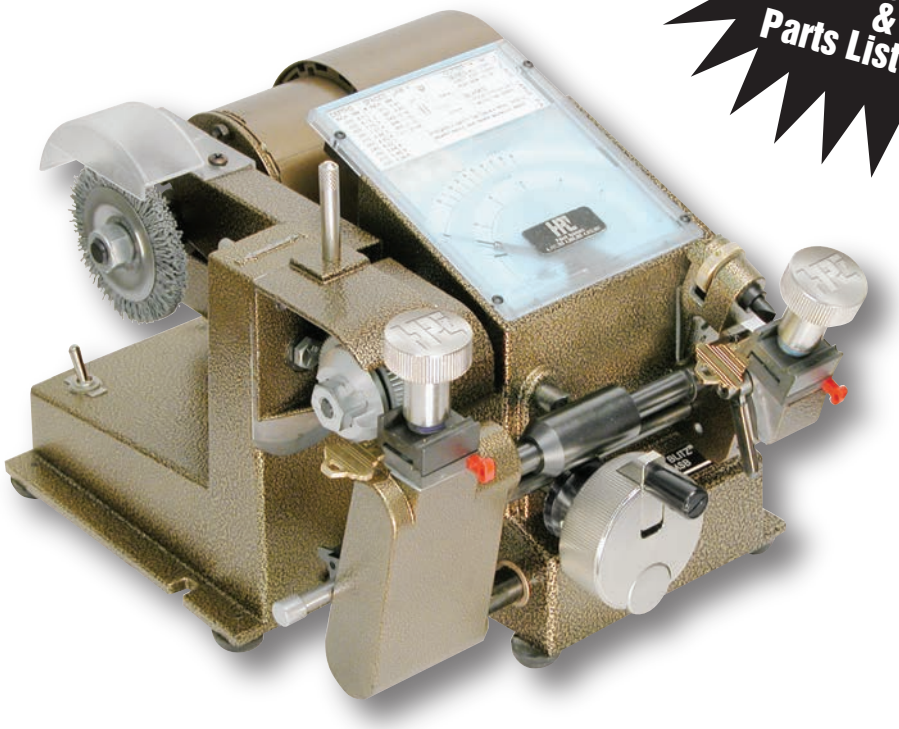
Switch Blitz™

Code Milling And Duplicating Key Machine

No. 1233CMSB



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Hudson, MA 01749

HUDSON LOCK, LLC

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sales@hudsonlock.com

091416 36CSB_000_00

INTRODUCTION
Switch Blitz™

Thank you for your purchase of the Switch Blitz™ Machine; we appreciate your business.

From its introduction in the 70's, the Blitz™ Machine revolutionized the locksmith industry. Never before had it been so easy to cut keys by code. No more fumbling around with time-consuming depth keys. No more confusing micrometer measurements and complicated machine set-up. The "key" to this revolution was translating the lock manufacturers'depth and space measurements to code cards. Simply insert the code card for the lock you are using, set the space needle to the number 1 mark on the card, and set the depth needle to the appropriate depth for the cut required. Next, move the space needle to the second space, and move the depth needle to the appropriate number for this cut. Continue this simple procedure to cut a new key (to the manufacturer's exact specifications) in less than 1 minute. The innovative design of the Blitz™ Machine earned it three U.S. Patents. It became the best selling code machine - the standard of the industry that everyone wanted to copy.

The Blitz™ Machine is an integral piece of virtually every locksmith business. In addition to cutting by code, every locksmith has to duplicate keys and has one or more duplicators. Often the machine of choice is the HPC Trace-A-Key® semi-automatic duplicator, judged to be the fastest and most accurate duplicator on the market. The most common request, especially among mobile locksmiths, was the desire for their code machine and duplicator to use less bench space. This inspired the engineers at HPC to combine the best code machine with the best semi-automatic duplicator; and in July 2003 HPC introduced the Switch Blitz™. Now in the bench space of one machine you have two top-quality key machines. The brilliant design and engineering makes the switch from code cutting to duplicating as simple as 1, 2, 3.

Thank you again for your new purchase. We are confident this machine will provide years of keycutting perfection.

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PRODUCT PACKAGING CHECKLIST

Accessories Included:

Binder With Storage Panels
(CARD-SB)

Standard Cutter Nut
(CM-1039MA)

(2) Red Tip Gauges
(CM-1054MA)

(2) Horseshoe Tip Gauges
(CM-1054R)

CW-1011 - Automotive & Small Cylinders
CW-14MC - Standard Large Pin Cylinders
(installed on machine)
CW-6010 - Duplicating

Code Card Deck
(DECK-150)

Key Gauging Shim
(KBPS-1)

Cutter Shaft Wrench
(WRENCH-1)

Allen Wrench 5/64-inch
(WRENCH-2)

Cutter Shaft Wrench
(WRENCH-3)

OPTIONAL ACCESSORIES:

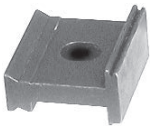
Carrying Case
(1200 CASE)

Storage Panel
(CARD-BP)

HPC Software

Tip Gauges
(HT-125, HT-625, HT-SD, RT-SD)

Key Decoder
(HKD-75)



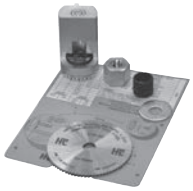
Medeco® Jaw
(MJ-1)

Medeco KeyMark® Jaws
(MJ-2)

Medeco® 3 Freedom Jaws
(MJ-3)

Schlage PRIMUS® Jaw
(SPJ-1)

HPC Cutters



Switch Blitz™
Tibbe Key Adapter Kit
(TIBBE-SWITCH)

Switch Blitz™
Tubular Key Adapter Kit
(TKA-SWITCH)

Calibration Kit
(CMB-CK)

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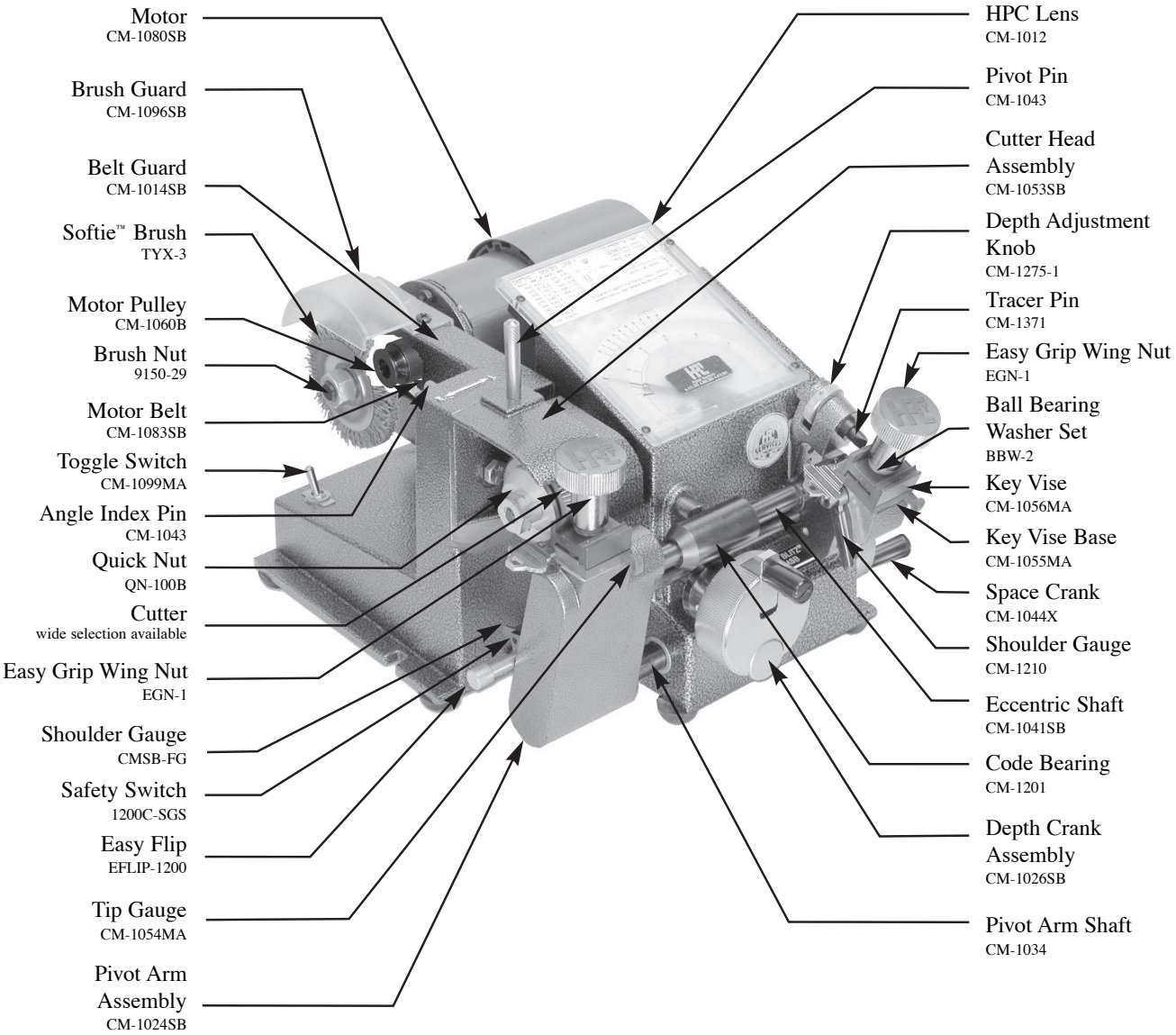
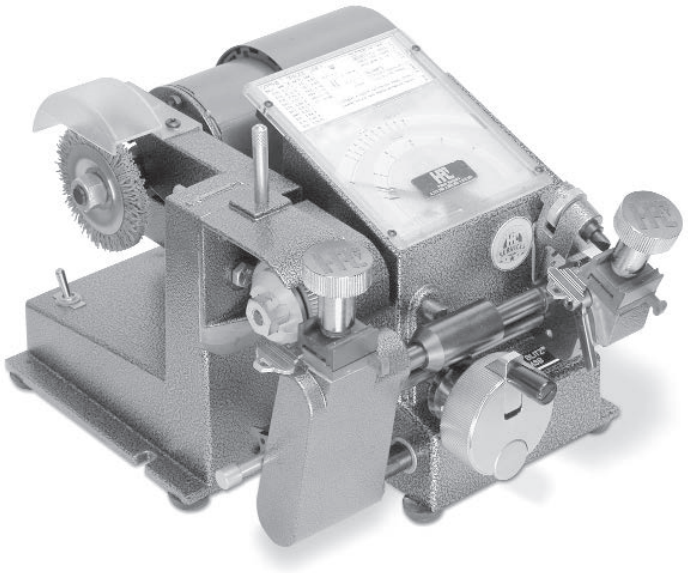
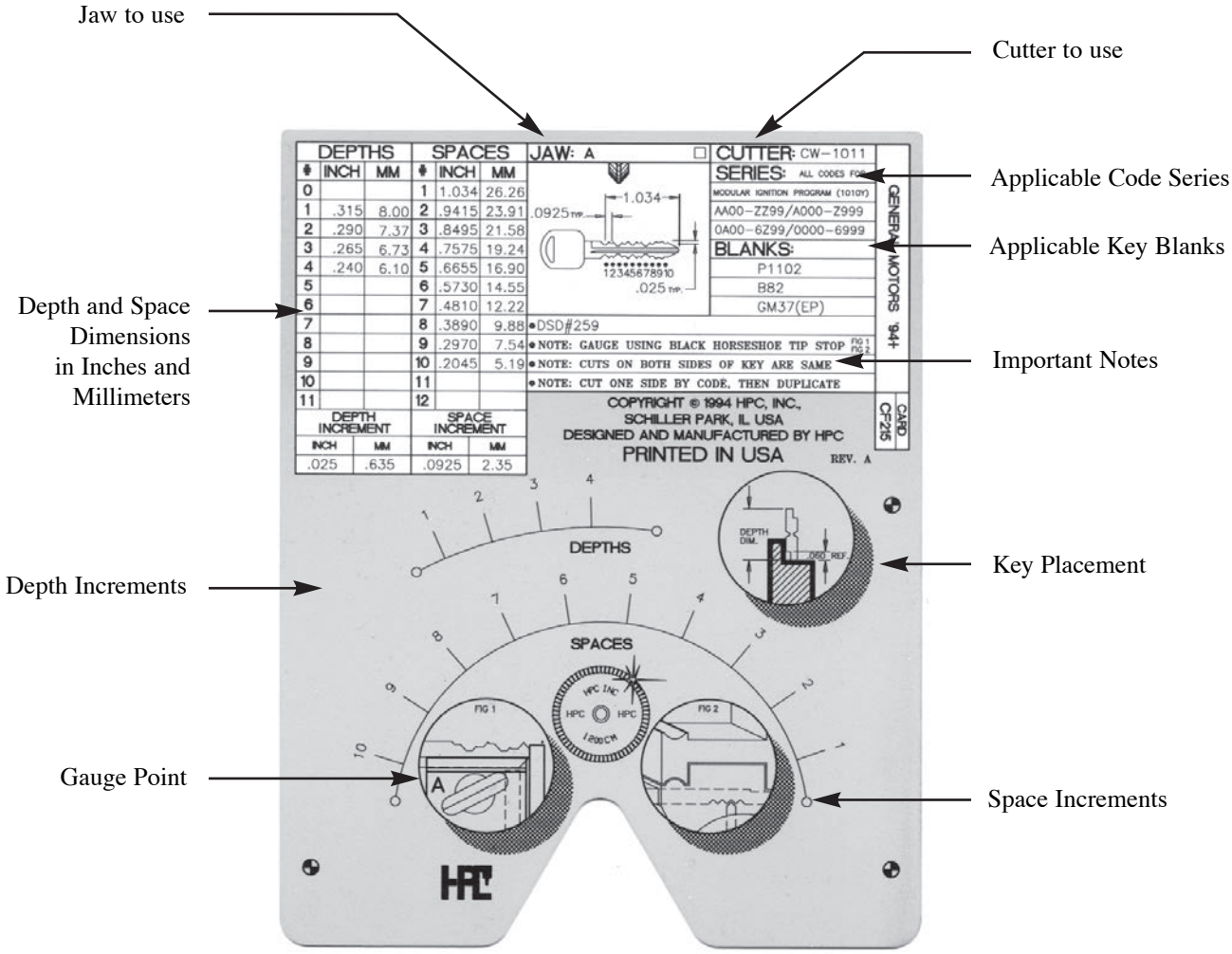
SWITCH BLITZ™
PARTS DESIGNATION CHART



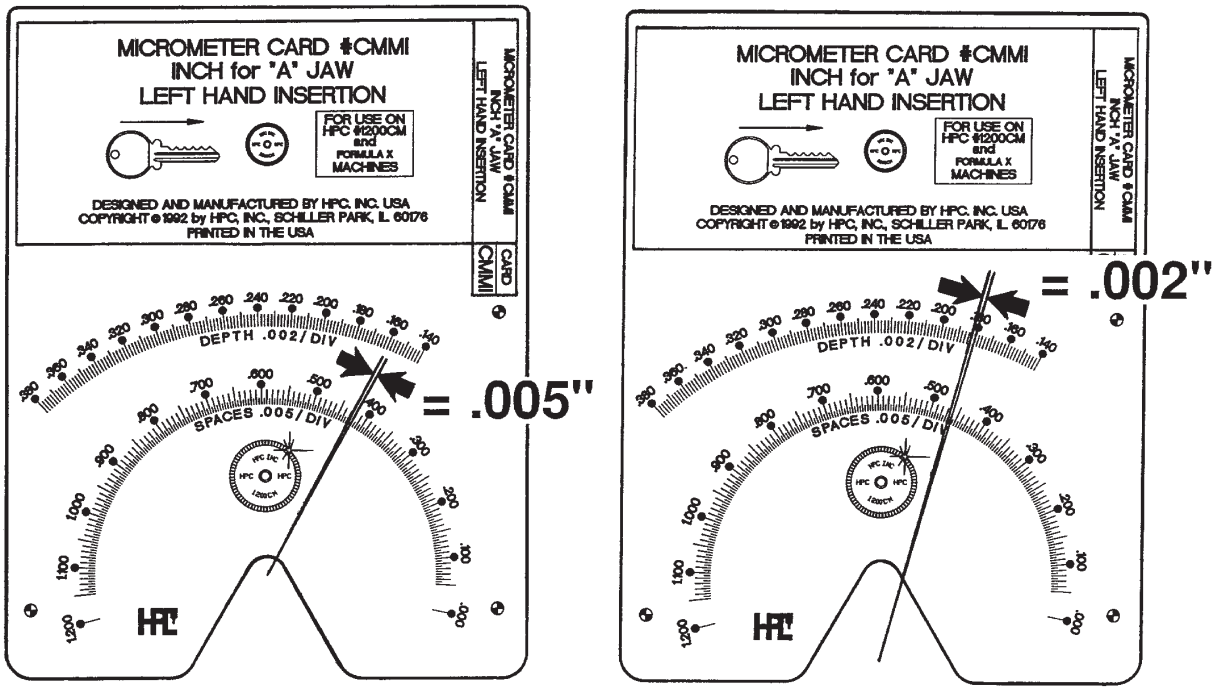
1.0
CODE CARDS



1.1 Code Cards



The Code Cards include all key cutting information.

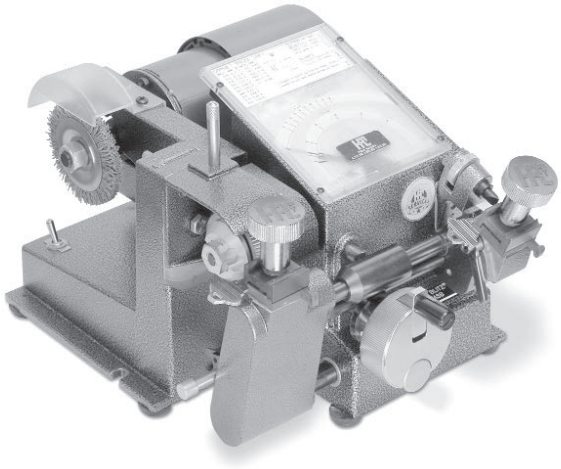


MICROMETER CARDS

CMMI	Micrometer Card “A” Jaw (inch)
CMBI	Micrometer Card “B” Jaw (inch)
CMRM	Micrometer Card “A” Jaw (red tip-metric)
CMRT	Micrometer Card “A” Jaw (red tip-inch)
CMHM	Micrometer Card “A” Jaw (black tip-metric)
CMHT	Micrometer Card “A” Jaw (black tip-inch)
CMMM	Micrometer Card “A” Jaw (metric)
CMBM	Micrometer Card “B” Jaw (metric)

Universal micrometer cards allow you to cut keys to any space and depth dimension in thousandths of an inch (or hundredths of a millimeter). These eight cards provide the complete spectrum of flexibility of a “Dial Indicator” type machine.

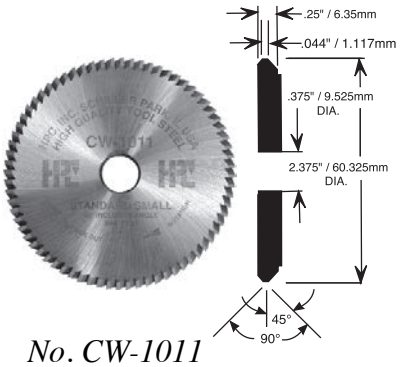
2.0
CUTTERS



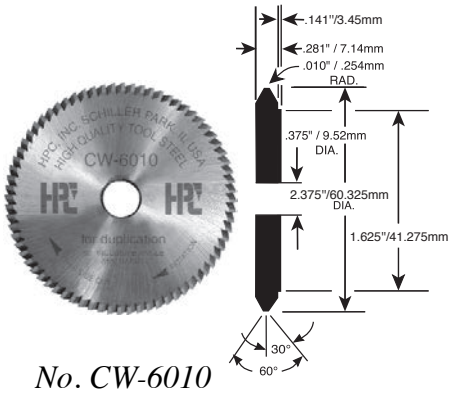
2.1 Available Cutters:

CUTTERS SUPPLIED

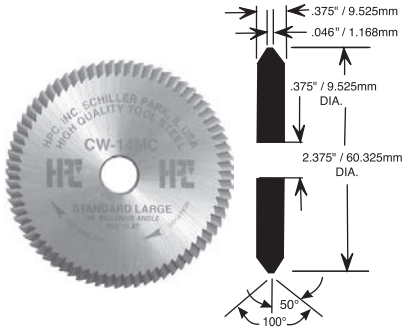
The correct cutter to be used is printed on each code card. One of the important features of this machine, is its ability to maintain correct depths and spaces with virtually no set-up time involved, even when changing cutters. This feature is reliant upon using cutters whose outside diameters are matched and equal.



No. CW-1011
90° angle, small cylinder cutter.
No. CW-1011C Optional Carbide



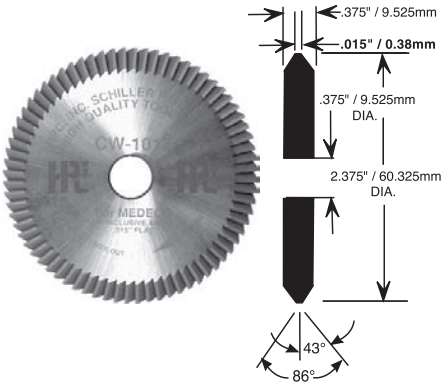
No. CW-6010
duplicating cutter



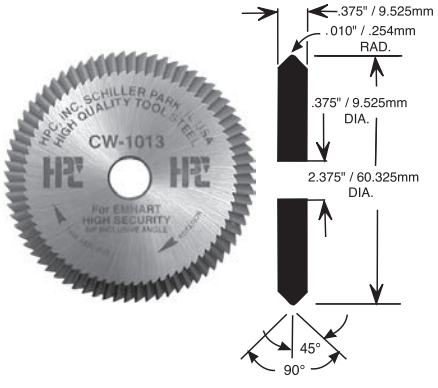
No. CW-14MC
100° angle, standard large cylinder cutter.
No. CW-14MCC Optional Carbide

The Switch Blitz™ is supplied with three high speed steel cutter wheels. The CW-1011 cutter is used for cabinet locks, padlocks and most automotive blanks. The CW-14MC cutter is used for most standard large cylinder keys. The CW-6010 is designed for duplication .

OPTIONAL CUTTERS



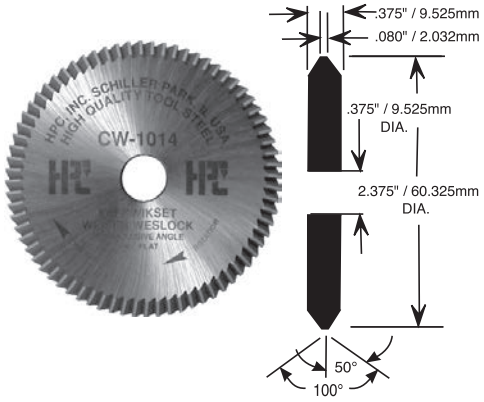
No. CW-1012
Optional milling cutter has angle and pin seat for cutting Medeco® High Security.



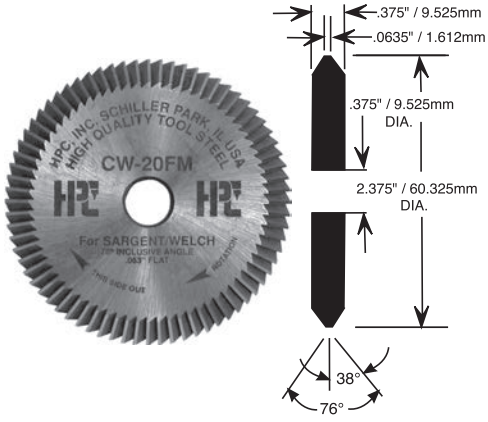
No. CW-1013
Only available cutter with exact angle of cut and full "V" pin seat for Emhart High Security.

Medeco® is a registered trademark of Medeco Security Locks, Inc.

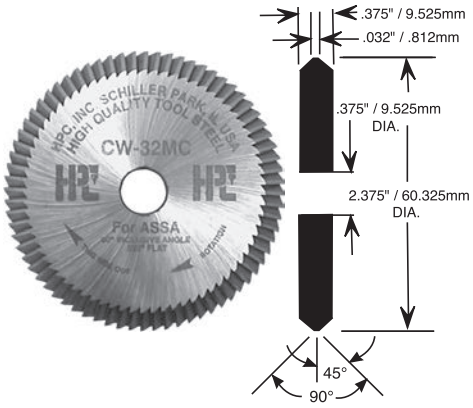
Optional Cutters Continued



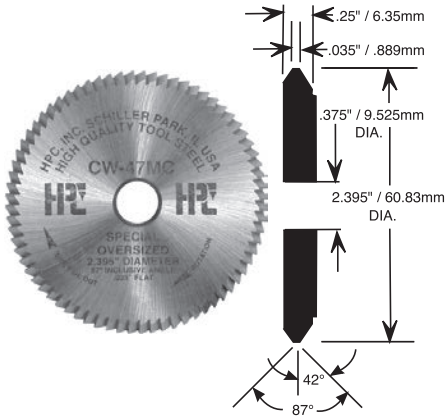
No. CW-1014
This specially designed cutter has .080 flat for one step cutting of Kwikset, Weslock, & Weiser using original pins.



No. CW-20FM
76° angle, double angle, flat mill tooth for Sargent.

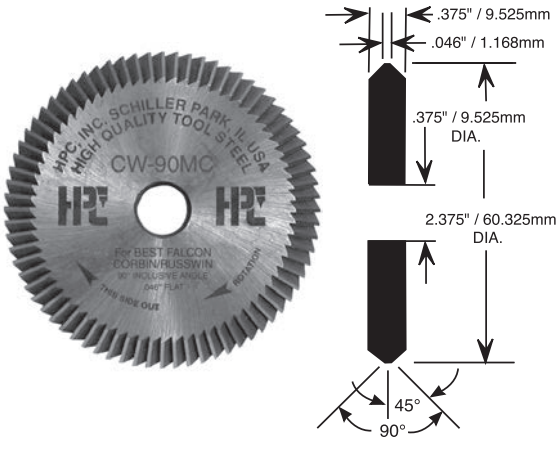


No. CW-32MC
Specially designed 90° angle, tool steel cutter for ASSA keys with .032 flat.

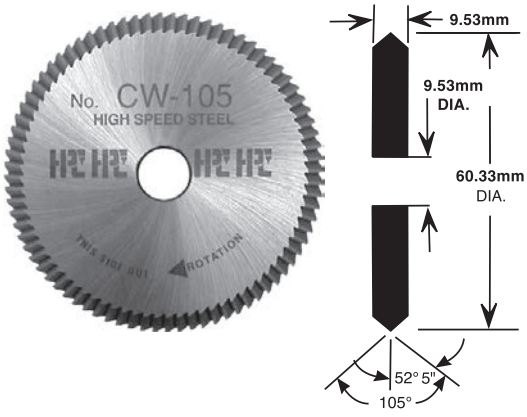


No. CW-47MC
87° angle, tool steel cutter for some automotive.
No. CW-47MCC Carbide

Optional Cutters Continued

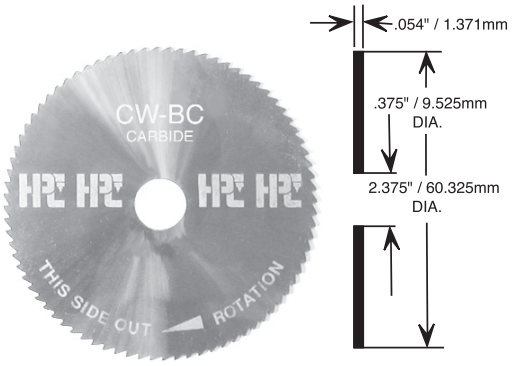


No. CW-90MC
90° angle, large cylinder cutter for shallow & deep cuts in adjacent positions. For Best, Falcon, Eagle, Arrow, Kaba, and IC core.

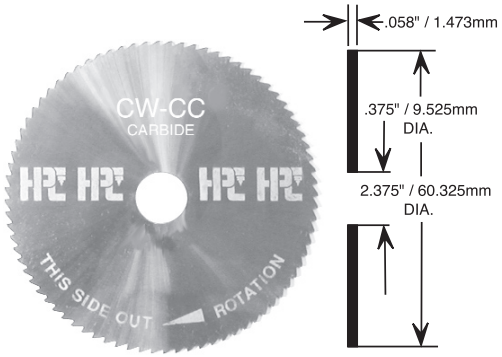


No. CW-105
105°, double angle cutter for ASSA.

Slotter Cutters

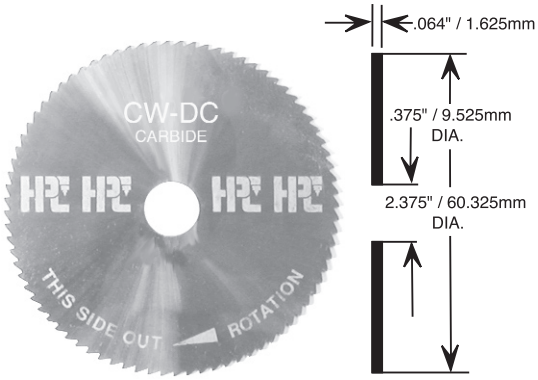


No. CW-BC
.054 carbide slotter cutter for Yale.
(requires spacer SPR-5)

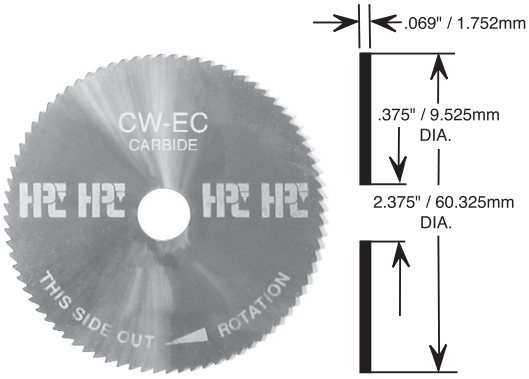


No. CW-CC
.058 carbide slotter cutter for S&G, Yale, Lloyd Matheson.
(requires spacer SPR-5)

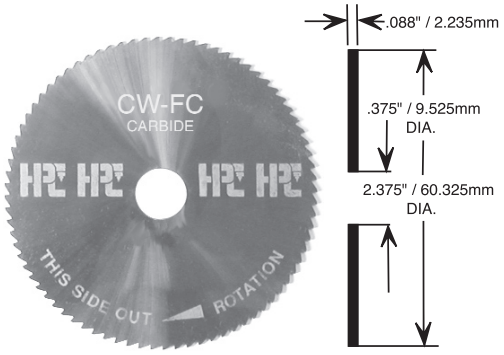
SLOTTER CUTTERS CONTINUED



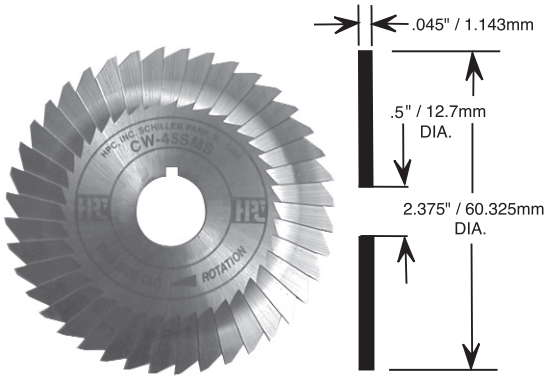
No. CW-DC
.064 carbide slotter cutter for S&G.
(requires spacer SPR-5)



No. CW-EC
.069 carbide slotter cutter for Diebold.
(requires spacer SPR-5)

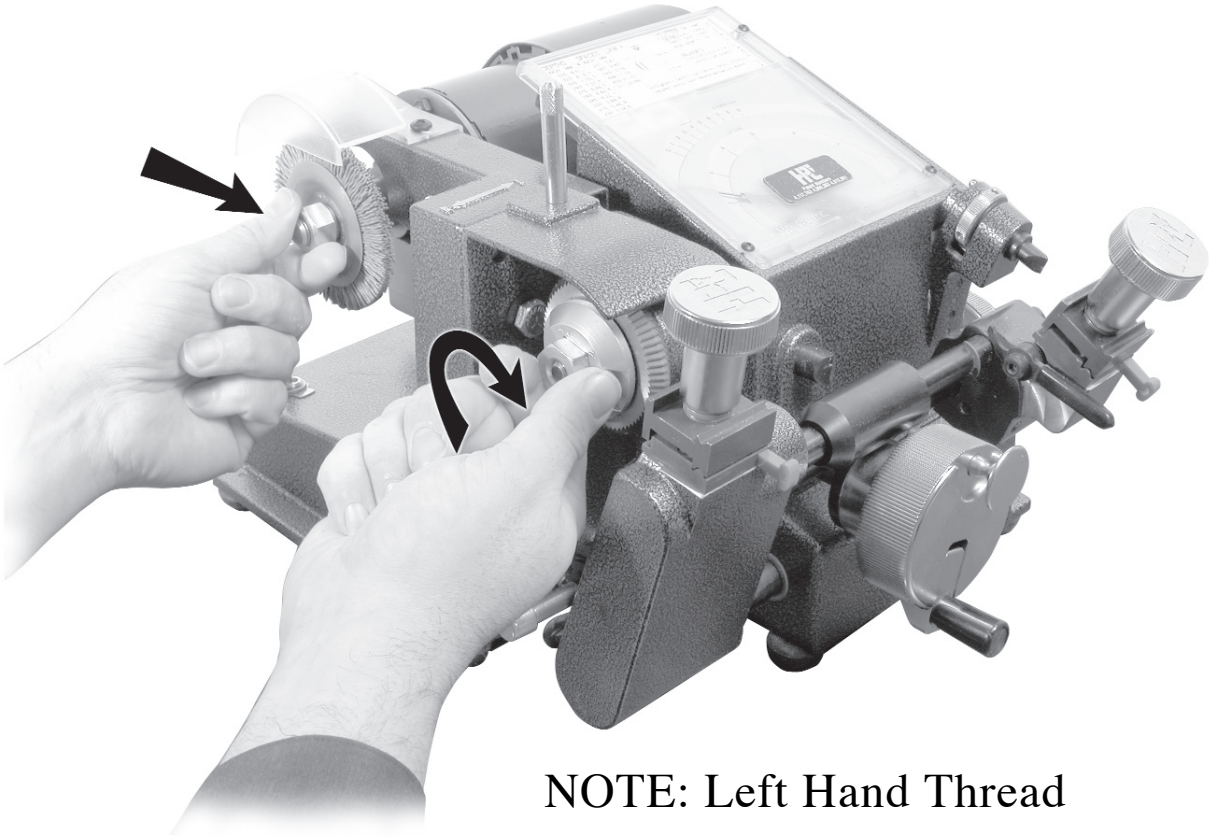


No. CW-FC
.088 carbide slotter cutter for Mosler.
(requires spacer SPR-5)



No. CW-45SMS
.045 M2 tool steel combination standard/flat steel cutter for safety deposit boxes.
(requires spacer SPR-5)

2.2 Changing Cutters:

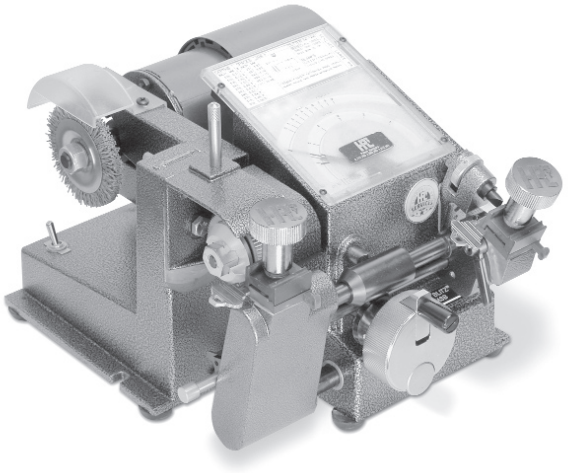


NOTE: Left Hand Thread

When changing from one cutter to another, the machine must be turned off.

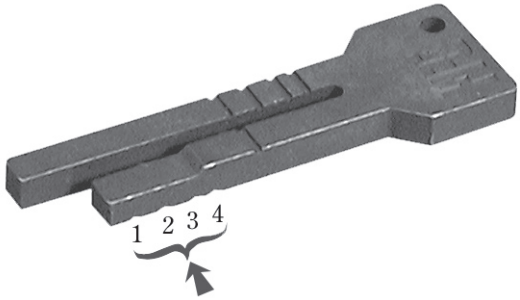
Holding the brush or brush nut, loosen the Quick Nut and remove cutter. Place desired cutter onto cutter shaft and retighten the Quick Nut. Make certain the cutter is installed with the text facing out.

3.0
GAUGING AND HOLDING KEYS



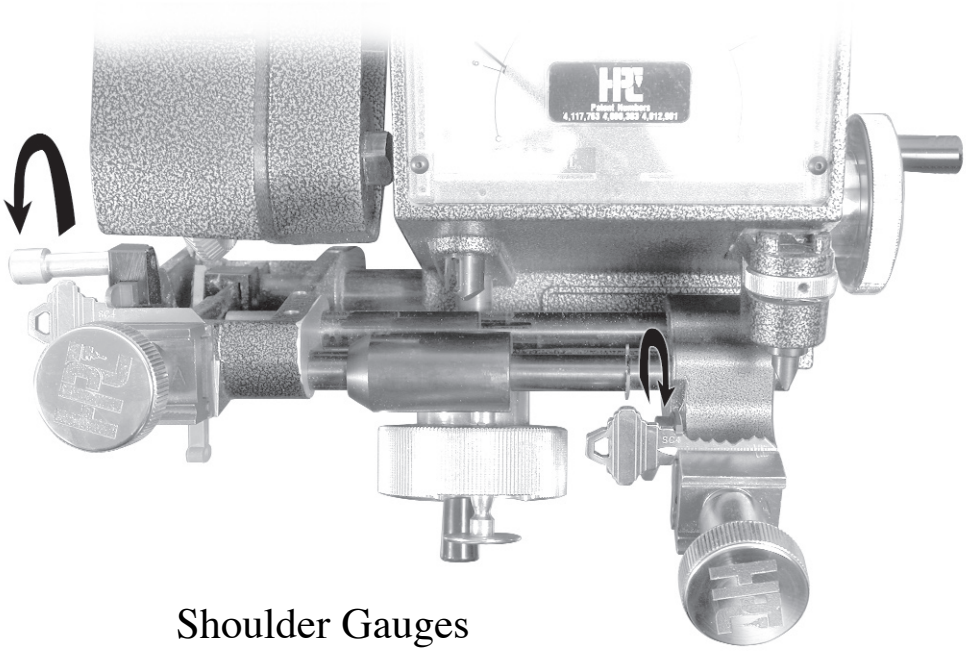
3.1 Key Gauges:

Red (Plastic) Tip Gauge
No. CM-1054MA



Black (Horseshoe) Tip Gauge
No. CM-1054R

Refer to the appropriate code card for the applicable gauging method.



Shoulder Gauges

3.2 Shoulder Gauge Safety Switch (cutter side only):

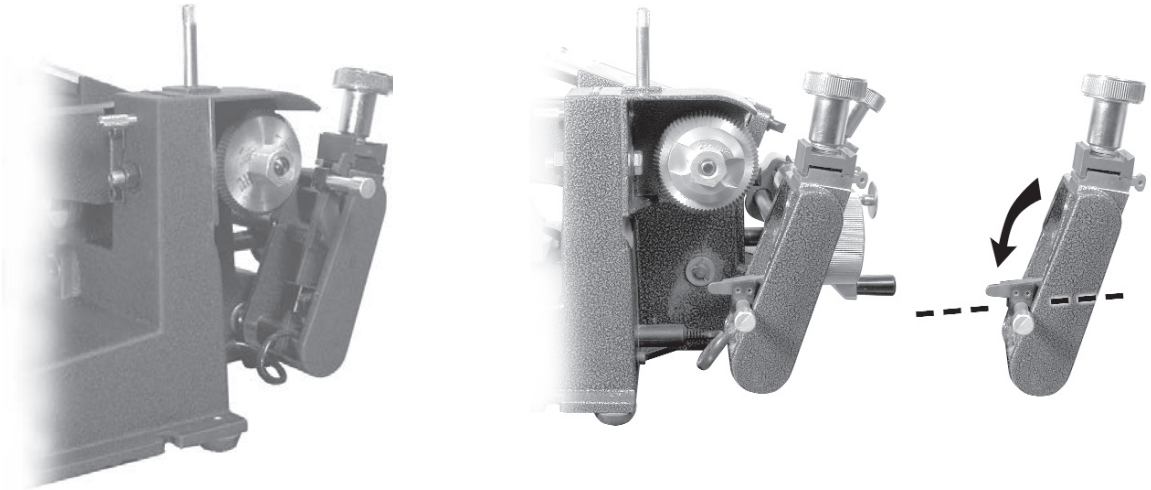
This machine is equipped with a Shoulder Gauge Safety Switch (No. 1200C-SGS) on the cutter side to protect the shoulder gauge from being accidentally damaged by the cutter. This type of accident occurs if the shoulder gauge is left up at the key after gauging rather than being lowered to its rest position before cutting the key.

Cutting A Key

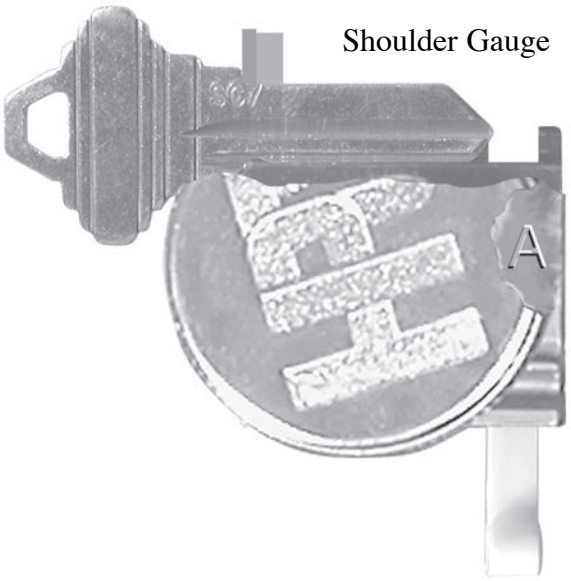
To cut a key you must lower the gauge to its rest position before turning on the cutter motor. Turning on the cutter motor is accomplished with the switch at the rear of the machine. Turning on the machine's cutter motor with the shoulder gauge not in the rest position will result in the safety switch relay disengaging the cutter motor's power. This will also happen if the gauge is moved from its rest position while the cutter motor is already on.

Resetting the Machine

To reset the machine, lower the shoulder gauge to its rest position, then turn off the machine with the switch located at the rear of the machine. The machine should now be turned back on to cut the key. Resetting the machine prevents the Shoulder Gauge Safety Switch from being used as a power switch to turn the machine on and off.



3.3 Vise Jaws:



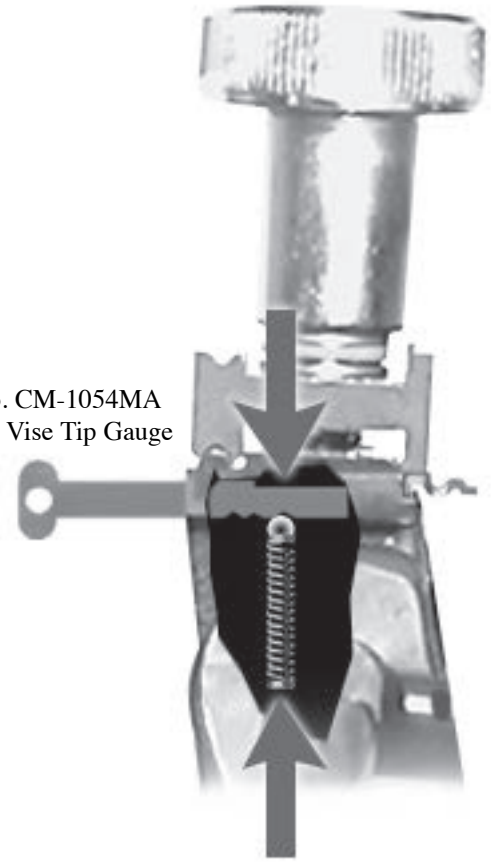
STANDARD CYLINDER KEY
(with Shoulder Gauging using Jaw A)

(Example: Schlage, Card No. C45)

Place the key blank in the jaw with the shoulder touching the left hand edge of shoulder gauge. Flip the shoulder gauge down before turning on the motor.

The space dimension can be significantly affected by any damage incurred to the shoulder gauge.

Damage to the shoulder gauge can occur when it comes in contact with the cutter, or when undue pressure is used when gauging against the key's shoulder.

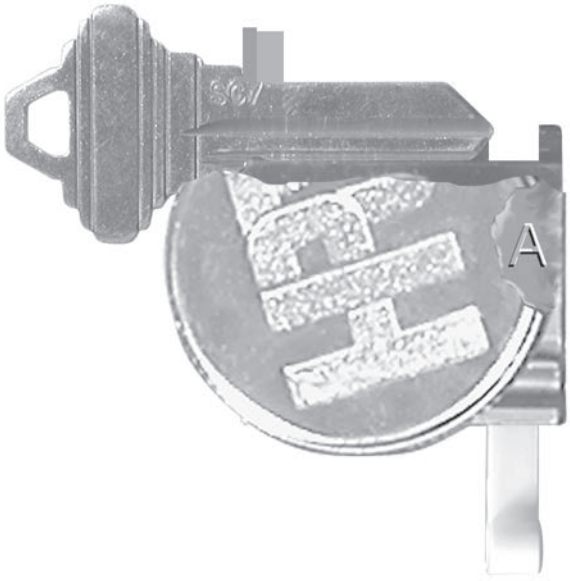


No. CM-1054MA
Key Vise Tip Gauge

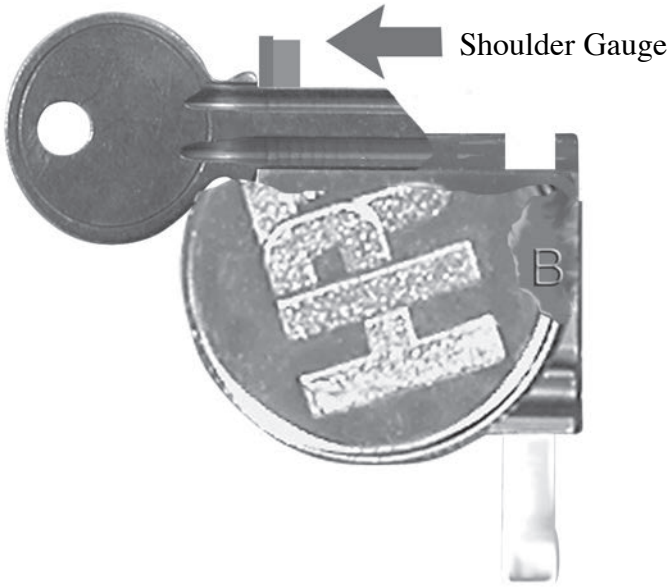
Key vise tip gauge pulled to rear and into Position No. 1.

Wing nut and top jaw of vise removed to show a top view of the bottom jaw only, for key positioning.

Make sure the key is laying flat against the ledge before tightening the wing nut.



3.4 Use of Jaw B:

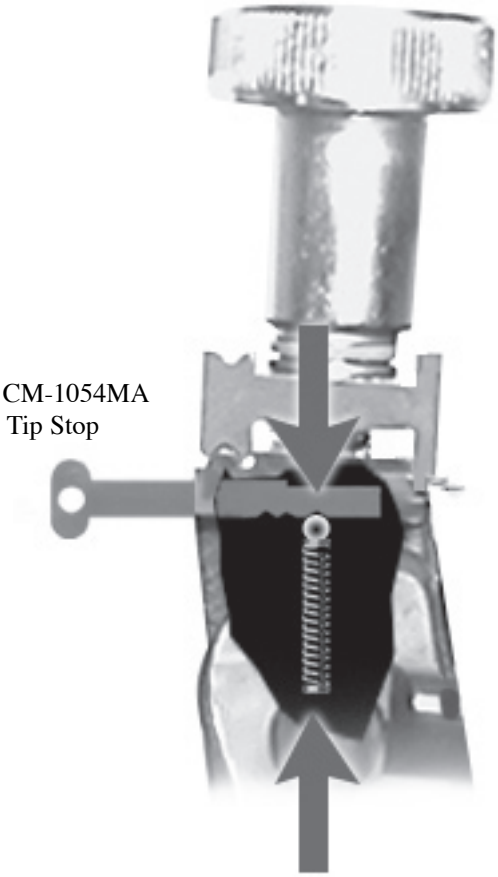


STANDARD CYLINDER KEY
(with Shoulder Gauging using Jaw B)

(Example: Master, Card No. C34)

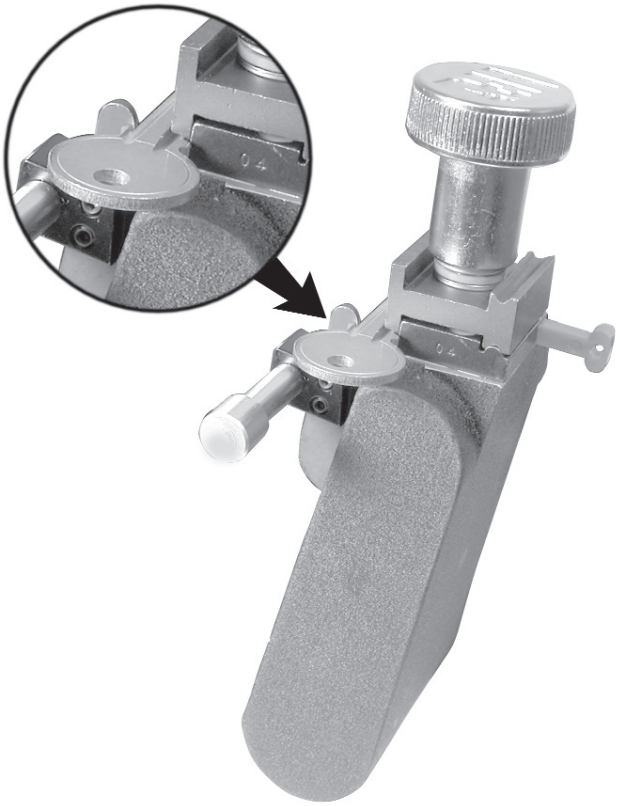
The key shoulder touches the left hand edge of the shoulder gauge.

Flip the gauge down before turning on the motor.



No. CM-1054MA
Tip Stop

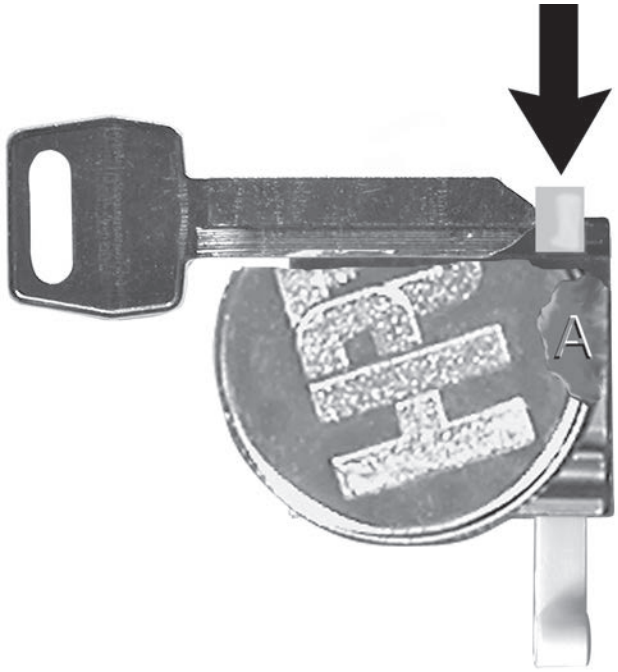
Key lays in front of the lip. Key vise tip gauge pulled to rear. (Position No. 1)



Make sure the key is laying flat against the lip, before tightening the wing nut.

3.5 Tip Stops:

No. CM-1054MA
Tip Gauge

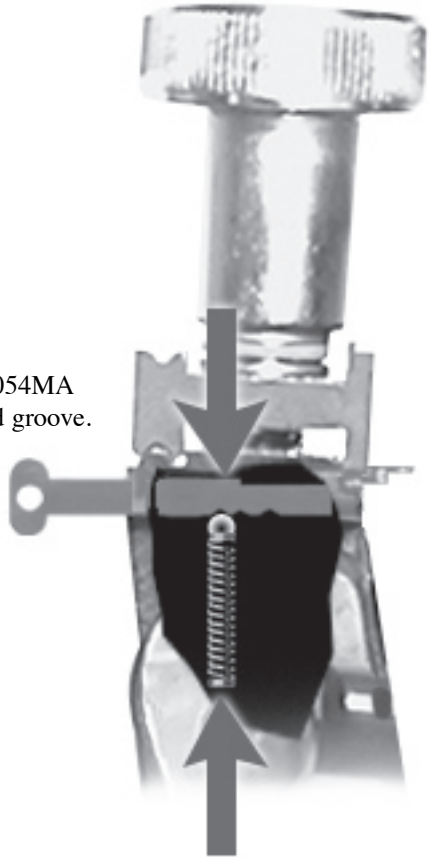


RED FULL SHORT TIP STOP

(Gauging using Jaw A)

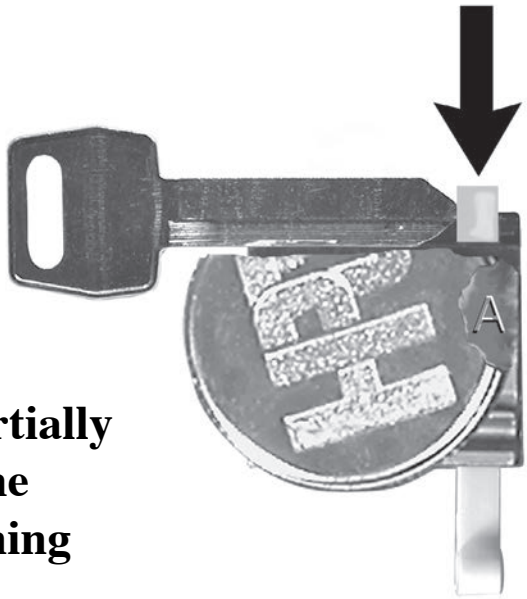
(Example: Ford, Card No. C24)

Key is gauged from the tip.



No. CM-1054MA
Gauge in 3rd groove.

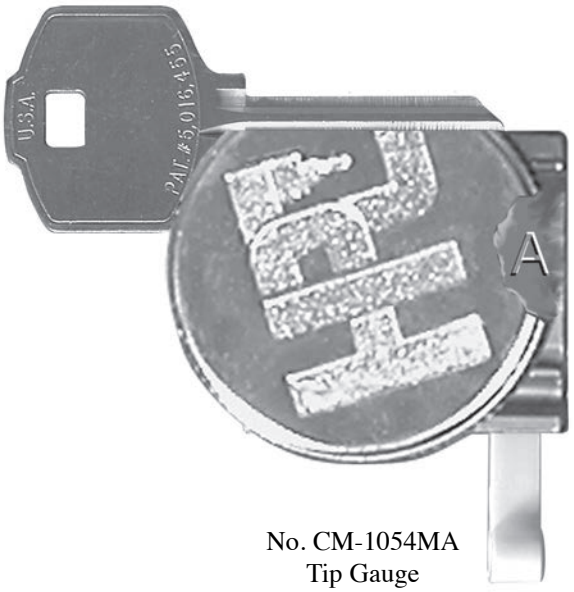
Key vise tip gauge, pushed inward to the third groove position. The tip gauge is pulled to rear while cutting.



Wing nut and top jaw of vise partially removed to show a top view of the bottom jaw only, for key positioning and stop bar settings.

The key blank grooving ledge lays directly on the face of the key vise or key vise base, for ignition and trunk keyway. No riser blocks are used.

3.6 Red Tip Stop:



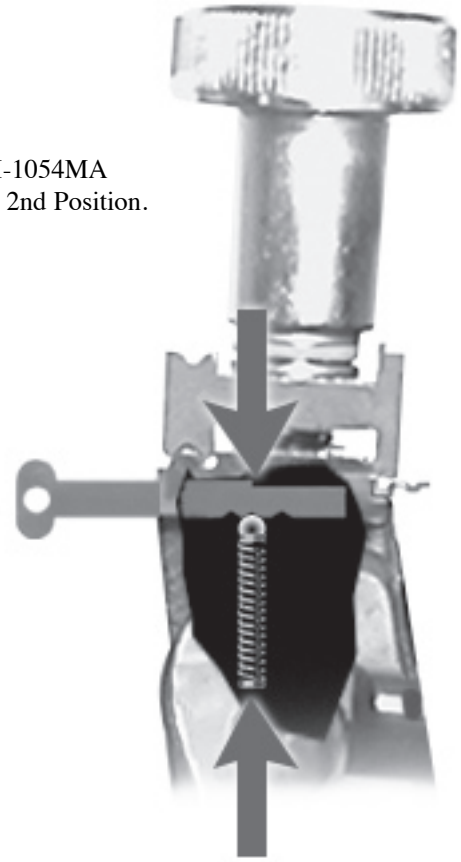
No. CM-1054MA
Tip Gauge

RED MIDDLE SHORT TIP STOP
(Gauging Using Jaw A)

(Example: KABA-PEAKS 6-Pin, Card No. CPKS1)

The key is gauged from bottom stop, not the tip.

No. CM-1054MA
Key Vise in 2nd Position.

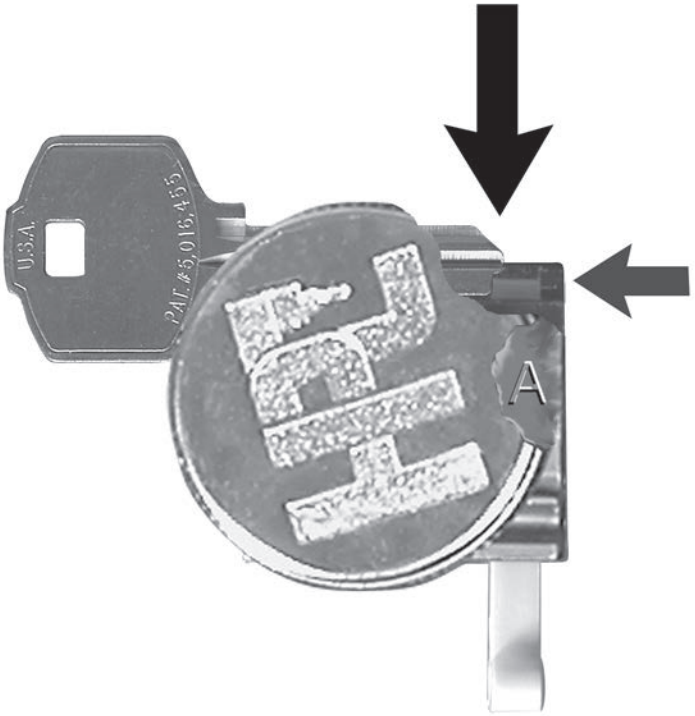


Key vise tip gauge, pushed inward to the second groove position. The tip gauge is pulled to rear while cutting.

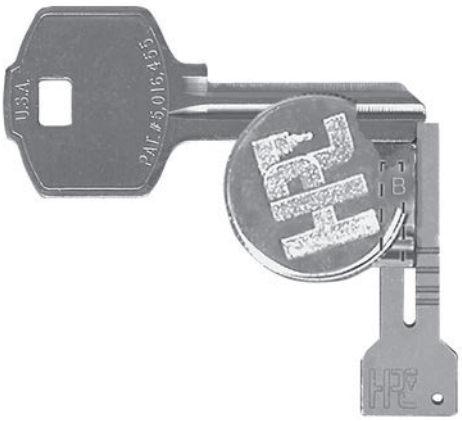
Top jaw of vise removed to show a top view of the lower jaw only, for key positioning and stop bar settings.

Gauge against the tip stop. Be sure key lays flat against the ledge before tightening the wing nut.

*For BEST type blanks see section 3.7.



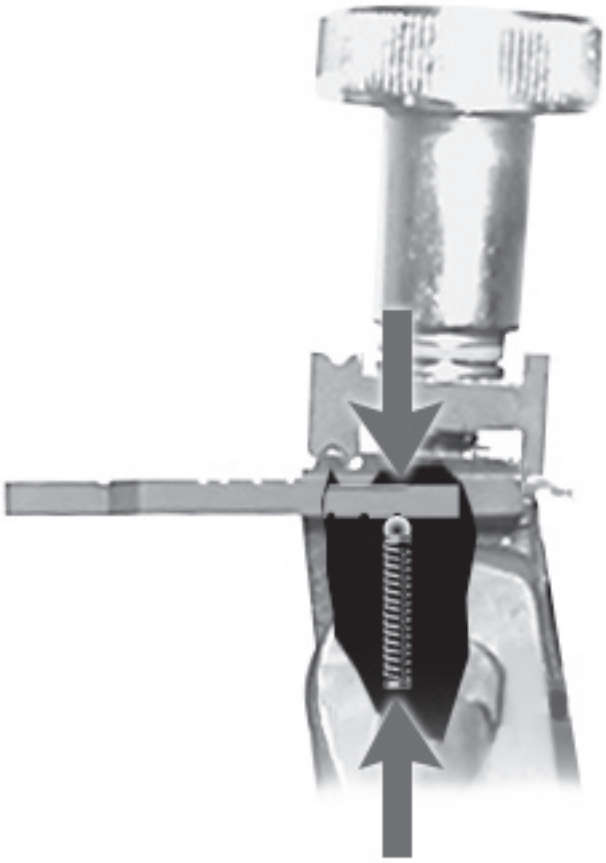
3.7 Horseshoe Tip Stop (short end):



BLACK HORSESHOE SHORT TIP STOP
(Gauging Using Jaw B)

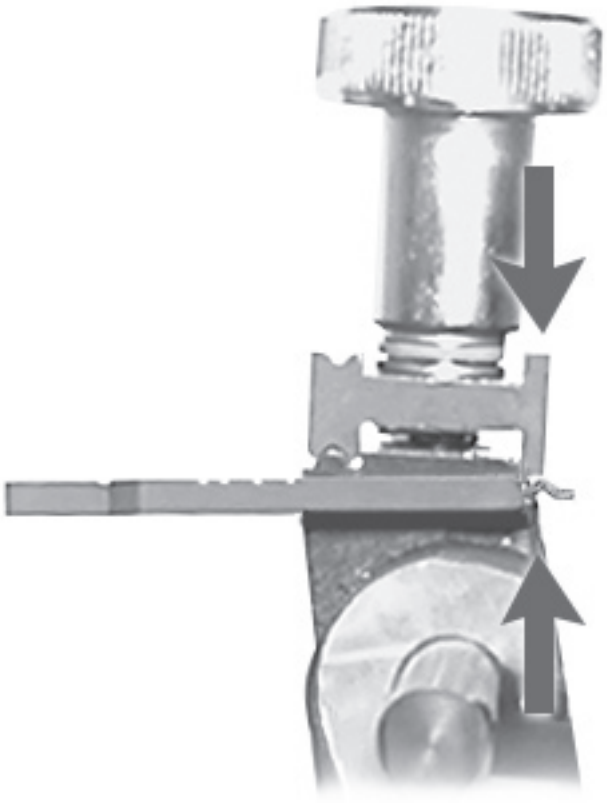
(Example: Best Card No. C3)

Key is gauged from the bottom stop, not the tip.
(Note: Use black tip gauge, NOT red.)

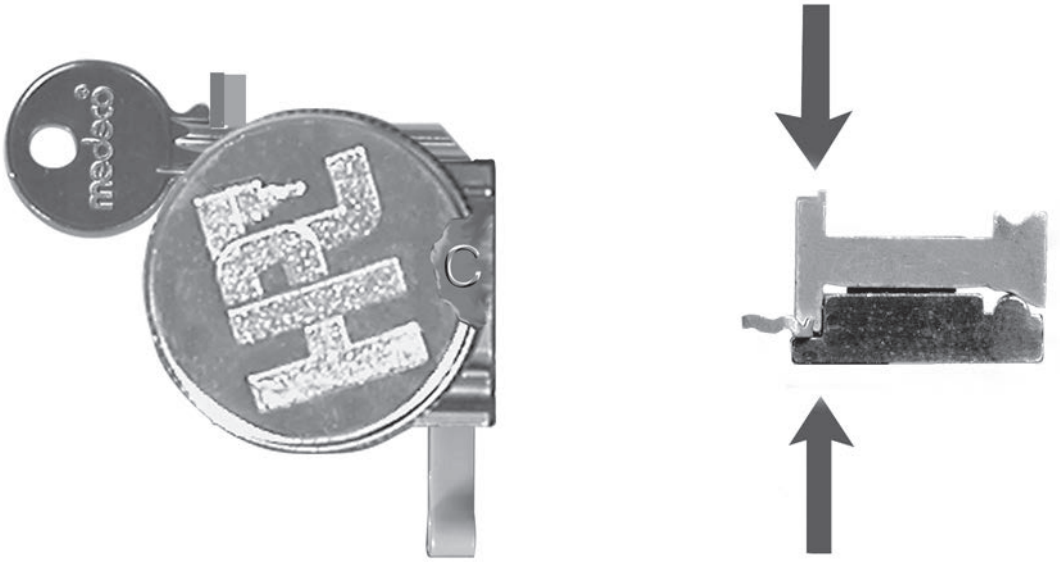


Gauge pushed inward to first groove position.

Note special holding on key milling using jaw “B” side.
(Key must lay flat against the back ledge of the bottom jaw as shown.)



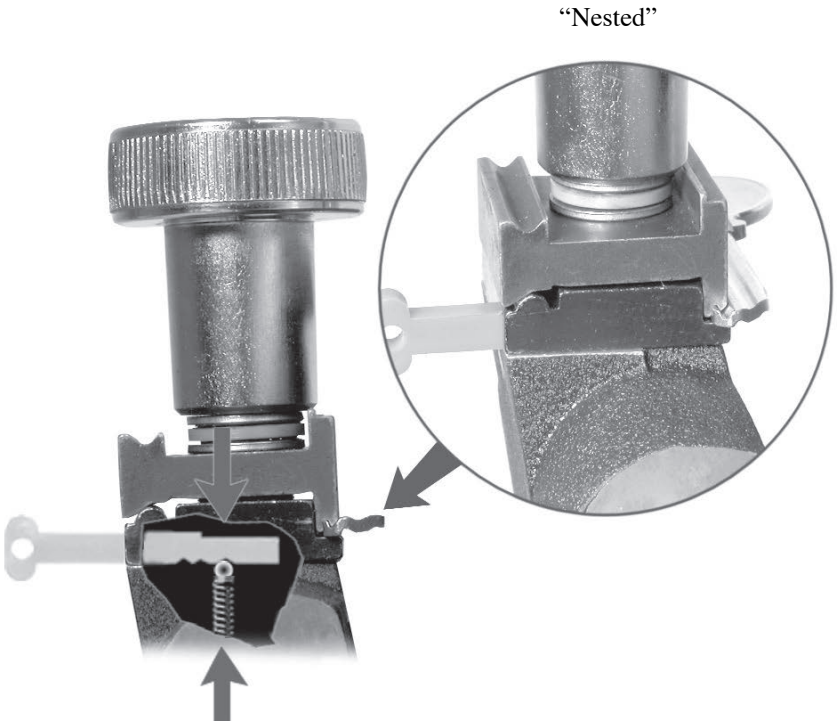
3.8 Medeco® Jaw C:



MEDECO® - STANDARD COMMERCIAL
Using Jaw C (Purchased Separately)

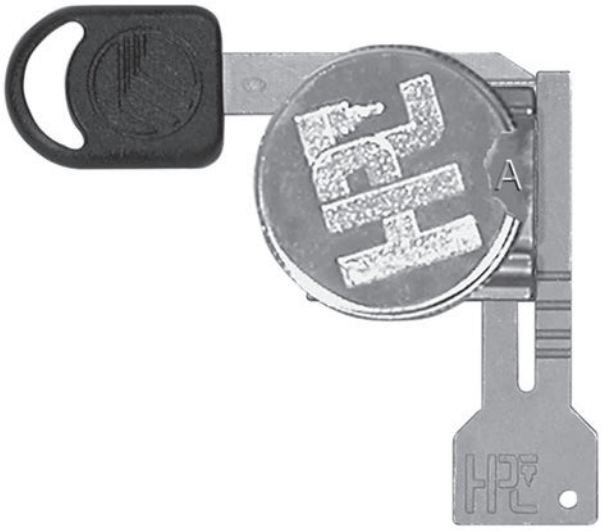
(Example: Medeco® Card No. C36)

The key shoulder touches the left hand edge of the shoulder gauge. Flip the gauge down before turning on the motor.



Jaw and grooves "nest" into each other. The key vise tip gauge is pulled back to the rear. Open jaw "C" only enough to slide the key into position. Be sure the key groove and jaw milling mate before tightening the wing nut.

3.9 Black Horseshoe Tip Stop (full end):



BLACK HORSESHOE FULL END TIP STOP

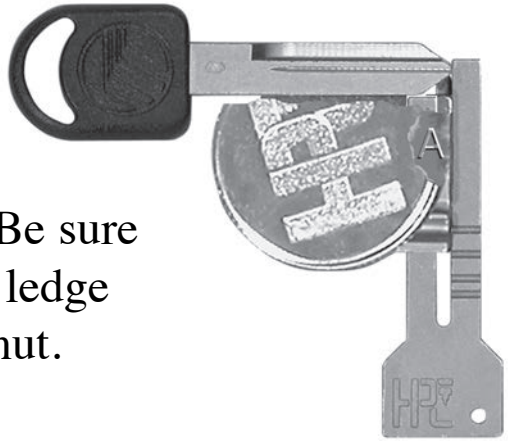
(Gauging using Jaw A or B)

(Example: GM Modular 94+, Card No. CF215)

The key is gauged from the tip as shown.

(Note: Black tip gauge NOT Red.)

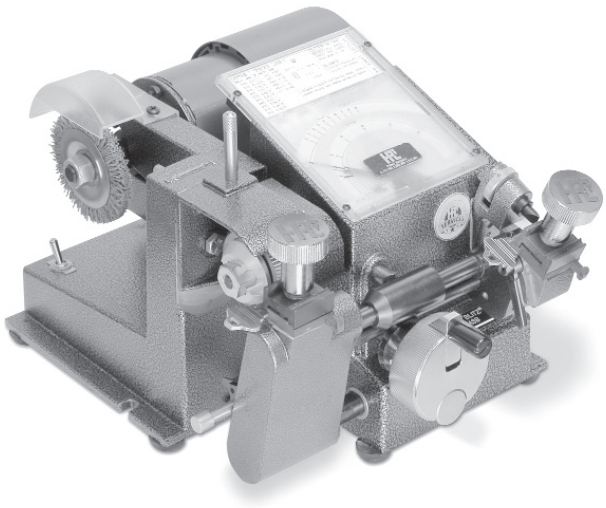
Detent in second groove position.

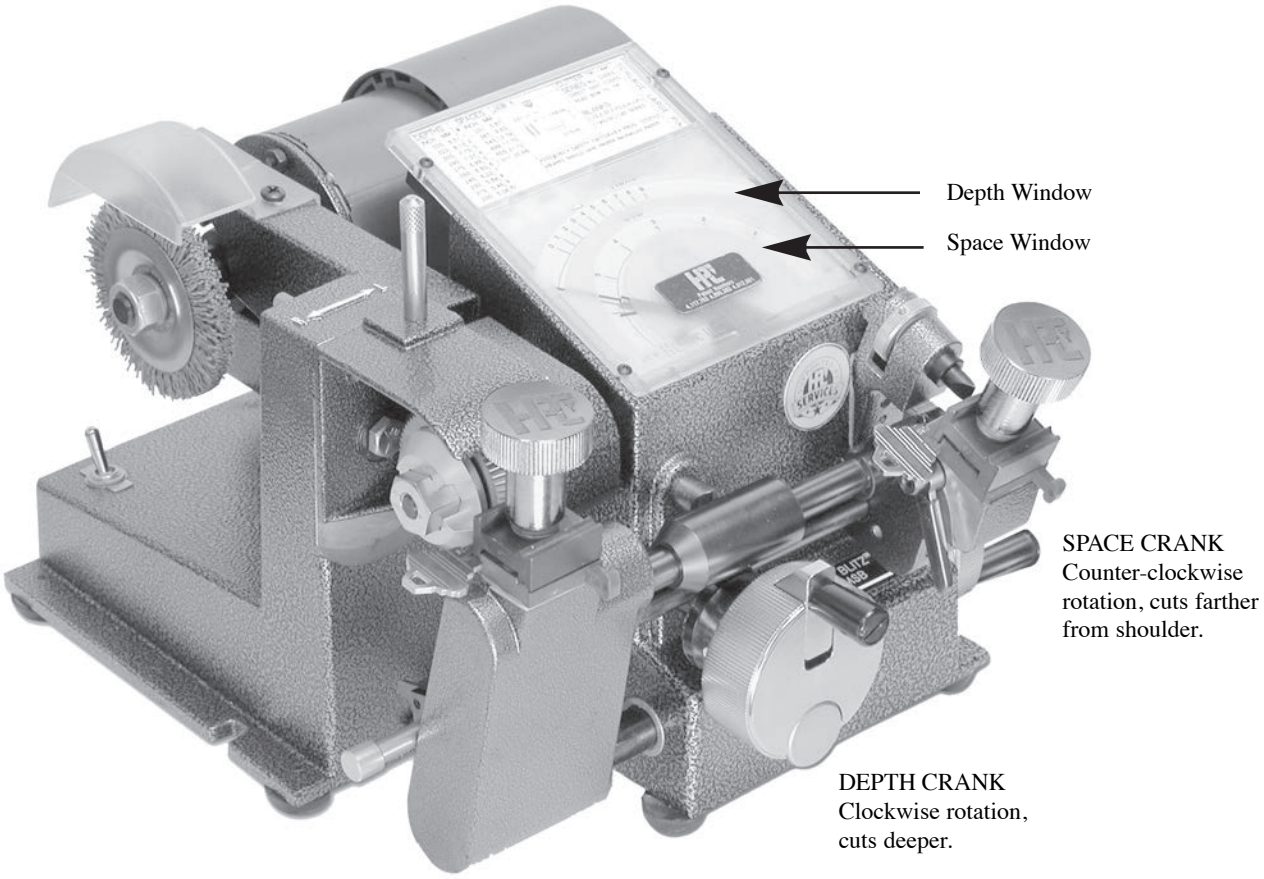


Gauge against the tip stop. Be sure the key lays flat against the ledge before tightening the wing nut.

4.0

Depth and Space Crank Controls



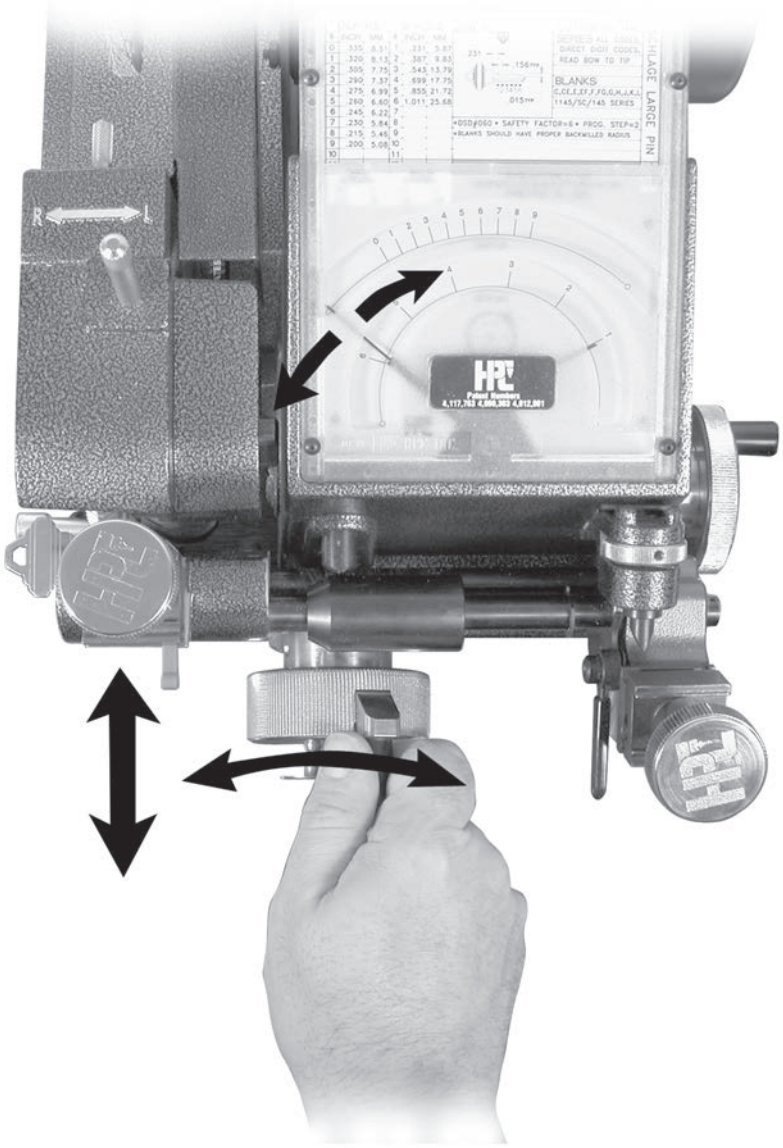


DEPTH CRANK

THE DEPTH OF A CUT is controlled by rotating the Depth Crank, located at the front of the machine. Clockwise rotation, as indicated above, moves the key inward towards the cutter. Counter-Clockwise rotation moves the key outward and away from the cutter.

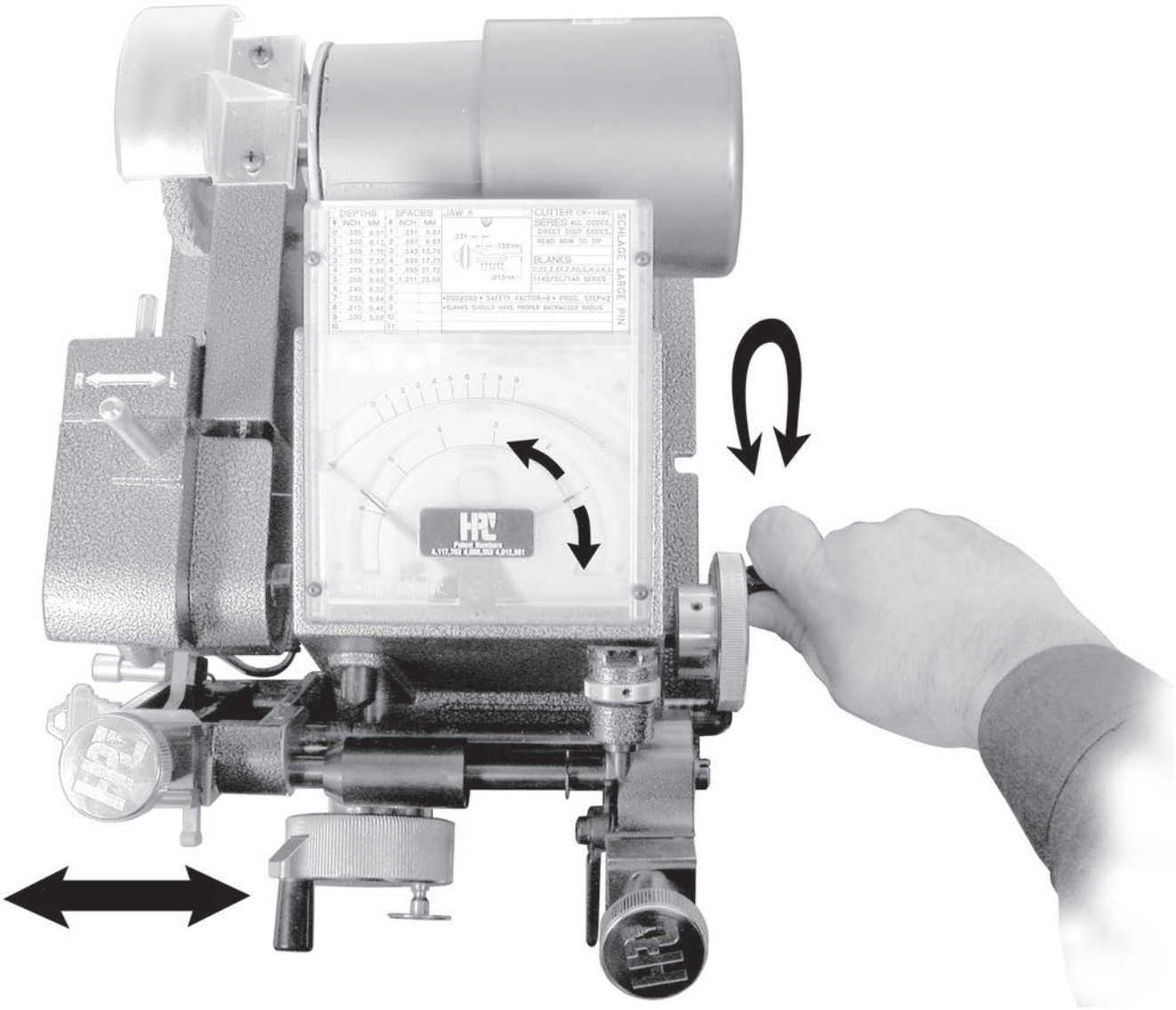
SPACE CRANK

THE LATERAL MOVEMENT of the key is controlled by rotating the Space Crank located on the right hand side of the machine. Counter-clockwise rotation as indicated in the illustration, moves the key to the left and causes the cutter to cut farther from the shoulder.

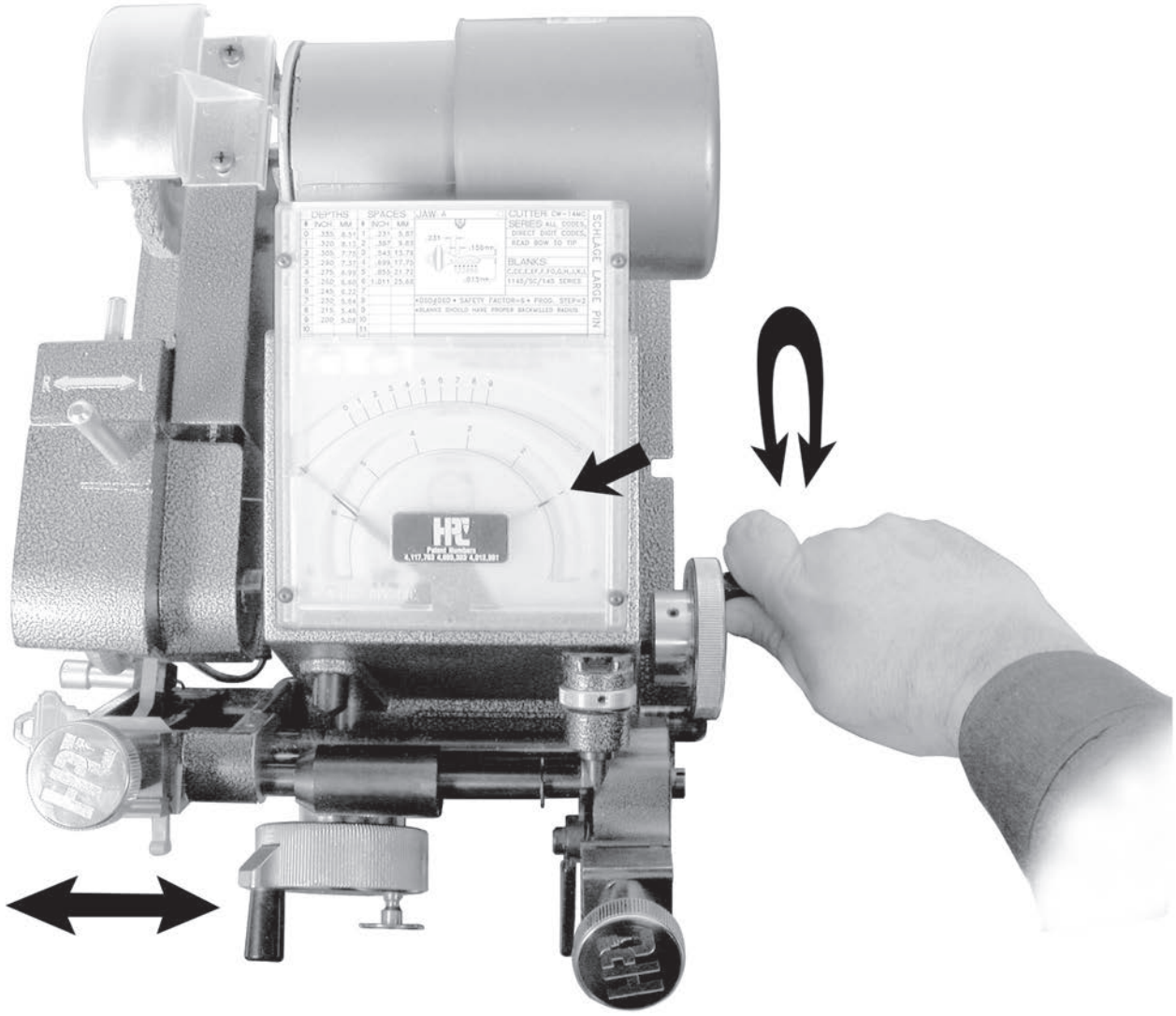


Rotating the Depth Crank clockwise, the pivot arm will move inward towards the cutter, rotating counter-clockwise will move it outward away from the cutter.

The depth indicator needle sweeps across the face of the arc, from left to right as the knob is advanced. With this indicator needle centered over the mark on the card, the key is cut to the corresponding depth.



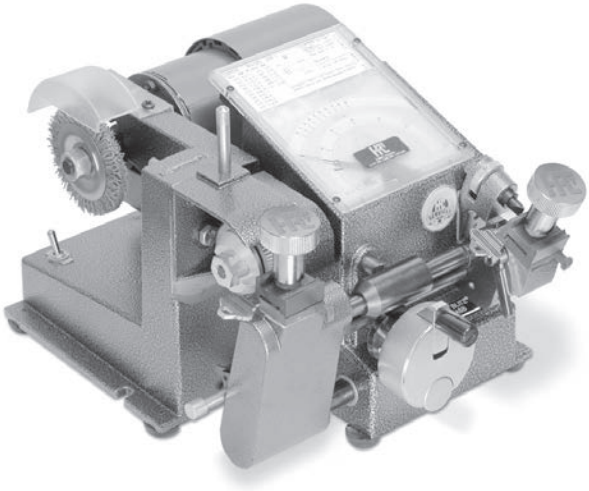
Rotating the Space Crank clockwise moves the pivot arm to the right, and rotating counter-clockwise moves it to the left.



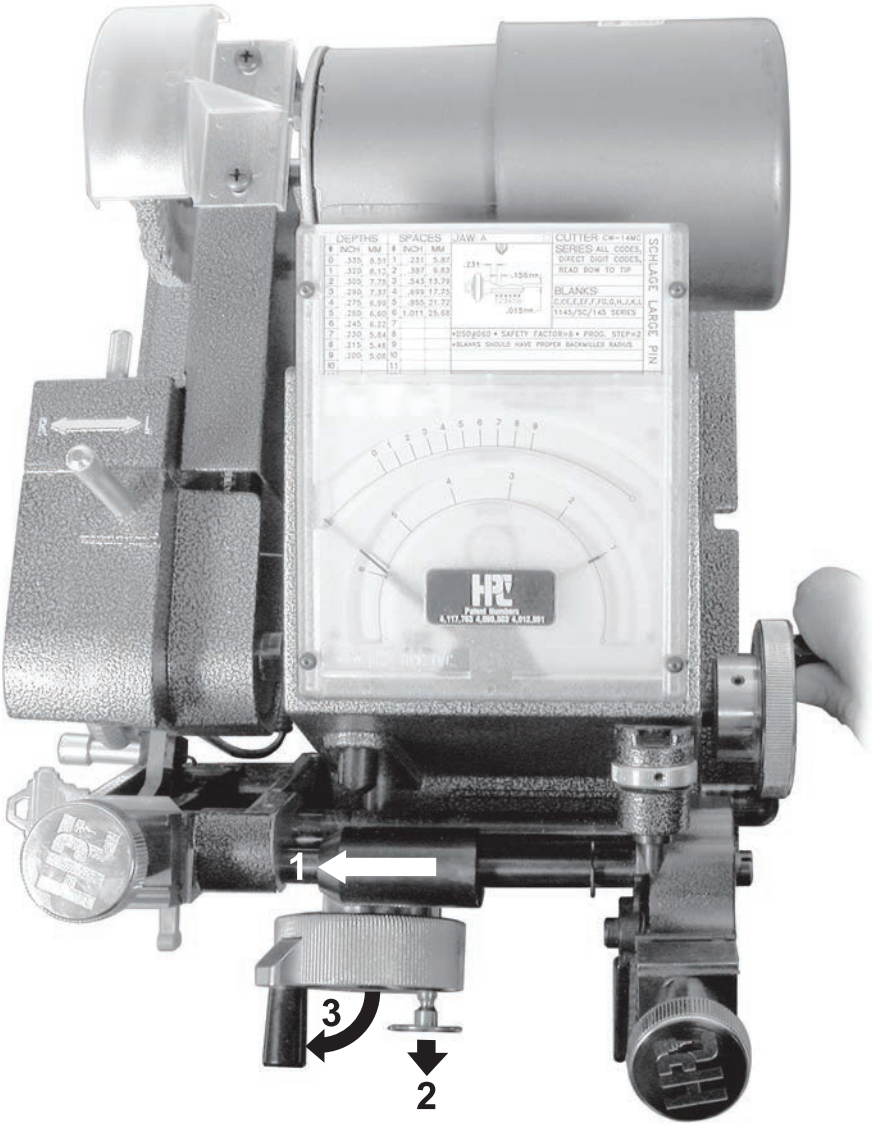
The key in the pivot arm is correctly positioned for the first space when the space indicator needle is centered over the numeral 1 in the space indicator arc.

5.0
CUTTING THE KEY

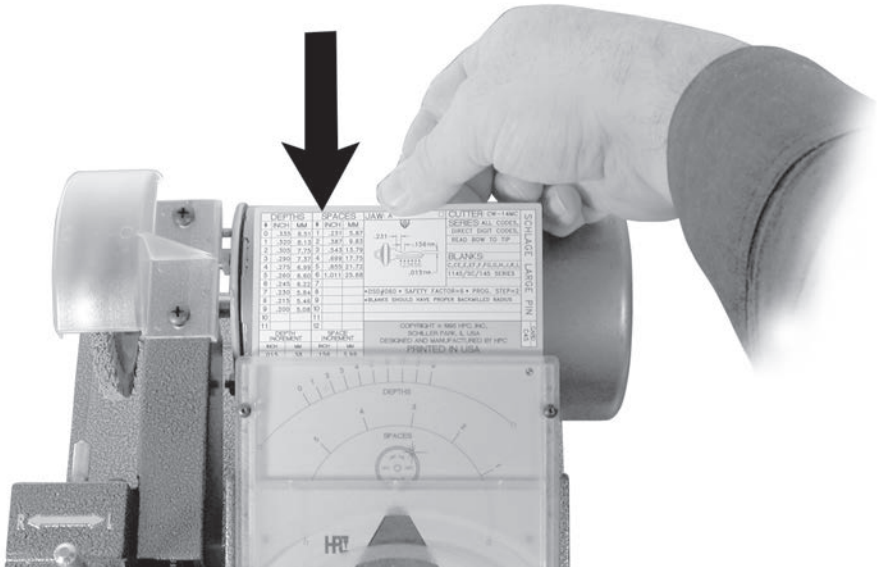
5.1
CODE CUTTING
5.2
DUPLICATING



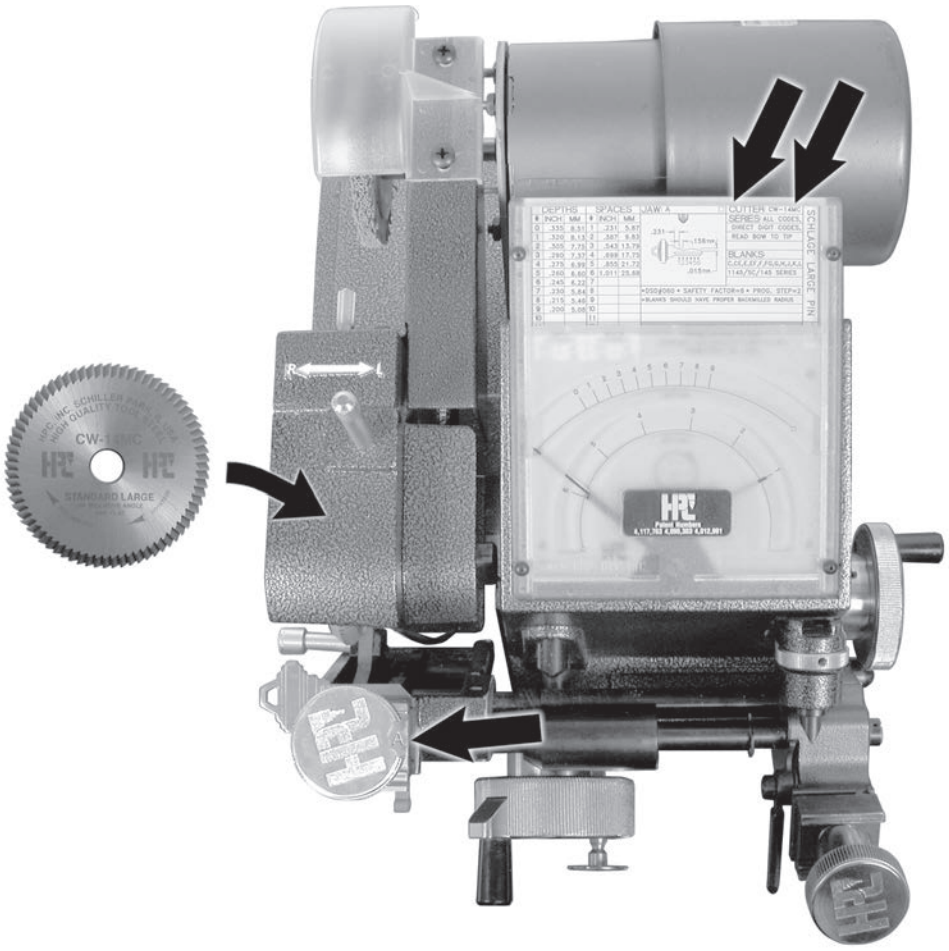
5.1 Code Cutting:



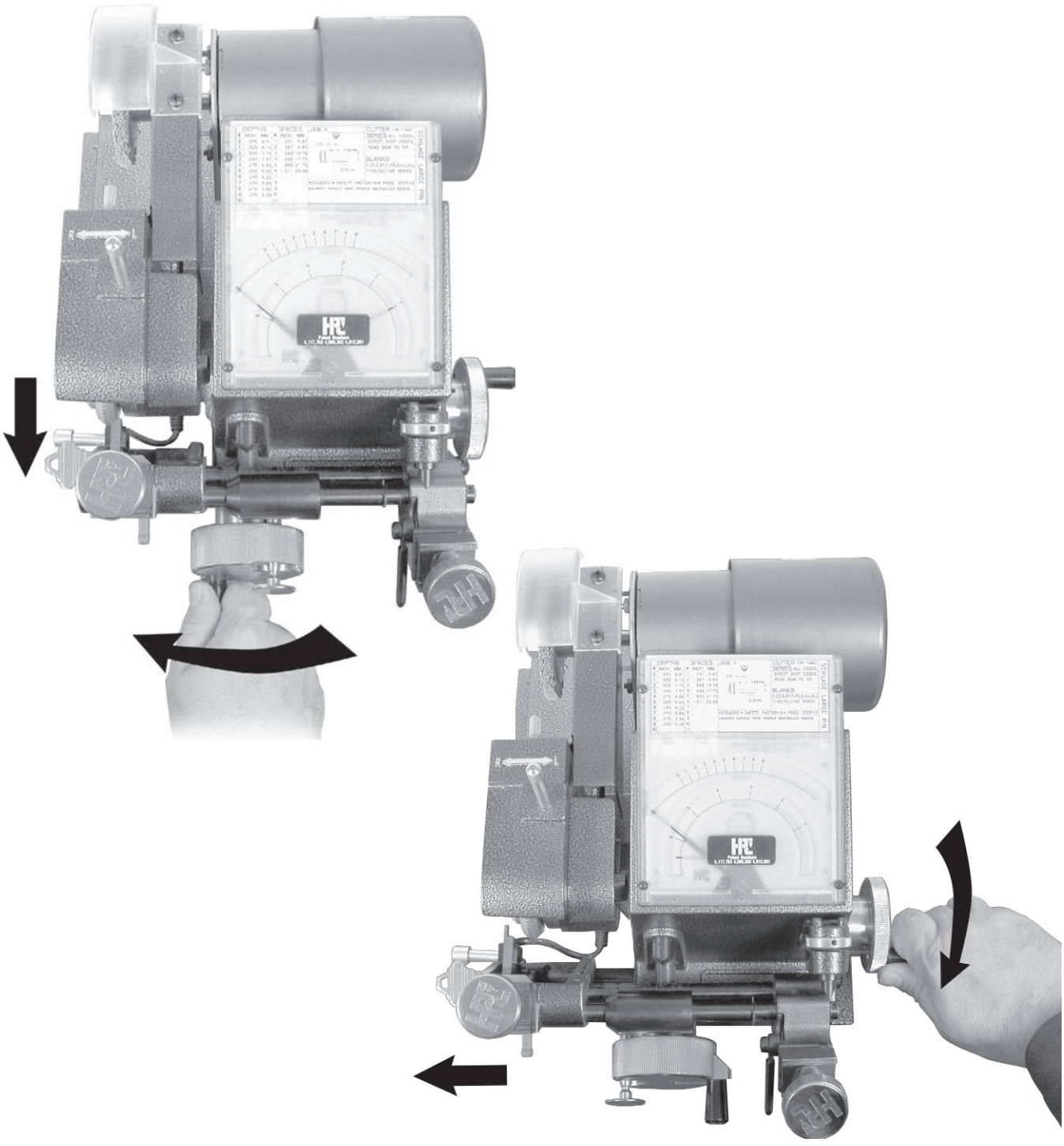
When code cutting, make certain the code bearing (1) is all the way to the left side of the shaft.
On the depth crank, the stop pin (2) must be pulled out and the lever handle (3) must be in the upright position.



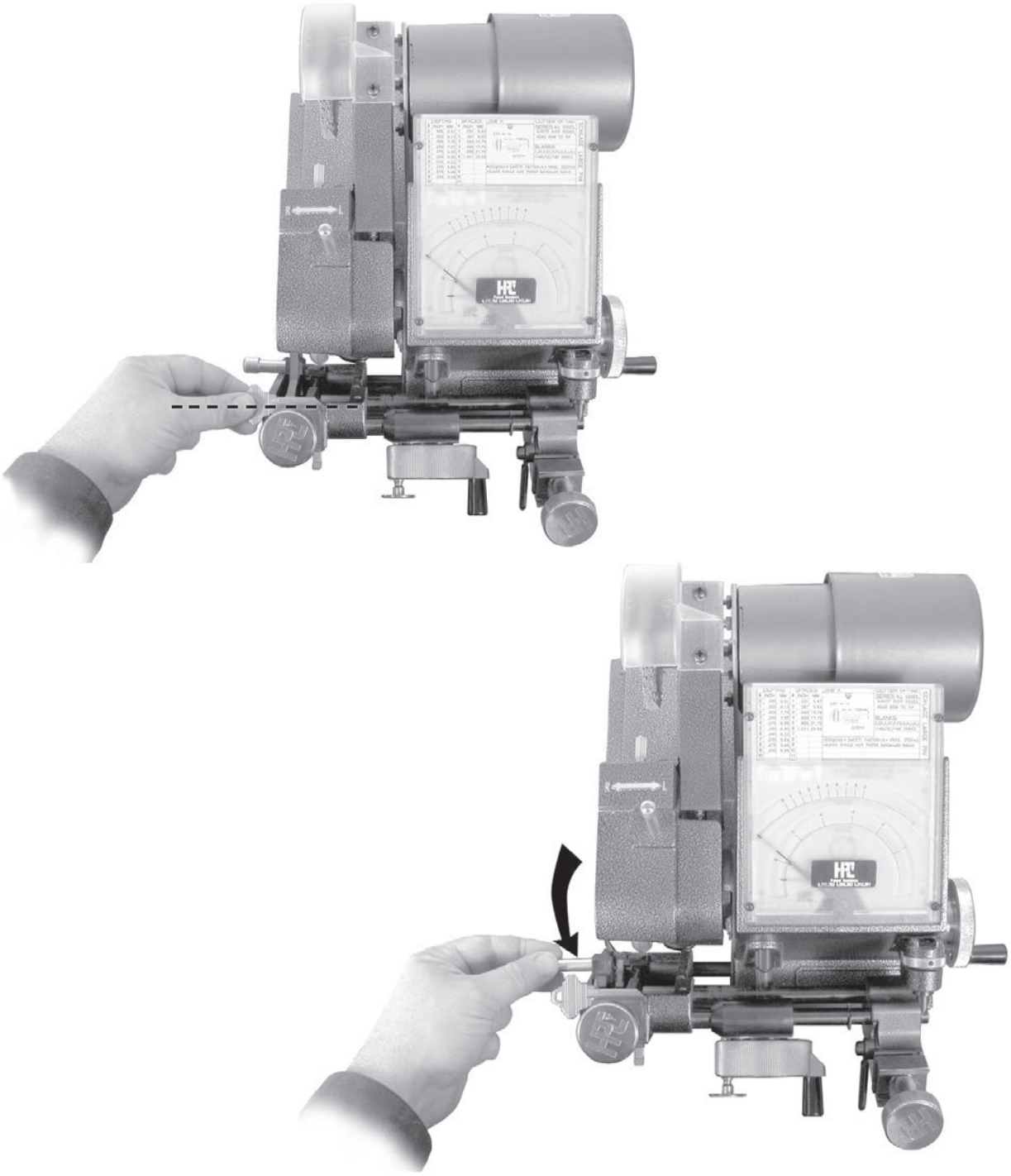
Select the correct Code Card and insert it beneath the lens and needles as shown above.



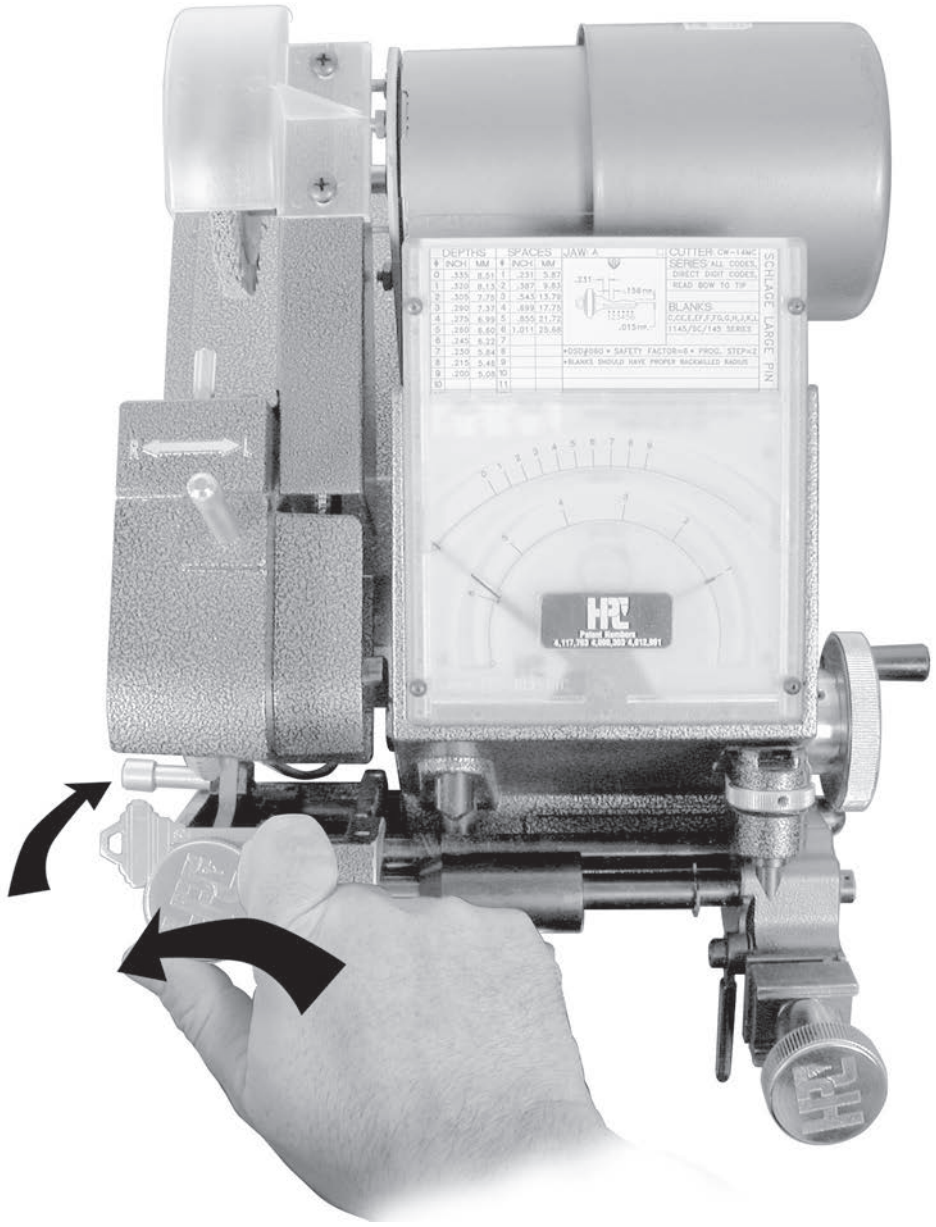
Make certain the proper cutter and jaw are used as indicated on the Code Card.



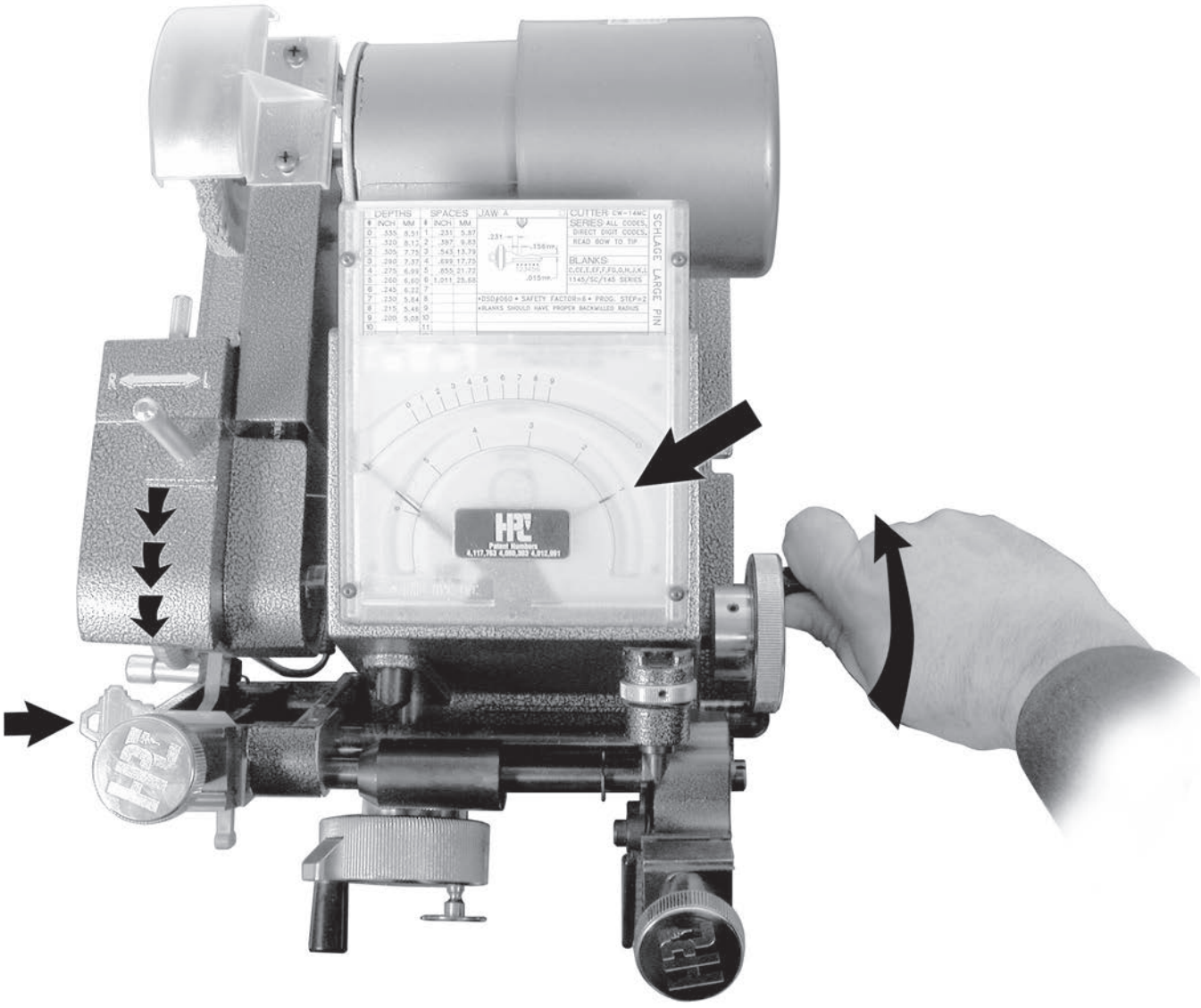
For maximum clearance, and easy accessibility when inserting the key blank, rotate both of the crank knobs counter-clockwise.



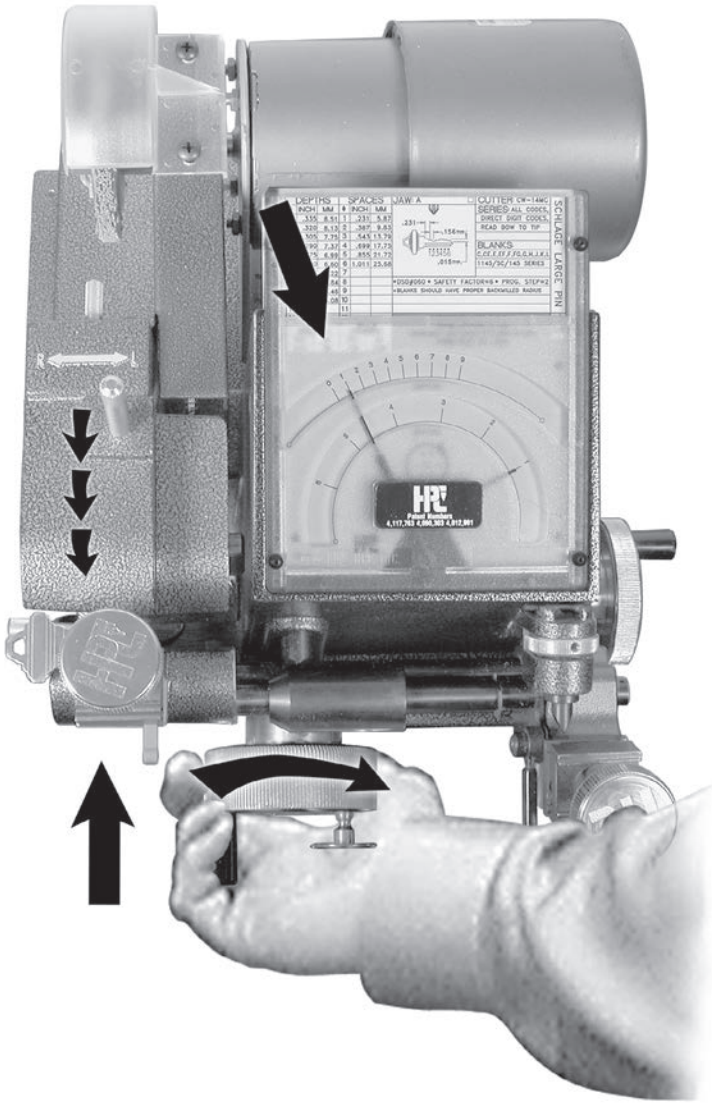
Gauge the key.



Tighten the wing nut when the key is level. Then flip the gauge down before starting to cut.

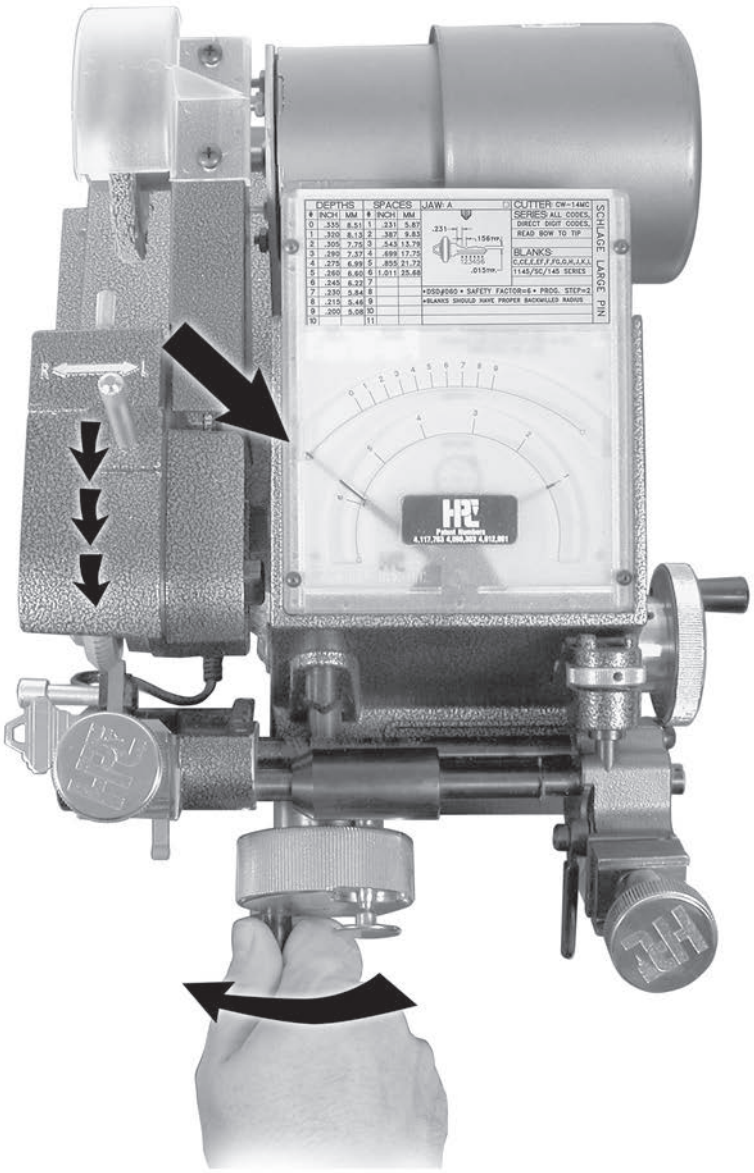


Turn the machine on and rotate the Space Crank clockwise until the indicator lines up with the No. 1 space mark in the space window as indicated above.

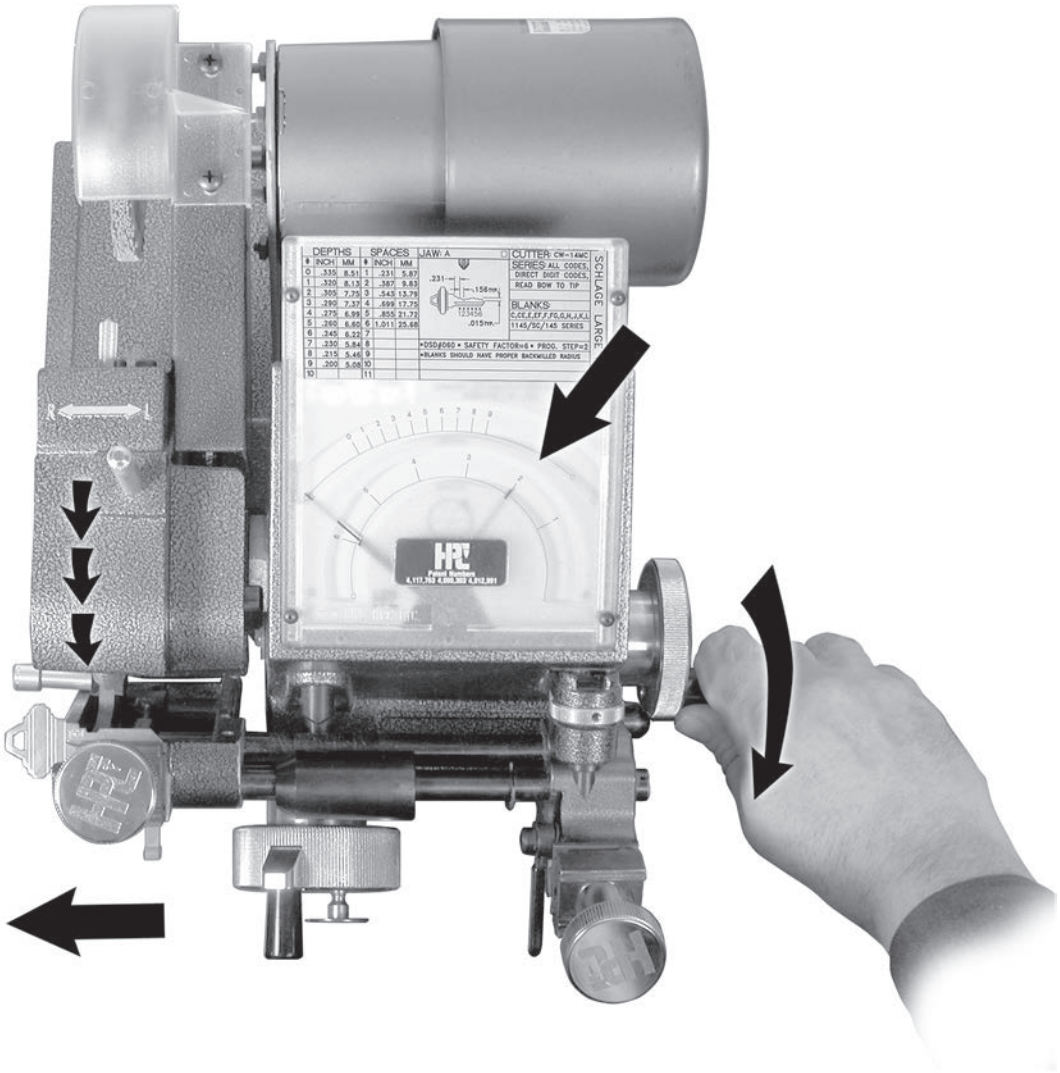


Slowly rotate the Depth Crank clockwise until the depth indicator is centered over the depth mark you wish to cut as shown in the upper depth window.

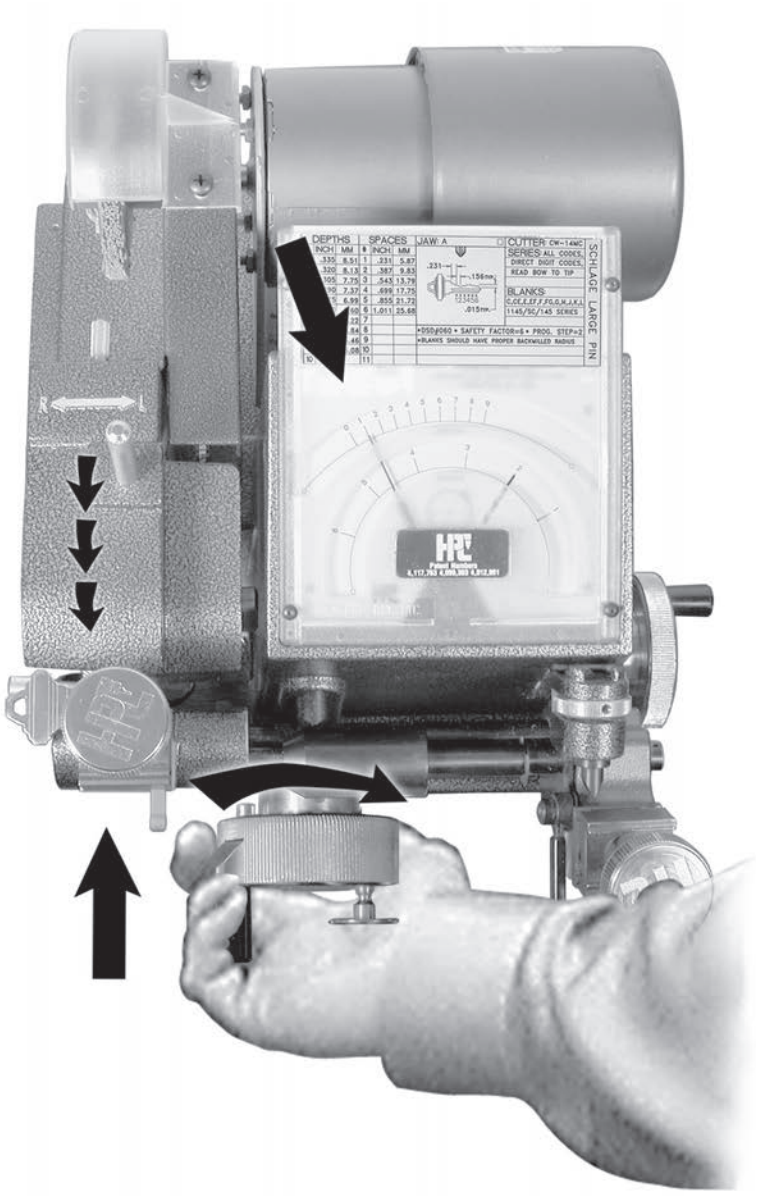
Do <u>NOT</u> pass the mark!



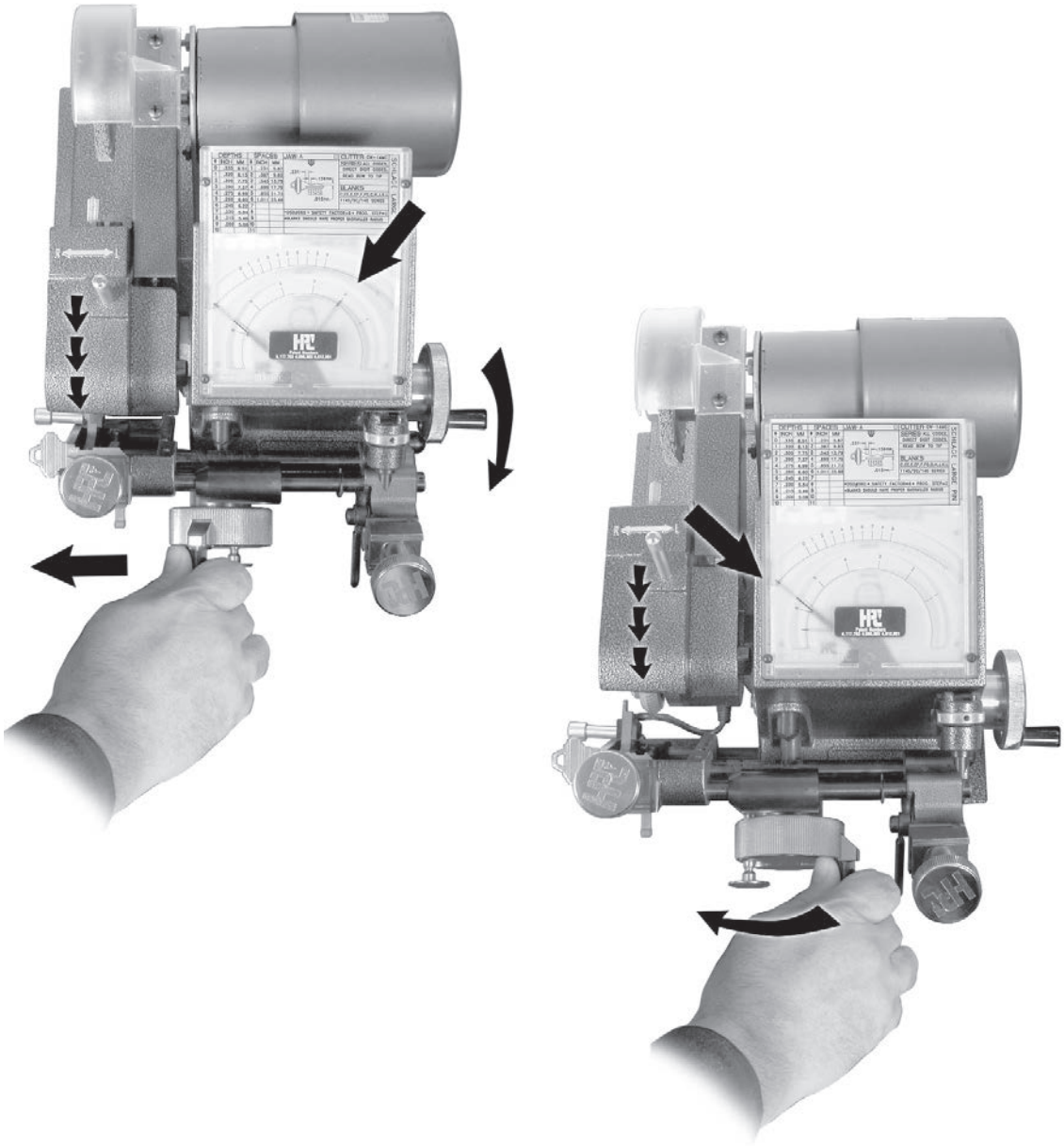
Now rotate the Depth Crank counter-clockwise (outward) until the spinning cutter is clear of the key blank.



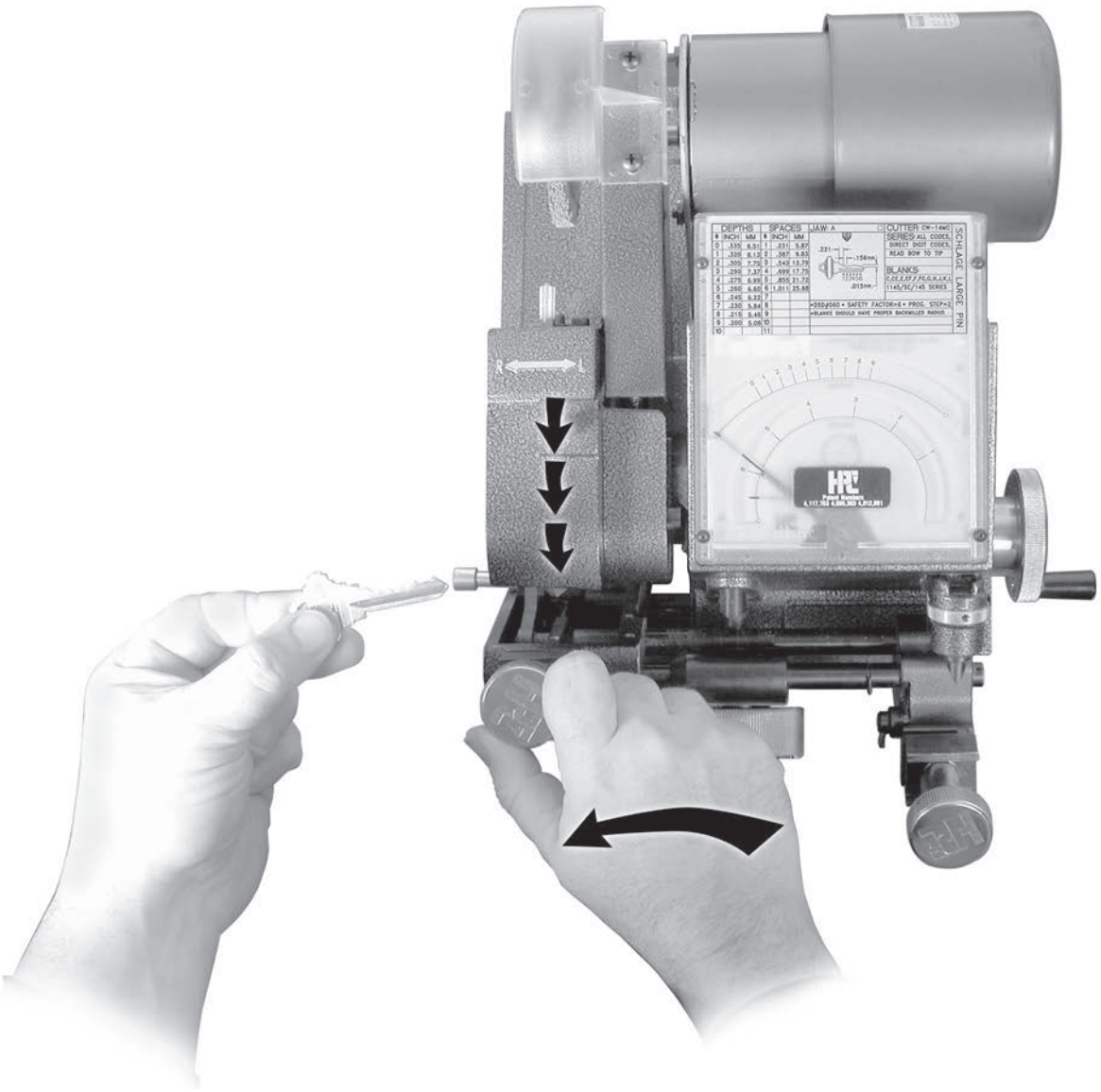
Rotate the Space Crank to the second space indicator.



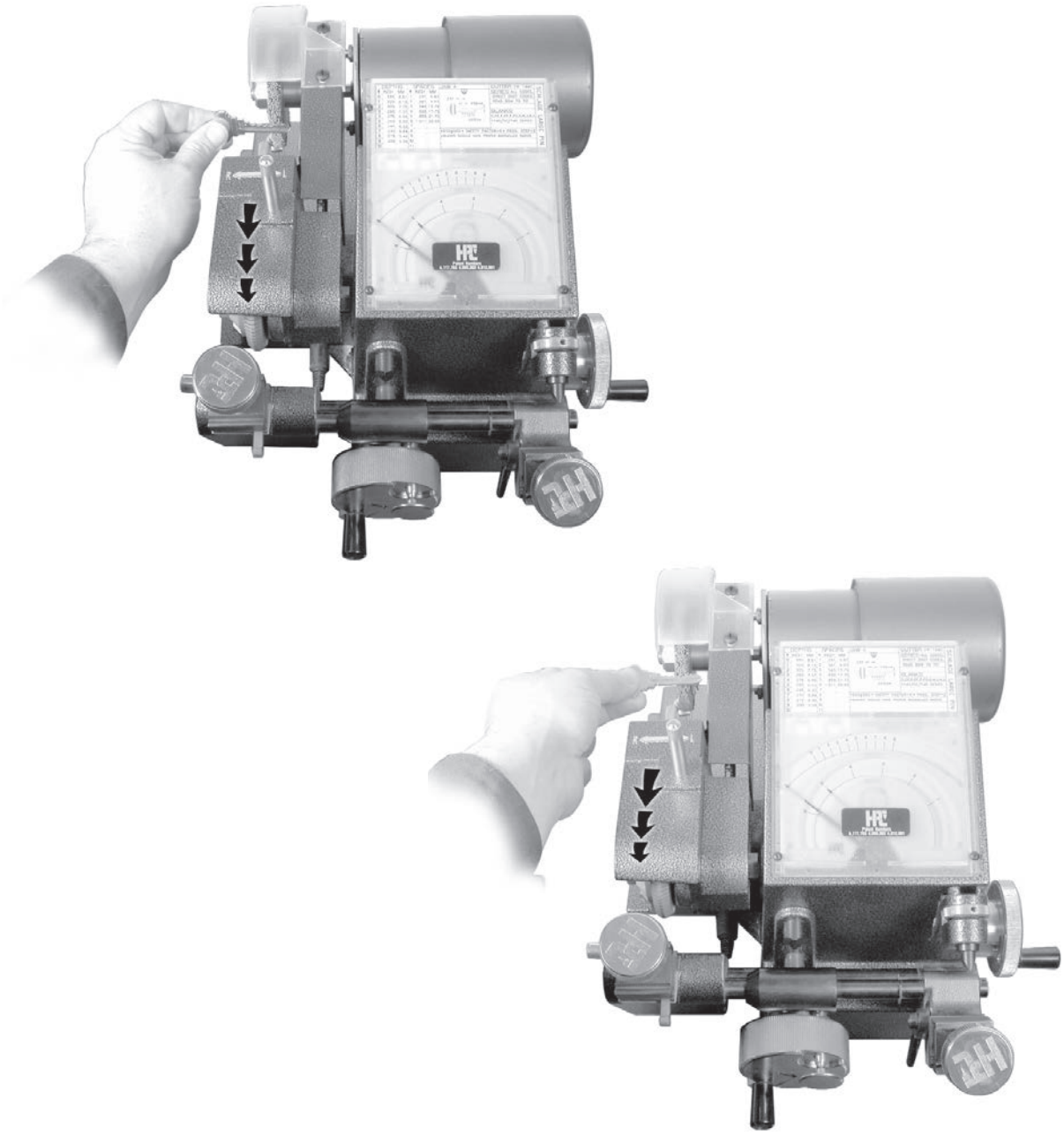
Slowly rotate the Depth Crank clockwise until the depth indicator is centered once more over the depth you wish to cut in this space position.



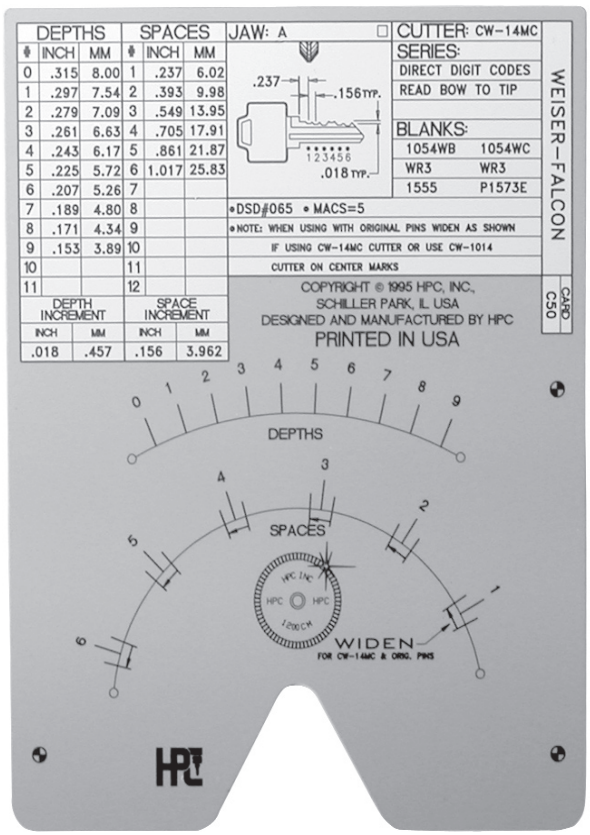
Continue the correct space and depth movements until all cuts are made from the head to the tip of the key.



Upon completion of the last cut rotate both of the cranks counter-clockwise for maximum clearance and easy accessibility to the cut key. Then turn off the machine and remove the key.



Turn the motor back on to deburr the key.



The following is only for keys that require widening as indicated on the code card.

When widening, start at the first small mark for each space and, while holding the Depth Crank, turn the Space Crank counter-clockwise from the first small widening mark through the center mark and stopping at the second small widening mark.

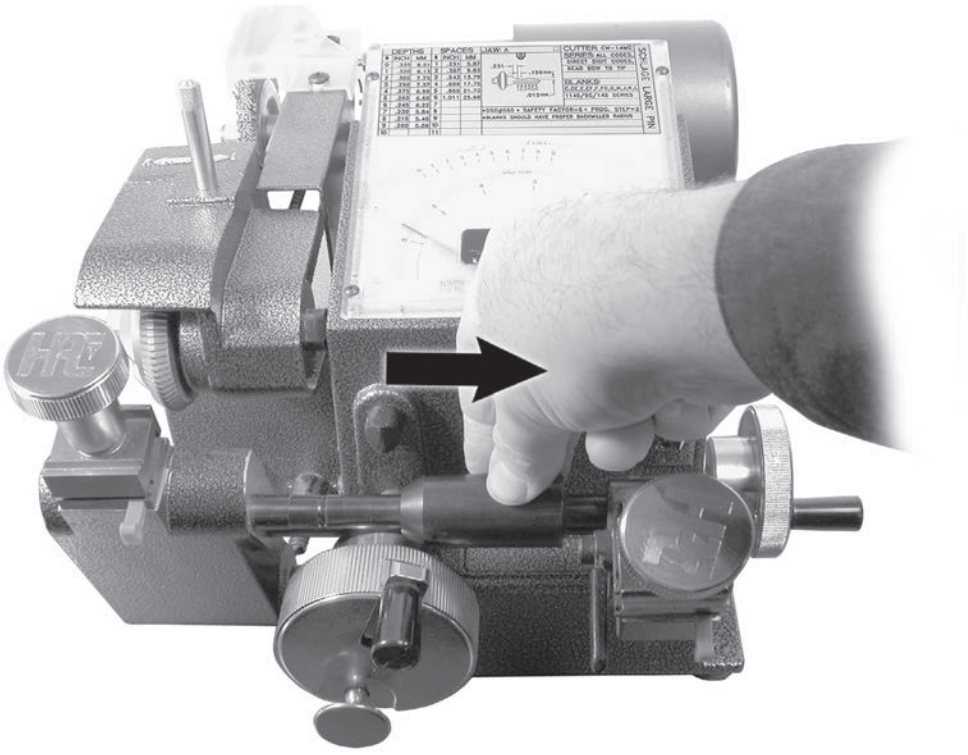
Do <u>NOT</u> move back clockwise!

5.2 Duplicating:

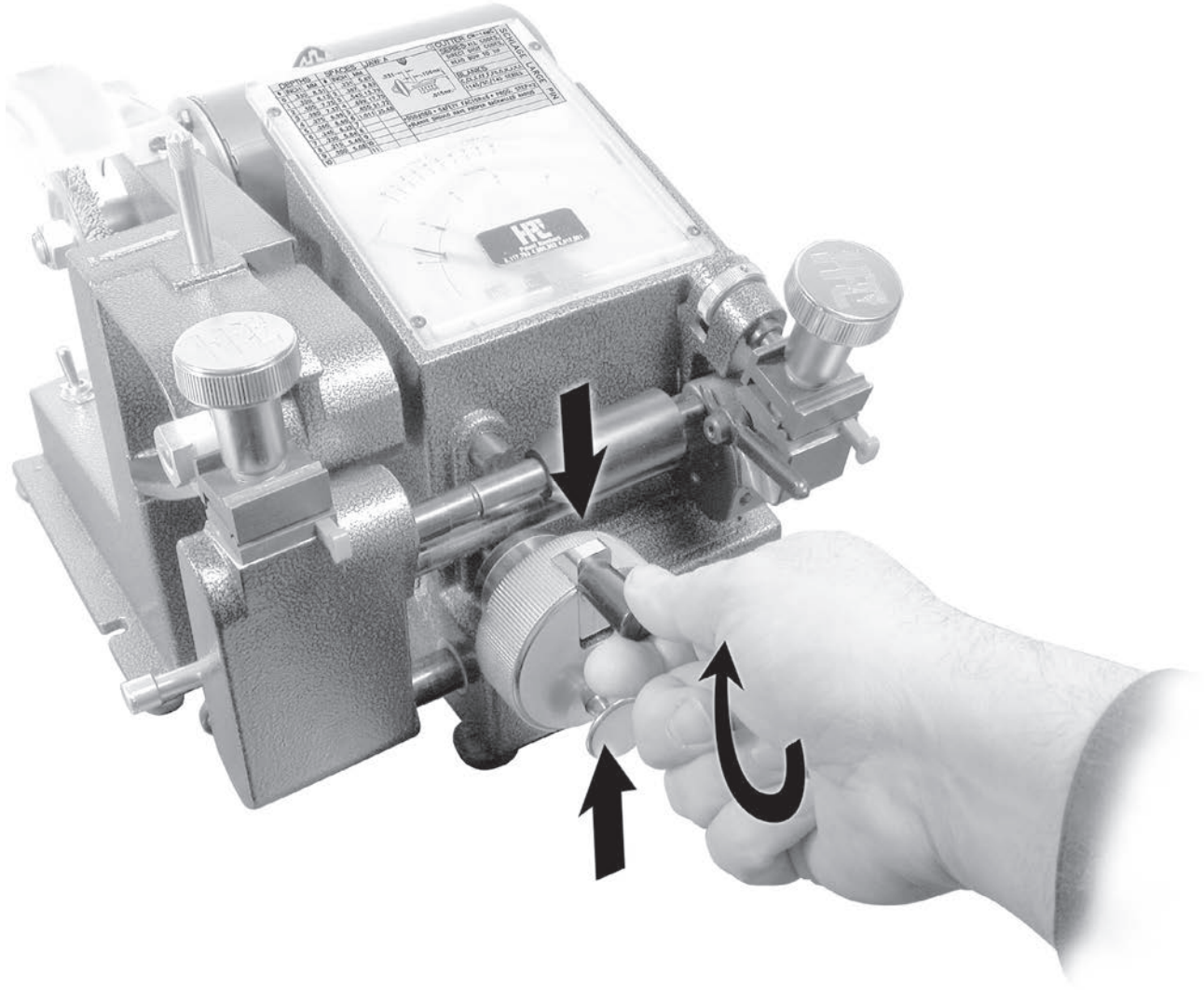
IMPORTANT: Angle cut keys can be cut by <u>code only</u> and are <u>not</u> to be cut by duplicating! For complete procedures on cutting angle cut keys see section 6.0, Angle Cut Keys.

To switch from Code Cutting mode to Duplicating mode you must first:

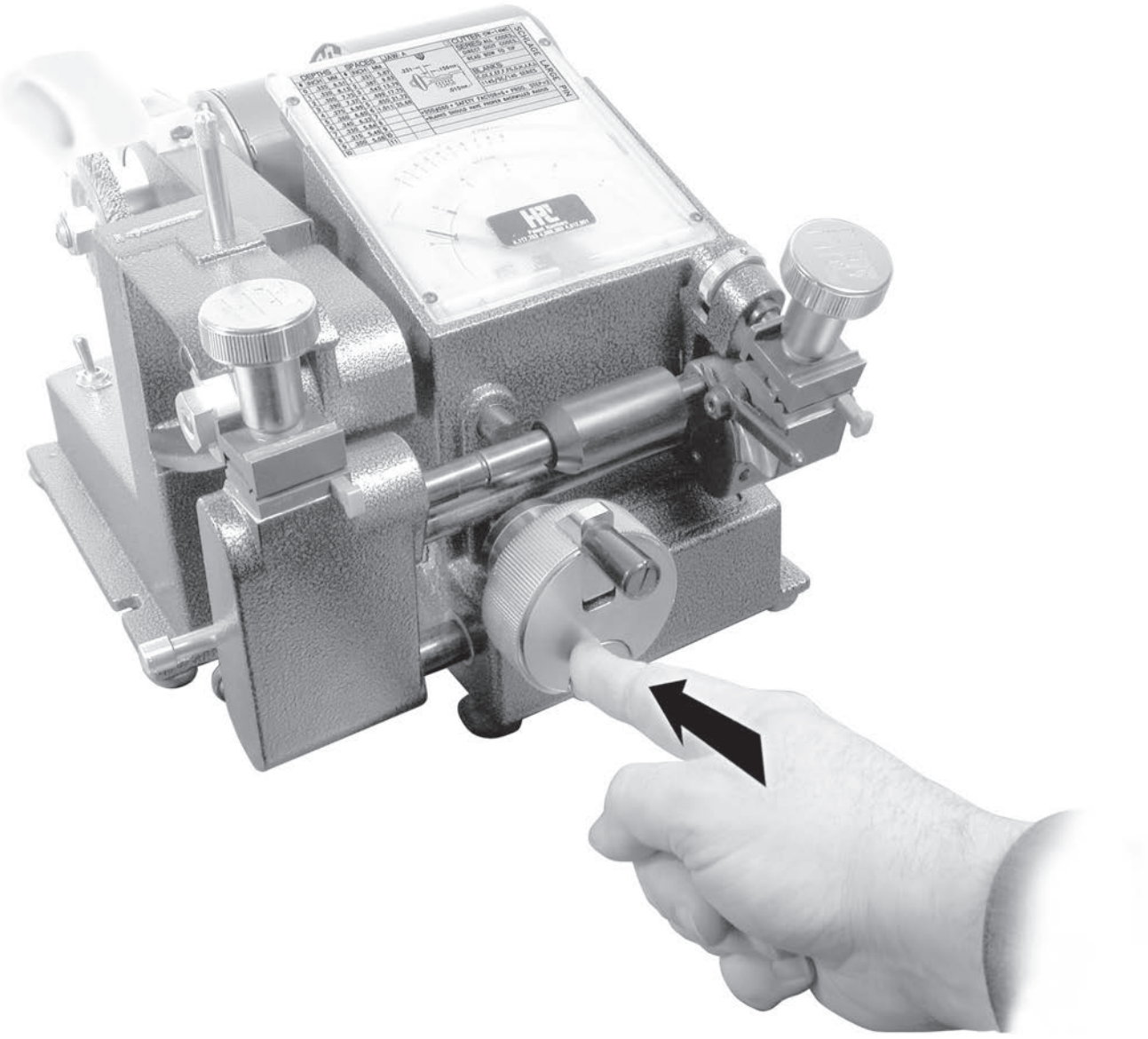
1. Turn both the Depth and Space Cranks counterclockwise to their outermost positions.
2. Install the Duplicating Cutter (No. CW-6010). See Section 2.2 for details on changing cutters.



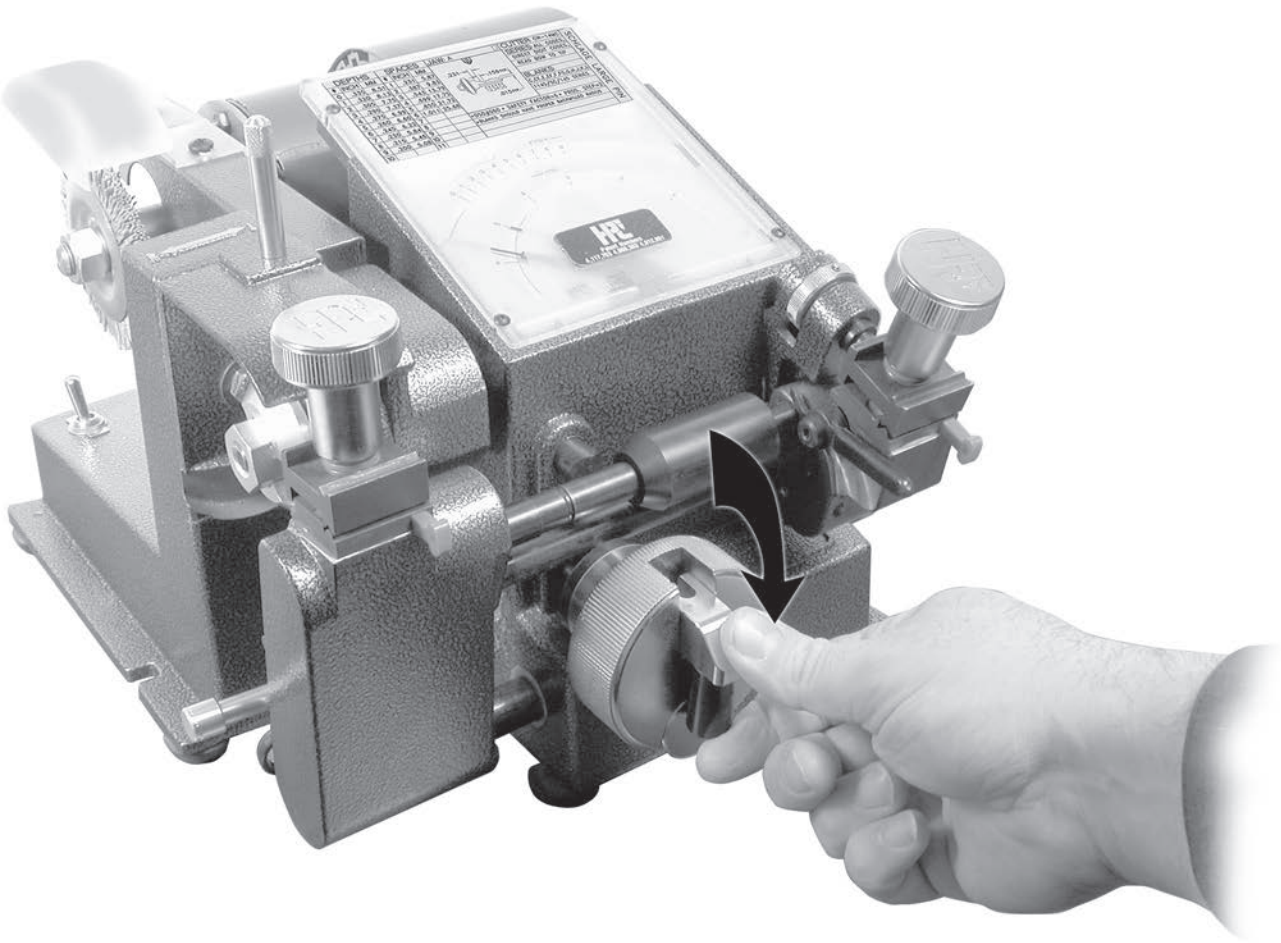
3. Then, move the Code Bearing to the right until it comes to rest.



4. Rotate the Depth Crank completely inward. Then back it out only far enough so that the black handle is at the top (twelve o'clock position).

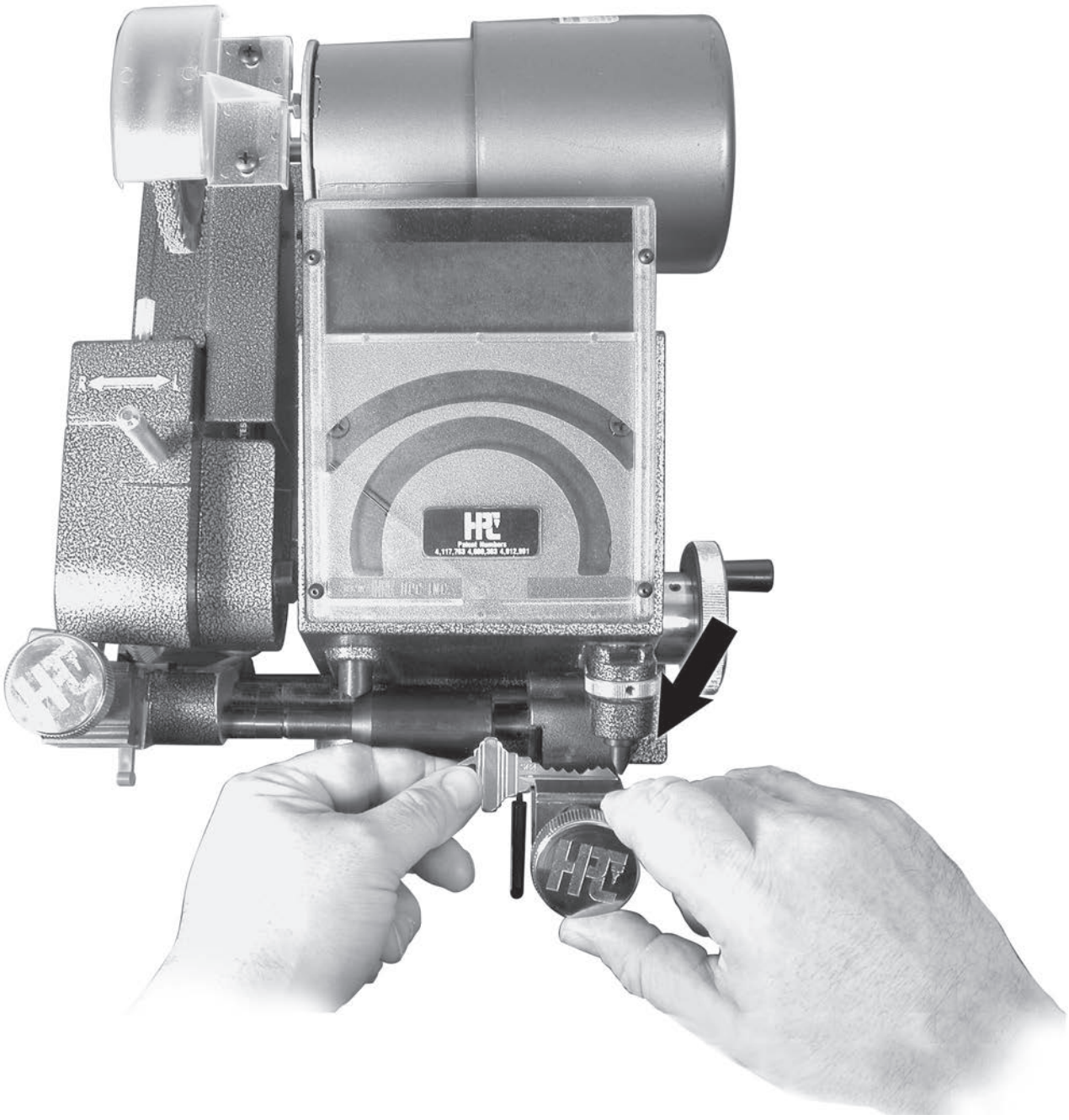


5. Depress the Push Pin to lock the Depth Crank into place.

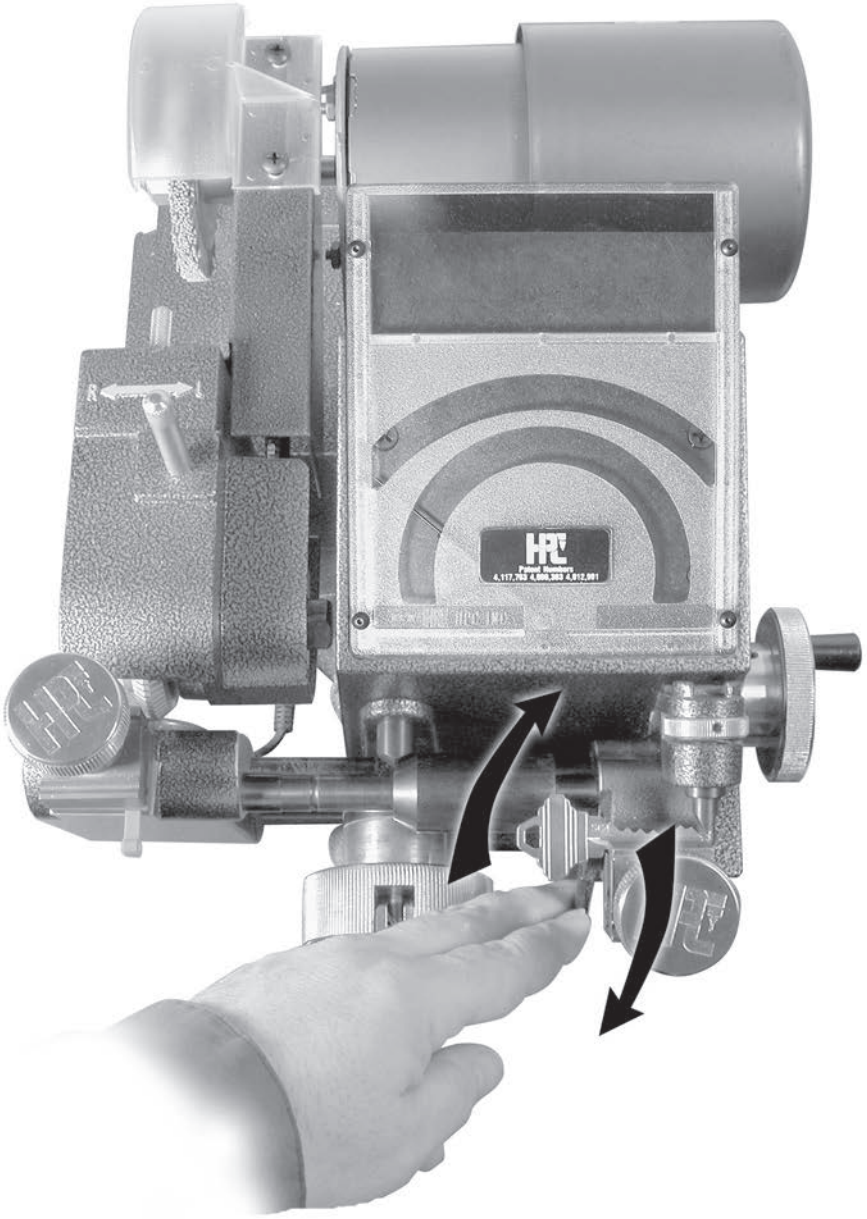


6. Bend down the black lever handle to engage the spring-loaded pin. You are now ready to cut keys by duplication.

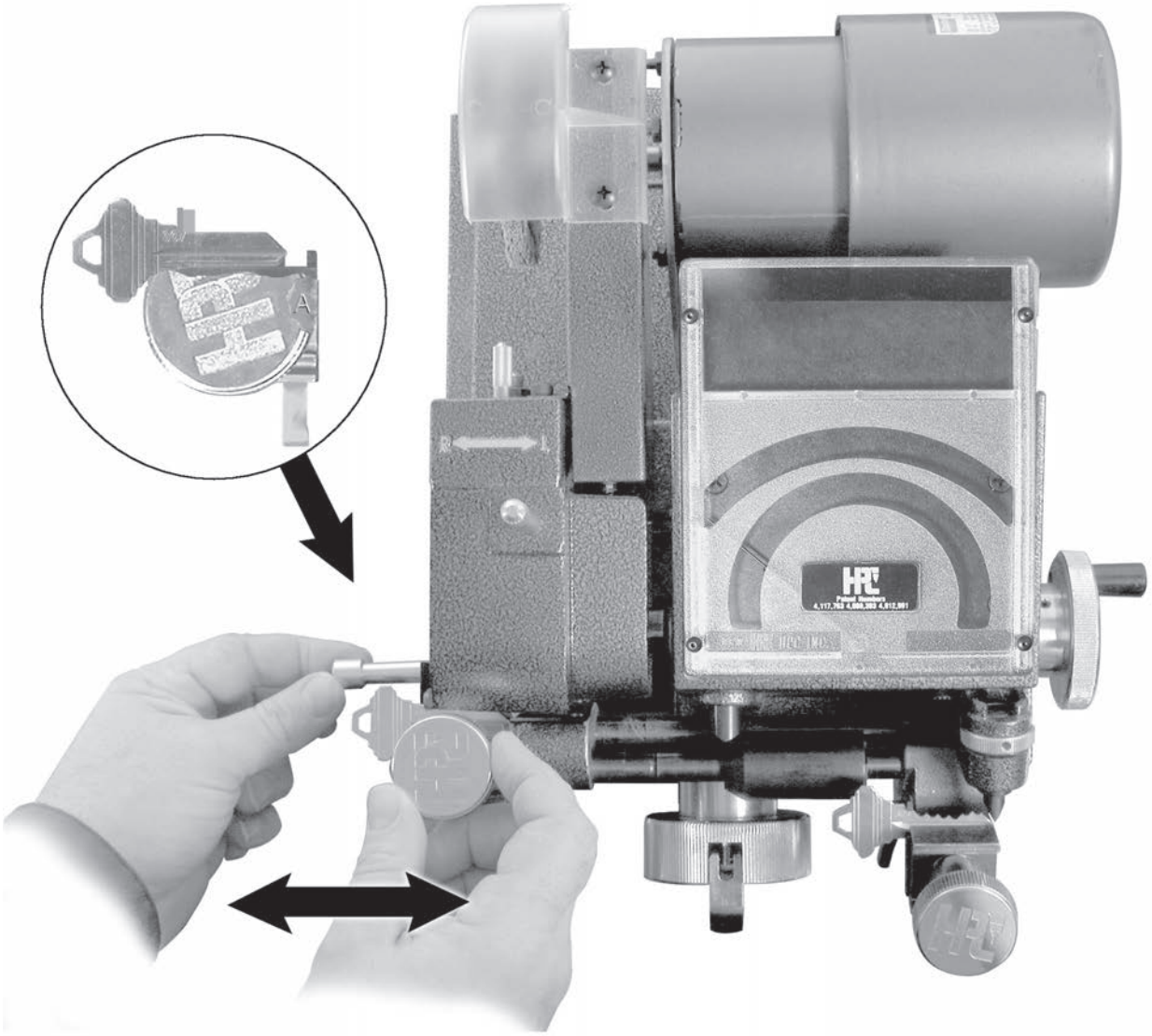
   To switch from duplicating mode to code cutting, you must reverse the previous steps.



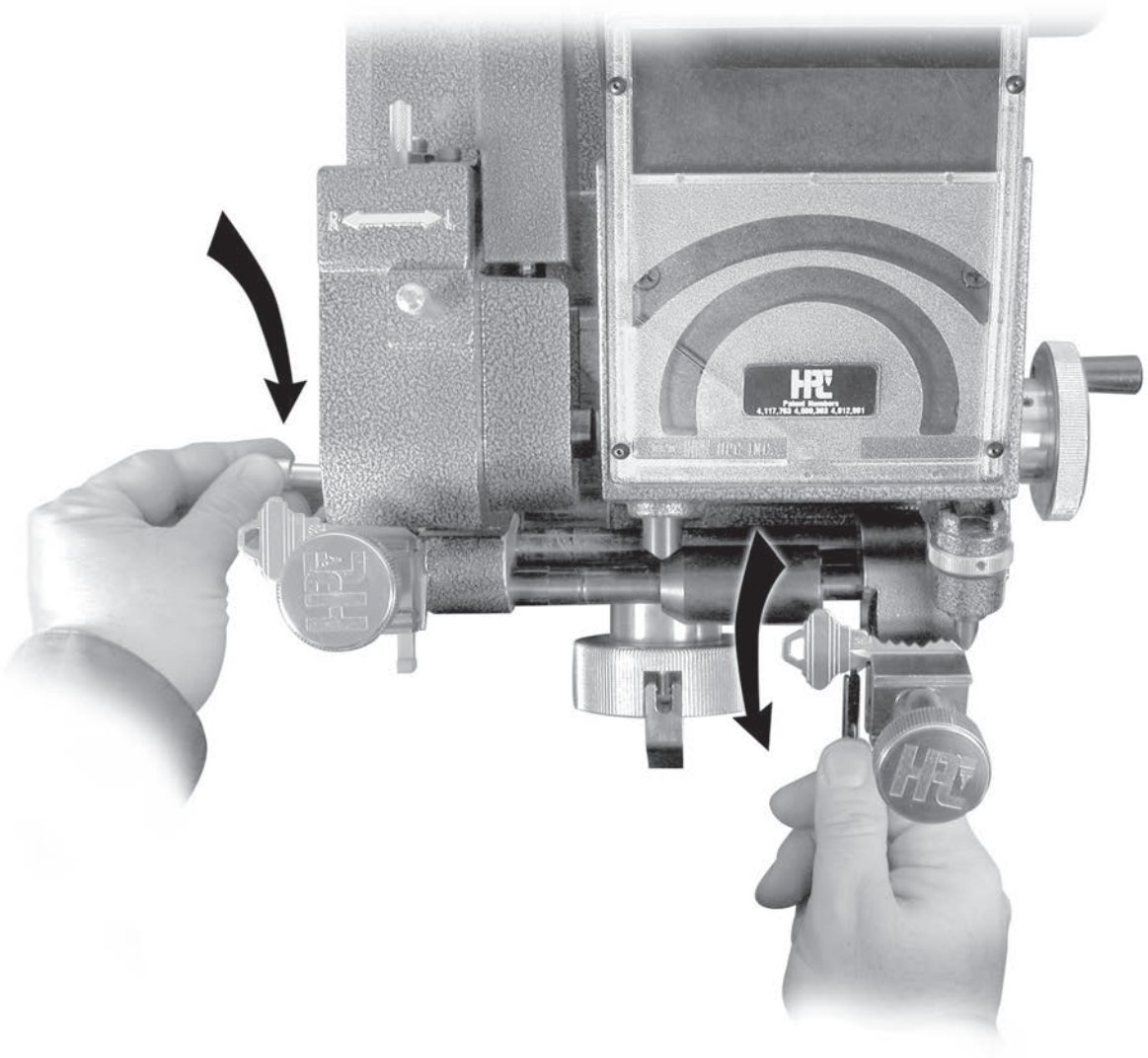
Insert the key to be duplicated.



Gauge the key using the shoulder or tip gauges.

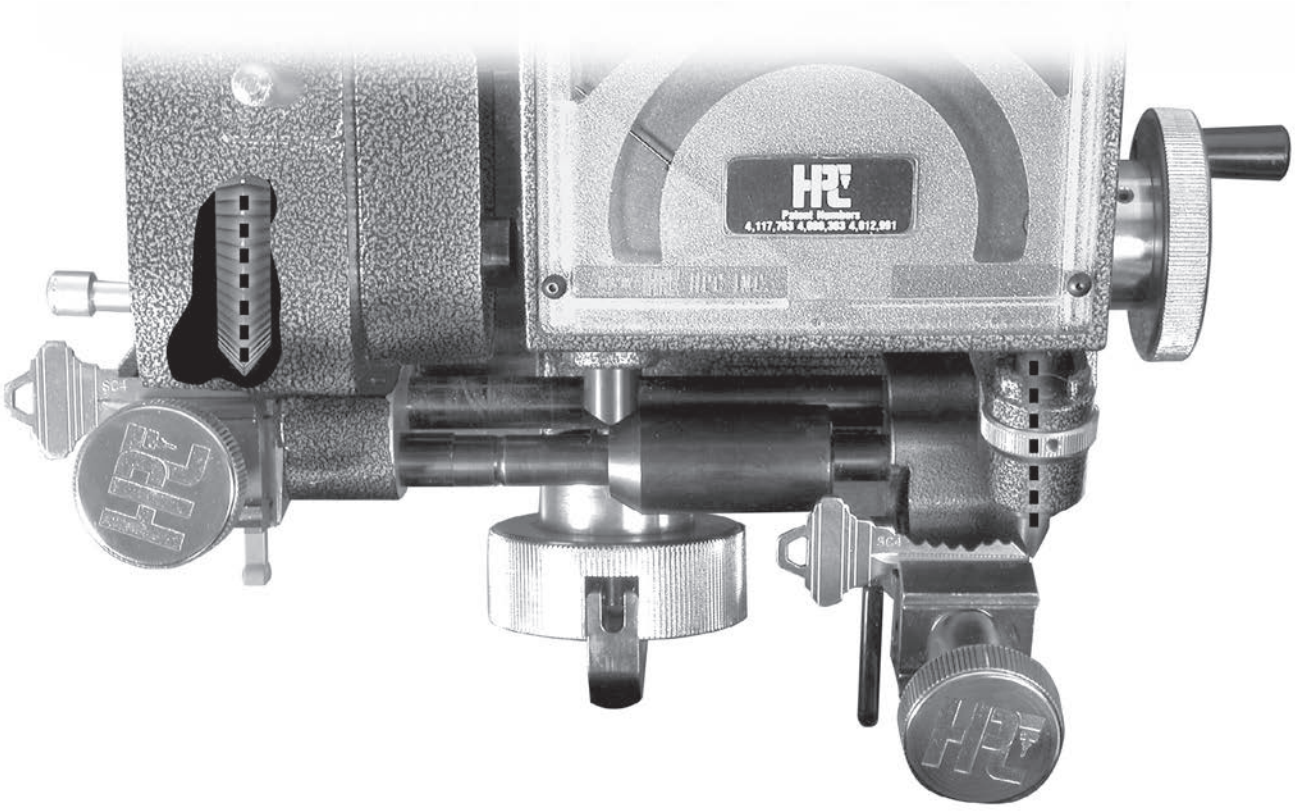


Insert and gauge the key blank to be cut. The blank must be gauged in the same manner as the original key.

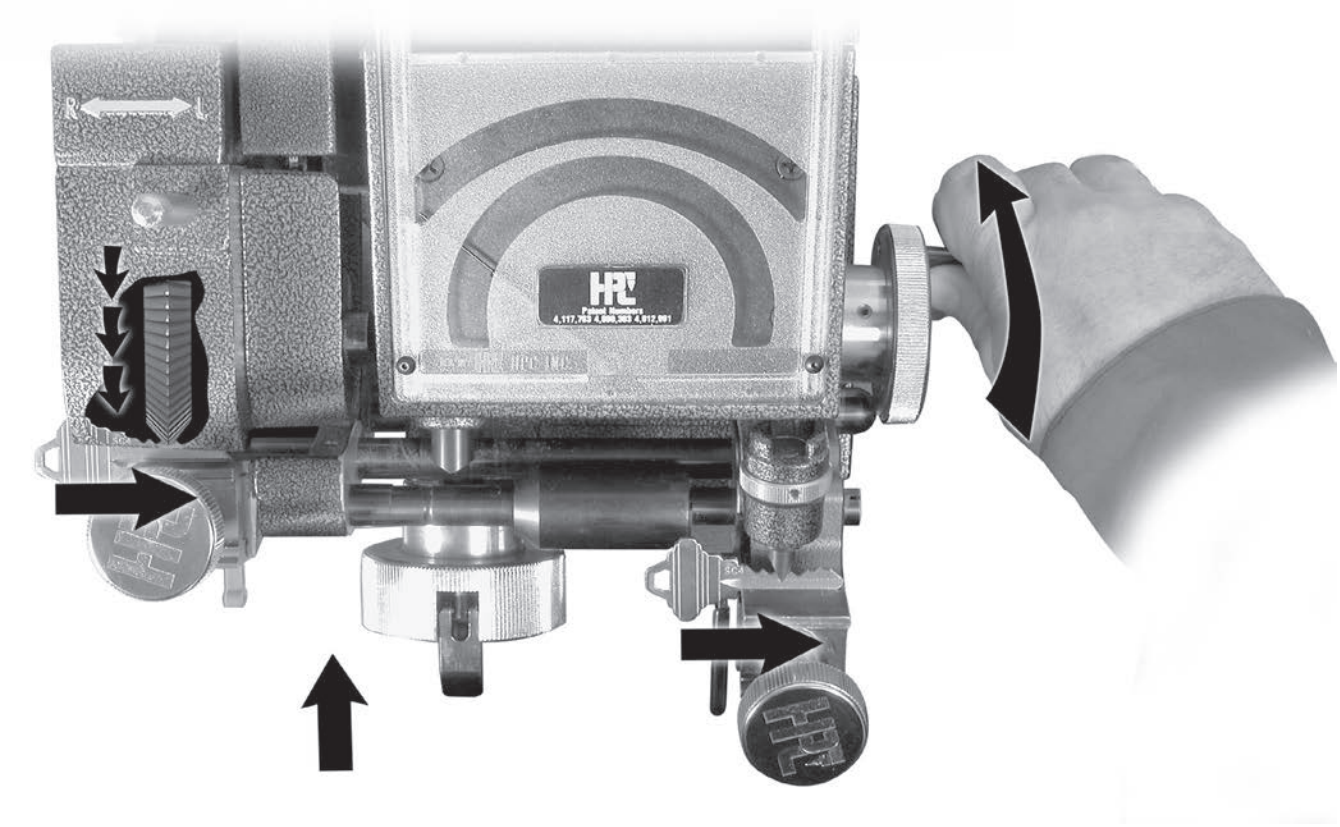


Important!

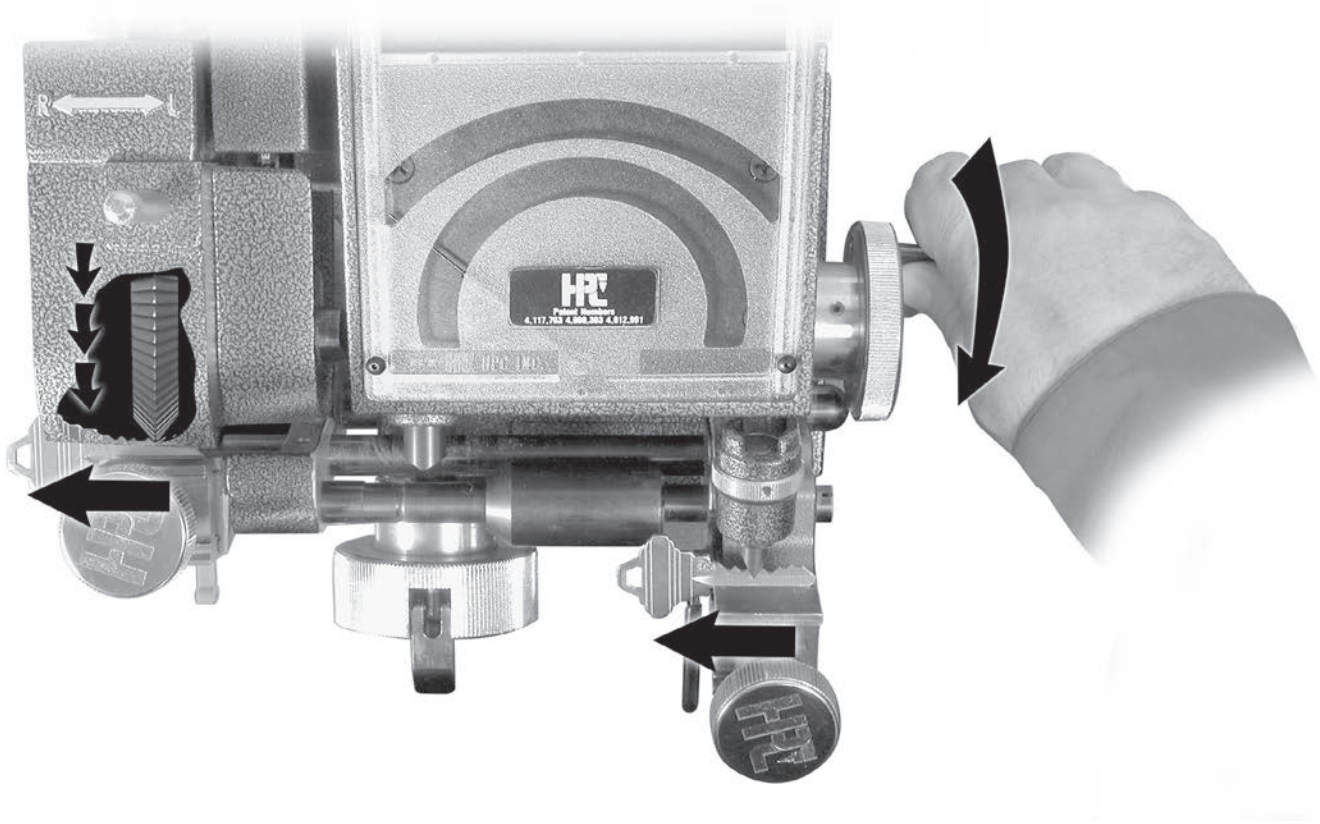
Move the gauges out of the way.



Note the proper positions of the keys before duplicating.

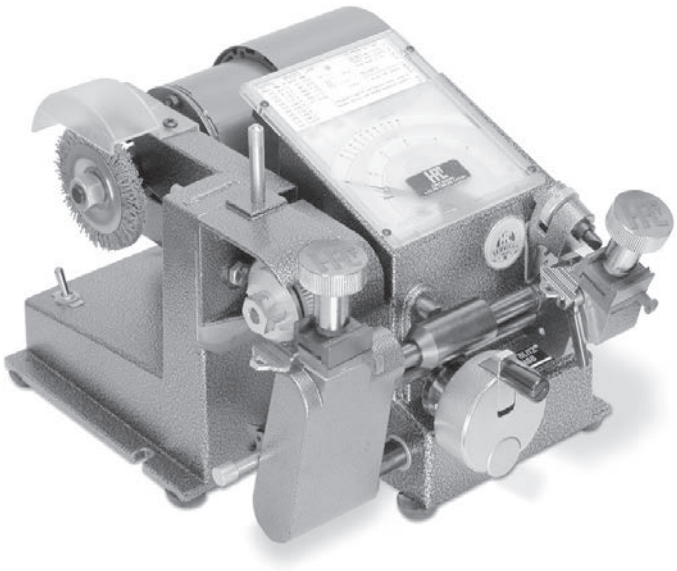


Turn machine on and rotate Space Crank forward to engage the key into the cutter. The machine will cut the key blank from the tip to the shoulder (the carriage spring will provide all the tension necessary).

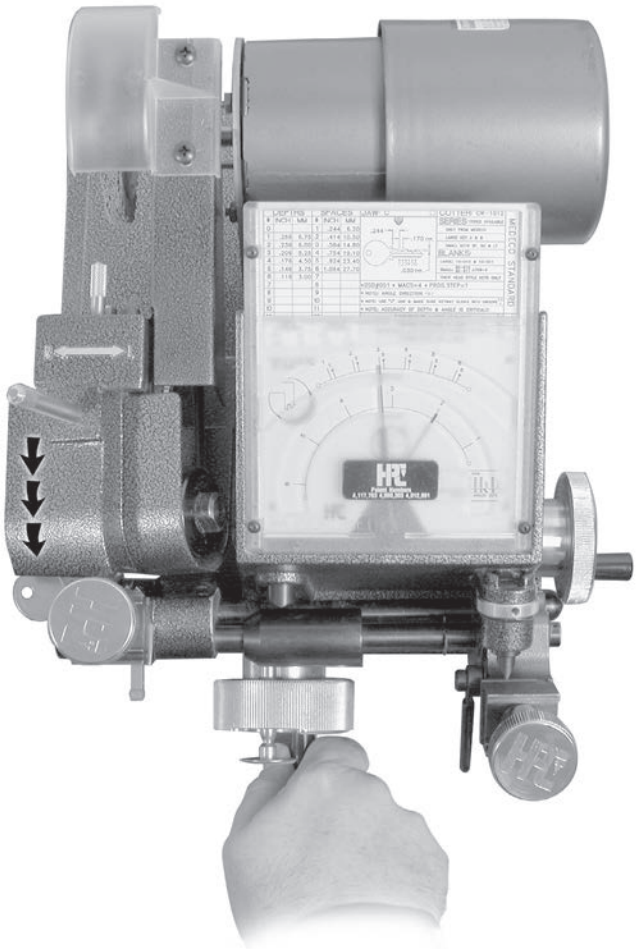


When all cuts have been traced, rotate the Space Crank backward, making a clean-up cut. Continue rotating the crank until the carriage moves away from the cutter and tracer. Deburr the key if necessary.

6.0
ANGLE CUT KEYS



CUTTING KEYS BY CODE FOR MEDECO®
STANDARD COMMERCIAL - CODE CARD NO. C36
BIAXIAL - CODE CARD No.'s CSP3 and CSP4



ONE OF THE UNIQUE FEATURES OF THIS MACHINE - is the ability to make cuts on an angle. By pulling outward on the spring loaded angle index pin the cutter head can be swiveled left or right. Be sure the index pin is re-locked into the cutter head before operating machine.

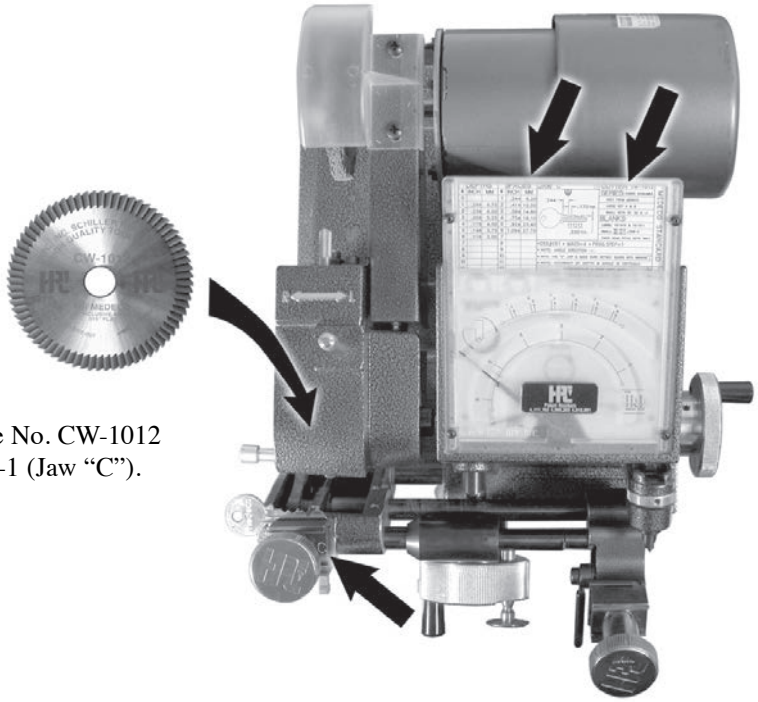
•REQUIRED EQUIPMENT (Sold Separately)

An optional cutter and Jaw "C" are required to cut keys for commercial level Medeco®. The cutter No. CW-1012 and No. MJ-1 "Jaw C" may be added at a later date. Both parts are readily available from your Authorized HPC distributor.

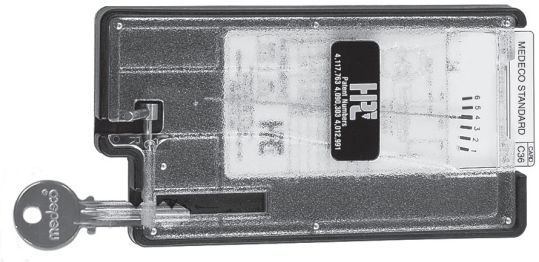
Biaxial keys only require the CW-1012 cutter, not the MJ-1 "Jaw C".

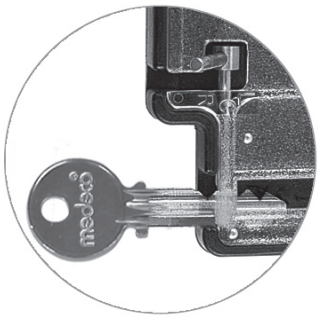
Medeco® is a registered trademark of Medeco Security Locks, Inc.

CUTTING KEYS FOR MEDECO®
DECODING AND CUTTING THE KEY

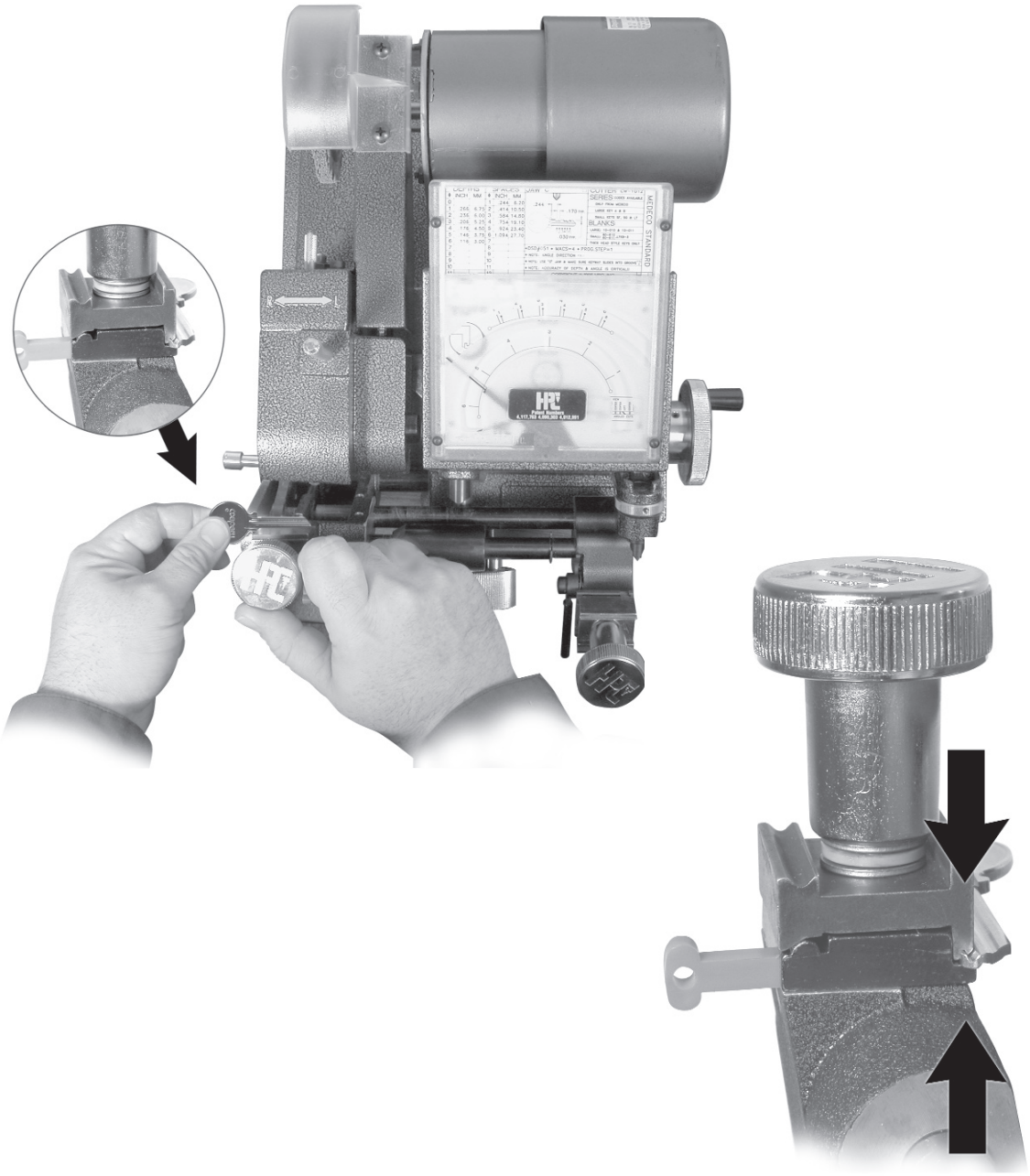


Install the No. CW-1012
and MJ-1 (Jaw "C").

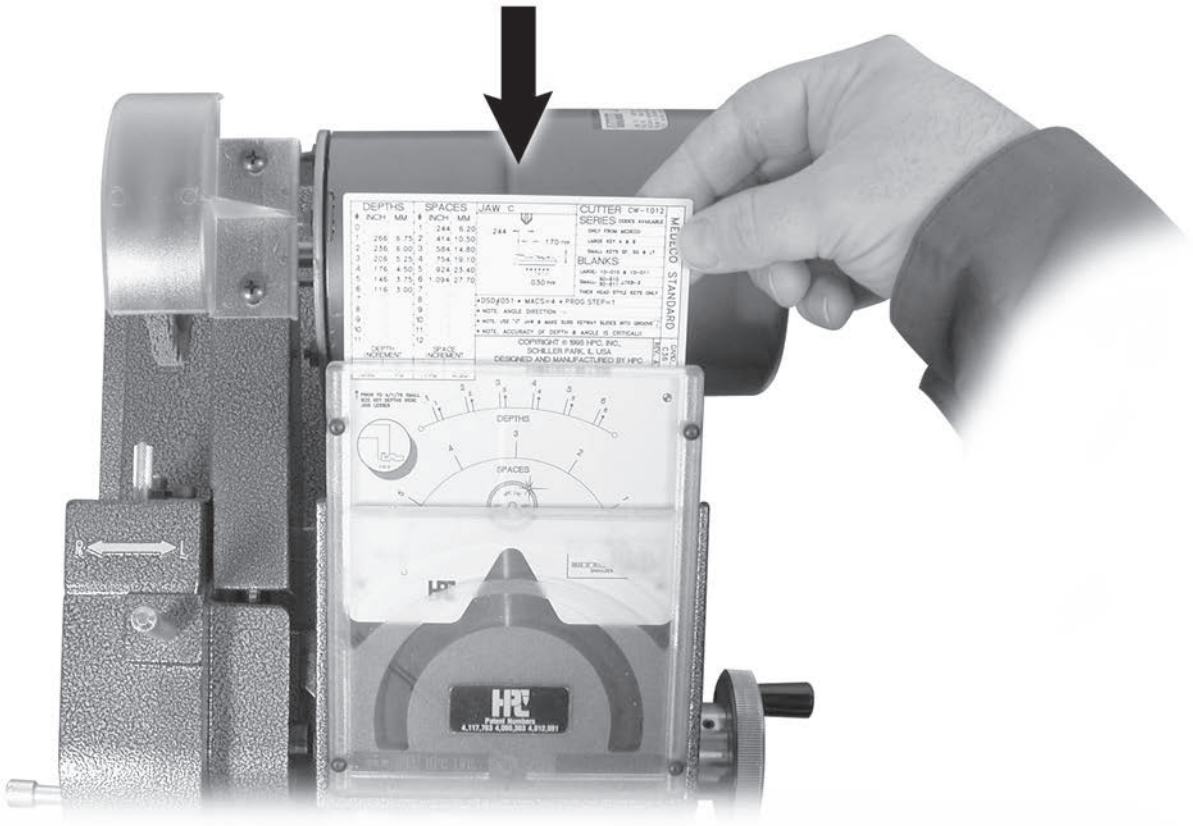




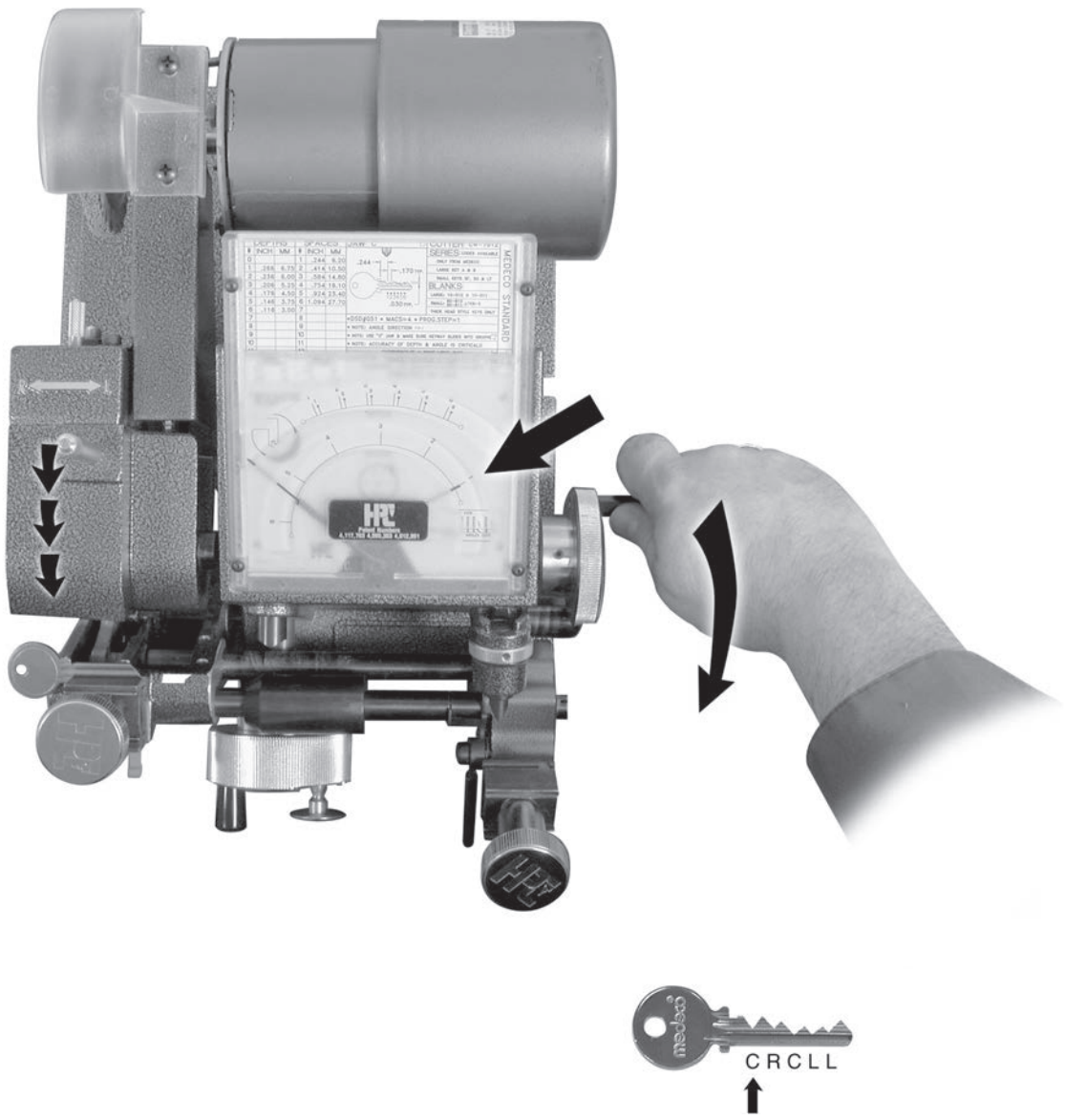
The depths and angles must be decoded prior to cutting the key. Depths can be measured with a knife-edge caliper, a key micrometer or with one of the special decoders commercially available. The HPC Pocket Sized Decoder, (No. HKD-75 pictured above), in addition to decoding depths and angles for Medeco®, also contains an assortment of cards for other locks. Remember decoding devices are not designed to replace micrometers or calipers.



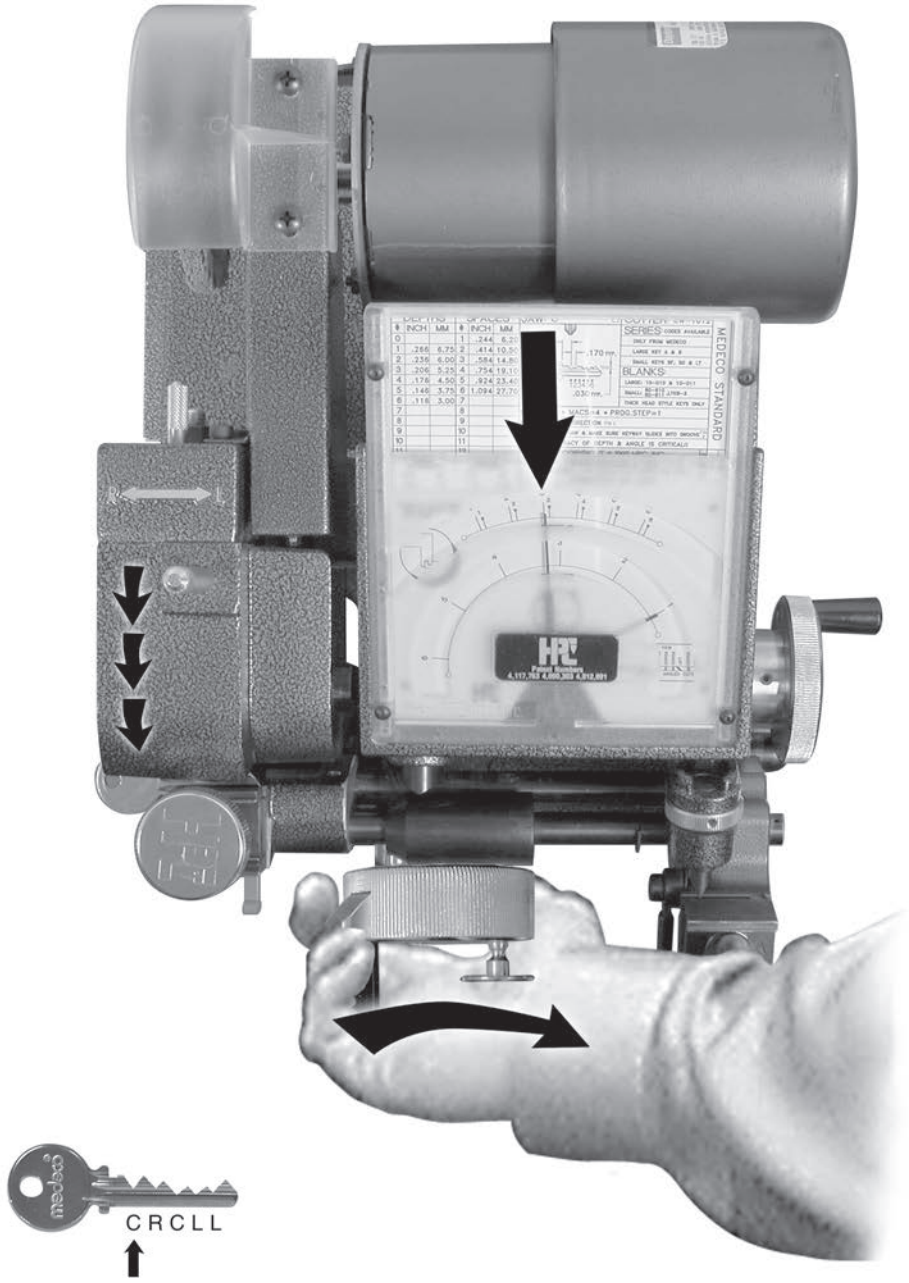
Gauge the key from the shoulder, making sure the key grooving and special jaw milling are nested together.



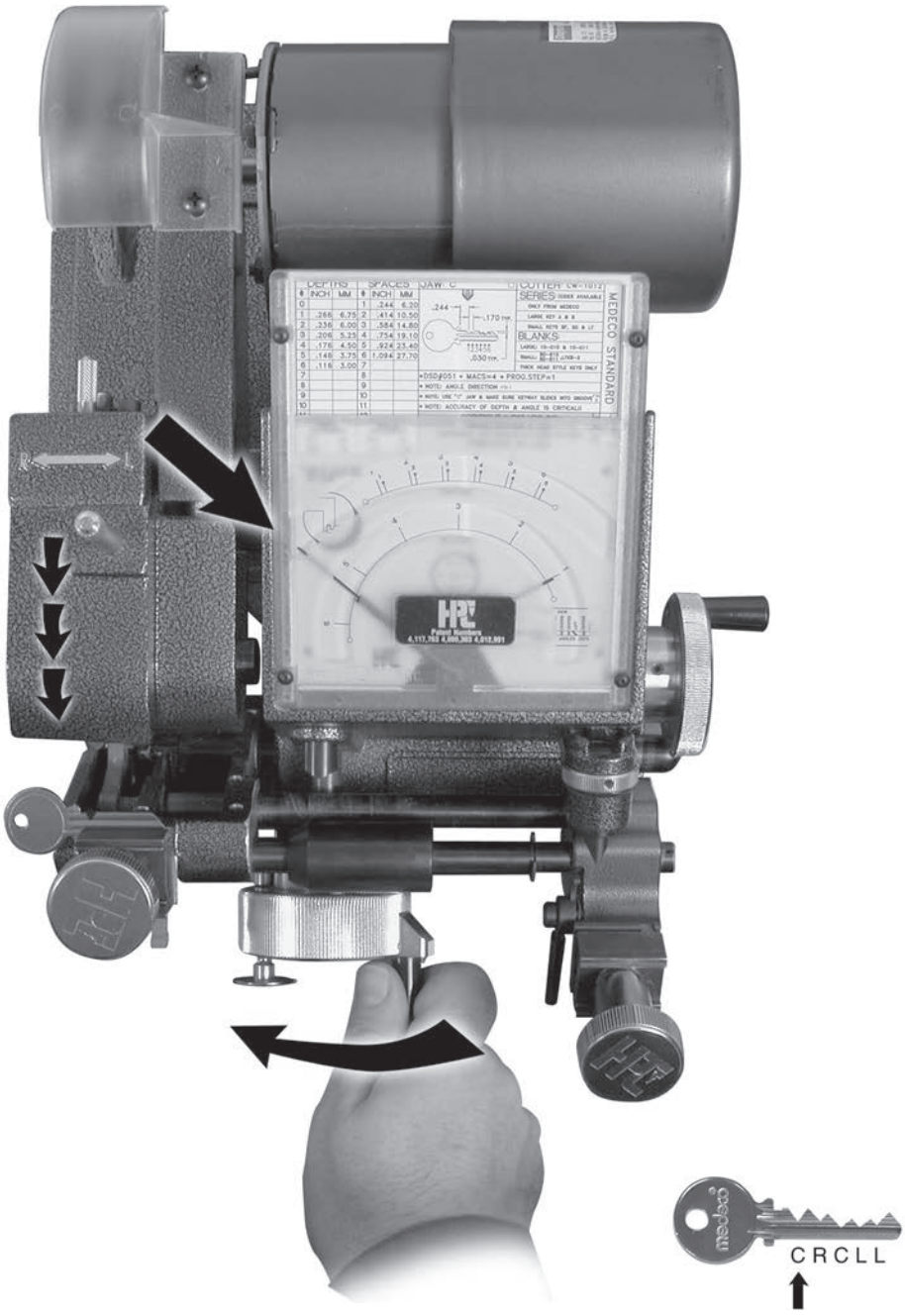
Insert Code Card No. C36 for Medeco®.



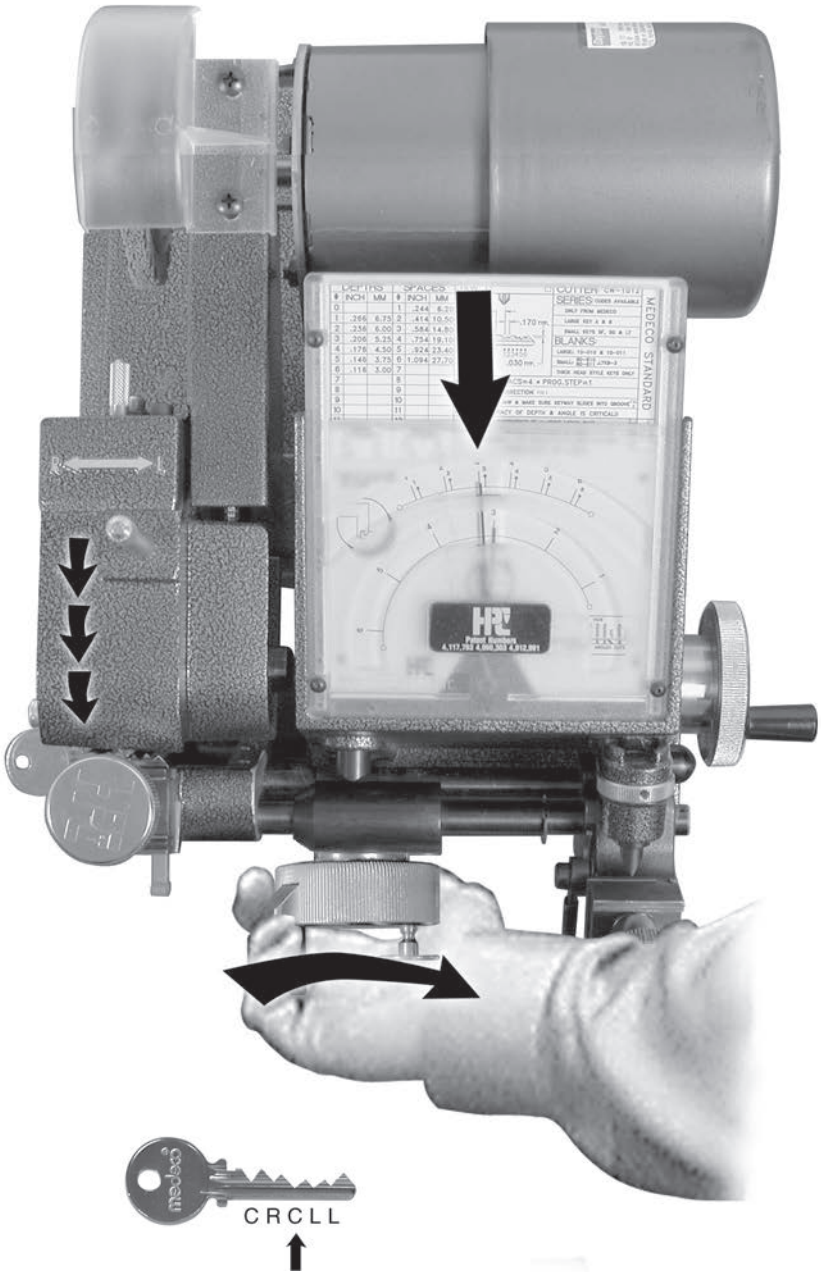
Turn the Space Crank as required to move the key into the correct space positions for cuts with center angles. The Cutter Head is not swiveled for center cuts. Make all center cuts first.



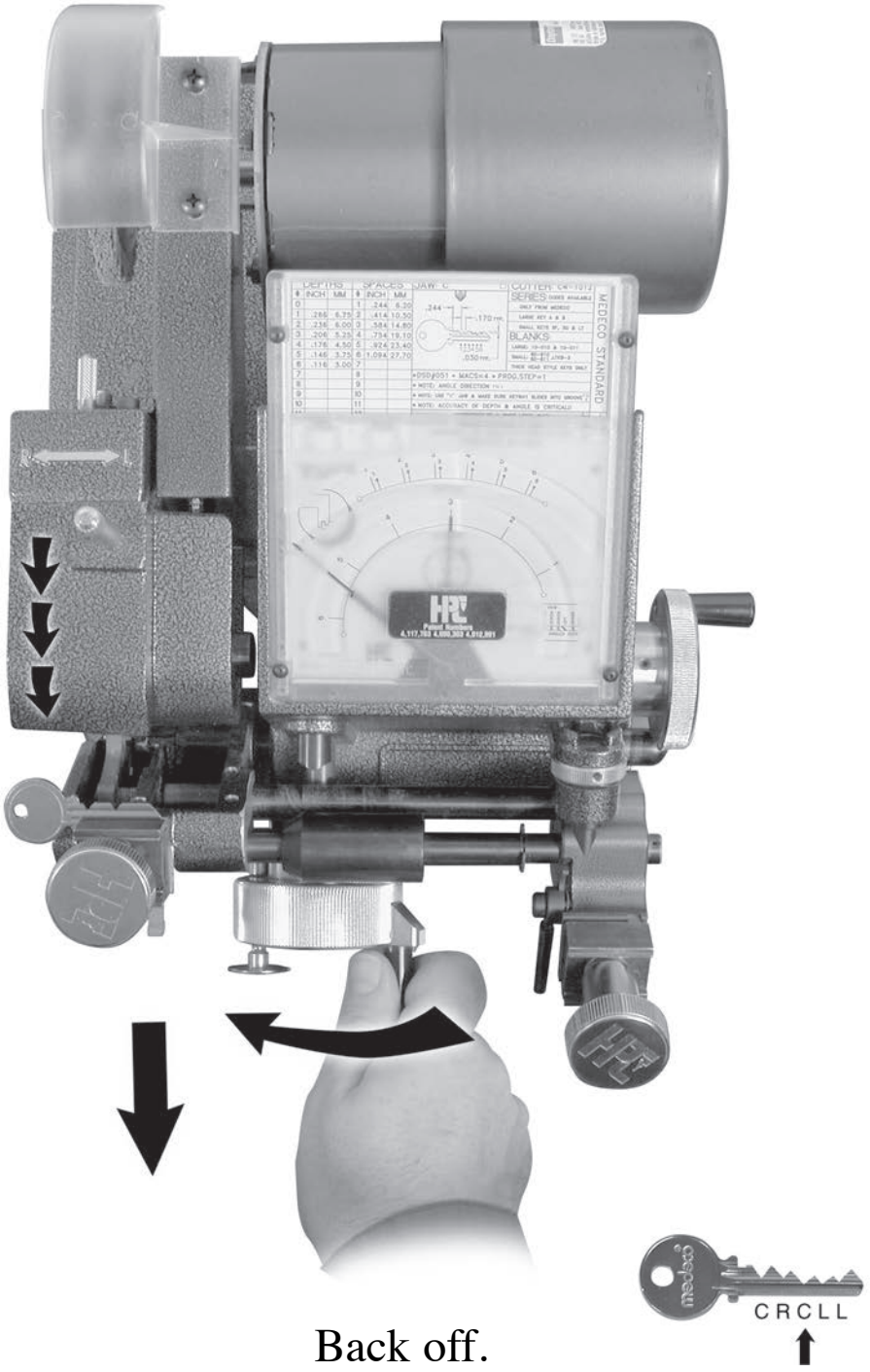
Cut first center cut.


DEPTHS
SPACES
JAW "C"
CUTTER
SERIES
BLANKS
MEDECO STANDARD
CRCLL

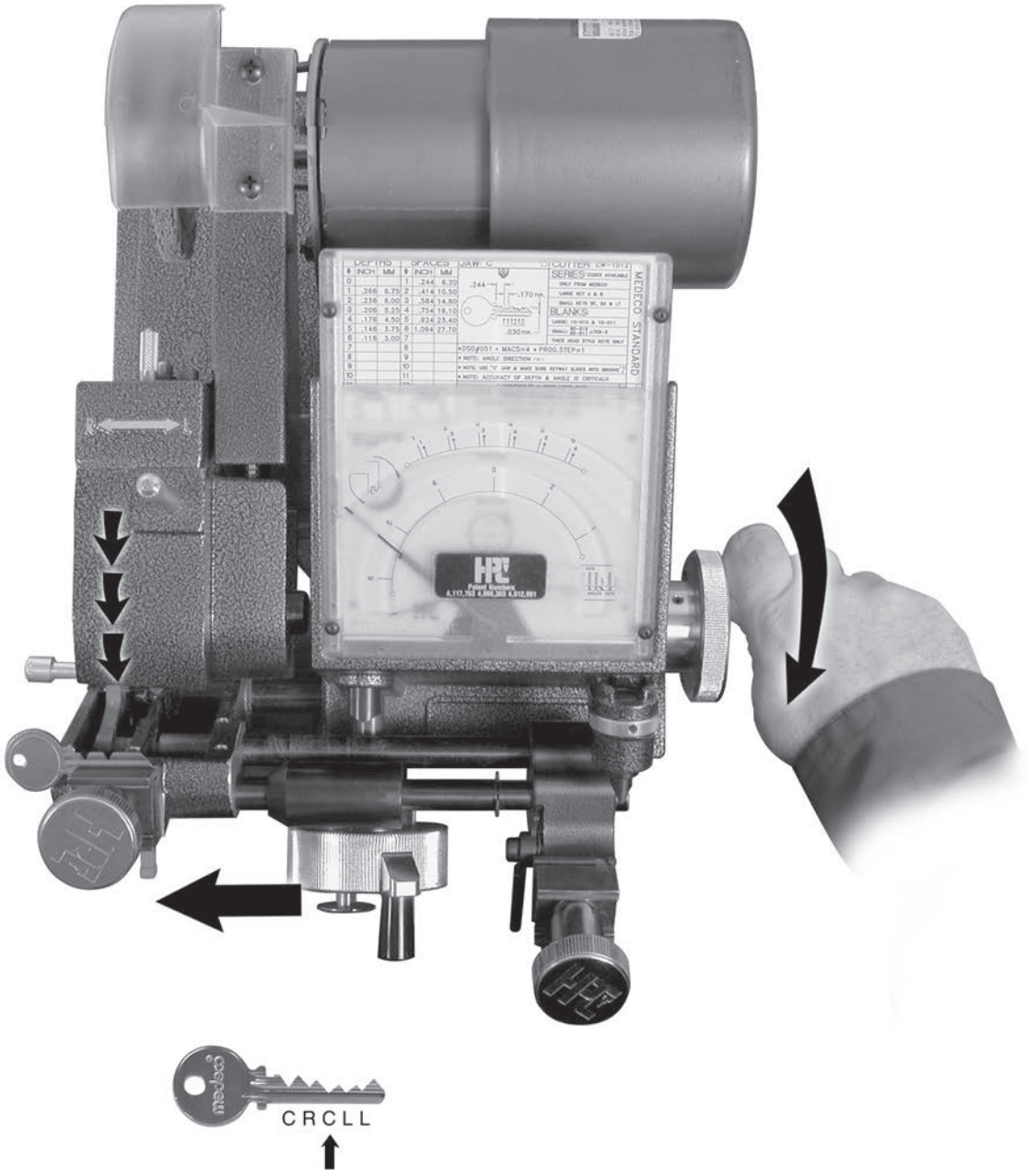
Back off.



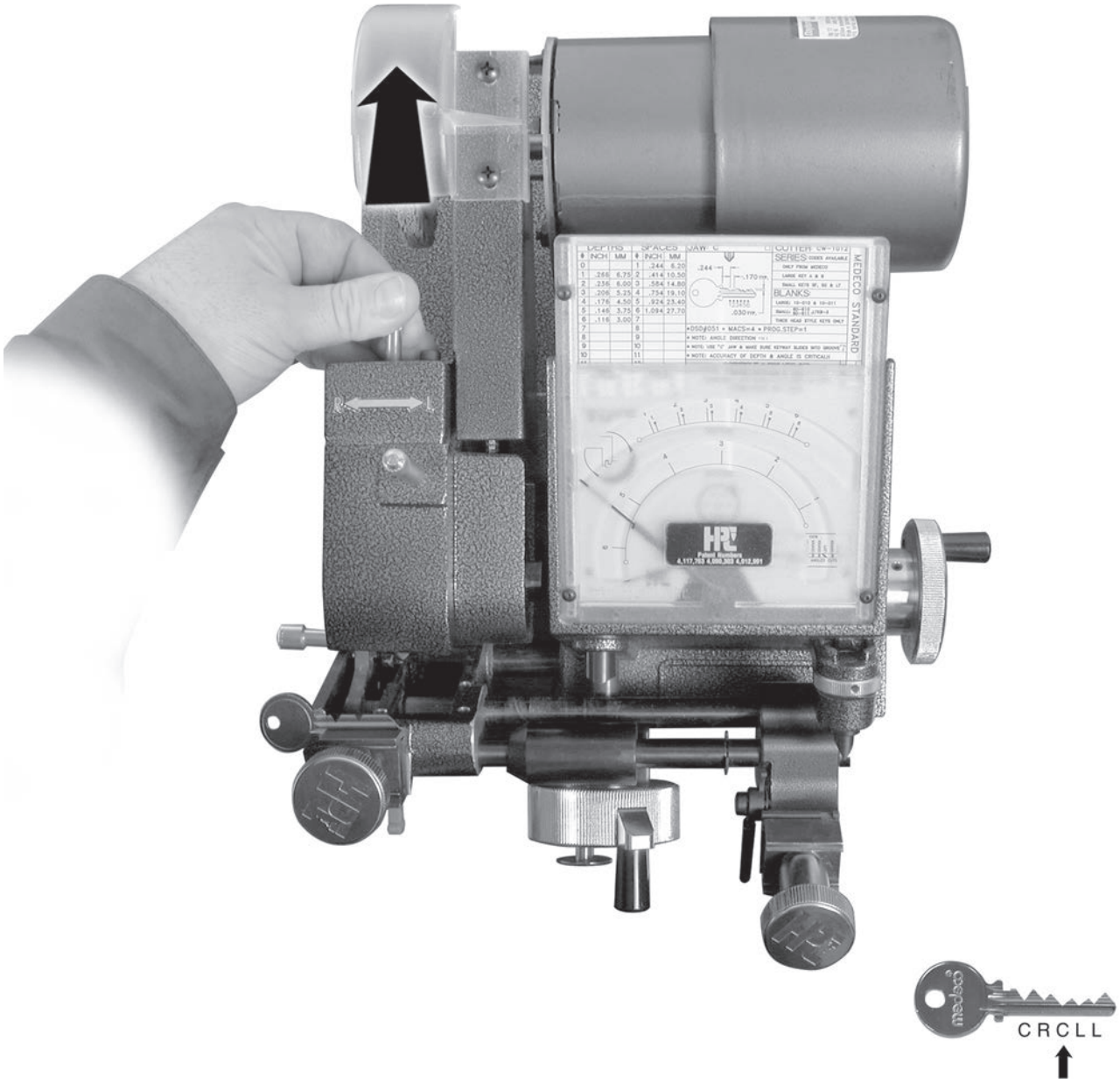
Move to next center angle cut and plunge.



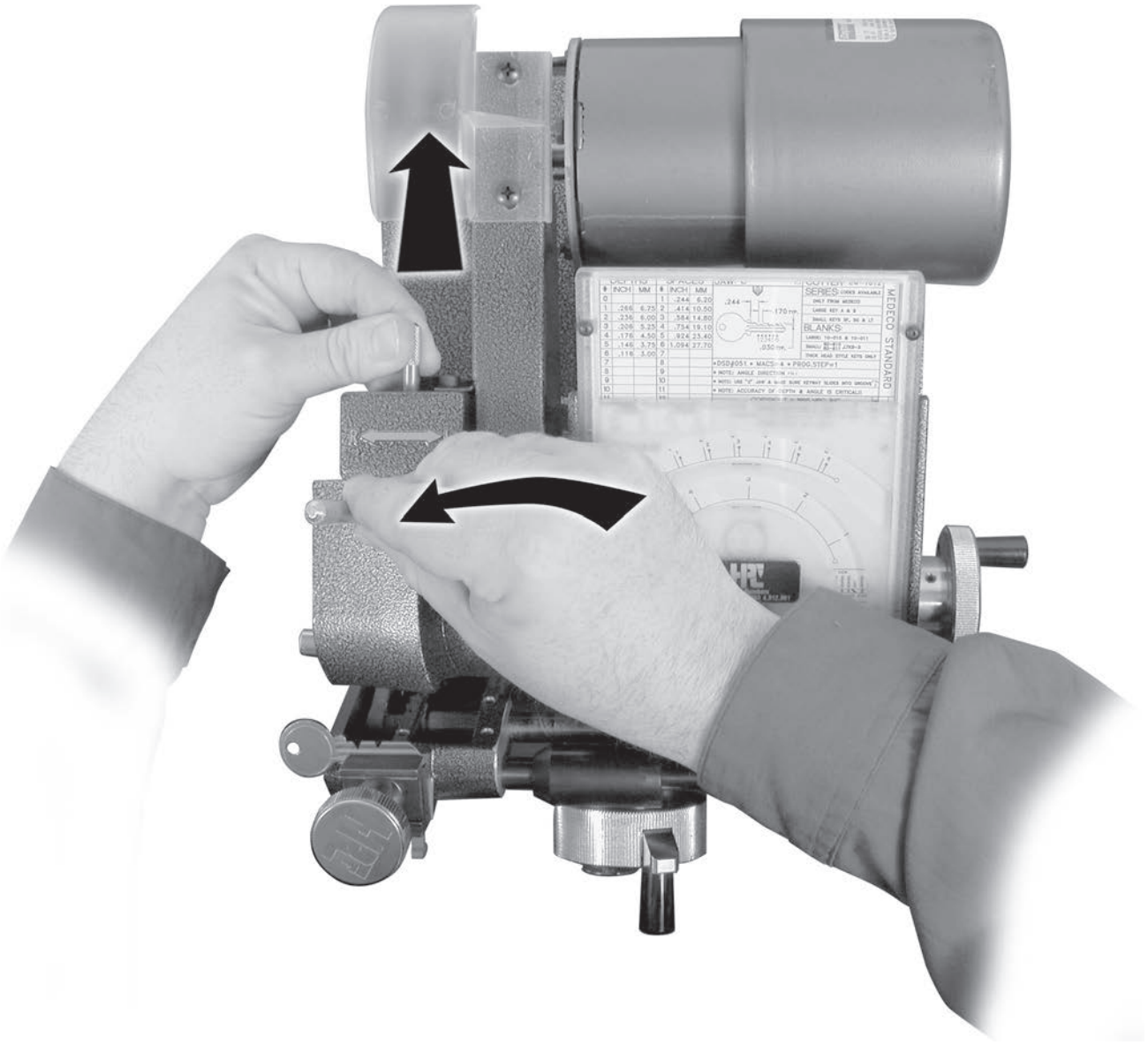
Back off.



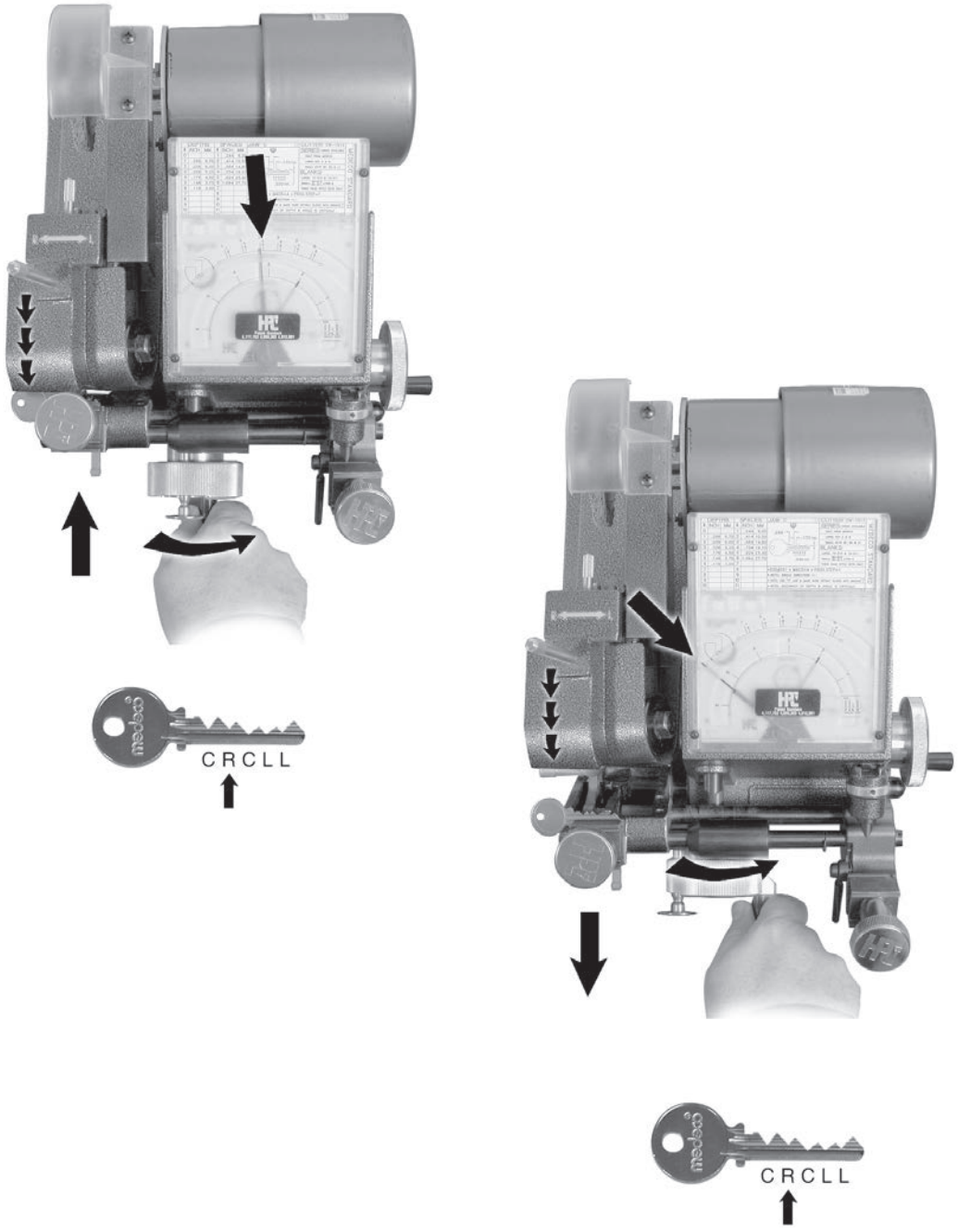
Move away from cutter.



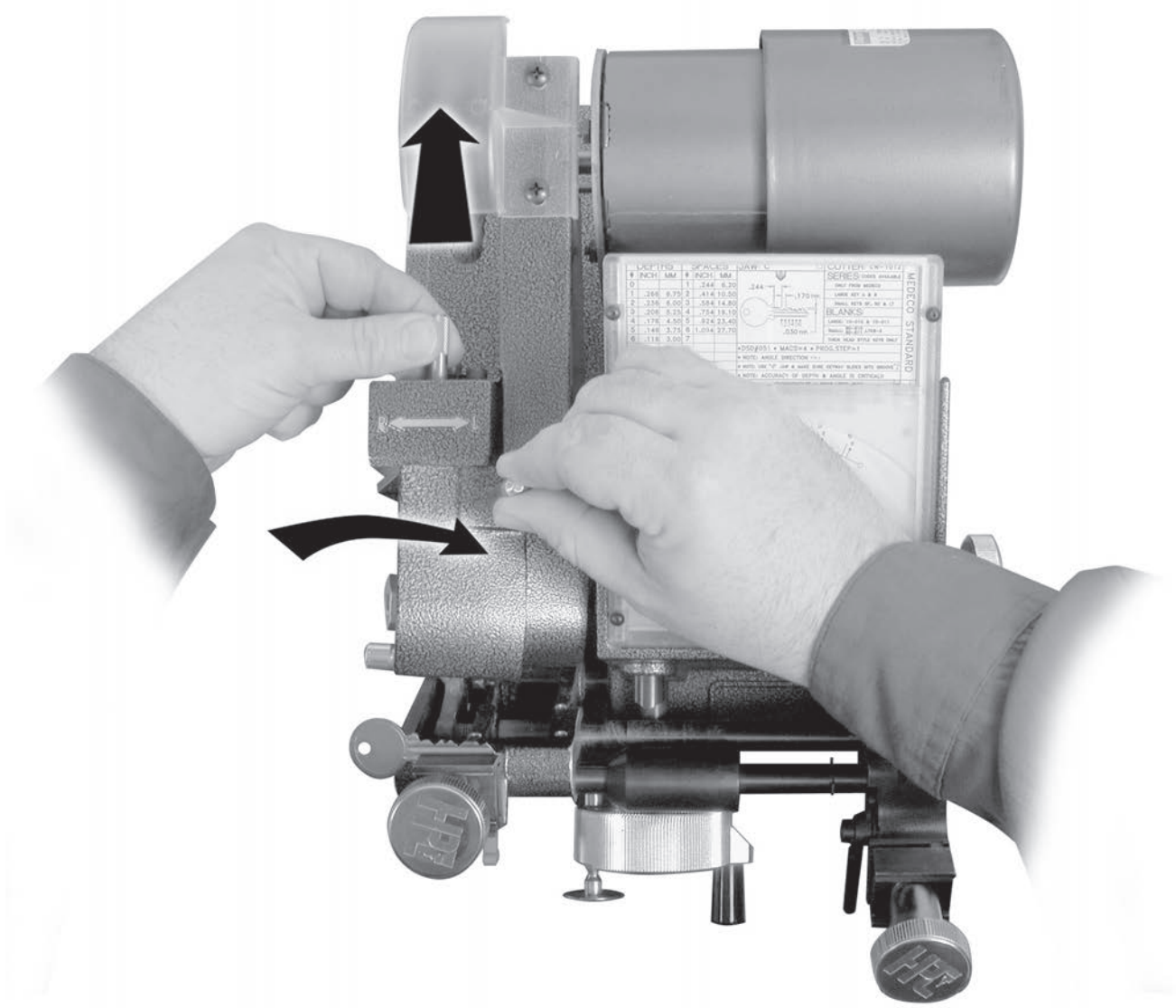
Turn off the machine. Pull outward on the Angle Index Pin.



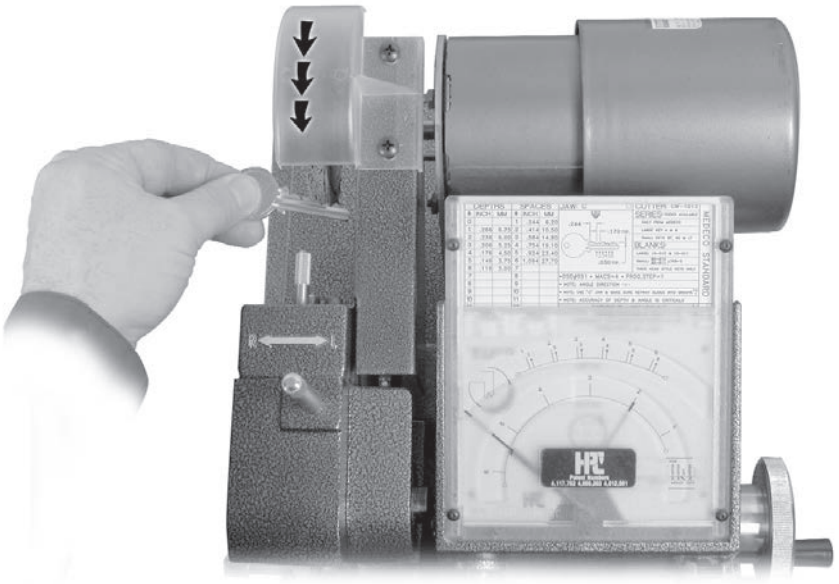
Swivel the Cutter Head by the Angle Pivot Pin, as indicated by the arrows.

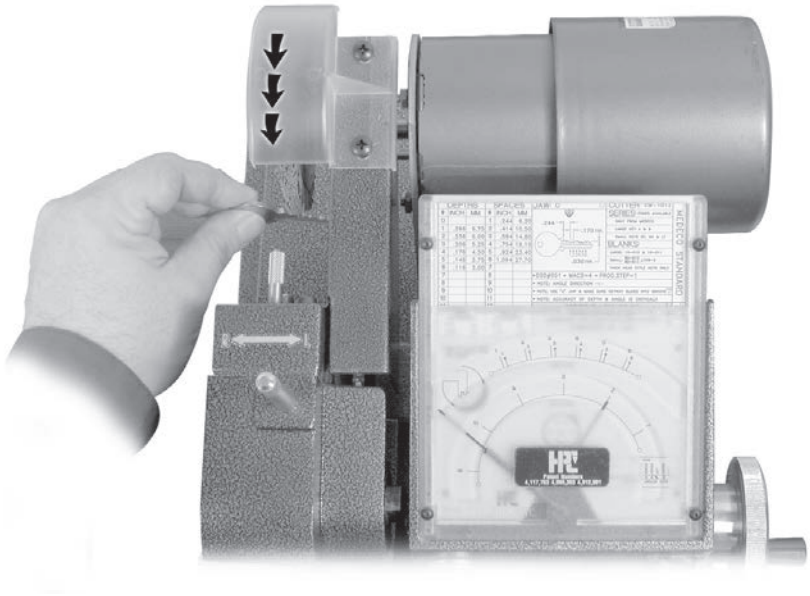


Be sure the Index Pin is relocked into the Cutter Head before operating. Make all right angle cuts at this time.



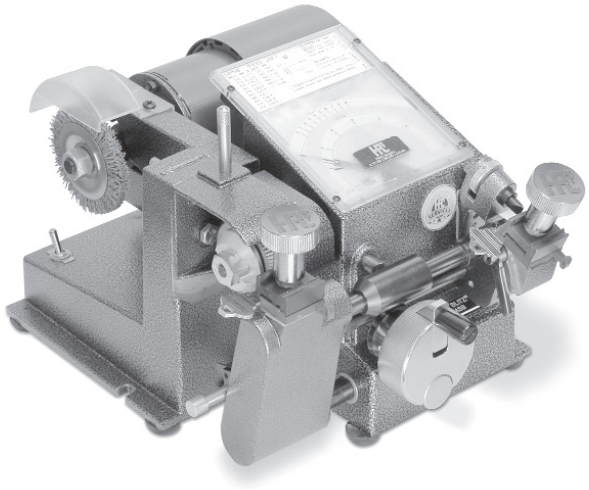
Turn off the machine and repeat the same procedure for left angle cuts.





Be sure to brush Medeco® keys exceptionally clean and free of all burrs. Hold the cut key so that the rotation of the deburring brush sweeps the burrs out and away from the cut.

7.0
CALIBRATION



ATTENTION: PLEASE READ BEFORE PROCEEDING.

NO RE-ADJUSTMENT is required when changing from one code card to another. The indicator marks on each code card are positioned for correct alignment when using the factory cutter wheels. No special spacing washers are required on either side of the cutter.

The need to re-adjust is rare and should be done only after the more common causes for mis-cut keys are eliminated.

Quite often code numbers are mis-read, locks are coded incorrectly when they are new, and code references occasionally have typographical errors. Be aware of these unintentional errors that detract from the successful cutting of keys by code. After eliminating the above mentioned causes for mis-cut keys, proceed.

It is recommended to perform the calibration procedures in this sequence:

1. Code Cutting

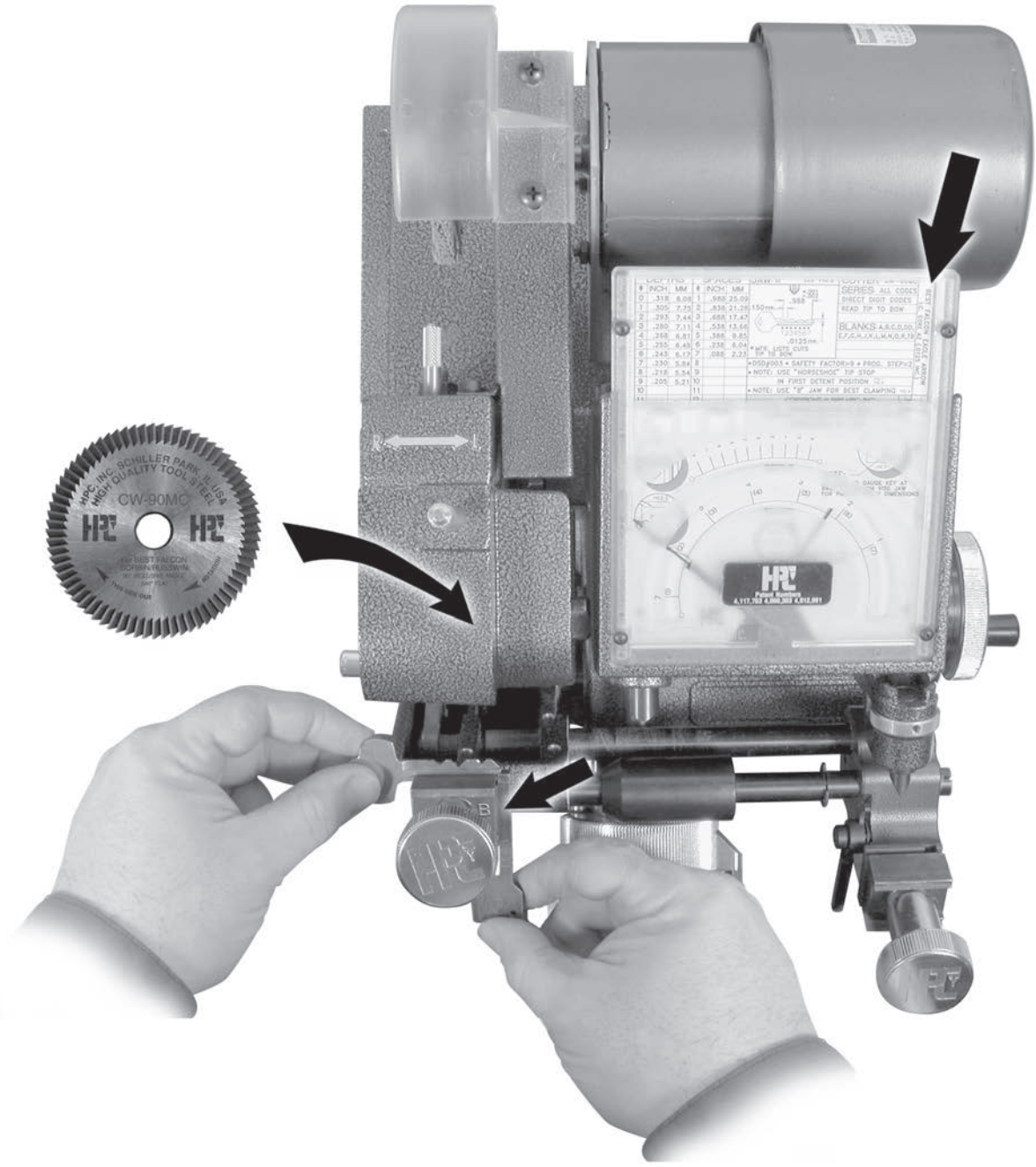
    A. Tip Gauge Spacing
    B. Shoulder Gauge Spacing
    C. Depths

2. Duplicating

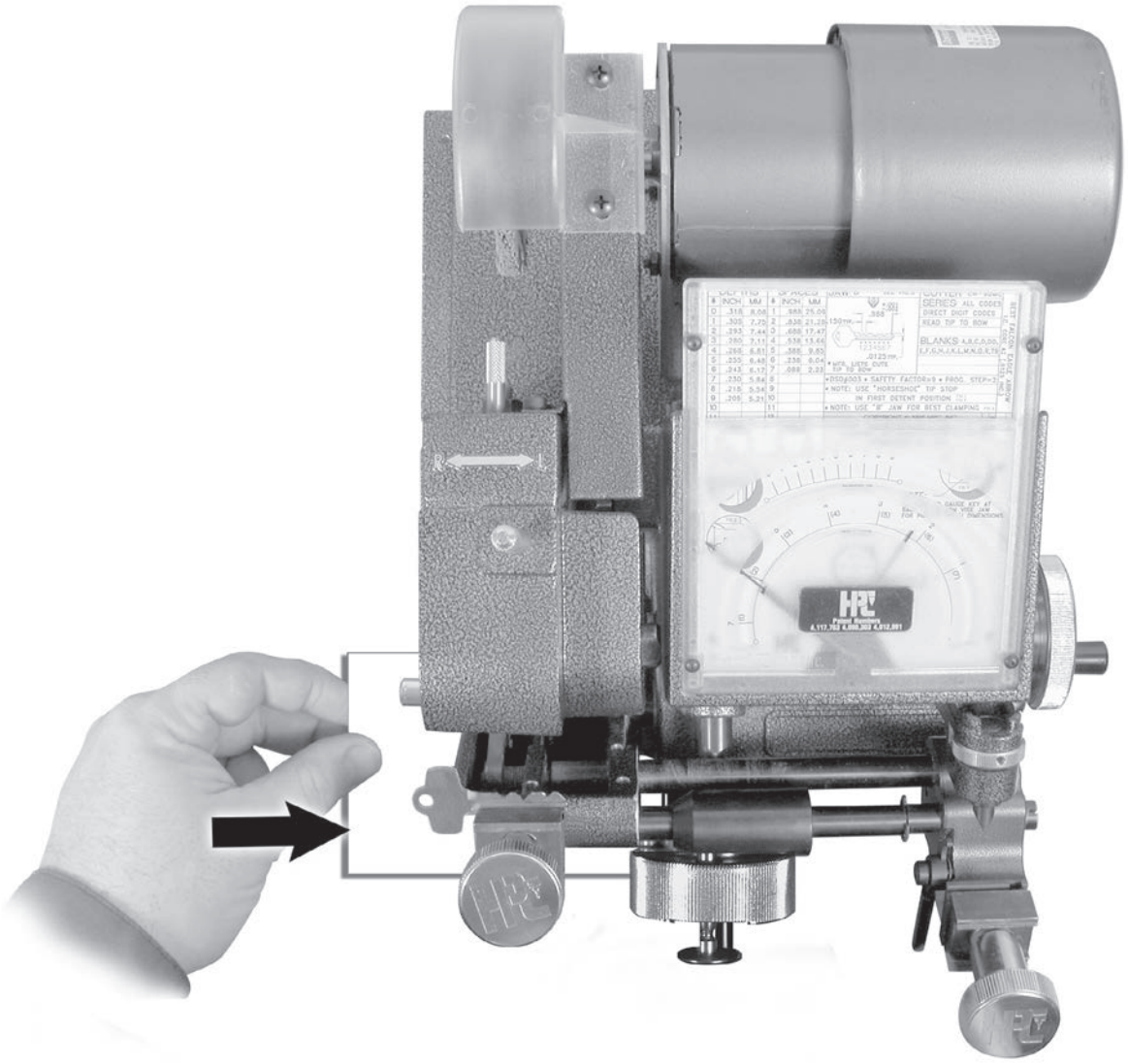
    A. Tip Gauge Spacing
    B. Shoulder Gauge Spacing
    C. Depths

7.1 Tip Gauge Calibration (for Code Cutting):

Select an original large cylinder type tip-gauged cut key such as Best or Falcon.

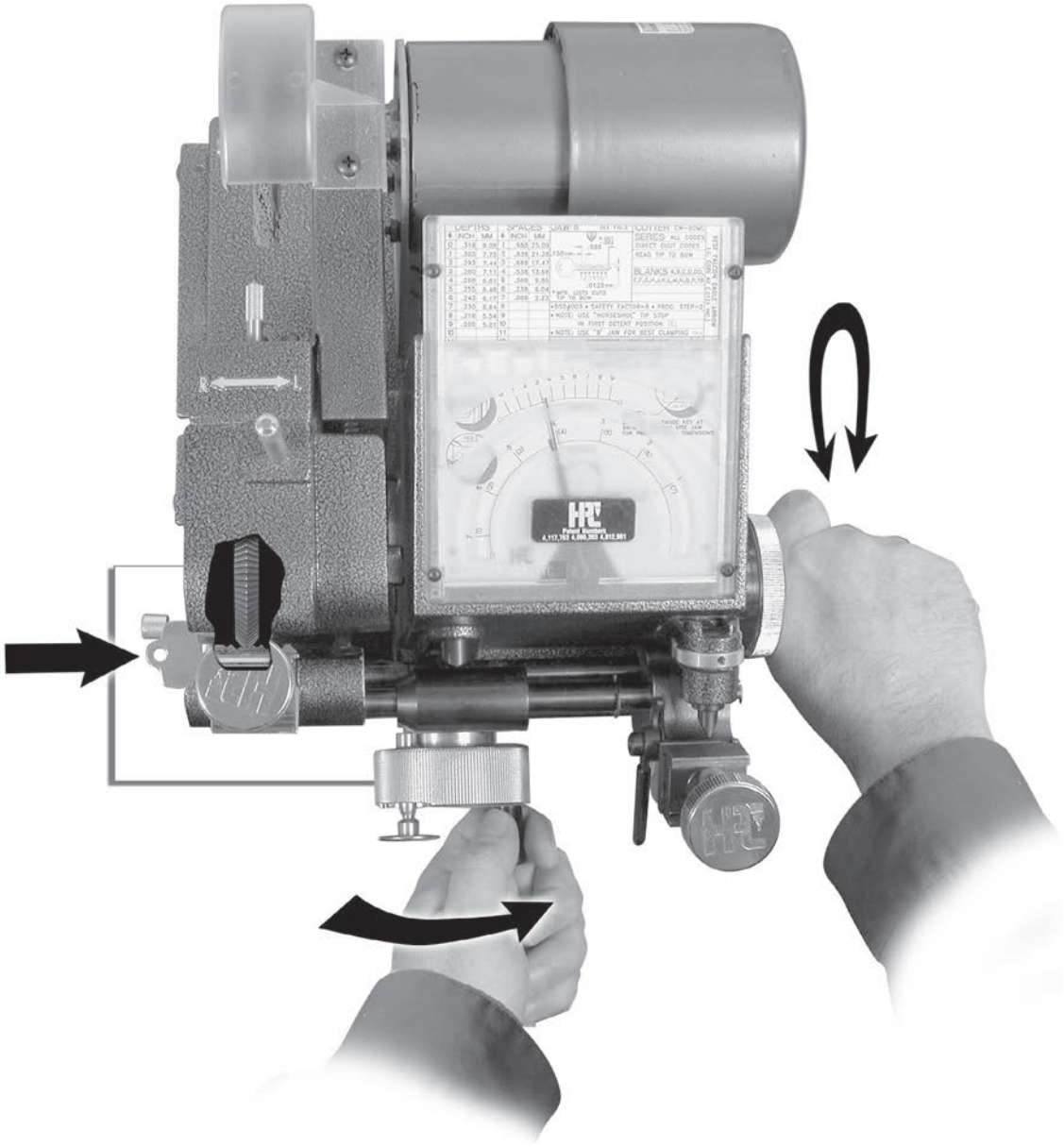


Put on the correct cutter and insert the correct card. Then, gauge and clamp the key.

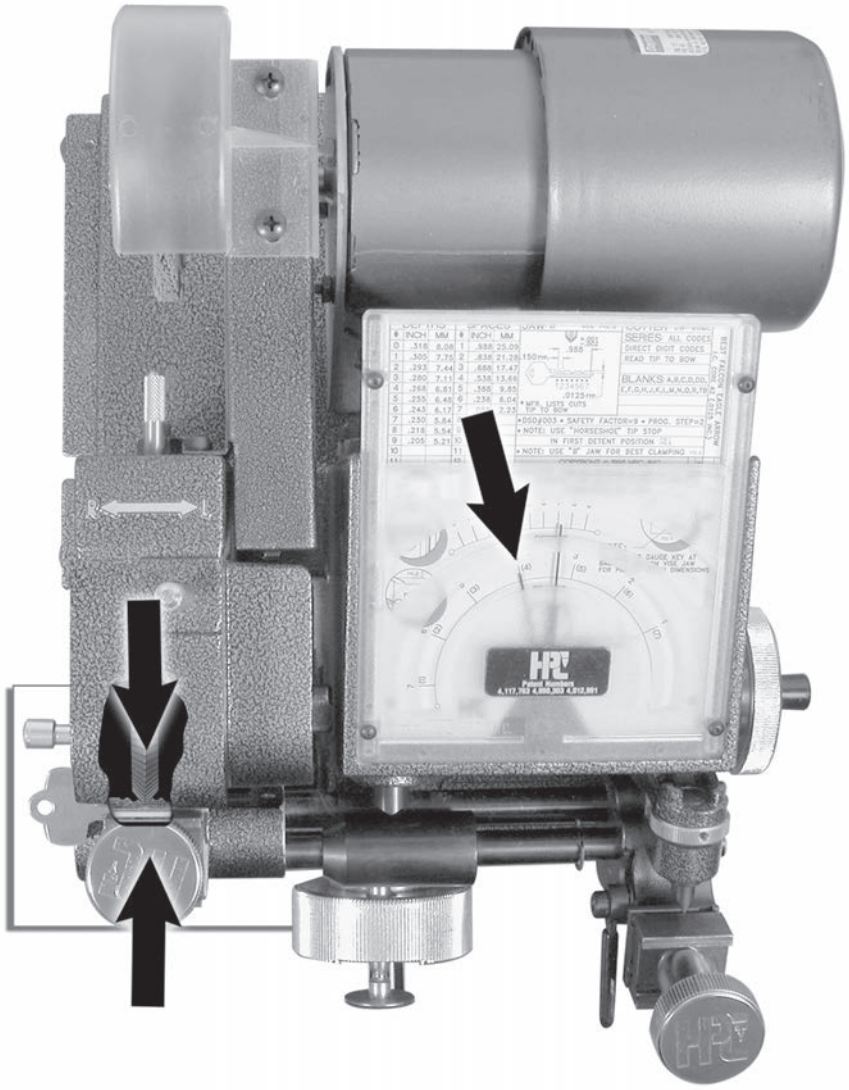


Place a white piece of paper beneath the cutter for improved vision of alignment.

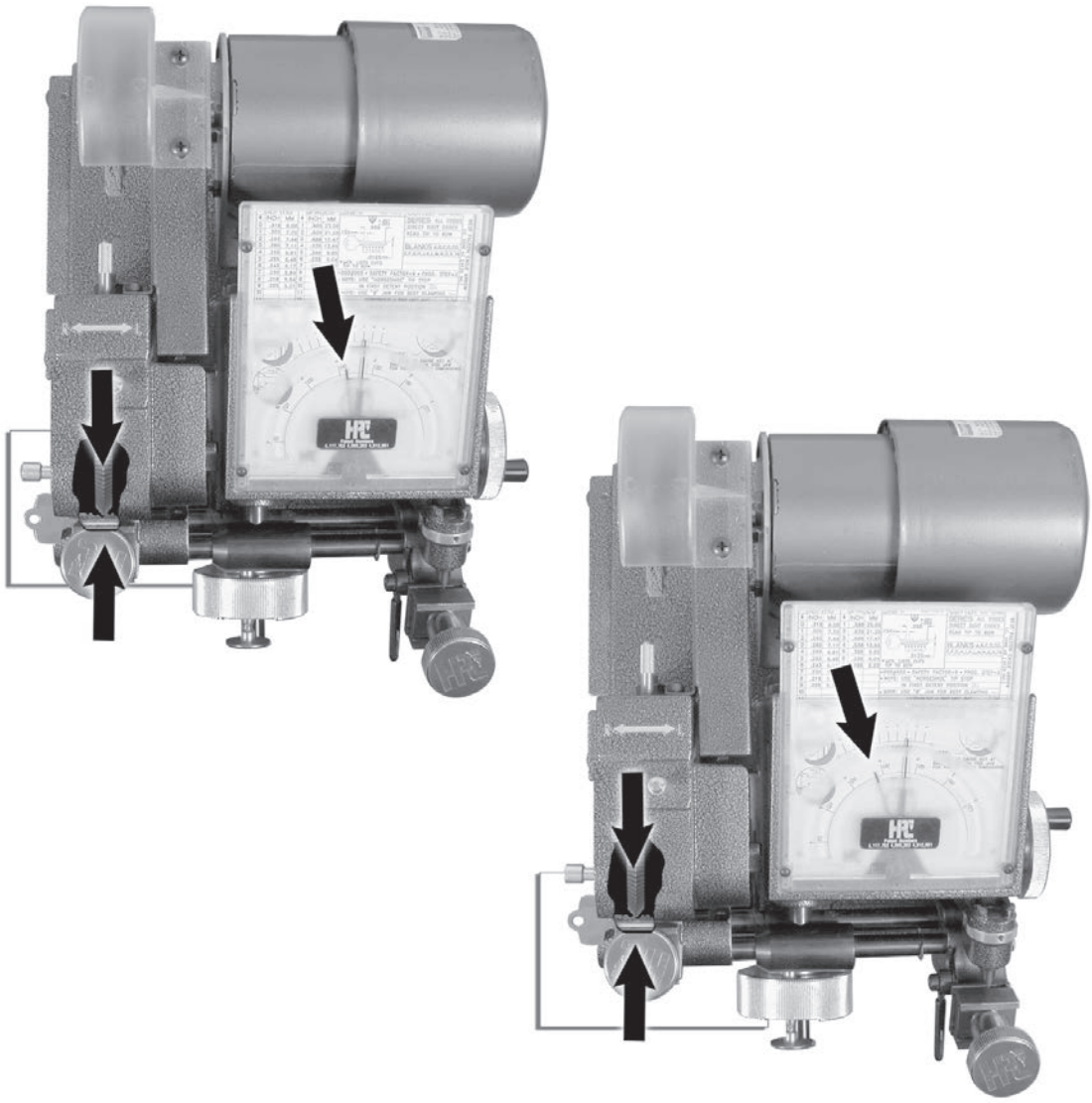
NOTE: Unplug machine for these and the following operations.



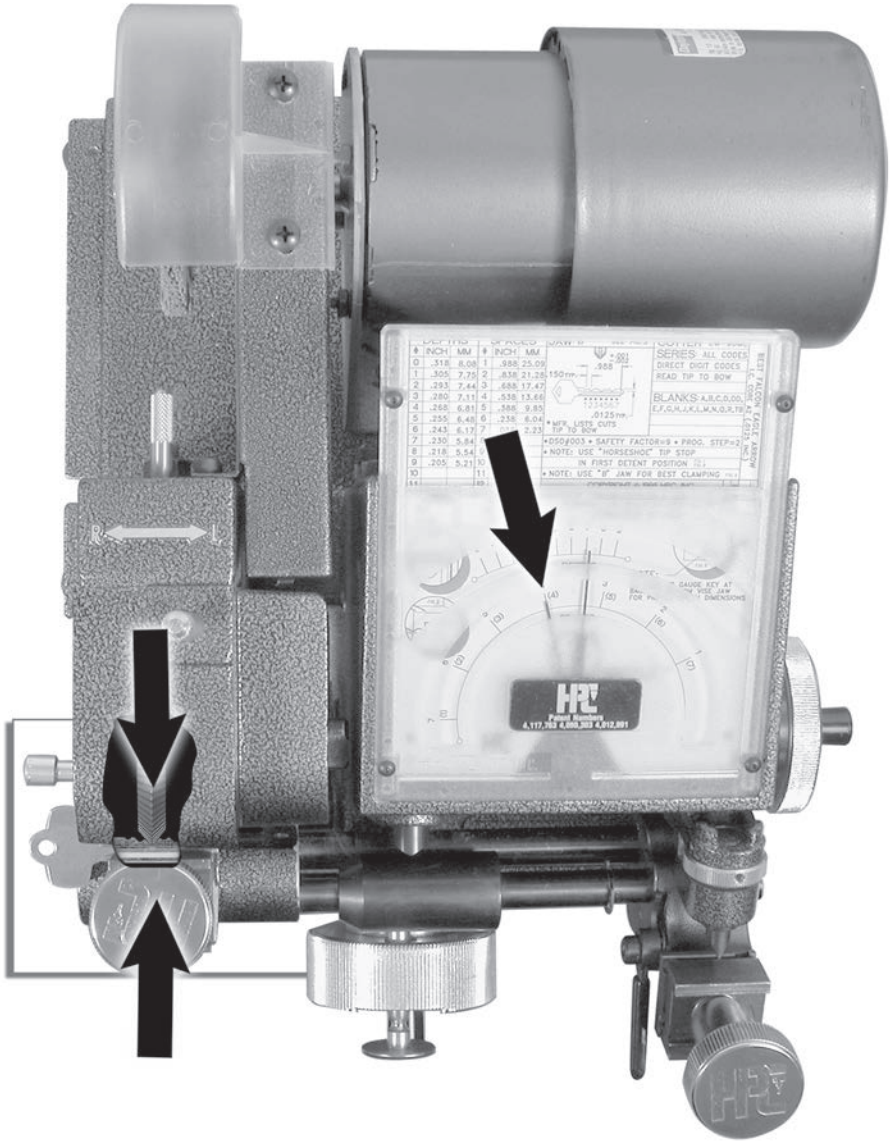
Rotate Space Crank to position the key with the most easily seen cut carefully centered beneath the cutter as shown. Rotate the Depth Crank until the cutter is fairly deep within the cut. (Deepest cuts are usually the easiest to see.)



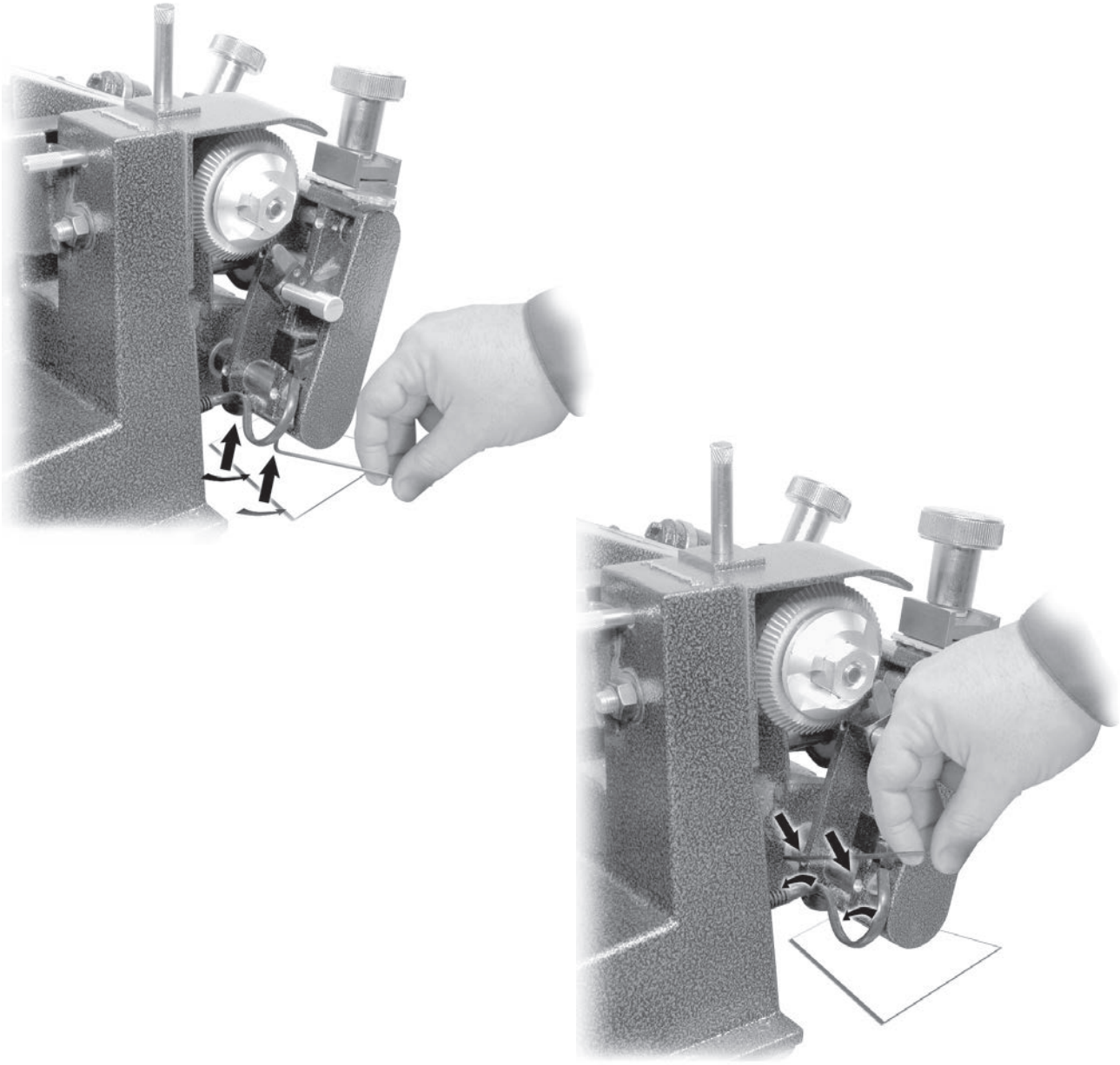
If the space indicator needle is centered over the corresponding space mark, the space adjustment is correct. Go no further.



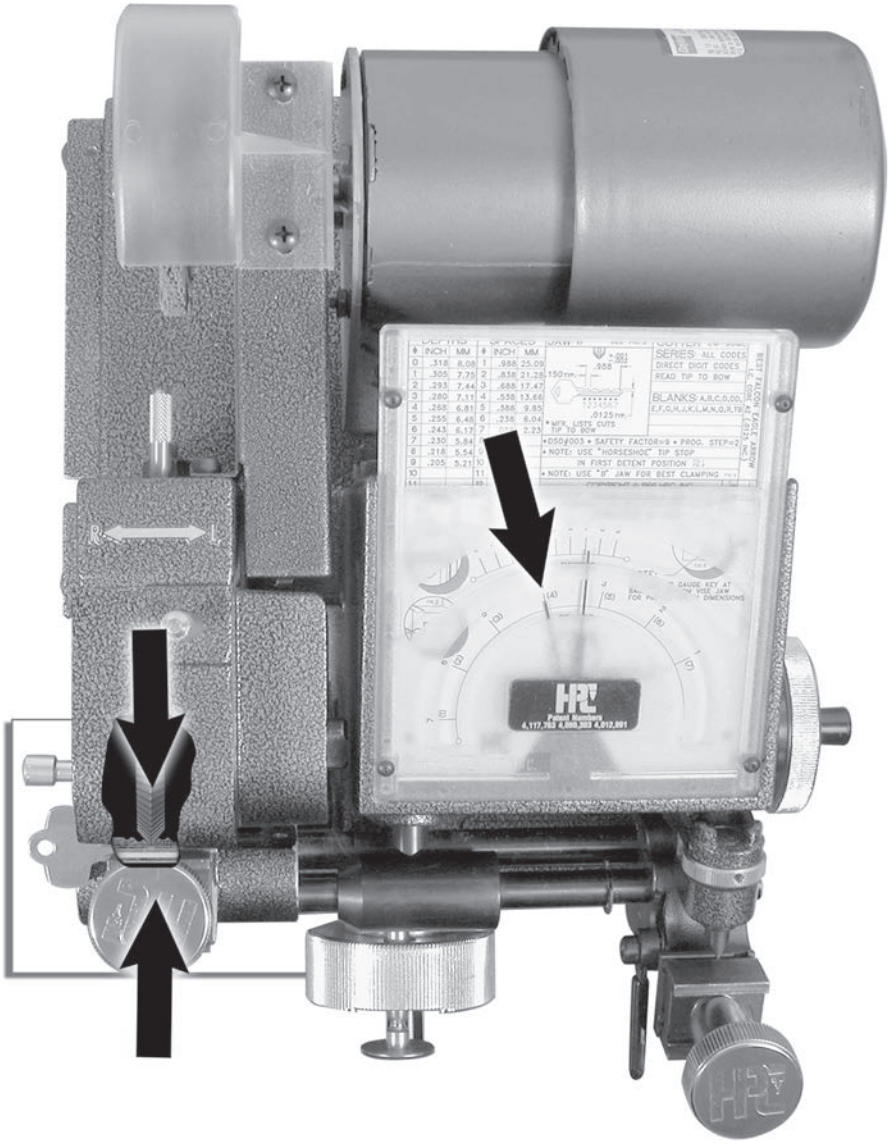
If the space indicator needle is offset to the right, the machine is cutting too close to the tip.
If the space indicator is offset to left, the machine is cutting too far from tip.
(Note: Re-calibration of the tip **does necessitate** re-calibration of shoulder space. See next section.)



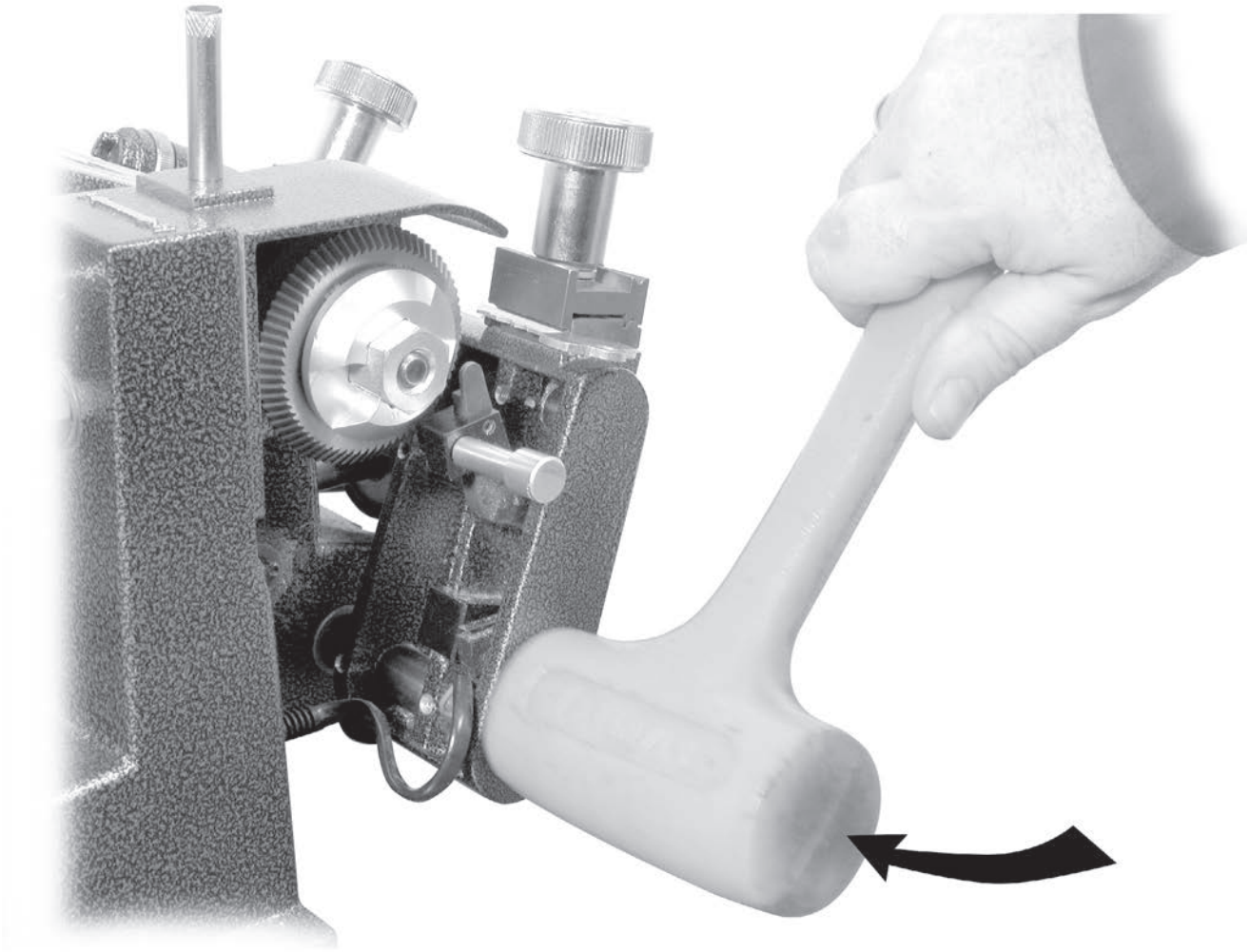
Rotate the Space Crank until the indicator needle is centered over the corresponding space mark as shown. Rotate the Depth Crank until the cutter is fairly deep within the cut.



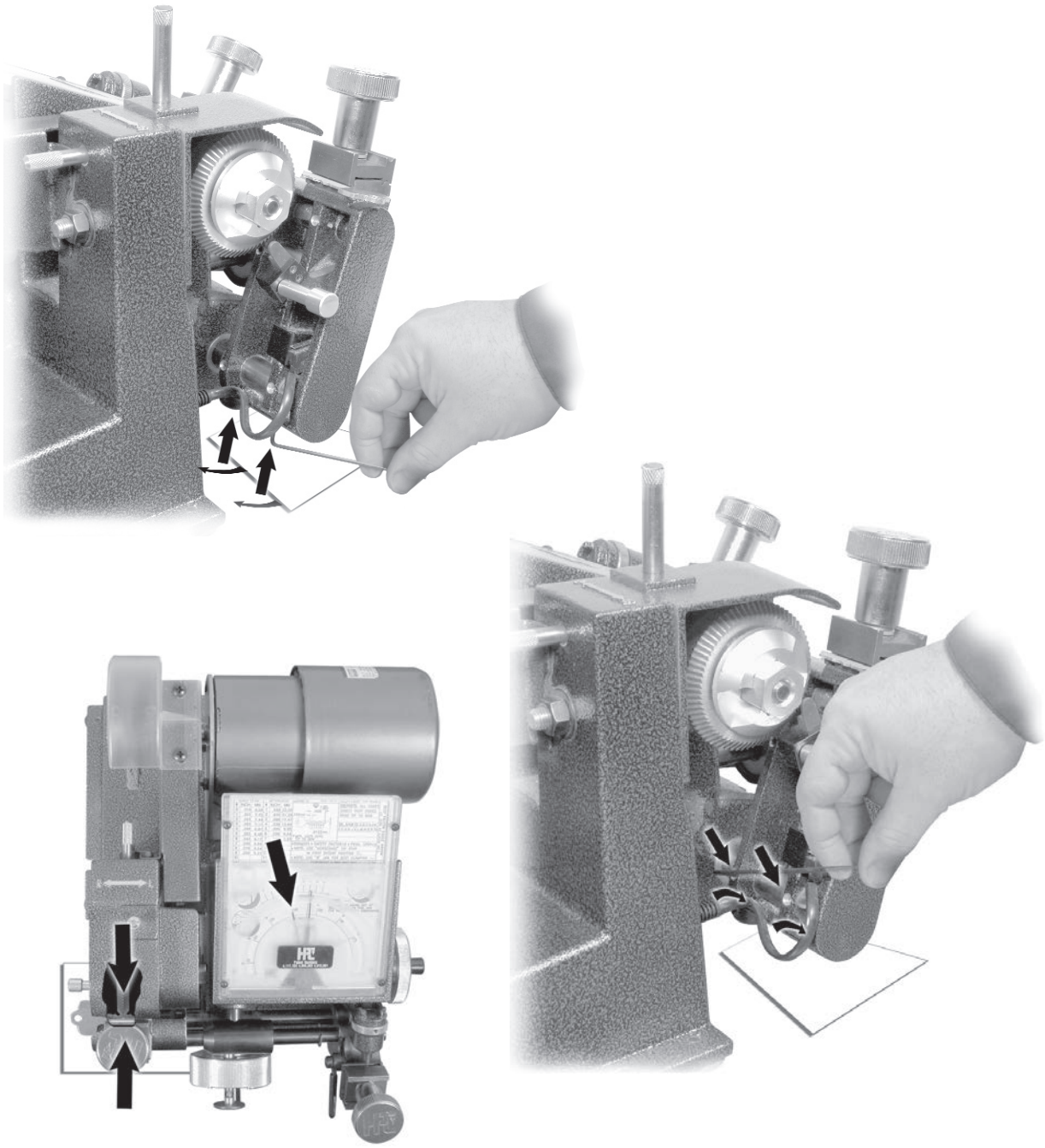
Loosen the four set screws that hold the Pivot Arm onto the Pivot Arm Shaft. DO NOT REMOVE THE PIVOT ARM.



Re-position the space indicator needle if it has moved while loosening the set screws.



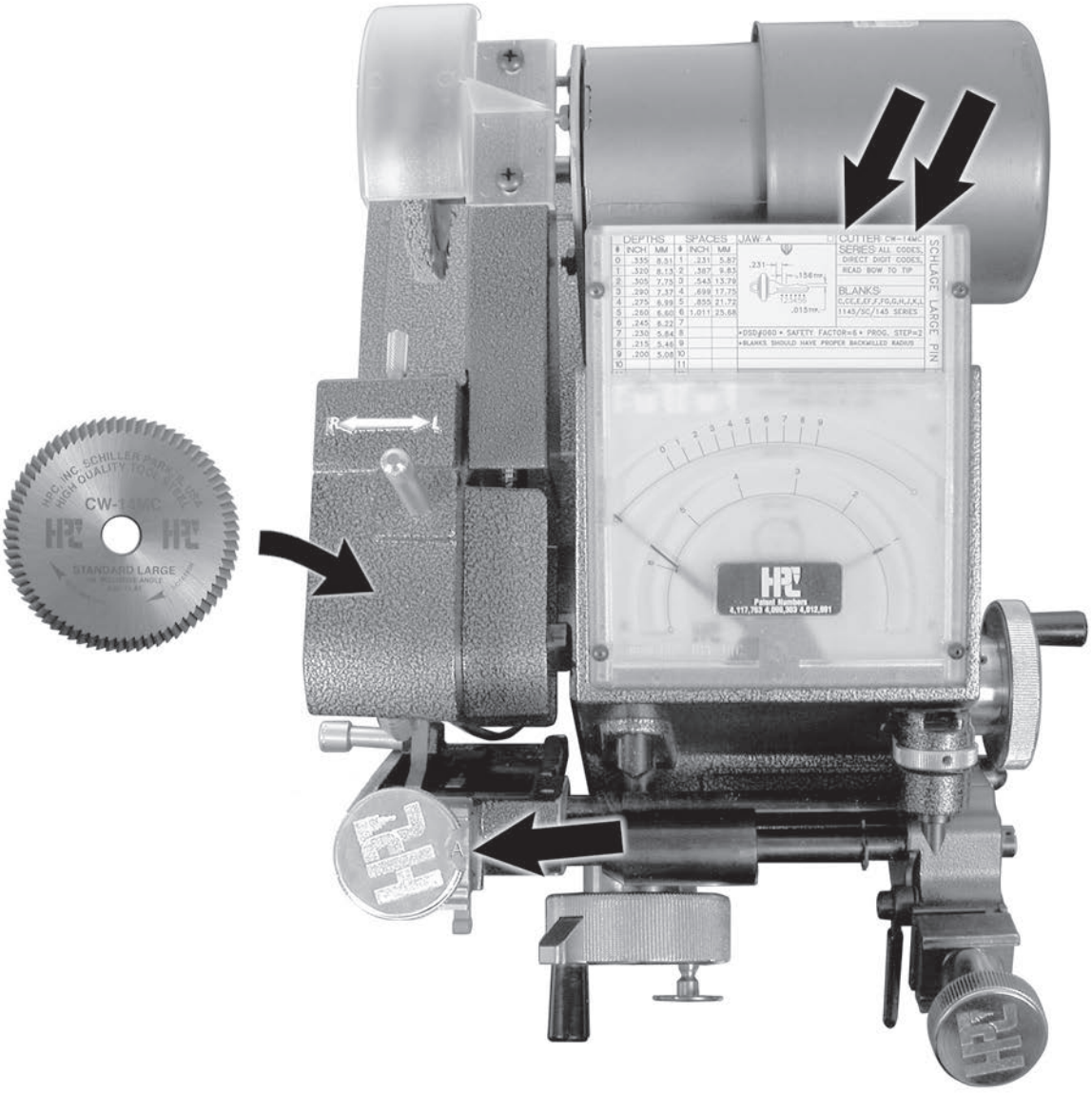
With a small rawhide or plastic mallet, lightly tap the lower left side of the pivot arm until the pin seat of the cut is directly opposite the flat of the cutter, as shown previously. (Be sure all FOUR set screws are loose.)



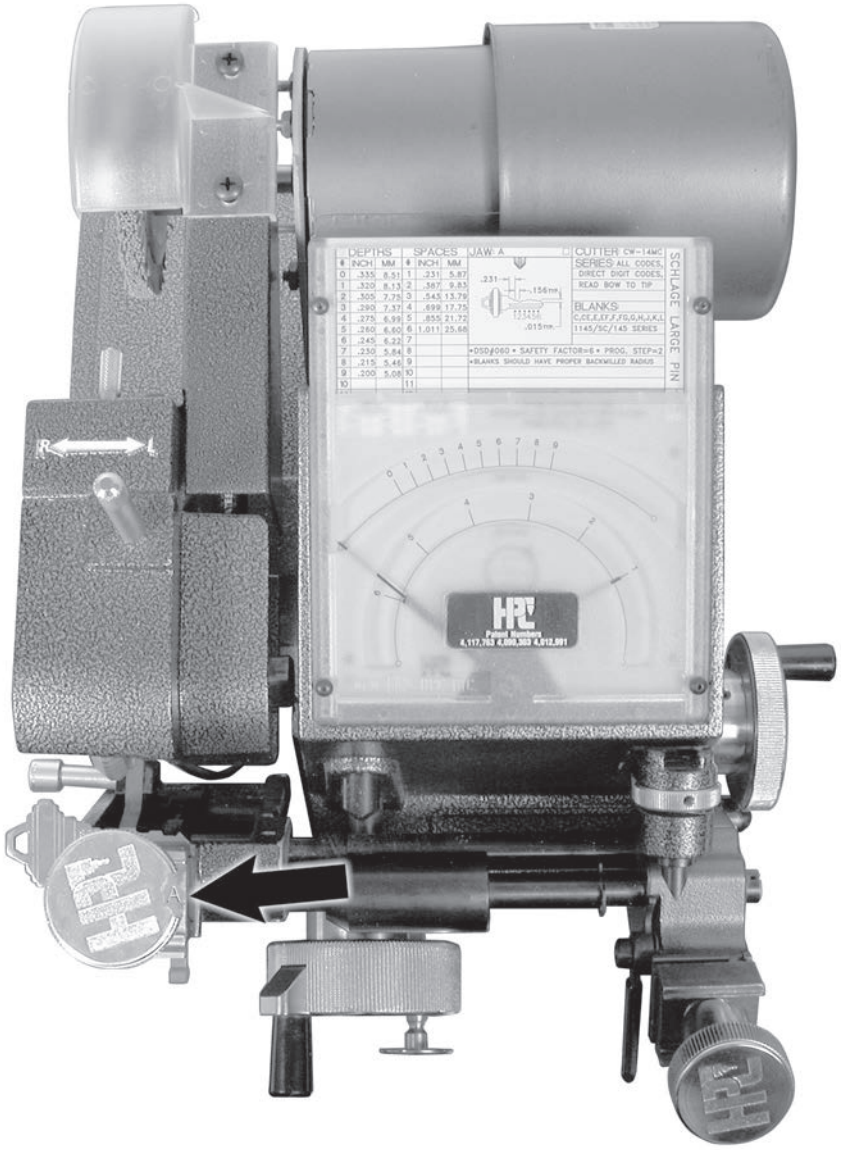
With the cutter aligned opposite the cut and the space indicator needle centered over the corresponding space mark, tilt the machine up, if necessary, (without disturbing the setting) and re-tighten the set screws.

7.2 Shoulder Gauge Calibration (for Code Cutting):

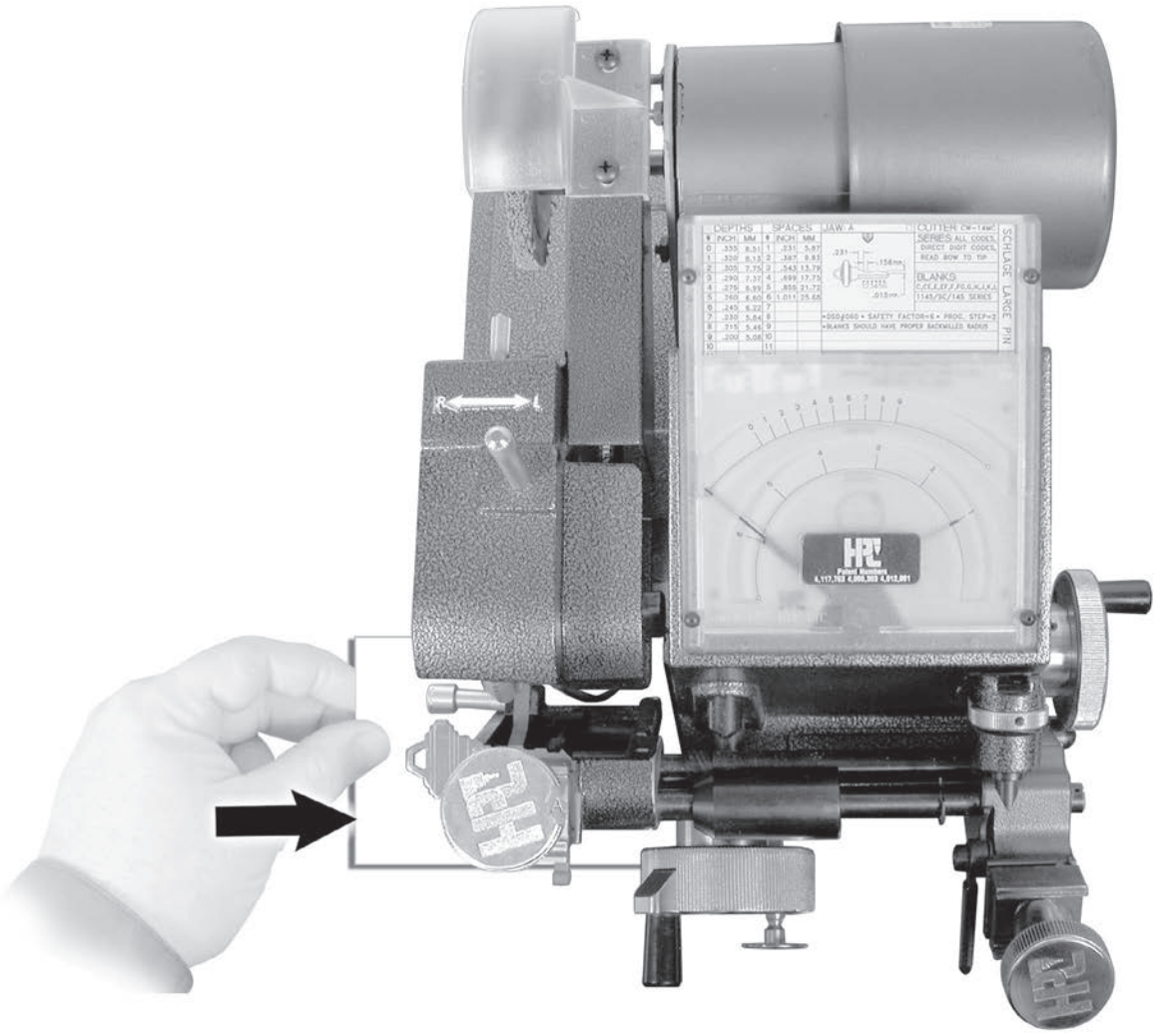
Select an original large cylinder type shoulder-gauged cut key, such as Schlage.
Always check spacing on a tip stop key first, before adjusting for shoulder-gauged keys.



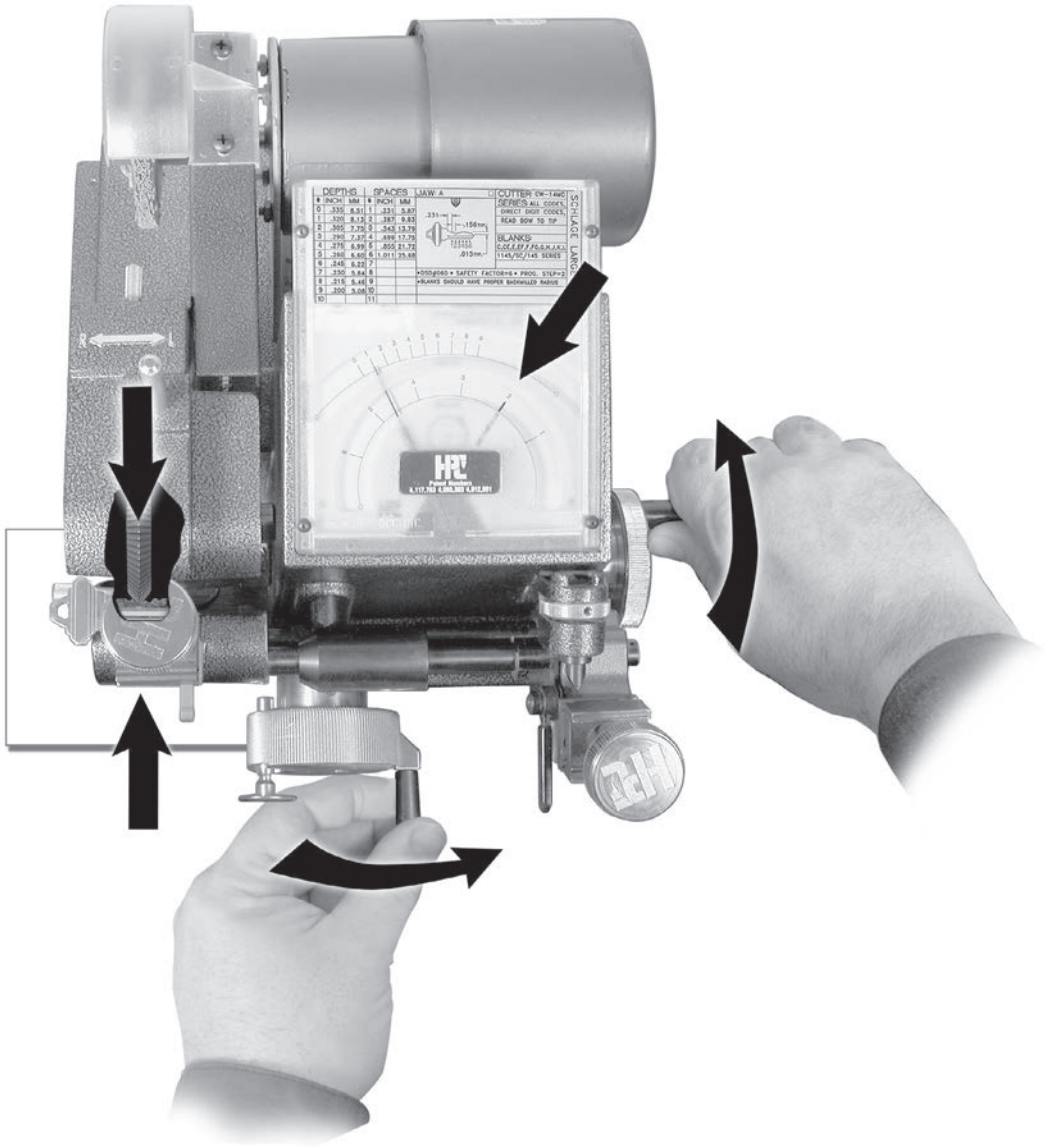
Insert the correct code card. Put on the correct cutter.



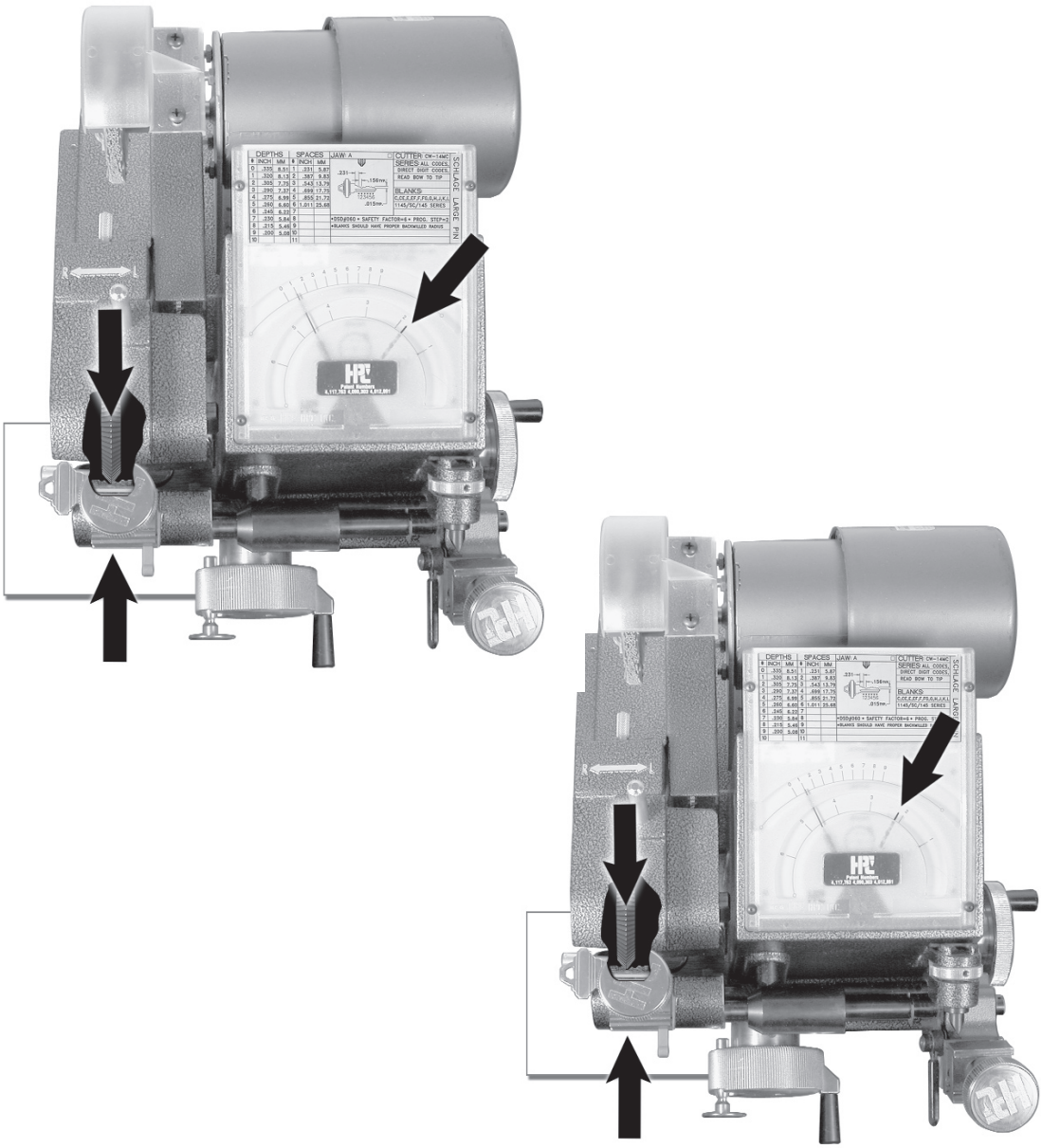
Gauge and clamp the key.



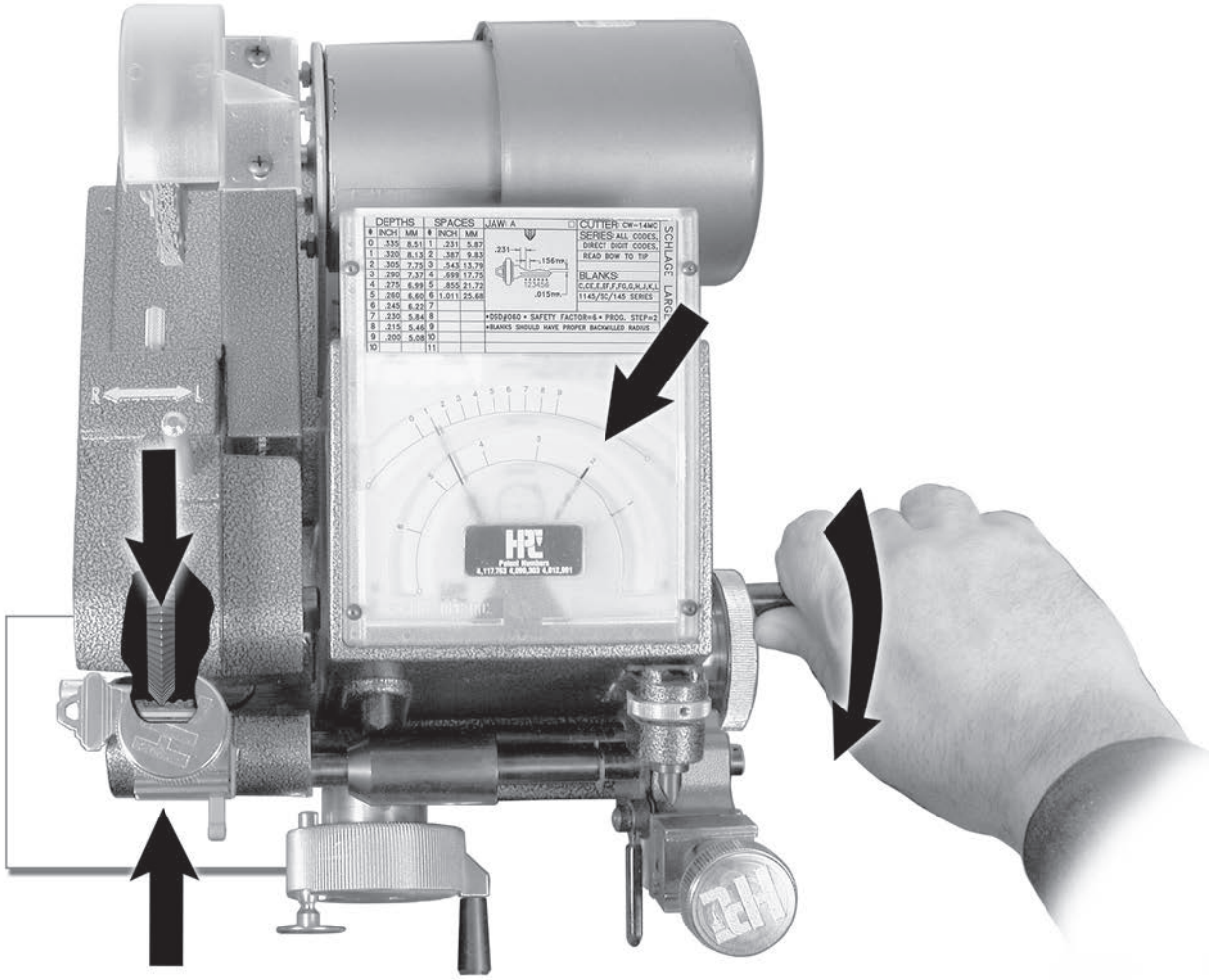
Place a piece of white paper beneath the cutter for improved vision alignment.



Rotate the Space Crank to position the key with the most easily seen cut carefully centered beneath the cutter as shown. Rotate the Depth Crank until the cutter is fairly deep within the cut. If the space indicator needle is centered over the corresponding space mark, the space adjustment is correct. Go no further.

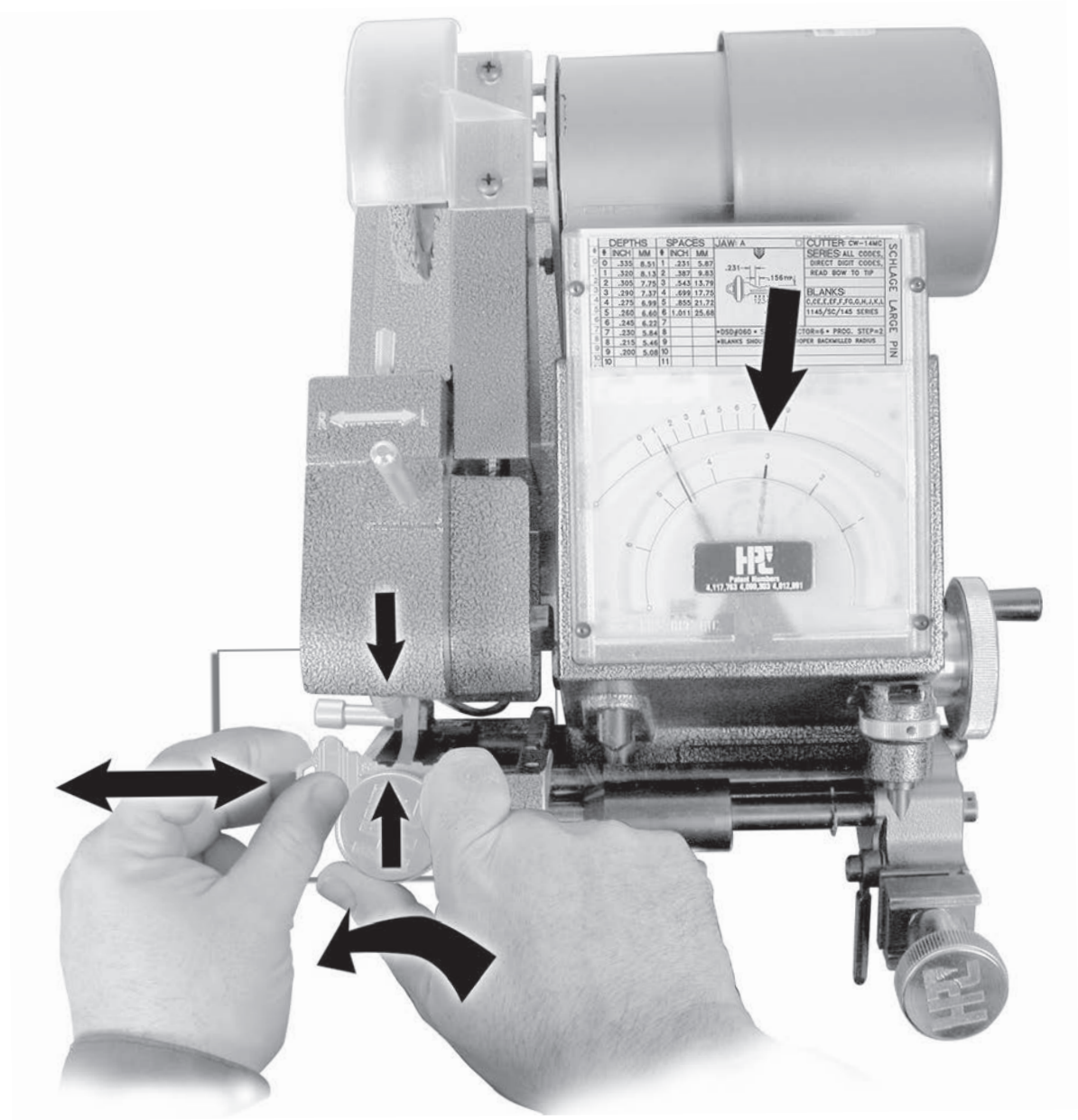


If the space indicator needle is offset to the right, the machine is cutting too far from the shoulder.
If the space indicator needle is offset to left, the machine is cutting too close to the shoulder.
(Note: Recalibration of shoulder spacing **does not necessitate** recalibration of tip space.)

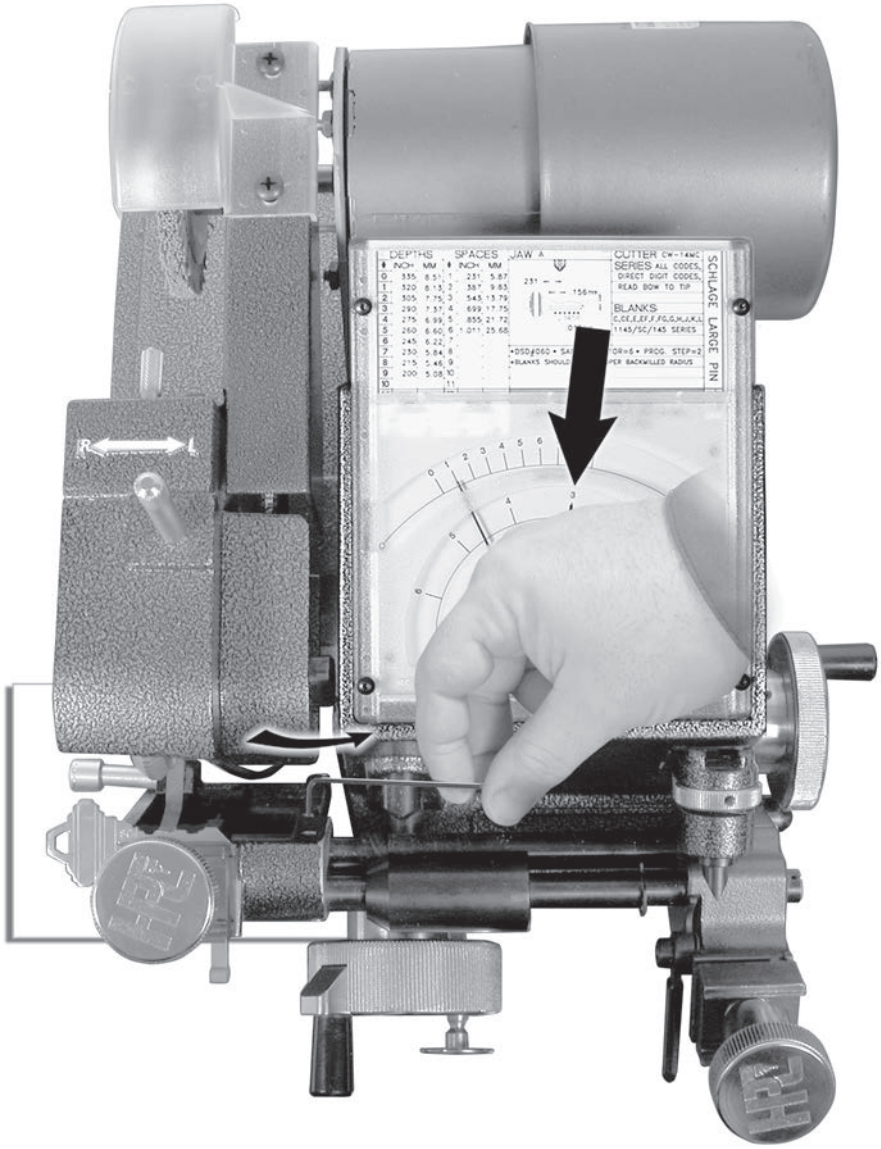


NOTE: Unplug the machine for these and the following operations.

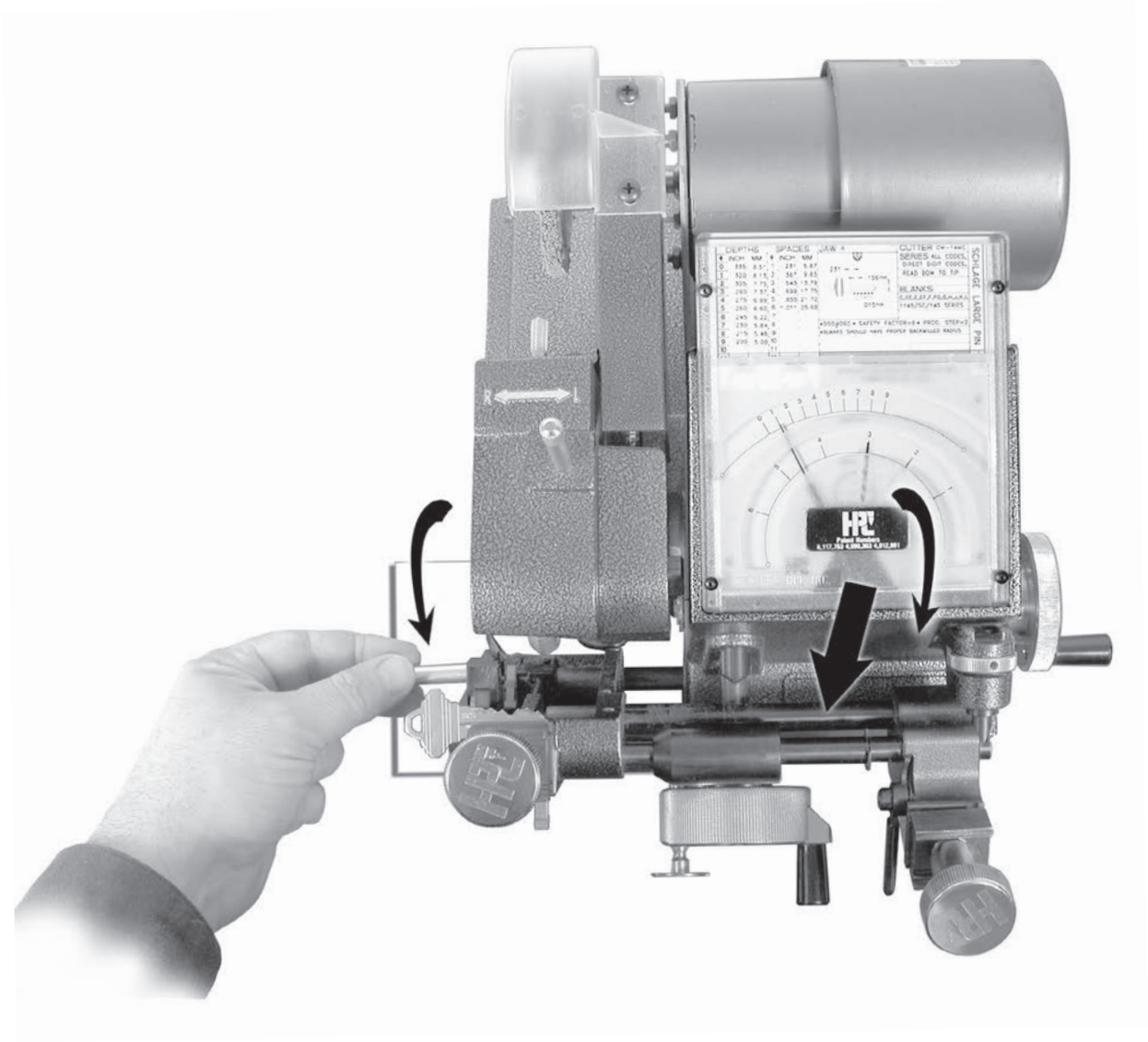
Rotate the Space Crank until the space indicator needle is centered over the corresponding space mark as shown.



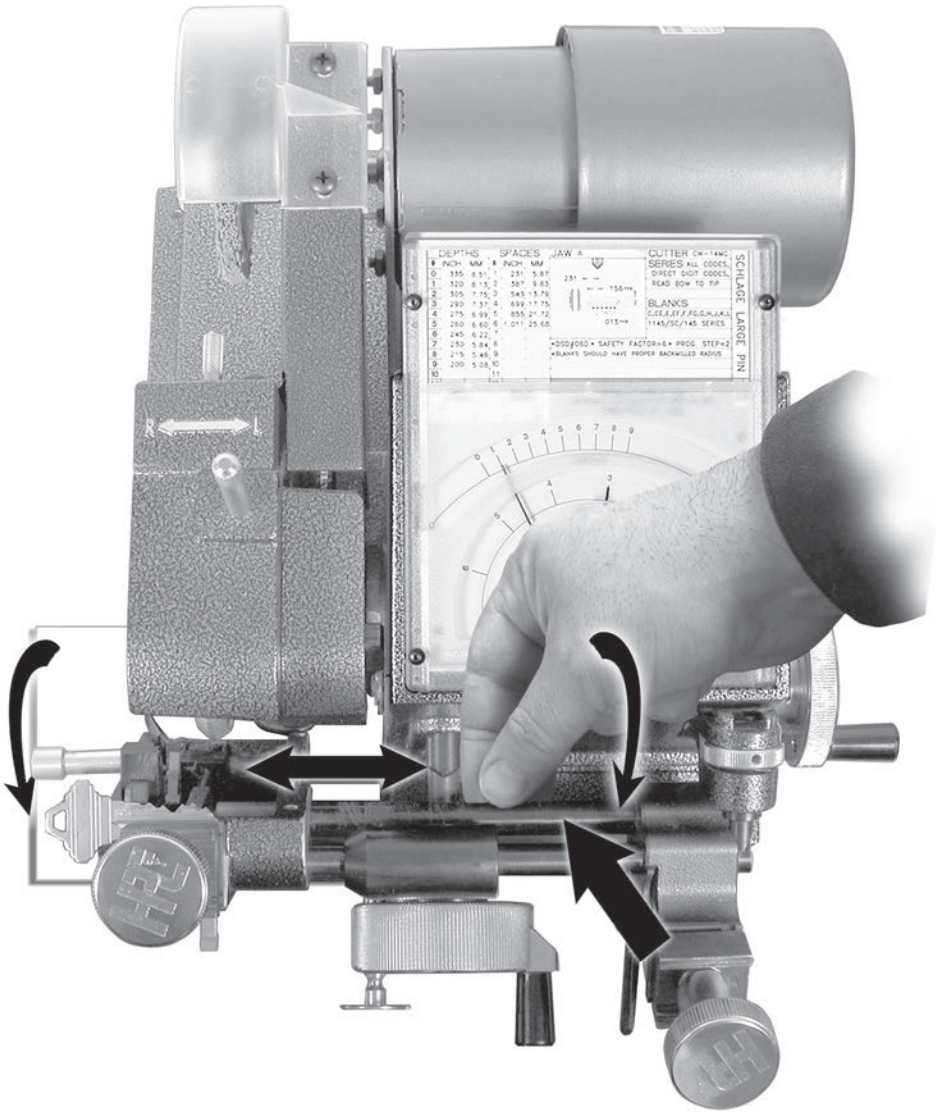
Loosen the key on the vise. Slide the key until the pin seat of the cut is directly opposite the flat of the cutter as shown. Tighten the key on the vise.



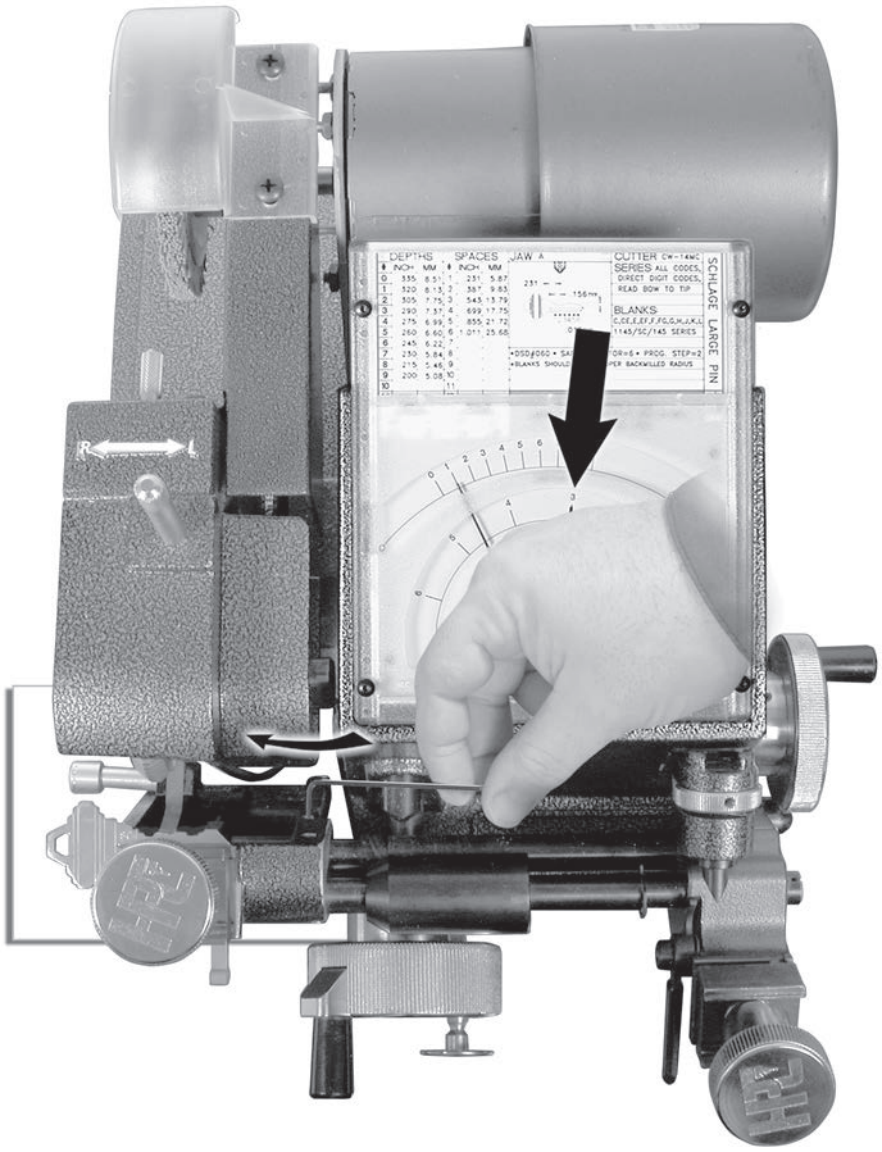
Loosen the set screw that holds the shoulder gauge turn bar onto the pivot arm.



After loosening the set screw, swing the shoulder gauge upward and rotate the turn bar. If there is resistance, squirt some WD-40 or equivalent on the threaded end of the turn bar.
Then work loose by jointly swinging the shoulder gauge and rotating the turn bar as shown.

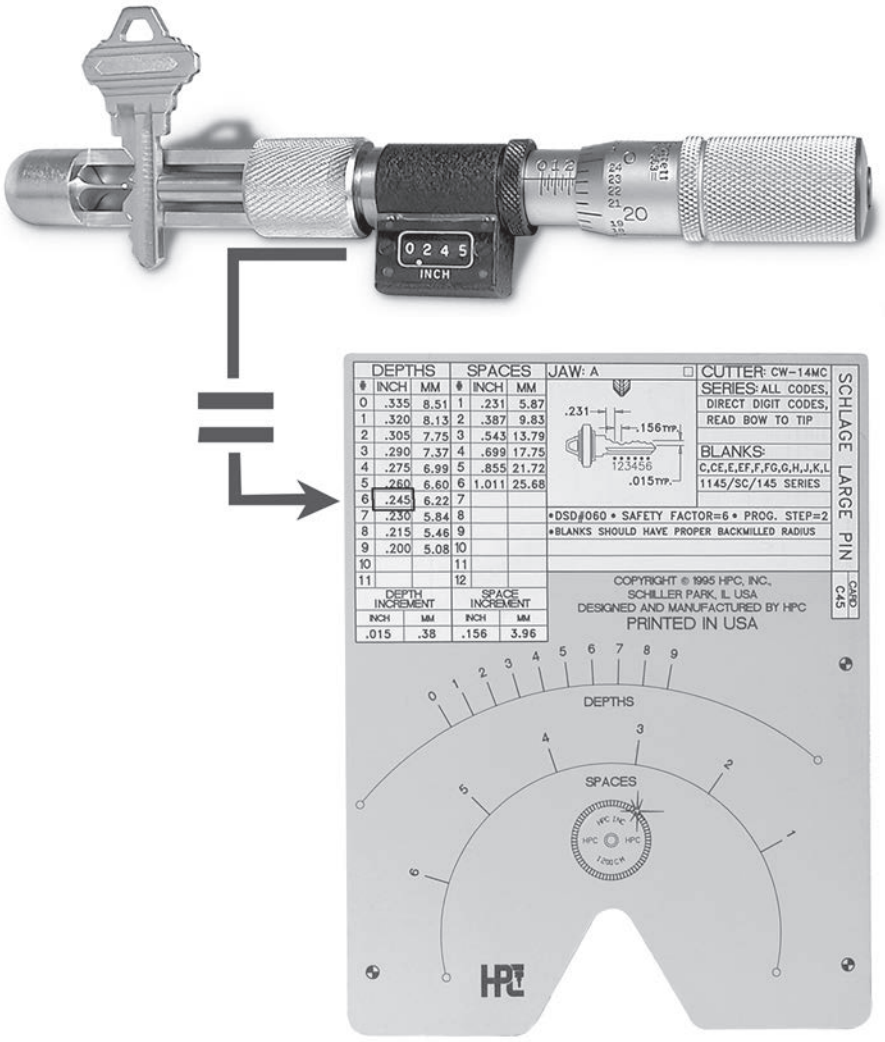


Now that the turn bar is loose, rotate the turn bar clockwise or counter-clockwise to move the shoulder gauge toward the shoulder of the key. The left side of the gauge should end up just barely touching the shoulder of the key as shown (as in normal gauging). Do not use pliers or any tool that will scratch or mar the surface of the turn bar.

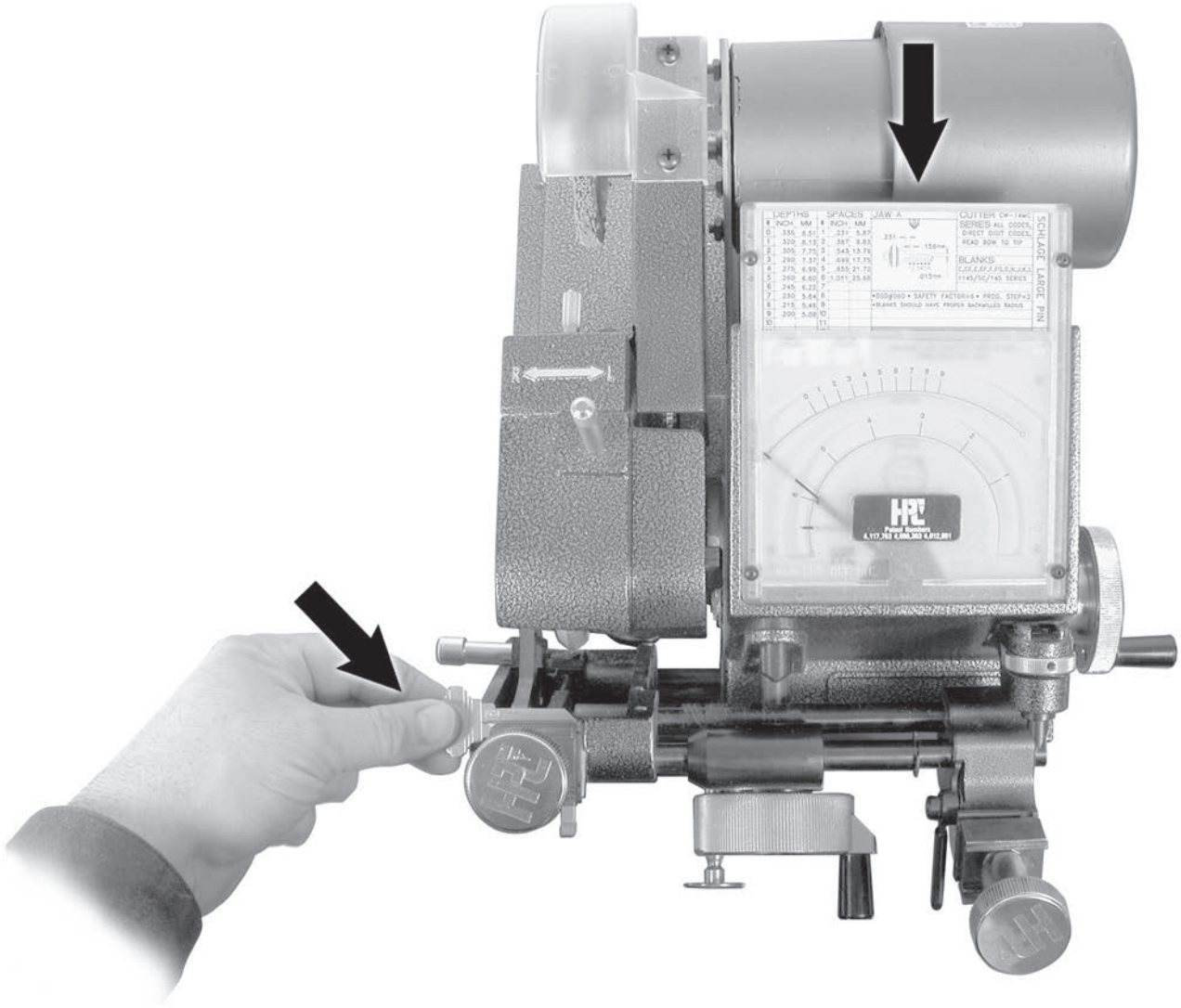


Tighten the set screw that holds the turn bar onto the pivot arm.

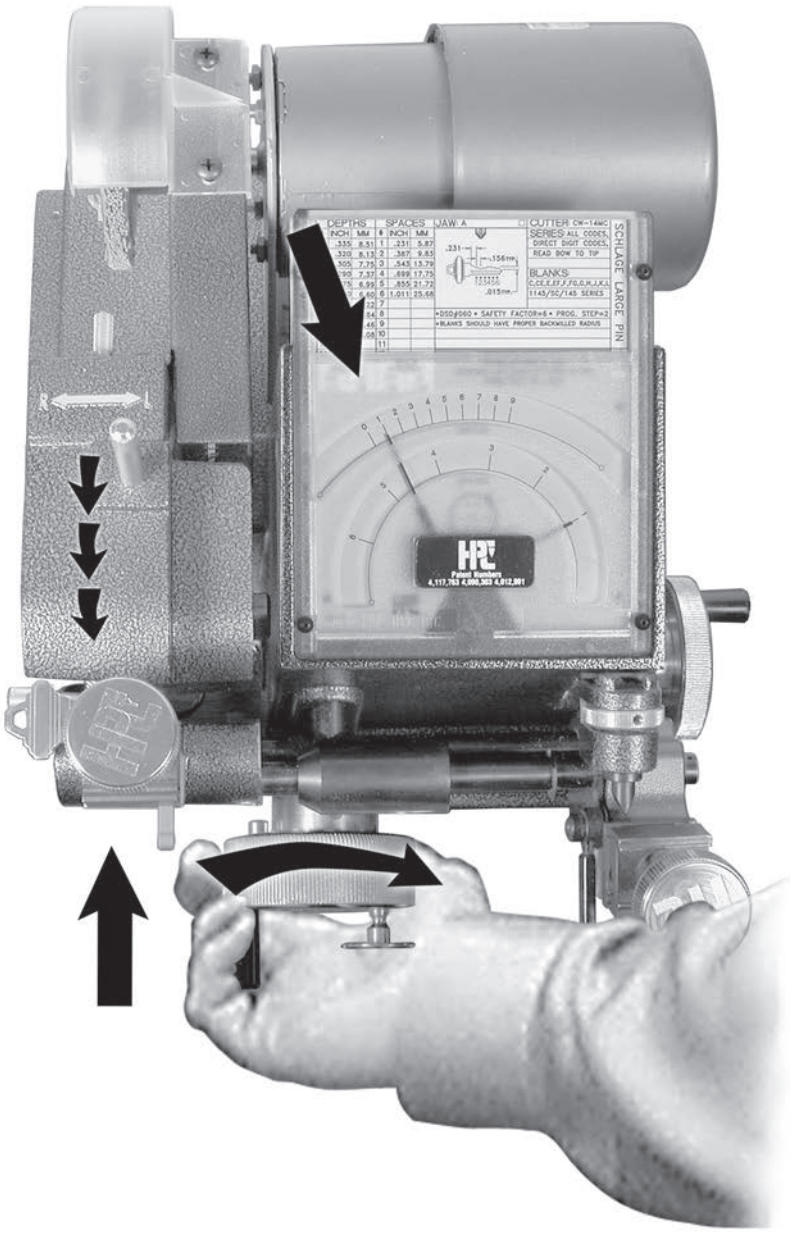
7.3 Depth Calibration (for Code Cutting):



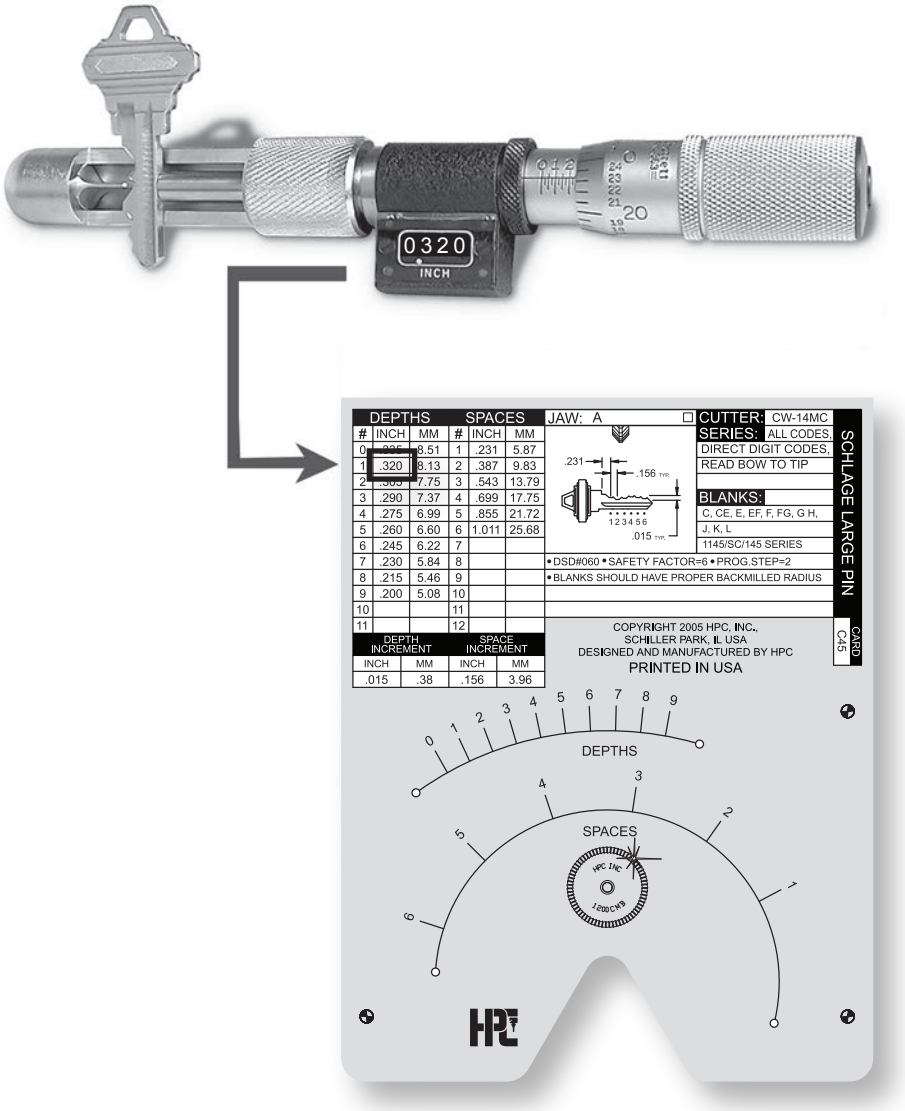
Cut a key by code, measure the depths, and compare them to the code card. If the depth of the cut measures the same as the depth dimension on the code card, your machine is in proper depth calibration.



If your machine is out of depth calibration, insert a key blank and the corresponding code card (such as Schlage) into the machine.

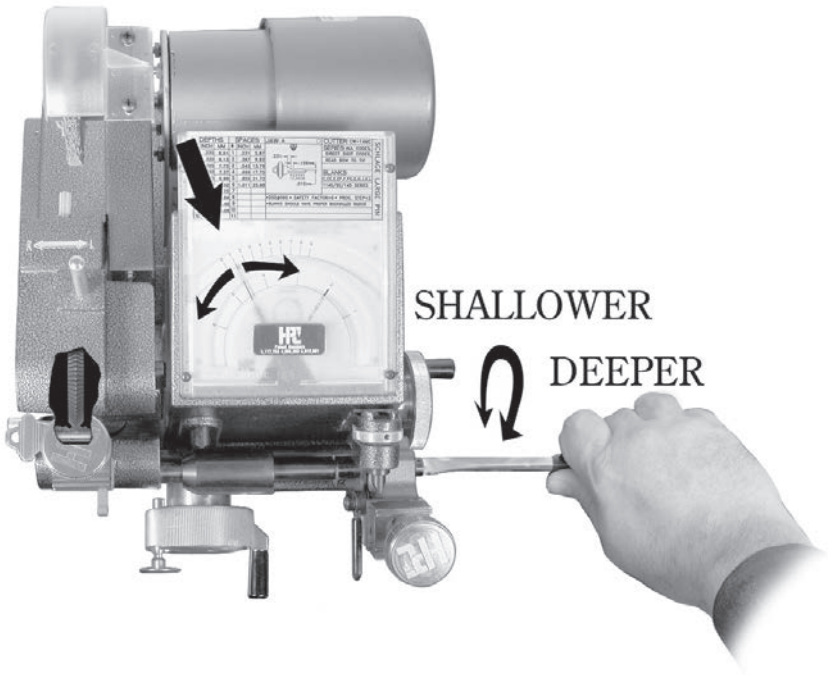


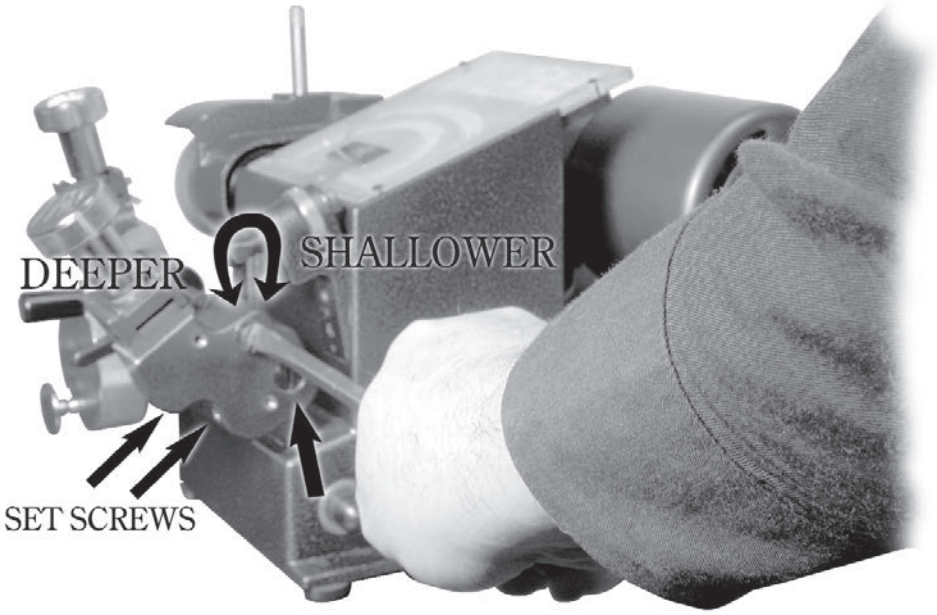
Cut a 1-cut or 2-cut in the first position.



Compare the measurement to the dimensions listed on the code card.

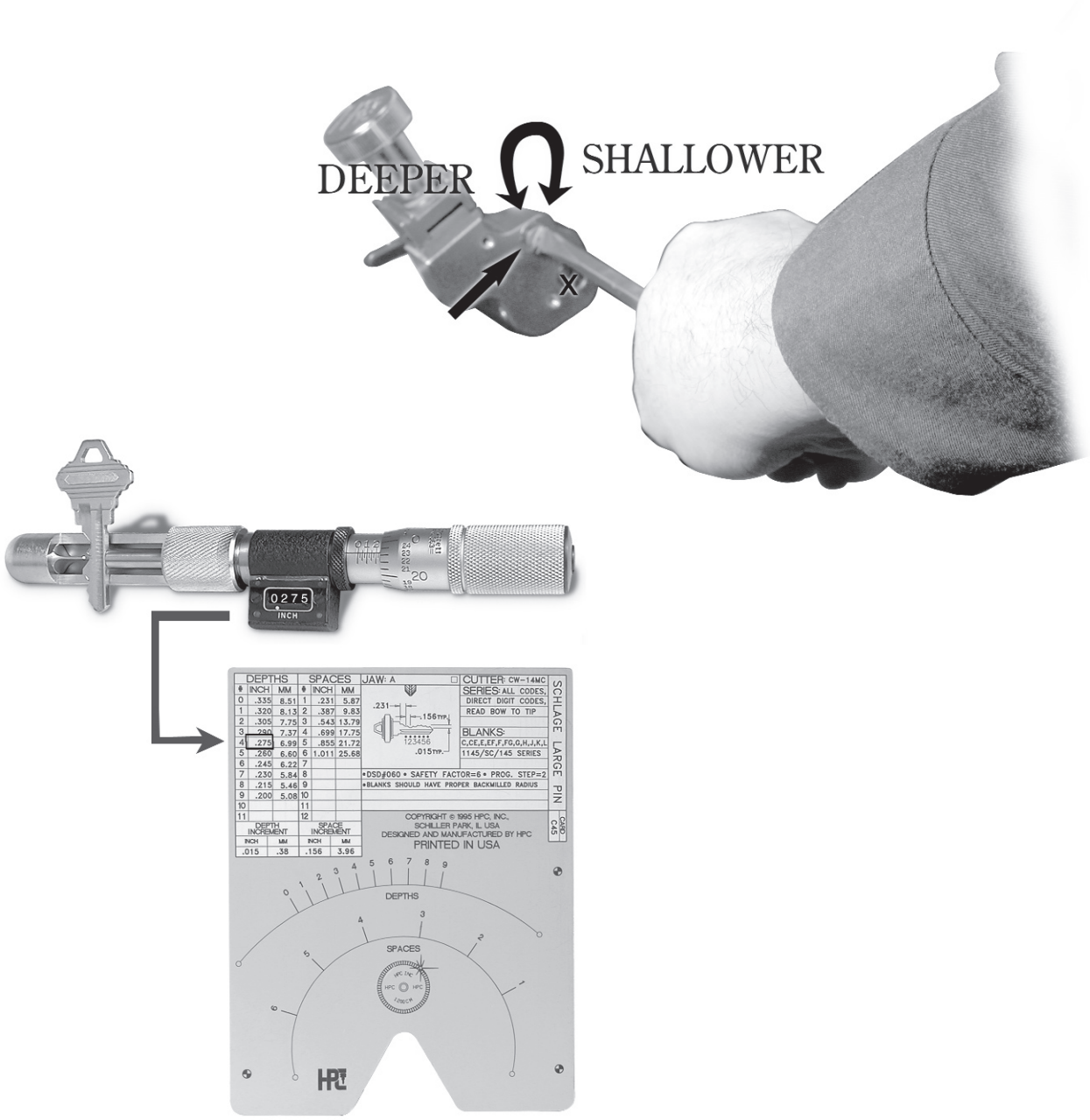
Note: If the shaft refuses to turn slightly. Loosen the set screws as indicated by the arrows.





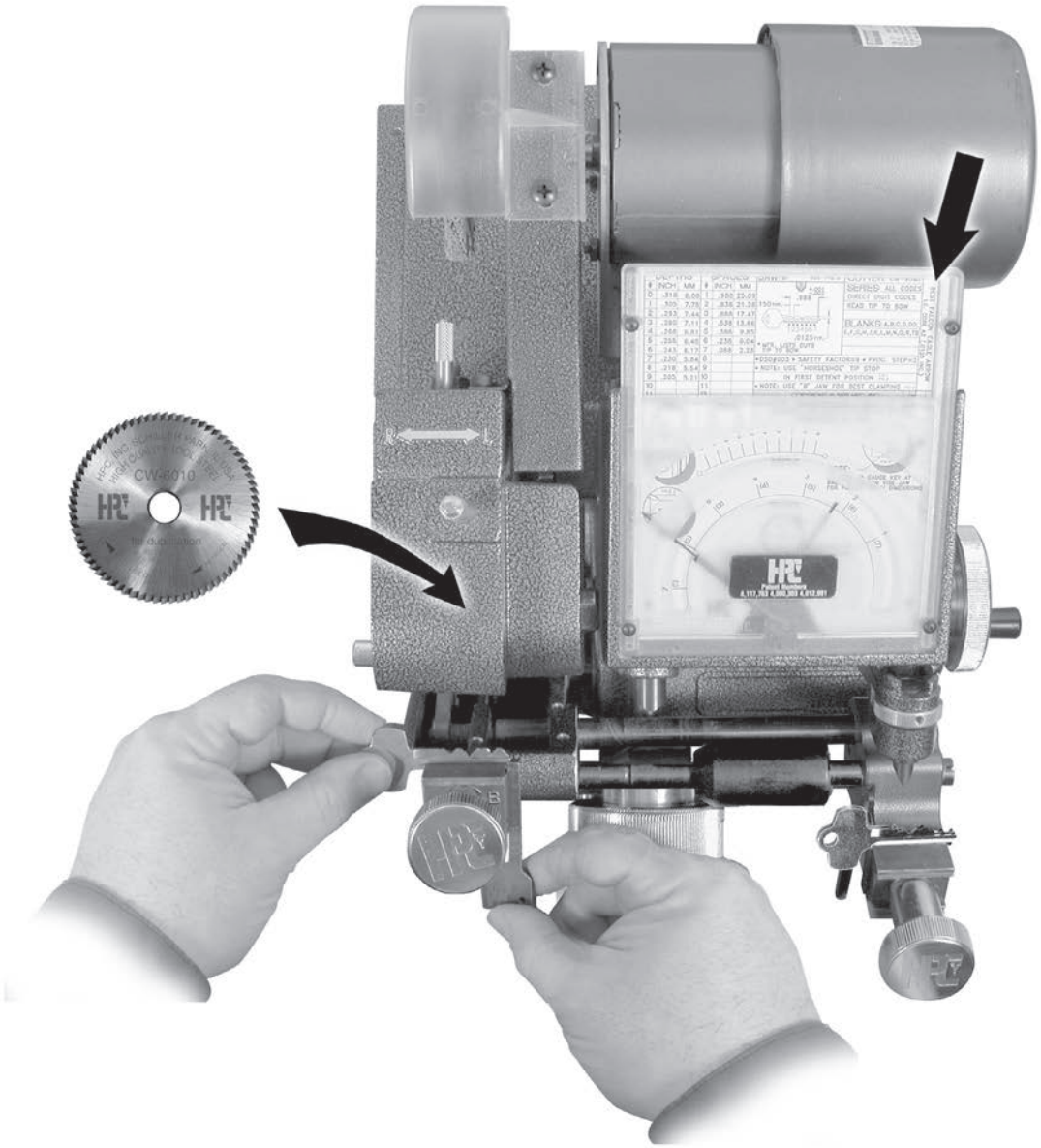
Note: The maximum range of the eccentric shaft is 90° when turning toward you (a maximum of -.015"/0.38mm in depth change) and 90° when turning away (a maximum of +.015"/0.38mm in depth change). Therefore only a small turn is used to change depths.

If the cut measures too deep, using a large flat-blade screwdriver, turn the shaft away from you (toward the machine). If the cut measures too shallow, using a large flat-blade screwdriver, turn the shaft toward you (away from the machine).

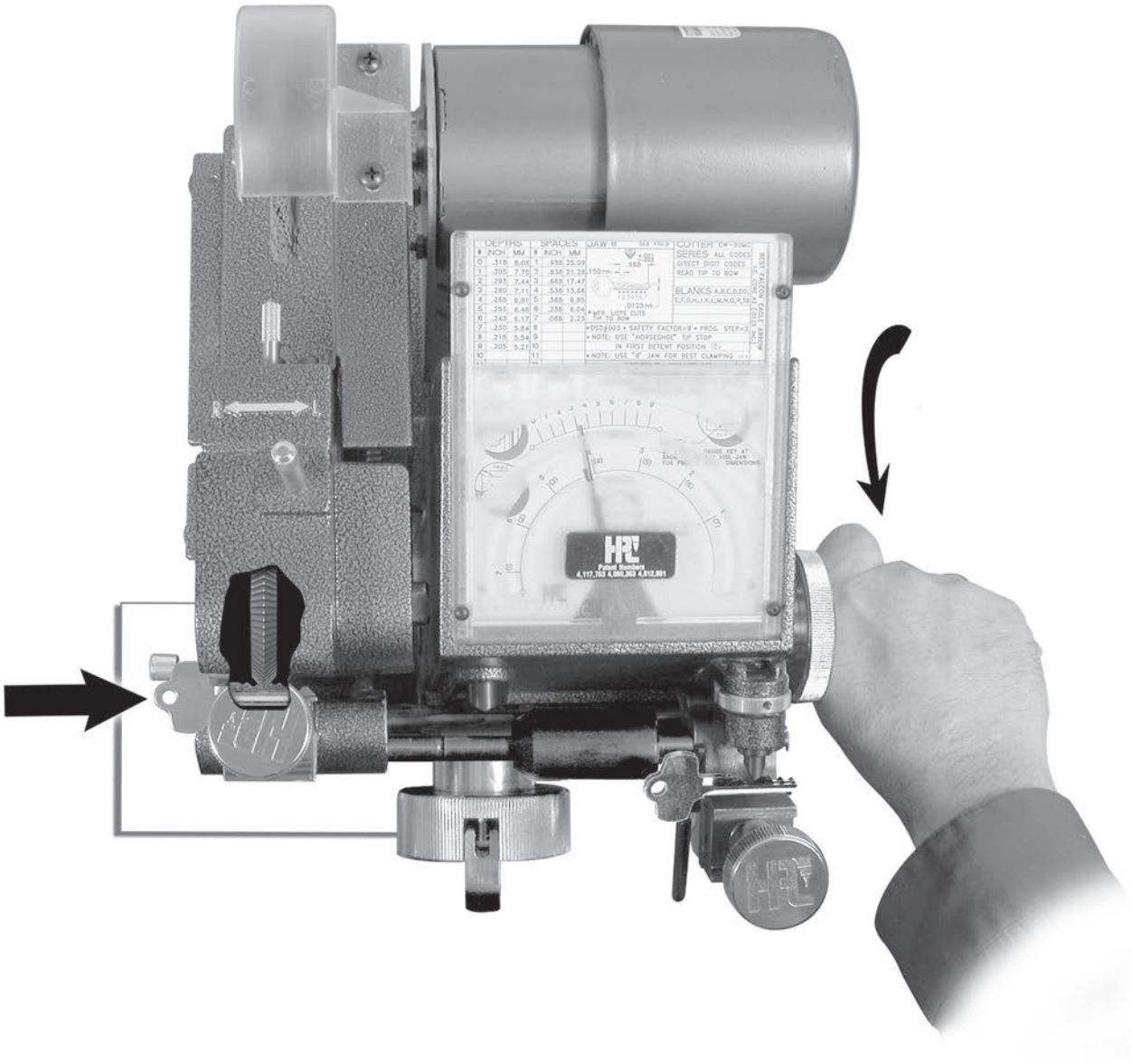


Insert the key blank and cut a deeper cut (you can use the same space). Measure this new cut and compare to the dimensions on the code card. Make further adjustments to the shaft if needed. Continue this procedure until the machine is cutting exactly to the dimensions on the card.

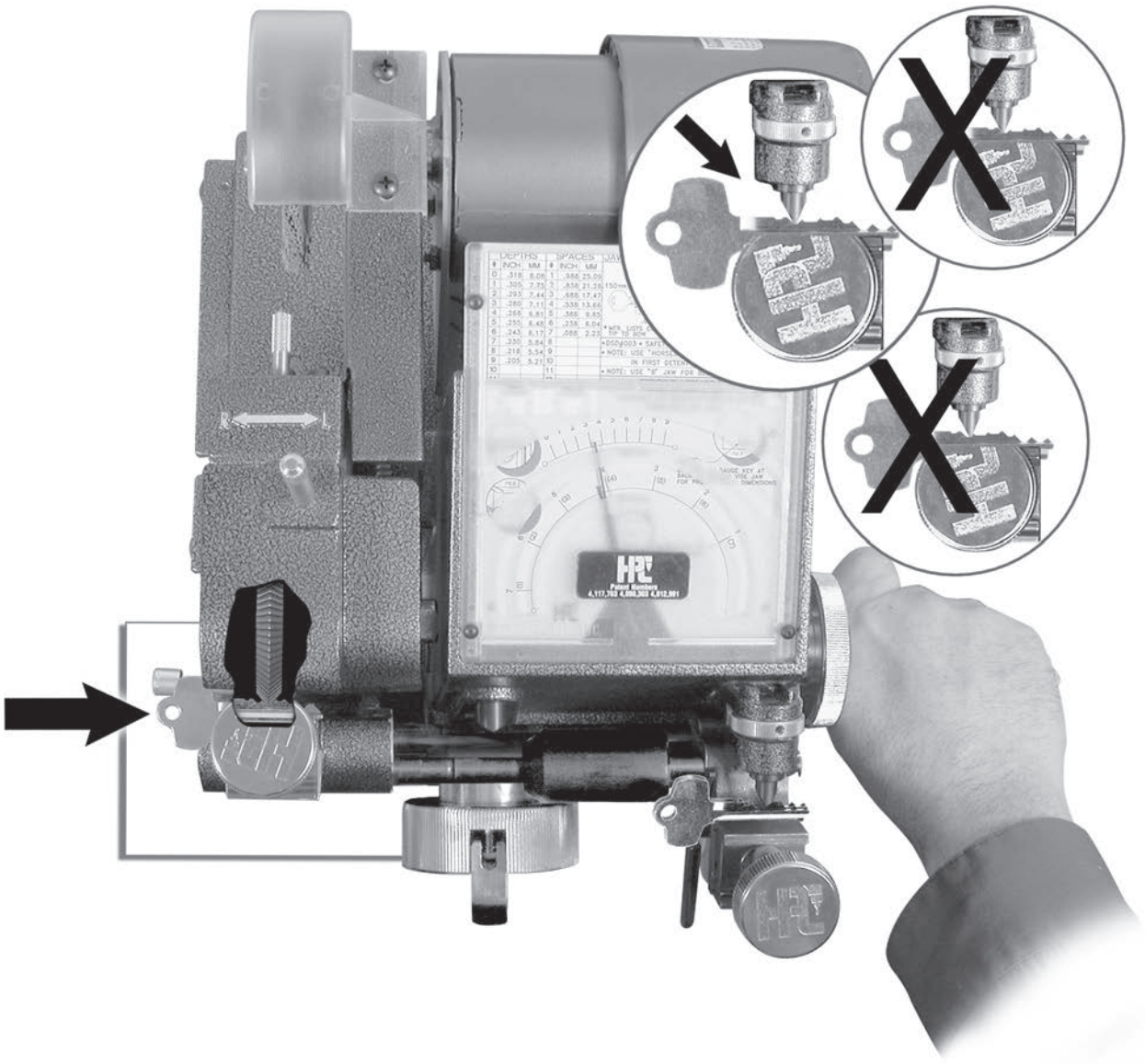
7.4 Tip Gauge Calibration (for Duplicating):



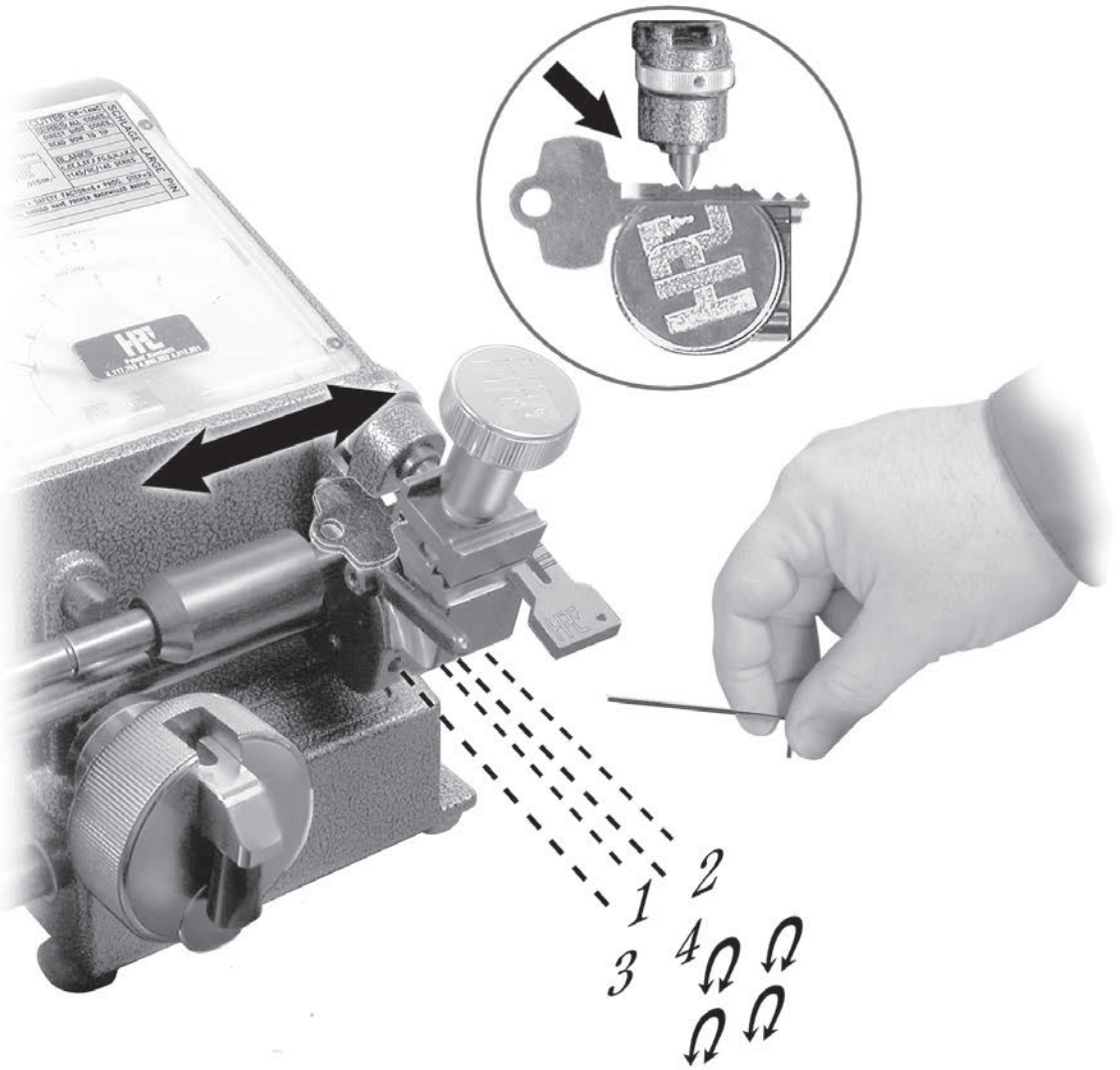
Install two factory-cut Best keys.
IMPORTANT: Before adjusting spacing for duplication, you must set up your machine for duplication, including the CW-6010 cutter. Refer to Section 5.0.



Move the carriage so that the cutter is at the root of a deep cut as shown.

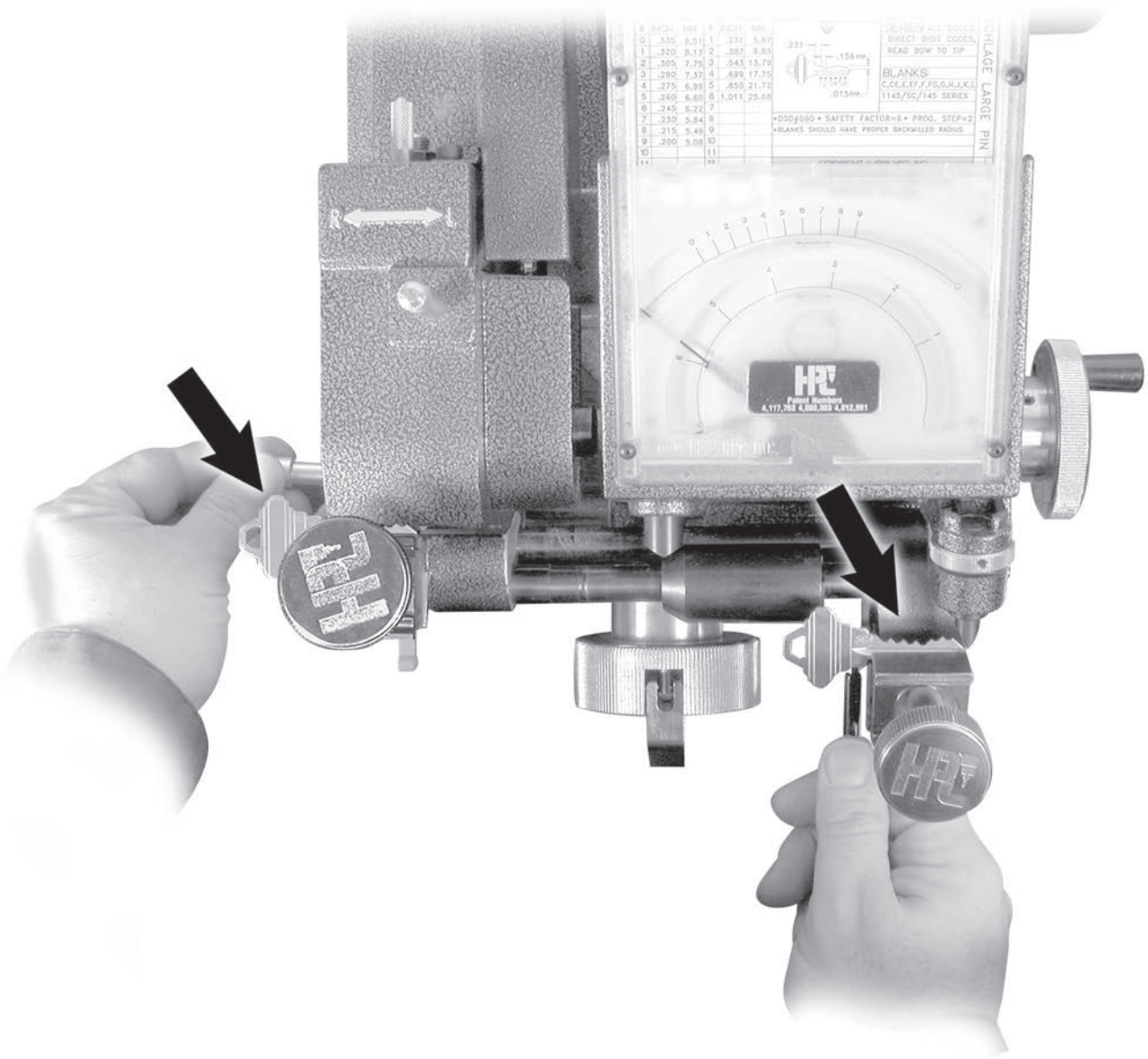


Note the position of the tracer in relation to the root of the cut. If the tracer is to the right of the center of the cut, the carriage needs to be moved to the right. If the tracer is to the left of the center of the cut, the carriage needs to be moved to the left.

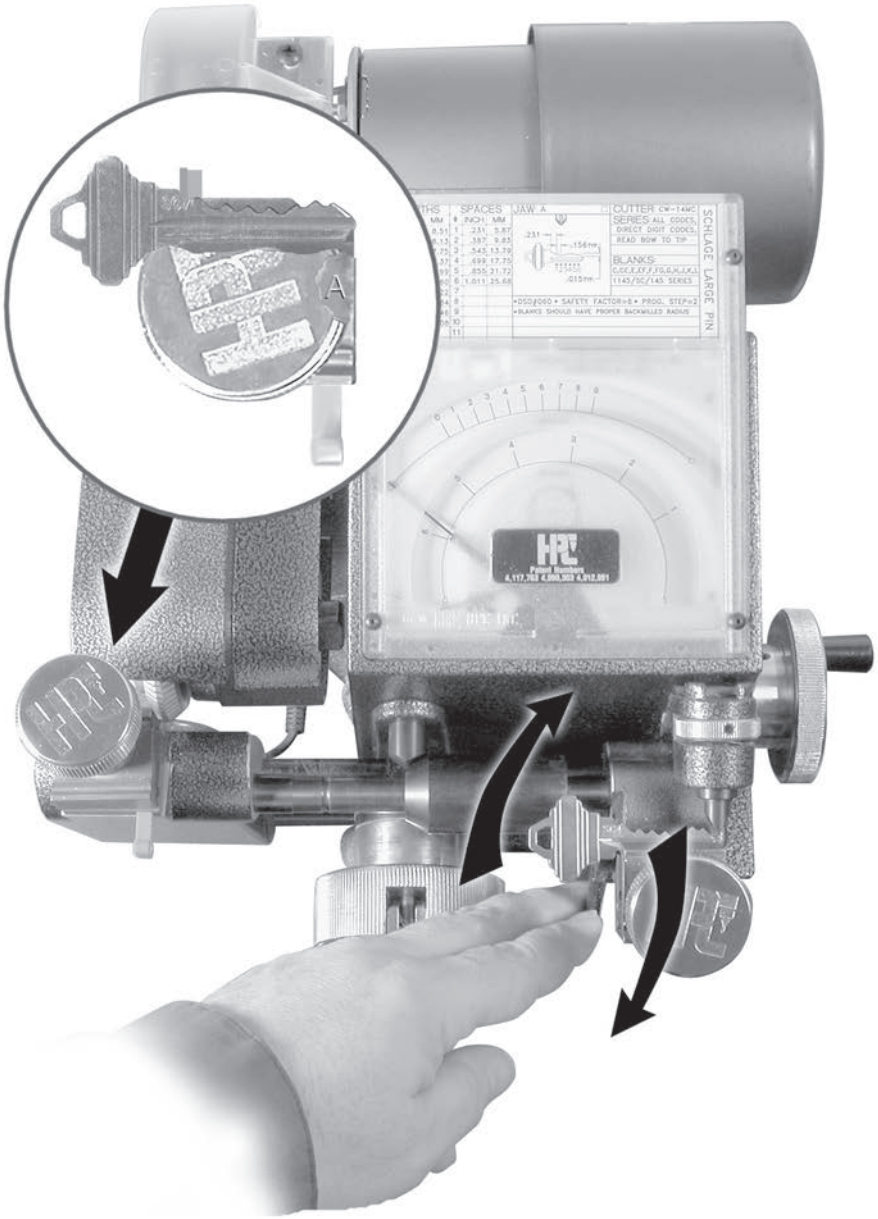


Loosen the four set screws. Gently move the carriage to the right or left, as needed so that the tracer engages the center of the cut. Tighten the set screws.

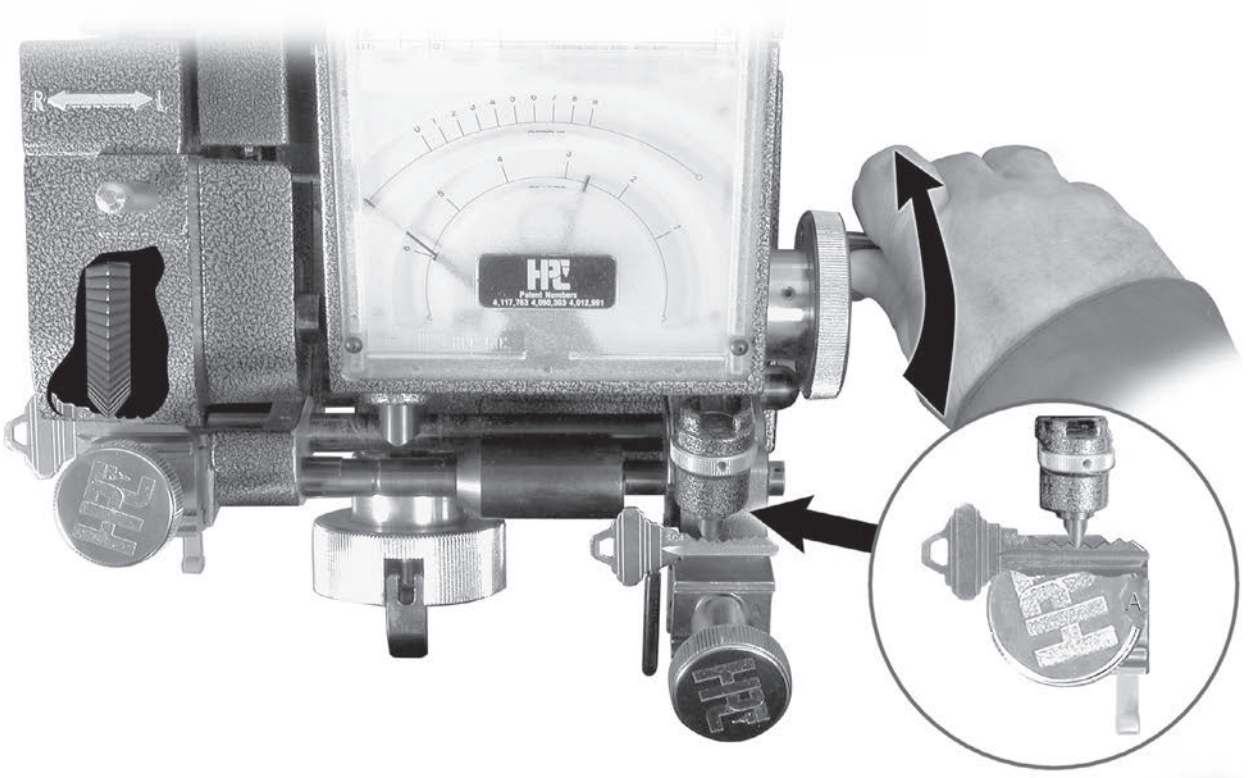
7.5 Shoulder Gauge Calibration (for Duplicating):



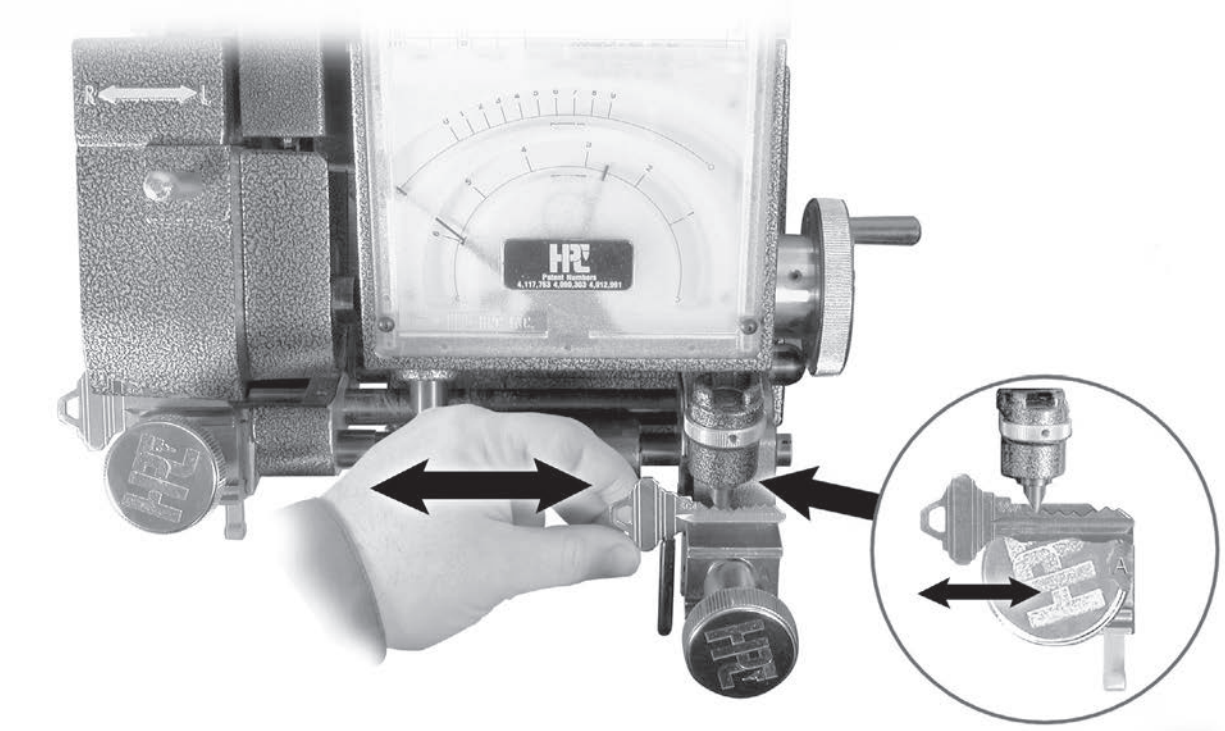
Load two identical factory-cut keys, preferably with deep cuts in the first position (such as Schlage).



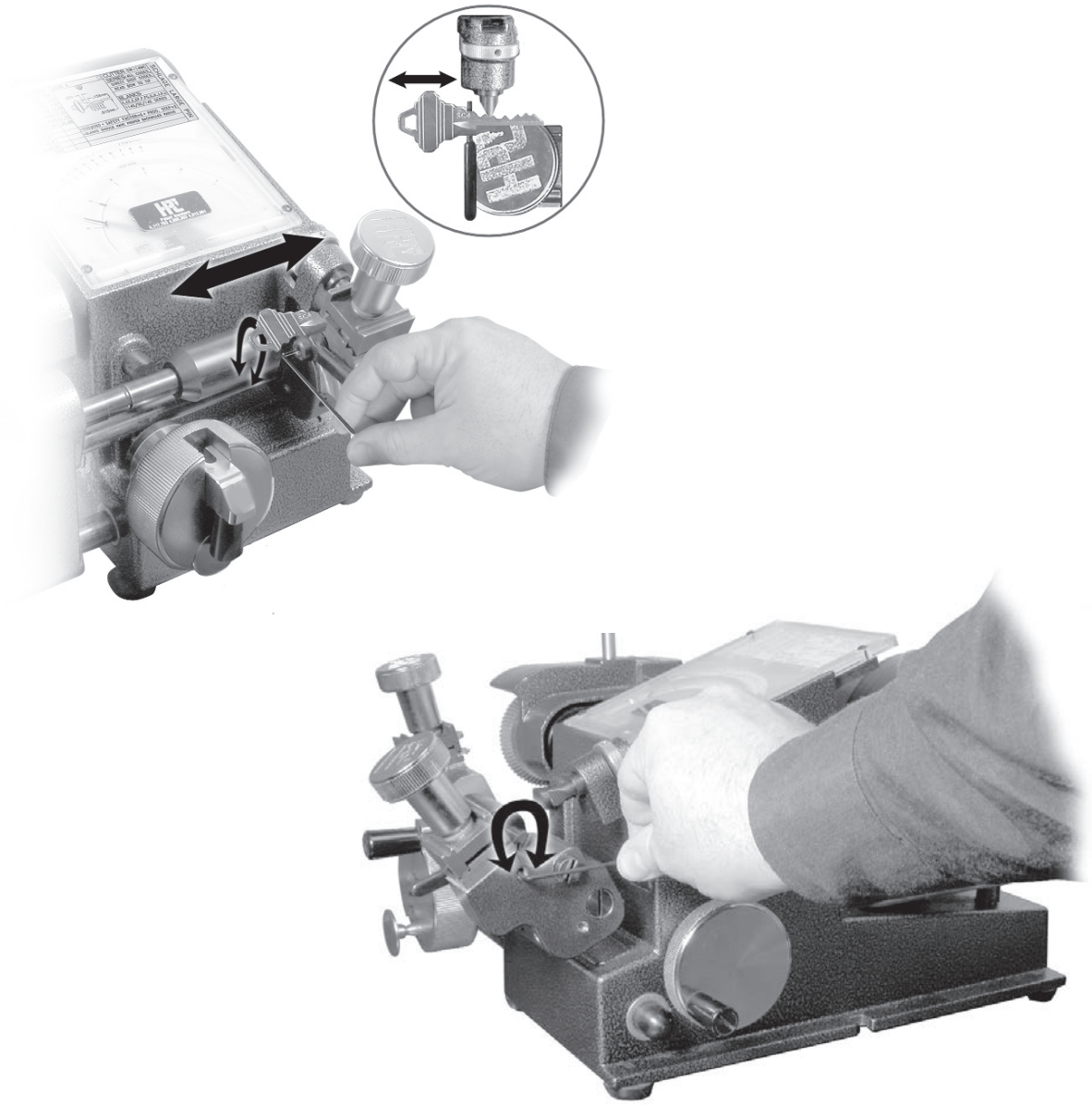
Gauge the keys at the shoulder.



Position the carriage so that the cutter is at the center of the cut. Check the key on the tracer side.

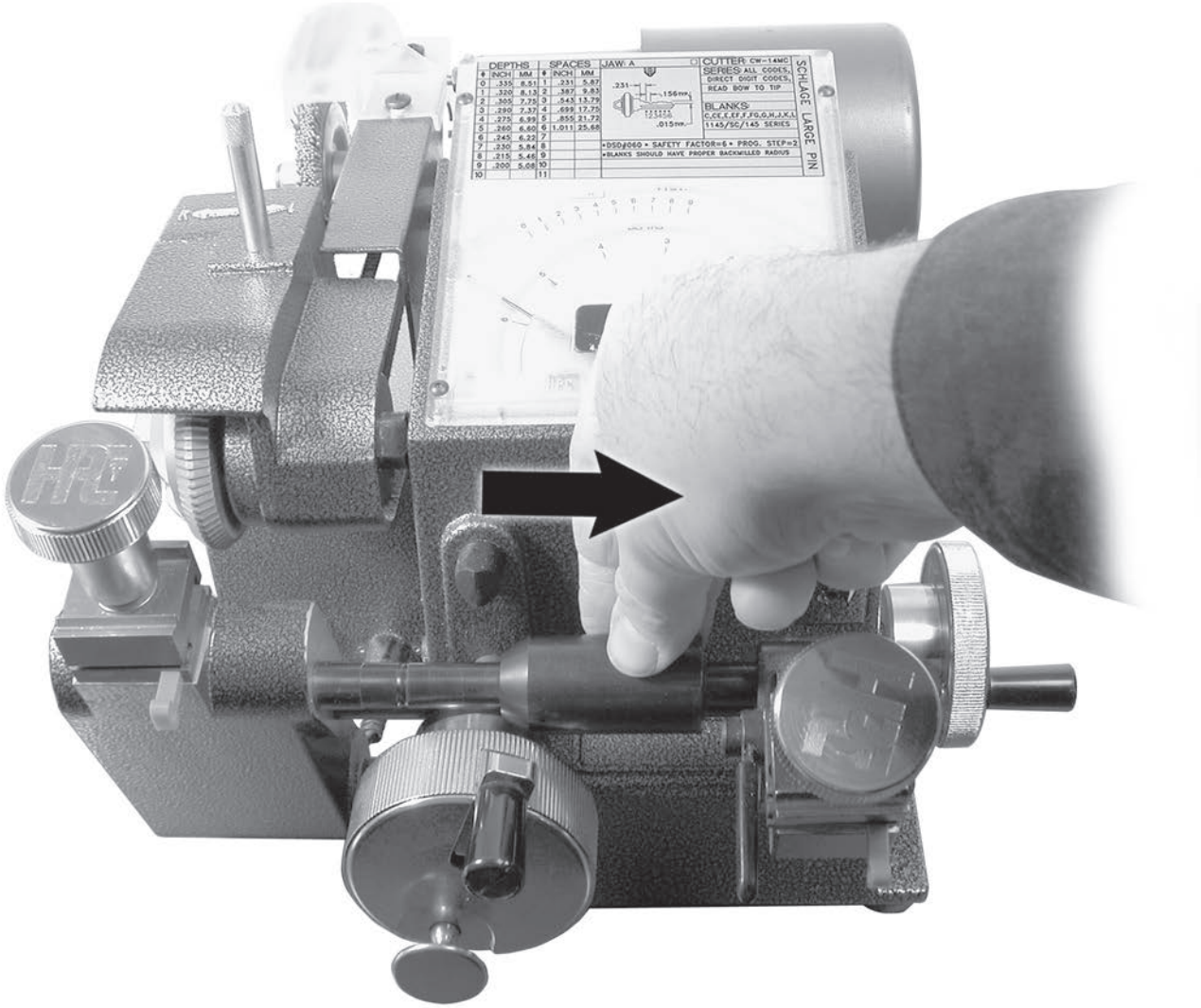


If the tracer is at the center of the cut, the shoulder gauge calibration is correct. If the tracer is not at the center of the cut, move the *key* so that the tracer is at the center of the cut, and move the shoulder gauge accordingly (so the gauge is properly aligned at the shoulder of the key).

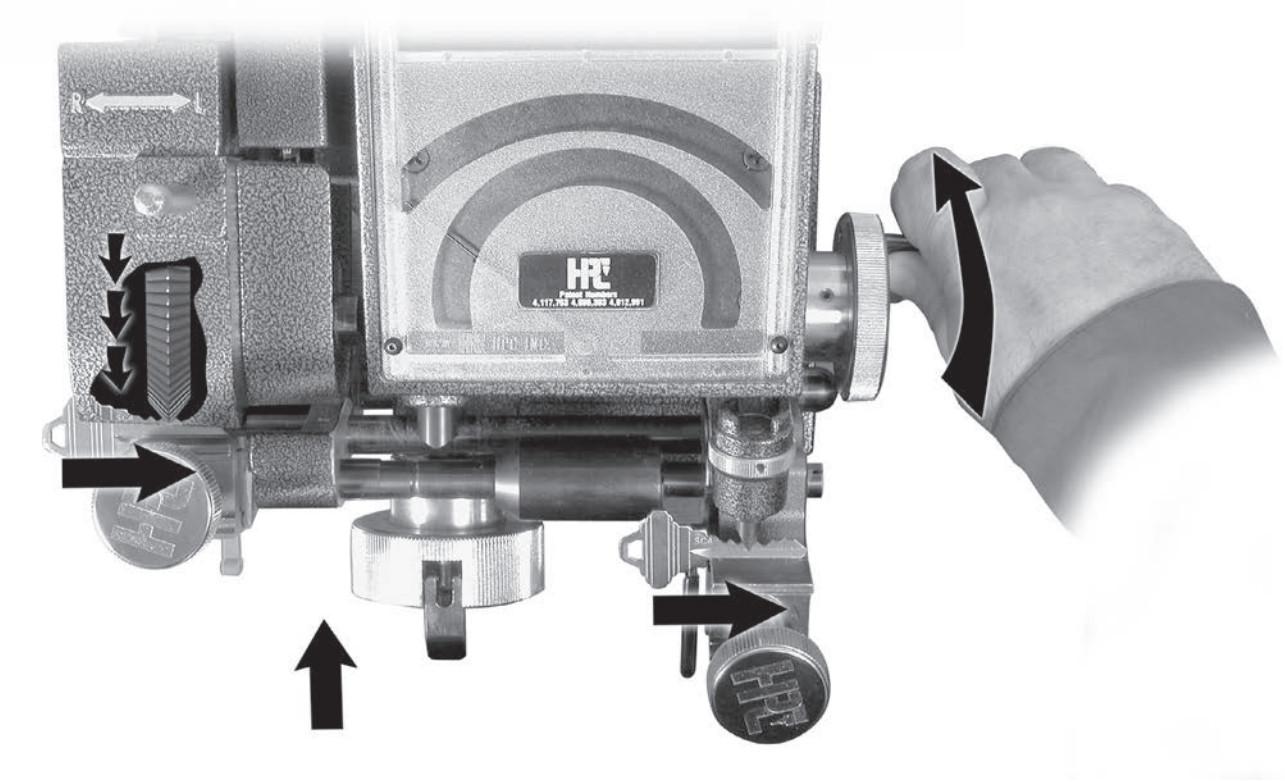


To move the shoulder gauge, loosen the set screw on the right side of the duplication carriage. Then turn the Allen screw on the shoulder gauge to move the gauge to the proper alignment. Turning the screw clockwise will move the shoulder gauge to the right. Tighten the set screw.

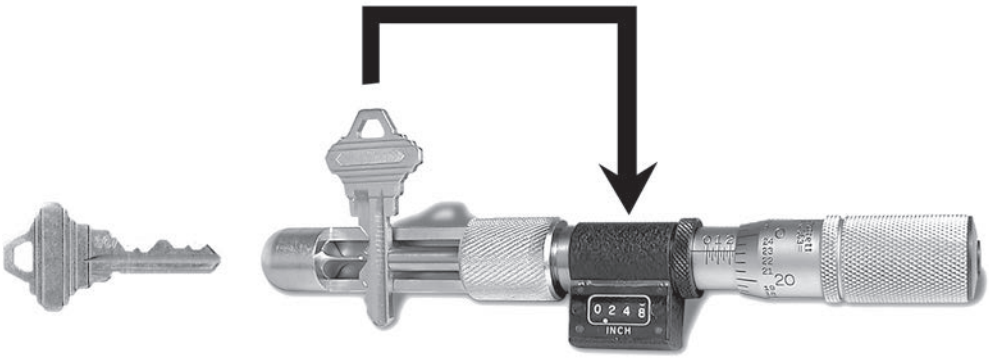
7.6 Depth Calibration for (Duplicating):



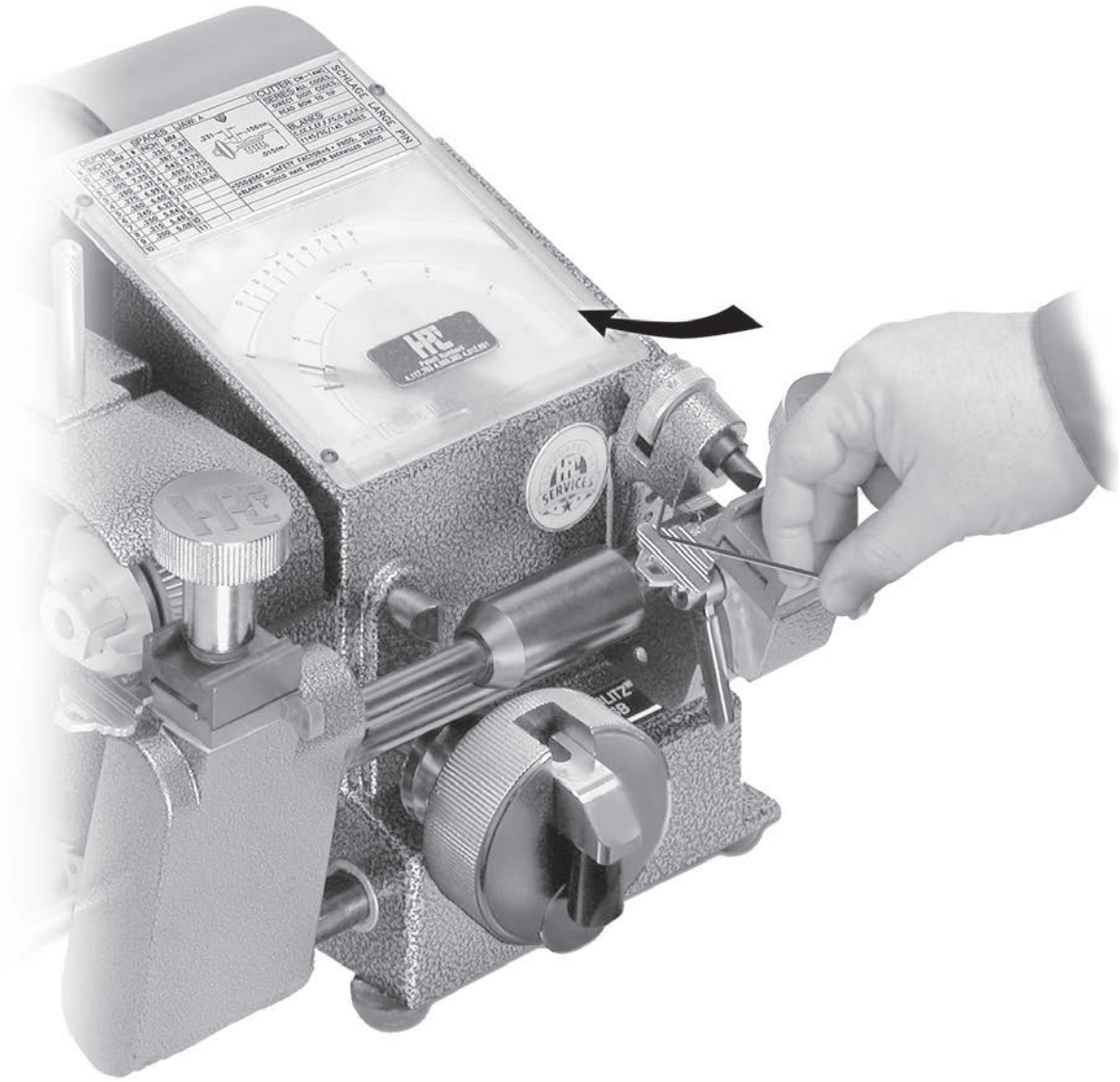
Set up your machine for duplication (as described in Section 5.0).



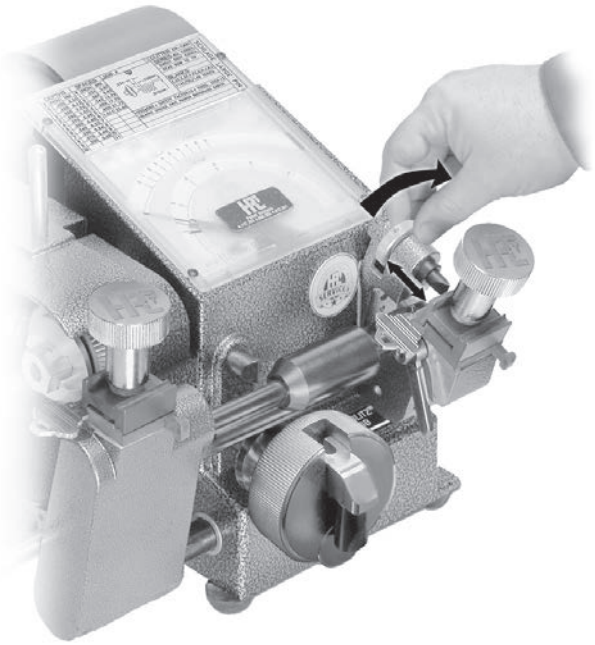
Duplicate a key (we suggest using a code cut key from which to duplicate).



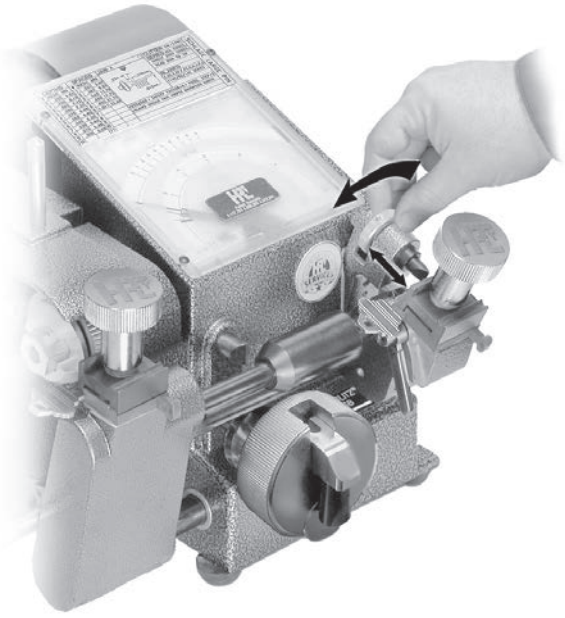
Measure the cuts of both keys and compare them. If the depths of the duplicated key are the same as the original key, then your machine is in proper depth calibration for duplication.



If the cuts are not the same: turn off the machine first. Then loosen the depth adjustment screw with the supplied Allen wrench.

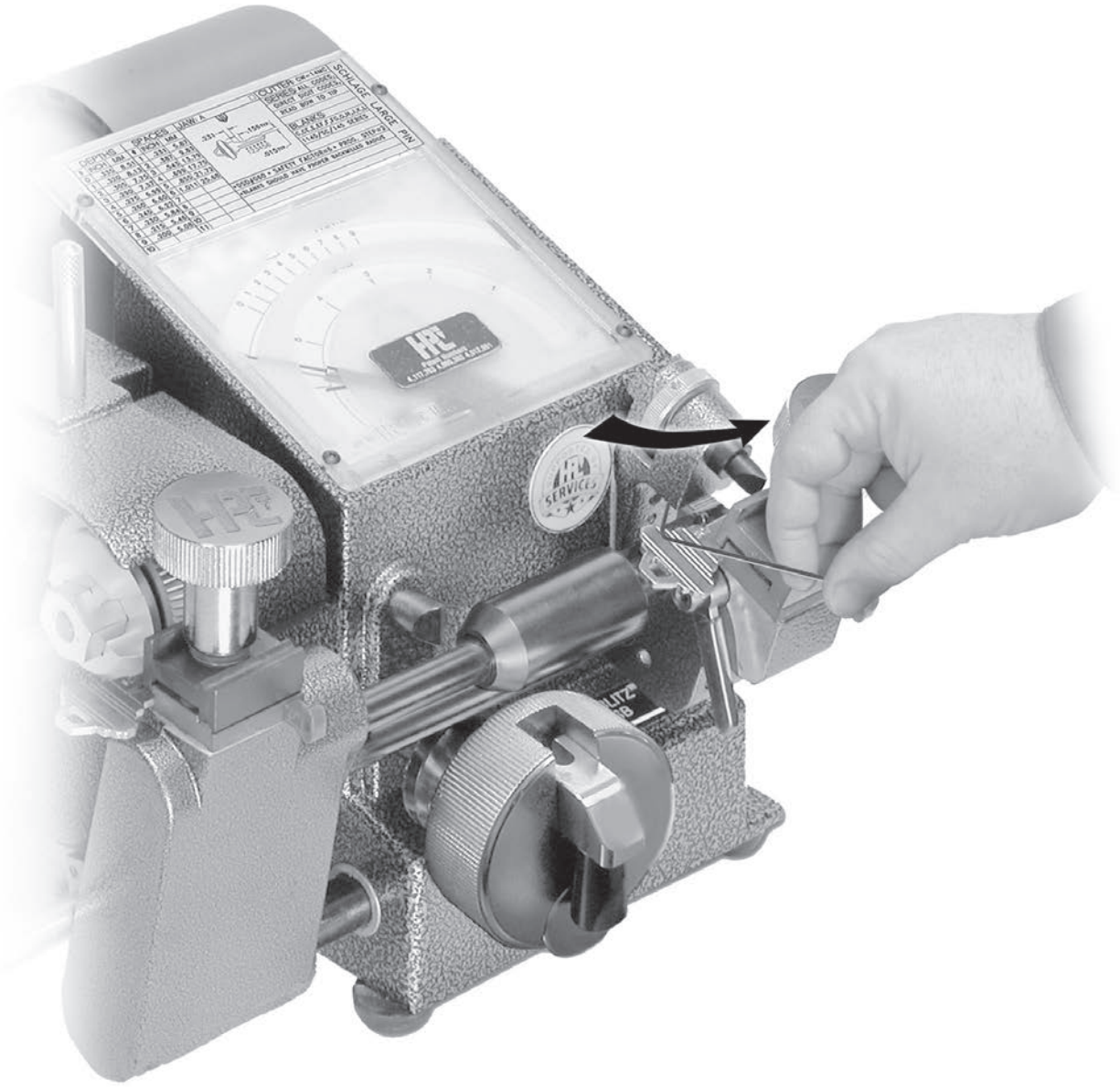


Too deep?
Turn clockwise.



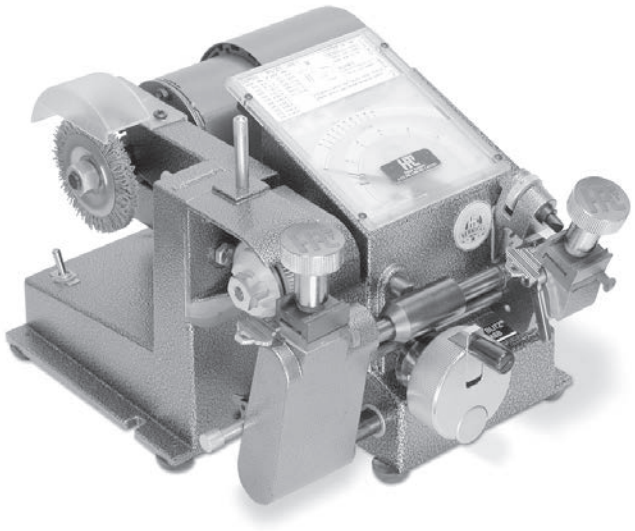
Too shallow?
Turn counterclockwise.

To correct a cut that is *too deep*, turn the depth adjustment knob clockwise for a shallower cut. To correct a cut that is *too shallow*, turn the depth adjustment knob counterclockwise for a deeper cut.
Duplicate another key. Then measure the depths and compare to the original key.



If the measurements are the same, retighten the set screw.

8.0
Preventive Maintenance, Lubrication, Repairs and Warranty



LUBRICATION, PREVENTIVE MAINTENANCE, REPAIRS and WARRANTY

1 -WARRANTY - The Switch Blitz™ Machine is fully warranted for one year from the date of purchase, against factory defects in material and workmanship. Mail the Registration Card and a copy of your invoice to HPC immediately, to validate your warranty. Should your machine require factory repairs, contact the HPC Service Department.

During the one year warranty period, you will be billed for handling and shipping only.

2 -MOTOR - The motor is equipped with sealed bearings that require no lubrication.
3 -CUTTER HEAD - The cutter head is equipped with precision ball bearings for years of trouble free service and requires no lubrication. The cutter head swivel surface and plunger angle holes should be given a light coat of LPS#3 or equivalent, once every 4 to 6 months.
4 -DEPTH FEED CRANK BEARING - The black Delrin bearing should be cleaned and a light coat of heavy grease applied when required, in order to maintain it's smooth feel.
5 -BEARINGS AND SLIDING SURFACES - These are to be given a light coat of a light grease at least every six months.
6 -EXPOSED STEEL SURFACES - All remaining exposed steel shafts, cutter, etc., should be sprayed with WD-40 or equivalent light oil at least every 6 months. Wipe off any excess.
7 -CLEANING - Remove all brass chips, dirt and grit from the surface of your machine daily, with a soft bristle brush. Take particular care in keeping the key vise jaw area clean and free of all residue build-up.
8 -CODE CARDS - The Code Cards are die cut to extremely close tolerances. Dirt is easily washed off with a mild non-abrasive liquid detergent, such as dishwashing soap and lukewarm water. Dab lightly with a soft cloth until dry. Never use an abrasive or solvent-based cleaner to wash these Code Cards!
9 -CALIBRATING DEPTH FOR RE-SHARPENED CUTTERS - The diameter of a resharpened cutter is, smaller and therefore will make cuts shallower if no depth adjustment is made. Refer to Section 7 for Calibration Procedures.
10 -DRIVE BELT - The drive belt was selected especially for this machine and should give years of good service. If it becomes worn or broken and requires replacement, be sure to install the new belt with the teeth outward. Note: The drive belt is somewhat more noisy when it is made to "cross-over" as the cutter head is swiveled to either the left or right angle when cutting Medeco® keys.

Hudson Lock, LLC
81 Apsley Street
Hudson, MA 01749

HUDSON LOCK, LLC

1-800-434-8960
1-800-323-3295
fax: 978.562.9859
sales@hudsonlock.com

HPC SERVICE CENTER

If your HPC Key Machine should require service, please note the following information:

HOURS: The HPC Service Center answers questions involving key machine repair and replacement parts Monday through Friday from **8:00 am to 3:30 pm Central time**.
Please call **800-323-3295** (from the U.S. and Canada) or **847-671-6280** (from other countries).

REPAIRS: We recommend the replacement of cutters, brushes and external parts, the preventive maintenance and recalibration (as outlined in this manual) be the only repairs or adjustments that are done by the user. Internal parts and mechanisms should be factory-repaired only. Additional repair charges may be incurred by attempting to make these types of repairs by yourself.

FACTORY SERVICE: If you need to send your HPC key machine in for repair, first call the HPC Service Center to obtain a Repair Order number, then follow these instructions:

Include a letter explaining the problem you are having, as well as any other work you want done on the machine. Make sure your business name, address and phone number, as well as the name of the contact person are on the letter.

Your machine should be equipped with an HPC cutter when it is sent in for repairs. If you are sending in a Blitz™ or CodeMax™ machine also include the Black Horseshoe Tip Stop to insure proper tip gauge calibration. Please do not send in any other accessories (such as other cutters and code cards).

Pack the machine securely in a box strong enough to prevent damage during shipping (preferably the original box).

The Repair Order Number should be marked on the outside of the box.

All machines must be shipped prepaid. Collect shipments will not be accepted.

Our shipping address is:
HPC, a Hudson Lock Company
Attn. Service Center
3999 N. 25th Avenue
Schiller Park, IL 60176 USA

REPAIR CHARGES & ESTIMATES: Upon receipt and evaluation of your machine our technicians will provide a written estimate (by fax) of the repair charges. Some problems may be detected only while the repair work is being done. If after informing you of the repair estimate it becomes apparent that the cost will be higher, you will be notified of the additional charges before any additional work is done.

REPLACEMENT PARTS: Key machine parts can be purchased through an Authorized HPC Distributor or directly from the HPC Service Center. When ordering parts over the phone, please have the part numbers and descriptions ready to expedite the ordering process. A parts listing and an exploded view drawing is included in this manual. If the parts are needed urgently, express processing is available at an additional charge.

PAYMENT: Payment for parts and repair is required at the time of repair and before the parts are shipped. We accept payment by credit card (Visa, Mastercard or Discover) or by check. Repaired machines and parts can also be sent C.O.D. with an extra charge. If you wish to have your Authorized HPC Distributor billed for the parts or repairs, the distributor must call us with approval of the billing and provide a purchase order number for the parts or work being done, before the machine is repaired or parts are shipped.

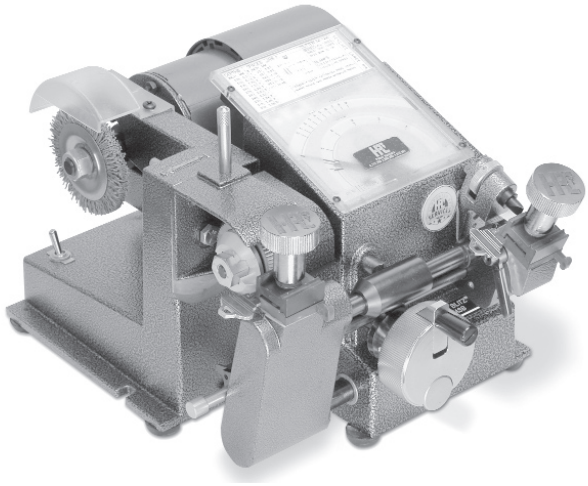
Unless otherwise specified, key machines that are not under warranty will be shipped C.O.D. with an extra charge after the repairs have been made.

LOANER MACHINES: Sorry, but we do not have loaner machines available.

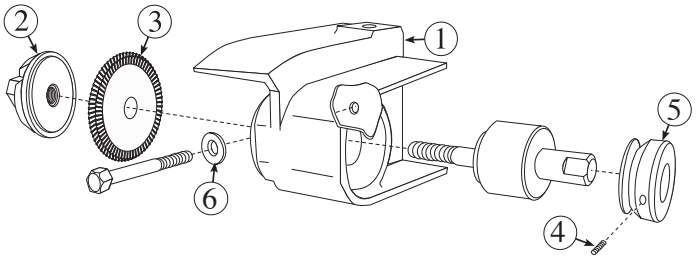
Expect Quality...

Demand HPC.

9.0
Exploded Views and Parts Lists

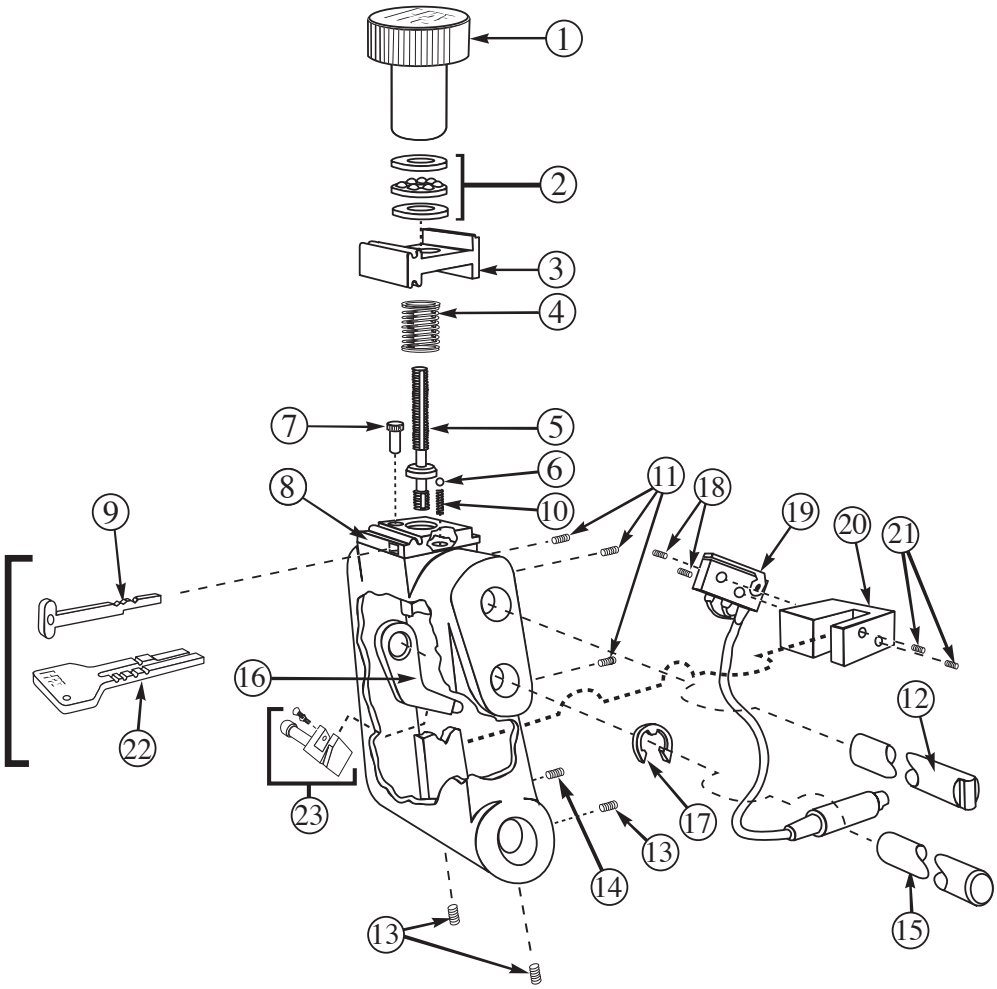


1233CMSB Cutter Head Assembly



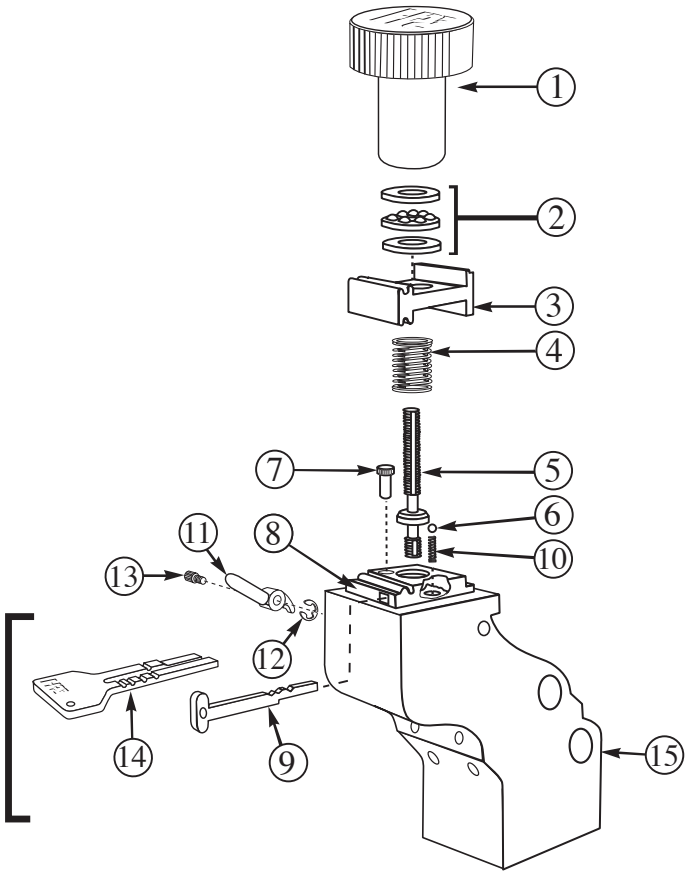
#	Description	Stock #
1.	Cutter Head	CM-1053SB (available complete only)
2.	Quick Nut	QN-100B
3.	Cutter	See page 12
4.	Set Screw	9100-11
5.	Cutter Head Pulley	CM-1059
6.	Washer	CM-50100

1233CMSB Pivot Arm Assembly



#	Description	Stock #
1.	Easy Grip Wing Nut	EGN-1
2.	Ball Bearing Washer	BBW-2
3.	Top Jaw	CM-1056MA
4.	Spring	CM-1293MA
5.	Stud	CM-1019MA
6.	Ball Bearing	CM-50108
7.	Set Screw	CM-50110
8.	Bottom Jaw (factory installation recommended)	CM-1055MA
9.	Tip Stop	CM-1054MA
10.	Spring	CM-1090MA
11.	Set Screw	CM-50139
12.	Eccentric Shaft	CM-1041SB
13.	Set Screw	CM-50109
14.	Set Screw	CM-50112
15 & 16.	Turn Bar & Shoulder Gauge	CMSB-FG
17.	Retaining Ring	CM-50105
18.	2-56 Screw	MAX-92
19.	Shoulder Gauge Wire Assembly	MAX-90
20.	Shoulder Gauge Micro Switch Bracket	MAX-91
21.	6-32 Set Screw	MAX-89
22.	Horseshoe Tip Stop	CM-1054R
23.	Easy Flip	EFLIP-1200

1233CMSB Carriage Arm Assembly

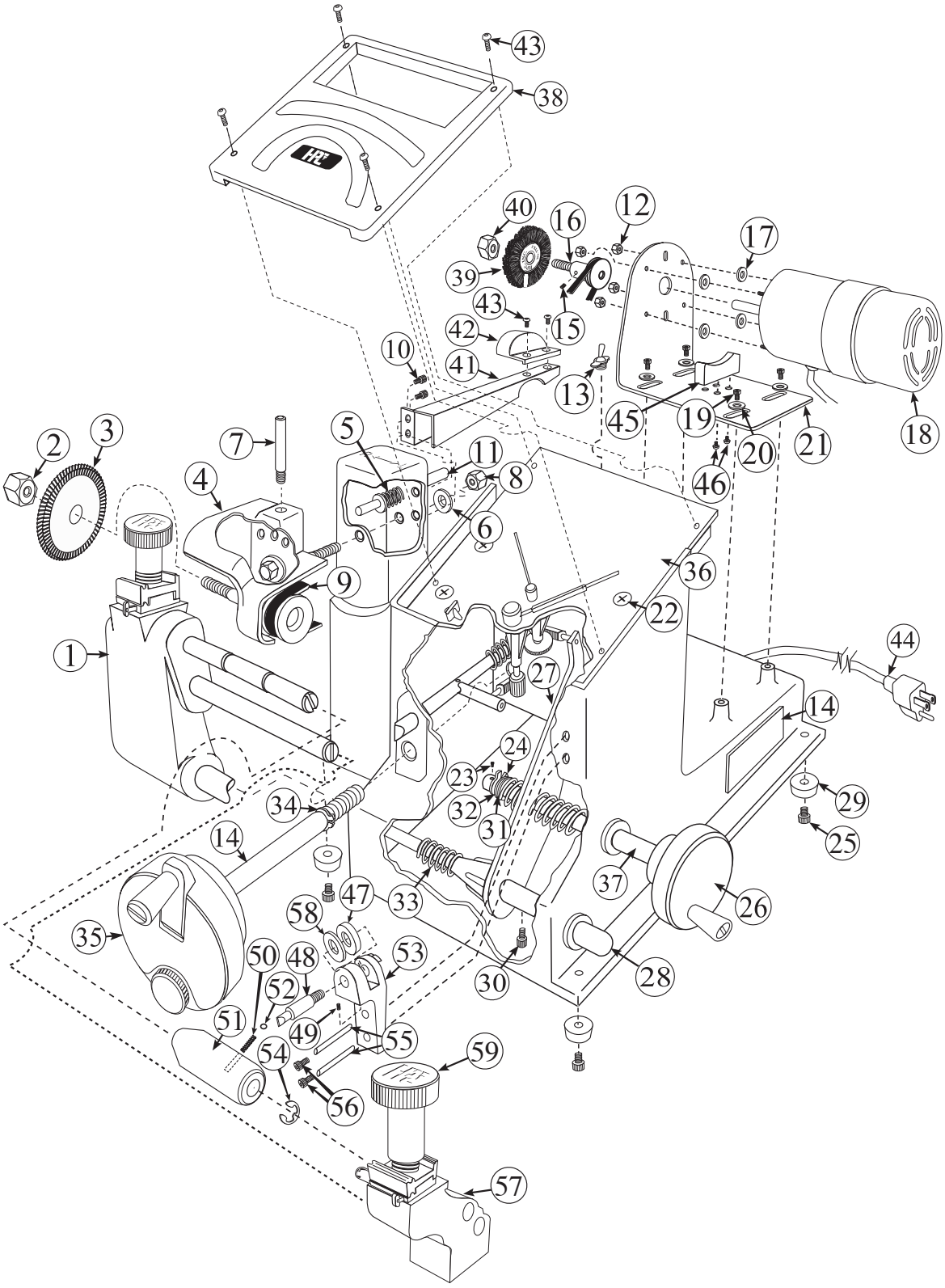


#	Description	Stock #
1.	Easy GripWing Nut	EGN-1
2.	Ball Bearing Washer	BBW-2
3.	Top Jaw	CM-1056MA
4.	Spring	CM-1293MA
5.	Stud	CM-1019MA
6.	Ball Bearing	CM-50108
7.	Set Screw	CM-50110
8.	Bottom Jaw (factory installation recommended)	CM-1055MA
9.	Tip Stop	CM-1054MA
10.	Spring	CM-1090MA
11.	Shoulder Gauge	CM-1210
12.	E Clip	CM-50105
13.	Set Screw	CM-1212
14.	Horseshoe Tip Stop	CM-1054R
15.	Main Body	CM-1211

1233CMSB Parts Listing

#	Description	Stock #
1.	Pivot Arm Complete	CM-1024SB
2.	Quick Nut	QN-100B
3.	Cutter	Sold Separately
4.	Cutter Head Assembly	CM-1053SB
5.	Spring	CM-1079
6.	Washer	CM-50100
7.	Pivot Pin	CM-1043
8.	Hex Nut	CM-50157
9.	Belt	CM-1083SB
10.	Cap Screw	CM-50158
11.	Angle Index Pin	CM-1042
12.	Hex Nut	CM-50148
13.	Toggle Switch	CM-1099MA
14.	Crank Bearing	CM-1045
15.	Set Screw	9100-11
16.	Motor Pulley	CM-1060B
17.	Washer	CM-50149
18.	Motor (110 V)	CM-1080SB
19.	Cap Screw	CM-50167
20.	Washer	CM-50167-1
21.	Motor Mounting Bracket	CM-1040SB
22.	Set Screw	CM-50165
23.	Cotter Pin	CM-62CP
24.	Retaining Ring	CM-50112
25.	Screw	CM-50134
26.	Space Crank Complete	CM-1044X
27.	Space Rack Bracket	CM-1030
28.	Pivot Arm Shaft	CM-1034
29.	Rubber Foot	CM-50133MA
30.	Dogging Screw	CM-1016
31.	Teflon Washer	CM-1086
32.	Washer	CM-50100
33.	Spring	CM-1098
34.	Retaining Ring	CM-50126
35.	Depth Crank Complete	CM-1026SB
37.	Lateral Feed Shaft	CM-1047B
38.	Lens	CM-1012
39.	Brush	TYX-3
40.	Brush Nut	9150-29
41.	Belt Guard	CM-1014SB
42.	Brush Guard	CM-1096SB
43.	Screw	CM-50154
44.	AC-Cord	CM-1294MAO
45.	Motor Support	CM-50186
46.	Motor Support Screws (2)	CM-50188
47.	Depth Adjustment Knob	CM-1275-1
48.	Tracer	CM-1371
49.	Set Screw	CM-1390
50.	Compression Spring	CM-1293MA
51.	Code Bearing	CM-1201
52.	Ball Bearing	22-41
53.	Tracer Block	CM-1253SB
54.	E-Clip	CM-50114
55.	Dowel Pin (2)	CM-1204
56.	Cap Screws and Washer	CM-1205
57.	Duplication Carriage Assembly Complete	CM-1233FG
58.	Spring Washer	CM-1286
59.	Easy Grip Wing Nut	EGN-1

1233CMSB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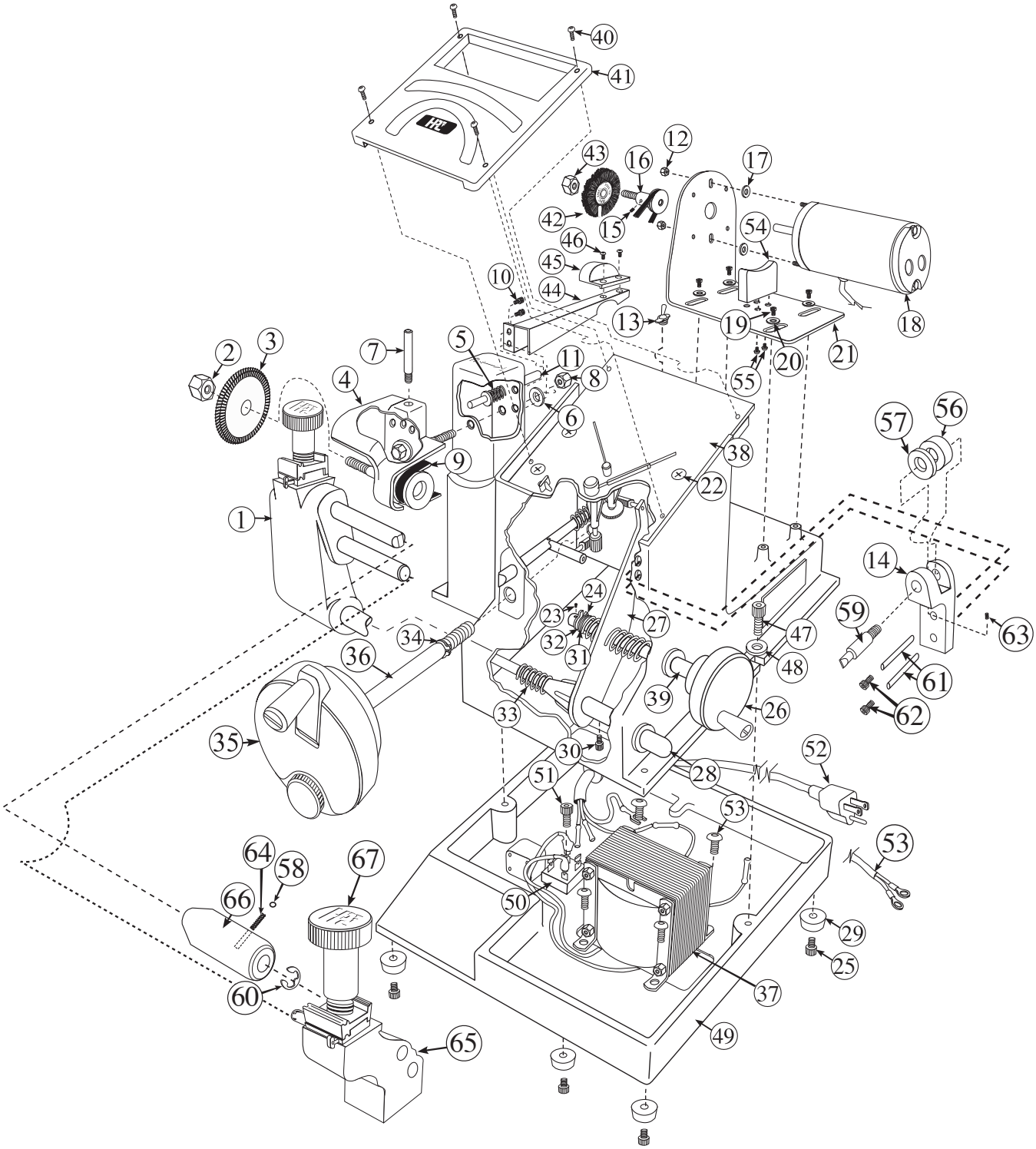
1233CMSBACDC Parts Listing

#	Description	Stock #
1.	Pivot Arm Complete	CM-1024SB
2.	Quick Nut	QN-100B
3.	Cutter	Sold Separately
4.	Cutter Head Assembly Complete	CM-1053SB
5.	Spring	CM-1079
6.	Washer	CM-50100
7.	Pivot Pin	CM-1043
8.	Hex Nut	CM-50157
9.	Belt	CM-1083SB
10.	Cap Screw	CM-50158
11.	Angle Index Pin	CM-1042
12.	Hex Nut	CM-50148
13.	Toggle Switch	ACDC-SW
14.	Tracer Block	CM-1253MAO
15.	Set Screw	9100-11
16.	Motor Pulley	CM-1060B
17.	Washer	CM-50149
18.	Motor (12 V DC)	DC-MOTORSB
19.	Cap Screw	CM-50167
20.	Washer	CM-50167-1
21.	Motor Mounting Bracket	CM-1040SB
22.	Set Screw	CM-50165
23.	Cotter Pin	CM-62CP
24.	Retaining Ring	CM-50112
25.	Cap Screw	CM-50134
26.	Space Crank Complete	CM-1044X
27.	Space Rack Bracket	CM-1030
28.	Pivot Arm Shaft	CM-1034
29.	Rubber Foot	CM-50133
30.	Dogging Screw	CM-1016
31.	Teflon Washer	CM-1086
32.	Washer	CM-50100
33.	Spring	CM-1098
34.	Retaining Ring	CM-50126
35.	Depth Crank Complete	CM-1026X
36.	Depth Crank Shaft	CM-1031B
37.	Transformer for ACDC	ACDC-TRANS
39.	Set Screw	CM-50112
38.	Dial Plate Complete	CM-1050
39.	Space Feed Shaft	CM-1047B
40.	Screw	CM-50154
41.	Lens	CM-1012
42.	Brush	TYX-3
43.	Screw	CM-50134
44.	Belt Guard	CM-1014SB
45.	Brush Guard	CM-1096SB
46.	Screw	CM-50177
47.	Cap Screw	9100-28
48.	Washer	CM-50130
49.	Base	CM-1255MAO
50.	Rectifier	ACDC-RECT
51.	Cap Screw	CM-50167
52.	AC Cord	CM-1294MAO
53.	DC-Cord	DC-CABLE
54.	DC Motor Support	CM-50187
55.	Motor Support Screws (2)	CM-50188
56.	Depth Adjustment Knob	CM-1275-1
57.	Spring Washer	CM-1286
58.	Ball Bearing	22-41
59.	Tracer	CM-1371
60.	E Clip	CM-50114
61.	Dowel Pin (2)	CM-1204
62.	Cap Screws and Washer	CM-1205
63.	Set Screw	CM-1390
64.	Compression Spring	CM-1293MA
65.	Duplication Carriage Assembly. Complete	CM-1233FG
66.	Code Bearing	CM-1201
67.	Easy Grip Wing Nut	EGN-1

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