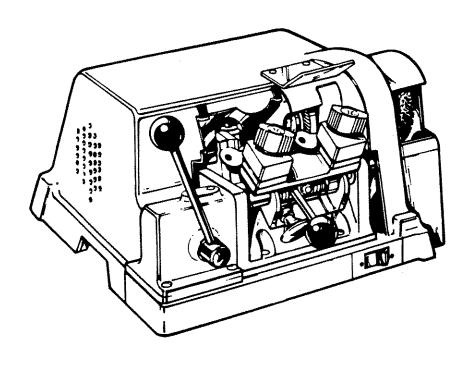


OPERATING INSTRUCTIONS O24 SEMI-AUTOMATIC KEY DUPLICATOR



THIS MANUAL IS TO ACQUAINT YOU WITH THE OPERATION AND MAINTENANCE OF YOUR KEY DUPLICATING MACHINE.

PLEASE READ THESE INSTRUCTIONS CAREFULLY BEFORE OPERATING THE MACHINE. TIME SPENT READING THESE INSTRUCTIONS WILL ASSURE YOU ACCURACY IN DUPLICATING KEYS.

THIS SEMI-AUTOMATIC KEY DUPLICATING MACHINE HAS BEEN ENGINEERED AND DISIGNED TO UNCOMPROMISING STANDARDS OF QUALITY AND PRECISION FOR LONG AND DEPENDABLE SERVICE.

WE WOULD LIKE TO TAKE THIS OPPORTUNITY TO THANK YOU FOR HAVING CHOSEN OUR MACHINE. WITH PROPER CARE IT WILL SERVE YOU WELL FOR MANY YEARS.

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SET UP PROCEDURE

Place your machine on a sturdy level table or counter top. Bolt it down securely. Four holes are located on the base for this purpose.

IMPORTANT

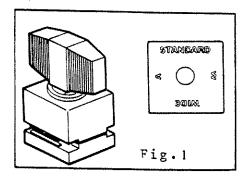
It is essential that your key duplicator be bolted down for its proper operation, to insure accuracy, and minimize wear.

Your machine has been thoroughly tested at the factory. No further adjustments should be necessary. After removing the wrapping, clean thoroughly. A 1" paint brush is handy for this purpose to periodically dust the chips out of the vise jaws and other working parts of the machine.

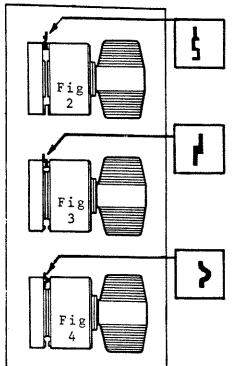
SAFETY FEATURE

This machine is equipped with a circuit breaker switch on the back of the base. This feature ensures that should there be an overload, on your motor, that it will not be damaged. To reset the switch simply push it in.

SELECTION OF JAW POSITION



Your machine is equipped with FOUR WAY JAWS THAT DO NOT REQUIRE THE USE OF ADAPTERS. (See figure 1). The following jaw positions are labelled as follows and will be referred to throughout this booklet.



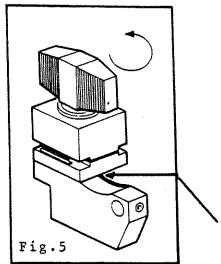
For "STANDARD" width keys. Used on most commercial keys or house keys. (See figure 2) EXAMPLE: Dominion, Schlage, Weiser etc.

For "WIDE" blade large commercial key blanks, for some European locks which are cut on both sides, where the center milling of the key can rest on the top of the jaw as illustrated. (See figure 3) EXAMPLE: Ford, Chicago, etc.

Use "A" in duplicating of Schlage "A" double sided keys, some European and Japanese automobile keys as well as other applications where a firmer grip is needed. (See figure 4)

Use "W" in duplicating of Schlage "W" double sided keys. Center of key is held on ridge in jaw shown for position "A".

From experience, many other uses for the different positions of the jaw will be found.



TO CHANGE JAW POSITIONS

- 1) Turn the wing nut at least 7 complete turns counterclockwise. (See figure 5)
- 2) Place fingers in the recessed holes provided, lift upwards and rotate until desired position is reached. In doing so, be sure to raise lower jaw enough to clear its seat.

Recessed Groove

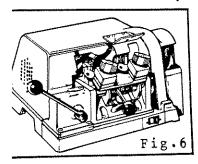
DUPLICATION OF REGULAR TYPE KEYS

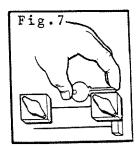
CE: ALWAYS WEAR EYE PROTECTION WHEN OPERATING THIS MACHINE.

Select the proper key blank. Compare the head, length and key's cross section with the key to be duplicated.

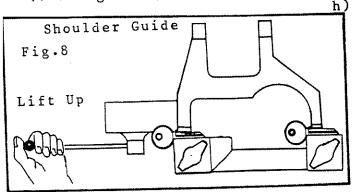
Make sure the jaws are in the required position. See "Selection of Jaw Position".

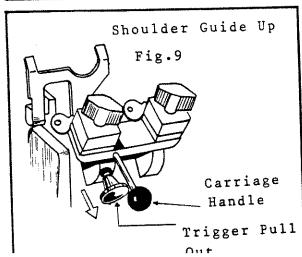
We are now ready to duplicate the first key. Proceed as follows:





- a) Move the carriage lever to the left as far as possible. (See figure 6)
- b) Place the key blank in the right jaw. Position key so that it is parallel with the front portion of the jaw. (See figure 7)
- c) Swing shoulder guide down to rest on the blade of the key blank. Slowly move carriage lever clockwise to the right until the shoulder of the key blank butts up against the shoulder of the guide. (See figure 8)
- d) Use index finger to press down on the tip of the blank to make sure blank is properly seated in the jaw.
- e) Place original or sample key in left hand jaw, repeat 3D
- f) After completing step 3D, swing the shoulder guide out of the way.
- By pushing down on the carriage handle, pull the trigger out towards you, which releases the carriage assembly, and lift carriage assembly slowly, (See figure 9)





The carriage movement is controlled by the carriage lever. Slowly and smoothly, move the carriage lever clockwise (right) Erractic jerky movement will only stop the machine. Once you have made the pass to the right, move carriage to the left by moving carriage lever counterclockwise. As this machine is supplied with a symetrical double sided milling cutter, increased cutter life can be achieved by alternating the carriage movement. You can start to cut tip first or by starting from the shoulder of the key. This will provide even wear.

- i) Turn machine off and remove finished key by pushing down on the carriage handle until the trigger clicks into place. Then open jaws and extract key.
- j) To deburr the key, turn the machine on, and pull key lightly, but rirmly through the rotating deburring brush.

DUPLICATION OF IRREGULAR KEYS

The majority of the keys presented for duplication are easily cut. The four way jaws simplify the job of holding keys of unusual irregular shape such as Ford, Schlage double sided, etc... The following instructions will help with the duplication of these keys.

SCHLAGE DOUBLE SIDED KEYS

Use jaw positions "A" or "W" for duplication of Schlage double sided keys.

- 1) Rotate jaws to position "A" or "W" as required.
- 2) For proper insertion of these keys, see "Selection of Jaw Position".
- 3) Repeat steps as outlined for duplication of Regular keys. As some of these keys are cut on two sides, reverse the original and sample key and repeat.

FOR FORD DOUBLE SIDED, BEST, FALCON AND OTHER KEYS WITHOUT SHOULDERS

- 1) Rotate jaws to "Standard" or "Wide" as may be required by the size of the key.
- 2) Place key blank in right hand jaw. The blank should be located in the jaw so the tip of the blank is parallel with back portion of the jaw.
- 3) Engage carriage as for cutting regular keys.
- 4) Using the carriage lever move carriage until the tip of the key butts up against the cutter. Maintaining this position, place sample key in left hand vise and slide key until it butts up against copying dog.
-) 5) Turn machine "ON" and proceed as outlined in duplication of regular keys.
 - 6) If key is cut on two sides, turn over and duplicate reverse side. In the case of Ford keys and most European and Japanese double sided keys, only the blank key needs to be turned as the cuts are the same on both sides.

NOTE: The forementioned procedures can also be used in duplicating broken keys that do not have shoulder to gauge from.

DUPLICATING CHICAGO DOUBLE SIDED KEYS

- 1) Set jaws to "Wide" or other position that would provide a secure grip. Some of the less popular Chicago keys (41N, 41FD, etc.) can be secured firmly in the "A" or "W" jaw position.
- 2) Proceed as for regular keys by using shoulder guide to gauge shoulders. Although the jaws provide a secure grip, it is advised that when duplicating, the carriage movement should be slower.
- 3) Once one side has been cut, turn the original key and blank over to duplicate the reverse side.
- ,4) Remove finished key and deburr.

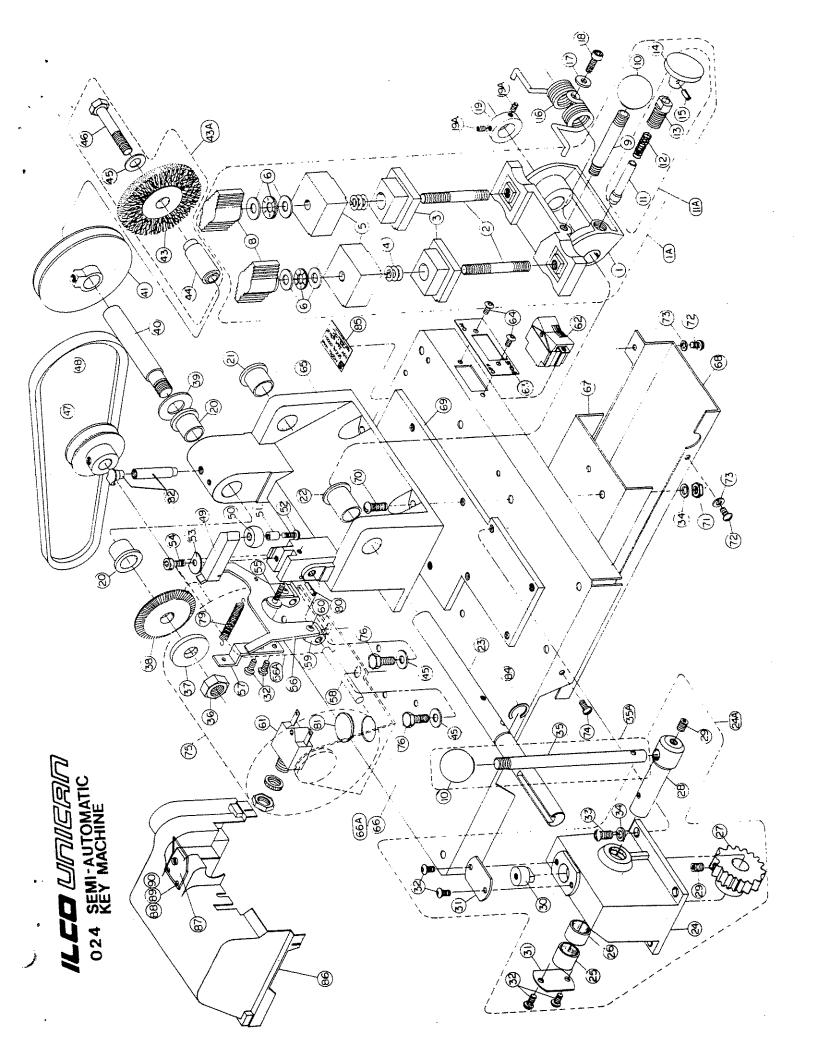
FOREIGN AUTO KEYS

Most European and Japanese auto keys are double-sided. With the four jaw positions available, the gripping of the keys should pose no problem. In most cases, the "Standard" and "Wide" positions may be used. With experience you will find the proper positions to cut these type of keys.

Ref.	Part No.	Description	orv.
	41050416	Carriago Area (consist of Not 1-15)	-
₹ -	11050154	Base	-
2	1103536A	Carriage Studs	2
34		4 Way Vise Jaw Assy includes:	-
		Cover Vise Jaws (2)	
		Upoper Vise Jaws (2)	
		Thrust Bearings (2)	·
3		Lower Vise Jaws	7 (
4	1103495P	Carriage Clamp Springs	7
ည		Upper Vise Jaws	1
9	BD0222XXXX	Thurst Bearing Set includes	-
		Thrust Rearings (2)	
8	1103264A	Wing Nut (Ilco)	راء
6		Carriage Handle	(
10	129600	A DOMESTIC WITH THE PARTY OF TH	7-
114	1105186A	Trigger Assy (consist of 11-15)	
		Trigger Frunger	-
77		Trioner Rody	_
14		Trigger Knob	-
15	**************************************	1/16 x 3/8 Roll Pin	-
16	1105170P	Torsion Spring	-
17	194251	Washer	-
18	174605	No.10-32 x 1/2 Socket Hd Cap Screw	-
19	1105034A	No. 10 32 x 1/4 Socket Hrt Set Screw	- 6
48-CC	110300KD	Olite Bushing 3/4 x 5/8 x 1" Flanced	
21	1105032P	Bushing 13/16 x 5/8 x 5	-
22	1105031A	q	-
23	1105111A	Carriage Shaft Rack	-
24 A	11050578	Gear Housing Assy (consist of parts 24-34)	-
24	1105056A	1014 012 0121	
25	1105030P	2/8 x 1/2	- -
97		Usning 13/10 x 3/0 x	- -
/7	1105111	Pinion Chaft	-
07	110205P	1/4.28 x 3/8" Socket Hd Set Screw	2
30	1105105P		-
31	1105036A	Cover Plate	2
32	1105115P	No.10:24 x 3/8" Hd Cap Screw	9
33	172448	1/4.20 x 1/2" Lg RH Slotted Mach Screw	4
34	194253		8
35A	11050128	Bar Handle Assy (consist of parts 10 & 35)	-
35	1105011A	Bar Handle (Lever)	-
98			- -
37	1106180P	Cutter Shart Spacer	- -
20 00	BC0048XXXX	I INC CUITER	- -
25	1106100P	Fiber Wastlet	- -
41	B2400048	Pul.	-
			-
43A	BF000211XX	Brush Kit (consists of 43-46)	-
43	129898	814 Nylon Brush	-
44	1103103A	Brush Adaptor	1
45	194080		വ
46	1103080P	5/16-18 x 2-1/4" Lg. Hex Hd Bolt	-
47	129085	Motor Pulley 2"-3L	-

,† Quantity per machine.

10 10 10 10 10 10 10 10	Ref.	Part No.	Description	Ory*
1105065A Cutter Guide Roller 1105070P Cutter Guide Roller 1103370P Cutter Guide Roller 1103370P Cutter Guide Roller 1105120P No. 8:32 x 5/8 Lg. Button Hd Cap Screw 1105103D No. 8:32 x 5/8 Lg. Button Hd Cap Screw 1105070A Cutter Guide Adjustment Screw 1105070A Rev Guide Adjustment Screw 1105070A Rev Guide Bracket 1105070A Rev Guide Says (consists of Nos 66 & 67) Recreated Cover Says (consists of Nos 66 & 67) Rev Guide Says (consists of Nos 66 & 67) Rev Guide Spring Rev Guide Spri	48	129423	3L.180 V.Belt	-
1003370P Curter Guide Roller 1003090P Curter Guide Roller Bushing 1061090P Curter Roller Bushing 1061090P No.832 x 5/8 Lg. Button Hd Cap Screw 10703030 Washer 10703030 Washer 10703030 Washer 10703030 Washer 10703030 Washer 10703030 Washer 10703030 Curcuid Adjustment Screw 1105070S Key Guide Adjustment Screw 11061030 Key Guide Housing Curcuid Bracket 11061030 Curcuid Bracket Curcuid Bracket 11061030 Curcuid Bracket Cu	49	1105065A	Cutter Guide	
100000P Guide Bushing 100000P No. 8.32 x 5/8 Lg, Button Hd Cap Screw 100703U Washer 1/2" Lg Socket Hd Cap Screw 100703U Washer 1/2" Lg Socket Hd Cap Screw 100703U Washer 1/2" Lg Socket Hd Cap Screw 100602F Coulde Adjustment Screw 100602F Key Guide Bracket 100602F Key Guide Housing 100613A Key Guide Housing 1003149F Circuit Breaker 1003149F Circuit Breaker 1003149F Circuit Breaker 1003149F Circuit Breaker 1005008A Circuit Breaker 1003382P Circuit Breaker 1003382P Circuit Breaker 1003308P Circuit Breaker 1005008A Circuit Breaker 1003308P Circuit Breaker	50	1103370P	Guide	-
1105120P No. 8-32 x 5/8 Lg, Button Hd Cap Screw 102030JU Washer 105030JU Washer 105070JU Washer 105070JU 10-24 x 1/2" Lg Socket Hd Cap Screw 105070JU Clude Adjustment Screw 1105070JU Clude Adjustment Screw 1105070JU Key Guide Assy, (consist of part 56, 59 & 601 Mach 100502P Key Guide Bracket 1105070JU Key Guide Bracket 1105070JU Key Guide Bracket 1105132B Creuti Bracket 1103132P Creuti Bracket 1103335P Creuti Bracket 1103335P Creuti Bracket 1103335P Creuti Bracket 1103335P Creuti Bracket 1105000JU Electrical Cover 110500JU Electrical Electrical Cover 110500JU Electrical Electrical Electrical Electric	51		Roller Bushing	
102703U Washer 1065703U Guide Azi 1/2" Lg Socket Hd Cap Screw 11060708 Key Guide Assy I (consist of part 56, 59 & 60) 11060704 Key Guide Assy I (consist of part 56, 59 & 60) 11060704 Key Guide Bracket 1106100P Dowell Pin 1/4 x 2 1/2" LG 1106100P Bowell Pin 1/4 x 2 1/2" LG 1106100P Created Plousing 1106103P Rey Guide Bracket 1103128P Creating Breaker 1103395P Rocket Switch 1106103P Rocket Switch 1106061P Electrical Cover 1106061P Electrical Cover 1106061P Electrical Cover 1106061P Electrical Cover 1106061P Aluminum Base Plate 1106061P Electrical Cover 1106061P Aluminum Base Plate 1106061P Aluminum Base Plate 1106061P Electrical Cover 1106139P No. 83 22 x3/16 Har Mach, Screw 1105130P No. 83 22 x3/16 Har Mach, Screw 1105339P No. 83 22 x3/16 Har Mach, Screw 1105339P No. 83 22 x3/16 Har Mach 1103322P Roll Pin 1103332P Roll Pin 1103322P Roll Pin 1103322P Roll Pin 1103322P Roll Pin 1103322P Roll Pin 1103332P No. 83 2 x3/16 Har Mach, Screw 1106138P Oil Cup Extension 1103332P No. 1/4 20 x 5/16 Socket Hd Set Screw 1106068 No. 10 23 x 1/2" Machine Screw 1106068 No. 10 23 x 1/2" Machine Screw 1105068 No. 10 23 x 1/2" Machine Screw 1105068 No. 10 23 x 1/2" Machine Screw 1105068 No. 10 23 x 1/2" Machine Screw 1103135P Roll Pin 110330P No. 10 22 x 2/4 Har No. 10 22 x 2	52	1105120P	2 x 5/8 Lg. Button Hd	-
1056160P 10-24 x 1/2 L 9 Socker Ind Cap 2-3 cm. 1056070S Key Guide Assy, (consist of part 56, 59 & 60 1056070A Key Guide Bracket 11050076 Key Guide Bracket 11050076 Key Guide Bracket 11050076 Key Guide Bracket 11051036 Key Guide Bracket 11051036 Key Guide Bracket 11051036 Key Guide Housing Key Guide Housing 1103149 No. 8-32 x 1/2 Button Hd Cap Screw 1103149 Decal On/O! No. 8-32 x 1/2 Button Hd Cap Screw 1103395 Base Plate 1105008 More 1/44P x 110 V 1103332 No. 8-32 x 3/16 RHSM Screw 1105008 No. 8-32 x 3/16 RHSM Screw 1105039 No. 8-32 x 3/16 RHSM Screw 1105039 No. 8-32 x 1/4 Lg. Fruss Hd Mach. Screw 1105130 No. 8-32 x 3/16 RHSM Screw 1105130 No. 8-500 No. 10 Lo. Cover No. 10-32 x 1/2 Machine Screw 1105050 No. 10-32 x 1/2 Machine Screw 1103390 No. 10-32 x 1/2 Machine Screw 1103390 No. 10-32 x 1/2 Machine Screw 1103130 No. 10-32 x 1/2 Machine Screw 12900	53	102703U	Washer	
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GENERAL MAINTENANCE

LUBRICATION

There are five points of lubrication on your machine. Electric motor oil is suggested, however, a light grade of oil will do the job. Lubricate the following areas twice a month of if above normal usage, more often.

- 1) The two thrust washers located under the wing nuts.
- 2) One oil cup located on top of the machine for lubrication of the cutter spindle.
- 3) The oil cups located on the motor.

ADJUSTMENT OF COPYING DOG

The most critical area of adjustment on your machine is the copying dog. Periodically check by cutting a key for a sample cylinder. As the cutter areas wears the copying dog may need adjustment relative to the position of the cutter.

TO ADJUST DEPTH OF CUT

- 1) Set up machine with two identical key blanks. Operate machine as you would for duplicating. If the cutter just grazes the blank, it is properly adjusted. If the cutter bites hard into the blank, you need to adjust for a more shallow cut. If the cutter does not touch the blank adjust for a deeper cut. An allen wrench (provided with the machine) and a slotted screwdriver will be needed to adjust the copying dog.
 - a) Loosen the allen screw which holds the securing plate.
 - b) Turn the adjusting screw clockwise for a deeper cut and counterclockwise for a shallow cut. After checking with two blanks, cut a key for a sample lock. The duplicate cuts may also be checked using a special or pointed micrometer to measure depth of cut and compare with cuts in the original and duplicate key.

"V" BELT ADJUSTMENT

A maximum of 1/2" slack is recommended.

CLEANING

Your machine should be kept clean of all filings and dust. The most critical areas are the carriage jaws and shafts. A one inch paint brush is ideal to brush these areas of the machine. The shafts should be wiped periodically with a lightly oiled cloth. We suggest brushing the jaws often as even a filing can alter the accuracy of the machine.