



THE CUTTER'S EDGE

MODEL 44

Lightweight 4-Inch Round Knife

EDITION 1.0

FOR ALL MODELS (FROM 6/95, SER No. R44-11(or) 21-11530, up)

MACHINE SERIAL NO. _____

DATE OF PURCHASE ____/____/____

INSTRUCTION MANUAL & PARTS LIST

DESCRIPTION:

4-Inch, electric, Round knife cutting machine

CONNECTIONS:

Connect only to voltage shown on nameplate

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I. Operation

1-1 To Cut.

Loosen the guard carrier screw (329S) slightly and raise knife guard (329A) 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.

1-2 To Sharpen Knife.

With motor running, firmly press the grinder trigger (332) until both emery stones turn against the knife.

II. Care & Maintenance

2-1 Maintenance Schedule

Monthly:

Grease gear (paragraph 2-2)

Clean sharpening stones (paragraph 2-3)

2-2 To Lubricate.

Grease the gear (319J) and pinion (323J) monthly by turning the grease cup (311G) 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, (Part No. 22028). The motor bearings are sealed and thus require no lubrication.

2-3 To Clean Stones.

After repeated use, the sharpening stones (330L/330M) 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 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.

2-4 To Change Stones.

a) Gliding Grinder

First remove knife. Loosen stone lock screw (331S). Unscrew the stone adjusting screw (328Z)

until the stone with bushing (330L/330M) slides out to the end of the slot in the grinder frame (328/328F). 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 (328J) and the washer (329LW). 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 3-1a.

2-5 To Change Knife.

Lift check spring (328E) on top of grinder frame (328/328F), and pull the frame to the end of grinder track (328V) for sufficient clearance to remove or install knife. Remove knife lock (326J) by turning it counter- clockwise with the knife key. Do not use 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. 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.

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.

2-6 To Remove Gear (319J).

First remove the knife as described in paragraph 2-5. Remove gear cap (349J). Then remove gear screw (322J) by turning clockwise (it has a left-hand thread). Lift thread seal (347J) off the gear. Take off the grease circulator (348S) 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 (391M) 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.

2-7 To Clean Sharpener.

Blow the lint and dust off the grinder assembly (328/328F) with compressed air. Check that the stones rotate freely. With a clean cloth wipe off the grinder track (328) so that the grinder frame will slide easily on it.

III. Adjustments & Repairs

3-1 To Adjust Sharpener

a) Gliding Grinder

Unscrew the stone lock screw (331S) one turn and then move the stones to or away from the knife by turning the stone adjusting screw (328Z). Then tighten the stone lock screw. Both stones should begin revolving against the knife at approximately the same moment when the trigger (332) 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 closed 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.

3-2 To Adjust Play in Gear.

The gear (319J) and pinion (323J) 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 (391M). Remove the gear (see paragraph 2-v6), 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.

3-3 To Replace the Gear Bearing.

The gear must be removed from the machine, and then the bearing lock (321J) should be unscrewed with the knife key. The bearing (320J) 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 bearing 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.

STANDARD ASSEMBLY

323PA	Pinion Pin - All
323J	Pinion - #6
331	Trigger Screw
332	Trigger
334	Trigger Spring
335K	Link Knuckle
802S	Screw, 6 X 3/16 Bind. Hd.
335A	Link - 4'
335XA	Link with 332, 334 - 4"
336S	Link Screw
464S	Handle Assembly
311G	Grease Cup
318A	Standard -4" (#6)
1256	Rollpin
311A	Screw, 12 X 1/2 Rnd. Hd.
311W	Lock Washer
328V	Track 4"
348J	Grease Circulator - #6
348S	Screw, 4 X 3/16 Flat Hd.
391M	Trunnion Washer #6 - .002"
319H	Gear with Bearing - #9
320J	Gear Bearing (200K) #6
321J	Bearing Lock #6
347J	Thread Seal #6
30303	Knife - 4"
30322	Knife, High Speed Steel 4"
322J	Gear Screw #6
326J	Knife Lock #6
349J	Gear Cap
329A	Knife Guard - 4"
329S	Screw, Guard Carrier
329LC	Spring Cup
329LS	Spring
329LW	Washer
329L	Guard Carrier
328Z	Screw, 6 X 7/16 Fil. Hd.
331S	Screw, 8 X 3/8 Rnd. Hd.
329LW	Washer
328J	Coil Spring
328Z	Screw, 6 X 7/16 Fil. Hd.
328F	Grinder Frame Only
328	Grinder Frame with Stones
330L	Stones Assembly, Pair
330M	Stones with Bushing, Pair
328E	Check Spring
822S	Screw, 6 X 1/4 Bind. Hd.
818S	Screw, 6 X 1/4 Flat. Hd.

MOTOR ASSEMBLY

302X	Top Handle
310E	Screw 8-32 x 1-1/4 fil. hd(Sw. box)
315W	Switch box Only
315WX	Switch Box Assembly W/Switch
442	Switch
446P	Screw 8-32x1/4 But. Hd.
465D	Strain Relief
15332	Capacitor boot
15333	Capacitor, 120V
15352	Capacitor, 220V
15334	Capacitor clamp
15337	Hole Plug, 11/16"
15340	Motor Only, 120V
15341	Motor Only, 220V

BASEPLATE ASSEMBLY

313L	Throat Plate Lock
313R	Throat Plate
337	Roller Plate with Lip & Rollers
337J	Lip Spring
337L	Roller Plate Lip
337P	Lip Pin
339M	Roller Shaft with rollers, Front
339P	Roller Shaft with rollers, Back
340S	Standard Screw
340T	Standard Screw, Rear
463G	Roller Assembly
436S	Roller shafts & Lip Pin Screw
438W	Washer
441S	Screw, Throat Plate

PARTS NOT ILLUSTRATED

327K	Adjustable Knife Key
22028	Tube of Grease

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PARTS LIST

PART NO.	DESCRIPTION	PART NO.	DESCRIPTION
309C	Terminal Pin	348S	Screw, 4 x 3/16 Flat Hd.
309E	Nut	349J	Gear Cap
309G	Washer	391M	Trunnion Washer — #6 — .002"
311G	Grease Cup	410	Screw, 8 x 1/2 Fil. Hd.
313L	Lock, Throat Plate	428T	Screw
313R	Throat Plate — R4	437	Roller Shell only
313S	Screw, Throat Plate	438W	Washer
315K	Switch Box — R4	442	Switch
318J	Standard — R4	458B	Grounded Connector
319J	Gear with Bearing — #6	510B	Nut
320J	Gear Bearing (200K) — #6	510C	Screw, 10 x 3/8 Set
321J	Bearing Lock — #6	516W	Lock Washer
321W	Bearing Washer	518W	Lock Washer
322J	Gear Screw — #6	538C	Screw, 6 x 5/16 Bind. Hd.
323J	Pinion — #6	567	Screw, 6 x 1 Pan Hd.
323PJ	Pinion Pin — #6	802S	Screw, 6 x 3/16 Bind. Hd.
326J	Knife Lock — #6	818S	Screw, 6 x 1/4 Flat Hd.
328	Grinder Frame with Stones	1256	Rollpin
328E	Check Spring	10250	Bearing
328F	Grinder Frame only	10615	Washer
328J	Coil Spring	10644	Screw, M4 x 0, 7 x 10 Soc. Hd.
328V	Track — 4"	10711	Terminal Block Assy (w/10714, 10644, 309C)
328Z	Screw, 6 x 7/16 Fil. Hd.	10714	Terminal Block Cover
329A	Knife Guard — 4"	10749	Brush Holder
329L	Guard Carrier	10750	Carbon Brush
329LC	Spring Cup	10752	Brush Cap
329LS	Spring	10773	Screw
329LW	Washer	10774	Cap
329S	Screw, Guard Carrier	10776	Top Housing
330	Stones with Bushing, Pair	10781	Fan Washer
330N	Stones only, pair	10783	Fan
331S	Screw, 8 x 3/8 Rnd. Hd.	10788	Assembly Bolt
332	Trigger	10789	Washer
333	Trigger Screw	10792	Undulated Washer
334	Trigger Spring	10793	Washer
335A	Link — 4"	10794	Retaining Ring
335K	Link Knuckle	10796	Bearing, Bottom
335XA	Link with 332, 334 — 4"	10797	Bottom Housing
336	Link Screw	15072	Top Housing and Field Assembly 120V
337	Roller Plate with Lip & Rollers	15073	Top Housing and Field Assembly 220V
337J	Lip Spring	15120	Armature R41-5 120V
337L	Roller Plate Lip	15121	Armature R42-5 220V
337P	Lip Pin	30303	Knife-4"
339M	Roller Shaft with Rollers, Front	30322	Knife, High Speed Steel-4"
339P	Roller Shaft with Rollers, Back		
340	Lip Screw, M Hd., 10 x 1/8		
340S	Standard Screw, M Hd., 10 x 1/4		
340T	Standard Screw, Rear, M Hd., 10 x 5/16		
341C	Handle Assembly		
342	Screw, 8 x 3/4 Oval Hd.	327K	Knife Key
347J	Thread Seal — #6	328B	Top Plate for Grinder Frame
348J	Grease Circulator — #6	15141	Suppressor
		22028	Tube of Grease

Parts Not Illustrated

Knife Key
Top Plate for Grinder Frame
Suppressor
Tube of Grease

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