



## **Cutting Sidewinder-Type Keys With the MATRIX H Key Cutting Machine** (Supersedes 01-077, dated December 2001)

The MATRIX H Key Cutting Machine, manufactured by Silca and supplied by Ilco Unican Corporation, is a portable, power-operated tool that cuts sidewinder-type automotive keys exclusively. The machine lets you cut these keys either by copying or by code. The code function is designed and built to meet the Honda code requirements. No other similar machine has this capability.

This service bulletin gives you information for ordering and servicing this special tool, and guides you through the entire key cutting process from setting up the machine to cutting the key blank.

### **TOOL INFORMATION**

#### **Order through the Honda Tool and Equipment Program:**

MATRIX H Key Cutting Machine:

Model No. ILCMATRIXSH

Cutter Bit: Model No. ILCF30

Fixed Jaw: Model No. ILCMTX-H

Mobile Jaw (Right Side): Model No. ILCRTMTX-H

Mobile Jaw (Left Side): Model No. ILCLTMTX-H

### **PARTS INFORMATION**

#### **Order through the Honda Tool and Equipment Program:**

Practice Key Blanks (five per pack): ILC-35111DEMO

#### **Order through normal parts ordering channels:**

*All Affected Models Except 2003 Accord*

Honda Key Blank (Master): P/N 35111-S9A-A01

Honda Key Blank (Valet): P/N 35112-S9A-A01

*2003 Accord Models Only*

Immobilizer & Transmitter Key Blank (Master):

P/N 35118-SDA-A11

Immobilizer Key Blank (Valet): P/N 35119-SDA-A01

### **ORDERING INFORMATION**

To order the MATRIX H Key Cutting Machine, replacement cutter bits, fixed jaws and mobile jaws, and practice key blanks, contact the Honda Tool and Equipment Program by any of these means:

Phone: **262-656-7933**

Fax: **262-656-5602**

E-mail: *ahmte@snapon.com*

If you choose to fax your order, use the form provided in your *Honda Tool and Equipment Program Catalog*.

Order Honda key blanks through normal parts ordering channels.

### **WARRANTY CLAIM INFORMATION**

None. This service bulletin is for information only.

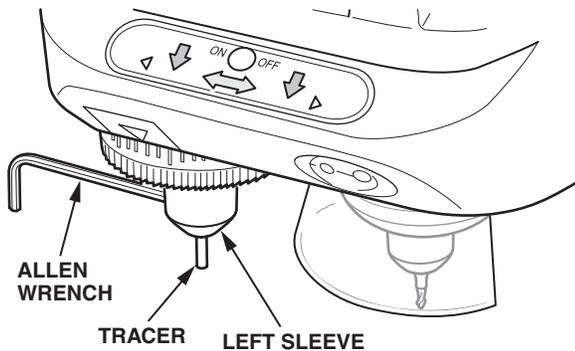
### **BEFORE YOU START CUTTING**

1. Get the original key or the key number from your customer.
2. Get the applicable key blank.
3. If cutting by code, look up the applicable 9-digit cutting code for the key number. Refer to the code book *Honda High Security Key Codes* that comes with the machine.

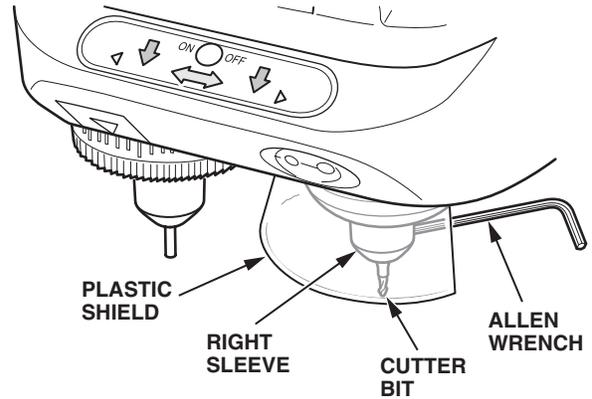
NOTE: You need to make the corrections listed in **CODE BOOK CORRECTIONS** at the end of this service bulletin.

## TRACER AND CUTTER BIT INSTALLATION

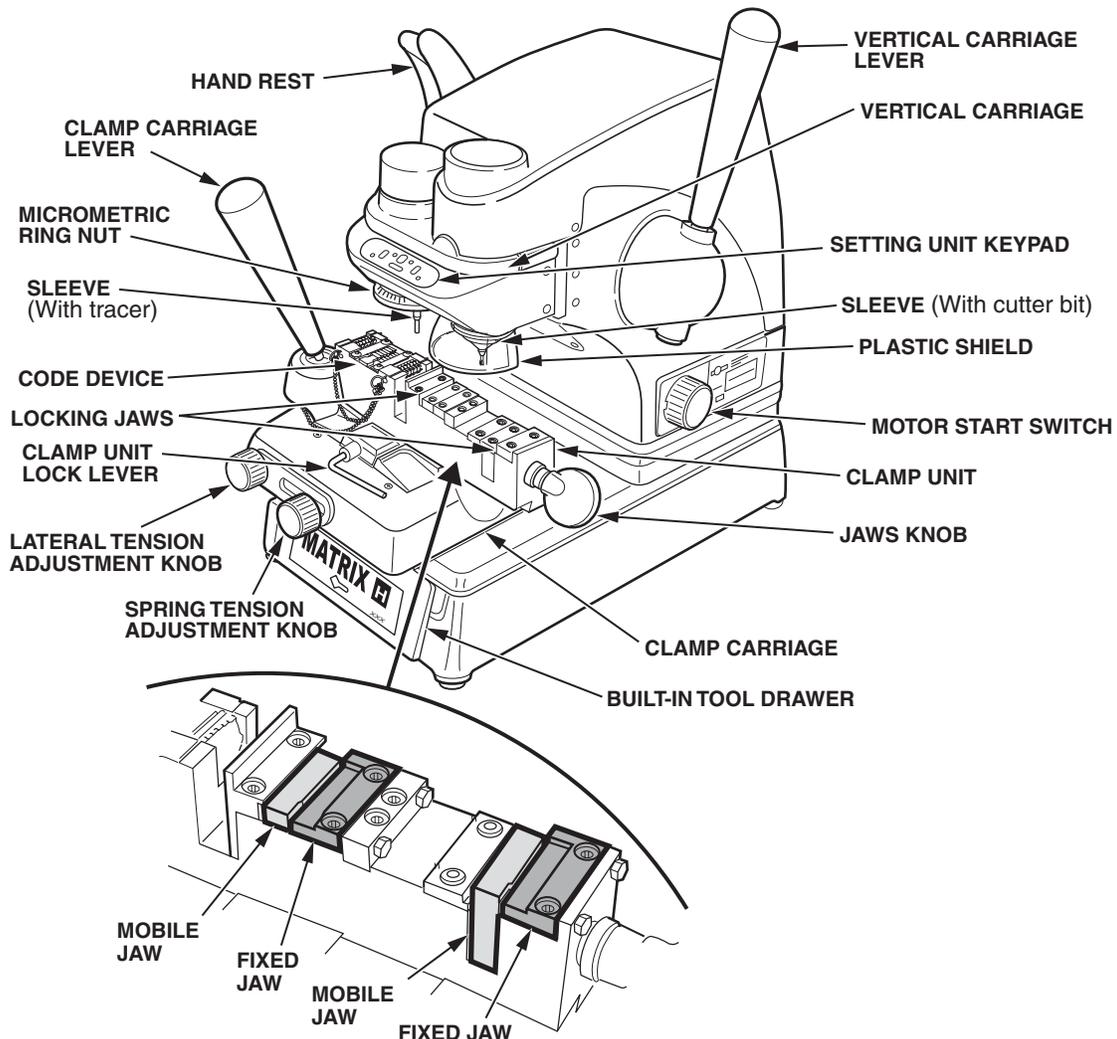
1. Turn the power switch on the back of the machine to ON. (This turns on the built-in work light.)
2. Use the Allen wrench from the built-in tool drawer to loosen the set screw on the left sleeve of the vertical carriage. Slide the tracer all the way into the sleeve, and tighten the screw.



3. Turn the plastic shield on the right sleeve of the vertical carriage so you can access the set screw on the sleeve. Use the Allen wrench to loosen the screw. Slide the cutter bit all the way into the sleeve, and tighten the screw. Turn the plastic shield so the open side is in the back.

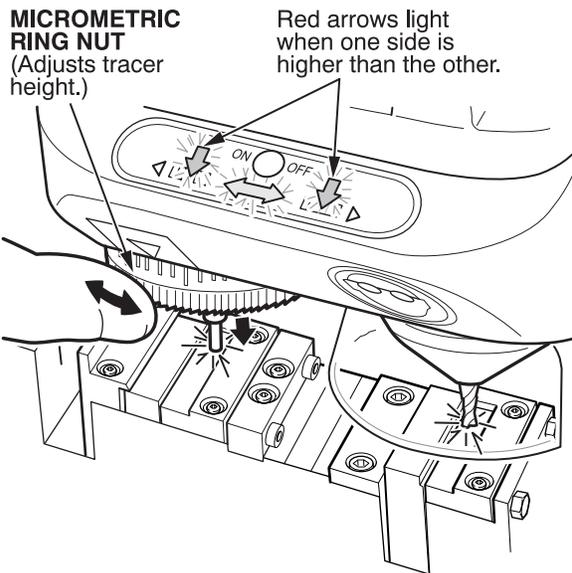


## MACHINE COMPONENTS



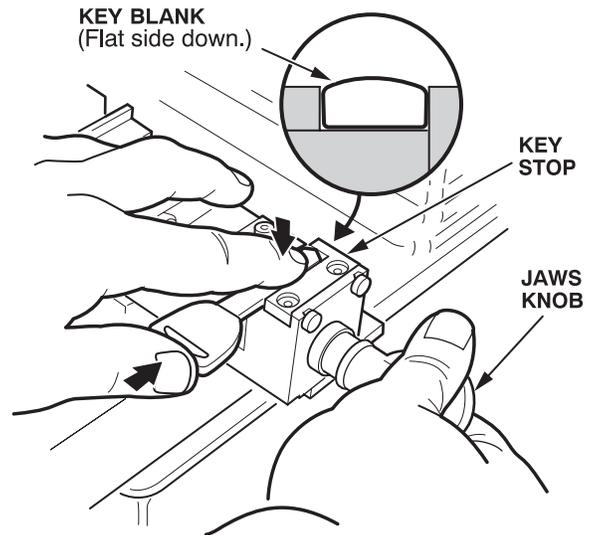
## CUTTING PROCEDURE - BY COPYING

1. Press the ON/OFF button in the middle of the setting unit keypad. (This powers up the keypad.)
2. Turn the clamp unit lock lever counterclockwise to release the clamp unit, and slide it all the way to the left until it stops. Turn the lever clockwise to lock the clamp unit in place.
3. Use the clamp carriage lever to position the clamp unit so the tracer and cutter bit are centered directly over the valley of the center and right locking jaws.
4. Pull the vertical carriage lever towards you until the tracer and the cutter bit just touch the valley of each locking jaw. Watch the arrows on the keypad:
  - If the double-headed arrow in the middle of the keypad lights green, the tracer and cutter bit are properly aligned. No adjustments are needed.
  - If the vertical arrow on the left of the keypad lights red, the cutter bit is not touching the locking jaw. Turn the micrometric ring nut above the tracer clockwise until the double-headed arrow lights green.
  - If the vertical arrow on the right of the keypad lights red, the tracer is not touching the locking jaw. Turn the micrometric ring nut above the tracer counterclockwise until the double-headed arrow lights green.

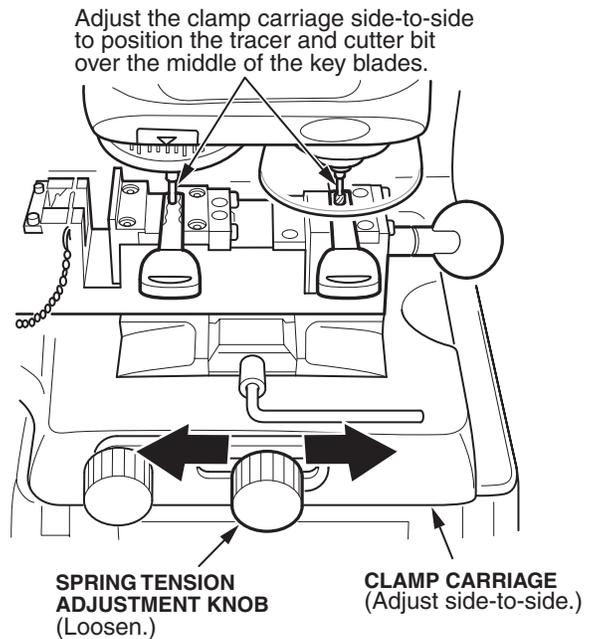


5. Turn the micrometric ring nut counterclockwise one click so the cutter bit is slightly higher than the tracer.
6. *Optional:* Loosen the set screw, and adjust the hand rest to a comfortable position. Tighten the screw.
7. Pull the clamp carriage lever toward you until the clamp carriage clicks into its end-of-run position.
8. Make sure the center and right locking jaws are free of any metal shavings or debris. (A soft-bristle toothbrush is ideal for this purpose.)

9. Open the locking jaws with the jaws knob, and slide the original key into the center locking jaw up to the key stop. Slide the key blank with its flat side down into the right locking jaw up to the key stop. Close the jaws with the jaws knob to lock the keys into place.



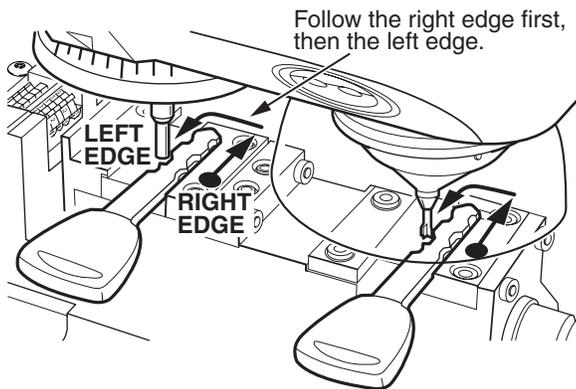
10. Loosen the spring tension adjustment knob on the clamp carriage. Adjust the clamp carriage side-to-side to position the tracer and the cutter bit over the middle of the two locked key blades. Tighten the knob when done.



11. Turn on the cutter motor with the motor start switch.

**NOTICE**

- To avoid damaging the locking jaws while cutting, keep your hand off the vertical carriage lever. Pressure on the lever would change the cutting depth.
  - To avoid breaking the cutter bit, never back up while cutting.
12. Put on proper eye protection (safety glasses, goggles, etc.). Pull the vertical carriage lever towards you while you position the tracer on the right edge of the original key at its head using the clamp carriage lever. Let the cutter bit cut into the key blank, then stop. Gently twist the lever clockwise to lock the vertical carriage at this height. *Do not overtighten the lever.*



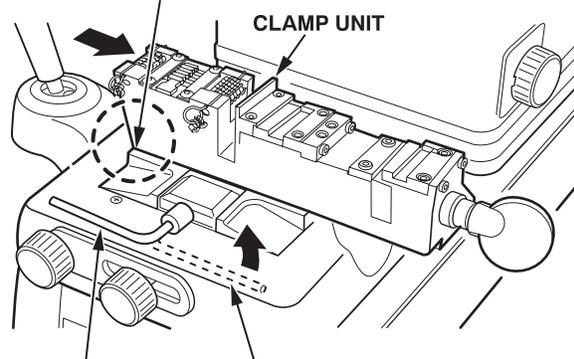
13. Use the clamp carriage lever and the tracer to follow the contours of the original key. (The cutter bit cuts the same contours into the key blank.) Working counterclockwise, follow the right edge of the original key from head to tip, then the left edge of the key from tip to head.
14. Use the clamp carriage lever to position the tracer back to the starting point on the original key. Retrace the key from head to tip, then from tip to head. (This retracing cleans up the cuts on the key.)
- NOTE:** Do not release the vertical carriage lever at any time during this step. Doing so would require you to reset the vertical carriage height.
15. Turn off the cutter motor, and release the vertical carriage lever. Open the locking jaw, and remove the new key. Make sure the locking jaw is free of any metal shavings or debris, then turn the key over and slide the key with its blank side up into the jaw up to the key stop. Close the jaw to lock the key into place.
16. Set the vertical carriage height with the vertical carriage lever. Turn on the cutter motor, and repeat steps 12 thru 14 to cut both edges of the other side of the key.

17. When you are finished making the required cuts, turn off the cutter motor, and release the vertical carriage lever. Open the locking jaws, and remove the keys.
18. Use a wire brush to smooth the cut surfaces on the new key.
19. Make sure the key works in the ignition switch and the locks. If the key does not work, recut the key, and try it again.
20. Add the transponder code of the new key to the immobilizer system with the PGM Tester.

**CUTTING PROCEDURE - BY CODE**

1. Press the ON/OFF button in the middle of the setting unit keypad. (This powers up the keypad.)
2. Turn the clamp unit lock lever counterclockwise to release the clamp unit, and slide it to the right until the bottom left side is flush with the base edge. Turn the lever clockwise to lock the clamp unit in place.

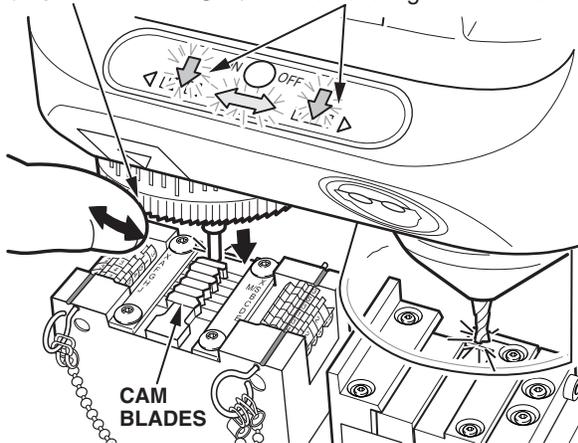
Slide the clamp unit to the right until the end is flush with the base edge.



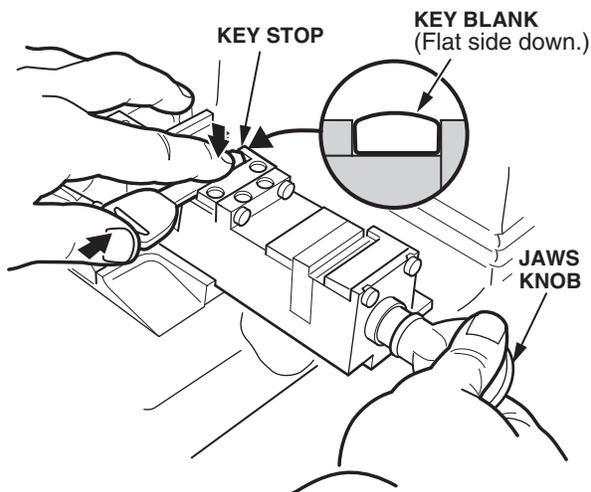
- CLAMP UNIT LOCK LEVER (Release position.)** Lock position
3. Use the clamp carriage lever to position the clamp unit so the tracer is directly over the flat surface of the code device just behind the cam blades.
  4. Pull the vertical carriage lever towards you until the tracer just touches the flat surface behind the cam blades. Watch the arrows on the keypad:
    - If the double-headed arrow in the middle of the keypad lights green, the tracer and cutter bit are properly aligned. No adjustments are needed.
    - If the vertical arrow on the left of the keypad lights red, the cutter bit is not touching the locking jaw. Turn the micrometric ring nut above the tracer clockwise until the double-headed arrow lights green.

- If the vertical arrow on the right of the keypad lights red, the tracer is not touching the locking jaw. Turn the micrometric ring nut above the tracer counterclockwise until the double-headed arrow lights green.

**MICROMETRIC RING NUT** Red arrows light when one side is higher than the other.  
(Adjusts tracer height.)



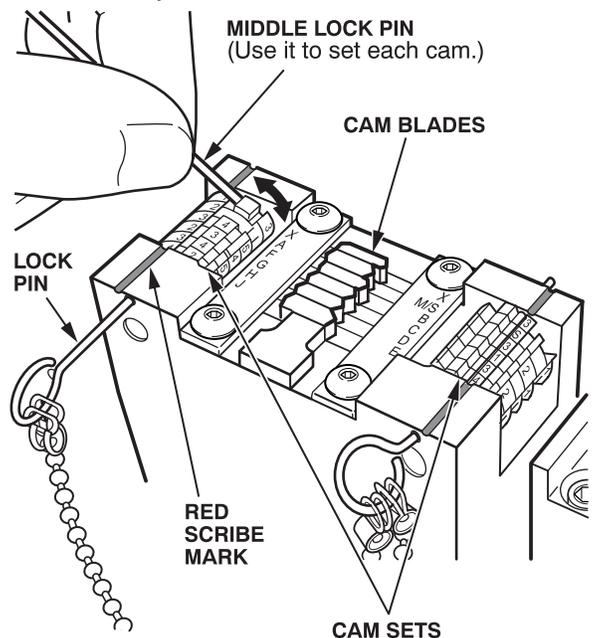
5. Turn the micrometric ring nut counterclockwise one click so the cutter bit is slightly higher than the tracer.
6. *Optional:* Loosen the set screw, and adjust the hand rest to a comfortable position. Tighten the screw.
7. Pull the clamp carriage lever toward you until the clamp carriage clicks into its end-of-run position.
8. Clean any metal shavings or debris out of the center locking jaw. (A soft-bristle toothbrush is ideal for this purpose.) Then open the jaws with the jaws knob, and slide the key blank with its flat side down into the jaw up to the key stop. Close the jaw with the jaws knob to lock the key blank into place.



9. Set and lock the cam sets on the code device. Starting with the left cam set, make sure the lock pin is pulled all the way out. (This releases the cams.) Going from front to back, use the middle lock pin to set the first cam to the appropriate key code number in the code book. (The cam is properly set when the number on the cam lines up with the red scribe mark on the clamp unit.) Slide the lock pin through the notch in the cam. (This locks the cam in place.) Keep doing this for each of the remaining cams in the set until all the cams are set and locked, then push the lock pin all the way in. Repeat this process to set and lock the cams for the right cam set.

**NOTE:** Make sure you set the **M/S** cam in the right cam set for the type of key you are cutting. For a master key, set the cam to **M**; for a valet key, set it to **S**.

When you are done, push all the cam blades to the left until they touch the cams in the left cam set.



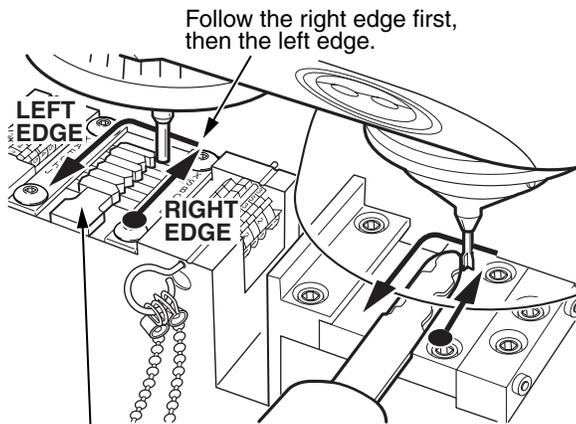
10. Use the clamp carriage lever to position the clamp unit so the tracer is directly over the flat surface of the code device just behind the cam blades.
11. Pull the vertical carriage lever towards you until the tracer touches the flat surface. Gently twist the lever clockwise to lock the vertical carriage at this height. *Do not overtighten the lever.*
12. Turn on the cutter motor with the motor start switch.

#### **NOTICE**

- To avoid damaging the locking jaws while cutting, keep your hand off the vertical carriage lever. Pressure on the lever would change the cutting depth.
- To avoid breaking the cutter bit, never back up while cutting.

- Put on proper eye protection (safety glasses, goggles, etc.). Use the clamp carriage lever and the tracer to follow the contours of the cam blades from front to back. (The cutter bit cuts the same contours into the right edge of the key blank from head to tip.) After completing the right edge, push all of the cam blades to the right until they touch the cams, then trace the cam blades from back to front. (The cutter bit cuts the same contours into the left edge of the key from tip to head.)

NOTE: Do not release the vertical carriage lever at any time during the cutting operation until you reach step 15. Doing so would require you to reset the vertical carriage height.



Push all the cam blades to the right before cutting the left edge of the key.

- Push all the cam blades to the left until they touch the cams, then retrace the cam blades from front to back. Push all the cam blades to the right until they touch the cams, then retrace the cam blades from back to front. (This retracing cleans up the cuts on the key.)
- Turn off the cutter motor, and release the vertical carriage lever. Open the locking jaw, and remove the key. Make sure the locking jaw is free of any metal shavings or debris, then turn the key over and slide the key with its blank side up into the jaw up to the key stop. Close the jaw to lock the key into place.
- Push all the cam blades to the left until they touch the cams. Set the vertical carriage height with the vertical carriage lever. Turn on the cutter motor, and repeat steps 13 and 14 to cut both edges of the other side of the key.
- When you are done making the required cuts, turn off the cutter motor, and release the vertical carriage lever. Open the locking jaw, and remove the key.
- Use a wire brush to smooth the cut surfaces on the new key.
- Make sure the key works in the ignition switch and the locks. If the key does not work, recut the key, and try it again.

- Add the transponder code of the new key to the immobilizer system with the PGM Tester.

## EQUIPMENT SERVICE AND WARRANTY

To service the MATRIX H Key Cutting Machine, refer to section 7 of the *MATRIX H Operating Manual*. It tells you how to replace parts that commonly wear out such as the drive belt, the work light bulb, and the tension spring on the vertical carriage. It also covers checking and replacing fuses and replacing the printed circuit board for the setting unit keypad.

If you have technical questions on the equipment, contact the Ilco Technical Assistance Department.

Mail: Ilco Technical Assistance Department  
400 Jeffreys Road  
Rocky Mount, NC 27804, USA

Phone: **800-452-6872** Ext: **200, 384, 323, 398, 356**

Fax: **252-446-4702**

The MATRIX H Key Cutting Machine comes with a 3-year limited warranty. This warranty does not cover the cutter bit or the work light bulb.

## CODE BOOK CORRECTIONS

In the code book *Honda High Security Key Codes*, correct these errors:

### Pages 4 thru 51, code headings:

- Incorrect:** J H G F Z X E D C B M/S X
- Correct:** J H G F A X E D C B M/S X

### Page 2, last paragraph:

- Incorrect:** "If a Master Key is to be cut, put a **five (5)** in the blank space. Use a **two (2)** if a valet key is needed."
- Correct:** "If a Master Key is to be cut, put an **M** in the blank space. Use an **S** if a valet key is needed."

### Page 2, legend at the bottom:

- Incorrect:** "C. If a Master key is desired, then the **number five (5)** should be placed in the M/S position. Place the **number two (2)** in the M/S column if a Sub (Valet) key is needed."
- Correct:** "C. If a Master Key is desired, then an **M** should be placed in the M/S position. Place an **S** in the M/S column if a Sub (Valet) key is needed."