



ENGINEERING DRAWING FOR CIVIL ENGINEERS (LAB)

LECTURE # 3

LETTERING

DEPARTMENT OF CIVIL ENGINEERING



LETTER STYLES

Letter styles are generally classified as *Gothic*, *Roman*, *Italic* and *Text*. They were all made with speedball pens, and are therefore largely single-stroke letters. If the letters are drawn in outline and filled in, they are referred to as “filled- in” letters. The plainest and most legible style is the *gothic* from which our single-stroke engineering letters are derived. The term *roman* refers to any letter having wide down ward strokes and thin connecting strokes. *Roman* letters include *old romans* and *modern roman*, and may be vertical or inclined. Inclined letters are also referred to as *italic*, regardless of the letter style; *text* letters are often referred to as *old English*.



CLASSIFICATION OF LETTER STYLES

Classification of letter styles by division of groups

ABCDEF G H **GOTHIC** All letters having the elementary strokes of even width are classified as Gothic ~
abcde fgh ← Made with Style A or B Speedball Pen

ABCDEF G H **Roman** All letters having elementary strokes "accented" or consisting of heavy and light lines, are classified as Roman.
abcde fghij ← Made with Style Cor D Speedball Pen

ABCDEFGHI **Italic**- All slanting letters are classified as Italics- These may be further designated as Roman-Italics, Gothic Italics or Text Italic.
abcdefghijklm ← Made with Style Cor D Speedball Pen

A B C D E F G **Text**- This term includes all styles of Old English, German text, Bradley text or others of various trade names ~ Text styles are too illegible for commercial purposes.
abcde fghijkl ← Made with Style Cor D Speedball Pen



CLASSIFICATION OF LETTER STYLES

Depending up on the spacing between words and thickness of strokes, letters may be classified as follows.

EXTENDED AND CONDENSED LETTERS

To meet design or space requirements, letters may be narrower and spaced closer together, in which case they are called “*Compressed*” or “*Condensed*” letters. If the letters are wider than normal, they are referred to as “*Extended*” letters.

LIGHT FACE AND BOLD FACE LETTERS

Letters also vary as to the thickness of the stems or strokes. Letters having very thin stems are called *Light Face Letters*, while those having heavy stems are called *Bold Face Letters*.



TECHNIQUE OF LETTERING

“Any normal person can learn to letter if he is persistent and intelligent in his efforts.” While it is true that *“Practice makes perfect,”* it must be understood that practice alone is not enough; it must be accompanied by continuous effort to improve.

There are three necessary steps in learning to letter:

1. Knowledge of the proportions and forms of the letters, and the order of the strokes.
2. Knowledge of composition- the spacing of the letters and words.
3. Persistent practice, with continuous effort to improve.



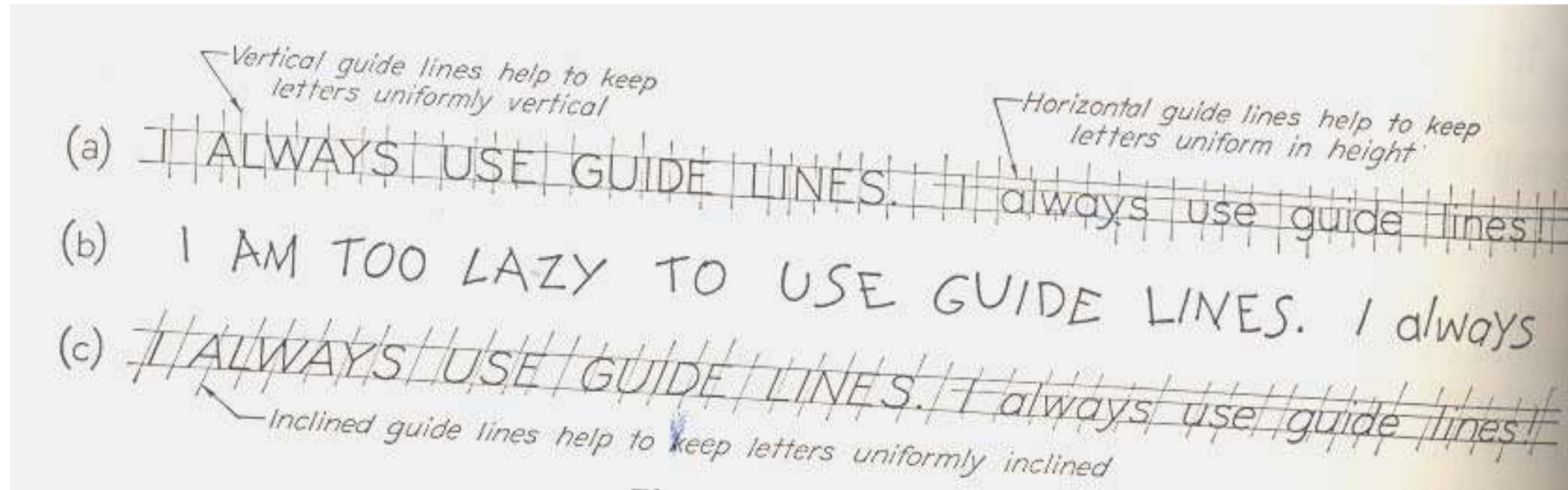
GUIDE LINES

Extremely light horizontal guidelines are necessary to regulate the height of letters. In addition, light vertical or inclined guidelines are needed to keep the letters uniformly vertical or inclined. Guidelines are absolutely essential for good lettering, and should be regarded as a welcome aid, not as an unnecessary requirement.

Make guidelines light, so that they can be erased after the lettering has been completed. Use a relatively hard pencil such as a 4H to 6H, with a long, sharp, conical point.



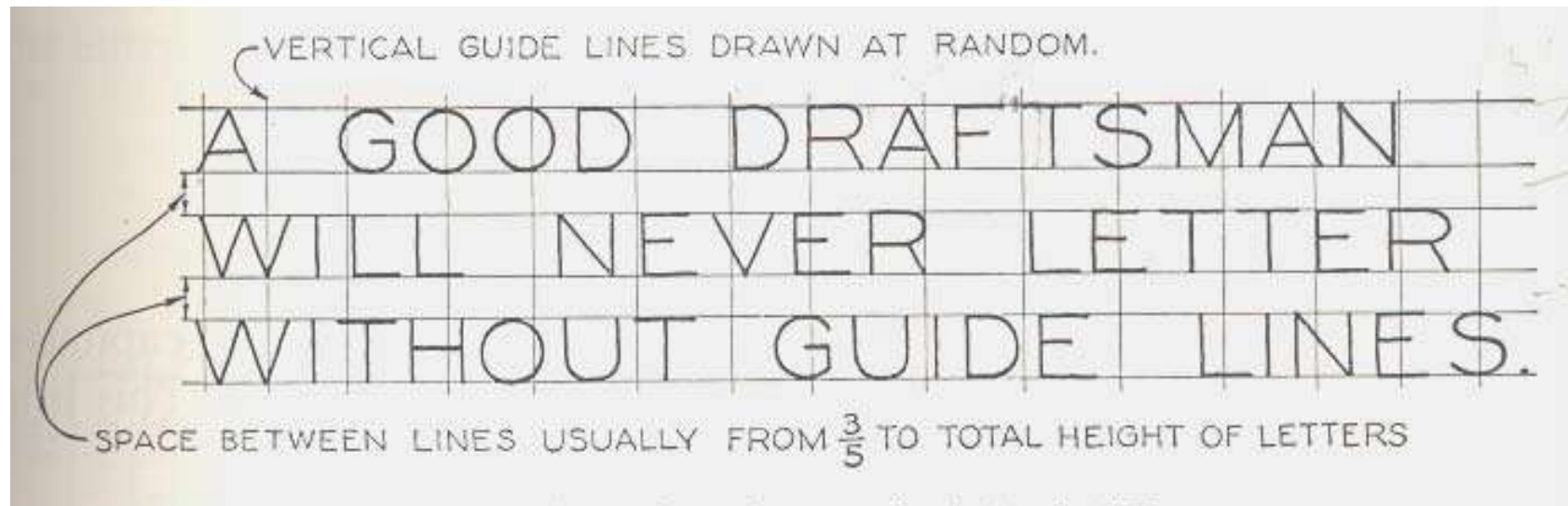
GUIDE LINES





GUIDELINES FOR CAPITAL LETTERS

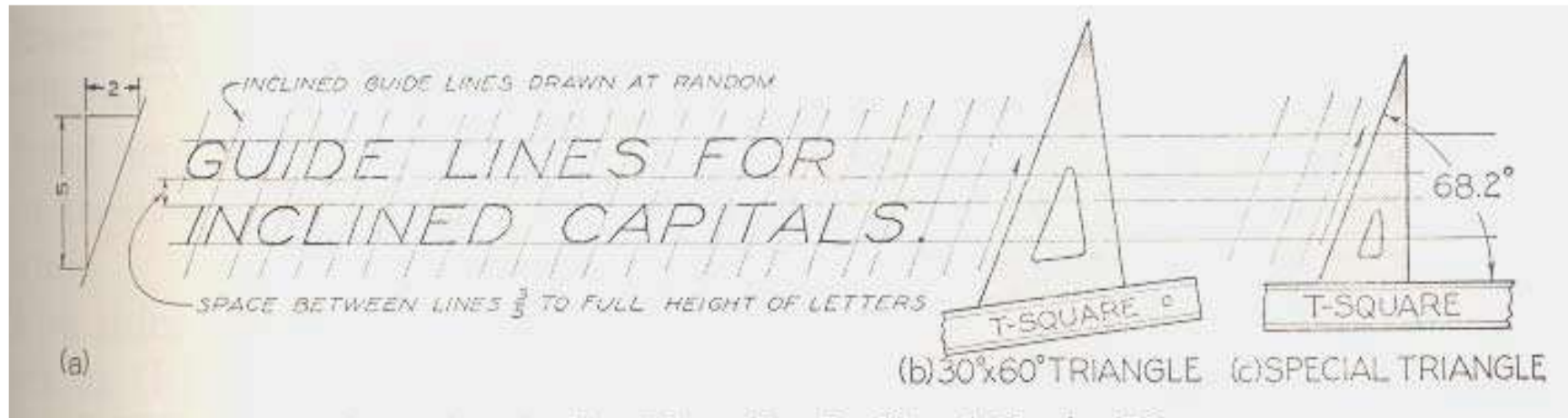
On working drawings, capital letters are commonly made 3mm high, with the space between lines of lettering from $\frac{3}{4}$ th. to the full height of the letters. The vertical guidelines are not used to space the letters (as this should always be done by eye while lettering), but only to keep the letters uniformly vertical, and they should accordingly be drawn at random.





GUIDELINES FOR CAPITAL LETTERS

A guideline for inclined capital letters is somewhat different. The spacing of horizontal guidelines is the same as for vertical capital lettering. The American Standard recommends slope of approximately 68.20 with the horizontal and may be established by drawing a “sloped triangle”, and drawing the guidelines at random with T-square and triangles.





GUIDELINES FOR LOWER-CASE LETTERS

Lower-case letters have four horizontal guidelines, called the *cap line*, *waistline*, *and base line* and *drop line*. Strokes of letters that extend up to the cap line are called *ascenders*, and those that extend down to the drop line, *descenders*. *Since* there are only five letters (*p, q, g, j, y*) that have descenders, the drop lines are little needed and are usually omitted. In spacing guidelines, space “a” may vary from $\frac{3}{5}$ to $\frac{2}{3}$ of space “b”.



SINGLE STROKE LETTERING

The term single stroke or one stroke does not mean that the entire letter is made without lifting the pencil. But the width of the stroke is the width of the stem of the letter.

The salient features of this type of lettering are:

- Greatest amount of lettering on drawings is done in a rapid single stroke letter i.e. either vertical, or inclined.
- The ability to letter and perfectly can be acquired only by continued and careful practice
- it is not a matter of artistic talent or event of dexterity in hand writing



ORDER OF STROKES

They are necessary to have legible and accurate letter styles. In the following description an alphabet of slightly extended vertical capitals has-been arranged in-group. Study the slope of each letter with the order and direction of the strokes forming it. The proportion of height and width of various letters must be known carefully to letter them perfectly.



THE I-H-T GROUP

- The letter I is *The Foundation Stroke*.
- The top of T is drawn first to the full width of the square and the stem is started accurately at its mid point.



THE L-E-F GROUP

- The L is made in two strokes.
- The first two strokes of the E are the same for the L, the third or the upper stroke is lightly shorter than the lower and the last stroke is the third as long as the lower
- F has the same proportion as E



THE V-A-K GROUP

- V is the same width as A, the A bridge is one third up from the bottom.
- The second stroke of K strikes stem one third up from the bottom and the third stroke branches from it.



THE M-W GROUP

- Are the widest letters
- M may be made in consecutive strokes of the two verticals as of N
- W is made with two V's



THE O-Q-C-G GROUP

- The O families are made as full circles and made in two strokes with the left side a longer arc than the right.
- A large size C and G can be made more accurately with an extra stroke at the top.



THE D- U-J GROUP

- The top and bottom strokes of D must be horizontal, fail line to observe this is a common fault with beginners
- U is formed by two parallel strokes to which the bottom stroke be added.
- J has the same construction as U, with the first stroke omitted.

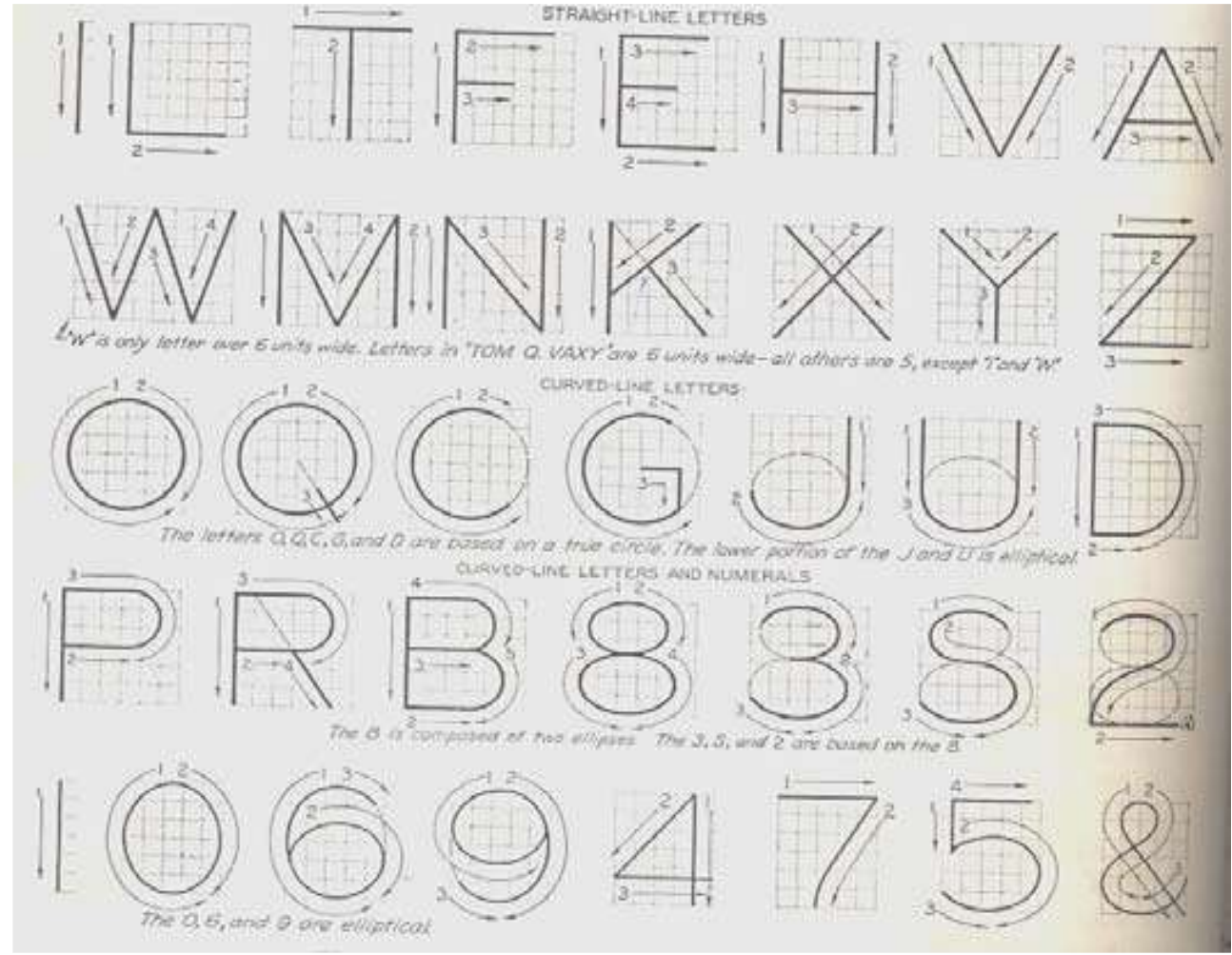


THE P-R-B GROUP

- The number of stokes depends up on the size of the letter.
- The middle line of P and R are on centreline of the vertical line.



ORDER OF STROKES FOR CAPITAL LETTERS



Prepared By: Engr. Khurshid Alam



ORDER OF STROKES FOR INCLINED CAPITAL LETTERS

STRAIGHT-LINE LETTERS

W is only letter over 6 units wide. Letters in "TOM Q VAXY" are 6 units wide - all others are 5, except "I" and "W".

CURVED-LINE LETTERS

The letters O, Q, C, G, and D are based on a true ellipse. The lower portion of the J and U is elliptical.

CURVED-LINE LETTERS & NUMERALS

The B is composed of two ellipses. The 3, S, and 2 are based on the B.

ELLIPSE LETTERS

The O, 6, and 9 are elliptical.

OTHER LETTERS

Thank You