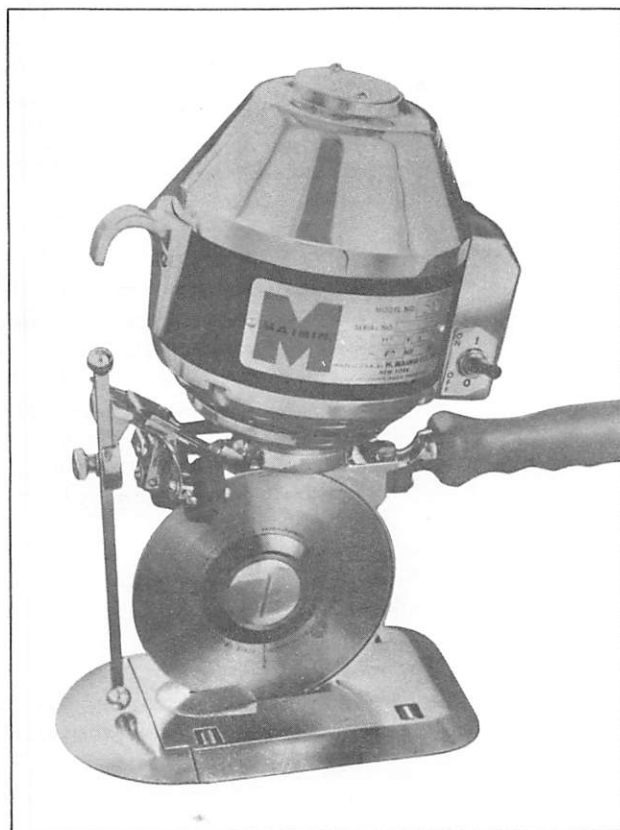


MAIMIN®**EDITION 4**

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— ROUND KNIFE INSTRUCTIONS AND PARTS LIST CATALOG —

I. DESCRIPTION

1-1. General

Your new Maimin round knife machine is delivered ready for operation. It is merely necessary to insert the handle (Key No. B210) and lock it into place with the two screws as described in paragraph 2-2. Then connect the machine to an electrical outlet of the same voltage as on the nameplate of the machine and begin cutting (see paragraph 2-3). The knife guard (Key No. B247) acts as a protective guard for the operator so that it should be down at all times. The ball on the bottom of the knife guard should only be slightly above the top of the lay in order to prevent the operator's hand from accidentally touching the knife.

1-2. Sharpeners Available

There are two types of sharpening devices available for the round knife machines. The sharpener most generally used is the *gliding grinder* in which the stones are set perpendicular to the knife. It sharpens a faster cutting edge. The *#15 grinder* utilizes slightly larger stones which are almost parallel to the knife. This type of sharpener gives a smoother cutting edge for cutting sheer fabrics, synthetics, or plastics.

1-3. Knives Available

The cutting knives come in two grades which are carbon steel and high speed steel. Carbon steel knives are used for cutting most materials. However, hard materials such as fiberglass and heavy canvas will quickly dull the carbon steel knife requiring use of the high speed steel knife which keeps its cutting edge longer.

1-4. Part Numbers of Knives

	Carbon Steel	High Speed Steel
Knife - 4" (Model 54)	30303	30322
Knife - 5-1/4" (Model 59)	30307	30324
Knife - 6" (Model 86)	30310	30325
Knife - 7" (Model 87 & 37)	30311	30326

II. OPERATION

2-1. Safety Instructions

- A. Be sure machine is properly grounded
- B. Use correct electrical wiring:

U.S.A. only 1 phase: Use AWG 16/3 SJ, SJT
3 phase: Use AWG 16/4 SJ, SJT

International

1P + N + $\frac{1}{2}$: Use 3 x 1, 0 mm² CEE(2)61
3P + $\frac{1}{2}$: Use 4 x 1, 0 mm² CEE(2)61

NUMBERS IN PARENTHESIS FOLLOWING PART NAMES ARE KEY NUMBERS FROM PARTS PLATES - NOT PART NUMBERS

- C. Keep cutting area clean and well lit.
- D. Keep visitors away from cutting area.
- E. Do not use machine in damp or wet location.
- F. Store machine in dry location.
- G. Keep machine clean and blade sharp for best and safest performance.
- H. Always disconnect machine when not in use, before servicing, and when changing blade.
- I. Remove knife key from knife lock before starting motor.
- J. Be sure switch is off before connecting electrical cord.
- K. Disconnect electrical cord before carrying machine.
- L. Keep knife guard in place and hands away from blade.

2-2. To Attach Handle

Insert the metal stud of the handle (Key No. B210) into its hole in the upper rear of the standard (B216). Put the handle screw (B211) through the flange of the handle into the standard, and tighten it. Then lock the handle into position with the handle lock screw (B214) and nut (B213) on the side of the standard.

2-3. To Start

Attach current connector (B40) to the terminal pins (B41). Flip switch (B47) to "on" position.

2-4. To Cut

Loosen the guard carrier screw (B248) slightly and raise knife guard (B247) to height of lay. The knife guard should only be slightly above the top of the lay for operator safety. When the machine is not being used, lower the knife guard to the roller plate.

2-5. To Sharpen Knife

With motor running, firmly depress the grinder trigger (B204) until both emery stones turn against the knife. When sharpening the knife with the #15 grinder, it is important that a light but constant finger pressure be used on the trigger to maintain the same width of sharpened bevel on the knife.

III. CARE & MAINTENANCE

3-1. Maintenance Schedule

Monthly:

- Grease gear (paragraph 3-2)
- Clean sharpening stones (paragraph 3-3)
- Clean motor (paragraph 3-8)

Every Six Months:

- Clean rollers (paragraph 3-9)

3-2. To Lubricate

Grease the gear (B239) and pinion (B202) monthly by turning the grease cup (B215) on the side of the standard one complete turn. When the grease cup is empty, unscrew it, fill it with grease and replace. The grease to be used is Lubriko M32. The motor bearings are sealed and thus require no lubrication.

3-3. To Clean Stones

After repeated use, the sharpening stones (B259) become coated with grease and dirt and do not sharpen the knife effectively. To remove this coating, spray Maimin Stone Cleaner directly onto the stones or put a little cleaning fluid on a toothbrush to scrub the stones. Sharpen. The dirt will be flung off; therefore, the sharpener should not be run near material to avoid staining. Do not use inflammable cleaning fluid.

3-4. To Change Stones

a) Gliding Grinder (Plate 3)

First remove knife. Loosen stone lock screw (B254). Unscrew the stone adjusting screw (B257) until the stone with bushing (B259) slides out to the end of the slot in the grinder frame (B258). Then remove the stone lock screw, and pull the stone with bushing out of the grinder frame. Be careful not to lose the coil spring (B256) and the washer (B255). When installing the new stone with bushing, slide the neck of the stone bushing into the slot, first making sure that the coil spring is in its position between the neck of the stone bushing and the stud on the inside of the slot. Then the stone lock screw should be fitted through the washer and screwed into the stone bushing. The adjustment is explained in paragraph 4-1a.

b) #15 Grinder (Plate 4)

Loosen the four frame arch screws (B346) and remove the top two. The frame arch can then be pulled out slightly and swung down. It is possible to remove the two frame arches completely but care should be taken not to interchange these two arches. The #15 grinder stones with bushings (B345) can then be lifted out together with the adjusting bushings (B339) and the stone shaft (B344). The bushings are removed from the end of the shaft, and then the two #15 grinder stones with bushings are slid off the shaft. When putting on new stones with bushings, make sure that the stone shaft spring (B343) is on the shaft between the two stones with bushings. The adjusting bushings are then put into place behind the sharpening stones, and the entire assembly is put back on the #15 grinder frame (B347). The frame arches are fitted properly over the adjusting bushings but are not locked into place with the screws until the sharpener stones are adjusted as described in paragraph 4-1b.

3-5. To Change Knife

Detach current connector (B40) from machine and lower knife guard (B247). Lay the machine on its side. Loosen the two throat plate screws (B232), and slide throat plate (B223) forward. Lift check spring (B260) on top of grinder frame (B258), and pull the frame to the end of grinder track (B220) for sufficient clearance to remove or install knife. Remove knife lock (B245) by turning it counter-clockwise with the knife key. Do not use a screwdriver or a punch to remove the knife lock as they will damage the knife lock and the gear bearing.

If the knife lock does not readily unscrew, point the knife key handle towards the handle of the machine and move the knife key handle downward sharply, striking it against the roller plate (B224). Repeat this action if necessary to loosen the knife lock. To tighten the knife lock, point the knife key handle towards the knife guard and move the knife key handle downward sharply against the roller plate lip (B237).

A knife must be installed with its trademark and the bevel facing outward. The knife, with its specially shaped hole, must be fitted over the similarly shaped shoulder on the gear; and the knife must lie flat against the gear. Always wipe the knife clean before fitting it onto the machine.

3-6. To Remove Gear (B239)

First remove the knife as described in paragraph 3-5. Unscrew gear cap (B246) by turning counterclockwise. Then remove gear screw (B244) by turning clockwise (it has a left-hand thread). Lift thread seal (B242) off the gear. Take off the grease circulator (B221) by removing its two screws (B222). Lift out the gear with bearing.

IMPORTANT: When the spiral gear was mounted on the trunnion shaft, a few trunnion washers (B238) were placed behind the gear on the trunnion shaft to create the proper mesh of the gear and the pinion. The grease on the gear may cause these trunnion washers to stick to the bearing. Do not lose these trunnion washers. Be certain to replace them on the trunnion shaft. If the gear is to be removed for any length of time, put the gear screw back in place so that the trunnion washers will not slip off.

3-7. To Clean Sharpener

Blow the lint and dust off the grinder assembly (B258) with compressed air. Check that the stones rotate freely. With a clean cloth wipe off the grinder track (B220) so that the grinder frame will slide easily on it.

3-8. To Clean Motor

Over a period of time, dust and lint will build up inside the motor and prevent proper cooling. With the motor

running, point a stream of compressed air into the top of the motor and then in the side of the bottom housing by the fan to eject the dust and lint.

3-9. To Clean Rollers

If the rollers (B230) in the roller plate (B224) do not roll freely, blow out the dust or dirt in the rollers. Do not oil as it will collect dirt causing the rollers to bind. Use a powdered graphite for lubrication if necessary.

IV. ADJUSTMENTS & REPAIRS

4-1. To Adjust Sharpener

a) Gliding Grinder (Plate 3)

Unscrew the stone lock screw (B254) one turn and then move the stones to or away from the knife by turning the stone adjusting screw (B257). Then tighten the stone lock screw. Both stones should begin revolving against the knife at approximately the same moment when the trigger (B204) is pulled slowly. The ground bevel on the knife should be about the same width on both sides of the knife — approximately 1/16" (1.6mm). The stones are moved closer together to obtain a narrower bevel and further away from the knife to obtain a wider bevel. After the stones are adjusted properly, tighten the stone lock screws.

b) #15 Grinder (Plate 4)

Loosen frame arch screws (B346). Turn adjusting bushing (B339) to move the stones towards or away from the knife. The stones should rotate against the knife at approximately the same time when the grinder trigger is pulled slowly. The ground bevel on the knife should be equal on both sides and should be about 3/32" (2.4mm) in width. When the stones are adjusted correctly, tighten the frame arch screws to lock the stones in position.

4-2. To Adjust Throat Plate

As the knife wears, move the throat plate (B223) towards the knife so that the space between the edge of the knife and the front of the slot of the throat plate is about 1/16" (1.6mm). The knife should be in the middle of the throat plate slot. Adjust the throat plate by loosening the two throat plate screws (B232) which are underneath the roller plate (B224).

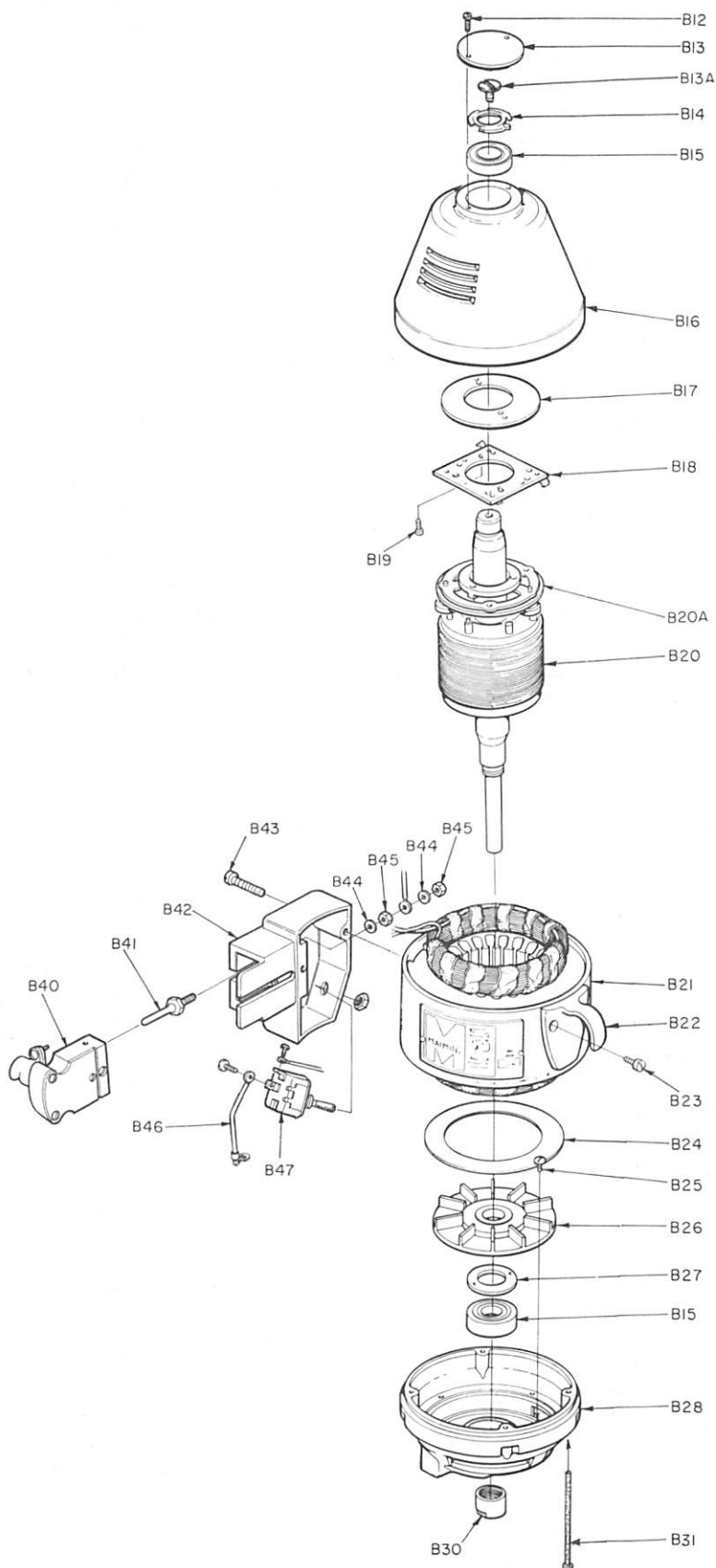
Press in the throat plate lock (B235) to slide it along the lip spring (B236). When the throat plate is in the desired position, release the throat plate lock to catch between the teeth on the lip spring. Tighten the throat plate screws.

(continued on back cover)

NUMBERS IN PARENTHESIS FOLLOWING PART NAMES ARE KEY NUMBERS FROM PARTS PLATES – NOT PART NUMBERS

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SINGLE PHASE MOTOR



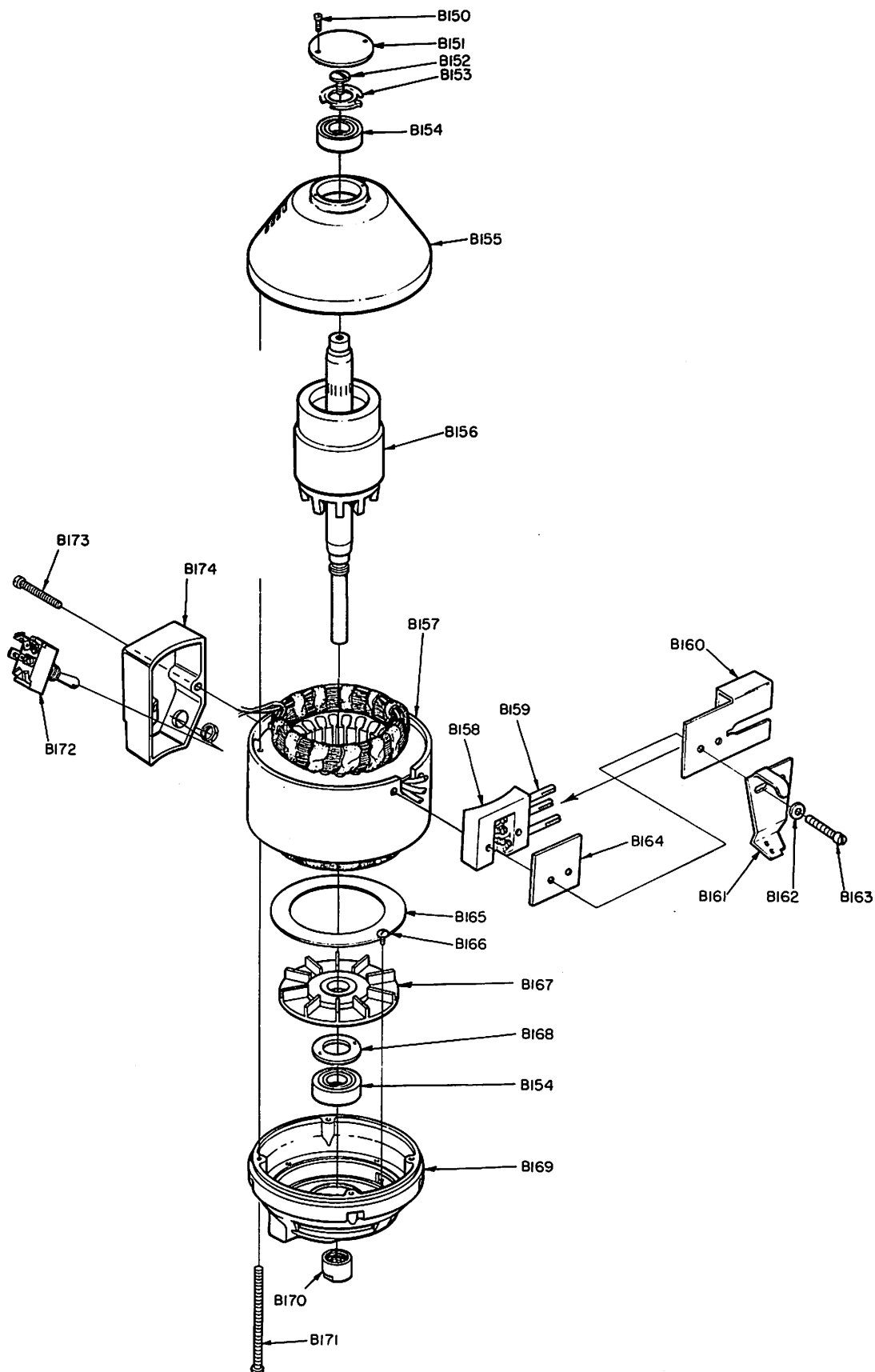
ALWAYS GIVE MACHINE SERIAL NUMBER WHEN ORDERING PARTS. ORDER BY PART NUMBER – NOT KEY NUMBER.

PARTS LIST 1

KEY NO.	PART NO.		DESCRIPTION
	Regular Motor	Heavy Duty Motor (H)	
B12	434	434	Screw, 6 x 3/16 Round Head
B13	305E	305E	Cap
B13A	300S	300S	Armature Screw
B14	404D	404D	Loading Spring
B15	403	403	Bearing #203
B16	302K	302L	Top Housing
	—	365	Relay
B17	364B	—	Laminated Plate
B18	364A	—	Stationary Switch
B19	331S	—	Screw, 8 x 3/8 Round Head
B20	15065	—	Armature, RK*
	15104	15174	Armature, RK* (serial no. ending in A)
B20A	364D	—	Rotating Switch
B21	15066	—	Field, RK* 60 cycles
	15105	15097	Field, RK* 60 cycles (serial no. ending in A)
	15207	15212	Field, RK* 50 cycles (serial no. ending in A)
	15209	—	Field, Model 37* 60 cycles
	15210	—	Field, Model 37* 50 cycles
	—	15079	Capacitor 161 mfd (60 cycles)
	—	15078	Capacitor 216 mfd (50 cycles)
	—	15084	Cover, Capacitor
B22	310C	310C	Gooseneck
B23	516	516	Screw, 8 x 5/16 Fillister Head
B24	300X	300X	Fan Washer
B25	400T	400T	Screw, 6 x 1/8 Binding Head
B26	300F	300F	Fan
B27	404C	404C	Bearing Lock
B28	311E	311E	Bottom Housing
	311EX	311EX	Bottom Housing with 300X, 300F, 404C
B30	300N	300N	Armature Nut
B31	419X	419Y	Motor Bolt
B40	458B	458B	Connector, Grounded
B41	309C	309C	Terminal Pin
B42	315M	315M	Switch Box only
	315MX	315MX	Switch Box with 309C, 442, 316W
B43	418S	418S	Screw, 8 x 1-1/8 Fillister Head
B44	309G	309G	Washer
B45	309E	309E	Nut
B46	316W	316W	Switch Wire
B47	442	442	Switch

*Give Serial Number

3 PHASE MOTOR



ALWAYS GIVE MACHINE SERIAL NUMBER WHEN ORDERING PARTS. ORDER BY PART NUMBER – NOT KEY NUMBER.

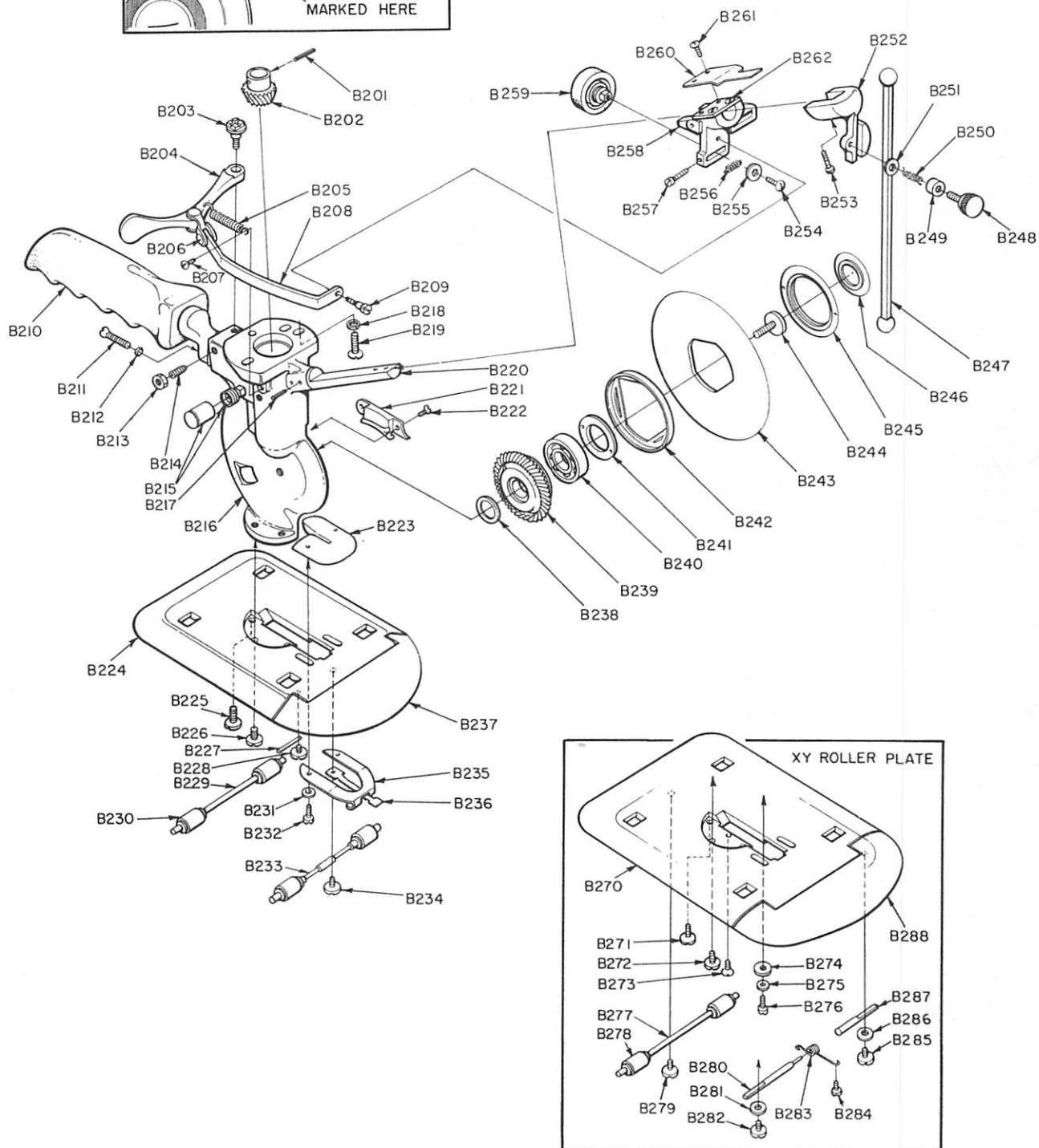
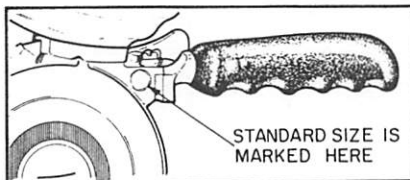
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PARTS LIST 2

KEY NO.	PART NO.		DESCRIPTION
	Regular Motor	Heavy Duty Motor (H)	
B150	434	434	Screw, 6 x 3/16 Round Head
B151	305E	305E	Cap
B152	300S	300S	Armature Screw
B153	404D	404D	Loading Spring
B154	403	403	Bearing #203
B155	302M	302M	Top Housing
B156	15031	—	Armature, RK*
	15104	15214	Armature, RK* (serial no. ending in A)
	497P	497P	Support Washer
B157	15030	—	Field, RK*
	15201	15213	Field, RK* (serial no. ending in A)
B158	405A	405A	Terminal Block with 406A
B159	406A	406A	Terminal Pin, 3 ph.
B160	458M	458M	Ground Shield, 3 ph.
B161	310K	310K	Gooseneck, 3 ph.
B162	329LW	329LW	Washer
B163	310B	310B	Screw, 8 x 1-3/8 Fillister Head
B164	405B	405B	Cover, 3 ph.
B165	300X	300X	Fan Washer
B166	400T	400T	Screw, 6 x 1/8 Binding Head
B167	300F	300F	Fan
B168	404C	404C	Bearing Lock
B169	311E	311E	Bottom Housing only
	311EX	311EX	Bottom Housing w/300X, 300F, 404C
B170	300N	300N	Nut
B171	419X	419Y	Motor Bolt
B172	442B	442B	Switch, 3 ph.
B173	418S	418S	Screw, 8 x 1-1/8 Fillister Head
B174	315P	315P	Switch Box only
	315PX	315PX	Switch Box with 442B

*Give Serial Number

STANDARD WITH GLIDING GRINDER & ROLLER PLATE

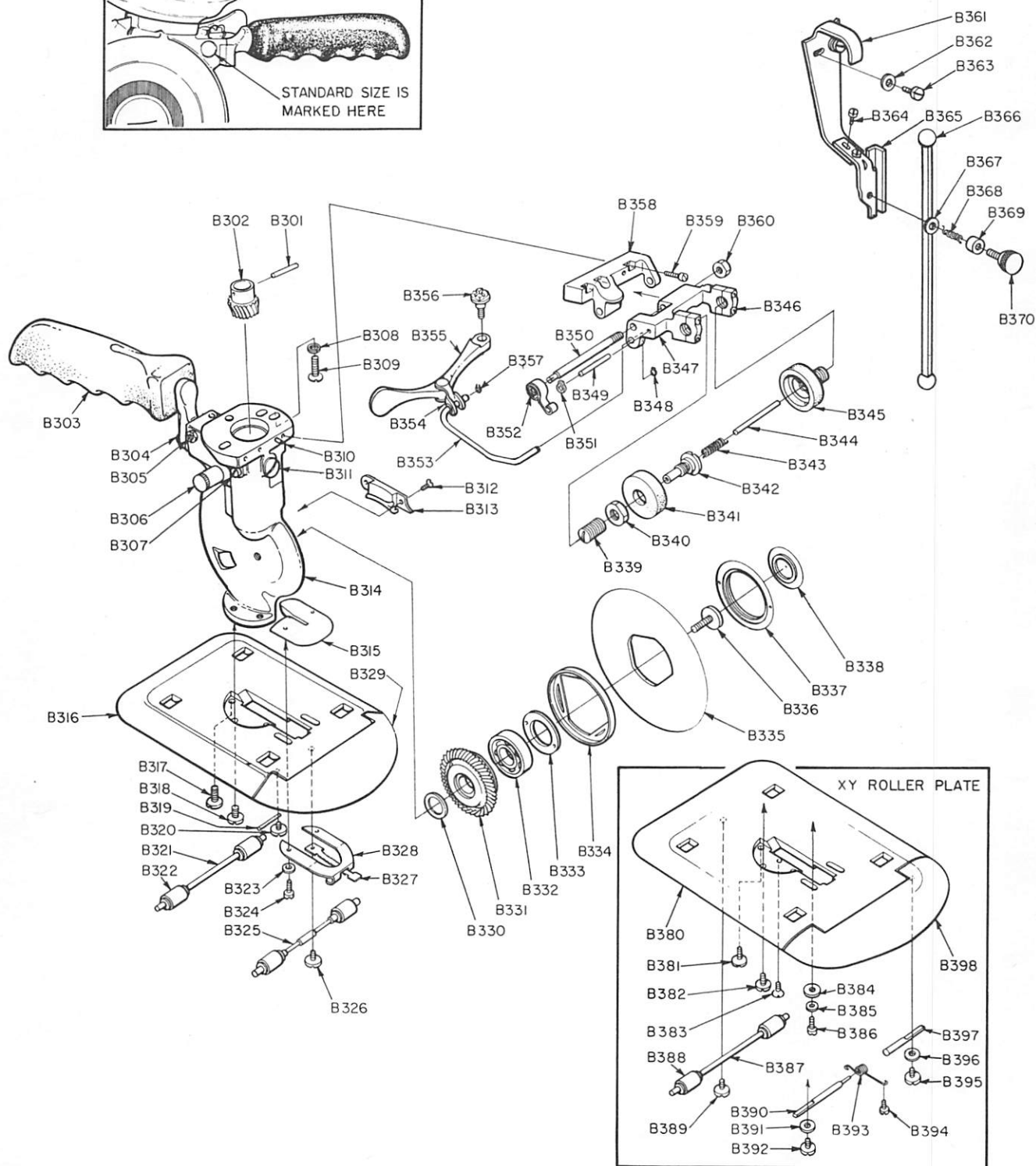
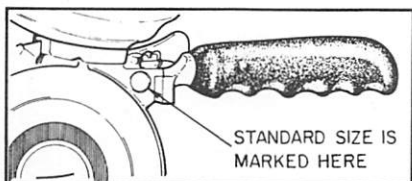


ALWAYS GIVE MACHINE SERIAL NUMBER WHEN ORDERING PARTS. ORDER BY PART NUMBER – NOT KEY NUMBER.

PARTS LIST 3

KEY NO.	PART NO.	DESCRIPTION	KEY NO.	PART NO.	DESCRIPTION
B201	323PJ	Pinion Pin — #6 Pinion	B240	320J	Gear Bearing (200K) — #6
	323PA	Pinion Pin — all other pinions		320A	Gear Bearing (103) — #9 or #248
B202	323J	Pinion — #6 (for standard marked R4 or 6)		320C	Gear Bearing (104) — #5
	323H	Pinion — #9 (for standard marked 59)	B241	321J	Bearing Lock — #6
	323M	Pinion — #248 (for standard marked 248)		321A	Bearing Lock — #9 or #248
				321C	Bearing Lock — #5
	323C	Pinion — #5 (for standard marked 86 or 87)		321CW	Washer, Bearing Lock — #5
B203	333	Trigger Screw	B242	347J	Thread Seal — #6
B204	332	Trigger		347A	Thread Seal — #9 or #248
B205	334	Trigger Spring		347C	Thread Seal — #5
B206	335K	Link Knuckle	B243	30303	Knife — 4" (for 54)
B207	802S	Screw, 6 x 3/16 Bind. Hd.		30307	Knife — 5-1/4" (for 59)
B208	335A	Link — 4"		30310	Knife — 6" (for 86)
	335B	Link — 59		30311	Knife — 7" (for 87)
	335C	Link — 86 & 87		30322	Knife, High Speed Steel — 4"
	335D	Link — 37		30324	Knife, High Speed Steel — 5-1/4"
	335XA	Link with 332, 334 — 4"		30325	Knife, High Speed Steel — 6"
	335XB	Link with 332, 334 — 59		30326	Knife, High Speed Steel — 7"
	335XC	Link with 332, 334 — 86 & 87	B244	322J	Gear Screw — 4"
	335XD	Link with 332, 334 — 37		322A	Gear Screw — 59
B209	336	Link Screw		322C	Gear Screw — 86 & 87
B210	341C	Handle Assembly	B245	326J	Knife Lock — 4"
	341D	Offset Handle Assembly		326A	Knife Lock — 59
B211	342	Screw, 8 x 3/4 Oval Hd.		326C	Knife Lock — 86 & 87
B212	518W	Lock Washer	B246	349A	Gear Cap — 59
B213	510B	Nut	B247	329A	Knife Guard — 4"
B214	510C	Screw, 10 x 3/8 Set		329B	Knife Guard — 5-1/4"
B215	311G	Grease Cup		329C	Knife Guard — 6"
B216	318A	Standard — 6 (4")		329D	Knife Guard — 7"
	317H	Standard — 59 (5 1/4")	B248	329S	Screw, Guard Carrier
	317M	Standard — 248 (5 1/4")	B249	329LC	Spring Cup
	317D	Standard — 86 (6")	B250	329LS	Spring
	317E	Standard — 87 (7")	B251	329LW	Washer
B217	1256	Rollpin	B252	329L	Guard Carrier
B218	311W	Lock Washer	B253	328Z	Screw, 6 x 7/16 Fil. Hd.
B219	311S	Screw, 12 x 5/8 Rnd. Hd.	B254	331S	Screw, 8 x 3/8 Rnd. Hd.
B220	328T	Track (except 4")	B255	329LW	Washer
	328V	Track (4")	B256	328J	Coil Spring
B221	348J	Grease Circulator — #6 (for standard marked 6)	B257	328Z	Screw, 6 x 7/16 Fil. Hd.
			B258	328F	Grinder Frame Only
	348A	Grease Circulator — #9 (for standard marked 59)		328	Grinder Frame with Stones
			B259	330	Stones with Bushing, Pair
	348M	Grease Circulator — #248 (for standard marked 248)		330N	Stones Only, Pair
			B260	328E	Check Spring
	348C	Grease Circulator — #5 (for standard marked 86 or 87)	B261	822S	Screw, 6 x 1/4 Bind. Hd.
B222	348S	Screw, 4 x 3/16 Flat Hd.	B262	818S	Screw, 6 x 1/4 Flat. Hd.
B223	313K	Throat Plate for 59, 86, 37			XY ROLLER PLATE
	313R	Throat Plate for 4", 87	B270	337C	XY Roller Plate with Lip & Rollers 9-3/4" x 6-3/4" (24.7cm x 17.1 cm.)
	313H	Throat Plate, Slitter	B271	340T	Standard Screw, Rear
	313N	Throat Plate, Neckwear	B272	340S	Standard Screw
B224	337	Roller Plate with Lip & Rollers — 8-1/4" x 5-1/2" (20.9 cm x 13.9 cm)	B273	427	Screw, 10 x 7/16 Flat Hd.
B225	340T	Standard Screw, Rear	B274	329LW	Washer
B226	340S	Standard Screw	B275	438W	Washer
B227	337P	Lip Pin	B276	313S	Screw, Throat Plate
B228	340	Lip Screw	B277	339T	XY Roller Shafts with Rollers, Front & Back
B229	339P	Roller Shaft with Rollers, Back	B278	437	Roller Shell
B230	437	Roller Shell only	B279	340	Screw
B231	438W	Washer	B280	431A	Shaft for Lip, Long
B232	313S	Screw, Throat Plate	B281	329LW	Washer
B233	339M	Roller Shaft with Rollers, Front	B282	340	Screw
B234	340	Lip Screw	B283	433B	XY Lip Spring
B235	313L	Throat Plate Lock	B284	802S	Screw, 6 x 3/16 Bind. Hd.
B236	337J	Lip Spring	B285	340	Screw
B237	337L	Roller Plate Lip	B286	329LW	Washer
B238	391B	Trunnion Washer #6-.005"	B287	431B	Shaft for Lip, Short
	391E	Trunnion Washer #9-.005"	B288	430A	XY Roller Plate Lip
	391G	Trunnion Washer #5-.002"			PARTS NOT ILLUSTRATED
	391H	Trunnion Washer #5-.005"			
	391K	Trunnion Washer #9-.002"			
	391M	Trunnion Washer #6-.002"			
B239	319J	Gear with Bearing — #6 (for standard marked R4 or 6)		327K	Adjustable Knife Key
				390A	Backguard — 54
	319H	Gear with Bearing — #9 (for standard marked 59)		390B	Backguard — 59
				390C	Backguard — 86
	319M	Gear with Bearing — #248 (for standard marked 248)		390D	Backguard — 87
				390S	Backguard Screw
	319C	Gear with Bearing — #5 (for standard marked 86 or 87)		22028	Tube of Grease

STANDARD WITH #15 GRINDER & ROLLER PLATE



ALWAYS GIVE MACHINE *SERIAL* NUMBER WHEN ORDERING PARTS. ORDER BY PART NUMBER – NOT KEY NUMBER.

PARTS LIST 4

KEY NO.	PART NO.	DESCRIPTION	KEY NO.	PART NO.	DESCRIPTION
B301	323PJ	Pinion Pin — #6 Pinion		30324	Knife, High Speed Steel — 5-1/4"
	323PA	Pinion Pin — all other pinions		30325	Knife, High Speed Steel — 6"
B302	323J	Pinion — #6 (for standard marked 6)		30326	Knife, High Speed Steel — 7"
	323H	Pinion — #9 (for standard marked 59)	B336	322J	Gear Screw — 4"
	323M	Pinion — #248 (for standard marked 248)		322A	Gear Screw — 59
	323C	Pinion — #5 (for standard marked 86 or 87)	B337	322C	Gear Screw — 86 & 87
B303	341C	Handle Assembly		326J	Knife Lock — 4"
	341D	Offset Handle Assembly		326A	Knife Lock — 59
B304	342	Screw, 8 x 3/4 Oval Hd.	B338	326C	Knife Lock — 86 & 87
	518W	Lock Washer	B339	349A	Gear Cap — 59
B305	510C	Screw, 10 x 3/8 Set	B340	383A	Adjusting Bushing
	510B	Nut	B341	415N	Nut
B306	311G	Grease Cup	B342	381A	#15 Grinder Stones only, pair
B307	802S	Screw, 6 x 3/16 Bind. Hd.	B343	382	Tail Bushing
B308	311W	Lock Washer	B344	381T	Spring, Stone Shaft
B309	311S	Screw, 12 x 5/8 Rnd. Hd.	B345	381S	Stone Shaft
B310	805P	Rollpin	B346	381	#15 Grinder Stones with Bushings, pair
B311	421	Cap Screw	B347	385S	Screw, 6 x 1/2 Fil. Hd.
B312	348S	Screw, 4 x 3/16 Flat Hd.		384	#15 Grinder Frame only
B313	348J	Grease Circulator — #6		380	#15 Grinder Complete with Frame, Bracket & Stones
		(for standard marked 6)		380A	#15 Grinder Complete for 37
	348A	Grease Circulator — #9	B348	1341	Retaining Ring
		(for standard marked 59)	B349	423P	Pin
	348M	Grease Circulator — #248	B350	386B	#15 Grinder Shaft
		(for standard marked 248)	B351	840D	Retaining Ring
	348C	Grease Circulator — #5	B352	386	Coil Spring
		(for standard marked 86 or 87)	B353	387	#15 Grinder Link
B314	388T	Standard for #15 Grinder — 6 (4")	B354	335K	Link Knuckle
	388H	Standard for #15 Grinder — 59 (5-1/4")	B355	332	Trigger
	388W	Standard for #15 Grinder — 248 (5-1/4")	B356	333	Trigger Screw
	388D	Standard for #15 Grinder — 86 (6")	B357	1341	Retaining Ring
	388E	Standard for #15 Grinder — 87 (7")	B358	385	#15 Grinder Bracket
B315	313K	Throat Plate for 59, 86, 37		385T	#15 Grinder Bracket for 37
	313R	Throat Plate for 4", 87	B359	385S	Screw, 6 x 1/2 Fil. Hd.
	313H	Throat Plate, Hospital	B360	838N	Nut
	313N	Throat Plate, Neckwear	B361	310F	#15 Grinder Gooseneck
B316	337	Roller Plate with Lip & Rollers — 8-1/4" x 5-1/2" (20.9 cm x 13.9 cm.)		310K	Gooseneck for 3 phase motor
B317	340T	Standard Screw, Rear	B362	329LW	Washer
B318	340S	Standard Screw	B363	310H	Screw, 8 x 5/16 Bind. Hd.
B319	337P	Lip Pin		310B	Screw, (3 phase), 8 x 1-3/8 Fil. Hd.
B320	340	Lip Screw	B364	802S	Screw, 6 x 3/16 Bind. Hd.
B321	339P	Roller Shaft with Rollers, Back	B365	389	#15 Grinder Guard Carrier
B322	437	Roller Shell Only	B366	329A	Knife Guard — 4"
B323	438W	Washer		329B	Knife Guard — 5-1/4"
B324	313S	Screw, Throat Plate		329C	Knife Guard — 6"
B325	339M	Roller Shaft with Rollers, Front		329D	Knife Guard — 7"
B326	340	Lip Screw	B367	329LW	Washer
B327	337J	Lip Spring	B368	329LS	Spring
B328	313L	Throat Plate Lock	B369	329LC	Spring Cup
B329	337L	Roller Plate Lip	B370	329S	Screw, Guard Carrier
B330	391B	Trunnion Washer #6-.005"			XY ROLLER PLATE
	391E	Trunnion Washer #9-.005"	B380	337C	XY Roller Plate with Lip & Rollers — 9-3/4" x 6-3/4" (24.7 cm x 17.1 cm)
	391G	Trunnion Washer #5-.002"	B381	340T	Standard Screw, Rear
	391H	Trunnion Washer #5-.005"	B382	340S	Standard Screw
	391K	Trunnion Washer #9-.002"	B383	427	Screw, 10 x 7/16 Flat Hd.
	391M	Trunnion Washer #6-.002"	B384	329LW	Washer
B331	319J	Gear with Bearing — #6	B385	438N	Washer
		(for standard marked 6)	B386	313S	Screw, Throat Plate
	319H	Gear with Bearing — #9	B387	339T	XY Roller Shaft with Rollers, Front & Back
		(for standard marked 59)			Roller Shell Only
	319M	Gear with Bearing — #248	B388	437	Screw
		(for standard marked 248)	B389	340	Shaft for Lip, Long
	319C	Gear with Bearing — #5	B390	431A	Washer
		(for standard marked 86 or 87)	B391	329LW	Screw
B332	320J	Gear Bearing (200K) — #6	B392	340	XY Lip Spring
	320A	Gear Bearing (103) — #9 or #248	B393	433B	Screw, 6 x 3/16 Bind. Hd.
	320C	Gear Bearing (104) — #5	B394	802S	Screw
B333	321J	Bearing Lock — #6	B395	340	Washer
	321A	Bearing Lock — #9 or #248	B396	329LW	Washer
	321C	Bearing Lock — #5	B397	431B	Shaft for Lip, Short
	321CW	Washer, Bearing Lock — #5	B398	430A	XY Roller Plate Lip
B334	347J	Thread Seal — #6			PARTS NOT ILLUSTRATED
	347A	Thread Seal — #9 or #248		327K	Adjustable Knife Key
	347C	Thread Seal — #5		390A	Backguard - 54
B335	30303	Knife — 4" (for 54)		390B	Backguard - 59
	30307	Knife — 5-1/4" (for 59)		390C	Backguard - 86
	30310	Knife — 6" (for 86)		390D	Backguard - 87
	30311	Knife — 7" (for 87)		390S	Backguard Screw
	30322	Knife, High Speed Steel — 4"		22028	Tube of Grease

(continued from page 3)

4-3. To Adjust Play In Gear

The gear (B239) and pinion (B202) are lapped together initially to obtain a close fit. Over a period of time the gear and pinion wear so that there is an increase in play (or backlash) between the teeth on the gear and the pinion. Provided the gear bearing is in good condition (no side movement of knife) the backlash between the teeth on the gear and the pinion can be reduced by removing one or two trunnion washers (B238). Remove the gear (see paragraph 3-6), and take out the thinnest trunnion washer. These trunnion washers are available in two thicknesses. It is advisable to remove the thinnest trunnion washer first in order to check to see if the backlash has been eliminated. There must always be a slight amount of backlash or the gear and pinion will screech when run together. After removing the trunnion washer, it is necessary to replace the gear and gear screw to check the backlash.

4-4. To Replace the Gear Bearing

The gear must be removed from the machine, and then the bearing lock (B241) should be unscrewed with the knife key. The bearing (B240) is removed from the gear by tapping it lightly from the opposite side with a small mallet. Care must be taken not to injure the teeth of the gear. When the bearing is removed, clean the inside seat of the gear and lightly oil it. The new gear bearing may be pressed into the gear by lightly tapping its outside rim so as not to damage the balls of the bearing. To make sure that the bear-

ing is seated firmly in the gear, place the old bearing on top of the new one and tap the outside rim of the old bearing to force the new one all the way into the gear. Lock the bearing into position by replacing the gear bearing lock.

4-5. To Replace Motor Bearing

a) Top Housing Ball Bearing (B15 or B154)

Remove the two screws (B12), Cap (B13), and Loading Spring (B14). Unscrew Armature Screw (B13A) by turning clockwise. Loosen the two screws (B43) holding Switch Box (B42). Remove the four Motor Bolts (B31). Lift off Top Housing (B16) from Field (B21) by inserting large screwdriver slightly into the ventilation slots and tapping upwards lightly. Tap bearing out from inside the housing (through hole in Stationary Switch B18). Replace Top Housing onto Field and tighten Motor Bolts. Then put in new bearing by placing old bearing on top of it while tapping it into housing. Rotate old bearing when tapping to prevent harming inner or outer race of new bearing.

b) Bottom Housing Ball Bearing (B15 or B154)

Remove motor from standard by unscrewing the three screws (B219). Pull Pinion (B202) off armature shaft. Unscrew Armature Nut (B30). Take out the four Motor Bolts (B31) and then Bottom Housing (B28). Remove Bearing Lock (B27) with Knife Key, and tap old bearing out. Clean the seat for bearing in Bottom Housing and lightly oil. Replace bearing as described in para. 4-5a and re-assemble motor. Tighten Armature Nut securely.

NUMBERS IN PARENTHESIS FOLLOWING PART NAMES ARE KEY NUMBERS FROM PARTS PLATES – NOT PART NUMBERS

H. MAIMIN CO., INC.

Printed in U.S.A.

119 WEST 40th ST., NEW YORK, N.Y. 10018 U.S.A.

RP8805

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