Framon Code Machine

Instruction Manual

This book is dedicated to and in memory of Frank P Agius.

Index

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12/18

By purchasing the Framon Code Machine, you have the finest code machine available to the locksmith today. In order to attain the full benefit of your Framon Code Machine, we suggest you thoroughly read all of the following information and instructions. Although this information may seem lengthy, it will prove to be invaluable for the proper use of your Framon Code Machine and for later reference.

DESCRIPTION

The theory behind the operation of the Framon Code Machine is very basic - a fixed spindle and cutter and a moveable unit to align a key blank in any given position in relation to that fixed spindle and cutter. This machine will constantly hold a depth tolerance of .0005 of an inch. It is versatile and durable enough to withstand all the abuse normal service allows without any problems.

There are no attachments required except a spacing clip (included) for shoulderless blanks (see section on use). All components for depths from .115 to .400 and spacing up to 1.400 are built into the Framon Code Machine (the average six pin key requires less than one inch of travel). The Framon #2 has a tilting spindle to accommodate both Medeco and Emhart keys. All in all, the Framon Code Machine is unsurpassed for quality, durability and versatility.

All components mentioned in the next pages are shown on the fold out drawing between pages 44 and 47. One side of the foldout has a machine photo with part numbers and the reverse side has a line drawing with parts description. Please refer to this foldout when reading instructions.

DEPTH AND SPACE BOOK

Depth and space measurements from any source can be used with the Framon Code Machine. It is important to remember that all keys cut on the Framon Code Machine are cut from bow to tip. Some manufacturers print key bittings from tip to bow. These must be reversed when cutting a key on your Framon Code Machine. Example: An ASSA key bitting of 126964 would be cut with the 4 cut closest to the shoulder.

Discrepancies can also be found in the way cut depths are printed. For example, the Chevrolet B5001-6000 code series has four depths. Some publishers list depths as 1-.217; 2-.236; 3-.256; 4-276 while others list the depths as 1-.276; 2-.256; 3-.236; 4-.217. Be very careful to read all information from code books before cutting a key.

A brief description of the terminology used in the depth and space charts follows.

"Mfgr."

Charts are listed alphabetically by manufacturer. For automotive charts the car manufacturer is given. For cylinder charts the lock manufacturer is given. Occasionally, a grouping is listed here such as "British Autos".

"Series"

In most cases, key series are listed on each chart. **Series** can also list an application when a series is not applicable, such as pin tumbler, short space, small pin, etc.

"Model"

This line does not appear on all charts. It is used on the automotive charts as a guide only. It will list various, but not all vehicle models. This line is occasionally replaced with **"For"**, when a manufacturer is listed instead.

"Blank"

Key blanks listed are usually Ilco blank numbers. When Ilco numbers are not used, (Orig), (Dom), etc. may appear.

"Cuts start at"

This is the distance from the shoulder of the blank to the center of the first cut.

"Spacing" and "Block #"

Spacing is the distance between cuts, center to center. Block # is the spacing block that has the listed spacing on it. Example: the Ford Aspire chart lists .091 as spacing and is found on block #5. Some charts list spacing as Var. and "spaces 2 & 3, 5 & 6 and 9 & 10 are double cuts. This means that spacing is not the same distance across the blade of the key. Some code books list all 10 cuts across the blade of the key and some list only 7. Bittings showing 7 cuts must be extended. Before cutting the key, extend the bitting to all 10 cuts. Example: code number AK0025 reading 2213441 with numbers 2 & 3, 5 & 6, and 9 & 10 as double cuts would extend to 2221334411.

When a blank with one shoulder is to be cut on both sides, starting position is given as shoulder (SH) side and plain (PL) side. When plain side is cut, set shoulder against key vise and when shoulder side is cut, use key stop on shoulder side for starting alignment.

"Incr" and "Depths"

Increment is the difference between depths. Most key series have the same increment from one depth to the next although

some are variable (Var). This is noted on each chart when necessary. Increment has the same meaning as drop in older versions of this book. Depths are the measurement from the bottom of the blank to the root of the cut.

"No of Spaces" and "Spaces"

Number of spaces is the number of cuts on the key. The Spaces line lists the spacing positions out progressively. Either method, using the spacing block or the progressive measurements, is acceptable.

"Reed"

This line gives the volume-section-page in the Reed Code Books when available.

Bitting is normally single sided unless specified otherwise. Read all information on each chart. Any notes on the chart are critical to cutting the key properly.

Blank pages are included in the back of the book. When new depth and space information becomes available (trade magazines, mailings, etc.), add this information to your book. Additional blank pages will be furnished upon request.

Much of the information in this book came from locksmiths and other individuals in the locksmith industry, whom we thank profusely. We always appreciate receiving any information you might have on depths and spaces. Compiling an information book demands a great deal of checking and rechecking in order to be accurate. As hard as we try, we do make mistakes. PLEASE - if you find any information you do not agree with, let us know.

SPACE AND DEPTH SETTINGS

Horizontal motion will be referred to as spacing. The spacing crank on the right side of the machine controls spacing. Vertical motion will be referred to as depth. The depth crank on the front of the machine controls depth. One revolution of either crank will give .050" movement in either direction. The calibrations on both the depth and space dials are in increments of .001".

These two movements have nothing to do with the actual cutting of the key blank. They are used to set the depth and space settings that are required. The feed handle at the right side of the machine controls the actual cutting. When depth and space has been set, the feed handle is pulled and the entire unit is moved into the cutter and against a fixed stop. When the unit bottoms out against the fixed stop, and the desired cut has been made, release

the feed handle. This will allow the entire unit to return to its original position, ready for the next setting.

Use a smooth, steady motion when cutting. Jamming the key against the cutter or using too much pressure will lessen cutter life. A good rule to remember: **GIVE THE CUTTER TIME TO CUT!**

KEY VISE AND INSERTING BLANK

The key vise is double sided, with different widths on each side. The wide side of the vise is .137 from the back to the face. This allows a maximum cut of .140 deep. The wide side will be used for the majority of standard cylinder keys, as the deepest cut will rarely be more than .140 deep. The narrow side is .112 from the back to the face. This allows for a maximum cut of .115 deep. The narrow side is used for smaller cabinet and padlock keys. The narrow side is also used for Medeco keys. No adjustments are needed when rotating the vise (wide side to narrow side & vice versa).

Key blanks are always inserted from the right side of the vise (bow to right; tip to left). Use the key stop to align the blank - the top shoulder of the key is stopped against the key stop. Do not use the bottom shoulder for aligning blanks.

All depth measurements are based on the full width of the blank. Do not insert blanks based on the offset or milling of the blank. Keys must always be inserted to the back of the vise. When cutting double sided keys it is recommended that only one side be cut on the code machine. Transfer this key to your duplicator and cut both sides using a second blank.

The brass shim (included) is used with blanks that tip in the vise. If the blank tips down, place the shim below the blank and clamp in the vise. If the blank tips up, place the shim above the blank and clamp in the vise. The shim is made of brass - no damage can be done to the cutter.

Available as an option is a second double-sided vise. One side is for Best and Falcon keys. The other side is .220 deep and will accommodate the wider double sided keys being used on some automotive locks. See optional equipment and spare parts list on page 45.

SPACING BLOCK AND SPACING INDICATOR PLATE

One of the most unique features of the Framon Code Machine is the spacing blocks. At the present time there are five spacing blocks furnished with each machine. Spacings on these blocks are: .045, .050, .055, .060, .080, .082, .083, .084, .0845, .085,

.086, .087, .088, .090, .091, .092, .093, .094, .095, .096, .097, .098, .0985, .099, .100, .102, .104, .105, .106, .108, .110, .115, .118, .119, .120, .125, .126, .128, .129, .130, .135, .138, .140, .145, .146, .150, .155, .156, .160, .164, .165, .170, .175, .0925 for 84 1/2 Ford, VB1 and VB2, Merc Tr (Mercedes Truck), Ster (Sterling), and Biax (Medeco Biaxial).

These spacings cover most of the spacings needed for today's market. Progressive reading can cut odd spacings. As new spacings are needed, new spacing blocks will become available to the locksmith.

Spacing blocks are made with a spring-loaded detent and can be installed and removed in a matter of seconds. We also have a special set of spacing blocks (3) for flat keys and safe deposit box keys - see optional equipment & spare parts list on page 45. Special blocks for special needs can be made to order.

The spacing block is enclosed in a "U" shaped holder and is moved by turning the spacing block adjusting screw. This horizontal movement is necessary because of the starting position of different keys (starting position is the distance from the shoulder to center of the first cut).

Note: The spacing block remains stationary once it is set to the starting cut and the spacing block indicator moves horizontally with the key blank and key vise.

The indicator plate is used for various measurements. Keep in mind, the indicator always moves horizontally with the key blank. Graduations on the indicator plate are .100 apart. The pointer at the left end of the plate is used to indicate spacing positions.

As an example, when cutting a Schlage key with a starting cut of .231, the spacing crank is turned counterclockwise until the key vise block stops against the stop screw. A reading of somewhere between "0" and .040 will be read on the spacing dial. Rotate the spacing crank clockwise to "0". This is the proper starting position for all cylinder keys. Now rotate the spacing crank four full turns clockwise (for a reading of .200); turn the spacing crank clockwise an additional .031 (for a reading of .231).

Now, rotate the spacing block until the .156 spacing side is up (Schlage pin tumbler spacing). To align the spacing block to the spacing plate pointer, turn the spacing screw until the first mark at the left end of the spacing block is in line with the pointer of the spacing plate. From this point on, all spacing will be read directly from the spacing block. From this setting any amount of Schlage pin tumbler keys can be cut without resetting spacing.

To recap:

1. Set starting cut position,
2. Rotate spacing block to required spacing,
3. Align first mark on left end of spacing block to pointer on spacing plate.

Spacing set-up is now complete.

DEPTH PLATE AND DEPTH PLATE POINTER

The depth plate is fastened to the main "U" casting at the left side of the depth crank and dial. This plate is graduated in increments of .050, ranging from .100 to .350. This plate, in conjunction with the depth plate pointer, is used as a reference point only. If pointer is positioned between .250 and .300 and the depth dial is set at .025, the depth is set at .275 (.250 + .025). All single thousandth depth measurements are read directly from the depth dial. This is what gives the Framon Code Machine its extreme cutting accuracy.

TO CUT A CYLINDER KEY

To cut a Schlage key with a combination of 25751, the following procedure would be used:

Insert blank

Insert blank in vise (wide side of vise). Check the top shoulder with the key stop.

Space Setting

Turn the spacing crank counterclockwise until the key vise carriage stops against the stop screw. At this point the reading on the spacing dial will be somewhere between "0" and .040. Rotate the spacing dial clockwise to a "0" reading. At this point the right side of the vise and the shoulder of the blank are both aligned with the center of the flat on the cutter. This is the "0" starting point for all cylinder keys.

The next step is to set the starting position (distance from shoulder to center of the first cut). The starting cut for Schlage is .231 from the shoulder. Turn the spacing crank four full turns clockwise plus an additional .031 (.200 + .031 = .231). Remember, each turn of either dial gives .050 movement. The starting cut position is now set.

The next step is to align the spacing block. The spacing for Schlage is .156. Rotate the spacing block so .156 spacing is in the top position. Rotate the adjusting screw until the first mark at the left side of the .156 spacing is aligned with the mark on the pointer of the spacing block indicator plate. The machine is now set at .156 spacing. **The adjusting screw is used only to align the spacing**

block. Once the spacing block is set, do not use the adjusting screw until you setup another key series.

Depth Setting

The #2 depth for Schlage is .305. To set this depth, rotate the depth crank until the depth plate pointer is between .300 and .350 on the depth plate. Rotate the depth crank counterclockwise to .005. The depth is now set at .305 (.300 + .005 = .305).

Cutting the Key

To make the cut, grasp the feed handle. Grasping the feed handle with fingers and resting thumb on the front of the base makes a controlled cut. Pull the feed handle toward the front of the machine until the carriage comes to a complete stop. The #2 cut has now been completed. Slowly release pressure on the feed handle and the entire unit will return to its' original position.

To make the second cut (#5 depth), rotate the spacing crank clockwise to the second mark on the spacing block. To set the depth to a #5 cut (.260), turn the depth dial until the pointer is between .250 and .300 and the dial is reading .010. Pull the feed handle to a complete stop. The #5 depth has now been cut in the second position.

At this time you should note that there is a #5 cut in the fourth position on this key. Rather than change the depth setting, skip the third cut and move the key to fourth position (pointer on the spacing block indicator plate aligned with the fourth mark on the spacing block). Make a #5 cut here by pulling the feed handle to a complete stop.

Now return to the third position and set the depth dial at .230 for a #7 cut (depth pointer between .200 and .250 and dial reading .030). After this cut has been made, skip the fourth cut (already made) and move the key to the fifth position. Set the depth to .320 and make the last cut.

In the above procedure, you can make any cut in any position at any time. This is not necessary, but it is time saving. Try to develop the habit of making space settings before making depth settings. This will prevent the possibility of making two cuts in the same position.

Some keys, such as Kwikset, require you to widen the cuts. This can be done by holding the unit against the stop and rotating the spacing crank in both directions.

To recap:

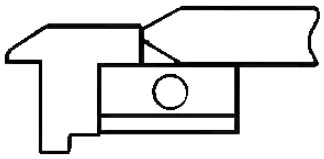
1. Insert blank,
2. Set starting cut position,
3. Rotate spacing block to required spacing,
4. Align first mark on left end of spacing block to pointer on spacing plate,
5. Set depth measurement,
6. Pull handle to make cut,
7. Move carriage to next position,
8. Set depth measurement,
9. Pull handle to make cut.

To finish cutting the key, repeat steps 7 thru 9. Once this procedure is learned, it should take from 25 to 35 seconds to cut a five pin key.

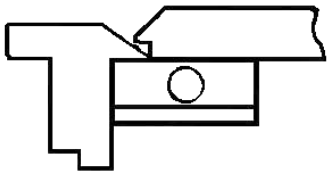
HOW TO USE THE SPACING CLIP

The spacing clip is used to align shoulderless keys. The following drawings show proper placement of the spacing clip.

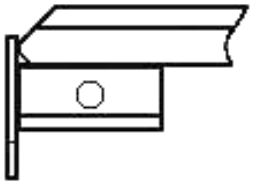
1. Ford 5 Pin Spacing:



2. Best Spacing:

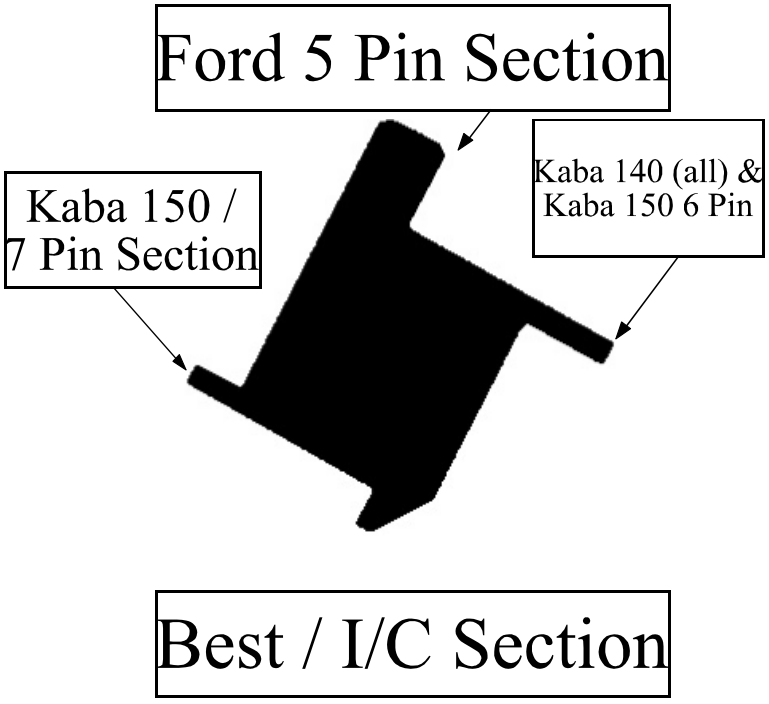


3. Flat Spacing:



Using The Framon Spacing Clip

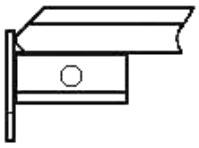
The spacing clip you have received combines our old Ford 5 Pin / Best spacing clip with the Kaba 140/150 spacing clip. Please read over these instructions to become familiar with the usage of the new clip.



If you have an older book with a reference to the Ford 10 Pin spacing clip, revise the Ford 10 Cut information in your book to read as follows:

Cuts Start At: .217
Using spacing clip, align tip of key with left side of vise. Lay clip FLAT on left side of vise and slide the key in from the right.

Using the spacing clip with "FLAT" stopped keys.



CUTTING MEDECO AND EMHART KEYS

When cutting Medeco or Emhart keys, angles and depths must be decoded; see corresponding charts for further information. When decoding these keys with the dial calipers included with your machine, depths will not read accurately. The dial calipers do not reach the root of the cut. In order to save cutting time, do not move the tilting spindle more than twice while cutting a key. If the tilting spindle is in the center position, cut all center cuts; move the tilting spindle to cut all left cuts; and then move to cut all right cuts.

PROCEDURE FOR USING TILTING SPINDLE

1. Release the clamping handle (upright handle). Push to right.
2. Grasp the tilting handle (right side handle).
3. Pull out the aligning pin (knob on rear of spindle).
4. Tilt to desired angle.
5. Release the aligning pin.
6. Slowly tilt the spindle until the aligning pin engages.
7. Tighten the clamping handle (push to left).

CUTTING SAFE DEPOSIT BOX AND FLAT KEYS

(Using progressive measurements)

By aligning any mark on the spacing block with the "0" on either end of the spacing plate, you can read progressive measurements any time needed. This type of progressive reading will be used with some flat, safe deposit box, and import keys.

When cutting flat and safe deposit box keys you must use spacing measurements from the center of the slotter and the tip of the key regardless of slotter thickness. When using progressive measurements, all measurements read on the spacing dial are read in reverse.

To cut an S & G #4440 with a combination of 624135 the following procedure would be used:

1. Remove the cylinder cutter. Put on the FFS1045 slotter.
2. Rotate the spacing crank clockwise until most of the key vise is to the right of the slotter (this position will depend on the length of the blank being used). Set the spacing dial at .0225 (half the thickness of the .045 slotter).
3. Pull the feed handle rearward and turn the depth crank until the vise is close to the slotter. Holding this position, insert the blank in the right side of the vise, slide the tip of the blank against the right side of the slotter, clamp the vise, and release the handle.
4. Rotate the spacing dial counterclockwise to "0" so the tip of the blank is aligned with the center of the slotter. This is "0"start for all flat keys.

5. To set the spacing, rotate the spacing block until any mark on the right end of the spacing block is aligned with the pointer of the spacing plate.

The first spacing measurement for S & G #4440 is .170 from the tip of the blank. Rotate the spacing crank counter-clockwise to .170, set the depth to .200 (#6 cut), and make the cut. To widen the cut to .065, release the feed handle, rotate the spacing crank to .160 and make another cut. Release the feed handle and rotate the spacing crank to .180 and make another cut. This will give you a .065 wide cut (.045 + .010 + .010 = .065)

The mark on the right end of the spacing block is now between the #1 and #2 mark, but closest to the #2 mark on the spacing block indicator. Using these two marks in conjunction with the reading on the spacing dial, progressive measurements can be read at any time.

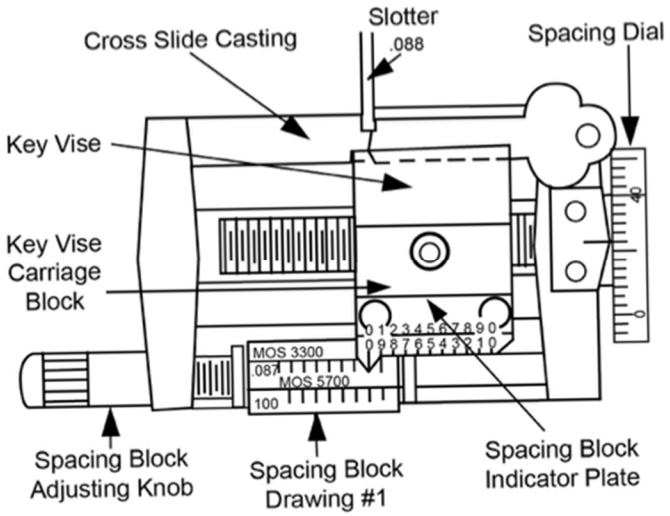
6. Rotate the spacing dial counterclockwise to .222, set the depth to .280 (#2 depth), and make the second cut. Continue this procedure until all six cuts are made.

A set of safe deposit box spacing blocks (3) is available for those doing a great deal of safe deposit box key work. These blocks are set up for 29 different lock series and are much faster than using progressive measurements. See the Optional Equipment and Spare Parts list.

Flat locker key cutting is the same as cutting safe deposit box keys, with the exception of spacing. Spacing for flat keys is the same as the width of the cuts (e.g.: Yale 9M-N9M, cuts are. 050 wide). See flat key charts.

NOTE: Step one will vary according to the width of the slotter used. The setting on the spacing dial will always be 1/2 the thickness of the slotter.

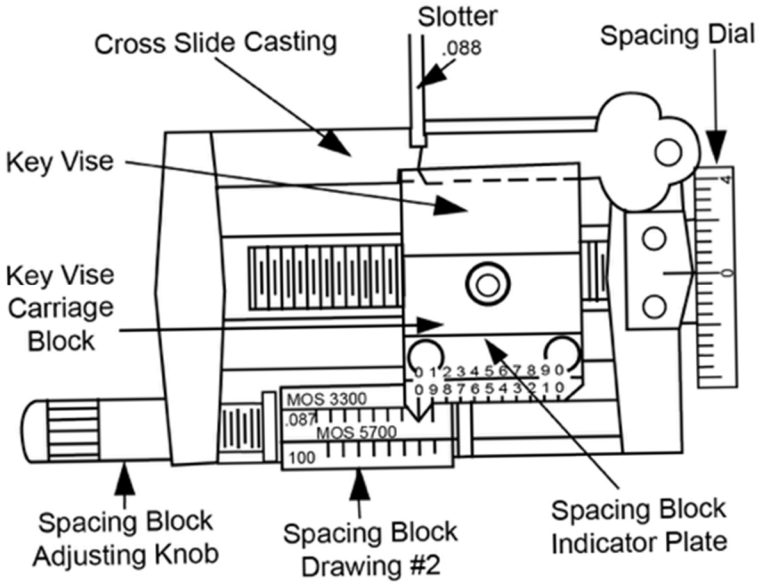
Available are carbide cutters in widths of .035, .045, .055, .066, .088 and .103 (for widths of .100, use .045 and .055) - see Optional Equipment and Spare Parts list.



Safe deposit box keys - cutting instructions using safe deposit box spacing blocks.

Example: Mosler 5700 using .088 slotter.

1. Rotate the spacing crank clockwise until the vise carriage block is at the right hand side of the cross slide casting.
2. Set the spacing dial at .044 (half the thickness of the slotter).
3. Pull the feed handle to move the key vise close to the slotter, slide the blank into the vise with the tip of the blank against the right side of the slotter – tighten the vise and release the handle (see drawing #1).
4. Rotate the spacing crank counterclockwise to the “0” reading on the spacing dial.
5. Rotate the spacing block adjusting knob until the “0” on the Mosler spacing block in aligned with the “0” on the pointer of the spacing block indicator plate.



Your set up should now look like Drawing #2. All "0" marks are aligned and the tip of the blank is at the center of the slotter. Turn the spacing crank counterclockwise so the pointer is on the first mark left of "0" on the spacing block. This is the first cut from the tip of the blank. Set the depth needed. Make the cut and move to the next mark. Continue this procedure until all the cuts are made.

This procedure will be the same for all keys except that the first spacing dial setting will vary according to the slotter thickness. Throat cuts should be made from a sample key on any duplicator. Remember, all starting positions on the spacing dial are set at half the thickness of the slotter used (see Step #2). All keys are cut from the tip to the bow and lateral movement across the slotter is from right to left.

A NOTE ON CUTTERS

When the spindle is in the center position and the FC8445 cutter is on the spindle, all standard cylinder keys can be cut. All Framon cutters are precision ground so there is no need to readjust depth or spacing when changing cutters. All Framon cutters are etched on one side and are to be put on the machine with the etching to the outside (away from the hub).

The .045 slotter furnished with the Framon Code Machine is adequate to cover most needs for flat keys. However, if business warrants more equipment, we do make high-speed steel slotters in increments of .020, .030, .045, .055, .066, and .088. We also make solid carbide cutters in widths of .035, .045, .055, .066, .088 and .103 (for cutters of .100 width, use .045 and .055). Any of these cutters can be ganged for almost any width required.

Never cut sideways with any slotter - especially carbide slotters! Always use proper eye protection when cutting keys.

Cutter wear is one thing we at Framon Mfg. Co. cannot control. If good cutting procedures are used, you can expect a long life from your Framon cutters (15,000 to 20,000 keys). **GOOD CUTTING PRACTICE PAYS!**

LUBRICATION

The main carriage is mounted on two slides attached to the base. These slides should be lubricated occasionally to insure proper operation. Use fine oil sparingly. Do not use heavy machine oil or motor oil, as this will tend to gum up and hinder proper operation. Use the same lubrication on both sets of rods on the main carriage and on the key block carriage rods. No lubrication is needed on the depth shaft, spacing shaft, or spindle shaft as all these parts are mounted on sealed bearings. Wipe off all excess oil.

ADJUSTMENTS

If, for any reason your machine becomes out of adjustment, the following procedure will allow you to readjust the machine.

Depth Adjustment

Insert any key blank in the vise; turn the spacing dial counterclockwise until the center of the key vise is approximately in line with the center of the cutter. Turn the depth handle clockwise until any reading is obtained on the depth plate (we use a depth setting of .250 to check depth adjustment). Pull the feed handle and make a cut. Release the feed handle. Remove the key and measure the cut with a dial caliper. Read the depth on the depth

plate and the depth dial. If an adjustment is required, hold the depth crank in set position, loosen the set screw on the depth dial, rotate the dial to obtain the same reading on the dial caliper, and tighten the set screw.

Spacing Adjustment

ALL SPACING ADJUSTMENTS MUST BE MADE WITH THE FC8445 CUTTER ON THE SPINDLE. The center of the flat on the cutter to the right hand side of the cutter is .106. To readjust the machine, turn the spacing crank to .106. Pull the feed handle so the key vise is as close to the cutter as possible. **NOTE**: Clamp the vise without a key in the vise. Set a straight edge against the right side of the vise - a 6" steel rule is ideal for a straight edge. Slide the straight edge forward to the side of the cutter. Both must be in line. If the key vise is not in line, rotate the spacing crank until the straight edge is aligned to both the vise and the side of the cutter. Loosen the set screw on the spacing dial and rotate the dial until a reading of .006 is obtained and tighten the set screw.

Tension Adjustment for Depth and Space Cranks

Directly in front of the vise in the vise carriage block is a hex socket head set screw. This set screw is used to adjust the tension on the spacing screw (this is a nylon tipped set screw). Some like a loose drag on the crank and others prefer a snug drag. This screw allows you a choice. On the left side of the cross slide casting is a similar screw used to adjust tension on the depth screw. You must have some tension to prevent possible movement from vibration while cutting.

WARRANTY

The warranty on the Framon Code Machine is in effect for a period of one year from the date of purchase. Framon Mfg. Co. will replace all or any part of any machine proven to be defective as to material or workmanship. If any machine is returned to us in the first year, Framon Mfg. will absorb all cost for repairs, **including freight**. After one year, Framon Mfg. will charge the customer for parts, freight and a flat service rate for labor. Machines will be repaired and shipped within two days of receipt. This warranty is valid to the original purchaser only. Cutters are not covered by this warranty. Framon cutters are among the finest cutters made today, but we have no control over their use.

Warranty Claims Procedure

The purchaser must inform Framon Mfg. Co. by telephone or letter and obtain permission from Framon before returning any machine. Framon will not accept any machine returned without prior permission. Machines must not be shipped in styrofoam popcorn. Any correspondence pertaining to any problem with a Framon Code

Machine should include date of purchase, from whom purchased, and serial number of the machine.

www.framon.com - The Framon Manufacturing Website

Visit the Framon website for new product information, videos, and resources relating to our line of keys machines.

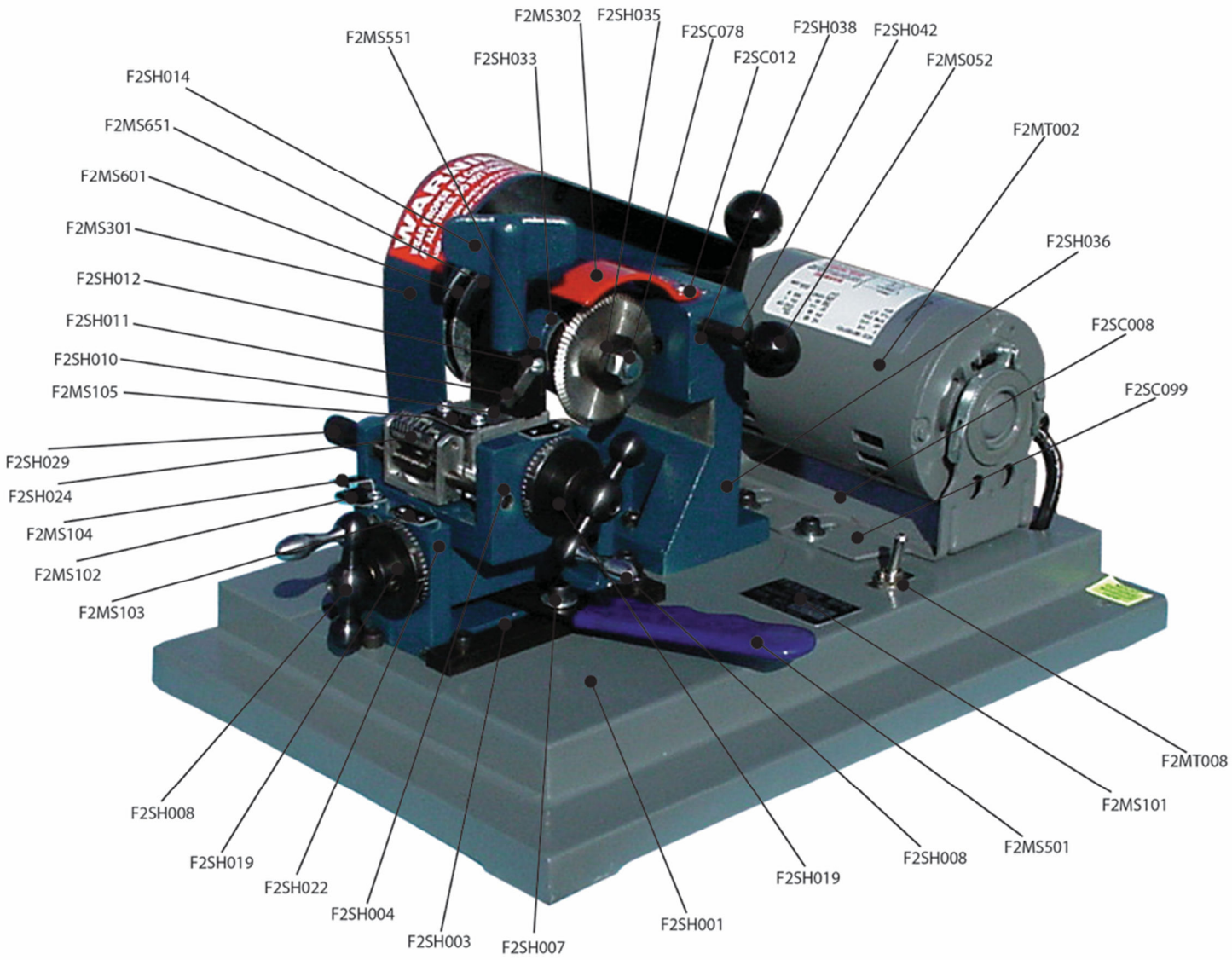
www.bluedogkeys.com – The Blue Dog Keys Website

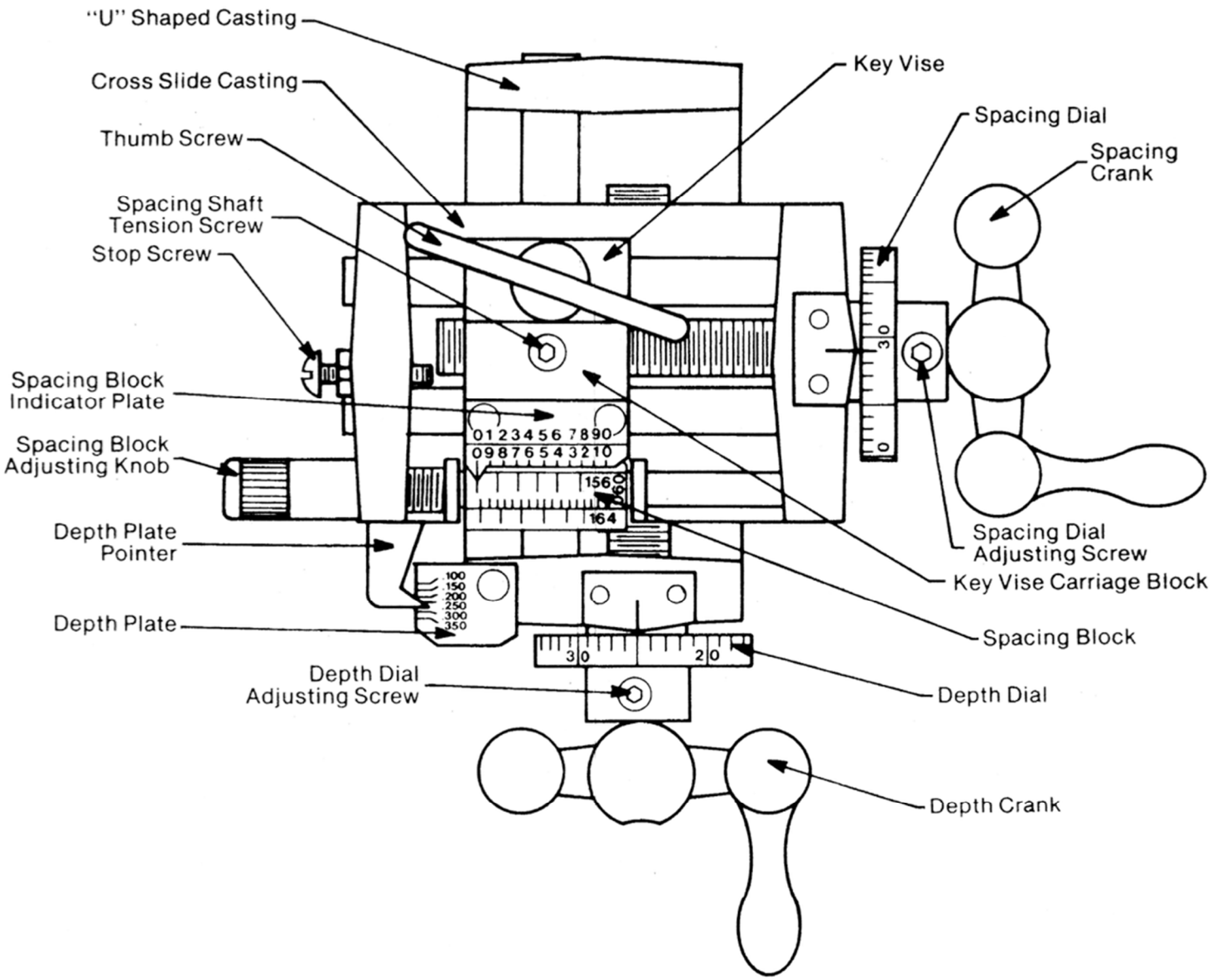
Stop by the Blue Dog Keys website for all of your “odd” key needs. Whether it is an old utility key, vehicle, or bit/barrel key odds are that you’ll find what you are looking for at Blue Dog Keys.

PARTS LIST

F2BA001	Crank Bearings
F2BA002	Feed Handle Bearing
F2BA003	Spindle Bearing
F2MS001	5/8 x 2 Compression Spring
F2MS002	3/8 x 2 Extension Spring
F2MS003	3/16 x 3/4 Comp Spring
F2MS052	3/4 Knobs
F2MS053	Detent Knob
F2MS101	Name Plate Sticker
F2MS102	Depth Plate
F2MS103	Dial Indicators
F2MS104	Depth Plate Indicator
F2MS105	Spacing Block Indicator
F2MS301	Pulley Guard
F2MS302	#2 Cutter Guard
F2MS351	Depth & Space Book
F2MS402	1/8 Allen Wrench
F2MS404	Shaft Collar
F2MS501	Feed Handle Cover
F2MS551	Key Stop
F2MS552	Spacing Clip
F2MS601	"O" Ring Belt
F2MS651	250 x 1/2 Pulley
F2MS701	Wavy Washer
F2MT001	Cord Clip
F2MT002	115VAC Motor
F2MT003	3 Wire Cord
F2MT004	250 x 3/8 Pulley
F2MT005	Stakon Connector
F2MT006	Wire Nuts 6X683
F2MT007	Wire Nuts 6X684
F2MT008	Toggle Switch & Plate
F2SC001	8/32 x 7/8 HSCP Set
F2SC003	5/16-18 x 2 HSCP
F2SC005	1/4-28 x 1/2 SHCP Set
F2SC006	1/4-20 x 1/4 SHCP Set
F2SC007	1/4-28 x 3/4 SHCS
F2SC008	1/4-28 x 1/2 SHCS
F2SC009	1/4-28 x 1 SHCS
F2SC010	8/32 x 3/16 RHMS
F2SC011	6/32 x 1/4 PHMS PH
F2SC012	8/32 x 1/2 PHMS
F2SC013	8/32 x 3/8 Truss HDMS
F2SC015	1/4-20 x 3/8 Set Cup
F2SC076	8/32 Hex Nut
F2SC077	1/4-28 Hex Nut
F2SC078	3/8 - 24 Hex Nut
F2SC099	1/4 Flat Washer

F2SH001	Aluminum Base
F2SH003	Hold Down Slides
F2SH004	Cross Slide Casting
F2SH006	Feed Handle Spacer
F2SH007	Feed Handle
F2SH008	Depth & Space Crank
F2SH010	Key Vise Block
F2SH011	Key Vise Bottom
F2SH012	Key Vise Top
F2SH014	Vise Clamp Nut
F2SH016	3/8 Carriage Rod
F2SH017	7/16 Carriage Rod
F2SH018	Depth & Space Screw
F2SH019	Depth & Space Dials
F2SH021	Stop Washer
F2SH022	Main "U" Casting
F2SH024	Spacing Blocks (4)
F2SH027	Spacing Block Holder
F2SH029	Spacing Block Adj Screw
F2SH033	Spindle Shaft
F2SH035	Spacing Washer
F2SH036	Tilting Spindle Base
F2SH038	Tilting Spindle Block
F2SH040	Shoulder Bolt
F2SH042	3/8 Rods
F2SH043	Detent Pin
F3MT001	2 Wire Cord (12VDC Motor)
F3MT002	12VDC Motor
F1MS301	#1 Cutter Guard
F1MS302	#1 Pulley Guard
F1SH002	#1 Spindle Casting


F2MS302
F2SH035
F2SC078
F2SH038
F2SH042
F2MS551
F2SH033
F2SC012
F2MS052
F2SH014
F2MS651
F2MT002
F2MS601
F2MS301
F2SH036
F2SH012
F2SC008
F2SH011
F2SH010
F2SC099
F2MS105
F2SH029
F2SH024
F2MS104
F2MS102
F2MS103
F2MT008
F2MS101
F2SH008
F2MS501
F2SH019
F2SH008
F2SH022
F2SH019
F2SH004
F2SH001
F2SH003
F2SH007


"U" Shaped Casting
Cross Slide Casting
Thumb Screw
Spacing Shaft Tension Screw
Stop Screw
Spacing Block Indicator Plate
Spacing Block Adjusting Knob
Depth Plate Pointer
Depth Plate
Depth Dial Adjusting Screw
Key Vise
Spacing Dial
Spacing Crank
Spacing Dial Adjusting Screw
Key Vise Carriage Block
Spacing Block
Depth Dial
Depth Crank
0 1 2 3 4 5 6 7 8 9 0
0 9 8 7 6 5 4 3 2 1 0
156
164
100
150
200
250
300
350
3 0
2 0

MILLING CUTTER LIST

FC7863	78 angle, .063 flat. Sargent special.
FC8445	84 angle, .045 flat. All idea for cylinder, auto, & cabinet keys.
FC8615	86 angle, .015 flat. Medeco special.
FC8735	87 angle, .035 flat. Import auto.
FC9032	90 angle, .032 flat. Assa.
FC9045	90 angle, .045 flat. General use.
FC9054	90 angle, .054 flat. Corbin-Russwin, Best, etc.
FC9063	90 angle, .063 flat. Mogul.
FC9090	90 angle, .090 flat. Weiser, Weslock, Kwikset.
FC10031	90 angle, .035 flat. Schlage special.
FC10045	100 angle, .045 flat. General wide angle.
FC11012	110 angle, .012 flat. Zeiss-Ikon special.

HIGH SPEED STEEL SLOTTERS

FFS1020	.020 width. Filler.
FFS1030	.030 width. Cabinet, mailbox.
FFS1045	.045 width. Mosler.
FFS1055	.055 width. Yale, S & G, Victor.
FFS1066	.066 width. Diebold, Mosler, York, Lefebure.
FFS1088	.088 width. Mosler, Lefebure, S&G.

SOLID CARBIDE SLOTTERS

DBC1035	.035 width. Small Letterbox
DBC1045	.045 width. Auth, Couch, Eagle, Mosler.
DBC1055	.055 width. Diebold, S&G, Yale, Victor, Locker locks.
DBC1066	.066 width. HHM, Diebold, Security, S&G, York.
DBC1088	.088 width. Mosler, Lefebure.
DBC1103	.103 width. Southern Steel.

All Framon cutters are interchangeable without any adjustment of space or depth. All slotters are 2 3/8 O.D. x 3/8 bore.

OPTIONAL EQUIPMENT & SPARE PARTS

F2MS350*	D & S Book
F2MS451*	Dial Caliper
F2MS551*	Key Stop
F2MS552*	Spacing Clip
F2MS601*	Belt
F2SH050	Double Sided Vise (wide auto and Best)
F2SH070	Tibbe Attachment
FSB1001*	Spacing Block Set (includes 6 blocks & 1 F2MS552 Spacing Clip)
F3MT002	12v Motor
F2MSDB1	Safe Deposit Box Spacing Blocks (3)
FMSDBC2	Safe Deposit Box Spacing Blocks (3) & FFS1055, FFS1066 & FFS1088 HSS Slotters.
FMSDBC3	Safe Deposit Box Spacing Blocks (3) & DBC1055, DBC1066 & DBC1088 Carbide Slotters.
DCMS410*	Brass Shim

*** Included with standard machine package at time of purchase. Does not apply to promotional packages.**