

SCOTT

SignGraver

Instructions & Parts

SM100B

SM400

K025S1

K005

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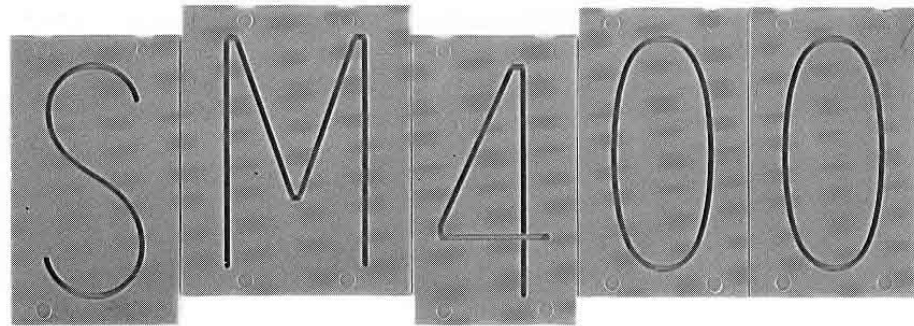
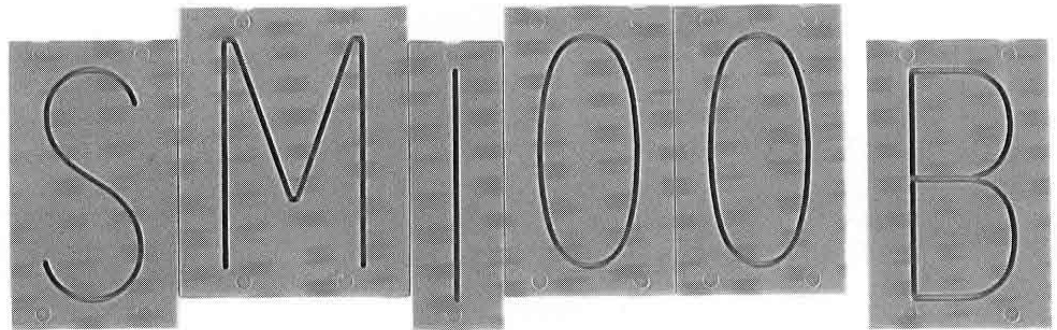
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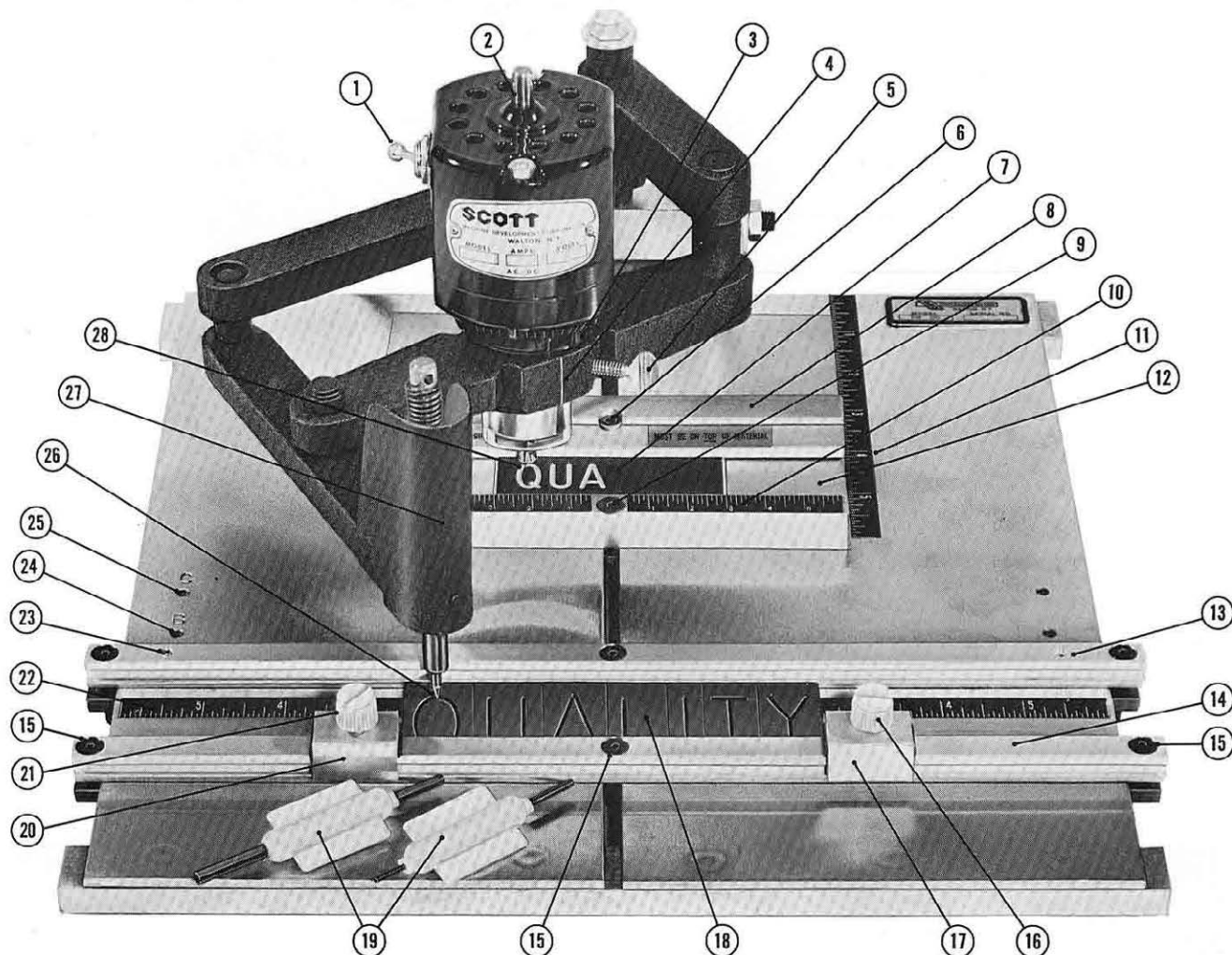
100-400-Instructions-&-Parts-June2016

Signgraver[®] / Operating Instructions



[®] Scott Machine Development Corporation

LOCATE & IDENTIFY THE OPERATIVE PARTS OF YOUR SCOTT MODEL SM100B SIGNGRAVER

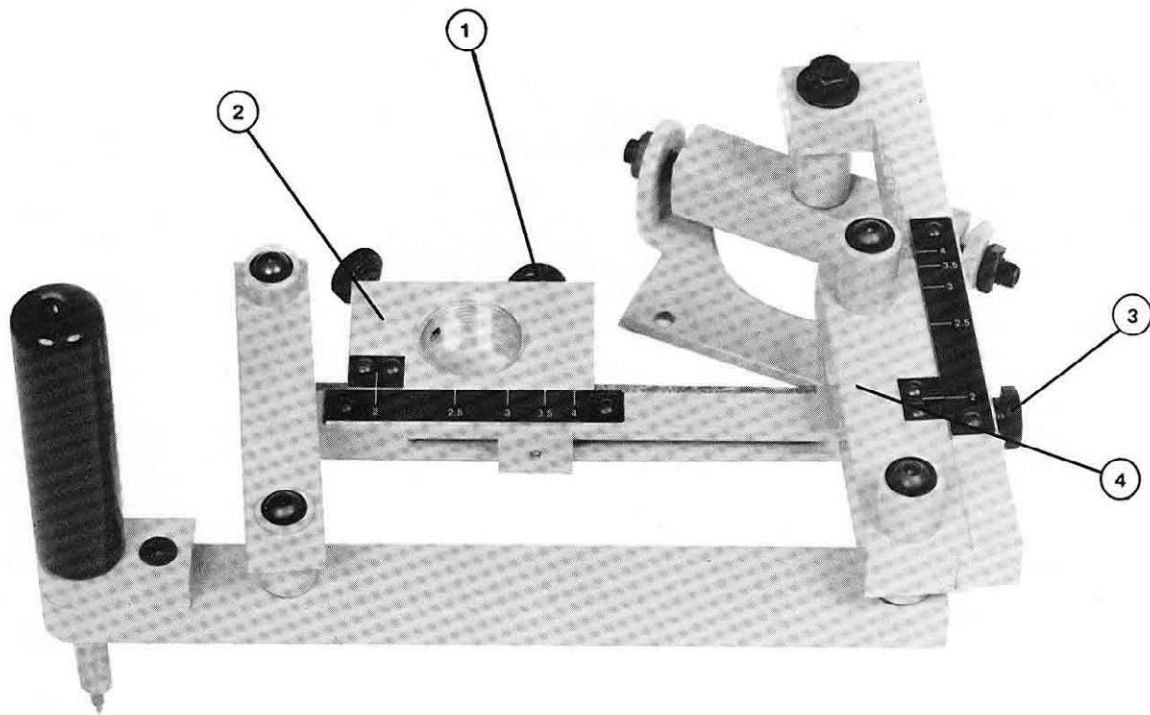


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2

- | | | |
|---|--|--|
| <p>1. Off/On Switch.</p> <p>2. Place Hex Wrench through this hole to prevent shaft from rotating while changing cutters — Page 9.</p> <p>3. Depth of cut Scale: Use these lines to adjust depth of cut. (Rotating motor one line changes cutter depth by about one/thousandth of an inch.) — Page 10.</p> <p>4. Depth of cut Index Line: Use this index line with lines on motor housing to adjust depth of cut — Page 10.</p> <p>5. Motor Clamping Screw: Use this thumb-screw to clamp the motor after adjusting depth of cut — Page 10.</p> <p>6. Sign Blank Clamping Screw: Use to clamp Sign Blank — Page 7.</p> <p>7. Sign Blank: — Page 7.</p> <p>8. Sign Blank Clamping Bar: Holds Sign Blank securely during engraving operation — Page 7.</p> <p>9. Engraving Position Clamping Screw: Use to clamp for vertical positioning of engraving on Sign Blank — Page 7.</p> <p>10. Sign Blank Centering Scale: Use to center Sign Blank — Page 7.</p> | <p>11. Engraving Position Scale: Used when moving the Sign Blank Holder Plate any desired amount or to return it to a particular location — Page 7.</p> <p>12. Sign Blank Plate: — Page 7.</p> <p>13. Upper Type Holding Bar: — Page 6.</p> <p>14. Lower Type Holding Bar: — Page 6.</p> <p>15. Vertical Clamping Screw — Master Type: Use to clamp Master Type vertically (three places). Always clamp center first — Page 6.</p> <p>16. Letterlock Clamping Screw — Master Type: Use to clamp Master Type horizontally. Always clamp this side first — Page 6.</p> <p>17. Horizontal Letterlock — Master Type: — Page 6.</p> <p>18. Master Type: — Page 6.</p> <p>19. Hex Wrenches</p> <p>20. Horizontal Letterlock — Master Type: — Page 6.</p> <p>21. Letterlock Clamping Screw — Master Type: Always clamp this second. Push bottom of clamp toward Master Type as you tighten — Page 6.</p> | <p>22. Master Type Centering Scale: Use to center Master Type — Page 7.</p> <p>23. Upper Master Type Bar Position "A": Position for using any size Master Type up to 1-3/4" high.</p> <p>24. Upper Master Type Bar Position "B": Position for using 2-3/4" high Master Type.</p> <p>25. Upper Master Type Bar Position "C": Position for using 3-1/2" high Master Type.</p> <p>26. Stylus Tip: Traces the Master Type — Page 7.</p> <p>27. Finger Grip: — Page 8.</p> <p>28. Motor Mounted Depth Control: Use for most applications — Page 10. This surface "rides" on the Sign Blank during the engraving process. The amount the cutter projects below this surface is the cutting depth.</p> <p>IMPORTANT: Depth of cut should be only enough to cut away surface color. Always start "shallow" and set "deeper" if necessary. See Page 10 for details.</p> |
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OPERATION of Selectable Ratio Pantograph (K025S1)



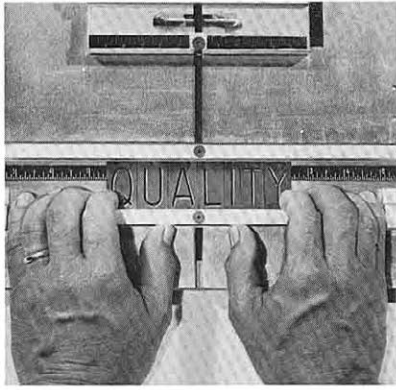
OPERATION of Selectable Ratio Pantograph (K025S1)

- Loosen motor link lock screw (1)
- Slide motor mounting block (2) to desired ratio, align marks and tighten screw.*
- Loosen pivot link lock screw (3)
- Slide pivot link (4) to desired ratio, align marks and tighten screw.*
- Proceed with use of pantograph as outlined in Signgraver (SM100B or SM400) operating instructions.

***PLEASE NOTE:** These marks **MUST** be properly aligned to ensure the best engraving.

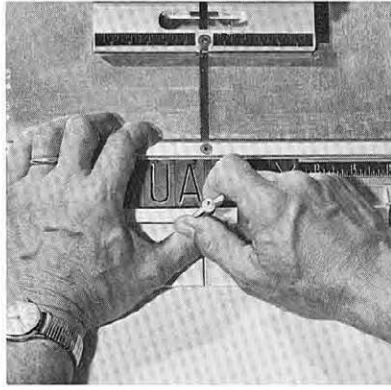
SPECIAL NOTE: With smaller fonts and greater reductions (e.g. ML212, 4:1) use stylus mounted depth control (K002B). (See page 10, item 14 in SM100B/400 Operating Instructions).

SETTING-UP & CLAMPING MASTER TYPE

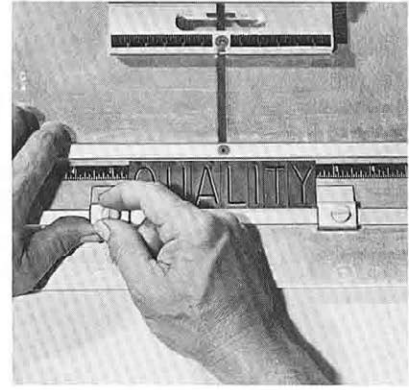


1. Select the Master Type required. For demonstration purposes, we show the word **QUALITY**. The overall height of the finished engraved letters will be one-half the Master Type height plus the cutter width. Using 1" Master Type, our engraved letters will be one-half inch plus the 1/16" cutter width, or approximately 9/16" overall capital height.

Place the Master Type between the Master Type Holding Bars, center, using the scale on the Signgraver Base.

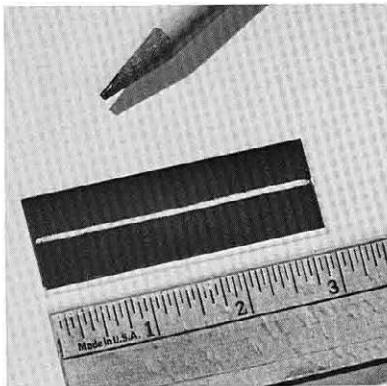


2. Squeeze the Lower Master Type Bar against the Master Type as you tighten the three clamping screws, tighten the center screw first.

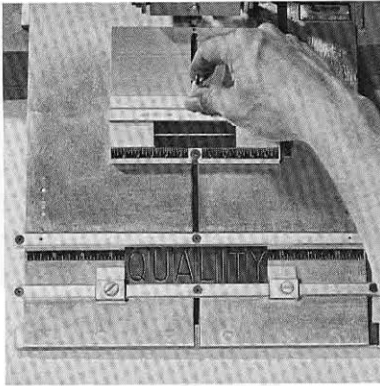


3. Tighten the right Letterlock Clamping Screw first. Push the bottom of the left Letterlock toward Master Type as the screw is tightened. **Note: Do not over-tighten.**

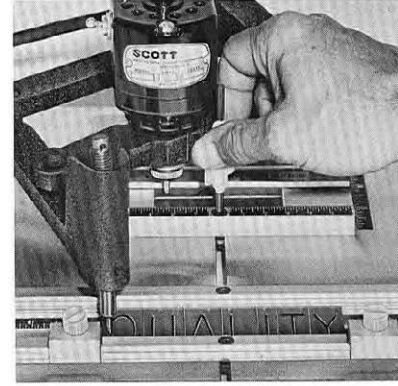
LAYOUT, POSITIONING & CLAMPING SIGN BLANK



4. The scale in photo (1) shows the Master Type for "QUALITY" to be five inches long, (2-1/2" either side of center). Your 2 to 1 ratio machine will reproduce these letters in an engraved line 2-1/2" long. We have selected a 1" by 3" Sign Blank for the sign to be engraved. Measure and mark the centerline on the protective coating of the Sign Blank with a soft pencil.

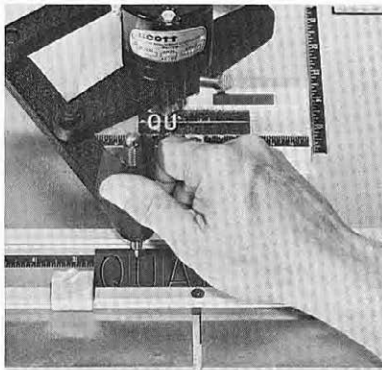


5. Center the Sign Blank using the Centering Scale. Clamp the Sign Blank making sure the edge of the Clamp is on top of the Sign Blank for proper clamping.

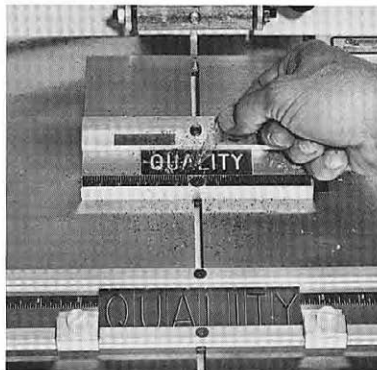


6. With the Motor Mounted Depth Control removed, place the Stylus Tip in the center groove of a 'B, E, F, G, H, P or R' Master Type Letter, or in the center vertically of a 'D, I, K, L, M, N or T.' (Measure and mark the center if necessary.) Position and clamp the Sign Blank Plate so the Cutter point lines up with your pencil center line. Replace the Depth Control.

ENGRAVING

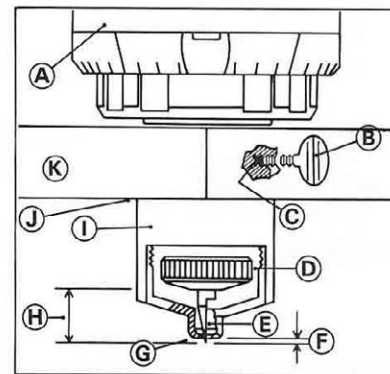


7. Plug in and switch the motor on, grasp the Finger Grip and place the Stylus Tracing Point in the first Master Type Letter to be engraved. Press down on the Finger Grip until the Depth Control contacts the Sign Blank. Each Master Type Letter should be traced twice, once with the Stylus pressed slightly to the bottom, or right edge of the Master Type groove, and again with the Stylus pressed to upper or left edge of the Master. This assures good quality engraved letters. When all the Masters have been traced in this manner, switch off the motor, raise the pantograph up and out of the way and check each letter to see that it is completely engraved. A small brush will aid in removing chips for inspection. If any areas are not deep enough or have been



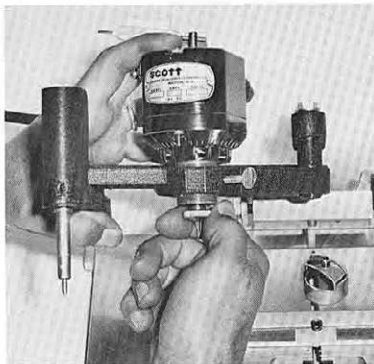
8. Remove the protective skin of the Sign Blank at this time to aid in your final inspection. Once the Sign Blank has been removed it is extremely difficult to re-align it to engrave a missed section. Before removing it, check and inspect thoroughly.

Cutter, Depth Control & Motor Relationship

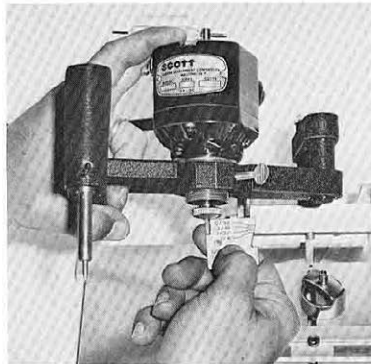


- A. Motor
- B. Motor Clamping Screw
- C. Nylon Plug — protects motor threads
- D. Collet Nut
- E. Cutter
- F. Depth of cut (exaggerated).
- G. This surface rides on the material being engraved
- H. Point of Cutter $\frac{3}{8}$ " to base of Collet with Collet Nut snug
- I. Depth Control
- J. Depth Control locks against Motor Link
- K. Motor Link

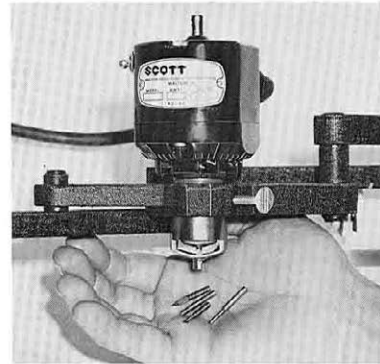
CHANGING CUTTERS



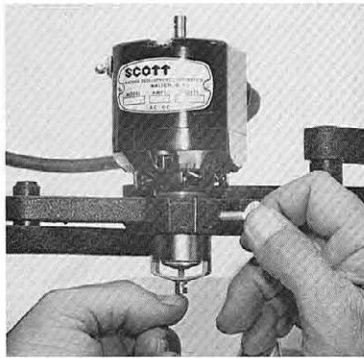
9. The Scott Signgraver SM100B is shipped from the factory with $\frac{1}{16}$ " Cutter installed, ready to engrave. To change cutter, first remove the Motor Mounted Depth Control. Place a hex wrench through the hole in the top of the motor shaft to prevent rotation and loosen the Collet Nut. Remove cutter and replace with one of your choice.



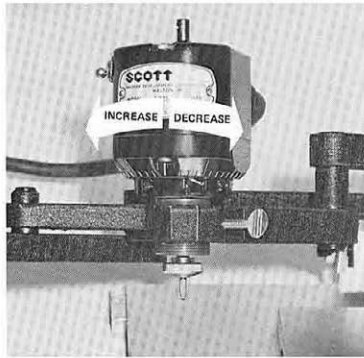
10. Loosen the Collet Nut just enough to position the Cutter. Use the Scott Cutter Gauge to adjust the Cutter so that it projects $\frac{3}{8}$ " from the bottom of the Collet Nut to the tip of the Cutter. Tighten the Collet Nut and remove hex wrench.



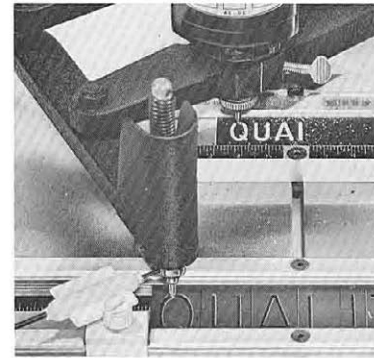
11. Replace the Motor Mounted Depth Control on the Threaded Motor Housing until it locks against the Motor Link of the Pantograph. The Depth Control rides on the surface of the Sign Blank. The amount of cutter that is exposed is the depth of cut. **Engrave just deep enough to cut away the surface color.** A cut that is too deep can ruin the sign material. It is best to start with a shallow cut, then increase the required depth.



12. With the motor stopped, loosen the Clamping Screw and the Depth Control slightly, adjust the motor so the cutter can just be felt thru the Depth Control with the thumbnail. Tighten the Motor Clamping Screw and Depth Control. Place the Stylus Tip in one of the Master Type Letters and turn the motor on. Holding the Finger Grip, press down until the Depth Control rides on the Sign Blank and trace one letter. Turn motor off and lift back out of the way. Check the depth of cut. If it is too shallow (core not completely exposed) loosen the Motor Clamping Screw and advance the motor about 1/8 turn. Reclamp the motor and tighten the Depth Control.

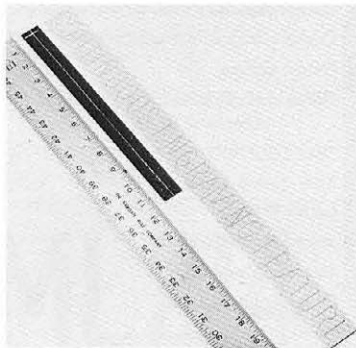


13. **Note:** The depth of cut is decreased by rotating the motor counter-clockwise and increased by rotating the motor clockwise. When decreasing the cutter depth, the depth control must first be loosened. Engrave only deep enough to completely expose the core. Remember, if you cut too shallow at first you can always engrave deeper, but if your first cut is too deep, you can't put the material back.



14. When engraving close to the edge of a name tag, the Motor Mounted Depth Control may strike against the Sign Blank Clamp. In this case, the Stylus Mounted Depth Control should be used. Remove the Motor Mounted Depth Control and place the Stylus Mounted Depth Control on the Tracing Stylus. Lock it in place so it stops the Finger Grip when the cutter just contacts the surface of the Sign Blank. The cutting depth is adjusted by loosening the Motor Clamping Screw and rotating the motor as described in Step 13. The Stylus Mounted Depth Control should also be used if the Motor Mounted Depth Control is leaving marks on the engraved material. Always remove one Depth Control before installing the other. **Do not attempt to operate machine with both Depth Controls installed.**

CONTINUOUS ENGRAVING FEATURE



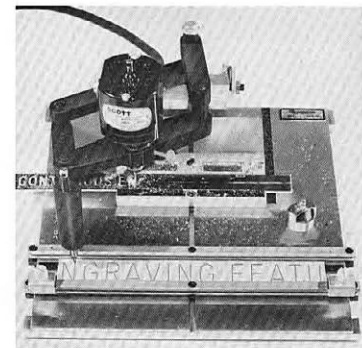
15. Six inches is the maximum length of sign that may be engraved on the SM100B Signgraver at one set-up. Signs longer than this may be engraved by using the Continuous Engraving Feature in the following manner.

For demonstration purposes we will use the wording "CONTINUOUS ENGRAVING FEATURE" with one inch masters for 9/16" overall height finished letters. Layout and measure the Master Type, including spacers just as it will be engraved. The over-all length is about 22", the engraved message will be one-half this length or 11". We have selected an 11 1/2" Blank for engraving.



16. Measure 1/4" in from the left hand edge of the Sign blank and mark the protective coating with a soft pencil. Mark a center line on the protective coating of the Sign Blank with a soft pencil. Clamp the Master Type for 'CONTINUOUS EN' in the machine. With the Depth Control removed, place the Stylus tip in the center of the first Master Type letter "C". Clamp the Sign Blank on the plate with the cutter positioned at the point where your penciled guide line crosses. **Note:** The Sign Blank extends to the right of the Clamping Bar but the portion that you are about to engrave is supported by the Plate.

Engrave this portion of sign, following the instructions on Page 8.



17. Remove all Master Type with the exception of the last letter engraved (N). Position this letter at the extreme left and add the letters "GRAVING FEATU" and clamp. With the motor off, the Depth Control removed, and the Stylus Tip placed in the last letter engraved (N), loosen the Sign Blank and slide it to the left. Reclamp the Sign Blank in the position where the last letter engraved (N) lines up with the Cutter. **CAUTION:** Do not re-engage this last letter from the previous set-up!

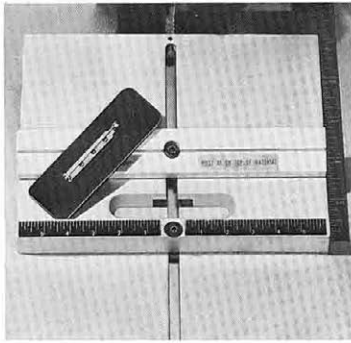
Replace the Depth Control and engrave the remaining letters.

Repeat this procedure as many times as necessary to engrave all the letters on the sign.

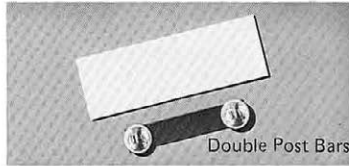
NAME TAGS

SPECIAL NAME TAGS

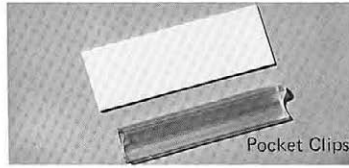
ENGRAVING ACCESSORIES



18. Name Tags with Pinbacks attached may be engraved on this machine. The Sign Blank Plate has a special clearance slot so that tags are supported without interference from projecting pins or clutches.



Double Post Bars



Pocket Clips

19. Special Name Tags must be engraved before the fasteners are bonded to the backs. (Double Post Bars w/Clutches and Pocket Clips.)

- Corner Rounder
- Custom Master Templates
- Cutter Gauge
- Cutters: High Speed, Carbide and Diamond Drag
- Depth Controls
- Fabricating Table
- Letter Trays
- Master Type Fonts
- Material Beveler
- Order Form Pads
- Paint Sticks
- Scott Kool
- Scott-Ply™ Engraving Material
- Sign Holders
- Slide Rule
- Stylus Tips

FINISHED ENGRAVED LETTER SIZES

For your reference here are actual size samples of Scott Standard Style finished engraved letters.

ML214

3/4" Letter, Cutter No. CA6
(3/32"). Yellow

ML13

9/16" Letter, Cutter No. CA4
(1/16"). Blue.

ML212 5/16" Letter
Cutter No. CA2
(1/32"). Red.

ML211 3/16" and 1/8" Letter
Cutter No. CA1
ML210 (1/64"). White.

ML217

2" Letter
Cutter No. CA16
(1/4"). Black.

ML216

1-9/16" Letter
Cutter No. CA12
(3/16"). Gold.

ML15

1" Letter
Cutter No. CA8
(1/8"). Green.

Effectiveness of signs is determined by their ability to communicate their message. The ability to attract attention is generally a result of the contrast between the mounting area and surface color of the sign. The higher the contrast, the more attention the sign will attract.

To make your signage effective, don't hesitate to establish standards which require a particular color combination to be used in some area or condition. (All door signs in an office building may be the same color, all directional information could be of the same size and color combination.)

Legibility of signs depends on the type style, the letter size, length of message and the color contrast between the sign surface and letter color.

Type Style

Scott Standard, and Helvetica type styles have maximum legibility. Script and various other artistic styles lend interesting variations and creative effects, but can reduce legibility.

Letter Size

A general rule with good lighting conditions and legible type style is: use a minimum of one inch of letter height for each 35 feet of viewing distance.

Standards may be set up for letter height in specific applications. (Door signs should have 1" overall letter height, desk signs should have 9/16" finished letter height, name tags are usually finished in a 3/16" or 5/16" letter.) Distances indicated in the chart below can be followed for most installations:

Letter Height	Average Viewing Distance	Maximum Viewing Distance
3/16"-5/16"	6 feet	10 feet
9/16"	12 feet	18 feet
1"	24 feet	36 feet
1-9/16"	36 feet	54 feet
2"	48 feet	72 feet

Material Color

Contrast between the surface color and the engraved letters increase the sign's legibility. A black surface with white letters or white surface with black letters represent maximums. Scott manufactures a high-quality engraving stock known as Scott-Ply. It is available in a wide range of contemporary colors that have been specifically selected for today's quick communication requirements.

Visual Consideration

A few things should be considered before you actually lay out a sign:

1. Finished letter size: Over what distance should it communicate?
2. Color: Should the sign be conspicuous, bright and visible, or quiet and subdued?
3. Sign Placement: Signage is best read at eye level.
4. Backgrounds: Consider where the sign will be positioned. A confusing background will diminish visibility.
5. Sign Size: The use of standardized sign sizes in your visual communication program will permit message transfer, not by word alone, but, just as importantly, by size.

For example, by making all directional signs the same size, you assist the communication process. The eye takes in the first message, and then the next sign of the same size "conditions" the eye to anticipate similar information. This same concept can be applied to any type of sign. Its effectiveness is further increased by using the same color or color combination.

6. Should the sign or series of signs be coded in one color to denote a single restricted area or department?

Color influences. Colors relay emotional messages. Warm colors (reds, oranges) excite and stimulate. Cool colors (blue, greens) quiet, subdue.

Color coding by departments, personnel functions, products, etc., is effective. Standardization of specific colors

for constant meanings increases effectiveness.

7. The message should be spaced properly on the sign blank, not pinched or squeezed. Multi-line signs require additional consideration. Don't be afraid to use extra space between lines. Extra space around your message can add emphasis, and increase legibility. Scott offers a Slide Rule Guide which can reduce your time in planning.

GENERAL INFORMATION

The Scott SM100B Signgraver is a lightweight portable unit which was designed to engrave Name Tags and Pocket Badges. It is capable of producing small signs up to 3-1/2" x 6" and longer, by using the Continuous Engraving Feature described on Page 11. Signs with more than one line of copy can also be produced. When cutting 2" letters, the top of the letter cannot be more than 2-9/16" from the bottom of the Sign Blank. With 1-9/16" letters, the top of the letter cannot be more than 2-15/16" from the bottom of the Sign Blank.

ENGRAVING MATERIALS

Materials that can be engraved on the Scott Signgraving Machine are: plastics (laminated and solid color), plexiglas, metals and wood.

Laminated Plastics

The laminated plastics materials are made up of a thin surface layer and a backing material called the "core" that is a contrasting color. They are used in most engraved sign applications. Engraving removes the surface layer so the letters or pattern shows the core color.

Laminated plastic materials are made in 2 and 3 ply thickness and in two kinds of materials, flexible and rigid. Two-ply has the thin surface layer on one side of the core and is used where only one side of the sign is to be seen (i.e. fastened on a wall or held in an extrusion). Three-ply has the colored surface layer on both sides of the core. It has no strength advantage over two-ply and is used only when both sides of the sign are engraved and visible (i.e. projecting corridor signs).

Scott-Ply™ laminated plastic is available in both 1/16th and 1/8th inch thicknesses. 1/16th is used in most 2-ply applications where it is attached to a surface, held in an extrusion or used as small signs. 1/8th is used in most 3-ply applications as in projecting corridor signs.

Scott-Ply (flexible) is usually used for most engraved signs and may be sawed, sheared, beveled, drilled, and engraved with standard wood-working tools. It can be cut with a paper shear and mounted on curved surfaces because it is flexible. It has film on the surface to protect the

surface color while it is being cut and engraved. The protective film is removed AFTER engraving.

Rigid material is similar to Formica counter top material. It is used where signs are subjected to high temperatures, chemical solvents or exposed to rough usage. Carbide tools must be used to saw, bevel or engrave it.

Solid Color Plastics

Solid color plastics are the same color all the way thru. They are engraved and then the engraved letters or pattern can be filled with a paint stick or liquid paint of a contrasting color.

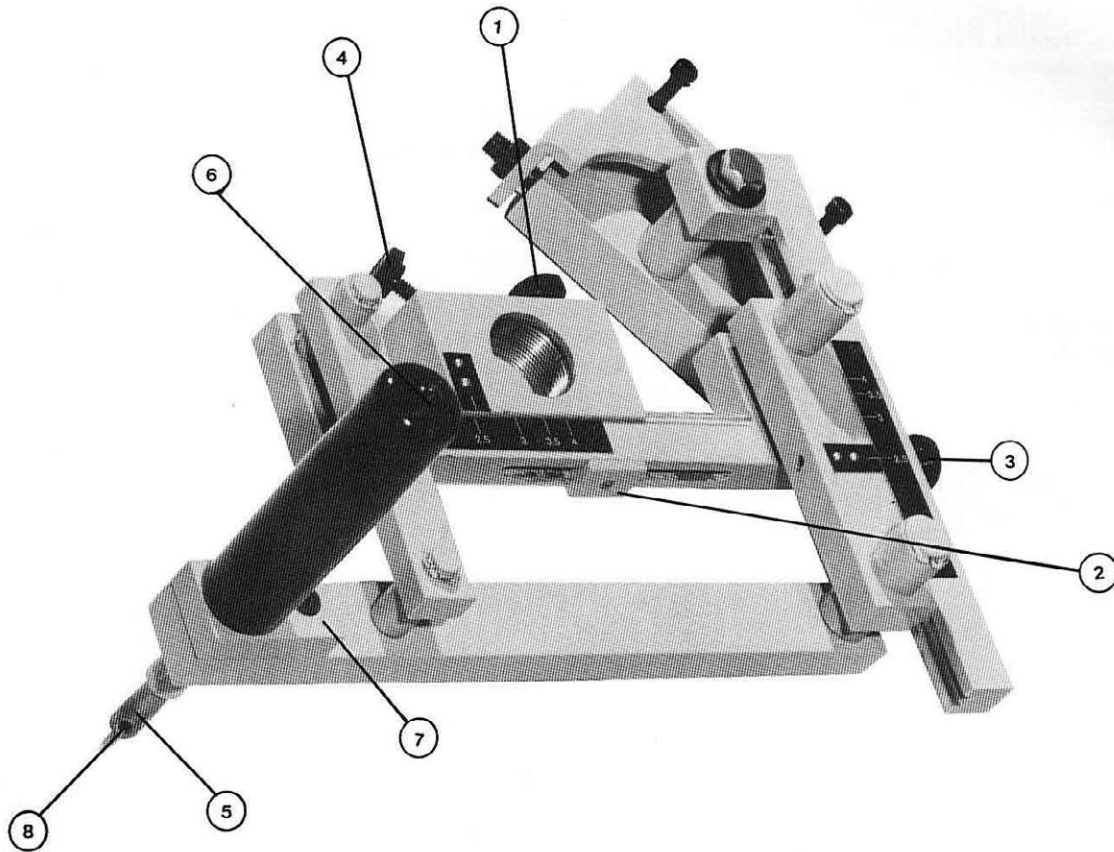
Plexiglas

Clear plexiglas may be engraved on either the front or back surface. Engraving on the back surface protects the letters and gives an attractive three-dimensional effect, but requires the use of special Reverse Masters (mirror image) to make the lettering legible from the front. The letters may be filled with the paint stick or enamel paints as desired. Interesting effects can be achieved by placing lights near the edge of the pieces. A small cutter with a deep cut (at least half way thru the material) is recommended, if special lighting is to be used.

Metals and Wood

The High Speed Steel Cutters are used with Scott Kool Oil to engrave in metal. Light cuts are made and depth increased

PARTS FOR SELECTABLE ARM — K025S1
for use with SM100B & SM400



PARTS FOR SELECTABLE ARM — K025S1
for use with SM100B & SM400

1. KS001 motor link lock screw assembly (washer)
2. KS002 T-slot nut
3. KS003 pivot link lock screw assembly (washer)
4. KS004 motor thumb screw assembly (nylon plug)
5. KTSB1 pantograph stylus holder
6. K044 pantograph grip cover — black
7. K045 pantograph grip assembly
8. K046 set screw only for stylus shaft

Use with K005* (117 volt) motor
(NOT INCLUDED).

*K006 (230 volt) for export.

several times until the required depth is reached. Free-machining alloys of brass or aluminum are required for engraving. A diamond drag can be used on the metals for fine line engraving such as trophy plates.

Wood may be engraved with High Speed Steel or Carbide cutters. The engraved area may be filled to provide a contrasting color.

Master Type Fonts

Scott Master Type may be purchased individually or in a complete assortment. This assortment of pre-packaged Master Type is called a Font. Scott Sign-graver Fonts are made of Delrin®, or hard Phenolic for exceptional durability. Phenolic Master Type requires light oil lubrication for best results.

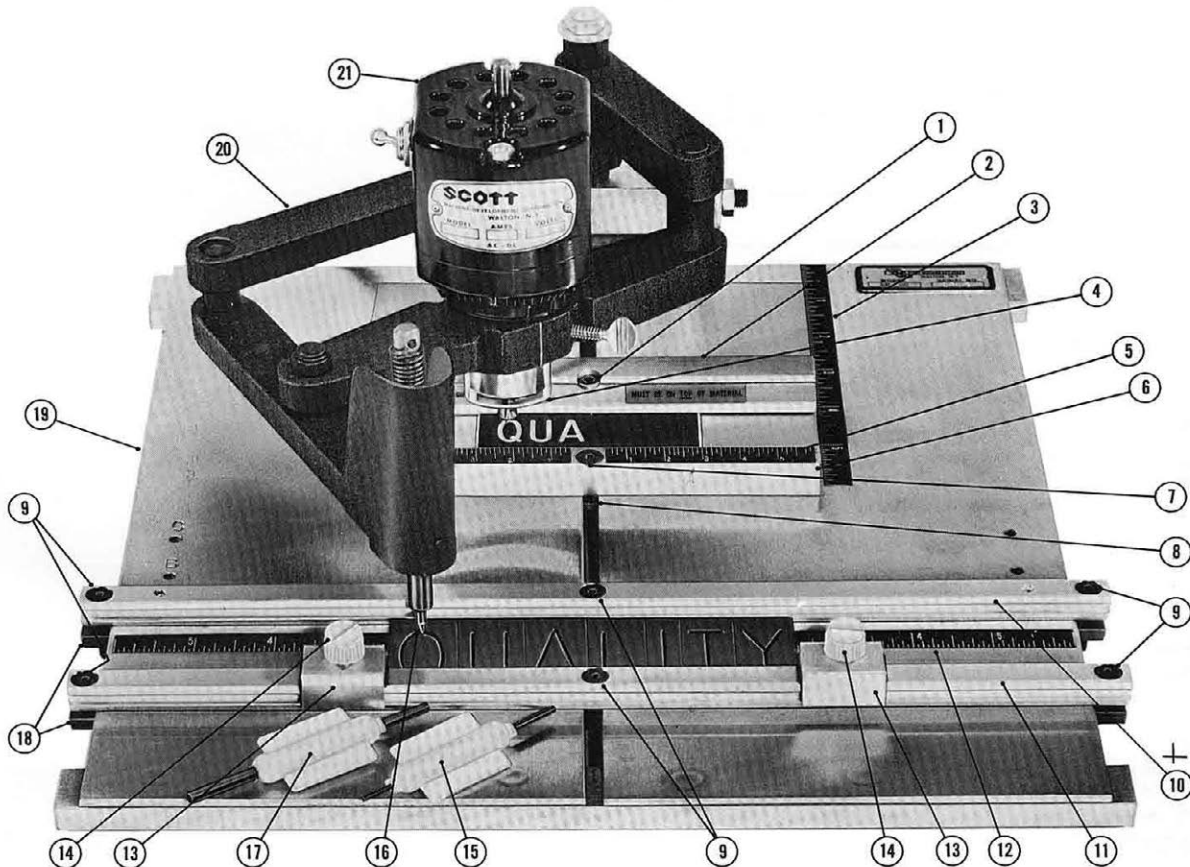
Certain Master Types could be incorrectly used (6 or 9, or an S). To prevent this the Master Type have either a dot on the bottom or a small notch at the top. Care should be taken when using the letter "O" and number (zero). They are nearly the same but the "zero" is narrower than the letter "O".

In each font there are Master Type for the high C in (MC) and low C in A, as in "MAC". Some fonts have a low R and S for (MR. & MRS.). Arrows and many Organization Symbol Templates are also available. (Templates or logos made to your design are available on special order.)

The only maintenance which is required on your Scott Signgraver is an occasional drop of oil. Twice a year, remove the motor from the machine. Invert it and remove the collet nut. Let a few drops fall on the snap ring and allow it to stand a few minutes. Turn the motor over and apply a few drops of oil thru the hole in the end plate. This will allow oil to impregnate the felt gasket around motor shaft. Vacuum the dust and plastic residue out of the motor.

	<u>Order No.</u>
1. Sign Blank Clamping Screw	K012
2. Sign Blank Clamping Bar	K100B01
3. Engraving Position Scale	K017
4. Motor Mounted Depth Control for Cutters up to and including 1/8"	K001
for Cutters over 1/8"	K002
5. Sign Blank Centering Scale (scale only)	K009
6. Sign Blank Plate w/Centering Scale	K100B02
7. Engraving Position Clamping Screw	K021
8. Tongue Nut	K010
9. Type Bar Clamping Screw (6 req'd)	K023
10. Upper Type Holding Bar w/Roll Pins installed	K100B03
Ass'y w/Nut Bar and Screws	K100B07
11. Lower Type Holding Bar Ass'y w/Nut Bar and Screws	K022
12. Master Type Centering Scale	K018
13. Horizontal Letterlock, w/Nylon Screw	K008
14. Letterlock Clamping Screw (screw only)	K019
15. Small Hex Wrench	K020
16. Stylus Tip, 34° angle	K003
20° angle	K013
17. Large Hex Wrench	K014
18. Nut Bar (2 req'd)	K004
19. Signgraver Base	K024
20. Complete Pantograph Assembly (less motor)	K100B04
21. Motor, 115 volts AC	K100B05
230 volts AC	K005
	K006

SPARE PARTS FOR SM100B SIGNGRAVER

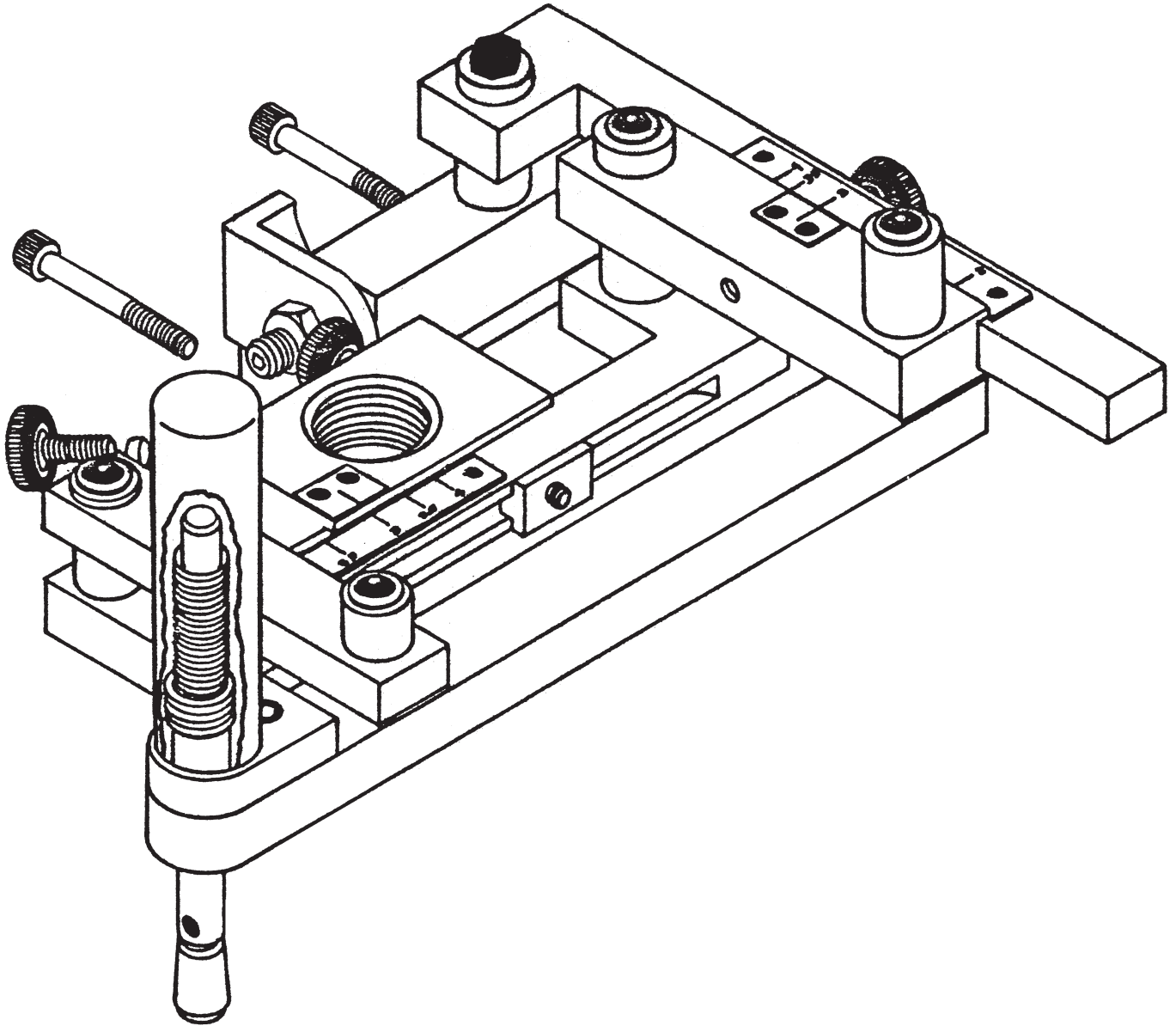




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K025S1 - Selectable Arm for SM100B

Installation & Operating Instructions



Scott Machine Development Corp.

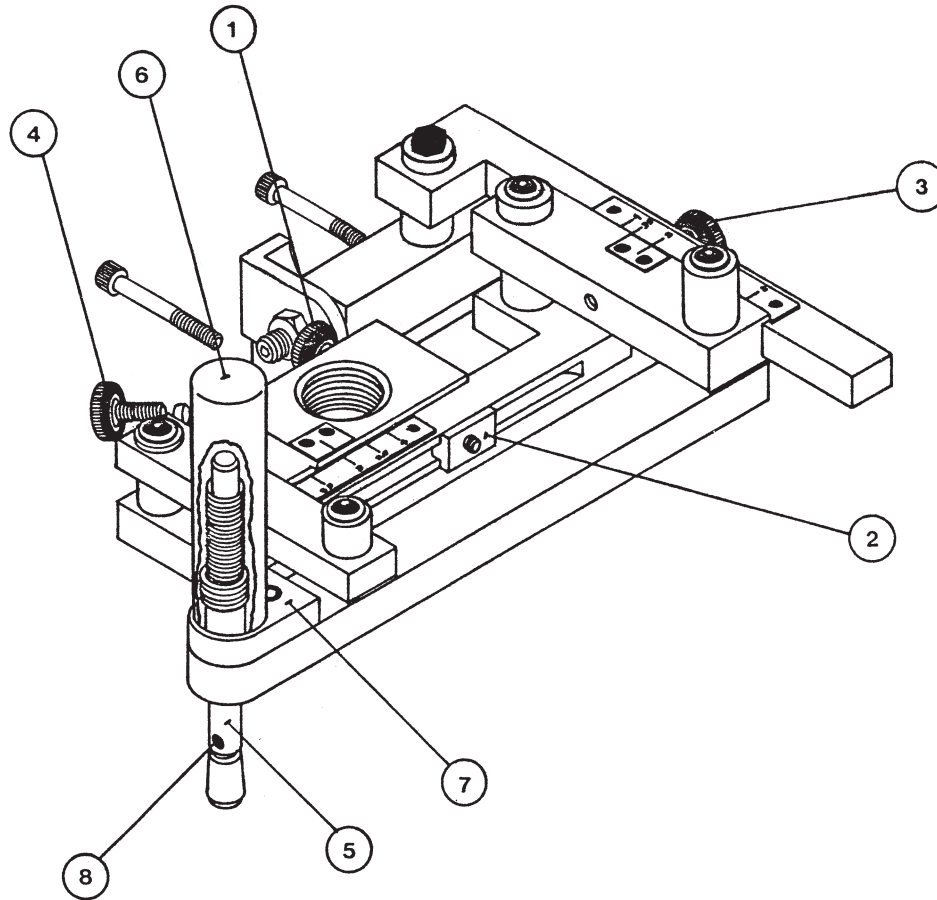
Ship: 200 Prospect Ave. Mail: PO Box 88, Walton, NY 13856-088

Tel: 607.865.6511 Fax: 607.865.7269

Web: www.scottmachinecorp.com

K025S1 - Selectable Arm for use with SM100B & SM400

Spare Parts - List Price Minimum Order \$25.00



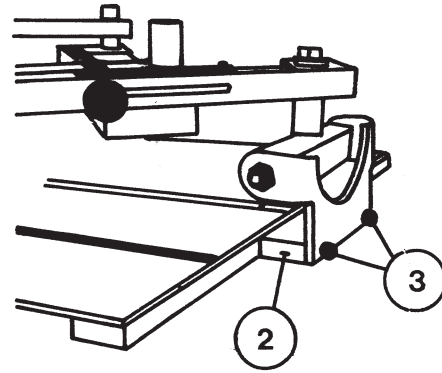
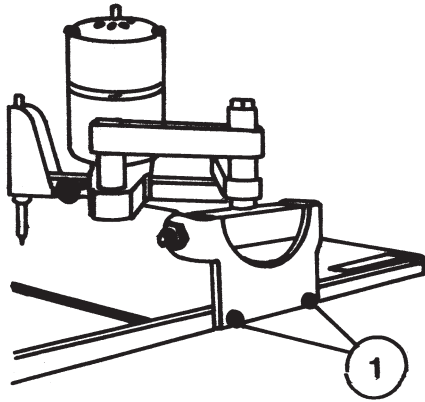
CATALOG NO.	DESCRIPTION	PRICE
① KS001	Motor link lock screw assembly (washer)	\$ 6.60
② KS002	T-slot nut	10.40
③ KS003	Pivot link lock screw assembly (washer)	7.80
④ KS004	Motor thumb screw assembly (nylon plug)	3.10
⑤ KTSB1	Pantograph stylus holder	18.40
⑥ K044	Pantograph grip cover - black	5.80
⑦ K045	Pantograph grip assembly	25.50
⑧ K046	Set screw only for stylus shaft	1.60

Use with K005* (117 volt) motor (NOT INCLUDED).

* K007 (Power Converter) for export.

INSTALLATION of Selectable Arm (K025S1) and Pantograph Mounting Bracket (K026S1) onto SM100B

- Remove 2:1 mounting kit (K100B05) and mounting kit (K100B16) by removing two screws①.
- Use spacer bar② to mount selectable pantograph (K025S1) and mounting kit (K026S1).
- Tighten screws③.

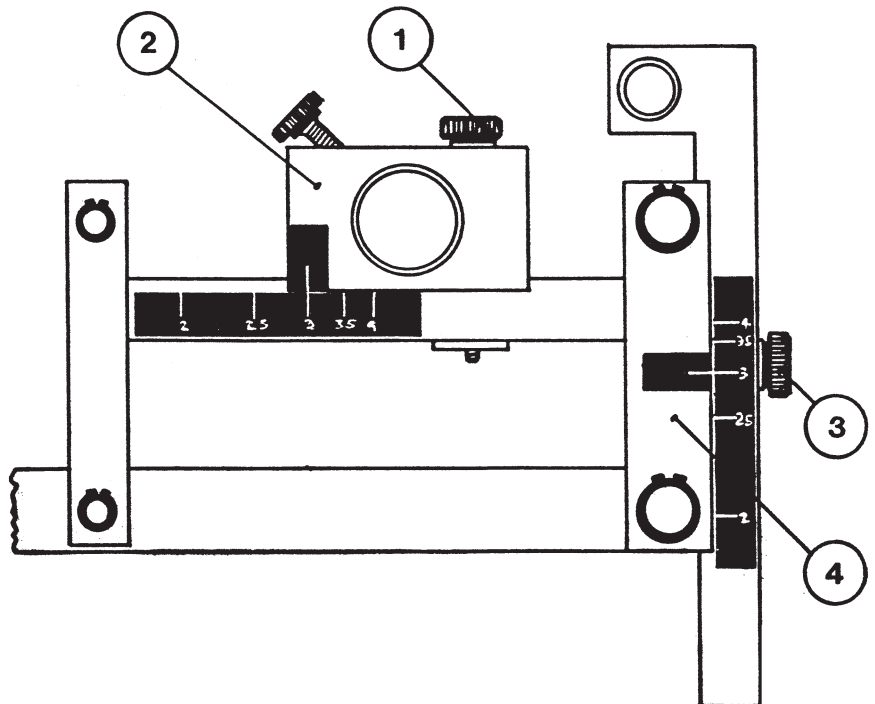


OPERATION of Selectable Ratio Pantograph (K025S1)

- Loosen motor link lock screw①.
- Slide motor mounting block② to desired ratio, align marks and tighten screw.*
- Loosen pivot link lock screw③.
- Slide pivot link④ to desired ratio, align marks and tighten screw.*
- Proceed with use of pantograph as outlined in Signgraver (SM100B or SM400) operating instructions.

* Please Note: These marks *must* be properly aligned to ensure the best engraving.

Special Note: With smaller fonts and greater reductions (eg. ML212, 4:1) use stylus mounted depth control (K002B). See pg 8, item 14 in SM100B/400 operating instructions.



FONT TEMPLATES Sizing Chart

Font Cat.No.	Blank Size	Master Letter Size	Finished Letter 2:1		Finished Letter 2.5:1		Finished Letter 3:1		Finished Letter 3.5:1		Finished Letter 4:1		Font Composition	Price per Font	(2) Price per Char
			Size	Recom. Cutter	Size	Recom. Cutter	Size	Recom. Cutter	Size	Recom. Cutter	Size	Recom. Cutter			
SCOTT Standard Style															
ML210	1 1/4"	1/4"	1/8"	1/64"	3/32"	1/64"	---	---	---	---	---	---	4A	91.20	1.70
ML211	1 1/4"	3/8"	3/16"	1/64"	5/32"	1/64"	1/8"	1/64"	1/8"	1/64"	3/32"	1/64"	4A	107.50	1.70
ML212	1 1/4"	5/8"	5/16"	1/32"	1/4"	1/32"	7/32"	1/32"	3/16"	1/64"	5/32"	1/64"	4A	111.30	1.70
ML13*	1 1/2"	1"	9/16"	1/16"	7/16"	1/16"	3/8"	1/32"	5/16"	1/32"	9/32"	1/32"	4A	121.30	1.70
ML214	1 3/4"	1 5/16"	3/4"	3/32"	19/32"	3/32"	1/2"	1/16"	7/16"	1/16"	3/8"	1/16"	4A	171.30	2.30
ML15*	2 1/4"	1 3/4"	1"	1/8"	13/16"	1/8"	11/16"	3/32"	9/16"	3/32"	1/2"	1/16"	4A	216.30	2.80
ML216	3 1/4"	2 3/4"	1 9/16"	3/16"	1 1/4"	3/16"	1"	1/8"	7/8"	1/8"	3/4"	1/8"	3A	268.80	3.20
ML217	4"	3 1/2"	2"	1/4"	1 5/8"	3/16"	1 5/16"	3/16"	1 5/32"	3/16"	---	---	2A	288.90	4.20
SCOTT Roman Style															
ML263	2 1/4"	1"	1/2"	1/32"	3/8"	1/32"	5/16"	1/64"	9/32"	1/64"	1/4"	1/64"	4A	308.80	2.80
ML265	2 1/4"	1 7/8"	1"	1/16"	13/16"	1/16"	11/16"	1/32"	9/16"	1/32"	1/2"	1/32"	4A	340.10	4.70
ML266	3 1/4"	2 3/4"	1 1/2"	3/32"	1 1/32"	3/32"	1"	1/16"	7/8"	1/16"	3/4"	1/16"	3A	403.80	6.00
<i>Scott</i> Script Style															
ML290	1 1/4"	1/2"	1/4"	1/64"	7/32"	1/64"	3/16"	1/64"	5/32"	1/64"	1/8"	1/64"	5A	273.80	3.00
ML291	2 1/4"	1"	1/2"	1/32"	7/16"	1/32"	3/8"	1/32"	5/16"	1/32"	1/4"	1/32"	5A	295.10	3.70
ML292	3 1/4"	1 1/2"	3/4"	1/32"	5/8"	1/32"	9/16"	1/32"	7/16"	1/32"	3/8"	1/32"	5A	361.30	4.00
ML293	4"	2"	1"	1/32"	13/16"	1/32"	11/16"	1/32"	9/16"	1/32"	1/2"	1/32"	5A	407.60	5.10
Scott Architectural Helvetica															
ML280	2 1/4"	1"	1/2"	1/32"	3/8"	1/32"	11/32"	1/32"	9/32"	1/64"	1/4"	1/64"	5A	337.60	2.90
ML281	2 1/4"	1 1/2"	3/4"	1/16"	5/8"	1/16"	1/2"	1/16"	7/16"	1/32"	3/8"	1/32"	5A	400.10	4.00
ML282	3 1/4"	1 7/8"	1"	1/16"	13/16"	1/16"	11/16"	1/16"	9/16"	1/32"	1/2"	1/32"	5A	546.30	4.70
ML283	4"	2 3/4"	1 1/2"	3/32"	1 7/32"	3/32"	1"	3/32"	7/8"	1/16"	3/4"	1/16"	5A	552.60	5.80
<i>Connecting Script</i> Connecting Script															
ML311*	1 1/4"	7/8"	7/16"	1/32"	11/32"	1/64"	9/32"	1/64"	1/4"	1/64"	7/32"	1/64"	5A	273.80	3.70
Optima Optima															
ML321	2 3/4"	1 1/4"	5/8"	1/32"	1/2"	1/32"	7/16"	1/32"	3/8"	1/32"	5/16"	1/32"	5A	301.40	2.90
ML322	2 3/4"	1 3/4"	7/8"	1/32"	3/4"	1/32"	5/8"	1/32"	1/2"	1/32"	7/16"	1/32"	5A	372.50	3.90
Condensed Block Condensed Block 3/4															
ML332	1 1/4"	3/4"	3/8"	1/32"	5/16"	1/32"	1/4"	1/32"	7/32"	1/32"	3/16"	1/64"	5A	180.10	2.20
ML333	2 3/4"	1 1/2"	3/4"	1/16"	5/8"	1/6"	9/16"	1/6"	7/16"	1/16"	3/8"	1/32"	5A	247.60	2.40
ML334	4"	2 3/4"	1 9/16"	1/8"	1 1/4"	1/8"	1"	1/8"	7/8"	1/16"	3/4"	1/16"	5A	318.80	3.00

ADJUSTMENTS to Machine when Changing Ratio and/or Fonts

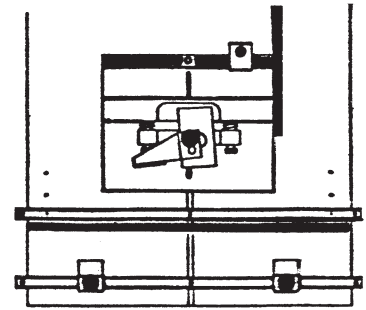
Please read before engraving:

As each different ratio is selected on the pantograph, the actual span of the arm is increased or decreased in size. Therefore it is necessary to compensate by adjusting the machine to fit the ratio selected.

Each Tag Engraver base has 3 locations (holes labelled A, B, C) for the upper Master Type Bar. Additionally, the Sign Blank Plate (or Tag Adapter) can be inserted into the machine in a reverse position.

The following chart is to be used as a guideline so that the machine can be properly set up *before* engraving.

Note: This chart illustrates set up allowing for maximum sign blank size that can be used in each ratio.



* Tag Adapter in reverse position

Font	Ratio	Upper master type bar hole location	Maximum sign blank size	Sign blank plate or tag adapter position
ML210 1/4" master	2	A	3½"	forward
	2.5	A	3"	* reverse
	3	A	2"	* reverse
	3.5	A	1½"	* reverse
	4	not recommended		
ML211 3/8" master	2	A	3½"	forward
	2.5	A	2½"	* reverse
	3	A	2"	* reverse
	3.5	C	1"	* reverse
	4	C	¾"	* reverse
ML212 5/8" master	2	A	3½"	forward
	2.5	A	2½"	* reverse
	3	A	2"	* reverse
	3.5	C	1"	* reverse
	4	C	¾"	* reverse
ML13 1" master	2	A	3½"	forward
	2.5	B	2¼"	* reverse
	3	B	2"	* reverse
	3.5	B	1¼"	* reverse
	4	B	1"	* reverse
ML214 1 5/16" master	2	A	3½"	forward
	2.5	A	3"	* reverse
	3	A	2"	* reverse
	3.5	A	1½"	* reverse
	4	B	1"	* reverse
ML15 1 3/4" master	2	A	3½"	forward
	2.5	A	3½"	* reverse
	3	A	2"	* reverse
	3.5	B	1½"	* reverse
	4	B	1¼"	* reverse

continued...

ADJUSTMENTS to Machine when Changing Ratio and/or Fonts

Note: This chart illustrates set up allowing for maximum sign blank size that can be used in each ratio with large letters while allowing for a longer message with more characters.

Font	Ratio	Upper master type bar hole location	Maximum sign blank size	Sign blank plate or tag adapter position
ML214 1 5/16" master	2	A	3½"	forward
	2.5	B	2½"	* reverse
	3	B	2"	* reverse
	3.5	B	1¼"	* reverse
	4	C	1"	* reverse
ML15 1 3/4" master	2	A	3½"	forward
	2.5	B	2½"	* reverse
	3	B	2"	* reverse
	3.5	C	1"	* reverse
	4	C	1"	* reverse



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K005 Engraver & Beveler Motor

INSTALLING CUTTERS

Always unplug Motor before changing cutter

- ① Remove Motor Mounted Depth Control
- ② Press the Shaft Lock Button and loosen the Collet Nut.
- ③ Remove the cutter and replace with the one of your choice
- ④ Tighten Collet Nut just enough so cutter can still move freely. Replace the Motor Mounted Depth Control on the motor until it locks against the Motor Link .
- ⑤ The Cutter tip should be protruding from the Motor Mounted Depth Control. Press a flat piece of engraving material against the cutter tip so it is flush with the end of the Motor Mounted Depth Control.
- ⑥ Press the Shaft Lock Button and tighten the Collet Nut.
- ⑦ Loosen the Motor Clamping Screw and turn the motor clockwise 1/8 of a turn. Tighten the Motor Clamping Screw. Tighten the Motor Mounted Depth Control. The tip of the cutter should be exposed slightly. The amount it is exposed will be the depth of the cut. Always start with a shallow cut, then increase to the required depth.

MOTOR SPEED SWITCH

Low - Use for Engraving
 High - Use for Beveling

