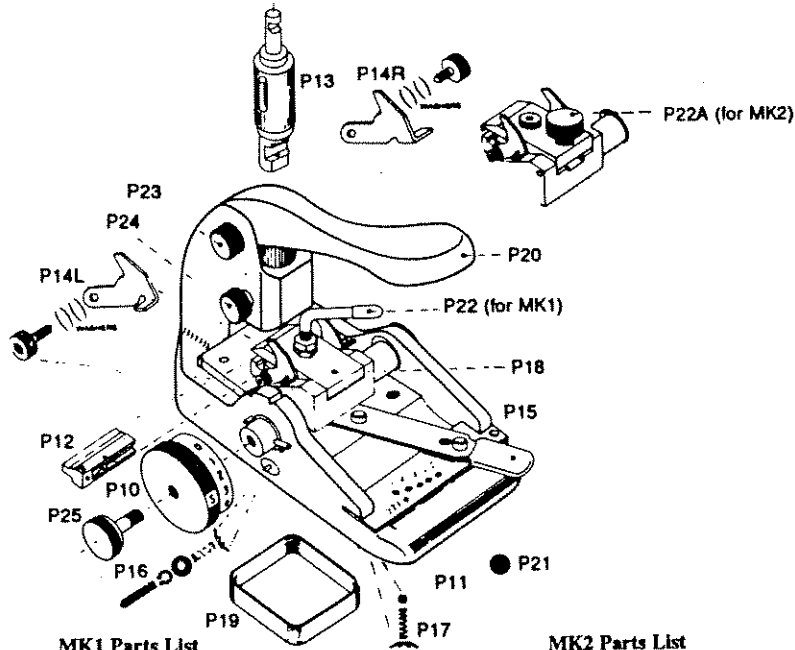


# EXPLODED VIEW



MK1 Parts List

MK2 Parts List

Prod. No.	Description
P10	Depth Knob (Specify No. A, B, C, etc.)
P11	Spacing Plate (Specify No. 100, 101, etc.)
P12	Key Insert (Specify No. 1, 2, 3, etc.)
P13	Punch and Die Assembly (Specify No. 1, 2, 3 etc.)
P14R	Shoulder Guide, right side
P14L	Shoulder Guide, left side
P15	Spacing Lever Assembly
P16	Detent Assembly for Depth Knobs
P17	Detent Assembly for Spacing Plate
P18	Carriage Assembly
P19	Plastic Box
P20	Lever
P21	Felt Pads (set of 4)
P22	Carriage Lever
P23	Lever Screw
P24	Knob Set Screw
P25	Depth Knob Screw
P26	Parts organizer for MK1 and MK2
P27	Carrying case for MK1 and MK2

Prod. No.	Description
P11	Spacing Plate (Specify No. 108, 693, etc.)
P12	Key Insert (Specify No. 21, 123, etc.)
P13	Punch and Die Assembly (Specify No. 13, 15, etc.)
P14R	Shoulder Guide, right side
P14L	Shoulder Guide, left side
P15	Spacing Lever Assembly
P16	Detent Assembly for Depth Knobs
P17	Detent Assembly for Spacing Plate
P18	Carriage Assembly
P19	Plastic Box
P20	Lever
P21	Felt Pads (set of 4)
P22A	Carriage Set Screw
P23	Lever Screw
P24	Knob Set Screw
P25	Depth Knob Screw
P26	Parts organizer for MK1 and MK2
P27	Carrying case for MK1 and MK2

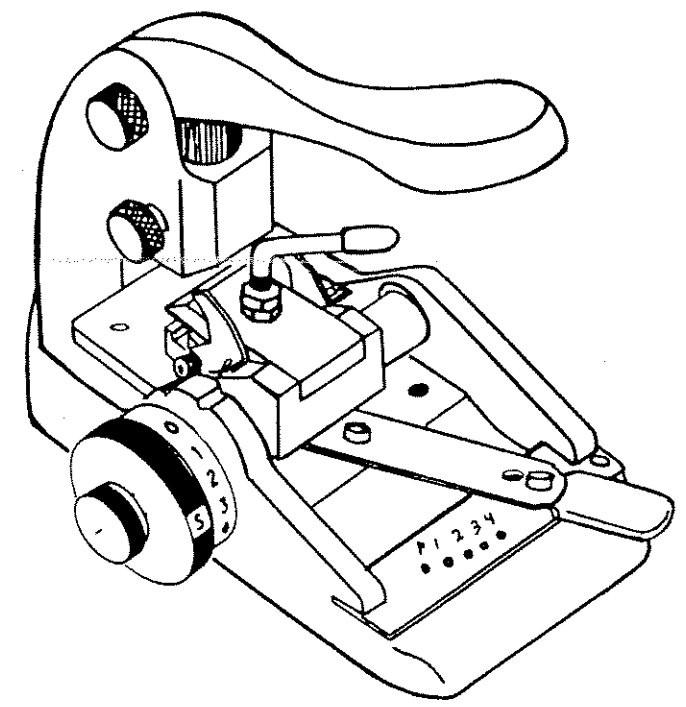
	DECODING GAUGES
DG-FO-MA	Ford, Mazda, Tracer, Festiva
DG-GM-CH	General Motors, Chrysler
DG-NIS-HY	Nissan (Datsun), Hyundai
DG-TO	Toyota
DG-VL-VW	Volvo, Volkswagen

	DECODING GAUGES
DG-MK2	Schlage, Weiser, Dexter, Kwikset
DG-MK2P	Best/Falcon, Dominion, Master padlock, American Padlock

# EXACTA MK1 and MK2 Models

## INSTRUCTION MANUAL

**IMPORTANT!** Read these instructions before you use your new Exacta Machine



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

A Member of the Kaba Group

This manual is registered and applies specifically to the machine which carries this serial number. It properly identifies your model and assures you will receive correct parts, if and when you require replacement parts. Retain this manual in a safe place. It's the only one of its kind. If ownership of this machine is transferred, this service manual

should accompany the machine.

When seeking service information about this machine, refer to the Model No. (which is MK1 or MK2), your registration number (see below) and the part number desired (see pages 4 to 9). Note that MK1 parts are not interchangeable with the commercial Exacta, Model MK2.

## CONTENTS

Warranty .....	2
Introduction to the Exacta .....	3
Operating Parts (Illustrated) .....	4
The Cutting Operation - Theory of Code Cutting .....	5
The Cutting Operation - Preparing the Exacta for Cutting .....	7
The Cutting Operation - Operating the Exacta .....	9
How to Align Keys .....	11
Exploded View .....	12

### ONE YEAR LIMITED WARRANTY

ILCO UNICAN warrants to the original buyer of any new model Exacta 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 material or components, during a period of (1) year 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 or 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 of 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!

Registration and Serial number is: \_\_\_\_\_

## ALIGNING THE KEY BLANK IN THE CARRIAGE JAW

The key blank must be set into the carriage jaw in a specific location so that the cuts will appear in the proper spacing position. If the key blank is not aligned in the jaw correctly, the cuts will be placed on the key in the wrong position and the key will not operate the lock. There are three ways to align the key blank, as follows:

1. Right Shoulder Guide - this device is located on the right side of the carriage and, after the key blank has been set on the insert, the shoulder guide is rotated down to form a stop. The key blank then is pushed in until its shoulder contacts the shoulder guide. At this point, the key blank is in proper spacing position and the carriage lever can be moved to tighten the carriage jaw. Once the key blank is secure in the jaw, the shoulder guide should be rotated out of the way.

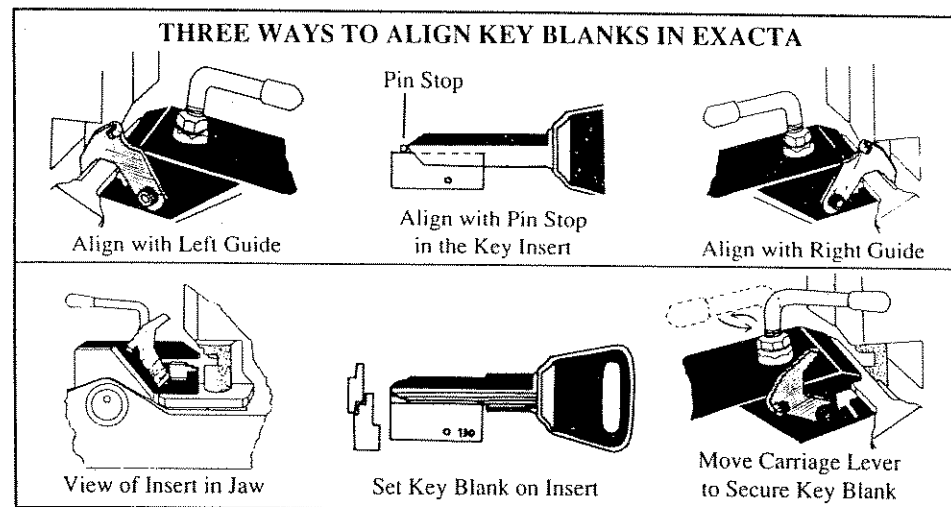
The right shoulder guide also can be rotated down to form a tip stop for some keys that are inserted from the left side and do not have a shoulder.

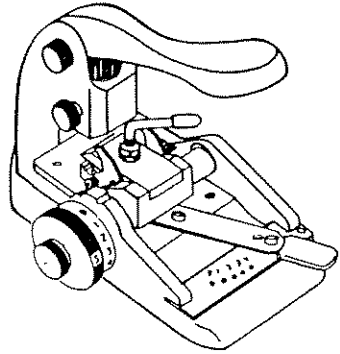
2. The Left Shoulder Guide - this is located on the left side of the carriage. After the key blank has been set on the insert, the shoulder guide is rotated down to form a stop. The key blank then is pushed in until shoulder contacts the shoulder guide. At this point, the key blank is in proper spacing position and the carriage lever can be moved to tighten the carriage jaw. Once the key blank is secure, the shoulder guide is rotated out of the way.

The left shoulder guide can be rotated down to form a tip stop for some keys that are inserted from the right side and do not have a shoulder.

3. Pin Stop - some key inserts are provided with a pin stop. If there is a pin stop, the key blank can be set on the insert so that its tip butts against this pin. At that point, the key blank is set in its proper position, ready for cutting.

The instructions on the key data page in the code book will specify what method to use for placing the key blank on the insert.



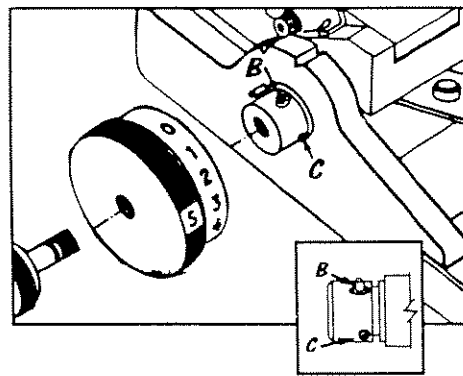


one key, it may be easier to code cut only one side of the key blank. Then, place this key into a duplicator and use it as a pattern. You then can duplicate these cuts onto another key blank, turning it over for the second side, and make as many copies as you wish.

## CUTTING A FORD 5 CUT KEY

Previous Ford models used a double sided key which had 5 cuts, as specified by the code series FA 1 to 1863 for ignition locks and FB 1 to 1863 for glove box locks. The Exakta parts for a 5 code key are different from those used for the Ford 10 code key. Therefore, the parts must be changed when cutting the 5 code key. The actual cutting procedure, however, is the same as that for a 10 code key, that is, setting the depth knob and shifting the spacing plate for each position.

## ADJUSTING PROCEDURE



In the event your Exakta is cutting depths too high or too low, you can adjust it as follows:

Remove depth knob A to expose eccentric adjusting pin B. Loosen locking screw C with 1/16" (16mm) Allen wrench. To increase depth of cut, turn B 1/16 rotation counter-clockwise. To make shallower cuts, turn B clockwise. Note the maximum adjustment is .003" high to .003" low, or .006" total.

11. Lift the spacing lever and move it so it's pin drops into the hole in the spacing plate marked 3. The key blank now has shifted to the third position.
12. Rotate the depth knob so the number 2 lines up with the index mark.
13. Depress the lever; the punch will make a No. 2 cut in the third position.
14. Continue making the remaining seven cuts in the same manner, shifting the spacing lever one position at a time, and rotating the depth knob to the appropriate depth for each position.
15. Since this is a double-sided key, the second side also must be cut. Move the carriage lever to loosen the carriage jaw and turn the key over. Retighten the carriage jaw after the key has been lined up with the shoulder guide or pin stop.
16. Make all ten cuts in the second side of the key, in the same manner as the ten cuts in the first side.

The key you have just cut is an original key, made to the exact dimensions the manufacturer used when the lock was originally assembled. It is a first generation key and should operate the lock as smoothly as the factory key.

NOTE! If the customer wants more than

## Congratulations!

### You've purchased a superior key cutting machine.

The Exakta is a portable hand operated key machine, specifically designed and engineered to originate keys by code numbers, without electrical power. It will cut a key by number, according to the manufacturer's depths and spacings. A pattern key is not needed since this machine is not a key duplicator. To produce an operating key with Exakta, a code number (which translates into the original depths and spacings) is needed. This code number is supplied to the car owner at the time of purchase. For security reasons, the code number has no relation to the cuts of the key, but it is listed in a series of charts call "Key Codes." Locating the code number in the charts will reveal the actual cuts of the key.

The parts needed to produce these cuts are designed specifically for one brand of key. Since lock manufacturers vary their depth and spacing measurements, the parts also vary. As a result, Exakta is made with generalized features. To cut a certain brand of

key, the parts specifically made for that brand of key must be installed into Exakta. For example, to cut a key for GM cars, the kit containing GM parts must be used, along with GM codes.

Exakta is easy-to-use and maintain. If proper care is taken, Exakta will give you years of trouble-free service and will be a long lasting investment. If a new lock comes on the market 5 years from today, requiring new parts, these new parts can be installed in your Exakta and you'll be able to cut the new keys. Exakta is a long-lasting investment.

The only maintenance necessary is keeping Exakta and its parts free of dust, dirt, and brass chips. Clean these parts regularly with a soft brush. Remember to clean the chip tray; it fills up quickly when cutting many keys. Lubrication normally is not necessary.

NOTE! Before proceeding to the Operating Instructions, familiarize yourself with the operating parts of Exakta, as shown on Page 4.

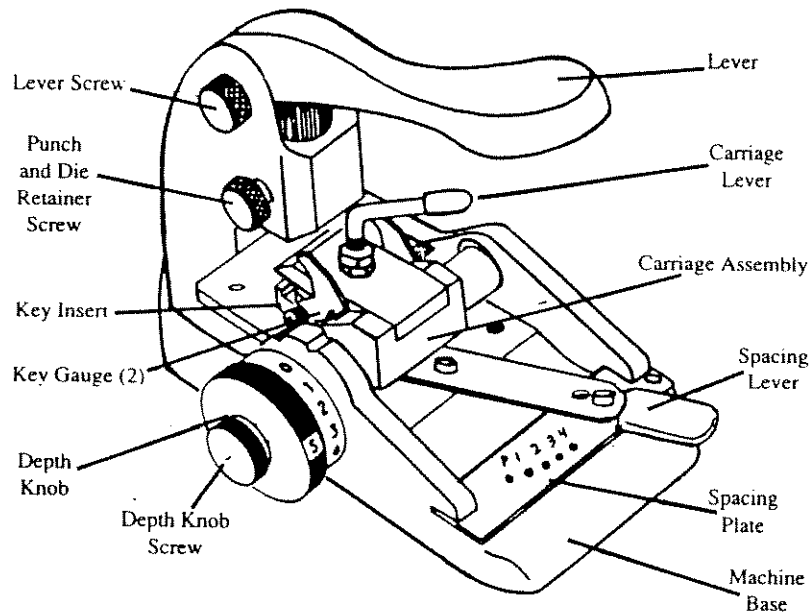
## UNPACKING INSTRUCTIONS

Your new Exakta code cutting machine has been shipped to you in a sturdy carton designed to protect it from damage. No operating parts have been installed in the machine. Therefore, to cut keys, you must unpack the parts in the separate box (Example: MK1-GM-AE) and install these in the machine.

There are four different types of parts: a depth knob, a spacing plate, an insert and a punch and die assembly. The quantity of each part can vary, depending on the type of key (or keys) the specific kit is intended to cut. Don't be concerned if you see three of

one part and only one of another. The GM kit (MK1-GM-AE) for example, has one depth knob, one spacing plate, one punch and die assembly, but five inserts.

Note that each part is identified with a number, or letter. Be sure that the correct number is selected for the specific code series being cut. The code book provided with the kit will tell you what part to use by its number. Store all of these parts in the parts organizer or in a convenient location where they will not be damaged or lost. Exakta should be handled with care.



P-9	Machine Base	P-14L	Key Gauge	P-22	Carriage Lever
P-10	Depth Knob	P-15	Spacing Lever	P-23	Lever Screw
P-11	Spacing Plate	P-18	Carriage Assembly	P-24	Punch and Die Retainer Screw
P-12	Key Insert	P-20	Lever		

## ABOUT THE MK2 EXACTA MODEL

Unlike the MK1, the MK2 Exacta is designed to cut commercial keys and its parts are individually crafted to the dimensions for commercial keys. However, the operating procedure for using either machine is the same, so the above illustration for the MK1 model applies to the MK2 as well.

Since there is a difference in the dimensions for the MK1 and MK2 models, the parts are NOT interchangeable, that is, MK1 parts cannot be used on the MK2 machine. The parts will fit into the machine but the result-

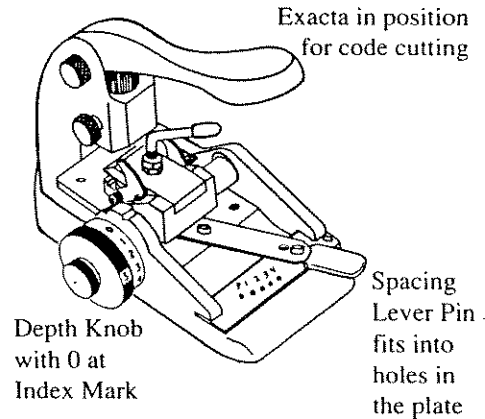
ing keys will not operate its locks.

In the following pages, the MK1 is highlighted as an example of how the Exacta works. The MK1 is chosen because automotive key codes are readily available on the open market. Key codes are not provided by ILCO UNICAN for the MK2 since commercial codes are customized for each installation. There must be key bitting charts for commercial lock installations, of course, but these usually are in the hands of the organization maintaining the locking system.

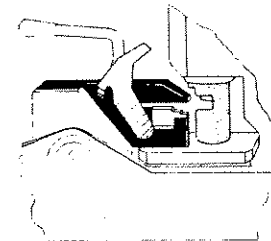
## OPERATING THE EXACTA

The following describes how to operate the Exacta once the appropriate parts have been installed for a given lock and key:

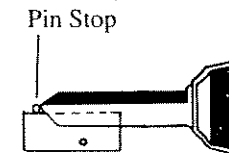
1. Lift the spacing lever and set its bottom pin into the hole marked P on the left side of the spacing plate.
2. Rotate the depth knob so its lowest number is next to the index mark on the machine base. Note the lowest number usually makes the shallowest cut in the key.
3. Place the key blank on the insert, lining it up with the right shoulder guide, the left shoulder guide or the pin stop, as indicated by the instructions.
4. When the key blank rests against the shoulder guide or pin stop, hold it in that position while tightening the carriage lever. NOTE! Don't overtighten or the carriage assembly will be difficult to move. Be sure the key blank is being held tightly before proceeding.
5. Begin the actual cutting procedure by lifting the spacing lever and setting it in the hole of the spacing plate marked 1. This is the first spacing position.
6. Refer to the code number and the cuts you previously had written down from the code book. The code cuts were 1-1-2-4-2-1-1-2-1-3.



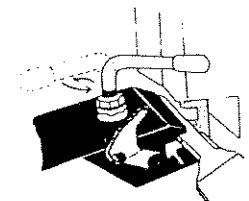
7. Rotate the depth knob so it's 1 appears next to the index mark. The 1 represents the first number of the above code. Depress the lever and the punch will make a No. 1 cut in the first position.
8. Lift the spacing lever and move it so its pin drops into the hole in the spacing plate marked 2. The key has shifted to the second spacing position.
9. Leave the depth knob in position, with the 1 lining up with the index mark, since the second number of the key code is also a 1.
10. Depress the lever and the punch will make a No. 1 cut in the second position.



View of Insert in Jaw



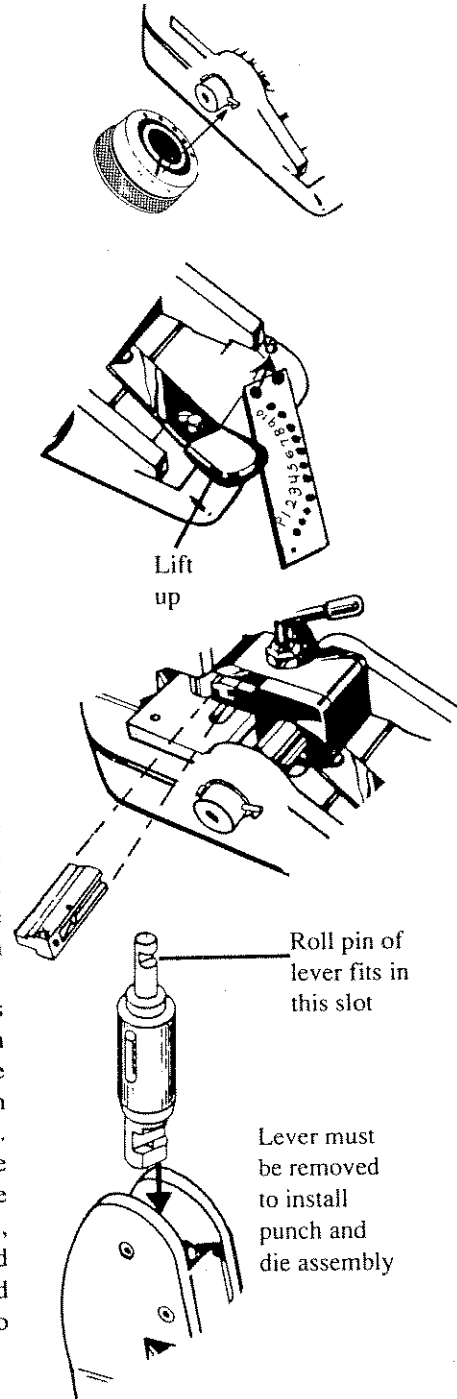
Align with Pin Stop in the Key Insert



Move Carriage Lever to secure Key Blank

## THE CUTTING OPERATION

6. Install the depth knob on its shaft, making sure the notch in the underside of the knob aligns with the positioning pin in the shaft. When the knob is fully on the shaft, install the depth knob screw and tighten securely.
7. Hold the spacing plate with the inscribed numbers facing you. Note the small positioning hole on the right side. This positioning hole fits on the post, at the front of the machine, right side. Set the hole on this post and push the spacing plate towards the machine; it may be necessary to raise the spacing lever slightly to allow the plate to slip into position. When the left side of the spacing plate fits into its detent position, the plate is secure and ready for use.
8. The key insert slides in the front of the carriage and forms the ledge on which the key blank rests. The key insert can be installed from either the left side or the right side of the machine, as the instructions specify. When properly installed, the key insert fits flush with the carriage on both the left and right sides.
9. The punch and die assembly lies under the lever and is activated as the lever is pushed down. On the left side of the machine, note the two knobs. Remove the top knob, which is the head of the pivot shaft for the lever. Also, remove the bottom knob, which is the head of the anchor pin securing the punch and die assembly.
10. Insert the punch and die assembly into its hole in the machine as shown. Set the punch so its retaining slot is lined up with the hole for the bottom knob. Screw in the bottom knob to secure the punch and die assembly.
11. Set the lever to the machine, making sure the small roll pin on its underside fits into the cross slot at the top of the plunger. Then, insert the lever screw. The lever now should be free to move up or down; on its downward stroke, the lever should cause the punch to move vertically in front of the carriage.



## THE CUTTING OPERATION

### THEORY OF CODE CUTTING

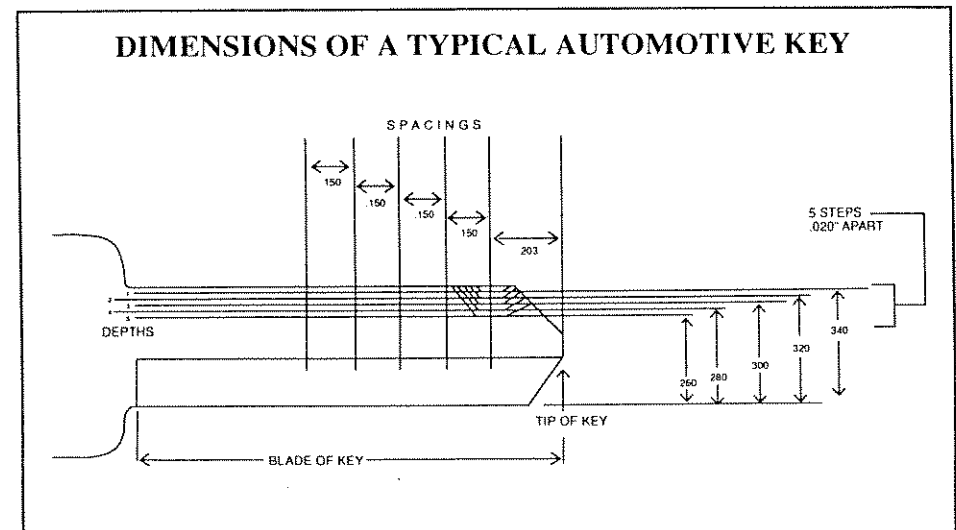
In cutting keys by code, you do NOT need an original key to copy. You make the notches (or cuts) in the key blank by using the code number supplied with the original key. If this number is known, the original key is not needed. But, you do need the code charts, which is a numeric listing of the code numbers. Each code number has a corresponding number that is the key combination.

Example: the 1984 Ford car uses a lock with a key number of FA189. The FA identifies the series of numbers for these cars. Refer to the FA series lists and locate 189. Adjacent to 189 is the number 14142, which represents the actual cuts in the key.

There are two critical dimensions in code cutting - spacing of the cuts and depth of the cuts. Spacing refers to where the cuts are

placed on the key and actually represents the distances between the centers of adjacent cuts. (See illustration). The component which sets the spacing dimension is the spacing plate. Note that spacing usually is determined from left to right, or from the head of the key to the tip or from the shoulder to the tip. Either expression means the same thing. With the Ford key, however, spacing is determined from the tip of the key.

Depth refers to how deeply the notch (cut) is made into the blade of the key. Each depth has a definite dimension, which is measured from the bottom of the cut to the bottom of the key blade. (See illustration). To simplify the code numbers, each depth is identified by a single number. For example, in the FA series, there are five depths, identified as 1-2-3-4-5. For key number 189, the cuts are 14142, which means that the key does NOT use depths 3 or 5.

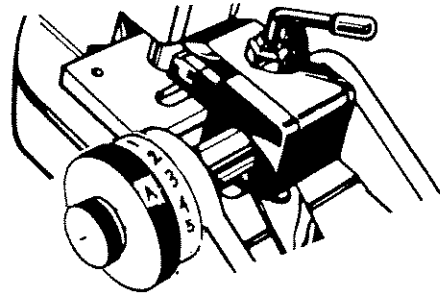
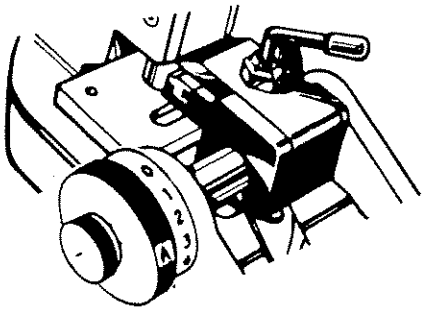


## THE CUTTING OPERATION

The component that sets the depths is the depth knob (see illustration). When the knob is turned so that a 1 lines up with the index

from the shoulder or head of the key.

The last number in 14142 is a 2, and a 2 depth must be cut in the fifth spacing, which



mark, a 1 depth will be cut into a key. Turning the knob to 3 will produce a 3 depth, etc.

**IMPORTANT!** When reading the key cuts, pay attention to the order in which the cuts appear. In the example of key 189, the key cuts are 14142. The first number is 1, and a 1 depth must be cut in the first spacing, which is the spacing nearest the shoulder or the head (bow) of the key. The second number is 4 so a 4 depth must be cut in the second spacing,

is the spacing closest to the tip of the key.

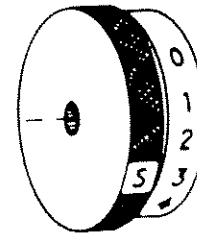
The data page appearing in front of each code series in the code book will tell you the direction of cutting. It will say "Cut Bow to Tip," which means that the first cut is made at the bow of the key and succeeding cuts progress toward the tip of the key. It is important to note these instructions! There are instances where the instructions say the opposite, that is, "Cut Tip to Bow."

### COMPONENTS OF AN EXACTA KIT

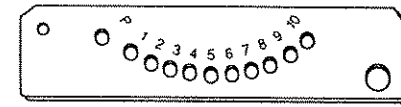
Each kit will consist of four different parts: a depth knob, a spacing plate, a key insert and a punch and die assembly. The kit can contain one or more of each of these parts, depending on the keys that must be cut. A certain family of vehicles could use different locks in various models, thereby requiring different parts for each model. Likewise, the parts in one kit could be used for a totally different family of vehicles.

In addition to the kit parts, a code book is provided which details the key cutting data as well as the numeric charts giving the actual key cuts. The charts are arranged in series for easy identification. For example, the 1984 Ford uses the FA series code for ignition locks and FB series for glove and trunk locks. If an Exakta kit is designed for a new lock and key, the new codes are provided with the kit.

## THE CUTTING OPERATION

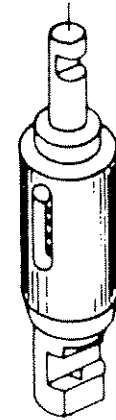
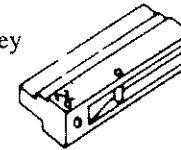


P10 Depth Knob



P11 Spacing Plate

P12 Key Insert



P12 Punch and Die Assembly

### COMPONENTS OF A TYPICAL EXACTA KIT

### PREPARING THE EXACTA FOR CUTTING

The following example points out the steps needed to originate a 10 code key for a Ford vehicle. Assume a customer has a code number of 101A501 for a 1991 model.

1. In the code book, locate the series A-B-C-D-E, which specifies 1984 1/2 and up. Note that the actual charts run from 101 through 344 for ignition locks and from 501 through 624 for door locks. Also, there are five columns of numbers: A-B-C-D-E.
2. The code number 101A501 specifies three distinct facts: the first three numbers (101) designate the ignition lock, the letter A designates the column in the charts and the last three numbers (501) designate the door lock. Naturally, the actual numbers will change for each car but the system will remain the same.

3. Locate 501 in the charts and read the numbers 1-2-1-3 under A column, which represent the cuts for the door lock. Write these numbers after the first six numbers so the entire key code reads 1-1-2-4-2-1-1-2-1-3. These are the cuts you will make in the key blank.
4. Now that you've determined the correct key cuts, turn to the first page of the A-B-C-D-E code series. This page will provide you with other information needed to originate the 101A501 key. The correct key blank is illustrated, key blank 1184FD. There also are depth and spacing dimensions, as well as the notation "Ford keys are gauged from the tip." At the bottom of the page, the correct parts for cutting this key are listed under the Exakta heading.
5. Select the correct parts for the 10 code Ford double-sided keys, specifically the A depth knob, the 114 spacing plate, the 129 key insert and the 23 punch and die assembly.