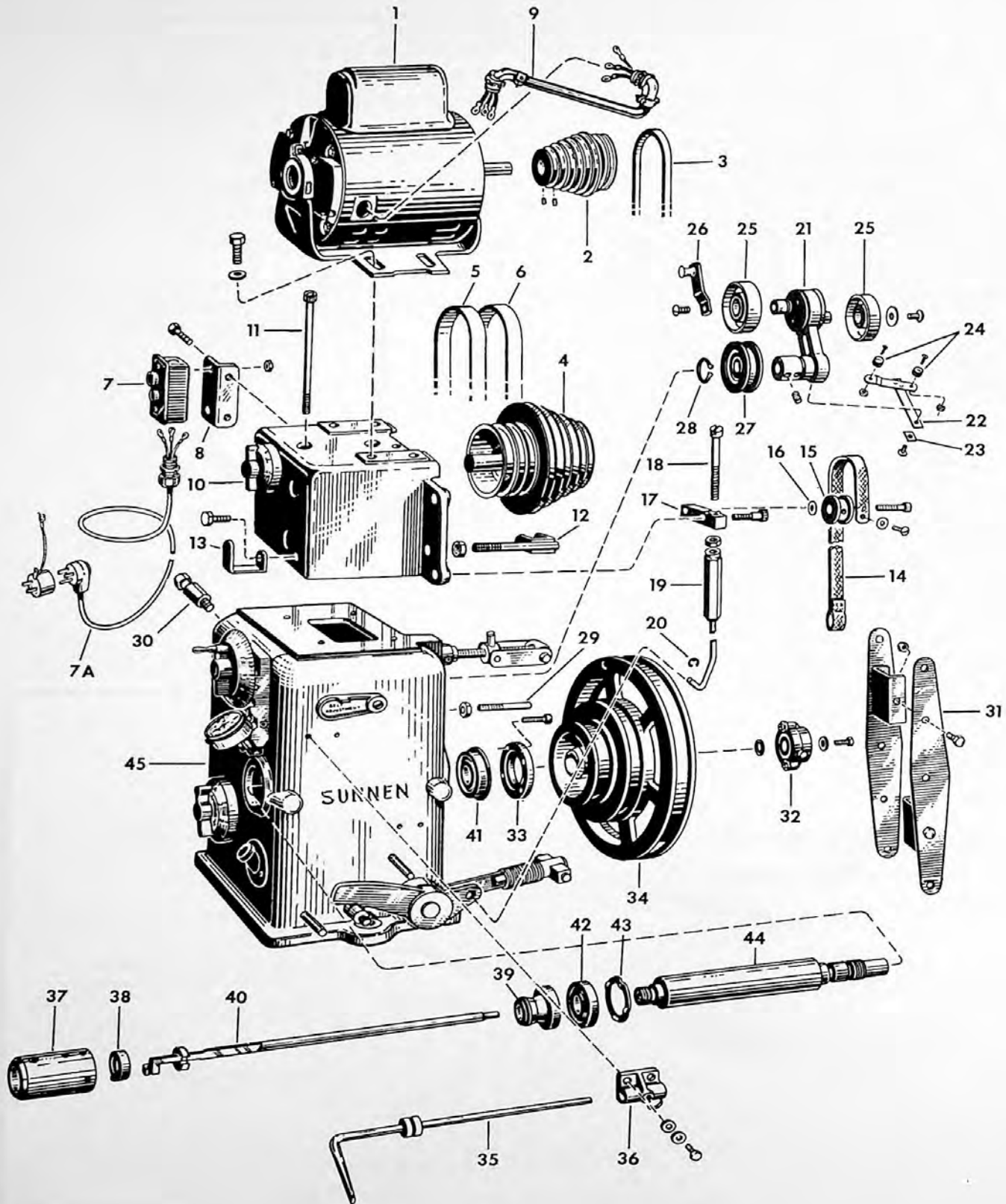


Figure A - Honing Machine Head For Model MBB-1600

PARTS LIST COVERING FIGURE "A"

SECTION I
HONING MACHINE HEAD ASSEMBLY

ITEM NO.	ORDER BY PART NUMBER	QUANTITY PER MACHINE	DESCRIPTION
1	MBB-512H	1	. . . * Motor (1/2 H.P., Nema 56 Frame, Open Type, 115/230V, 60 Cy., 1 PH., 1725 RPM., Capacitor Type, 5/8 Dia. Shaft)
		4	. . . . . Screws (5/16-18 x 3/4 Hex Hd. Cap)
		4	. . . . . Washers (5/16 Plain)
2	MBB-822A	1	. . . . Drive Pulley <i>with</i>
		2	. . . . . Set Screws (1/4-20 x 1/2 Soc. Hd. Full Dog. Pt.)
3	MBB-820	1	. . . . "V" Belt (Mfg. No. 3V250)
4	MBB-865A	1	. . . . Countershaft Pulley <i>with</i> Bearing
5	MBB-910	1	. . . . Flat Belt (37-1/4 Long) (High Speed)
6	MBB-810	1	. . . . Flat Belt (47-1/8 Long) (Low Speed)
7	LBA-434C	1	. . . * Motor Switch Assembly <i>includes</i> Switch Case <i>with</i>
	LBA-434D	1	. . . . . * Motor Switch
		2	. . . . . Screws (1/4-20 x 3/8 Rd. Hd.)
		2	. . . . . Nuts (1/4-20 Hex)
7A	LBN-305C	1	. . . . Cord Set
8	LBB-814A	1	. . . * Switch Bracket <i>with</i>
		2	. . . . . Screws (1/4-20 x 3/8 Hex Hd. Cap)
9	MBB-937A	1	. . . * Wire Lead & Connector Set
10			. . . . Upper Housing Assembly (See Fig. D)
11		2	. . . . Screw (3/8-16 x 6 Soc. Hd. Cap)
12	MBB-965A	1	. . . . Belt Guide <i>with</i>
		1	. . . . . Nut (5/16-18 Hex Jam)
13	MBB-816A	1	. . . . Dial Pointer <i>with</i>
		1	. . . . . Screw (1/4-20 x 3/8 Hex Hd. Cap)
14	MBB-969A	1	. . . . Brake Strap <i>with</i>
		1	. . . . . Screw (10-32 x 3/8 Rd. Hd.)
		1	. . . . . Washer (Bent)
15	MBB-973A	1	. . . . Brake Cam <i>with</i>
		1	. . . . . Screw (5/16-18 x 1 Soc. Hd. Cap)
16		1	. . . . . Washer (5/16 Serrated Lock)
17	MBB-978A	1	. . . . Brake Lever <i>with</i>
		1	. . . . . Shoulder Screw (5/16-18 x 5/8 Soc. Hd.)
18	MBB-968A	1	. . . . Brake Adjusting Screw <i>with</i>
		1	. . . . . Nut (1/4-20 Hex)
19	MBB-985A	1	. . . . Brake Rod Assembly <i>with</i>
20	MBB-976A	1	. . . . . Retaining Ring (Truarc No. 5133-25)

* This part is for MBB-1600; the MBB-1600 JIC and MBB-1600 MS Machines differ only in electrical parts and their mounting. See Page 11.

SECTION I
HONING MACHINE HEAD ASSEMBLY

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

ITEM NO.	ORDER BY PART NUMBER	QUANTITY PER MACHINE	DESCRIPTION
21	MBB-1060A	1	.... Idler Assembly <i>consists of items 21 thru 28</i>
	MBB-1055A	1	..... Idler Arm Assembly (Less Pulleys) <i>with items 22, 23 & 24</i>
		2	..... Set Screw (5/16-18 x 5/16 Soc. Hd. Cup Pt.)
22	MBB-1030A†	1	..... Idler Brake <i>with items 23 & 24</i>
23		1	..... Clamp Plate
		1	..... Screw (1/4-20 x 3/8 Button Hd.)
24	MBB-1026A†	1	..... Rubber Bumper Set (2) <i>with</i>
		2	..... Screw
		2	..... Nut (6-32 Hex)
25	MBB-915A	2	..... Idler Pulley Assembly <i>with</i>
		2	..... Washer (1/4 Plain)
		2	..... Screw (1/4-20 x 3/8 Button Hd.)
26	MBB-905A	1	..... Shift Lever <i>with</i>
		1	..... Screw (1/4-20 x 3/8 Button Hd.)
27	MBB-925A	1	..... Flanged Idler Assembly <i>with</i>
28	MBB-923A	1	..... Retaining Ring (Truarc No. 5101-118)
29	MBB-927A	1	.... Brake Anchor <i>with</i>
		1	..... Nut (3/8-16 Hex)
30	MBB-1017A	1	.... Belt Cover Latch Pin
31	LBN-385A	1	.... Feed Arm Assembly <i>with</i>
		4	..... Screws (5/16-18 x 1/2 Hex Hd. Cap)
		4	..... Nuts (5/16-18 Hex)
32	MBB-365A	1	.... Thrust Assembly <i>with</i>
		1	..... Screw (3/8-16 x 3/4 Soc. Hd. Cap) (Special)
		1	..... Washer (3/8 Ground Flat)
		1	..... Washer (.555 Ground Flat)
33	MBB-358A	1	.... Bearing Retainer Plate <i>with</i>
		4	..... Screws (10-32 x 5/8 Soc. Hd. Cap)
34	MBB-956A	1	.... Spindle Pulley
35	MAN-375A	1	.... Stroking Stop Rod <i>with</i>
36		1	..... Bracket
		1	..... Thumb Screw (1/4-20 x 5/8)
		2	..... Screw (1/4-20 x 3/4 Hex)
		4	..... Washer (1/4 Plain)
37	MBB-343A	1	.... Spindle Nose <i>with</i>
		1	..... Set Screw (1/2-13 x 7/16 Soc. Hd. Flat Pt.)
		4	..... Set Screw (5/16-24 x 7/16 Soc. Hd. Flat Pt.)
38	MBB-642A	1	..... Drive Plate <i>and</i>
		1	..... Set Screw (1/4-20 x 3/8 Soc. Hd. Full Dog Pt.)
39	MBB-352C	1	.... Spindle Flange
40	MBH-648A	1	.... Feed Rod Assembly <i>with</i>
		1	..... Screw (3/8-16 x 3/4 Soc. Hd. Cap)
		1	..... Washer (3/8 Ground Flat)
		1	..... Washer (.555 Ground Flat)
	MBB-335A	1	.... Spindle Bearing Set <i>consists of</i>
41		1	..... Bearing <i>with</i> Snap Ring (Rear)
42		1	..... Bearing (Front)
43		1	..... Spring Washer
44	MBB-341C	1	.... Spindle
45		1	.... Lower Housing Assembly (See Fig. C)

†Early model MBB-1600 Machines used a different Idler Brake (spring steel brake against I.D. of Idler Pulley) than the one shown in Fig. A, and they are not interchangeable. The part number for the old style Idler Brake is MBB-922.

PARTS LIST COVERING FIGURE "B"

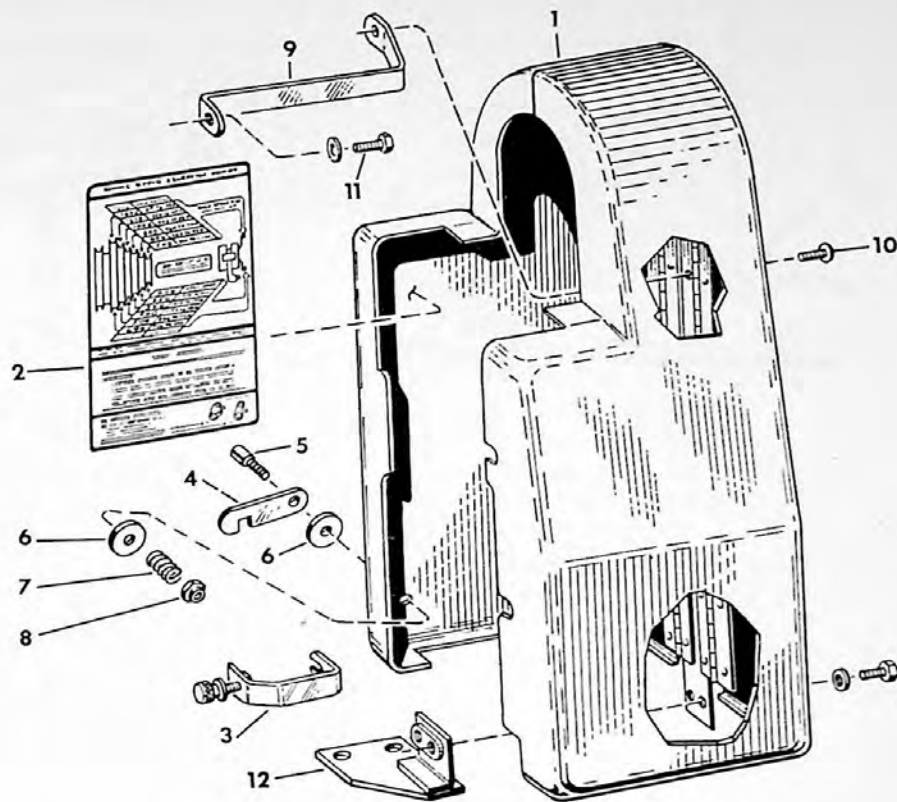


Figure B - Belt Guard

ITEM NO.	ORDER BY PART NUMBER	QUANTITY PER MACHINE	DESCRIPTION
1	MBB-1015A	1	..... Belt Cover Assembly <i>Complete with</i>
2	MBB-809A ‡	1	..... Speed Change Chart
3	MBB-1020A	1	..... Bracket & Knob Assembly
4	MBB-807A ‡	1	..... Latch <i>with</i>
5		1	..... Latch Pivot
6		2	..... Washer (1/4 Special)
7		1	..... Spring
8		1	..... Nut (1/4-20 Hex Self Locking)
9		1	..... Upper Support
10		1	..... Screw (10-32 x 3/8 Button Hd. Soc. Cap)
		1	..... Spacer
11		1	..... Screw (1/4-20 x 7/8 Hex. Hd. Cap)
		1	..... Washer (1/4 Plain)
		1	..... Upper Idler Bracket
		2	..... Washer (3/8 Plain)
		2	..... Nut (3/8-16 Hex)
12	MBB-1006A	1	..... Hinge Support Foot <i>with</i>
		2	..... Washer
		2	..... Screw

‡Belt Guards on MBB-1600 Machines prior to serial number 42250 had only one hinge. Later models are equipped with two hinges. The parts marked "‡" will fit both belt guards. All other parts will fit only the two-hinge model, illustrated, therefore it is necessary to replace the entire belt guard when any of these parts are needed on the single hinge model.

**SECTION I
HONING MACHINE HEAD ASSEMBLY**

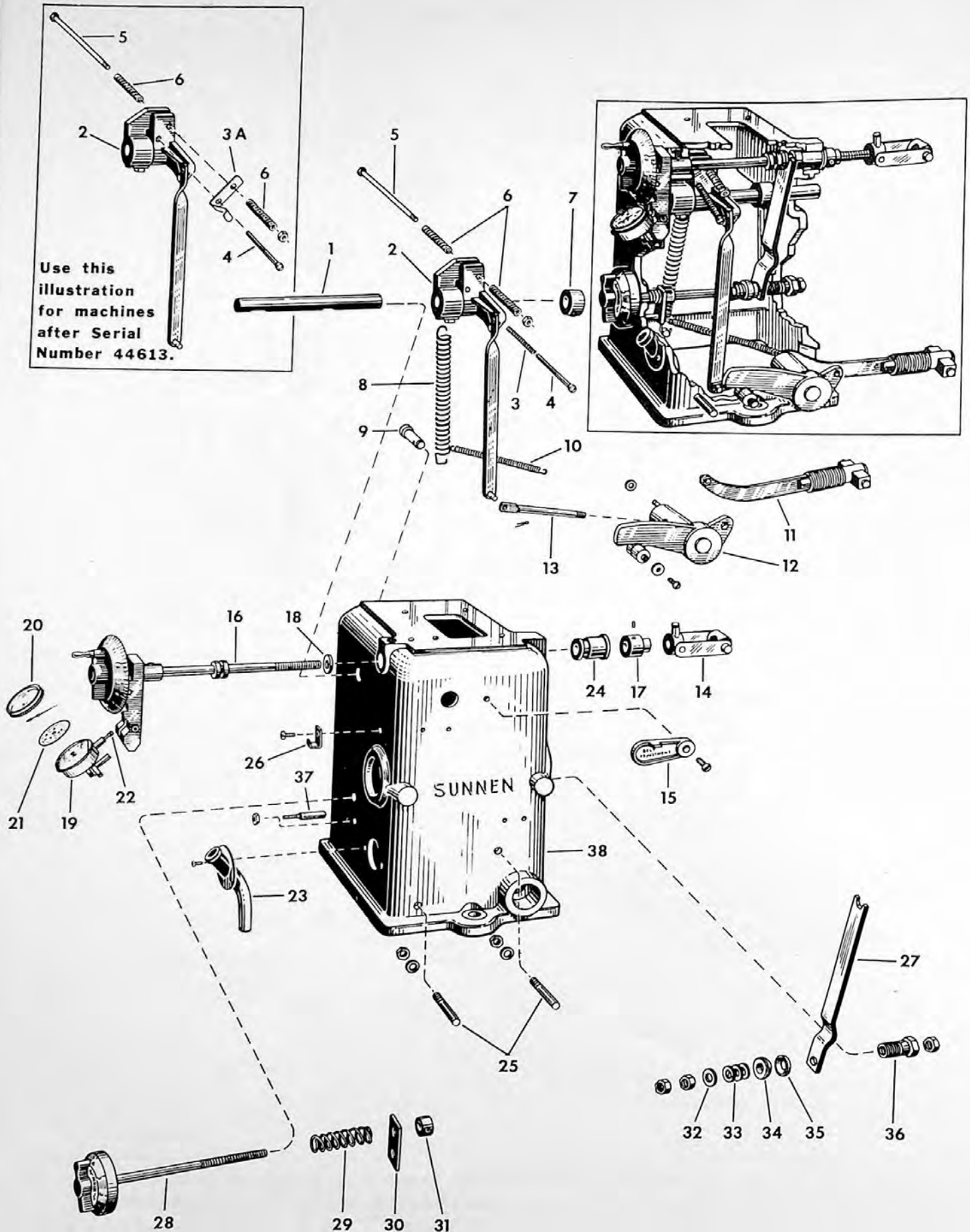


Figure C - Honing Machine Head Lower Housing Assembly

PARTS LIST COVERING FIGURE "C"

ITEM NO.	ORDER BY PART NUMBER	QUANTITY PER MACHINE	DESCRIPTION
1	MBB-913A	1	.... Idler Shaft
2	LBN-490A	1	.... Tension Assembly Unit <i>consists of</i>
		1	..... Tension Lug
		1	..... Set Screw (3/8-16 x 5/8 Hex Soc. Cup Pt. Nylok)
		1	..... Tension Arm Assembly
3*		1	..... Tension Screw Spring
3A**		1	..... Tension Screw Spring
4		1	..... Tension Adjusting Screw (1/4-20 x 4" Fil. Hd. Cap)
5		1	..... Tension Bolt (1/4-20 x 4-3/4 Hex. Hd. Cap, Special)
		1	..... Nut (1/4-20 Hex)
		1	..... Cotter Pin (1/16 Dia. x 1/2 Long)
6	LBN-489A	1	..... Spring Set (2)
7	LBN-337A	1	.... Set Collar <i>with</i>
		1	..... Set Screw (1/4-20 x 3/8 Soc. Hd. Cup Pt.)
8	LBA-334A	1	.... Tension Arm Spring
9		1	.... Spring Anchor
10	LBN-404A	1	.... Crank Arm Spring
11	LBA-395A	1	.... Feed Arm Link Assembly
12	MBB-975A	1	.... Stub Crank Arm <i>with</i>
13	LBN-403A	1	..... Crank Arm Pin <i>and</i>
		1	..... Cotter Pin (1/16 x 1/2 Long)
		1	..... Washer (1/4 Plain)
		1	..... Screw (10-32 x 3/8 Rd. Hd.)
		1	..... Washer (3/16 Plain)
14	LBA-381A	1	.... Adjusting Nut Assembly
15	LBA-492A	1	.... Cover Plate <i>with</i>
		1	..... Screw (1/4-20 x 3/4 Rd. Hd.)
16	MBB-418C	1	.... Feed Screw Set <i>with</i>
17	MBB-986A	1	..... Set Collar <i>and</i>
		1	..... Set Screw (1/4-20 x 1/4 Soc. Hd. Cup Pt.)
18		1	..... Fiber Washer
19	MBB-707A	1	.... Dial Indicator & Pin Assembly <i>Complete with</i>
20	MBB-708A	1	..... Dial Indicator Bezel & Crystal
21	MBB-709A	1	..... Dial Indicator Face
22	MBB-705A	1	..... Cushion Indicator Tip
23	MAN-1064A	1	.... Oil Line Guide <i>with</i>
		2	..... Screws (10-32 x 3/8 Rd. Hd.)
24	LBA-367C	1	.... Sleeve

* For machines prior to Serial Number 44614.

** For machines after Serial Number 44613.

SECTION I
HONING MACHINE HEAD ASSEMBLY

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

ITEM NO.	ORDER BY PART NUMBER	QUANTITY PER MACHINE	DESCRIPTION
25	LBN-406A	2	..... Stop Pin <i>with</i>
		2	..... Washer (5/16 Plain)
		2	..... Nut (5/16-18 Hex)
26	MAN-991A	1	..... Spindle Nose Cover Clip <i>with</i>
		1	..... Screw (10-32 x 3/8 Rd. Hd.)
27	LBA-446A	1	..... Lever
28	MBB-950A	1	..... Pressure Dial <i>with</i>
29		1	..... Spring
30		1	..... Plate
31	LBN-450C	1	..... Set Collar <i>with</i>
		1	..... Set Screw (1/4-20 x 1/4 Soc. Hd. Cup Pt.)
		3	..... Nut (3/8-24 Hex)
		1	..... Washer (3/8 Hardened)
32		1	..... Spring
33	LBA-453A	1	..... Spherical Washer <i>with</i>
34	LBA-445A	1	..... Socket
35		1	..... Thread Nut
36	LBA-456A	1	..... Pin <i>with</i>
37	LBA-438C	1	..... Nut (10-32 Hex)
		1	
38		1	..... Lower Housing

**SECTION I
HONING MACHINE HEAD ASSEMBLY**

PARTS LIST COVERING MBB-1600 JIC MACHINE

ORDER BY PART NUMBER	QUANTITY PER MACHINE	DESCRIPTION
		NOTE: MBB-1600 JIC and MBB-1600 Machines are identical except for electrical parts and their mounting as listed below.
	1	. . . . Upper Housing
PMO-301A	1	. . . . Motor (1/2 H.P., Nema 56 Frame, Totally Enclosed, Non.Vent., 208/220/440V, 60/50 Cy., 3 Ph., 1725/1425 RPM, 5/8 Dia. Shaft)
MAN-1220A- JIC	1	. . . . Pedestal
MBB-768A	1	. . . . Motor Starter (Allen-Bradley Bulletin 712BJB43, Series K, Nema Size 1, Form 2T, Non Fusible, Enclosure Nema Type 12, With Std. Capacity Control Transformer)
	2	. . . . Heater Coils For Above Starter For Operating Above Motor on 220V., 60 Cy., (Allen-Bradley Type No. N13)
	2	. . . . Heater Coils For 440V., 60 Cy., (Allen-Bradley Type No. N6)
MBB-750A	1	. . . . Mounting Bracket For Starter <i>with</i>
	3	. . . . . Screw (1/4-20 x 1/2 Hex Hd. Cap)
	4	. . . . . Screw (1/4-20 x 3/4 Hex Hd. Cap)
	1	. . . . Wire Lead Assembly (From Starter To Motor)
MBB-767A	1	. . . . Push Button Control Station (Allen-Bradley Bulletin 800T-2TA Oil Tight)
MBB-796A	1	. . . . Mounting Bracket For Push Button Control Station <i>with</i>
	4	. . . . . Screw (10-32 x 7/8 Rd. Hd.)
	4	. . . . . Nut (10-32 Hex)
	1	. . . . Wire Lead Assembly (From Starter to Push Button Control Station)

PARTS LIST COVERING MBB-1600 MS MACHINE

ORDER BY PART NUMBER	QUANTITY PER MACHINE	DESCRIPTION
		NOTE: MBB-1600 MS and MBB-1600 Machines are identical except for electrical parts and their mounting as listed below.
MBB-512D-A	1	. . . . Motor (1/2 H.P., Nema 56 Frame, Open Type, 208/220/440V, 50/60 Cy., 3 Ph., 1425/1725 RPM, 5/8 Dia. Shaft)
MBB-742A	1	. . . . Motor Starting Switch (Allen-Bradley Bulletin 609AAW) <i>with</i>
	1	. . . . . Switch Bracket <i>with</i>
	3	. . . . . Screw (10-32 Rd. Hd.)
	3	. . . . . Nut (10-32 Hex)
	2	. . . . . Screw (1/4-20 x 3/8 Hex Hd. Cap)
	1	. . . . Wire Lead Assembly
	2	. . . . Heater Coils For Above Starter For Operating Above Motor On 220V, 60 Cy., (Allen-Bradley Type No. N13)
	2	. . . . Heater Coils For 440V, 60 Cy., (Allen-Bradley Type No. N6)

SECTION I
HONING MACHINE HEAD ASSEMBLY

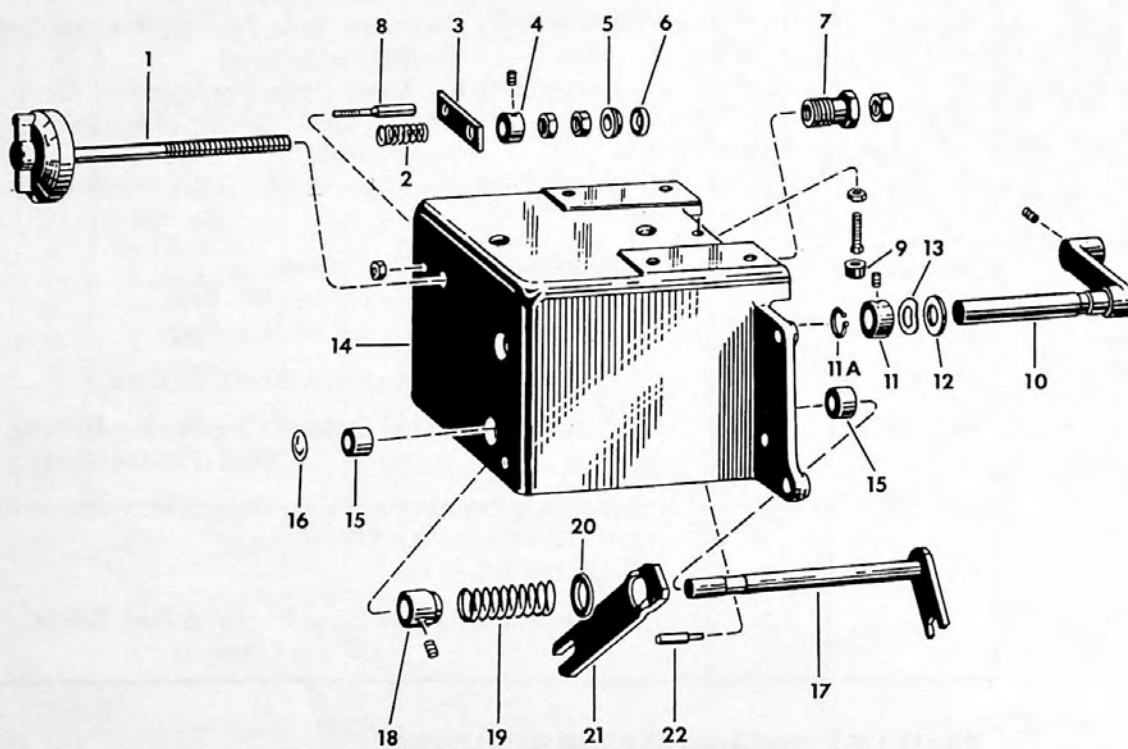


Figure D - Honing Machine Head Upper Housing Assembly

PARTS LIST COVERING FIGURE "D"

ITEM NO.	ORDER BY PART NUMBER	QUANTITY PER MACHINE	DESCRIPTION
1	MBB-960A	1	. . . . Pressure Dial <i>with</i>
2		1	. . . . . Spring
3		1	. . . . . Plate
4	LBN-450C	1	. . . . . Set Collar <i>with</i>
		1	. . . . . Screw (1/4-20 x 1/4 Soc. Hd. Cup Pt.)
		3	. . . . . Nut (3/8-24 Hex)
5	LBA-445A	1	. . . . . Spherical Washer <i>with</i>
6		1	. . . . . Socket
7	LBA-456A	1	. . . . . Thread Nut
8	LBA-438C	1	. . . . . Pin <i>with</i>
		1	. . . . . Nut (10-32 Hex)
9	MBB-856A	1	. . . . Neoprene Bumper <i>with</i>
		1	. . . . . Screw (1/4-20 x 1 Spec. Hex Hd. Cap)
		1	. . . . . Nut (1/4-20 Hex)
10	MBB-855A	1	. . . . Arm & Shaft <i>with</i>
11	MBB-866A	1	. . . . . Set Collar <i>with</i> Set Screw
12		1	. . . . . Washer (Special)
13		1	. . . . . Spring Washer
11A	MBB-857A*	1	. . . . . Retaining Ring (Tru-arc)
12		2	. . . . . Washer (Special)
13		1	. . . . . Spring Washer
14		1	. . . † Upper Housing
15	MBB-886A	1	. . . . Nylon Bearing Set (2) <i>with</i>
16		1	. . . . . Expansion Plug (7/8 O.D.)
17	MBB-945A	1	. . . . Pressure Rod Assembly <i>with</i>
18		1	. . . . . Spring Collar
		1	. . . . . Set Screw (5/16-18 x 5/16 Soc. Hd. Cup Pt.)
19	MBB-946A	1	. . . . . Spring <i>with</i>
20		1	. . . . . Washer (Special)
21	MBB-947A	1	. . . . Lever <i>with</i>
22	MBB-952A	1	. . . . . Lever Pivot

*Available only for machines prior to Serial No. 42766. NOTE: Not furnished as part of MBB-855A (in which MBB-857A is replaced by the later design MBB-866A).

†This part is for MBB-1600 and MBB-1600 MS Machines. The MBB-1600 JIC Machine differs only in electrical parts and their mounting. See Page 11.

SECTION II COOLANT PUMP & BASE SUB ASSEMBLY

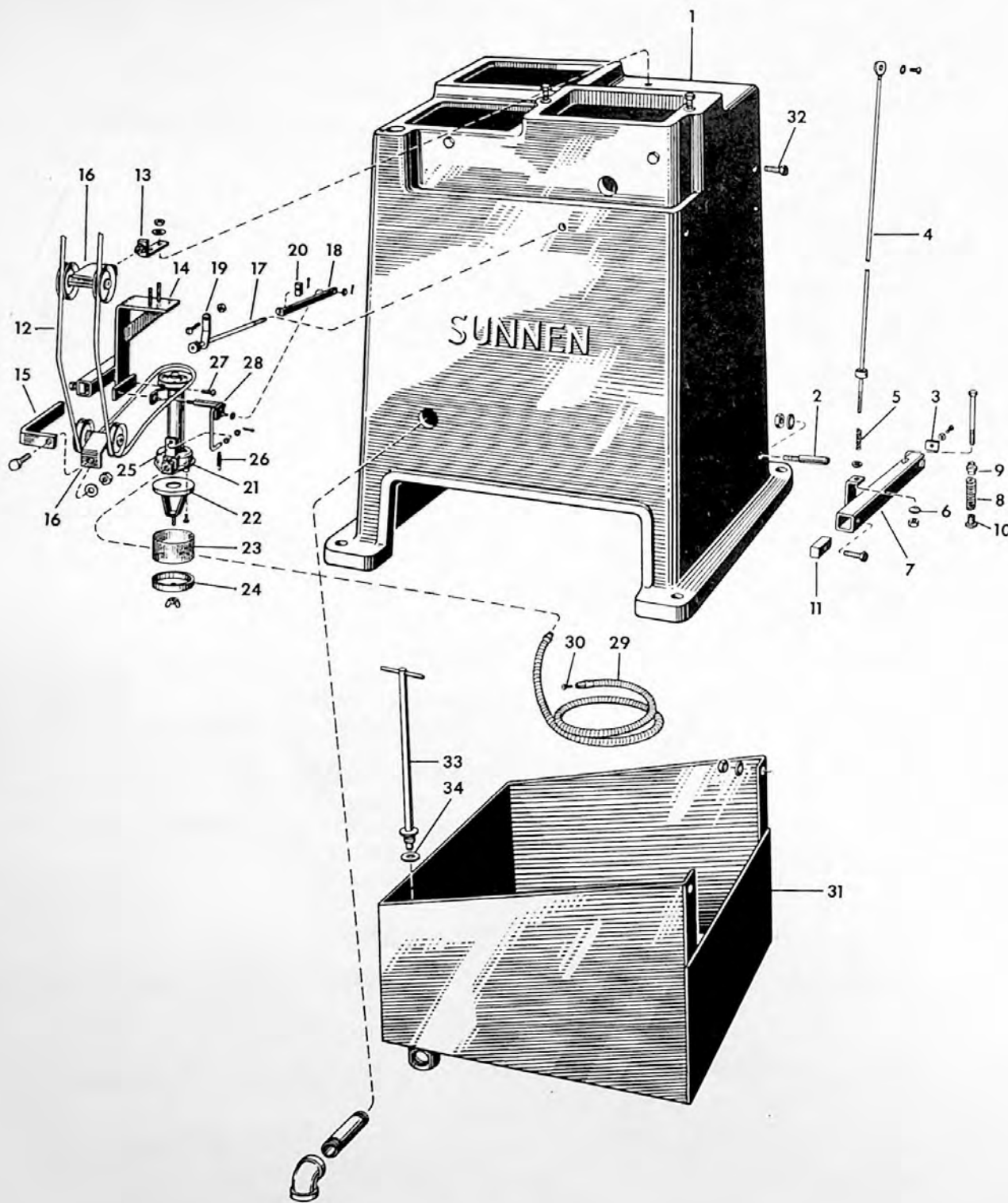


Figure E - Coolant Pump and Base Sub-Assembly

PARTS LIST COVERING FIGURE "E"

SECTION II
COOLANT PUMP & BASE SUB-ASSEMBLY

ITEM NO.	ORDER BY PART NUMBER	QUANTITY PER MACHINE	DESCRIPTION
1	MAN-1220A	1	. . . † Pedestal <i>with</i>
		2	. . . . . Screw (3/8-16 x 1 Hex Hd. Cap)
		2	. . . . . Screw (3/8-16 x 1-1/4 Hex Hd. Cap)
		2	. . . . . Washer (3/8 Lock)
2	MAN-934A	1	. . . . . Pedal Stud <i>with</i>
		1	. . . . . Nut (1/2-13 Hex)
		1	. . . . . Washer (1/2 Serrated Lock)
3		1	. . . . . Pedal Sleeve Retainer
		1	. . . . . Washer (No. 10 Lock)
		1	. . . . . Screw (10-32 x 3/8 Rd. Hd.)
4	MB-909A	1	. . . . Pedal Link Assembly <i>with</i>
		1	. . . . . Screw (10-32 x 3/8 Rd. Hd.)
	LBN-450C	1	. . . . . Washer (3/16 Plain)
		1	. . . . . Set Collar <i>and</i>
5		1	. . . . . Set Screw (1/4-20 x 1/4 Soc. Hd. Cup Pt.)
		1	. . . . . Spring
6		1	. . . . . Washer (3/8 Plain)
		1	. . . . . Spherical Washer
7	MB-923C	1	. . . . . Nut (3/8-16 Hex Self Locking)
		1	. . . . Pedal Sleeve <i>with</i>
2	MAN-934A	1	. . . . . Pedal Stud <i>with</i>
		1	. . . . . Nut (1/2-13 Hex)
		1	. . . . . Washer (1/2 Serrated Lock)
		1	. . . . . Pedal Sleeve Retainer
3		1	. . . . . Washer (No. 10 Lock)
		1	. . . . . Screw (10-32 x 3/8 Rd. Hd.)
		1	. . . . . Pedal Spring <i>with</i>
8	MB-913A	1	. . . . . Screw (5/16-18 x 3-1/2 Hex Hd. Cap)
		1	. . . . . Spring Holder Washer
9		1	. . . . . Spring Holder Nut
10	MB-920A	1	. . . . . Pedal Lock Nut <i>with</i>
		1	. . . . . Screw (3/8-16 x 1 Hex Hd. Cap)
11	MBB-880	1	. . . . Pump Belt
		1	. . . . Upper Idler Bracket <i>with</i>
12	MB-494A	1	. . . . . Screw (3/8-16 x 1 Hex Hd. Cap)
		1	. . . . . Washer (3/8 Plain)
		1	. . . . . Nut (3/8-16 Hex)
		1	. . . . Pump Bracket <i>with</i>
13	MB-425A	1	. . . . . Screw (3/8-16 x 1 Hex Hd. Cap)
		1	. . . . . Idler Nut
		2	. . . . . Washer (3/8 Plain)
		2	. . . . . Nut (3/8-16 Hex)
14	LBA-594A	1	. . . . Lower Idler Bracket <i>with</i>
		1	. . . . . Screw (3/8-16 x 1 Hex Hd. Cap)
		1	. . . . . Washer (3/8 Plain)
		1	. . . . . Nut (3/8-16 Hex)

† This part is for MBB-1600 and MBB-1600 MS Machines. The MBB-1600 JIC Machine differs only in electrical parts and their mounting. See Page 11.

SECTION II
COOLANT PUMP & BASE SUB-ASSEMBLY

PARTS LIST COVERING FIGURE "E" (cont'd.)

ITEM NO.	ORDER BY PART NUMBER	QUANTITY PER MACHINE	DESCRIPTION
16	LBA-539A	2	.... Idler Assembly <i>with</i>
		2	..... Screw (3/8-16 x 1 Hex Hd. Cap)
		2	..... Washer (3/8 Plain)
		2	..... Nut (3/8-16 Hex)
	MB-415A	1	.... Control Rod Linkage <i>consists of</i>
17		1	..... Rod Assembly
18		1	..... Link
19		1	..... Bracket
20		1	..... Nut (Special)
		1	..... Screw (1/4-20 x 3/4 Rd. Hd.)
		1	..... Nut (1/4-20 Hex)
		2	..... Washer (3/16 Plain)
		2	..... Cotter Pin (1/16 x 1/2 Lg.)
21	MB-687A	1	.... Pump <i>with</i>
22		1	..... Screen Top
		4	..... Screws (8-32 x 5/16 Self Tapping Binding Hd.)
23		1	..... Screen
24		1	..... Screen Bottom Retainer
		1	..... Wing Nut (10-32)
25	MB-654A	1	..... Gate Valve <i>with</i>
		1	..... Screw (6-32 x 3/16 Self Tapping)
		2	..... Washer (3/16 Plain)
		1	..... Cotter Pin (1/16 x 1/2 Lg.)
26		1	..... Spring
27		1	..... Screw (1/4-20 x 3/4 Rd. Hd.)
28	MB-694A	1	.... Bell Crank Linkage <i>consists of</i>
		1	..... Bell Crank
		1	..... Rod
		1	..... Pivot Stud
		1	..... Washer (1/4 Plain)
		7	..... Washer (3/16 Plain)
		4	..... Cotter Pin (1/16 x 1/2 Lg.)
		1	..... Screw (1/4-20 x 3/4 Rd. Hd.)
29	MAN-1068A	1	.... Oil Line <i>with</i>
30	MAN-1066A	1	..... Jet
31	MB-949A	1	.... Oil Reservoir <i>with</i>
		1	..... Nipple (3/4 Pipe - 3-1/2 Long)
		1	..... Elbow (3/4 Pipe)
32		2	..... Screw (3/8-16 x 1-1/4 Hex Hd. Cap)
		2	..... Nut (3/8-16 Hex)
		2	..... Washer (3/8 Plain)
33	MB-945A	1	..... Drain Plug <i>and</i>
34	MB-941A	1	..... Gasket

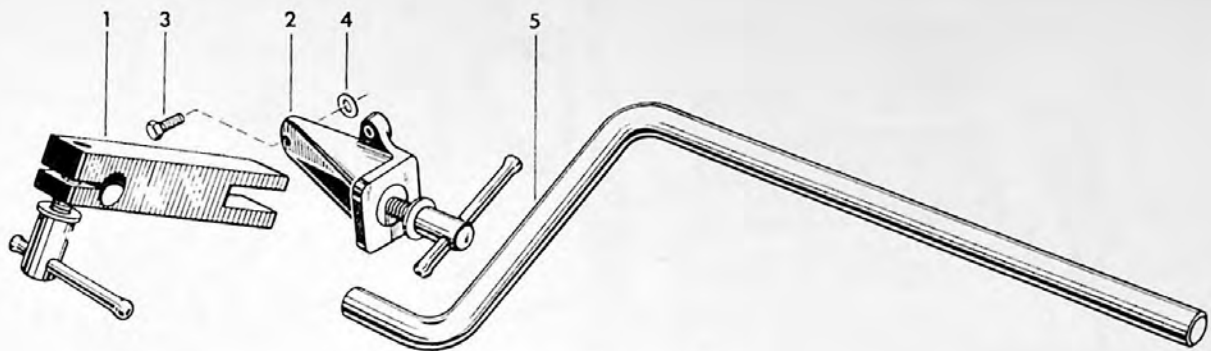


Figure F - Torque Bar

PARTS LIST COVERING FIGURE "F"

ITEM NO.	ORDER BY PART NUMBER	QUANTITY PER MACHINE	DESCRIPTION
1	LBN-738A	1	.... Arm <i>with</i>
		1	..... Clamping Screw (Short)
		1	..... Washer (1/2 Plain)
2	LBN-739A	1	... Bracket <i>with</i>
		1	..... Clamping Screw (Long)
		1	..... Washer (1/2 Plain)
3		3	..... Screw (5/16-18 x 3/4 Hex Hd. Cap)
4		4	..... Washer (5/16 Shim)
5	MB-731A	1	.... Offset Bar

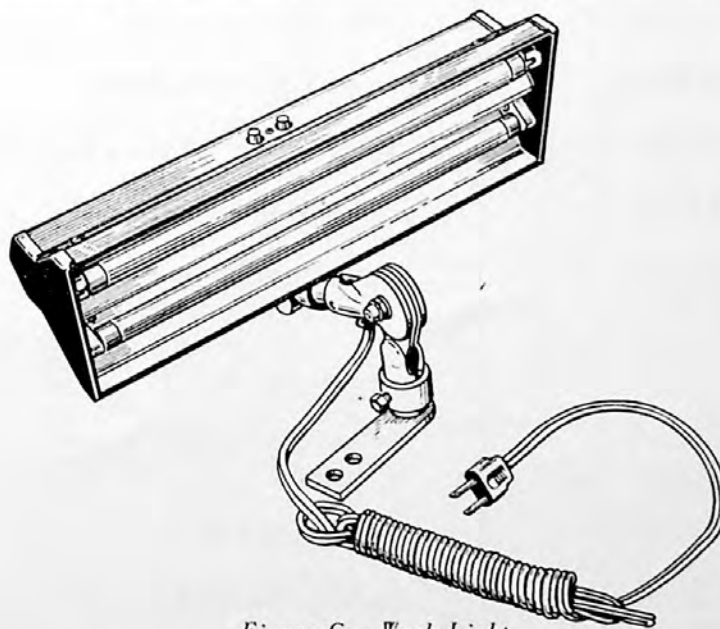


Figure G - Work Light

PARTS LIST COVERING FIGURE "G"

MBB-200	1	.... Flourescent Work Light <i>with</i>
MBB-198A	2	..... Flourescent Tube (T5; 8 Watt, 115V, 60 Cy., 12" Long)
MBB-197A	1	..... Switch

SECTION III
MISCELLANEOUS PARTS

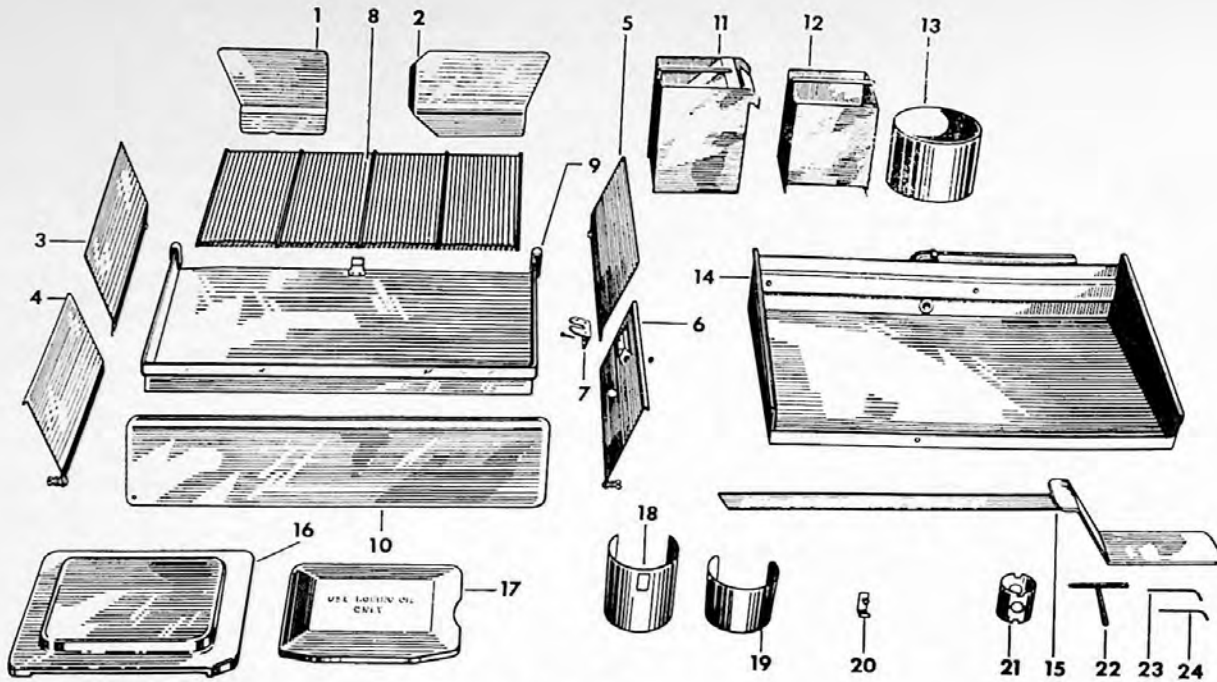


Figure H - Miscellaneous Parts

PARTS LIST COVERING FIGURE "H"

ITEM NO.	ORDER BY PART NUMBER	QUANTITY PER MACHINE	DESCRIPTION
1	MB-1093A	1	. . . . Left Rear Splash Guard
2	MAN-1094A	1	. . . . Right Rear Splash Guard
3	MAN-885A	1	. . . . Lower Left Splash Guard
4	MAN-860A	1	. . . . Upper Left Splash Guard Assembly
5	MAN-875A	1	. . . . Lower Right Splash Guard
6	MAN-870A	1	. . . . Upper Right Splash Guard Assembly <i>with</i>
7	MAN-693A	1	. . . . Bracket <i>and</i>
		2	. . . . Screw (6-32 x 3/8 Rd. Hd.)
		2	. . . . Nut (6-32 Hex)
8	MB-1111A MB-1101A	1 64	. . . . Non-Splash Assembly <i>Complete with</i> Spring
9	MAN-896A	1	. . . . Upper Drain Pan
10	MAN-895A	1	. . . . Front Splash Guard
11	MAN-973A	1	. . . . Upper Sediment Bucket
12	MAN-975A	1	. . . . Lower Sediment Bucket
13	MAN-980A	1	. . . . Baffle Can

PARTS LIST COVERING FIGURE "H" (cont'd.)

ITEM NO.	ORDER BY PART NUMBER	QUANTITY PER MACHINE	DESCRIPTION
14	MAN-886A	1 1 1	. . . . Lower Drain Pan Assembly <i>with</i> 3/4 Pipe Elbow 3/4 Pipe 10" Long
15	MAN-902A	1	. . . . Pedal Arm
16	MB-1008A	1	. . . . Cover Plate
17	MAN-1007A	1	. . . . Pedestal Cover
18	MBB-989A	1	. . . . Spindle Nose Cover <i>with</i>
19		1	. . . . . Spindle Nose Cover Extension
20	MAN-991A	1 1	. . . . . Spindle Nose Cover Clip <i>and</i> Screw (10-32 x 3/8 Rd. Hd.)
21	LN-570A	1	. . . . Concentric Sleeve
22	LBN-462A	1	. . . . Mandrel Wrench
23	KN-575A	1	. . . . 5/32 Hex Key Wrench (5/32 across flats)
24	KN-574A	1	. . . . 1/8 Hex Key Wrench (1/8 across flats)