

STEP OUTLINE

For

VARI-TYPER OPERATORS

Prepared by -

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UNIT I.

INTRODUCTION TO FEATURES OF THE VARI-TYPER - (TYPOGRAPHY)

1. Anvil.
 - a. Heart of machine.
2. Changeable type.
 - a. Simple: hold with thumb and forefinger; depress "type-change key" and insert.
 - (1) Insert with prong down -- do not insert upside down.
3. Changeable horizontal spacing.
 - a. 10, 12, 14, 16. — Standard spacing.
 - b. Other combinations to meet specific needs. *(raise escapement
thru.)*
4. Flexible vertical spacing.
 - a. Each click equals 1/18 of an inch.
 - b. Notches on "set line spacing" which works with the carriage return lever are spaced:

1st. (top)	-	2/18	or	9	lines per inch.
2nd.	-	3/18	or	6	lines per inch.
3rd.	-	4/18	or	4½	lines per inch.
4th.	-	5/18	or	3 3/5	lines per inch.
5th.	-	6/18	or	3	lines per inch.
5. Uniform impression.
 - a. 1 - light.
 - b. 2 - medium.
 - c. 3 - heavy.
6. Inserting paper - front feed.

Marginal stops (same as typewriter).
7. Remember from demonstration how to bank carriage, use of escapement bar, soft roller, writing line guide, spot copy and spot characters.
8. Types.
 - a. Serif type - with ornaments or wings.
 - b. San-serif type - without wings (unornamented).
 - c. Print type - has shadings and serifs.
 - d. Roman type - has serif only, no shading.
 - e. Gothic type - is unornamented.
 - f. Italic types - in all types - (on slant).
9. Repeat key.
 - a. For bold face headings.

UNIT II.

HALF-BACK SPACER.

1. Located on right hand side of machine directly below back-spacer.
2. Half-back spacer as used to keep right hand margin straight. (One method of Justification; referred to as the Manual or Half-back spacer method.)
 - a. Before you can straighten your right hand margin you must have a rough copy provided giving you the number of characters you are short or over your longest line.
 - (1) If your line is one space shorter than the longest line you must work that space in somewhere within your line.
 - (a) A word will be chosen within the line and an extra 1/2 space allowed in front of it and an extra 1/2 space behind it.
 - /1/ To accomplish this you will type in your usual manner until you come to the word chosen. -- THEN -- space twice before the word, depress your half-back spacer, while it is depressed strike your character, release your half-back spacer, space once, depress your half-back spacer, strike your next character, release your half-back spacer, space once, repeat the same for each character in the word and space twice after the word. By doing this you have placed an extra 1/2 space both before and after the word.
 - (2) When your characters are in excess of your longest line you must condense.
 - (a) To accomplish this you will type in your usual manner until you come to the word chosen, -- THEN -- space once before your word, half-back space the word as above, - and space once after the word. By doing this you have taken out 1/2 space both before and after the word.
 - (3) If you are short or over more than one space in your line, one word will be needed to spread or condense each space.
 - (a) When several words are needed you will never use two words side by side.
 - (b) Never use the first or last word of your line.
3. The half-back spacer will be used more frequently for centering of headings than any other purpose.
 - a. If even number of characters (when centering on page) back space one (1) less than 1/2 and use half-back spacer to perfectly center heading.
 - b. If uneven number of characters do not use half-back spacer to perfectly center headings. (when centering on page).

UNIT III. (Continued)

- (c) Dirty pen (ragged line).
- (d) Too much ink (smudge).
- (e) Not enough ink (broken line - hard to go back over and cover up).
- (f) Guide slips into wet ink (smears).

2. Vari-Typing forms.

a. Forms can be Vari-Typed first and ruled after -- or -- the form can be drawn and the copy centered.

- (1) Depending upon the requirements of your department.
- (2) When typing first:
 - (a) Determine size of type suitable for work to be done - (horizontal and vertical spacing) and proceed to type leaving sufficient space for each column. CENTERING COLUMN TITLE IN THIS SPACE ALLOWED.
 - (b) Remove from machine and place on drawing board and rule.
- (3) When centering copy in given box or form:
 - (a) Determine number of clicks (ratchet turns) in box. (VERTICAL)
 - /1/ When centering vertically take total number of clicks in box and subtract the number required for writing.
 - /a/ Each line requires 2 clicks (ratchet turns) to write upon.
 - /2/ The difference is extra and must be divided equally between the top and bottom.
 - /3/ EXAMPLE:

-- Has 8 clicks or (ratchet turns). There are to be 3 lines of writing in this; which is 3 lines times 2 clicks per line equals 6 clicks needed to write. -- SO -- 8 total clicks minus 6 clicks for writing equals 2 extra clicks in box; which means -- 1 at the top and 1 at the bottom.

TIME NO. CARD

- /a/ To accomplish:
 - 1- Pull out soft roller and get top line of box flush against writing guide.
 - 2- Turn up 1 click ($\frac{1}{2}$ of the extra) plus two more clicks to write the first line on.
 - 3- After centering the line horizontally also, proceed to type.
 - 4- For the next line you will again turn up 2 clicks, center it horizontally and type, etcetera.
- (b) To center HORIZONTALLY in given space (box).
 - /1/ By using escapement bar line your writing point (point on shield) up with the left hand side of box (on line).
 - /a/ Strike space bar and at the same time spell out the material to be centered. -- THEN -- by continuing to strike space bar count the number of spaces left in the box. (these are extra)
 - 1- Space in HALF of the EXTRA SPACES and type material. When finished the same number of spaces will be on either side of typing. -- Use half-back spacer when necessary to perfectly center copy.
- (4) Boxed or Upper Left-hand corner forms.
 - (a) From top of box turn down 2 clicks.
 - (b) From left hand side of box go in 1 space. WRITE

UNIT III.

FORMS.

1. Ruling forms.

- a. Many times a draftsman is not available to rule the necessary forms and you should be able to satisfactorily rule them.
- b. When ruling forms the following instruments are considered indispensable.
 - (1) Drawing board.
 - (a) Always on a firm base at a convenient height. The edges kept free from chips, dents, etcetera which might impair the accuracy of the T-Square.
 - (2) Drawing pencils, 2H or 3H.
 - (a) The point of the drawing pencil should be kept long and conical, much longer than for ordinary use.
 - (3) T-Square,
 - (a) Used principally for drawing horizontal lines; its other purpose is for use as a base on which to rest the triangles.
 - (b) Hold T-Square firmly with left hand and draw lines from left to right.
 - (4) 45 and 30-60 degree triangles.
 - (a) Used as a guide when drawing vertical or sloping lines.
 - (b) T-Square is used as base to place triangles against.
 - (c) Ordinarily the left side of the triangle is used and the lines are drawn with an upward stroke.
 - (5) Ruler or scale (12 inch).
 - (6) Art Gum (removes soil).
 - (a) Very carefully over ink lines as it will take the life out of them.
 - (7) Chinese White (covers unwanted marks when preparing form for photographing).
 - (8) Erasers (usually "Ruby").
 - (9) Eraser shield.
 - (10) Thumb tacks or draftsman's scotch tape.
 - (a) Not transparent scotch tape, but brown crinkley paper. It does not injure the finish of drawing paper when removed.
 - (b) To securely fasten paper to drawing board.
 - (11) Black India Ink.
 - (a) Dries rapidly. - Always test on separate sheet of paper.
 - (b) Never use blotter.
 - (12) Ruling pen.
 - (a) Used to draw lines of various widths, the widths being regulated by the thumb screw on the side of the head of the pen.
 - (b) To fill pen: use quill filler or dropper provided in most bottles of drawing ink. (Put ink between the two points of the pen.)
 - /1/ Ink should fill pen tip to a height of 1/4 inch.
 - /a/ If too much ink: weight of ink may cause it to run out onto the drawing.
 - /b/ If too little ink: line may not be completed.
 - (c) Never use free-hand.
 - /1/ Always with the guiding edge of the T-Square, triangle, ruler, etc.
 - (d) Hold with blades parallel to guiding edge with handle slanting (incline) in the direction of motion.
 - (e) Points of pen must have equal pressure on the paper.
- c. Imperfections in inked lines may be caused by the pen, ink, paper, or operator.
 - (1) Beginner's faults:
 - (a) Ink on under side of pen. (runs under guide and smears).
 - (b) Pen not vertical to guide (ink runs under).

UNIT IV.

DIAL POINTER JUSTIFICATION: Using pre-typed copy.

1. Move marginal stops to extreme ends of carriage.
2. Check type, set machine at proper spacings, and ~~move moveable trolley to right end of rod.~~ *NOT NECESSARY*
3. Count number of characters in longest line of copy; set this number on the back scale at the proper horizontal spacing level.
4. Insert a sheet of paper and sight OR tab, space once to the point where you wish the copy to be typed (left hand margin); at this point set moveable trolley to correspond EXACTLY with the back scale setting (POINT OF JUSTIFICATION)
NOTE: check this very closely.
5. Set dial pointer for each line following the horizontal spacing that you are using. The dial pointer is set at the number on the scale that each line is short of being the desired number of characters wide.
6. When you have completed your justifying work return the machine to a non-justifying position.
 - a. Dial pointer at "N" (extreme right).
 - b. Return the moveable trolley to the extreme left end of rod so that the tail of the trolley rests on the arm of the rod.

PREPARING ROUGH COPY.

1. Determine width of column.
2. Write number of characters in column width across top of page and type your rough copy, staying within your limitations. When your word does not completely fill your line mark in some way the number of characters short and your justification will allow that space within your line, bringing your right-hand margin even all the way down your page.
3. EXAMPLE:

123456789 123456789 123456789 123456789 123456789 1234
The other evening I was in a grand company, where 0
the new lamp was introduced, and much admired for itsx 1
splendor; but a general inquiry was made, whether thex 1
oil it consumed was not in proportion to the light itx 1
afforded, in which case there would be no saving inxxx 3
the use of it.

(For this example the letter "X" was used to mark the number of characters each line was short.)

4. Unless specified by regulation it is advisable for attractive copy to indent one character for each inch of column width when indenting for paragraphs.
EXAMPLE: 4 inch column - indent 4 characters.

UNIT IV. (Continued)

AUTOMATIC JUSTIFICATION: Pre-typing and Justifying at the same time.

FOR PHOTOGRAPHIC WORK ONLY.

1. Set removeable marginal stop at 80 ALWAYS.
2. Set the left hand marginal stop away from 80 for the space required for the desired column width. (the marginal scale is divided into 10ths) so--- if your column is to be 3 inches wide the left hand marginal stop will be set at 50, which is 3 inches away from 80. (80-30 equals 50) *Insert paper. Mark inches by scale rod.*
3. Check type, set machine at proper spacings and move moveable trolley to right end of ~~rod.~~ *NOT NECESSARILY*
4. Count the number of characters in this column width; set this number on the back scale.
 - a. Count the number of characters on the left hand side of paper (rough copy) until the dial registers at zero ----- AT THE SAME TIME; ---check the dial registration. The dial pointer must cover the silver box to the right of the number (adjust by turning the Marginal Stop Rack Adjustment Thumb Nut) *(left side - looks seals.)*

NOTE: This must also register at the correct horizontal spacing on the dial scale.
5. Tab to 90, space once and set moveable trolley to correspond with the back scale setting.
6. For attractive copy indent one character for each inch of column width when indenting for paragraphs. (Unless otherwise specified)
7. TYPE.

NOTE: Never space after the last character of the line. (If you forget and space make correction by returning carriage to right again and hitting space bar until you reach correct (or last) character.
8. When you have completed your justifying work return the machine to a non-justifying position.
 - a. Dial pointer at "N" (extreme right).
 - b. Return the moveable trolley to the extreme left end of rail so that the tail of the trolley rests on the arm of the rail.
 - c. Removeable marginal stop returned to the extreme right end of carriage.

Movable trolley must rest on track (it sometimes falls down off its support.)

UNIT V.

COPY FOR VARIOUS METHODS OF REPRODUCTION.

1. STENCIL (usually run on mimeograph)
 - a. Remove ribbon.
 - b. Leave shield in position.
 - c. Watch limitations on stencil (usually 7" wide)
 - (1) Letter size stopping point.
 - (2) Legal size stopping point.
 - d. Remove backing sheet; use special Vari-Typer backing sheet.
 - (1) Clip stencil to top of backing sheet.
 - (a) Stencil about 1/4 inch below the backing sheet.
 - (2) Roll from bottom up.
 - (a) There will be some buckling and the 1/4 inch left at the top will be taken up by this.
 - (b) Release the clips to take buckle out and re-clip to backing sheet.
 - e. Use stencil light (shadow light) and watch imprint of characters. The stencil is coated with wax and type will require frequent cleaning.
 - (1) It is very essential to keep type clean if a clear, sharp copy is desired.
 - (2) Clean with a striking motion.
 - f. Corrections.
 - (1) Burnish to fill cut with wax.
 - (2) Use correction fluid.
 - (a) Not too much.
2. DUPLIMAT PLATE - Direct.
 - a. To be run on multilith duplicator.
 - b. Use fabric ribbon (special Duplimat ribbon)
 - c. Make guide lines with non-grease pencil.
 - d. Principle: Attraction of grease for grease and the antipathy of grease for water.
 - e. Corrections: gritty rubber eraser or glass eraser.
 - f. Must be run within 12 to 24 hours after typing.
 - g. CANNOT be filed away for future use. (cannot be re-run)
3. LITHO-MAT PLATE - Direct.
 - a. To be run on multilith or Davidson Duplicator.
 - b. Use carbon paper ribbon (1200)
 - c. Make guide lines with non-grease pencil.
 - d. Principle: Attraction of grease for grease and the antipathy of grease for water.
 - e. Corrections: Soft rubber eraser (lightly)
 - f. Can be run anytime.
 - g. CAN be filed away for future use.
4. METAL PLATE - Direct.
 - a. Same as Litho-Mat with one exception: -- use glass eraser for correction.
 - b. Use backing sheet.

UNIT V. (Continued)

4. PHOTO-OFFSET - Negative from photograph.
 - a. On paper.
 - b. NO erasures. -- if necessary to make corrections, use the paste-up method. After pasteing use Chinese White to cover up unwanted marks.
 - c. If notations or guide lines are necessary use light blue pencil and it will not show when reproduced.
 - d. Use carbon paper ribbon (1200).

5. BLUE PRINT.
 - a. Use tracing cloth.
 - b. Due to variation of tracing cloth quality it is difficult to hold to a steady fast rule on ribbons. (#440 ribbon is recommended.) -
 - c. Corrections: Ruby eraser (found in drafting rooms).
 - d. Apply pounce after finishing.
 - (1) If not done, copy will smear.

CLEANING THE MACHINE.

1. The machine requires a general, complete cleaning once a week; and your type, rollers, and anvil should be kept clean, how often depends upon how much you are using them. Usually twice a day will suffice.
2. General cleaning consists of:
 - a. Feed rollers.
 - b. Type.
 - c. Anvil.
 - d. Ribbon cups. (They collect particles of carbon and may soil copy.)
 - e. Transparent paper basket.
 - f. Keys.
 - g. Dusting all parts of machine that can be reached.
 - h. Cleaning type box.

NEVER OIL YOUR MACHINE. - The Service-man will take care of oiling. Just call him.

TYPE AND FEED ROLLERS MUST BE KEPT CLEAN AT ALL TIMES.

UNIT V. (Continued)

CARE OF VARI-TYPER.

1. Before calling Service-man check these few items.
 - a. Be sure machine is plugged in.
 - b. When using Carbon Paper Ribbon make sure ribbon button is pulled out; otherwise ribbon will not feed.
 - c. When using cloth ribbon the winding procedure will change automatically when spools empty.
 - d. DO NOT FORCE ANY PART OF MACHINE
 - e. Check moveable trolley and bar.
 - (1) Moveable trolley must be up. (Held in position by resting tail of thumb screw on arm at extreme left and tightening thumb screw.)
 - (2) End of bar must be in notch provided for such.
 - f. If paper slips -- clean feed rolls. Usually caused by dirty rollers. If this does not correct the trouble call your service man.
 - g. If type is not moving freely on anvil or sticks when used ----
PLEASE! Clean it. This is usually all it needs. If cleaning does not correct your trouble call your service-man.
 - h. To find Serial Number --
 - (1) Move carriage to extreme left of machine and look under the bell. (on right) - a metal plate bears your serial number.
 - i. REVIEW - Night check.
 - (1) Feed rolls open.
 - (2) Impression control set at 1.
 - (3) Horizontal spacing at 16.
 - (4) If justifying be sure and leave machine in a non-justifying position.
 - (a) Dial pointer at "N" (Extreme right)
 - (b) Move thumb screw on moveable trolley to extreme left, or until tail of screw rests on arm of trolley.
 - (c) Place removeable marginal stop on extreme right end of carriage.

UNIT VI.

TYPE PLATE (FONT) No. 321 or 295.

1. Used exclusively for headings.
2. ALWAYS written in caps. (Keep "Cap" shift locked)
3. Due to size of characters the "W" and "M" require an additional stroke to complete the characters.
 - a. When writing "M" --
 - (1) Strike your "M" key
 - (2) Half-back and strike your colon key. (Thus forming the complete "M")
 - (3) After doing this you must half-back the remainder of your word or until you come to another letter requiring the use of the half-back spacer. (M - W - I).
 - b. When writing "W" --
 - (1) Strike your "V" key
 - (2) Half-back and strike your "W" (Thus forming the complete "W")
 - (3) After using your half-back spacer you must continue to do so for the remainder of your word or until you come to another character requiring the use of the half-back spacer (M - W - I)
4. The letter "I" is off center and requires the use of the half-back spacer.
 - a. If the preceding characters were half-backed, do the same to your letter "I". -- BUT -- do not space after and the characters following it will NOT be half-backed until after you strike another "I" or the "M" or "W".
 - b. In other words: -- if the "I" is half-backed the characters following it will not be until you strike another character which requires the use of the half-back spacer.
If the "I" is not half-backed the characters following it will be until you strike another character which requires the use of the half back spacer.
5. This type is most frequently used at 10 characters per inch, 3 3-5 lines per inch and 3 impression.
 - a. To add attractiveness to copy it can be used at 14 characters per inch by spacing once between each character of the word and twice between words. (Actually 7 characters per inch)
6. PRACTICE WORDS

Mississippi	Appendicitis
Missouri	Variation
Room	Vermin
May	Versatile
Indiana	Vindicate
Government	Waive
Picture	Witch
Man	Bewail
Woman	Cambric
Lamp	Commission
Whittier	Compile
Illusive	Madam
Wlm	Icicle
Grievance	Estimate

SPACING AND IMPRESSION CHART

TYPE NO.	NAME OF TYPE	SPACING		IMPRESSION							
		HOR.	VER.	PAPER	REP.	STENCIL	REP.	METAL PLATE	REP.	PAPER PLATE	REP.
23B	Pica (Vari-Typer)	10-12	6	2	-	3	-	3	-	2	-
24	Elite (Vari-Typer)	12	6	2	-	3	-	3	-	2	-
25	Pica (Oversize)	10	4 1/2	2	-	3	-	3	-	2	-
26	Special	12	6	2	-	3	-	3	-	2	-
27, E, P	Gothic	12	6	2	-	2	-	2	-	1	-
28	Italics (Back Slant)	12	6	2	-	3	-	3	-	2	-
40	Special	10-12	6	2	-	3	-	3	-	2	-
41	Special	12	6	2	-	2	-	2	-	1	-
43	Medical	12	6	2	-	3	-	3	-	2	-
43A	Medical	12	6	2	-	3	-	3	-	2	-
52	Special	10-12	4 1/2	2	-	3	-	3	-	2	-
68	Elite (Italic)	12	6	2	-	3	-	3	-	2	-
80	Viennese Script	12	6	2	-	2	-	2	-	2	-
96	Gothic (Vari-Typer)	12	6	2	-	2	-	2	-	2	-
97B	Gothic (Oblique)	10-12	4 1/2	3	-	3	1	3	-	2	1
97Bold	Gothic (Bold Oblique)	10-12	4 1/2	3	1	3	2	3	2	2	1
107	Chemical	12	6	2	-	3	-	3	-	2	-
113	Library	12	6	2	-	3	-	3	-	2	-
122A	Diacritical	12	6	3	-	3	-	3	-	3	-
135, B, CE	Mathematical	12	6	2	-	3	-	3	-	2	-
136	Chemical	12	6	2	-	2	-	2	-	1	-
145	Pica	10-12	6	2	-	3	-	3	-	2	-
158	Modern Roman	14	6	2	-	2	-	2	-	2	-
158H	Library	12-14	6	2	-	2	-	2	-	1	-
162	Special	12	6	2	-	2	-	2	-	2	-
169	Pica (Italic)	10-12	6	2	-	3	-	3	-	3	-
170	Clarendon	10-12	6	3	-	3	-	3	-	2	-
179	Chemical	12	6	2	-	2	-	2	-	1	-
180	Park Medium	16-18	9	1	-	2	-	2	-	1	-
180L	Park Medium	16	9	2	-	2	-	2	-	1	-
180LB	Park Medium (Bold)	16	9	3	-	3	1	3	1	3	-
184	Fractional	12	6	2	-	2	-	2	-	2	-
192	Chemical	12	6	2	-	2	-	2	-	2	-
193, 194	Library	12	6	2	-	3	-	3	-	2	-
195	Astrological	12	6	2	-	3	-	3	-	2	-
196, 197	International Phonetic	12	6	2	-	3	-	3	-	3	-
204	Mathematical	12-14	6	3	-	3	-	3	-	1	-
211	Miniature (Italic)	14-16	6-9	2	-	2	-	2	-	2	-
224	Manhattan (Old Style)	12	6	2	-	3	-	3	-	2	-
224-7	Manhattan (New Style)	16	6-9	2	-	3	-	2	-	2	-
225-8	Gotham (Old Style)	14	6	2	-	2	-	2	-	1	-
226	Light Line Gothic	12	6	2	-	2	-	2	-	2	-
228	Special Symbols	12	6	2	-	2	-	2	-	2	-
228-8	Tariff Symbols	14-16	9	1	-	1	-	1	-	1	-
229	Express Gothic	12	6	3	2	3	3	3	2	2	2
232	Viennese	12	6	2	-	2	-	2	-	1	-
233	Tariff Roman	16	6-9	2	-	2	-	2	-	1	-
233-7	Tariff Roman	14	6	2	-	2	-	2	-	2	-
250-6	President	10	9	1	-	2	-	2	-	2	-
250-7	President	14	6	2	-	3	-	2	-	2	-
250-8	President	12	6	3	-	3	-	3	-	3	-
250-9	President	12	6	3	-	3	1	3	-	3	-
250-10	President	12	6	2	-	3	2	3	-	3	-
270-8	Express Gothic Small	14	6	3	-	3	2	3	2	3	-
271	Manhattan (New Style)	12	6	3	1	3	2	3	1	3	-
300	Caslon (Old Style)	14	6	2	-	3	-	2	-	2	-
310-8	Litho-Book	14-16	9	2	-	3	-	3	-	2	-
310-10	Litho-Book	12-14	6	2	-	3	-	3	-	2	-
310-12	Litho-Book	10-12	6	3	-	3	2	3	2	2	2
315-8	Litho-Book (Italic)	14-16	9	2	-	3	-	3	-	2	-
315-10	Litho-Book (Italic)	12-14	6	2	-	3	-	3	-	2	-
315-12	Litho-Book (Italic)	10-12	6	3	-	3	2	3	2	2	2
320-9	Alexandria	14	6	3	-	3	-	3	-	2	-
320-10	Alexandria	14	6	3	-	3	1	3	-	3	-
325-9	Alexandria (Italic)	14-16	6-9	3	-	3	-	3	-	2	-
325-10	Alexandria (Italic)	14	6	3	-	3	1	3	-	3	-
330-10	Metropolitan Roman	14	6	3	-	3	-	3	-	2	-
345-8	Engineers Slant Type	12&16	6	2	-	3	-	2	-	1	-
345-10	Gothic Slant	14	6	2	-	3	-	2	-	2	-
434	Medium Gothic	10	4 1/2	3	1	3	3	3	2	2	2
434-14	Heavy Gothic	10	4 1/2	3	2	3	4	3	2	2	2
350 #5	Gopper Plate Gothic	12-14	6	3	-	3	1	3	-	2	-
dk											dk