BRITISH STANDARD

BS 5464-1: 1977
ISO 1073-I: 1976

Specification for

Optical character recognition —

Part 1: Character set OCR-A — Shapes and dimensions of the printed image

[ISO title: Alphanumeric character sets for optical recognition — Part 1: Character set OCR-A — Shapes and dimensions of the printed image]

UDC 681.327.12:681.3.04 + 003

Cooperating organizations

The Data Processing Standards Committee, under whose supervision this British Standard was prepared, consists of representatives from the following Government departments and scientific and industrial organizations:

British Airways
British Computer Society*
British Paper and Board Industry Federation*
British Printing Industry Federation*
Business Equipment Trade Association*
Civil Service Department — Central Computer Agency*
Committee of London Clearing Bankers*
Department of Industry
Department of Industry — National Physical Laboratory*
Department of the Environment — Fire Research Station
Electricity Supply Industry in England and Wales*
Electronic Engineering Association*
Engineering Equipment Users' Association*
Government Communication Headquarters
HM Customs and Excise
Institute of Cost and Management Accountants
Institute of Municipal Treasurers and Accountants (Incorporated)
Institution of Electrical and Electronics Technician Engineers
Institution of Electrical Engineers
Institution of Mechanical Engineers
London Transport Executive
Ministry of Defence
National Coal Board*
National Research Development Corporation
Post Office*
Society of British Aerospace Companies

The Government departments and scientific and industrial organizations marked with an asterisk in the above list, together with the following, were directly represented on the committee entrusted with the preparation of this British Standard:

Her Majesty's Stationery Office
PIRA — Research Association for the Paper and Board Printing and Packaging Industries
Production Engineering Research Association of Great Britain

This British Standard, having been prepared under the direction of the Data Processing Standards Committee, was published under the authority of the Executive Board on 29 April 1977

The following BSI references relate to the work on this standard:
Committee reference DPS/14
Draft for comment 75/73081

ISBN 0 580 09821 4

Amendments issued since publication

Amd. No.	Date of issue	Comments

Contents

Foreword

This British Standard has been prepared under the authority of the Data Processing Standards Committee. It is identical with ISO 1073-I "*Alphanumeric character sets for optical recognition — Part 1: Character set OCR-A — Shapes and dimensions of the printed image*", which was prepared by subcommittee 3, Character and mark recognition, of Technical Committee 97, Computers and information processing. The United Kingdom is a participating member of both the subcommittee and the committee. Its delegations appointed and briefed by the British Standards Institution Technical Committee DPS/14, Character and mark recognition, were involved in preparing this standard.

Part 2 is identical with ISO/1073-II, and deals with the character set OCR-B.

Part 3 deals with the encoding of character sets OCR-A and OCR-B.

Terminology and conventions. The text of the International Standard has been accepted as suitable for publication, without deviation, as a British Standard. Certain terminology and conventions are used, however, that are not identical with those used in British Standards. Attention is therefore drawn to the following.

Wherever the words "International Standard", relating to this publication, appear, they should be interpreted as "British Standard".

Except in the case of imperial equivalents, the comma has been used throughout as a decimal marker. In British Standards it is current practice to use a full point (a full stop on the baseline) as a decimal marker.

Cross reference (See **1.3.1** and **1.3.2**.) BS 4730 "*The United Kingdom 7-bit data code (ISO-7-UK)*" is the UK national version of ISO 646 "*7-bit coded character set for information processing interchange*". It is based on and is fully in conformity with ISO 646 but exercises some of the possible variations and options in a national sense.

Textual error. Attention is drawn to the inconsistent use of symbols for dimensions. In the text and tables on pages 1 to 5 the correct italic (sloping) type has been used (in accordance with ISO 31-0) but in the drawings (pages 7 to 26) dimensions have been represented by roman (upright) type. This has been notified to ISO Central Secretariat and when an amendment is issued to the International Standard this standard will be likewise amended.

A British Standard does not purport to include all the necessary provisions of a contract. Users of British Standards are responsible for their correct application.

Compliance with a British Standard does not of itself confer immunity from legal obligations.

Summary of pages

This document comprises a front cover, an inside front cover, pages i and ii, pages 1 to 27 and a back cover.

This standard has been updated (see copyright date) and may have had amendments incorporated. This will be indicated in the amendment table on the inside front cover.

1 General

1.1 Scope

This International Standard for character shapes and sizes is intended to facilitate and foster the use of Optical Character Recognition (OCR) in data processing, by defining character shapes suitable for both human and machine reading.

It establishes a common basis for printing equipment and optical scanning equipment for OCR interchange applications.

Additional International Standards will cover the print quality and the relevant characteristics of the formats needed to satisfy interchange requirements.

1.2 Field of application

This International Standard specifies the printed image shapes and sizes of alphanumeric characters, graphics and symbols designed for use in Optical Character Recognition. They are also suitable for general purposes.

In order to satisfy present requirements and encourage the wide extension of OCR applications, two sets of characters are specified. These are named OCR-A and OCR-B.

Character set OCR-A includes the numeric sub-set which was recommended in draft ISO Recommendation No. 890 (now part of this International Standard). The shapes of the characters have been designed to be suitable for use in many applications of OCR. Dimensions of OCR-A are given in three sizes.

The shapes of the OCR-B characters have been designed for use in OCR systems without undue sacrifice of their suitability for general purposes in a wide range of applications. Dimensions of OCR-B are given in three sizes. (See part II.)

1.3 Definitions

For the purpose of this International Standard the following definitions apply:

1.3.1
OCR-A

a repertoire of 69 characters of which 56 are graphics included in the ISO 7-bit coded character set (ISO 646:1973). It comprises digits, capital letters, capital national letters and other graphics

1.3.2
OCR-B

a repertoire of 121 characters comprising digits, capital and small letters, all the graphics specified in the ISO 7-bit coded character set (ISO 646:1973), national letters, diacritical signs and further graphics (See part II.)

1.3.3
printing frame

the smallest rectangle the sides of which are horizontal and vertical and which includes the centreline shapes of all characters with the exception of long vertical mark

1.3.4
sizes of a repertoire

the sizes specified by the height H and the width W of the relevant printing frame

NOTE 1 Three sets of sizes are specified in order to permit the use of the OCR character sets with a wide range of printing equipment with different print quality characteristics. Devices such as typewriters, cash registers, numbering machines, high-speed printers, credit card imprinters and non-impact imprinters, and printing processes such as letterpress and offset, are all involved.

NOTE 2 For applications which involve circulation of documents across boundaries between areas in which different national characters are in use, agreement between the sender and the recipient of the documents is required.

NOTE 3 The metric and inch dimensions in this International Standard are rounded and therefore consistent but not exactly equal. Either system may be used but the two should not be intermixed.

NOTE 4 It is recognized that some type-making and printing processes will not be able to produce sharp corners. Corners not specified as having a specific radius should be as sharp as practicable. However, it is not necessary for OCR purposes that the radii of the corners of the nominal printed image be less than 0,08 mm (0.003 5 in).

NOTE 5 All OCR-A characters are designed to be free-standing individual characters, and therefore are not intended for dual use with (or as) diacritical marks in OCR applications.

2 Character set OCR-A

2.1 Name

The name of the character set is OCR-A.

2.2 OCR-A sizes

Table 1 below specifies the dimensions of the printing frame (*W,H*) of the total repertoire in three sizes. It also indicates the nominal strokewidth *T* and the minimum length *L* of the long vertical mark (14 *H*/9). The maximum length of the vertical mark is not specified as there is no intention of restricting it.

2.3 OCR-A repertoire

2.3.1 The 69 characters of the OCR-A repertoire are as follows (see also **2.5**):

10 digits	0 to 9	
26 capital letters	A to Z	
17 graphics		Space (non-printing character)
	&	Ampersand
	’	Apostrophe
	*	Asterisk
	:	Colon
	,	Comma
	=	Equals sign
	.	Full stop (period)
	–	Hyphen, Minus sign
	(	Left parenthesis
	%	Percent sign
	+	Plus sign
	?	Question mark
	”	Quotation mark
	)	Right parenthesis
	;	Semi-colon
	/	Solidus
7 capital national letters	Æ	
	Ä	
	Æ	
	Ñ	
	Ø	
	Ö	
	Ü	
3 currency symbols	$	Dollar sign
	£	Pound sign
	¥	Yen sign
3 abstract symbols	⌐	Hook
	⊢	Fork
	⊣	Chair
1 long vertical mark	|	
2 erase characters	▮	Character Erase
	—	Group Erase

2.3.2 The 14 characters comprising the OCR-A numeric sub-set are the following:

10 digits	0 to 9	
3 abstract symbols	⑀	Hook
	⑂	Fork
	⑃	Chair
1 long vertical mark	|	

2.4 Use of characters

2.4.1 Letter Y and symbol fork ⑂

It is recommended that the letter Y and the abstract symbol for fork ⑂ should not both be used in the same application.

2.4.2 OCR-A numeric sub-set

For applications requiring numeric reading only, it is suggested that the numeric sub-set (see **2.3.2**) be used.

2.5 Alternative shapes

For the characters Apostrophe
Comma
Full stop
Hyphen
Question mark

two shapes are shown. The first shape is indicated as the preferred one and should generally be the one used. However, some particular applications may require the use of the standard alternative shape shown.

3 Character shapes and dimensions

The character shapes and dimensions are specified by the drawings given on pages 7 to 26 and by the table of values on page 5. The nominal printed image of each character is specified by its centreline and by its nominal strokewidth.

Table 1 — OCR-A printing frame dimensions

Size	millimetres				inches			
	W	*H*	*T*	*L*	*W*	*H*	*T*	*L*
I	1,40	2,40	0,35	3,7	0.055	0.094	0.014	0.146
III	1,52	3,20	0,38	5,0	0.060	0.126	0.015	0.196
IV	2,04	3,80	0,51	5,9	0.080	0.150	0.020	0.233

OCR-A REPERTOIRE

4 Use of the table of values (Table 3)

4.1 Table 3 specifies in both millimetres and inches the dimensions for each character in each of the three sizes I, III and IV.

4.2 Table 3 lists character height, width and stroke dimensions based on

— the height H of the printing frame,

— the width W of the printing frame,

— the nominal strokewidth T.

4.3 Table 3 also lists, as items r_1 to r_6, the values of the centreline radii specified for use in the characters listed in Table 2.

The formulae for calculation of r_1 to r_6 are given on page 6.

Table 2 — Radii

Character	Radius
O and Ø	r_1
	r_2
Q	r_3
S	r_4
Ö	r_5
	r_6

5 Radii and corners

All radii specified for the OCR-A characters are given on the drawings and in Table 3. All edges should be blended, with rounded corners.

Table 3 — OCR-A values

	millimetres			inches		
	I	**III**	**IV**	**I**	**III**	**IV**
H	2,400	3,200	3,800	0.094 0	0.126 0	0.150 0
W	1,400	1,520	2,040	0.055 0	0.060 0	0.080 0
T	0,350	0,380	0,510	0.014 0	0.015 0	0.020 0
1/2 *T*	0,175	0,190	0,255	0.007 0	0.007 5	0.010 0
3/2 *T*	0,525	0,570	0,765	0.021 0	0.022 5	0.030 0
2 *T*	0,700	0,760	1,020	0.028 0	0.030 0	0.040 0
1/8 *W*	0,175	0,190	0,255	0.006 9	0.007 5	0.010 0
1/4 *W*	0,350	0,380	0,510	0.013 8	0.015 0	0.020 0
3/8 *W*	0,525	0,570	0,765	0.020 6	0.022 5	0.030 0
7/16 *W*	0,612	0,665	0,892	0.024 1	0.026 3	0.035 0
1/2 *W*	0,700	0,760	1,020	0.027 5	0.030 0	0.040 0
9/16 *W*	0,788	0,855	1,148	0.030 9	0.033 8	0.045 0
5/8 *W*	0,875	0,950	1,275	0.034 4	0.037 5	0.050 0
3/4 *W*	1,050	1,140	1,530	0.041 3	0.045 0	0.060 0
1/16 *H*	0,150	0,200	0,238	0.005 9	0.007 9	0.009 4
1/8 *H*	0,300	0,400	0,475	0.011 8	0.015 8	0.018 8
3/16 *H*	0,450	0,600	0,713	0.017 6	0.023 6	0.028 1
1/4 *H*	0,600	0,800	0,950	0.023 5	0.031 5	0.037 5
9/32 *H*	0,675	0,900	1,069	0.026 4	0.035 4	0.042 2
5/16 *H*	0,750	1,000	1,188	0.029 4	0.039 4	0.046 9
3/8 *H*	0,900	1,200	1,425	0.035 3	0.047 3	0.056 3
7/16 *H*	1,050	1,400	1,663	0.041 1	0.055 1	0.065 6
1/2 *H*	1,200	1,600	1,900	0.047 0	0.063 0	0.075 0
17/32 *H*	1,275	1,700	2,019	0.049 9	0.066 9	0.079 7
9/16 *H*	1,350	1,800	2,138	0.052 9	0.070 9	0.084 4
5/8 *H*	1,500	2,000	2,375	0.058 8	0.078 8	0.093 8
11/16 *H*	1,650	2,200	2,613	0.064 6	0.086 6	0.103 1
3/4 *H*	1,800	2,400	2,850	0.070 5	0.094 5	0.112 5
13/16 *H*	1,950	2,600	3,088	0.076 4	0.102 4	0.121 9
7/8 *H*	2,100	2,800	3,325	0.082 3	0.110 3	0.131 3
15/16 *H*	2,250	3,000	3,563	0.088 1	0.118 1	0.140 6
r_1	0,635	1,022	1,084	0.024 8	0.040 1	0.043 1
r_2	0,283	0,283	0,398	0.011 1	0.011 2	0.015 6
r_3	0,255	0,266	0,366	0.010 0	0.010 5	0.014 3
r_4	0,223	0,310	0,360	0.008 7	0.012 2	0.014 2
r_5	0,476	0,755	0,807	0.018 6	0.029 7	0.032 0
r_6	0,336	0,327	0,468	0.013 2	0.012 9	0.018 3
L	3,7	5,0	5,9	0.146	0.196	0.233

Formulae for centreline radii r_1 to r_6

$$r_1 = \frac{H}{16}\left(\frac{7H}{6W} + \sqrt{\left(\frac{7H}{6W}\right)^2 + 1}\right)$$

$$r_2 = \frac{W}{8}\left(\frac{6W}{7H} + \sqrt{\left(\frac{6W}{7H}\right)^2 + 1}\right)$$

$$r_3 = \frac{W}{8}\left(1 - \frac{H}{2W} + \sqrt{\left(\frac{H}{2W}\right)^2 + 1}\right)$$

$$r_4 = \frac{H}{16}\left(1 - \frac{4W}{3H} + \sqrt{\left(\frac{4W}{3H}\right)^2 + 1}\right)$$

$$^{*}r_5 = \frac{H}{16}\left(\frac{5H}{6W} + \sqrt{\left(\frac{5H}{6W}\right)^2 + 1}\right)$$

$$^{*}r_6 = \frac{W}{8}\left(\frac{6W}{5H} + \sqrt{\left(\frac{6W}{5H}\right)^2 + 1}\right)$$

6 Relative vertical position of printed characters

6.1 Base line

The base line is a horizontal line used to specify the nominal vertical position of characters printed in the same line of text. The position of the base line is indicated on the drawings of all characters (except for the long vertical mark).

6.2 Base line displacement

The base line displacement, Y, of each character is the shortest distance between the base line and the centreline of that character. This value is indicated on the drawings of all characters for which it is not zero.

6.3 Vertical position

The nominal vertical position of characters printed in the same line of text is such that the base lines of all characters should be aligned.

7 Relative horizontal position of printed characters

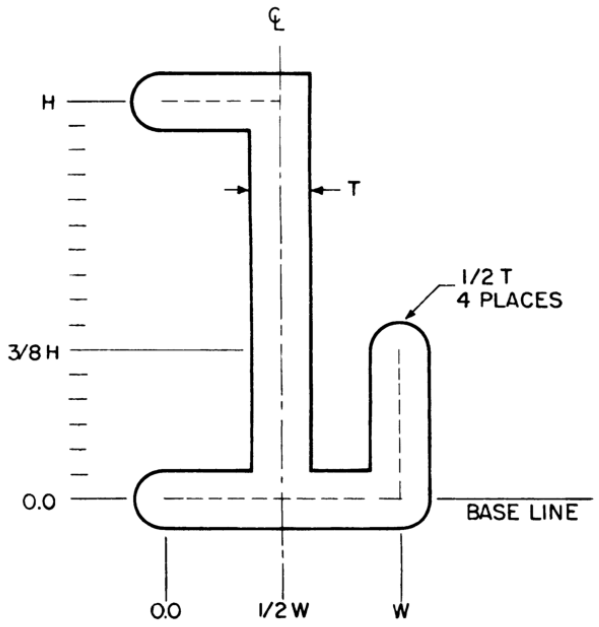
7.1 Reference line for the horizontal location of any character

The horizontal location reference line of a character is perpendicular to the base line and divides the printing frame of that character equally. This line is indicated on each drawing.

7.2 Horizontal position

In constant pitch printing, the distance between horizontal location reference lines of adjacent characters should be uniform.

*Radii for Ö only.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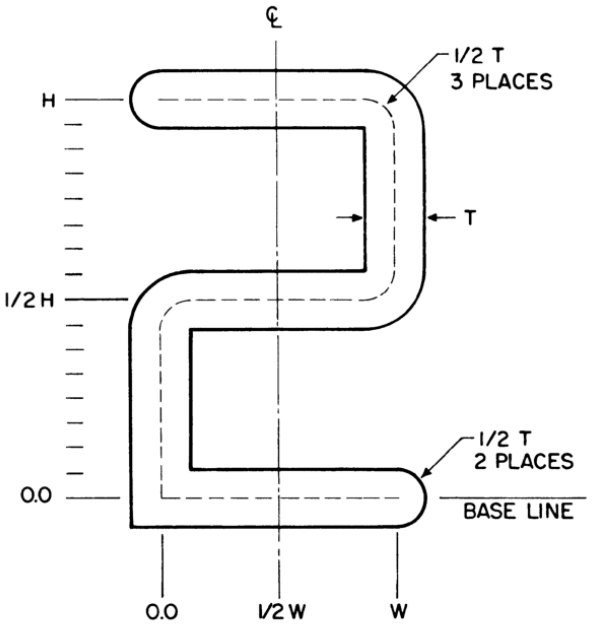
1/2 W
W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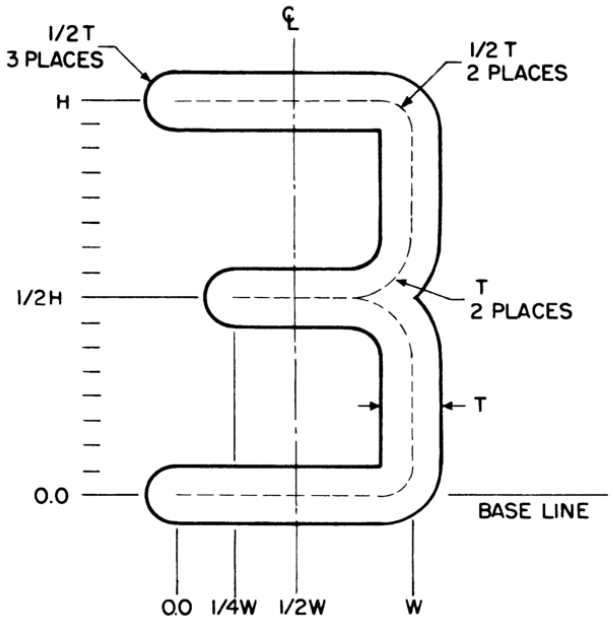
1/2 W
W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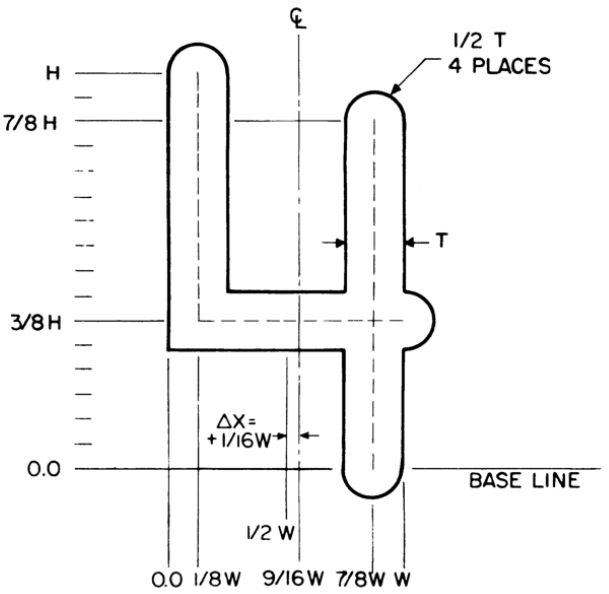
1/2 W
W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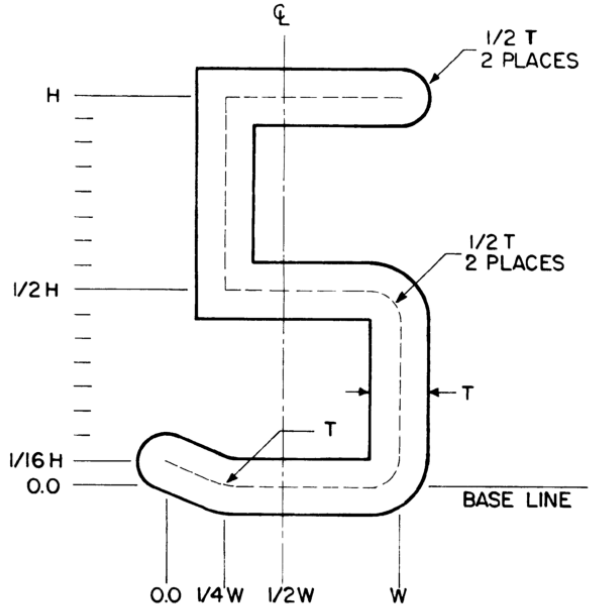
1/8 W
9/16 W
7/8 W
W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T
T
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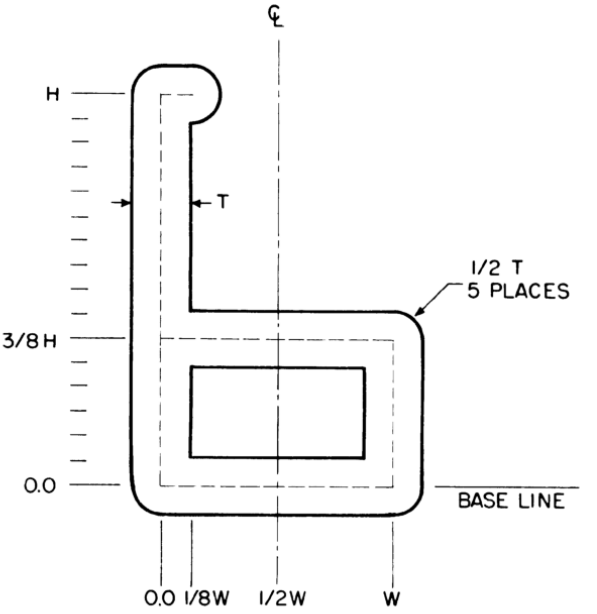
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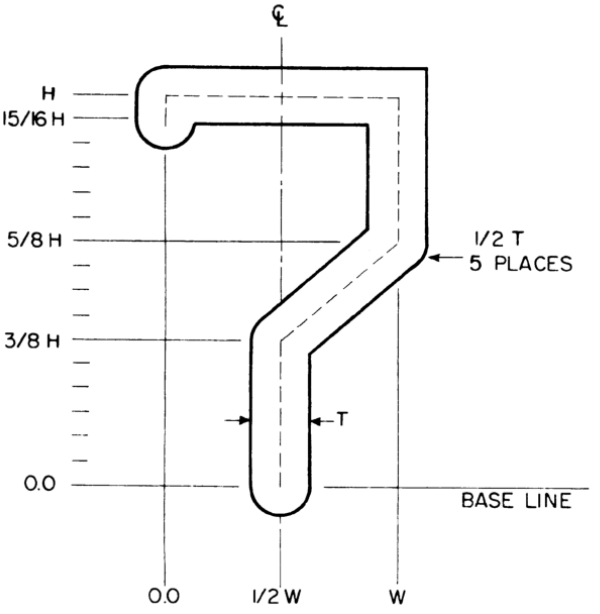
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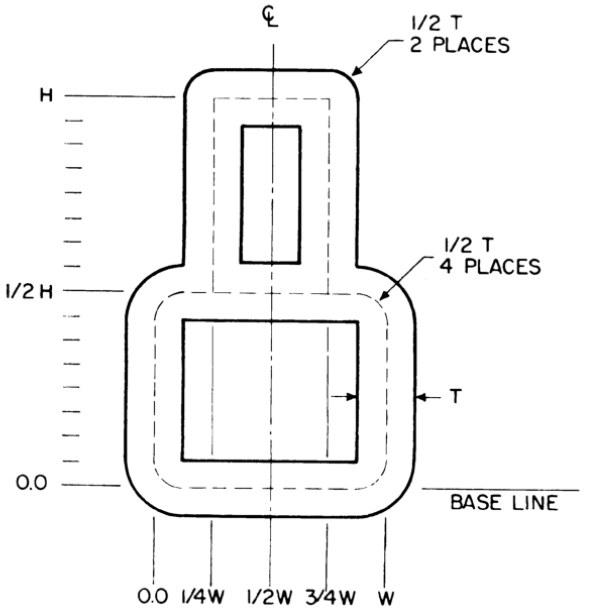
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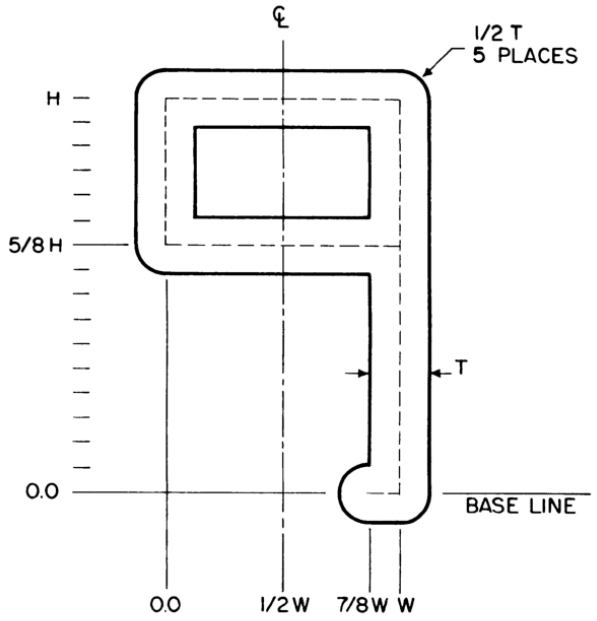
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T
BASE LINE
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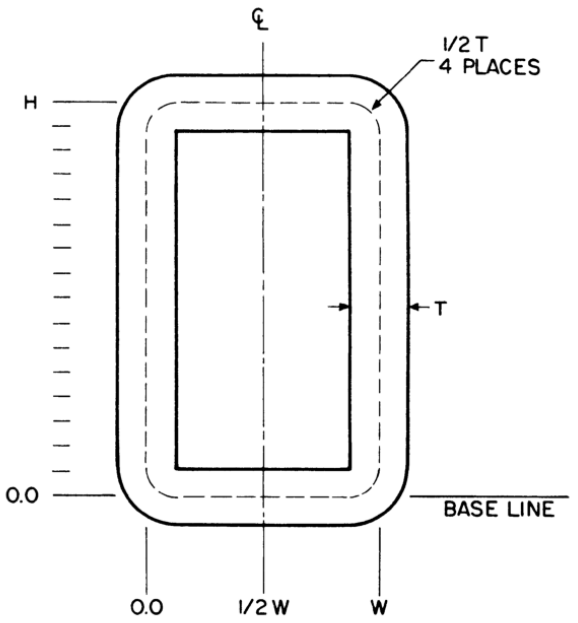
7/8 W
W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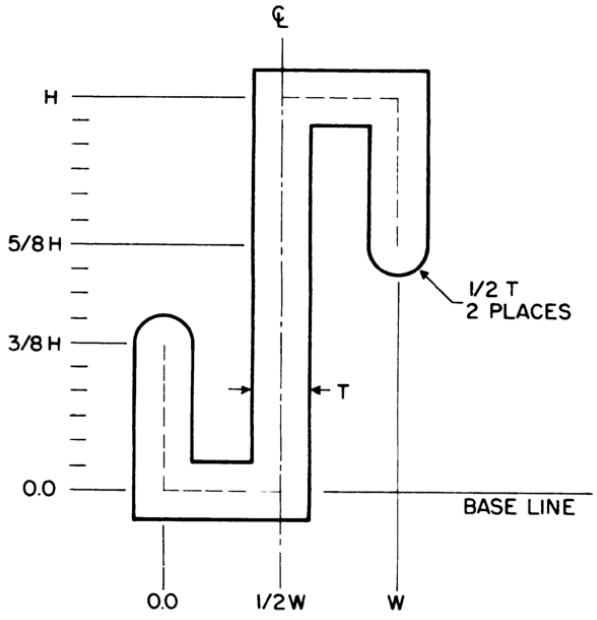
1/2 W
W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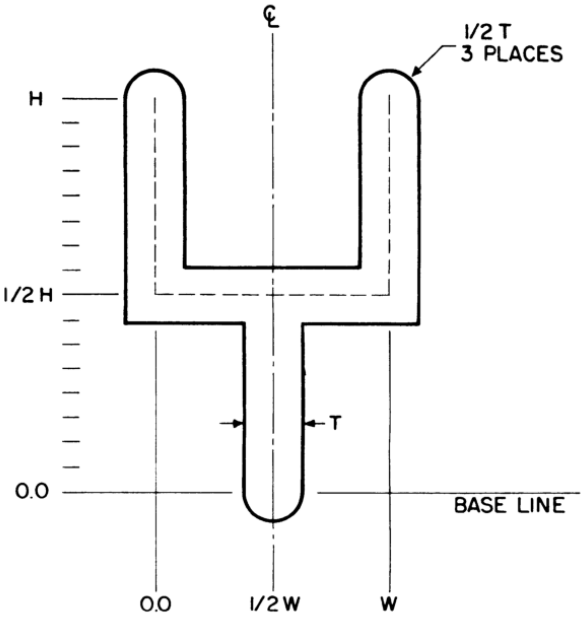
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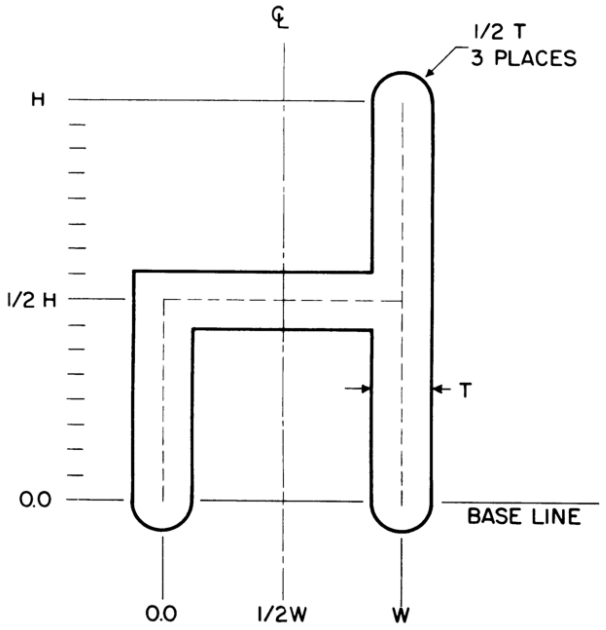

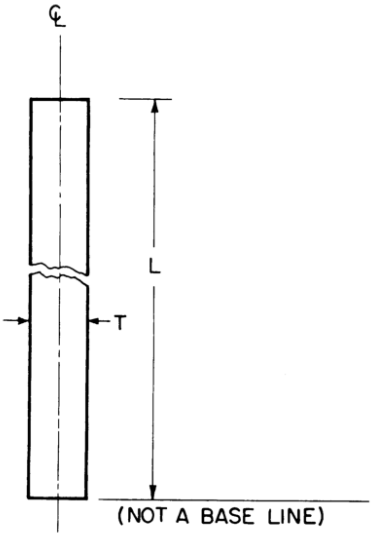

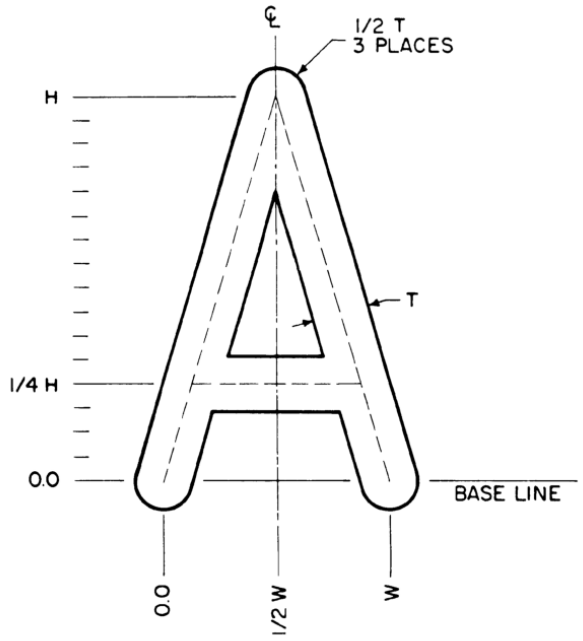
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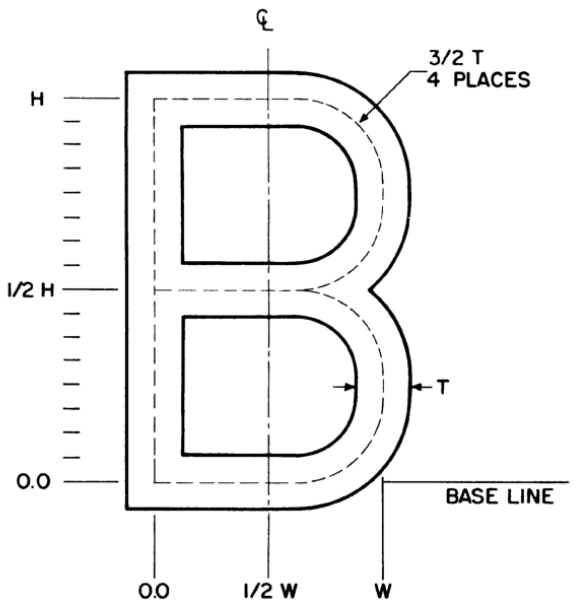
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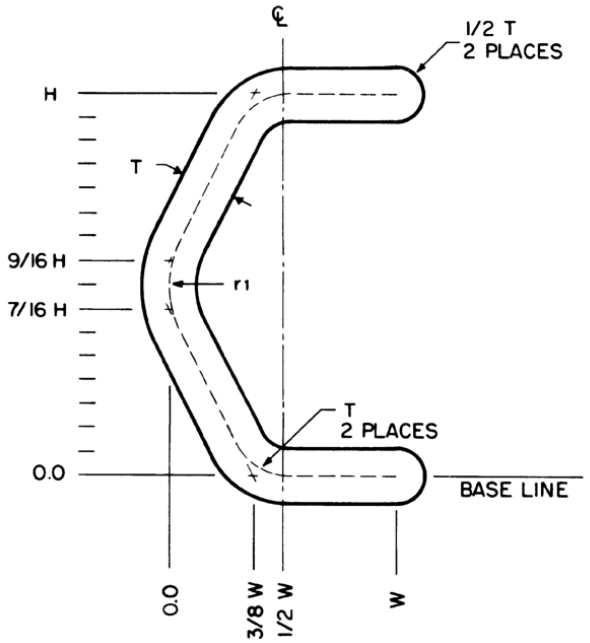
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1/2 W
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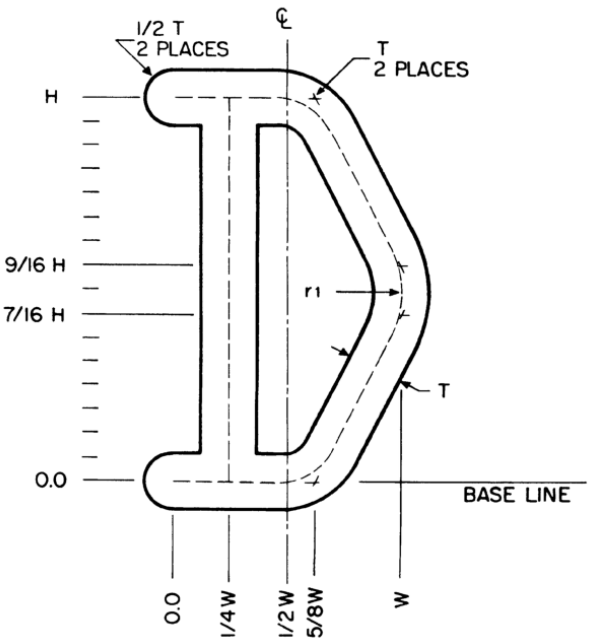
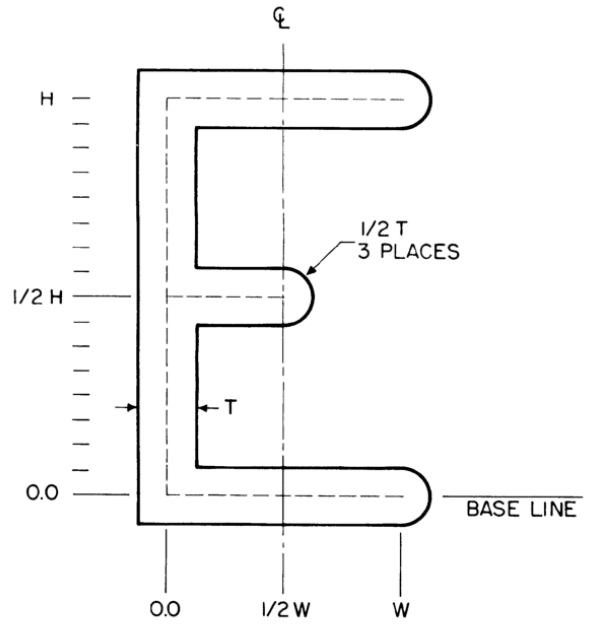
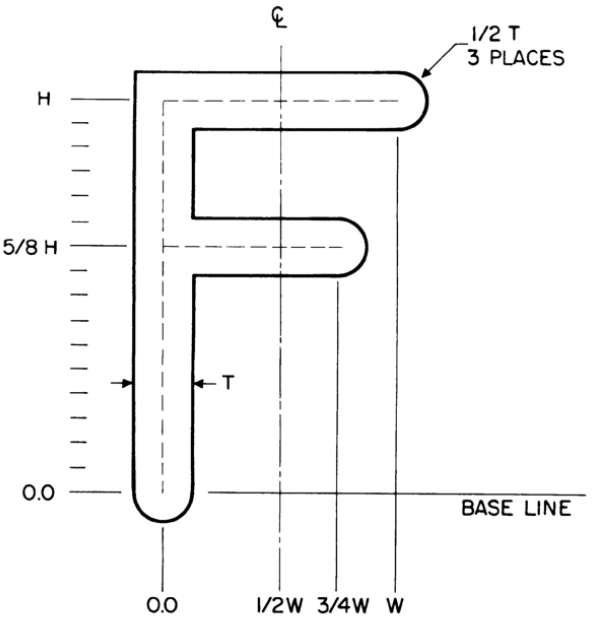
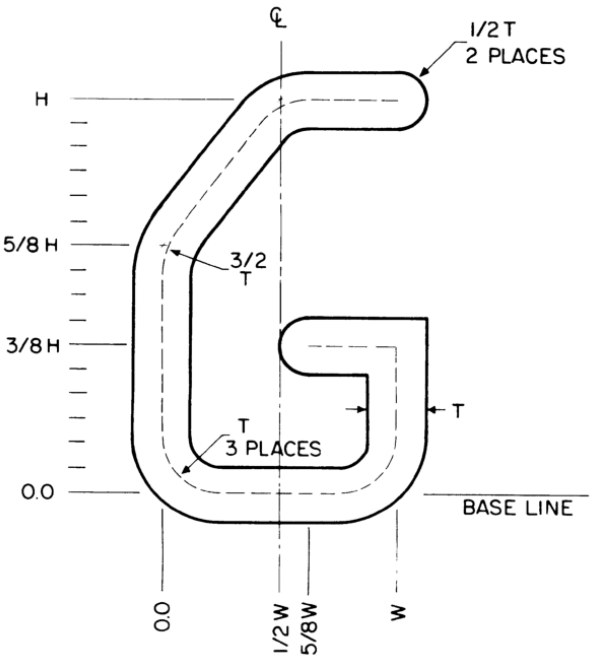
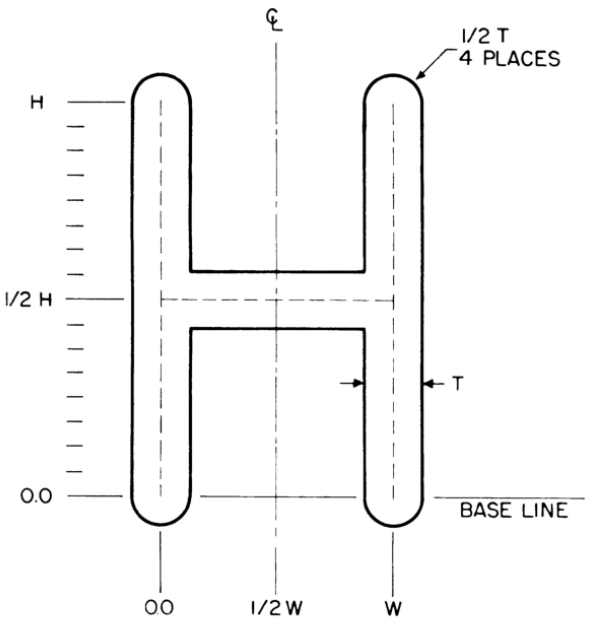
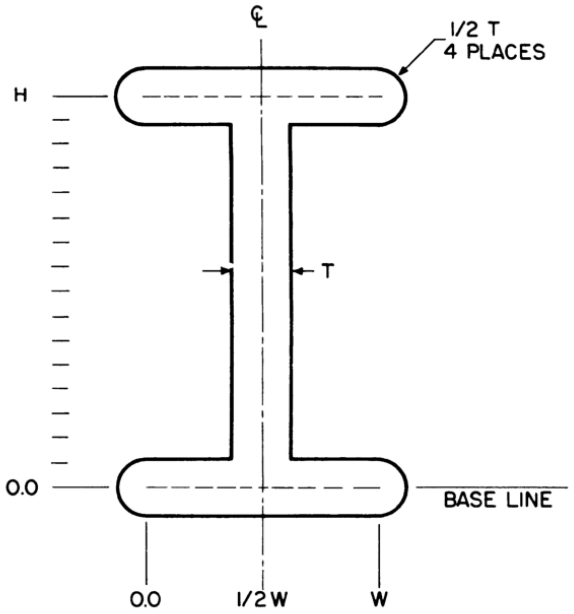

1/2 T
2 PLACES
℄
T
2 PLACES
H
9/16 H
r1
7/16 H
T
0.0
BASE LINE
0.0
1/4 W
1/2 W
5/8 W
W

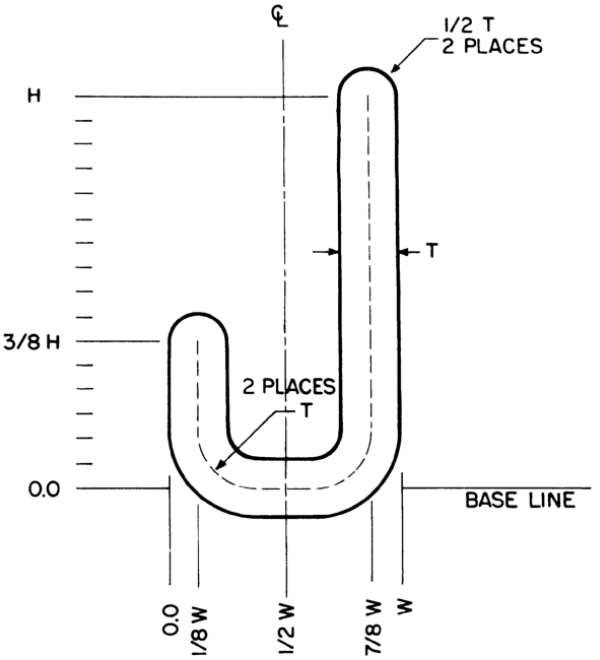

℄
H
1/2 H
0.0
1/2 T
3 PLACES
T
BASE LINE
0.0
1/2 W
W

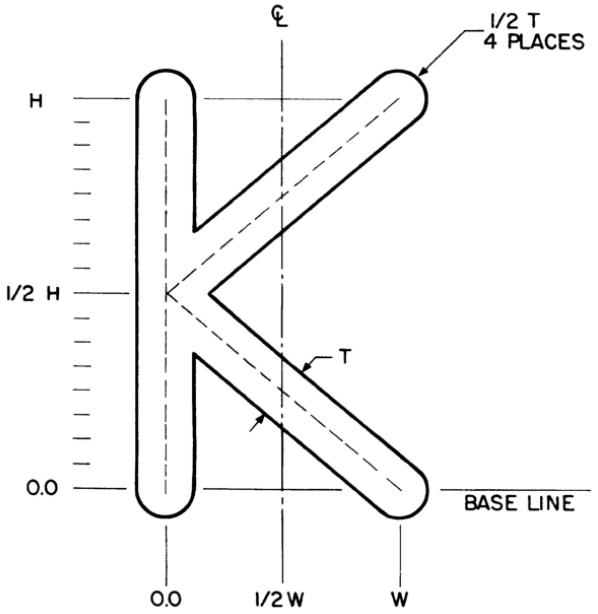

℄
1/2 T
3 PLACES
H
5/8 H
T
0.0
BASE LINE
0.0
1/2W
3/4W
W

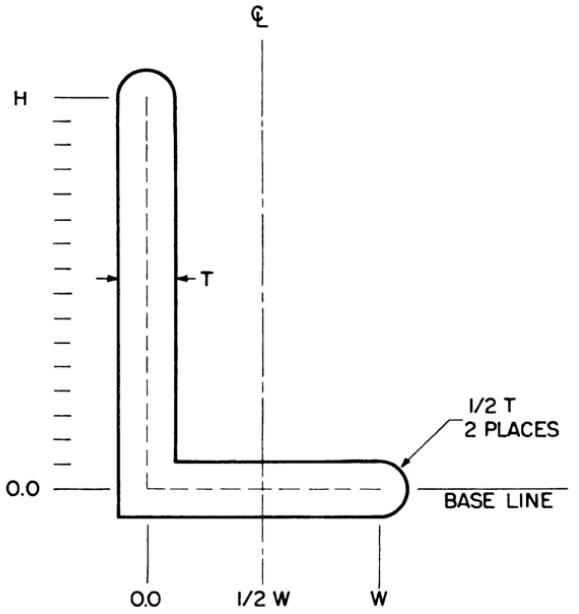

℄
1/2 T
2 PLACES
H
5/8 H
3/8 H
3/2
T
T
T
3 PLACES
0.0
BASE LINE
0.0
1/2 W
5/8W
W

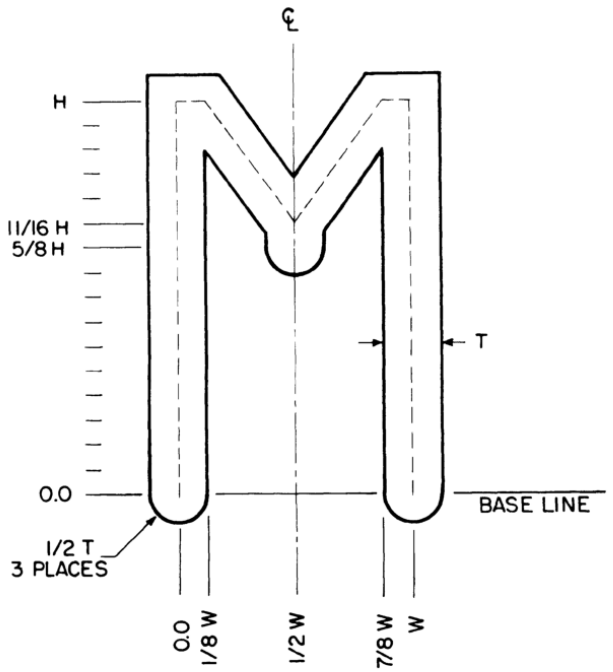

℄
1/2 T
4 PLACES
H
1/2 H
T
0.0
BASE LINE
0.0
1/2W
W

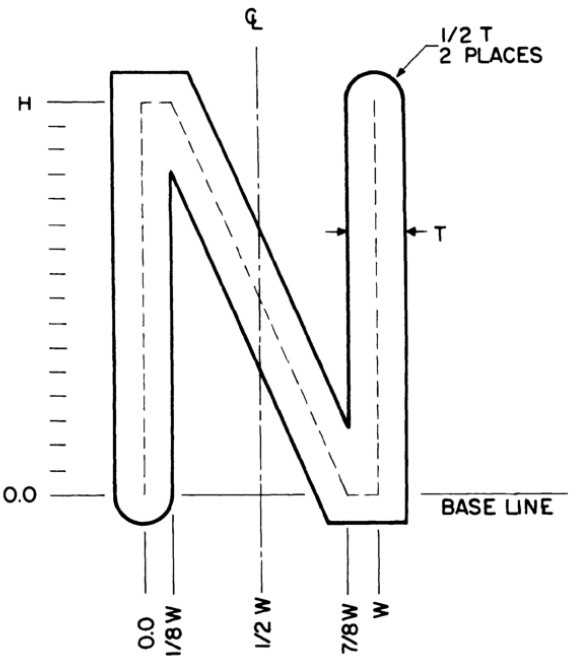

℄
1/2 T
4 PLACES
H
T
0.0
BASE LINE
0.0
1/2 W
W

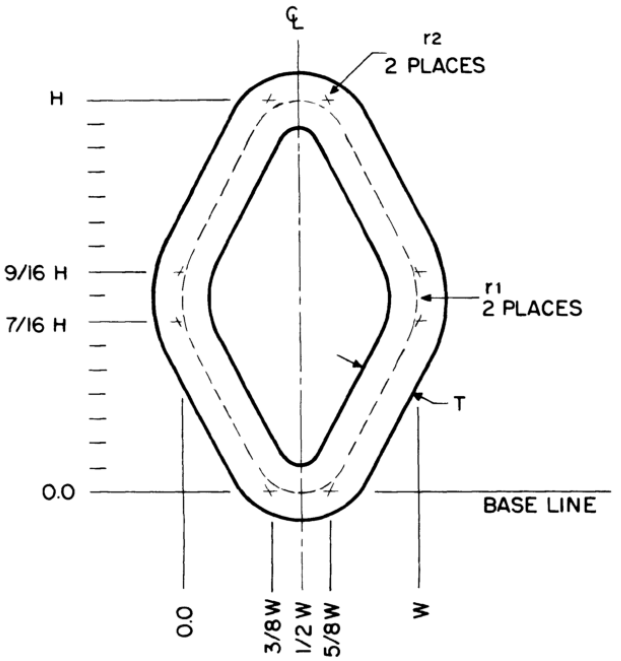

℄
1/2 T
2 PLACES
H
T
3/8 H
2 PLACES
T
0.0
BASE LINE
0.0
1/8 W
1/2 W
7/8 W
W

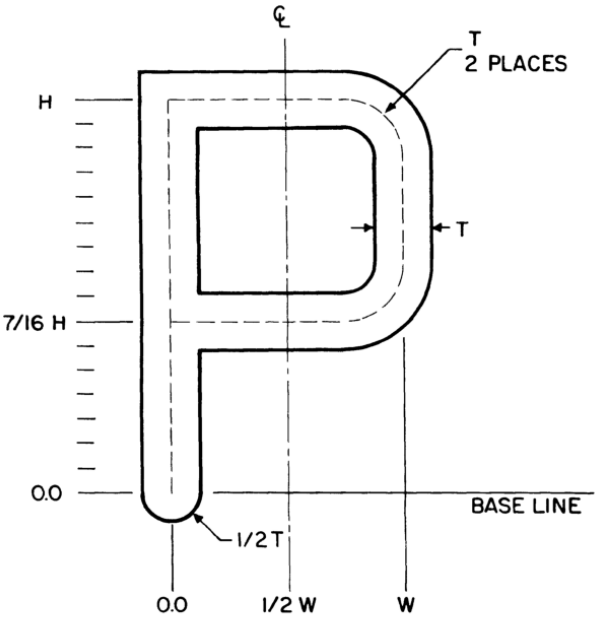

℄
1/2 T
4 PLACES
H
1/2 H
T
0.0
BASE LINE
0.0
1/2 W
W

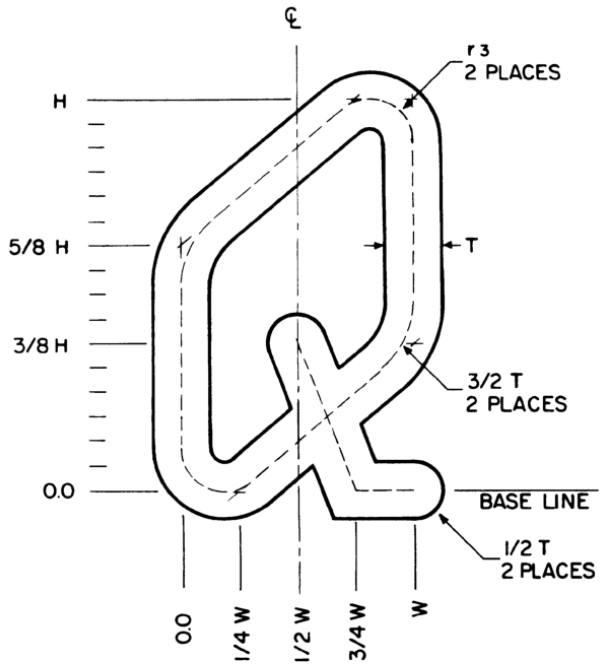

℄
H
T
1/2 T
2 PLACES
0.0
BASE LINE
0.0
1/2 W
W

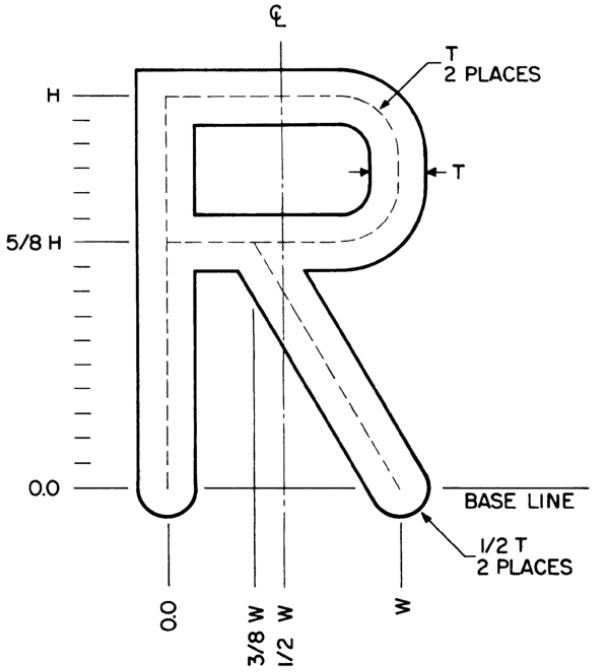

℄
H
11/16 H
5/8 H
T
0.0
BASE LINE
1/2 T
3 PLACES
0.0
1/8 W
1/2 W
7/8 W
W

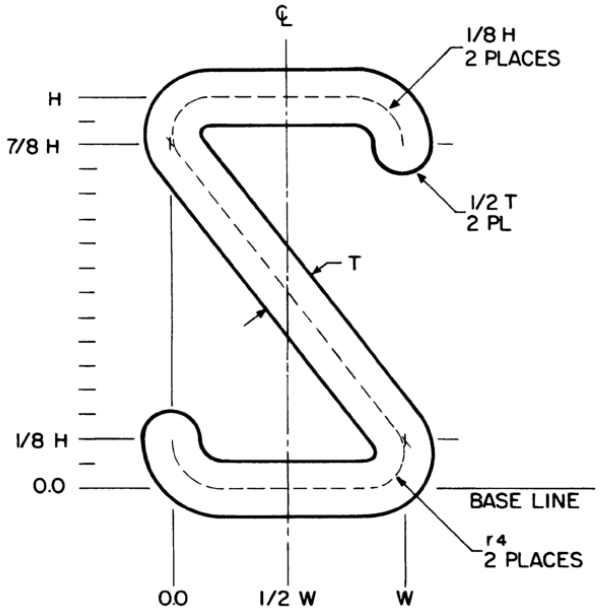

℄
1/2 T
2 PLACES
H
T
0.0
BASE LINE
0.0
1/8 W
1/2 W
7/8 W
W

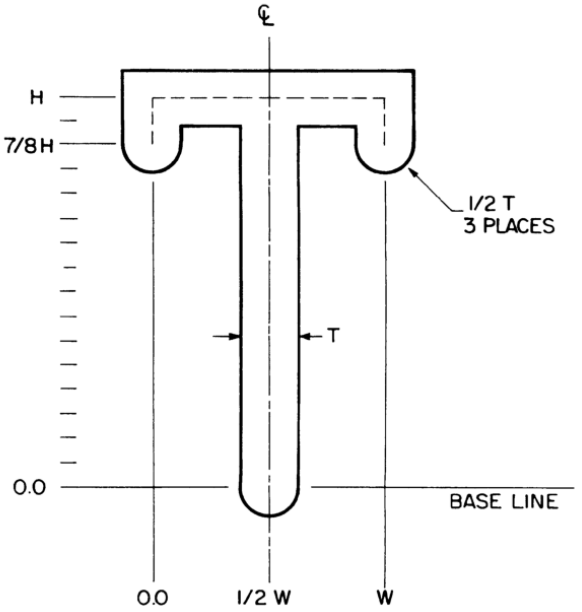

℄
r2
2 PLACES
H
9/16 H
7/16 H
r1
2 PLACES
T
0.0
BASE LINE
0.0
3/8 W
1/2 W
5/8 W
W

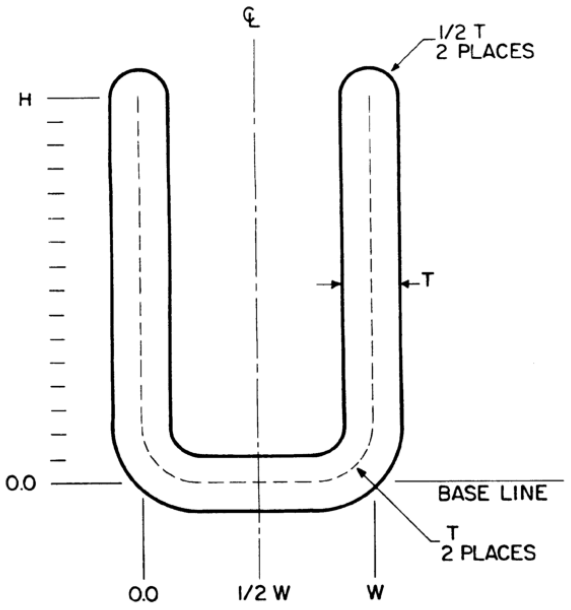

℄
T
2 PLACES
H
T
7/16 H
0.0
BASE LINE
1/2 T
0.0
1/2 W
W

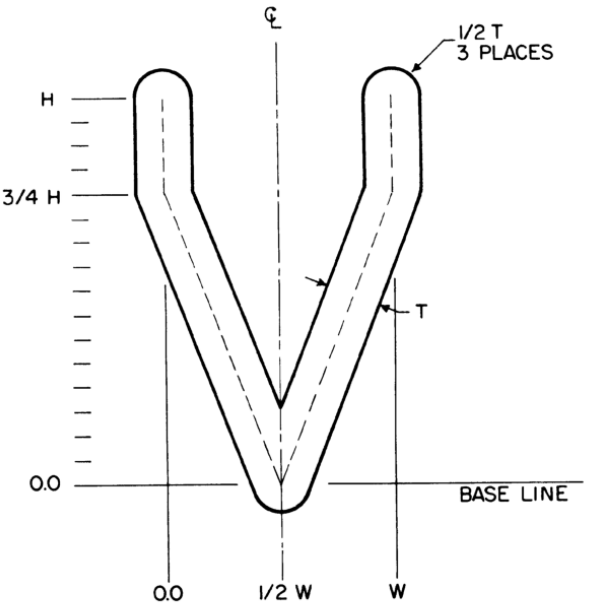

℄
r 3
2 PLACES
H
5/8 H
3/8 H
0.0
T
3/2 T
2 PLACES
BASE LINE
1/2 T
2 PLACES
0.0
1/4 W
1/2 W
3/4 W
W

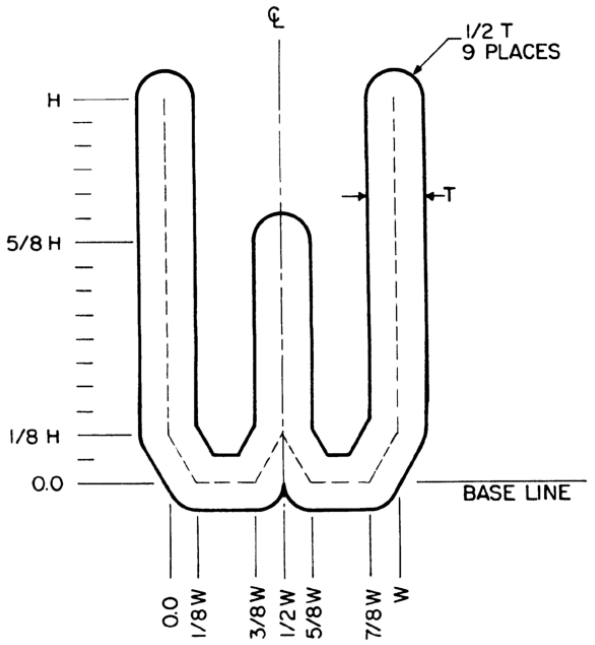

℄
T
2 PLACES
H
5/8 H
0.0
T
BASE LINE
1/2 T
2 PLACES
0.0
3/8 W
1/2 W
W

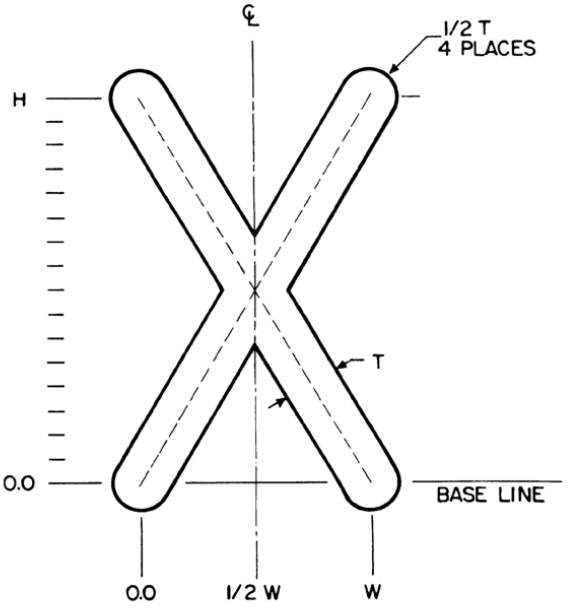

℄
1/8 H
2 PLACES
H
7/8 H
1/2 T
2 PL
T
1/8 H
0.0
BASE LINE
r4
2 PLACES
0.0
1/2 W
W

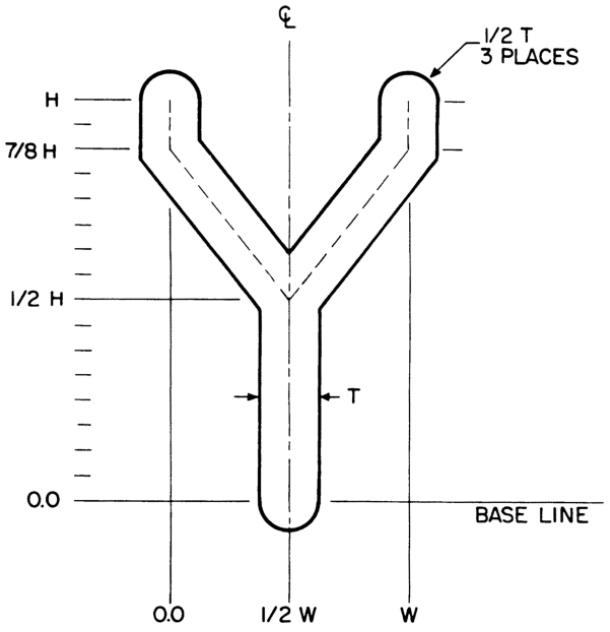

℄
H
7/8H
1/2 T
3 PLACES
T
0.0
BASE LINE
0.0
1/2 W
W

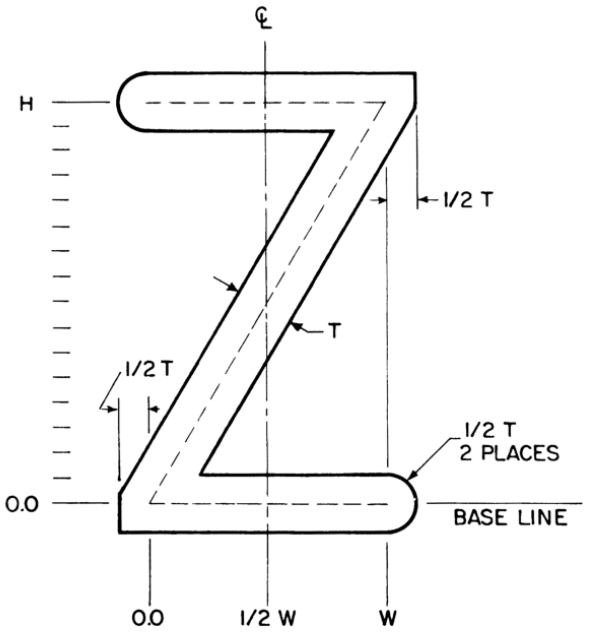

℄
1/2 T
2 PLACES
H
T
0.0
BASE LINE
T
2 PLACES
0.0
1/2 W
W

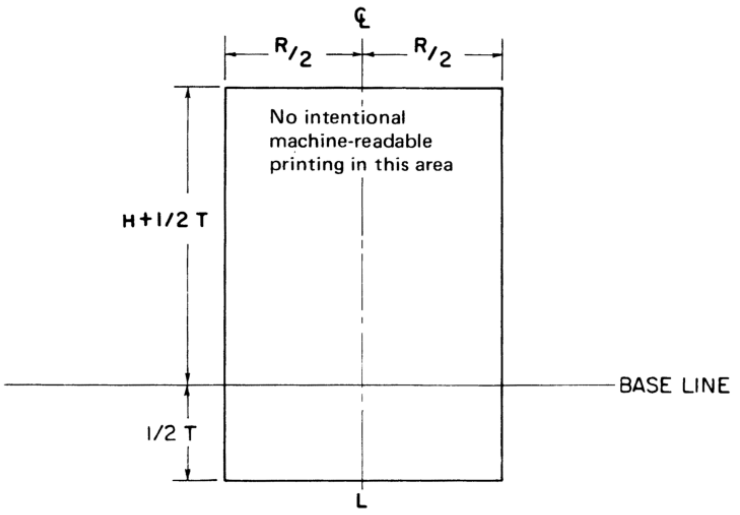

℄
1/2 T
3 PLACES
H
3/4 H
T
0.0
BASE LINE
0.0
1/2 W
W


℄
1/2 T
9 PLACES
H
5/8 H
T
1/8 H
0.0
BASE LINE
0.0
1/8 W
3/8 W
1/2 W
5/8 W
7/8 W
W


℄
1/2 T
4 PLACES
H
T
0.0
BASE LINE
0.0
1/2 W
W



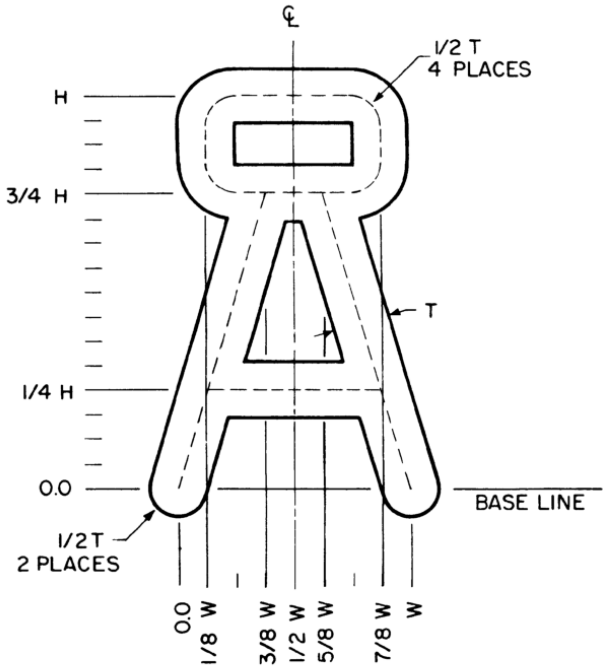


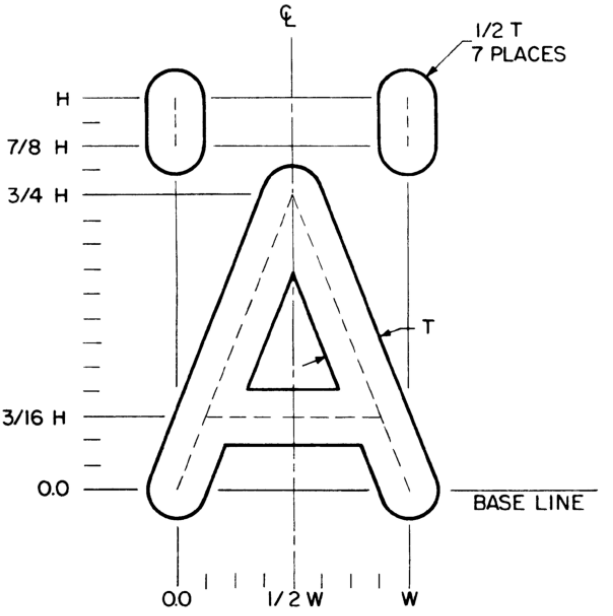


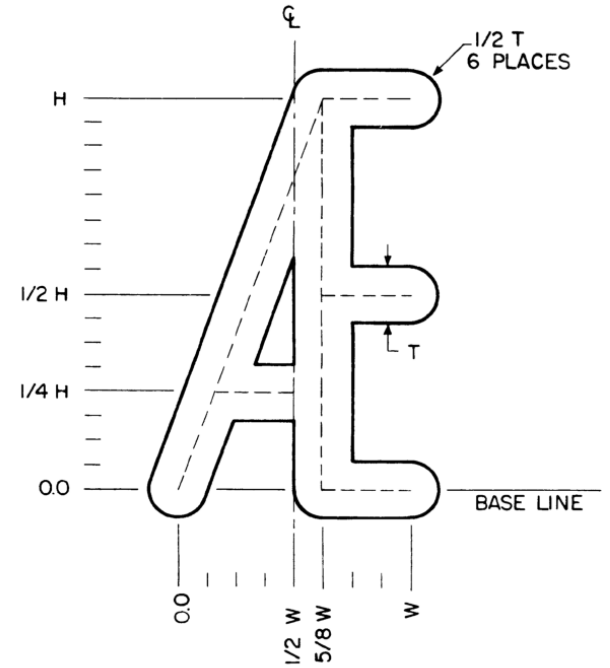
L is the nominal centreline position for a character as defined by the pitch of the printing mechanism and characters on the line

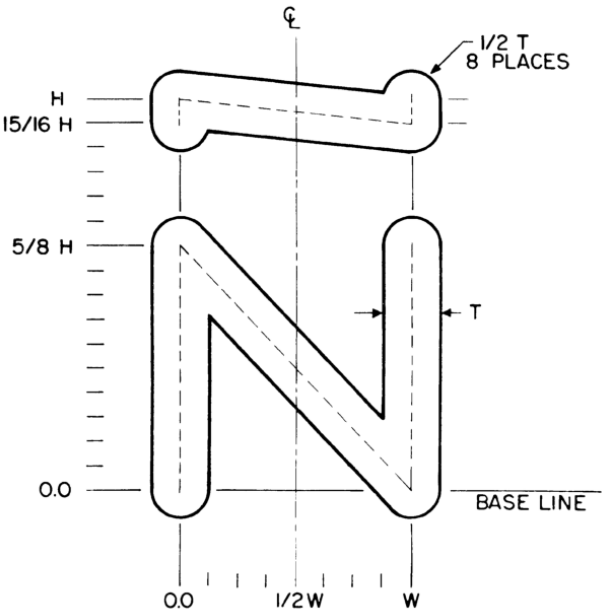
R = nominal character spacing (pitch of printer), W + 2T minimum

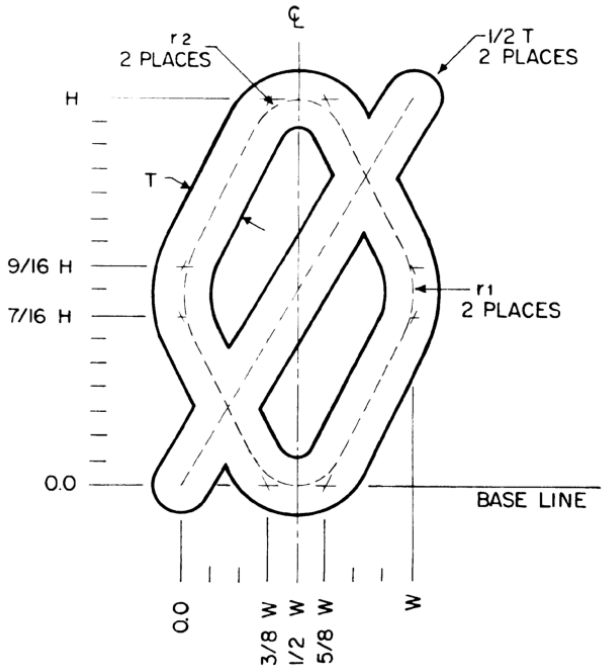
Character space

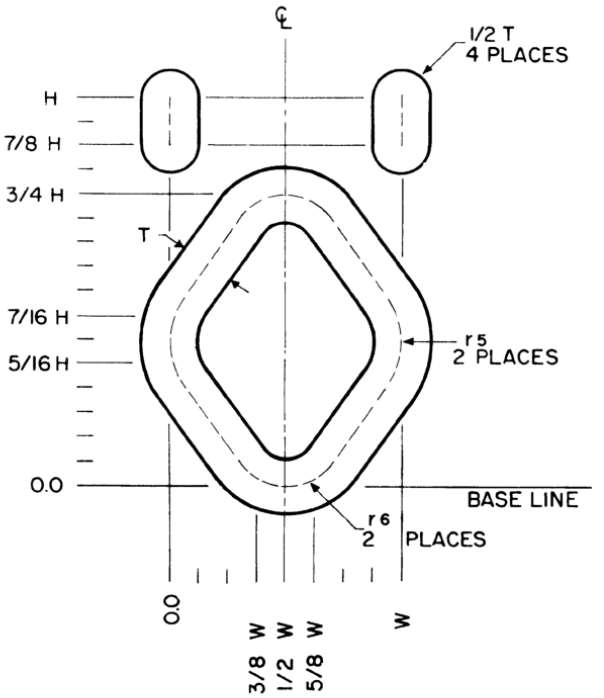

℄
1/2 T
4 PLACES
H
3/4 H
T
1/4 H
0.0
BASE LINE
1/2 T
2 PLACES
0.0
1/8 W
3/8 W
1/2 W
5/8 W
7/8 W
W

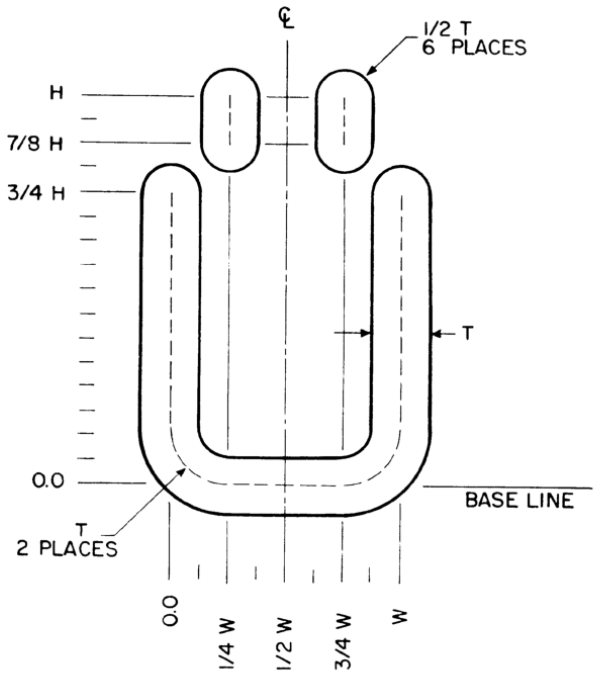

℄
1/2 T
7 PLACES
H
7/8 H
3/4 H
T
3/16 H
0.0
BASE LINE
0.0
1/2 W
W

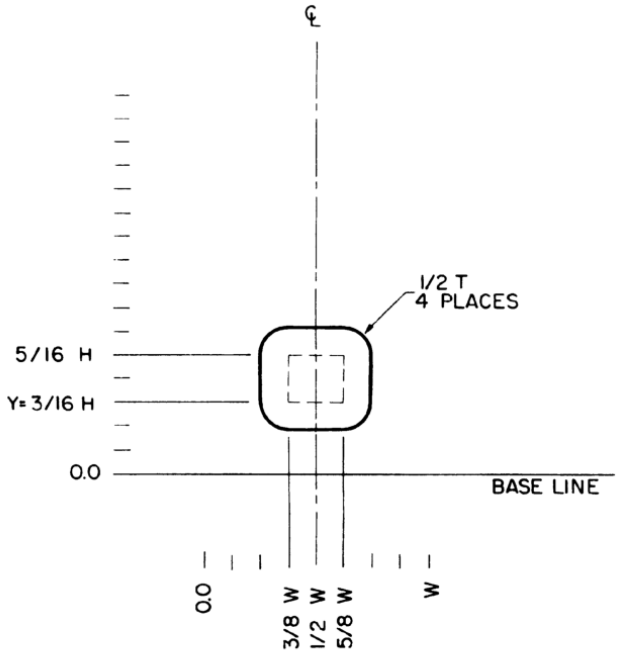

℄
1/2 T
6 PLACES
H
1/2 H
T
1/4 H
0.0
BASE LINE
0.0
1/2 W
5/8 W
W


℄
1/2 T
8 PLACES
H
15/16 H
5/8 H
T
0.0
BASE LINE
0.0
1/2W
W

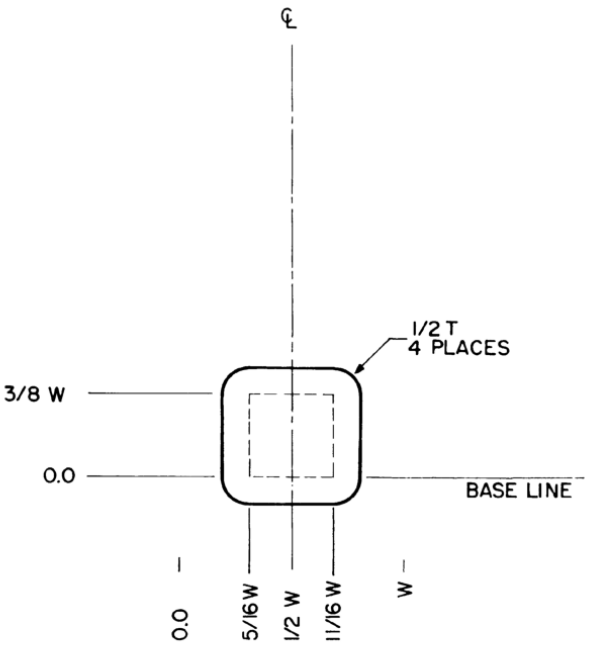

℄
r 2
2 PLACES
1/2 T
2 PLACES
H
T
9/16 H
7/16 H
r 1
2 PLACES
0.0
BASE LINE
0.0
3/8 W
1/2 W
5/8 W
W


℄
1/2 T
4 PLACES
H
7/8 H
3/4 H
T
7/16 H
5/16 H
r 5
2 PLACES
0.0
BASE LINE
r 6
2 PLACES
0.0
3/8 W
1/2 W
5/8 W
W

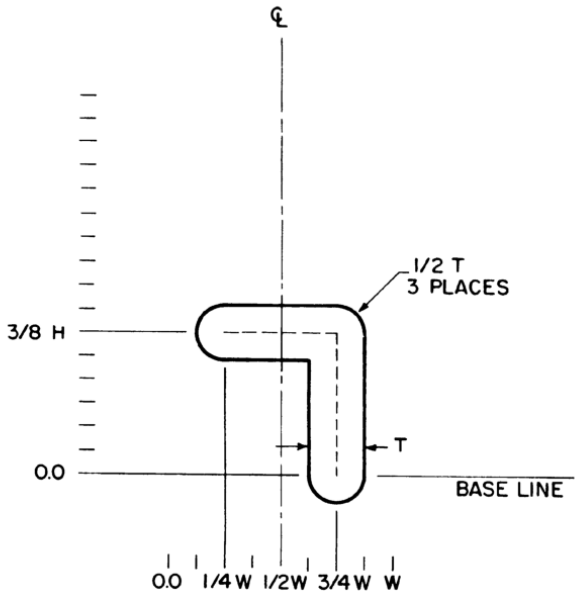

℄
1/2 T
6 PLACES
H
7/8 H
3/4 H
T
0.0
BASE LINE
T
2 PLACES
0.0
1/4 W
1/2 W
3/4 W
W



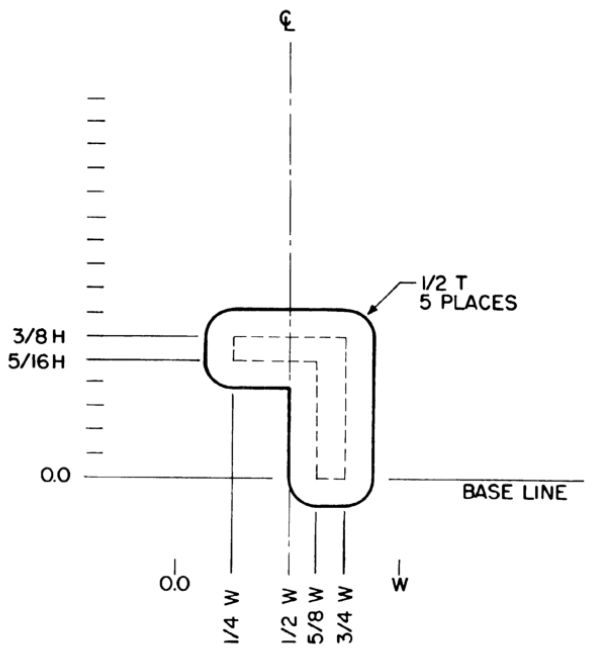
PREFERRED



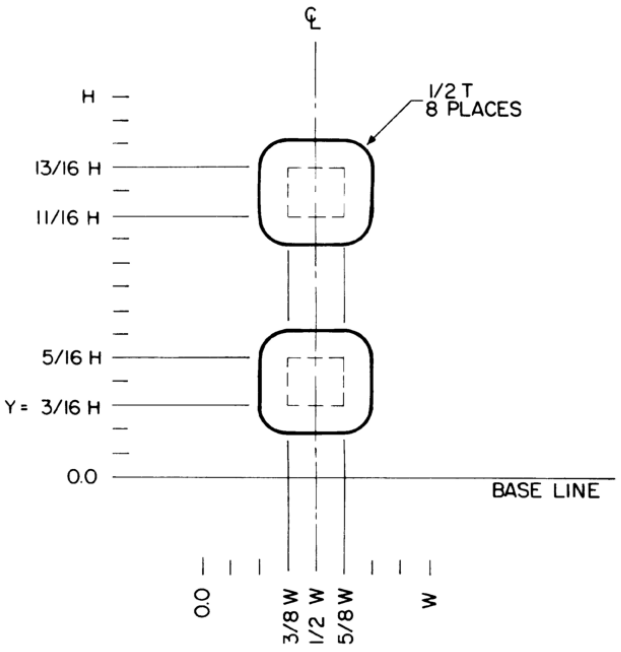
ALTERNATIVE

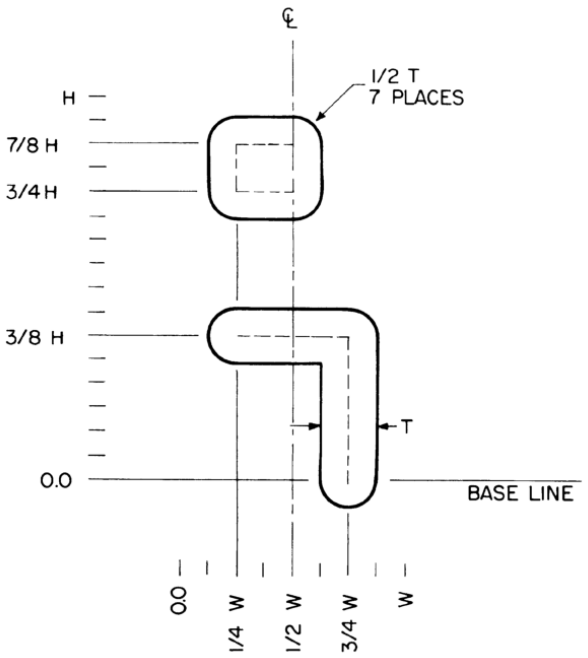


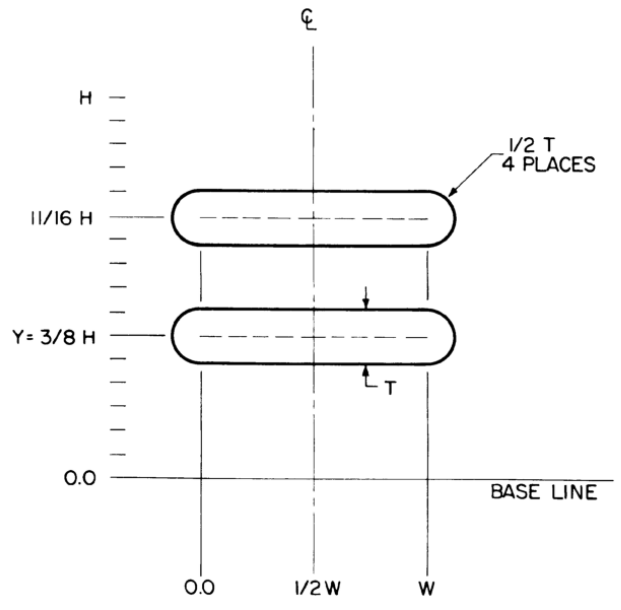
PREFERRED

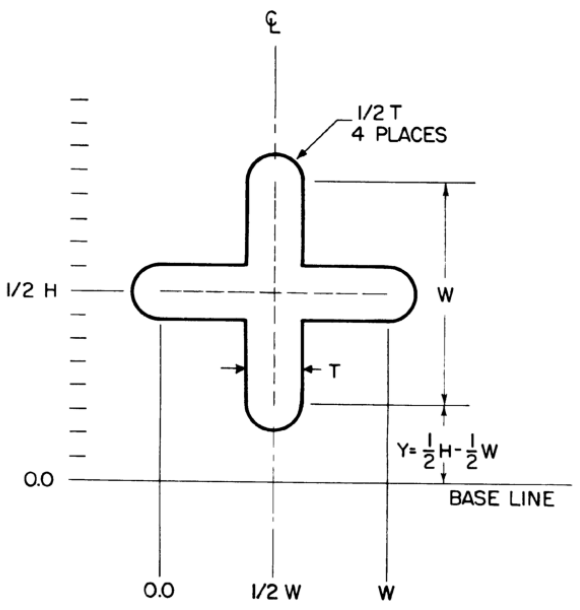


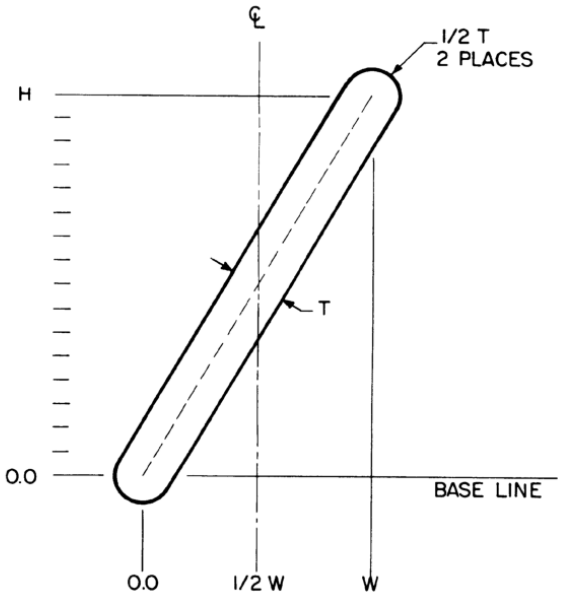
ALTERNATIVE

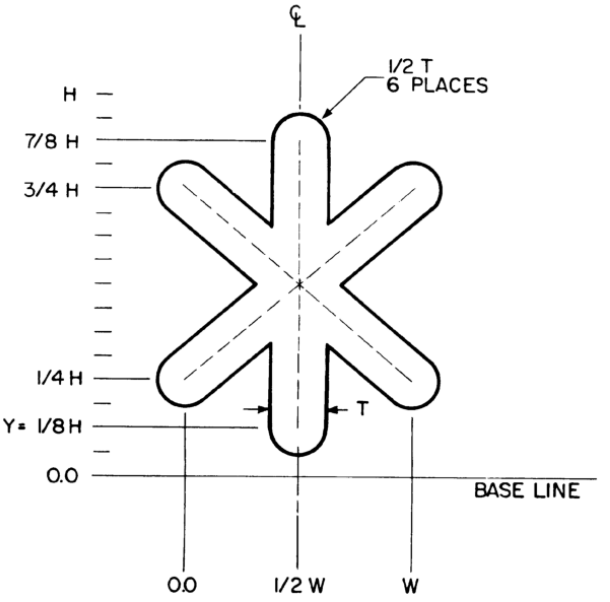

℄
H
13/16 H
11/16 H
5/16 H
Y = 3/16 H
0.0
1/2 T
8 PLACES
BASE LINE
0.0
3/8 W
1/2 W
5/8 W
W

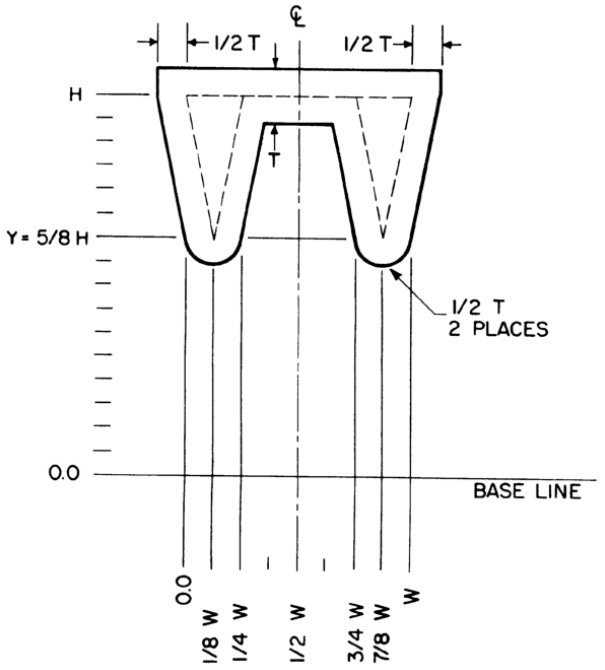

℄
H
7/8 H
3/4 H
3/8 H
0.0
1/2 T
7 PLACES
T
BASE LINE
0.0
1/4 W
1/2 W
3/4 W
W

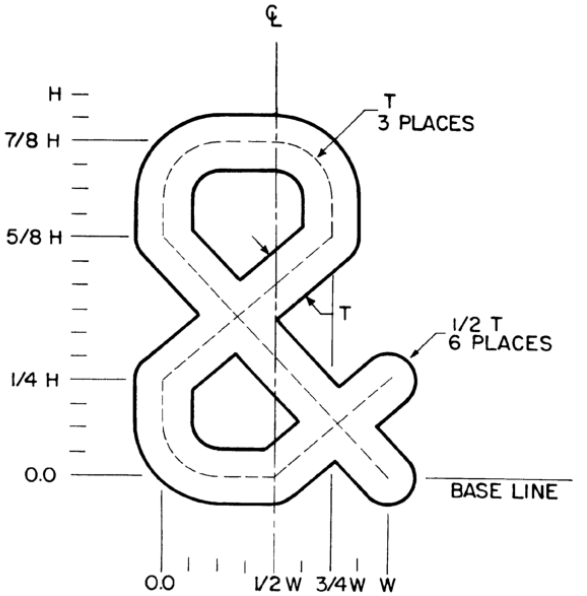

℄
H
11/16 H
Y = 3/8 H
0.0
1/2 T
4 PLACES
T
BASE LINE
0.0
1/2 W
W

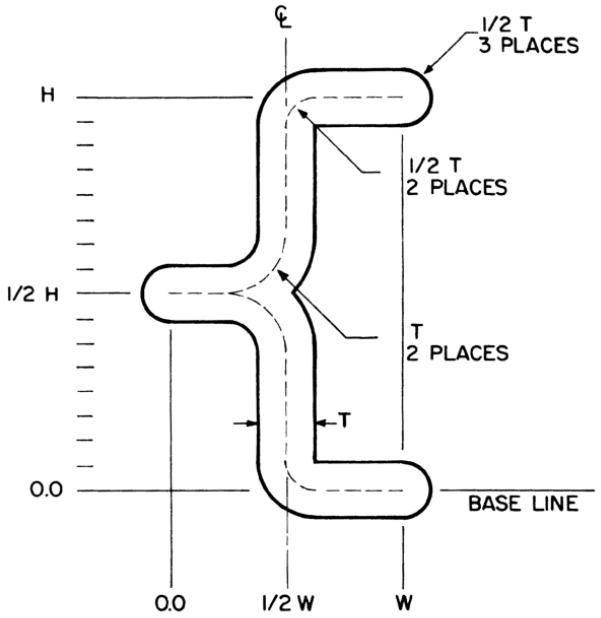

℄
1/2 H
0.0
1/2 T
4 PLACES
W
T
Y = ½H - ½W
BASE LINE
0.0
1/2 W
W

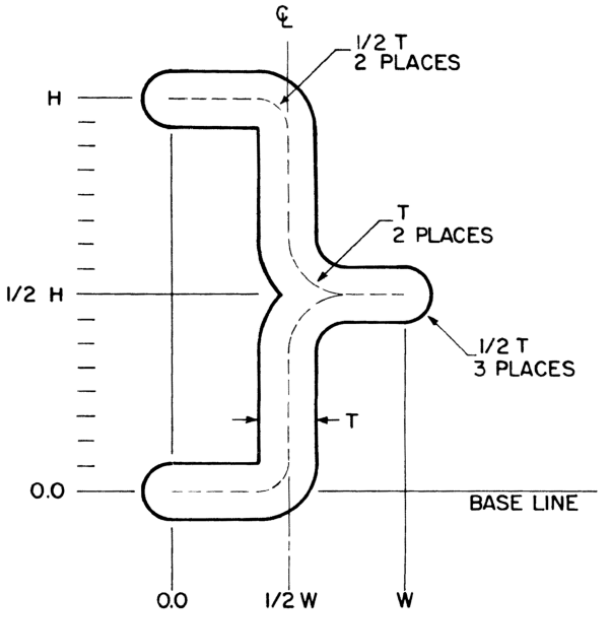

℄
1/2 T
2 PLACES
H
T
0.0
BASE LINE
0.0
1/2 W
W

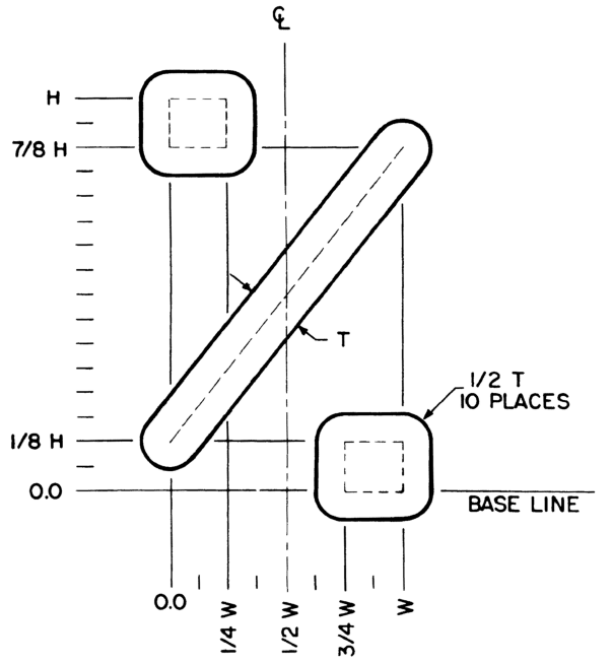

℄
1/2 T
6 PLACES
H
7/8 H
3/4 H
1/4 H
Y= 1/8 H
T
0.0
BASE LINE
0.0
1/2 W
W


℄
1/2 T
1/2 T
H
T
Y= 5/8 H
1/2 T
2 PLACES
0.0
BASE LINE
0.0
1/8 W
1/4 W
1/2 W
3/4 W
7/8 W
W


℄
H
T
3 PLACES
7/8 H
5/8 H
T
1/2 T
6 PLACES
1/4 H
0.0
BASE LINE
0.0
1/2 W
3/4 W
W


℄
1/2 T
3 PLACES
H
1/2 T
2 PLACES
1/2 H
T
2 PLACES
T
0.0
BASE LINE
0.0
1/2 W
W


℄
1/2 T
2 PLACES
H
T
2 PLACES
1/2 H
1/2 T
3 PLACES
T
0.0
BASE LINE
0.0
1/2 W
W


℄
H
7/8 H
T
1/2 T
10 PLACES
1/8 H
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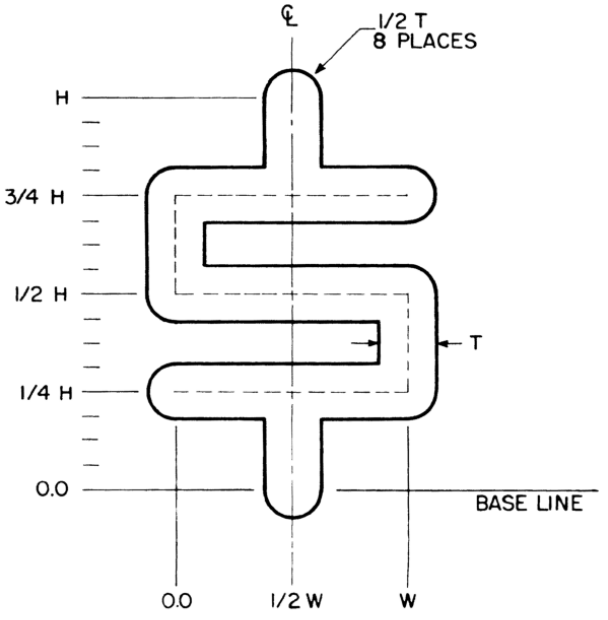
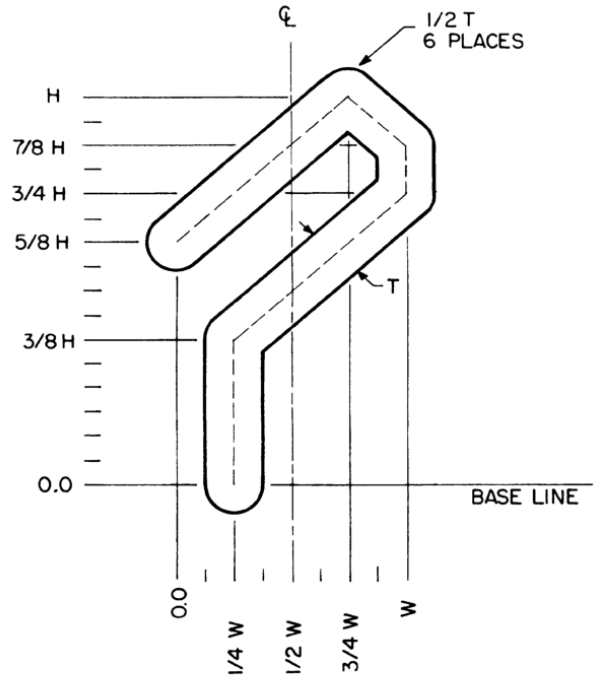
BASE LINE
0.0
1/4 W
1/2 W
3/4 W
W


℄
1/2 T
8 PLACES
H
3/4 H
1/2 H
T
1/4 H
0.0
BASE LINE
0.0
1/2 W
W



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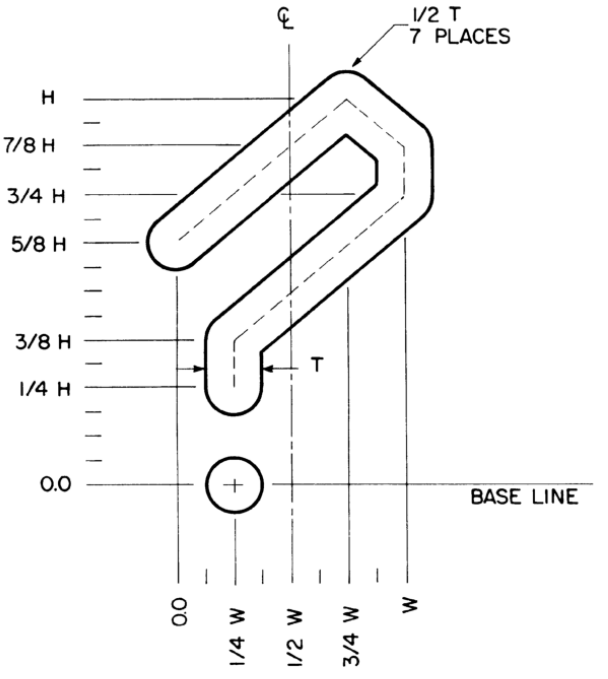
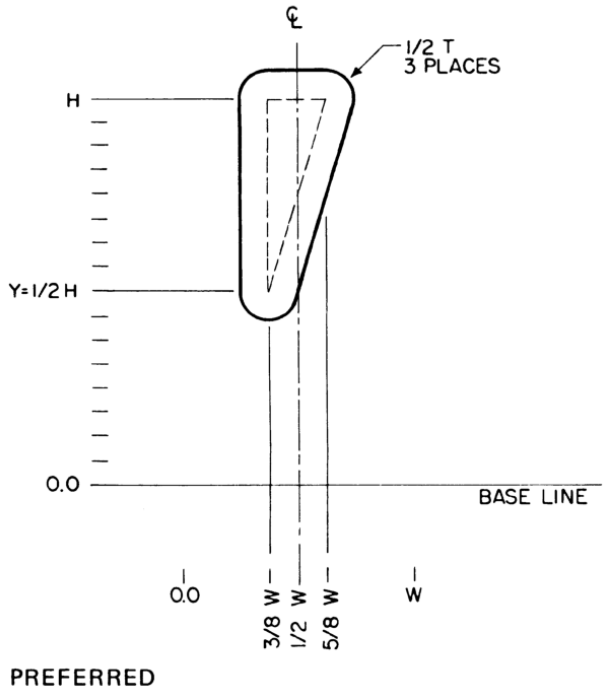


ALTERNATIVE



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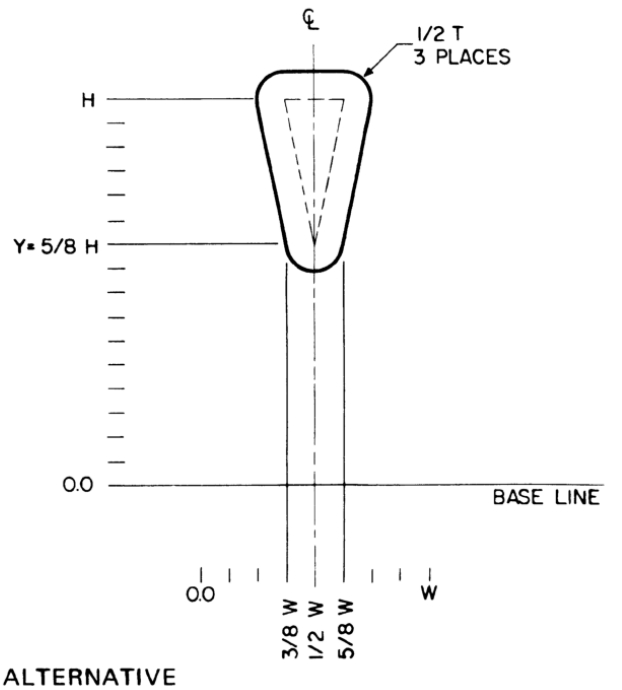

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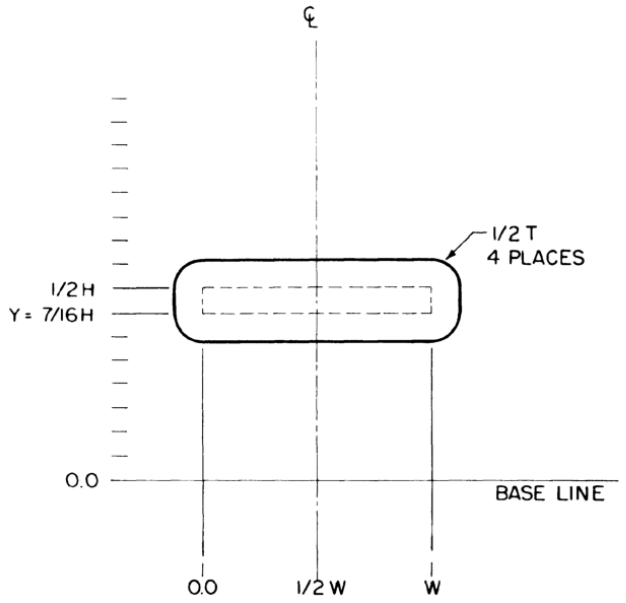

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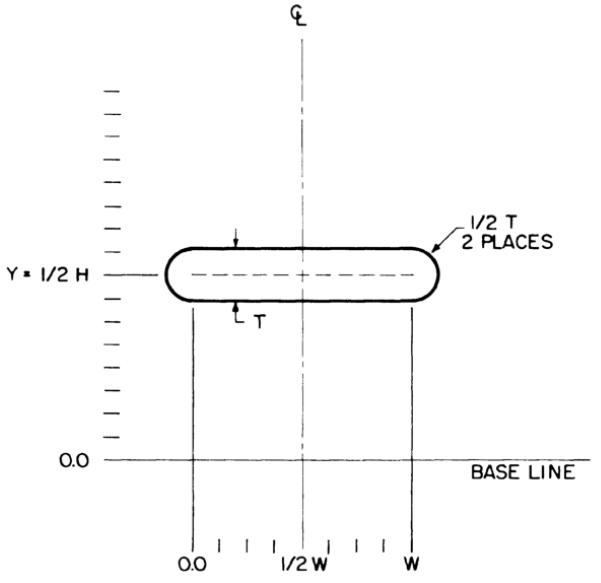

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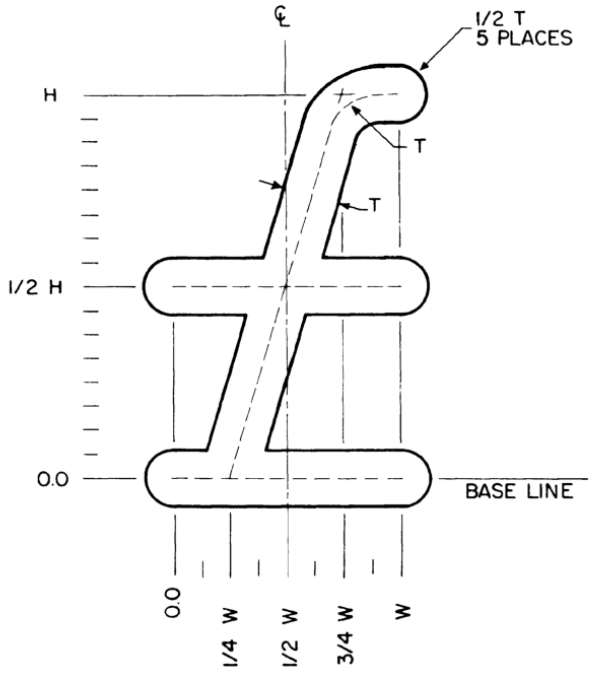
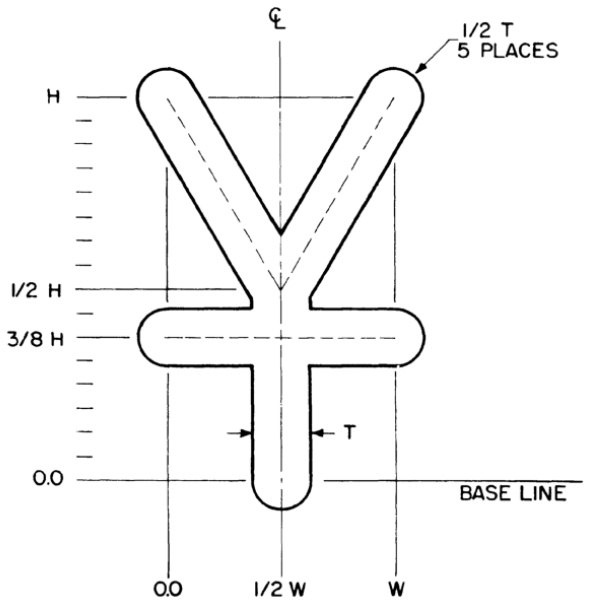
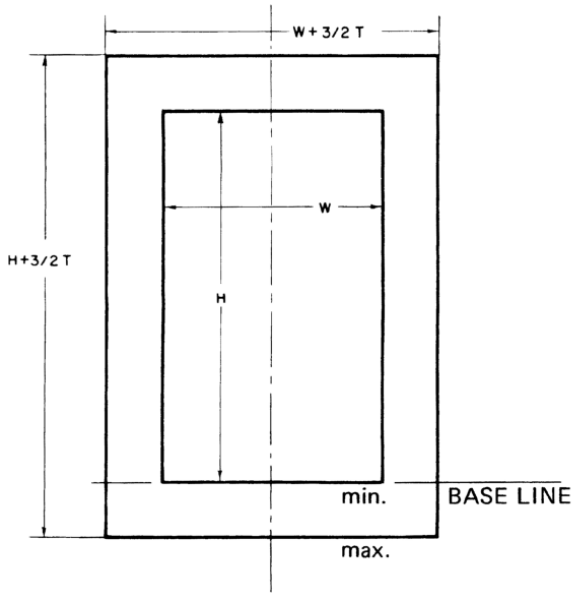
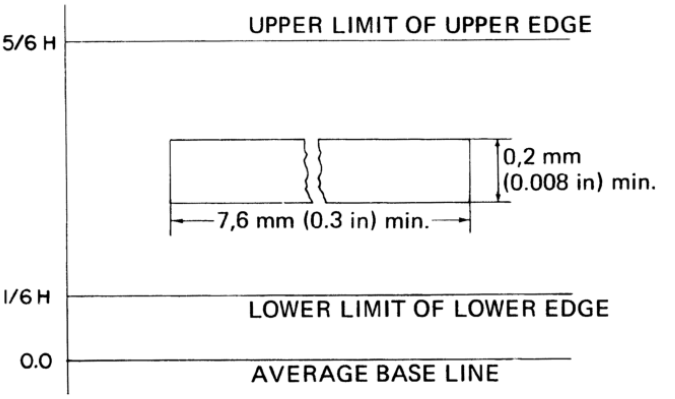






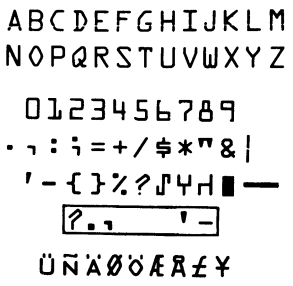
CHARACTER ERASE



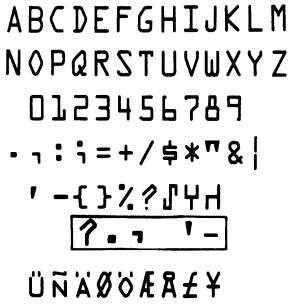
GROUP ERASE

Illustration of the three sizes

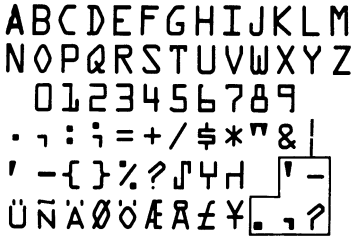
Size I



Size III



Size IV



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