INSTRUCTION MANUAL

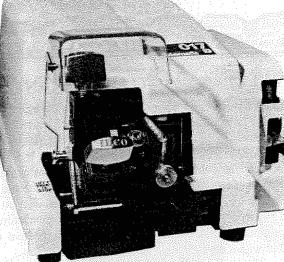
for the

O17 PROFESSIONAL MODEL

AUTOMATIC KEY MACHINE

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IMPORTANT: Read this manual thoroughly before duplicating any keys.

Thank you for selecting the 017 Automatic Key Machine. It is a precision machine crafted to provide many years of trouble-free service.

Before attempting to use your new machine, be sure to carefully read this instruction manual. It will introduce you to the operation of the Automatic Key Machine and show you, step by step, how to duplicate a key.



AS YOU READ, LOOK FOR THIS SYMBOL. IT EMPHASIZES IMPORTANT POINTS THROUGHOUT THIS MANUAL.

UNPACKING AND SETTING UP THE MACHINE

Remove all packing materials from the machine including the plastic Ty-Rap which holds the carriage in place. Inspect the machine for signs of hidden damage that may have occurred during shipment. Report any damage to the carrier immediately.

Position the key machine on a suitable working surface. The standard machine operates on 110 volts AC. This machine is equipped with a 3

prong plug for proper grounding. Special order machines are available in 220VAC and 12VDC models.



THIS MACHINE HAS BEEN FACTORY ADJUSTED. IT SHOULD NOT REQUIRE FURTHER ADJUSTMENT PRIOR TO USE.

TWO YEAR LIMITED WARRANTY

Ilco Unican warrants to the original buyer of any new model 017 machine that it will repair or replace, at its option, any part of any machine which proves, to the reasonable satisfaction of Ilco Unican, to have defects arising from the faulty manufacture of the machine or from defective materials or components, during a period of two (2) years from the date of shipment of the machine by Ilco Unican, provided that the machine is returned by prepaid transport to Ilco Unican or to its authorized representative before the expiry of the warranty period together with a detailed description of the alleged defect(s). Ilco Unican may, at its discretion, elect to refund the purchase price allocable to the part affected, or to issue a credit if the price therefore remains unpaid.

Ilco Unican sells precision-made machines. The buyer assumes all risks, and Ilco Unican shall not be liable for any reason, if the machine has been subjected to improper installation, improper use, improper or inadequate maintenance, negligence, if any unauthorized modification or alteration is made to the machine, or in case of accident. For greater certainty, any machine not operated in accordance with Ilco Unican's printed instructions or operated beyond its rated

capacity shall not be covered by this or any other warranty.

Any and all warranties made by Ilco Unican on any machine, product, or component thereof shall be effective only if and for so long as the buyer complies with all payment obligations pursuant to the buyer's accepted and acknowledged order. Failure to meet such payment obligations shall void all warranties and not extend the period of time for which such machine, product of component thereof is warranted irrespective of whether or not payment is eventually made.

These warranties are in lieu of and not in addition to any other warranty or condition, expressed or implied, including without limitation merchantability, fitness for a particular purpose or latent defects. The buyer releases Ilco Unican from any liability for any reason other than a breach of its warranties hereunder.

The liability of Ilco Unican shall in no case, including negligence, exceed the purchase price of the defective machine, nor shall Ilco Unican be liable for any personal injuries, property damage or consequential damages.

Use only genuine Ilco Unican replacement parts on this machine!

THE WAY WE THE THE WAY WE WAY

Registration and serial number is

Callette Call

Before you begin to duplicate any keys, examine the parts of the key machine and accessory pack. Knowing the names for the basic parts of the Professional machine will make instructions more meaningful and easier to understand.

(See Fig. 1 & 2).

Accessory Pack

Test Keys:

Used for adjusting cutter

to stylus.

Allen Wrenches:

Used in making adjustments on machine and performing

periodic maintenance.

Straight Wires:

Raises narrow keys requiring deep cuts in vise, and keeps

special keys from tilting in vise.

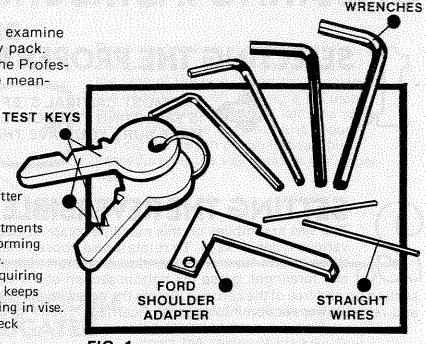
Ford Shoulder Adapter: Allows use of gooseneck

gauge on Ford keys.

Screwdriver:

For stylus depth and space

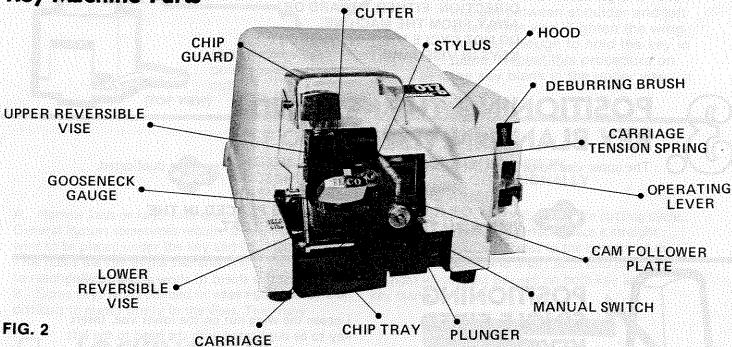
adjustments.



ALLEN

FIG. 1

Key Machine Parts



Manual Switch

The manual switch is used only to activate the wire brush . . . it does not activate the cutting cycle.

Starting Lever

The starting lever, when depressed, starts the cutting cycle. The machine will automatically shut off at the end of the cutting cycle, provided the manual switch has not been turned on. If the manual switch is turned on, the machine will continue to run after the cutting cycle is complete.

Reversible Vises

The vise assemblies on this machine rotate to accomdate various types of keys. Bottom halves of vise assemblies are factory matched and should not be interchanged with other vise jaws.

Gooseneck Gauge

The gooseneck gauge aligns the customer's key and the key blank. It is equipped with a safety switch and must be disengaged for the machine to operate.

OPERATING INSTRUCTIONS



SELECTING THE PROPER KEY BLANK.



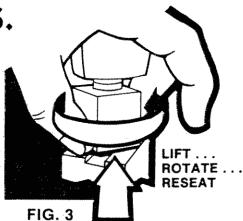
THE MOST CRITICAL STEP IN DUPLICATING A KEY IS SELECTING THE CORRECT KEY BLANK.
MAKE SURE YOU HAVE THE PROPER KEY BLANK.

SETTING THE REVERSIBLE VISES.

The vise assemblies on this machine rotate to accommodate various types of keys. To rotate a vise, loosen the wing nut three or four turns from the closed position. Using the thumb and forefinger, grasp the bottom section of the vise. Lift this section up and free of the carriage. Rotate the vise assembly one-half turn and reseat lower section into groove of carriage. (See Fig. 3)



NOTE THE ARROW ON THE TOP OF EACH VISE. BOTH ARROWS SHOULD ALWAYS BE POINTING IN THE SAME DIRECTION, EITHER TOWARD OR AWAY FROM THE MACHINE. DO NOT CYCLE MACHINE WITHOUT KEYS IN VISE JAWS.



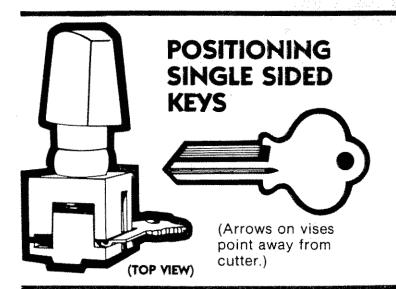


POSITIONING THE KEY AND KEY BLANK IN VISES.

The upper vise holds the KEY BLANK and the lower vise holds the key to be duplicated.

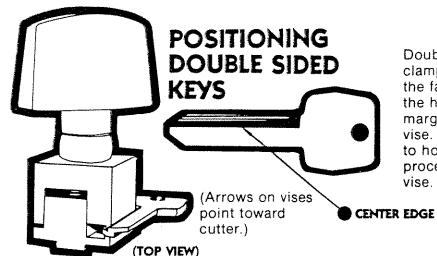


A KEY OR KEY BLANK IS ALWAYS PLACED IN THE VISE WITH THE KEY HEAD TO THE LEFT.

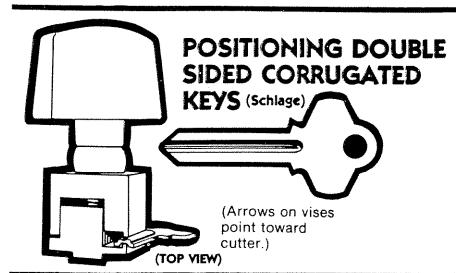


Raise protective shield to allow access to wing nuts for loading keys.

Loosen the wing nut on the lower vise. Insert key to be duplicated with the head to the left and cuts facing the stylus. Leave approximately 1/4 inch between the shoulder of the key and the left side of the vise. Tighten the wing nut just enough to hold the key in place. Repeat this procedure on the key blank in the upper vise. The thin edge of the key blank should be facing the cutter.



Double sided keys such as the Ford are clamped with the center edge against the face of the vise. Insert the key with the head to the left, leaving a 1/4 inch margin between head and left side of the vise. Tighten the wing nut just enough to hold the key in place. Repeat this procedure on the key blank in the upper vise.



A corrugated key is identified by the stamped groove running down the center of the key. Double sided corrugated keys are clamped in the vise in the center groove. Position the key with the head to the left, leaving a 1/4 inch margin between shoulder and left side of the vise. Tighten the wing nut just enough to hold the key in place. Repeat this procedure on the key blank in the upper vise.

USE OF STRAIGHT WIRES



THE USE OF STRAIGHT WIRES (SUPPLIED IN ACCESSORY KIT) IS REQUIRED OCCASIONALLY WHEN SPECIAL SITUATIONS ARISE.

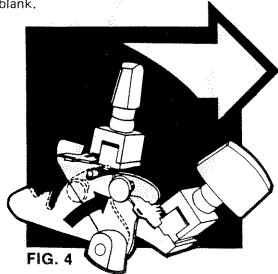
A. Narrow keys or keys with deep cuts such as General Motors sometimes require the straight wire to be placed under the key and key blank. This raises the key in the vise enabling the cutter to reach full depths.

B. Some keys with rounded or wide millings are difficult to clamp firmly in the vises. They have

a tendency to tilt and roll during the cutting cycle. To get a good gripping surface, place a straight wire into the milling closest to the bottom of the key and key blank and insert both into position. Straight wires must be used on both key and key blank.

LOCKING THE GOOSENECK GAUGE IN PLACE.

Pull the carriage toward you with your right hand using the lower wing nut. At the same time, pull the gooseneck gauge forward with the left hand until the pin on the carriage locks in the groove on the gooseneck gauge. (See Fig. 4)



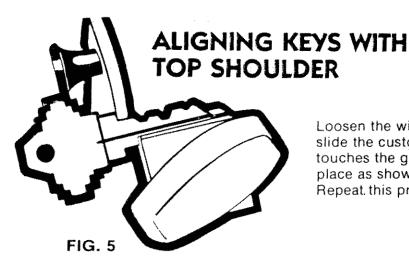


ALIGNING KEY AND KEY BLANK IN VISES.

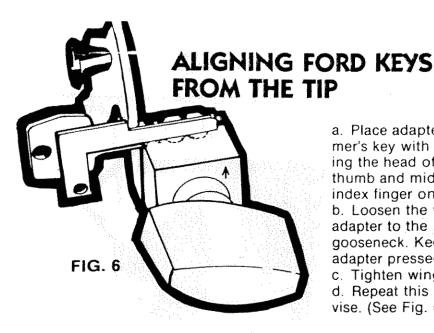
The key and key blank are aligned by using the gooseneck gauge as a common point of reference. The object is to have the shoulder of both the key and blank butted firmly against the gooseneck gauge. When they are in this position, they are aligned.



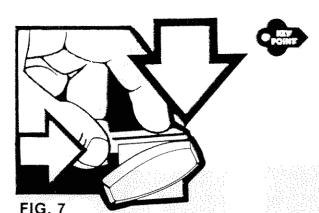
ALIGNING KEY AND BLANK IN VISES IS CRITICAL.
TAKE TIME TO BE SURE THEY ARE ALIGNED
PROPERLY.



Loosen the wing nut on the bottom vise assembly and slide the customer's key to the right until the shoulder touches the gooseneck gauge. Holding the blade firmly in place as shown at right (See Fig. 7), tighten the wing nut. Repeat this procedure on the key blank. (See Fig. 5)



- a. Place adapter (supplied in accessory pack) over customer's key with bent ear over the tip of the key. While holding the head of the key and the adapter between the thumb and middle finger of your left hand, place your index finger on the edge of both the key and adapter.
 b. Loosen the wing nut and push the customer's key and adapter to the right. This will but the adapter against the gooseneck. Keep the bottom edge of the key blade and adapter pressed firmly against the face of the vise.
- c. Tighten wing nut and remove the adapter.d. Repeat this procedure with the key blank in the top vise. (See Fig. 6)



WHEN ALIGNING KEYS OR KEY BLANKS IN THE VISES, THE INDEX FINGER SHOULD FORCE THE BLADE OF THE KEY (OR BLANK) DOWN INTO THE VISE. THE HEAD OF THE KEY MAY BE HELD WITH THE THUMB AND MIDDLE FINGER. THIS METHOD OF HOLDING THE KEY (OR BLANK) KEEPS THE EDGE OF THE BLADE FLUSH AGAINST THE INSIDE OF THE VISE AND KEEPS THE SHOULDER OF THE KEY BUTTED AGAINST THE GOOSENECK GAUGE. (SEE FIG. 7)



WHEN ALIGNING A DOUBLE SIDED KEY, THE CENTER THICK-NESS OF THE KEY IS FORCED DOWN AGAINST THE FACE OF THE VISE IN THE SAME MANNER.



RETURNING THE CARRIAGE AND **GOOSENECK GAUGE** TO THE STARTING POSITION.

Your left hand should be on the gooseneck knob. Pull the carriage toward you slightly to relieve the

Place your right hand on the carriage at the wing nut. tension on the gooseneck gauge and push the gooseneck gauge down.



AS YOU LOWER THE GOOSENECK GAUGE, MAKE CERTAIN IT IS IN CONTACT WITH SAFETY SWITCH, THE GOOSENECK GAUGE MUST BE IN THE DOWN POSITION OR THE MACHINE WILL NOT OPERATE.



BEGINNING THE CUTTING CYCLE.

Press down on the starting lever firmly. The lever will lock in position and the automatic cutting cycle will begin. When the carriage has returned to the starting position and the cycle lever has popped up, the cycle is complete and the machine will shut off.

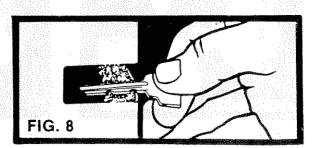


IF YOU ARE CUTTING A DOUBLE SIDED KEY. REMOVE THE KEY BLANK AND FLIP IT OVER. GO BACK TO STEP 3 AND BEGIN BY POSITIONING THE KEY BLANK WITH THE UNCUT EDGE FACING THE CUTTER, REPEAT STEPS 3-7.



DEBURRING THE DUPLICATE KEY.

The duplicate key will have small burrs on the blade. The burrs should be removed. Turn manual switch ON and hold the key gently against the face of the spinning brush. Turn manual switch OFF and the job is complete. (See Fig. 8)



ADJUSTMENTS

After considerable usage or when replacing a cutter, the machine may require adjustment. There are two basic adjustments, spacing and depth. Both spacing and depth refer to the alignment of the stylus and the cutter. Proper spacing assures that cuts copied from the customer's key will be the proper distance from the shoulder. Proper depth adjustment assures that the cuts made on the key blank will match the depth of those on the customer's key.



BEFORE MAKING ANY ADJUSTMENTS, UNPLUG THE MACHINE.



DEPTH ADJUSTMENT SHOULD BE CORRECT BEFORE ATTEMPTING

TO ADJUST SPACING.

HOW TO ADJUST FOR DEPTH OF CUTS

- 1. Remove the hood by releasing the screws on both sides of the machine.
- 2. Insert and align two identical, uncut key blanks in the vises.
- 3. Pull the plunger knob out and rotate it 1/4 turn in either direction to lock the plunger away from the cam follower plate. Remove the carriage tension spring to free the carriage. Move the carriage to the right so that the stylus is centered on the blade of the key blank.

If the cutter and stylus are both touching the key blanks, then the machine is properly adjusted for depth of cut. (See Fig. 9) The key touching the cutter should be touching only slightly. To check, turn the pulley that rotates the cutter a few turns by hand. The cutter should nick the key blank for only a small part of one full rotation. This occurs because no cutter is perfectly round. Adjustments should be made on the high point of the cutter.

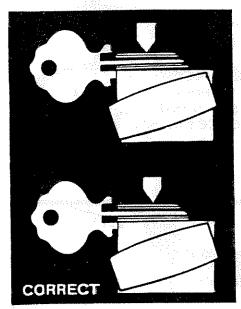


FIG. 9

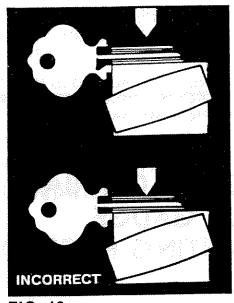


FIG. 10

If the stylus touches the key blank in the lower vise but the cutter does not touch the blank in the upper vise, the cuts will be too shallow. (See Fig. 10) To make the proper adjustment, loosen the depth locking screw slightly by turning it counter-clockwise. Turn the depth adjusting screw clockwise until the cutter, which should be rotated by hand, nicks the blank in the upper vise. Tighten the depth locking screw securely. (See Fig. 15)

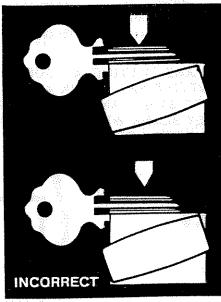


FIG. 11

If the cutter touches the key blank in the upper vise but the stylus does not touch the blank in the lower vise, the cuts will be too deep. (See Fig. 11) Loosen the depth locking screw slightly. Turn the depth adjusting screw until you are able to rotate the cutter so that it barely nicks the blank. Check the adjustment at another point and tighter the depth locking screw securely. (See Fig 15)

HOW TO ADJUST FOR SPACING OF CUTS

- Remove the hood by releasing the screws on both sides of the machine.
 Locate the matching pair of test keys from the accessory pack supplied with this machine. Rotate each vise assembly to point arrow away from the cutter. Insert and align one test key in each vise. (See Operating Instructions, Step 5)
- 3. Pull the plunger knob out and rotate it 1/4 turn in either direction to lock the plunger away from the cam follower plate. Remove the carriage tension spring to free the carriage. (See Fig. 12) Slide

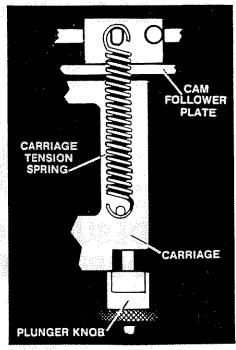


FIG. 12

the carriage to the right until the cutter and guide are centered in the grooves of their respective test keys. When the cutter is centered in the groove of the upper test key and the stylus is centered in the groove of the lower test key, as shown, the machine is properly adjusted for spacing. (See Fig. 13)

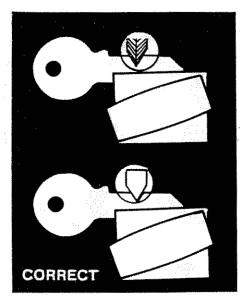


FIG. 13



NEVER ROTATE THE CUTTER WHEN ADJUST-ING THE MACHINE FOR

SPACING. ROTATING THE CUTTER WILL DAMAGE THE TEST KEY IN THE UPPER VISE.

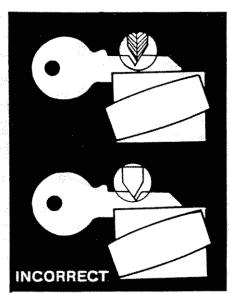


FIG. 14

4. If the cutter touches only the right side of the groove and the stylus touches only the left side of the groove, cuts in keys you duplicate will be too far from

the shoulder. (See Fig. 14) To make proper adjustment, loosen space locking screw slightly by turning it counterclockwise. Then turn the space adjusting screw counter-clockwise until cutter and guide are centered in the grooves. Tighten space locking screw securely. (See Fig. 15)

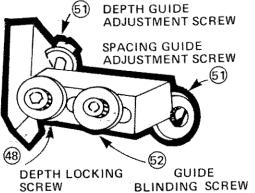


FIG. 15

If the cutter touches only the left side of the groove and the stylus touches only the right side of the groove, cuts in the duplicate will be too close to the shoulder. (See Fig. 11) To make proper adjustment, loosen space locking screw slightly and turn space adjusting screw clockwise until cutter and guide are centered in the grooves. Tighten the space locking screw securely. (See Fig. 15)

After the spacing has been checked or adjusted, remove the test keys from the vises. Unlock the plunger. Slide the carriage to the left until plunger drops into the cam follower plate. Return carriage tension spring to the proper post. (See Fig. 12)

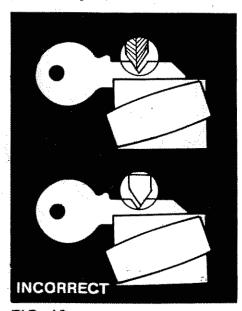


FIG. 16

HOW TO CHANGE THE CUTTER

(See Exploded Schematic on Page 10.)

- 1. Remove the hood by releasing the screws on both sides of the machine.
- 2. Remove cutter shaft nut (37) and cutter shaft spacer (36). When removing the cutter shaft nut (37), hold the cutter shaft (38) with a 9/16" open-end wrench in the flats provides.
- 3. Remove the worn cutter and replace with a new one.



BE SURE TO INSTALL CUTTER WITH THE ARROW POINTING IN

THE SAME DIRECTION AS ROTA-TION OF THE CUTTER SHAFT.

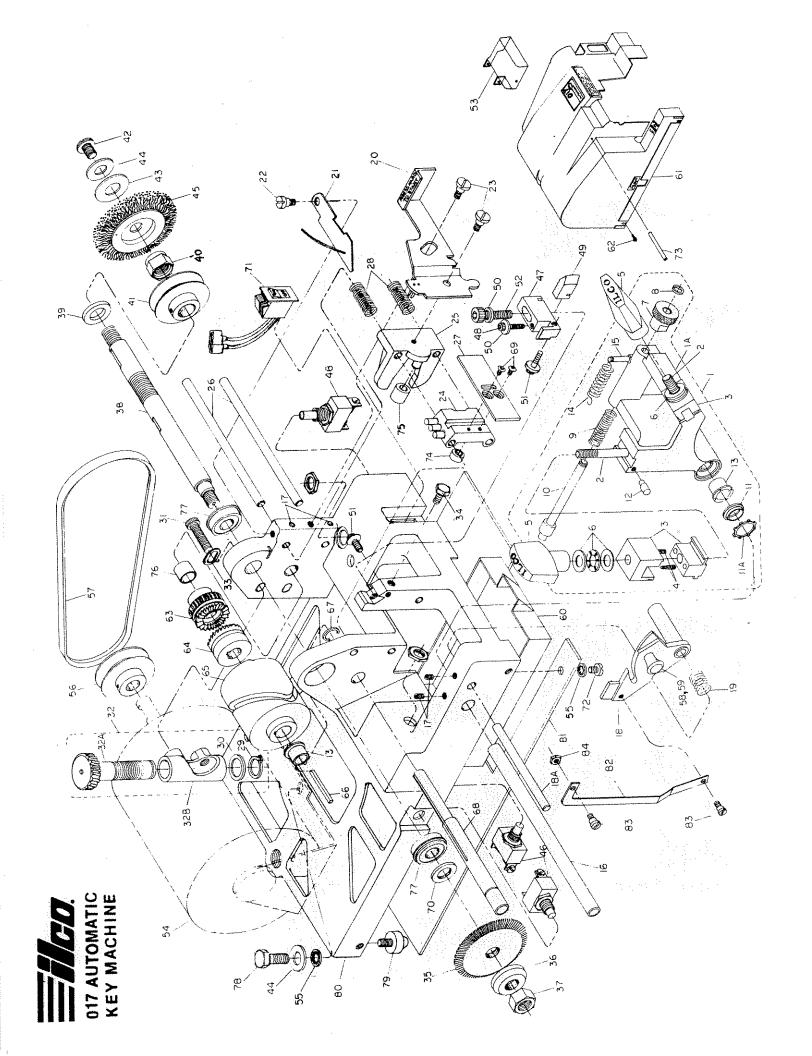
4. Check for depth of cut. Adjust if necessary.

HOW TO MINIMIZE CUTTER SHAFT END PLAY

(See exploded Schematic on Page 10.)

- 1. Remove the hood by releasing the screws (62) on both sides of the machine and linkage screw (83).
- 2. Remove machine screw (42) and washers (43 & 44) at right end of cutter shaft (38). When removing screw and washer hold cutter shaft secure with wrench in flats provided.
- 3. Remove deburring brush.
- 4. Loosen 2 allen screws that secure machine pulley (41) to main cutter shaft (38).
- 5. Tighten hex nut (40) gradually, by hand, until all end play is eliminated. Then tighten hex nut (40) 1/8 turn* additional.
- 6. Tighten two allen screws in machine pulley.
- Replace washer and screw. Hold cutter shaft secure with wrench in flats provided.

*CAUTION: Do not overtighten hex nut.



017 PARTS LIST

Ref, No.	Part No.	Description	4111
-	800001	Carriana Assembly (Complete)	1
	100001		
≰ ,	INZUDZILI.	Carnaye	- 0
2	129563	Key Clamp Stud	7
ო	BD0247XXXX	Replacement Vise	N .
		Jaw Assy (Complete) incidues:	
		Lower Vise Jaws (2)	****
		Vise Springs (4)	
4	199179	Vise Springs	4
ഹ	103138	Wing Nut Assy.	2
9	BD0222XXXX	Thrust Bearing Set, includes:	~
		Thrust Washers (4)	
		Thrust Retainers (2)	
7	129424	Plunger Knob	
ဆ	164378	Snap Ring	-
6	184010		-
10	129422	Plunger Conn. Rod	_
-11	129544	Carriage Shaft Wiper	2
11A	164004	Wiper Retaining Ring	2
12	129428	Gooseneck Holding Pin	
13	129545	Bushing	က
14	184480	Carriage Tension Spring	-
15	153462	Groove Pin	-
16	129426	Carriage Shaft	-
17	174036	M5 x 8mm Set Screw	4
18	600002P		-
18A	129538	Gooseneck Guide Rod	-
19	199018	Starting Lever Spring	-
20	B2100002	Starting Lever	
21	B2215033	Starting Lever Latch	-
22	129562	Latch Shoulder Screw	-
23	129564	Starting Lever Shoulder Screw	7
24	600004	Cam Follower	*
25	500004M	Clutch Shifter	
26	129598	Guide Rod	2
27	199038	Cam Follower Plate	-
28	184004	Rod Spring	2
29	164630	Worm Gear Snap Ring	-
30	101930	Thrust Washer	_
31	174040	M6 Socket Head Cap Screw	2
32	600003		
		consists of Nos. 32A, 32B, 29 & 30	
32A	129016		-
328	500005M	Worm Gear Hgs, Machined	-
33	194007	Slotter Washer	7
34	147004		-
35	BC0086XXXX		- -
36	825154/3		
37	151012	M12 L.H. Hex Nut	
38	129546	Main Cutter Shaft	
39	129543		+
40	B2400499	M12 Shelf Locking Hex. Nut, machined	-
41	500014M	Cutter Shaft Pulley	-
42	174054	M6 Machine Screw	-

To order: Specify reference number, part no., description, serial no., model and quantity

, 150 150 150		Description	machine
44	194080	W-1 Flat Washer	s .
45	129898	Nylon Brush	***
46	129537	Switch	m
47	129548	Guide Holder	-
48	174039	M5 x. 16,0mm Socket Head Screw	-
49	129539	Guide	-
20	194008	.26 I.D. x,5 O.D. Washer	2
51	129565	Guide Adjustment Screw	2
52	174038	Guide Binding Screw	,
53	129594	Safety Shield	-
54	129330	1/4 H.P. 110V Motor	-
55	194271	Internal Tooth Washer	80
56	129627	Motor Pulley	-
57	129092	V-Beit	
58	103139	Knob	-
23	170004	M5 Flat Head Machine Screw	+
60	129264	Chip Tray	-
61	129595	Нооф	-
62	173001	Hood Retaining Screw	4
63	129472	Worm Gear Clutch	
64	129470	Cam Drum Clutch	
65	199012	Cam Drum	-
99	199007	Key	
29	164025	Cam Drum Shaft Retaining Ring	-
89	129408	Cam Drum Shaft	1
69	174041	Cam Follower Screw	2
70	129536	Cutter Spacer	-
71	129360	Rocker Switch Assy Complete	
72	172010	M5 Machine Screw	4
73	129603	Safety Shield Pivot Shaft	
74	129412	Cam Follower Roller	-
75	129416	Cluton Shifter Roller	1
76	129542	Cam Drum Shaft Bushing	-
77	101008	Cutter Shaft Bearing	2
78	174037	M6 x 20.0mm Lg. Cap Screw	4
79	129541	Rubber Mount	4
8	135019P	Base	-
180	129567	Bottom Cover	-
82	103172	Lift Bracket	-
83	129593	M4 Retaining Screw	2
84	151013	M4 Hex Nut	-
86NS	600009	Wiring Harness (Complete)	-
87NS	129395	Dual Voltage Motor (for 220V Models)	-
88NS	129297	1/4 HP 12 volt motor	
SN68	129023	Strain Relief Bushing	***
80NS	129604	Screw Driver	qua.
91NS	159000	2.5mm Hex Key	,
92NS	129587	Зтт Нех Кеу	,
93NS	129588	4mm Hex Key	
94NS	129589	5mm Hex Key	
95NS	82572085	Straight Wires	2
96NS	B2404140	Space Adjustment Key	2
97.NS	103772U	Ford Shoulder Gage (831-00-11)	-
CINCO	170670	Can Plan	•

TROUBLESHOOTING GUIDE

SYMPTOM	POSSIBLE CAUSE	CORRECTIVE ACTION
Machine appears to be operating properly, but keys will not operate lock.	Attempting to cut the wrong key blank	Examine customer's key closely and compare with selected key blank. Check millings, shape, size, etc.
	2. Improper gauging of key and key blank.	 Consult operating instructions, steps 4 and 5. Be sure you are following instructions exactly. This is a critical step in duplicating keys.
	3. Chips have collected inside vise.	Clean both vises. They should be totally free of chips.
	 The edge of the key or key blank is not flush against the inside of the vise. 	Consult operating instructions, step 5. Pay particular attention to the key point concerning how to hold the key in the vise.
	 Cutter shaft end play (The cutter shaft is free to move back and forth horizontally causing a widening of cuts and possible miscuts.) 	Consult the section in this manual covering How To Eliminate Cutter Shaft End Play.
	*If one of the possible causes listed above is not responsible for the symptom, the machine may require adjustment. Refer to the DEPTH AND SPACE ADJUSTMENTS section in this manual.	
Excessive vibration - motor sounds labored.	1. Belt is too tight.	Loosen Belt, Properly adjusted belt can be deflected 1/2".

CLEANING

Machine should be cleaned of chips and dust regularly to insure trouble-free performance. The 017 is a machine tool and should be treated with care.

OWNER'S RECORD

For your convenience and protection, we suggest that you fill in the information indicated below so that you have an easy and accessible

way to record your purchase of the Model 017 Automatic Key Machine.

Serial Number	
Date Purchased	
Distributor	
Distributor Invoice Number	

Kaba Ilco Corp.

P. O. Box 2627, Rocky Mount, NC 27802-2627 400 Jeffreys Rd., Rocky Mount, NC 27804 Tel.: (252) 446-3321 • FAX: (252) 446-4702

LUBRICATION

Oil at least once every month with good medium grade oil in the following areas:

- a. Two quide rods ITEM No. 26
- b. "Oil Hole" worm gear and worm ITEM No. 32A

Grease with multi-purpose grease at least once every six months in the following areas:

- a. Worm gear and worm ITEM No. 32A
- b. Cam clutch ITEM No. 63
- c. Connecting bar plunger ITEM No. 10 as it enters the cam follower plate ITEM No. 27

Not all motors require lubrication. Refer to the label on the motor for instructions. the label on the motor for instructions.

