

CHAPTER 29

Matrix Bridges and Bridge Notches on Matrices

MATRIX FONT SLOTS

MATRIX FONT NOTCHES have been described in Chapter 2, and the use of the font distinguisher on single distributor machines has been described in Chapter 18. To their use on such machines there is little to be added. Because there are many point sizes of type and the base of the matrix is narrow, there cannot be a separate font slot for each point size. For that reason, each font slot has been assigned to more than a single point size, according to the table below. There is but one font slot in the base of any matrix, which fact should be remembered when using the two templates below for the identification of a font slot. As shown, these two templates serve the purpose of six separate templates.

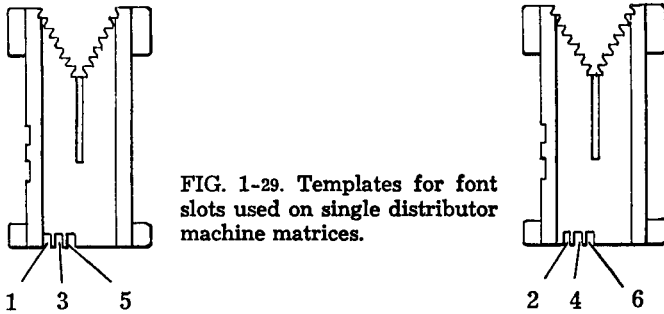


FIG. 1-29. Templates for font slots used on single distributor machine matrices.

The font slot numbers for various point sizes of single distributor matrices are as follows:

1.....5, 11, 22, 34	4.....4¾, 6¾, 7, 11½, 14, 21, 28, 42
2.....6½, 10, 13, 20, 26, 30, 60	5.....6, 10½, 12, 24, 48
3.....4, 7½, 7¾, 8, 16, 27, 32	6.....5½, 9, 18, 36, 54

MATRIX BRIDGE NOTCHES

The development of multiple distributor machines with two or more main magazines required that there should be devised a matrix separation system of a greater scope than is possible with the simpler font slot system. The newer system is by means of various combinations of bridge notches and corresponding bridges used on such machines. These bridge notches are also in the bottom of the matrix. On Model 25 and 26 Linotypes, the system employed is based upon a combination

of any three of a total of eight. On Model 29 and 30 Linotypes it is necessary to use only one bridge notch.

Before studying the table of these combinations in use, it is well to consider again the characteristics of the machines on which this system of matrix separation is employed. Also, it should be remembered that Model 25 and 26 Linotypes have, in this respect, the same characteristics as Models 29 and 30 when these machines are fitted with but two main magazines.

Linotype Model 29-2

Model 29-2 is a two-magazine multiple distributor Linotype with either 90- or 72-channel magazines, or both, as specified.

This machine has two distributor bars, two distributor boxes and two channel entrances. The magazines in this model remain stationary. Changing from one face to another is accomplished by an upper assembler entrance which swings from one magazine to the other, controlled by a quick-mixing key located at the right of the keyboard. Only the lightest touch on this mixing key is necessary to swing the assembler entrance, or front, and the action is extremely fast. The shift key mechanism which accomplishes the swinging of the front, through the action of the mixing key, is self-contained and may be swung out of the way when the keyboard is opened.

The method of distribution is the same as that previously employed on Models 25 and 26. The standard three-projection bridge is used. Matrices for the upper magazine carry bridge notches corresponding to the bridge projections and will drop to the lower distributor box and to the upper magazine. Matrices either unnotched or with notches different from the projections on the bridge, will ride over the bridge and pass to the lower magazine.

Linotype Model 29-4

Model 29-4 is a four-magazine multiple distributor Linotype with magazines either all 90-channel, all 72-channel or combination 72- and 90-channel.

This machine is in effect a double Model 29-2. It has the same distributing mechanism—two boxes, two bars, and two channel entrances. Instead of the magazines being fixed in position, however, they are raised or lowered so that any adjacent two are in operating position with respect to the assembler front, by the same one-turn shift employed on the single distributor Model 31. The two magazines which are in operating position remain stationary during the process of selecting matrices from either magazine.

The method used to mix faces from any two adjacent magazines is the same as on Model 29-2—by means of a mixing key which causes the assembler front to swing from one magazine to the other.

Matrices may be mixed from any two adjacent magazines except in the case of the "Two-in-One" Model 29-4, where mixing can occur only from the two top or the two lower magazines.

Matrices are distributed to their proper magazine in the same way as in Model 29-2 except that instead of a fixed bridge with three projections being used, a movable bridge with a single projection is employed. This single projection bridge is not changed for different magazines. It is moved to the proper position automatically each time the magazines are raised or lowered. The location of this bridge is controlled by the setting of an indicator plate similar in construction to the automatic font distinguisher plate on single distributor machines. Each time a magazine is shifted to upper operating position, the act of moving the magazine

frame automatically moves the bridge to the correct position determined by the setting of the indicator plate. There are three of these indicator plates, one each for the three upper magazines on the machine. The fourth plate is not required since the fourth or lowest magazine can never be in the upper operating position.

Matrices from the magazine in upper operating position will match the bridge, drop to the lower distributor box and be carried by the lower distributor screws to the upper magazine. Matrices from the magazine in lower operating position will ride over the bridge, be carried along the upper distributor bar and fall through the lower channel entrance to the lower magazine. With this single bridge projection, it is only necessary that matrices of the magazine in the upper operating position have a bridge notch that does not appear in the matrices of the magazine in lower operating position.

Linotype Model 30-2

Model 30-2 is a two-magazine multiple distributor Linotype with two wide auxiliary magazines. Main magazines are either 90-channel, 72-channel or 72- and 90-channel. Auxiliary magazines are wide 34-channel.

This machine is the same as the Model 29-2 with the addition of two wide 34-channel auxiliary magazines. Both main and auxiliary magazines remain stationary. Mixing from auxiliary magazines is accomplished in the same manner as for the main magazines. A second mixing key located immediately to the right of the main magazine key, causes the auxiliary upper assembler entrance to swing from one auxiliary magazine to the other. Matrices may thus be assembled from any or all magazines, both main and auxiliary, permitting continuous keyboard operation without waiting for distribution.

Linotype Model 30-4

Model 30-4 is a four-magazine multiple distributor Linotype with four wide auxiliary magazines. Main magazines are either 90-channel, 72-channel, or 72- and 90-channel.

This machine is the same as the Model 29-4 with the addition of four wide 34-channel auxiliary magazines. The auxiliary magazines are raised or lowered to operating position by the same one-turn shift used for the main magazines. A shift indicator lever is used to change the action of the handle from main to auxiliary magazines and vice versa. Mixing from auxiliary magazines is accomplished in the same way as for the main magazines. A second mixing key, located immediately to the right of the main key, causes the auxiliary upper assembler entrance to swing from one auxiliary magazine in operating position to the other. Matrices may thus be assembled from any two adjacent main and auxiliary magazines at will, permitting continuous keyboard operation without the loss of any time caused by waiting for distribution.

Bridges and Combinations for Models 29-2 and 30-2

In the Models 29-2 and 30-2, the upper distributor box is fitted with a removable bridge. The matrix is lifted with the distributor screws and rides on the distributor box rails to the bridge. If the matrix is notched to correspond to the bridge projections, it will drop over the bridge projections so that the matrix teeth will not engage the distributor bar teeth. Then, after crossing the bridge, it falls through a chute to the lower distributor box which feeds the upper magazine.

If the matrix is supported by any bridge projections, it will maintain its alignment with the teeth of the upper distributor bar and be carried to the lower maga-

zine. Thus, any font whose bridge notches do not match the bridge projections, also any unnotched matrices, will run in the lower magazine.

The standard bridge-cutting of matrices for Models 29-2 and 30-2, unless specifically ordered, consists of three notches, comprising any three between Nos. 2 and 7, inclusive, with the exception of one carrying notches 5-6-7, which is not desirable. This cutting refers to the upper magazine only. Matrices for the lower main and auxiliary magazines are unnotched unless otherwise ordered. Matrices for the upper auxiliary magazine are cut with notches 2 to 7, inclusive, in order to drop on any bridge in use.

Bridge Notching for Models 29-4 and 30-4

Only one bridge notch is used for separation in the distributor box on a Model 29-4 or 30-4, and therefore in most installations only one bridge notch is specified per font of matrices. To permit greater mixing possibilities two, or three notches can be specified. This gives more notches to choose from when positioning the single bridge projection.

If mixing is to occur from magazines 1 and 2, 2 and 3, and 3 and 4, all fonts except the one running in fourth position should be bridge-notched. If mixing is to occur from magazines 1 and 2, and 3 and 4 only, the matrices in position Nos. 2 and 4 need not be notched.

The indicator dial for automatically setting the position of the single bridge projection for bridge-notched matrices, has eight positions (Nos. 1 and 8 are not used except for older matrices having these notches). The dial is set so that the matrices in upper operating position will match the position of the bridge, drop to the lower distributor box and to the upper magazine. Matrices for the lower operating magazine will not match the bridge, but will ride over it and distribute to the lower magazine. To position the single bridge projection so that the upper matrices will fall and the lower matrices will ride over the bridge, the dial is set for any notch in the upper magazine matrices which does not appear in the lower magazine matrices. This allows the matrices to separate properly in the distributor. When the magazines are shifted to bring Nos. 2 and 3 into operating position, the dial for No. 2 magazine is set for any notch appearing in matrices for No. 2 magazine which does not appear in matrices for No. 3 magazine. The same procedure is followed when magazines No. 3 and 4 are in operating position. When once set, the indicator dials need not be changed unless a different magazine is placed on the machine.

Outstanding Single Distributor Matrices

Single distributor matrices may be used in magazines No. 2 and 4 without further notching. If it is desired to mix from magazines No. 2 and 3, the single distributor matrices used in magazine No. 2 must either have a font slot that can be used for separation, or they must be bridge-notched.

It is possible to separate single distributor matrices by the use of the font slot alone, i.e., the font slot performs the same function as a bridge notch. To position the single bridge projection so that it will assume its correct position to match the location of the font slot, a different portion of the regular indicator dial is used. To separate matrices by the use of font slots, it is of course necessary that the font slots of the two magazines in use, are not in the same location. If they are, then the matrices for the upper operating magazine must be bridge-notched. Where it is necessary to bridge-notch such single distributor matrices, the standard system of bridge-notching will be used.

Auxiliary matrices for single distributor machines are cut with a universal font slot. To use these matrices on the Model 29 and 30, it will be necessary to add a bridge notch to matrices to be used in any upper operating position.

Outstanding Model 25 and 26 Matrices

Matrices cut with bridge notches for use on Models 25 and 26 may be used on Models 29 and 30 without further notching. Matrices formerly used in the lower magazine of Models 25 and 26 and unnotched, may be used in the second and fourth position on Models 29 and 30. If it is desired to run any unnotched matrices from Models 25 and 26 in any upper operating position, such matrices must either have a font slot that can be used for separation, or they must be bridge-notched.

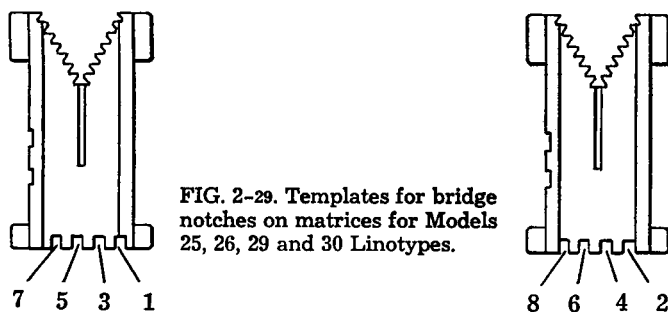


FIG. 2-29. Templates for bridge notches on matrices for Models 25, 26, 29 and 30 Linotypes.

Matrices for Auxiliary Magazines

Matrices for the second and fourth auxiliary magazines are unnotched unless otherwise ordered. Matrices for auxiliary magazines Nos. 1 and 3 are cut with notches 2 to 7, inclusive, in order to drop on the single bridge projection no matter what its position may be. If mixing is to occur from main magazines Nos. 2 and 3, and it is desired to also mix from the auxiliary magazines opposite, the auxiliary magazines must be manually changed so that the one carrying matrices with notches 2 to 7, is in the upper operating position.

If desired, auxiliary matrices can be notched the same as the corresponding main magazine. This method of notching, however, while it permits mixing between auxiliary magazines Nos. 2 and 3, limits the use of the auxiliary matrices, in most cases, to one main magazine font. This is not desirable.

The templates shown in Fig. 2-29 may be used to identify the bridge notch or notches in matrices which are to run in Models 29 and 30. The numbers on the templates refer to the numbers on the bridge indicator dials. It should be noted that bridge notches 1 and 8 are shown only because they are used on outstanding matrices for Models 25 and 26. The standard bridge-notching of matrices for Models 29 and 30 comprises only notches between 2 and 7, inclusive.

If it is desired to separate matrices by means of font slots, the templates shown in Fig. 1-29 may be used. The font slot portion of the indicator dials is then used. It should be noted that while the font slot portion of the indicator dial has twelve positions, only six (1 to 6, inclusive) can be used. The remaining positions are for use only if it becomes necessary to cut additional font slots in the matrices.

If it is desired to use Model 9 matrices in Models 29 and 30, the templates shown in Fig. 3-29 may be used. Special indicator dials for this purpose must be used.

Matrix Bridges for Models 25, 26 and Two-Magazine Models 29 and 30

The standard bridge-cutting of matrices for the above types of machines, unless otherwise specifically ordered, consists of three notches, comprising any between Nos. 2 and 7, inclusive, with the exception of the one carrying notches 5-6-7, which is not desirable. This cutting refers to the upper magazine only. Matrices for the lower main and auxiliary magazines are unnotched unless otherwise ordered. Matrices for the upper auxiliary magazines are cut with notches 2 to 7, inclusive, in order to drop on any bridge in use. A matrix with a combination which does not correspond with the bridge projections in use (also an unnotched matrix) will ride across the bridge, to the upper distributor screws and into the lower magazine. The possible bridge combinations are listed below:

Point Size of Matrix	Bridge No.	Bridge Notches	Point Size of Matrix	Bridge No.	Bridge Notches
5½, 9, 18, 36, 54.....	351.....	2-3-5	6, 6¾, 7, 10½,.....	365.....	4-5-6
	358.....	2-5-7	11½, 12, 14, 21,.....	366.....	2-5-6
	361.....	3-5-7	24, 28, 42, 48.....	368.....	2-4-6
	363.....	2-4-5			
	364.....	3-5-6	4, 6½, 7½, 8, 10, 13,...	354.....	2-3-7
	365.....	4-5-6	16, 20, 27, 30, 32, 60...	355.....	2-4-7
	366.....	2-5-6		356.....	3-4-7
	369.....	4-5-7		357.....	3-6-7
	370.....	3-4-5		358.....	2-5-7
				359.....	2-6-7
6, 6¾, 7, 10½,.....	352.....	2-3-6		360.....	4-6-7
11½, 12, 14, 21,.....	353.....	3-4-6		361.....	3-5-7
24, 28, 42, 48.....	357.....	3-6-7		369.....	4-5-7
	359.....	2-6-7			
	360.....	4-6-7	5, 11, 22, 34.....	362.....	*2-3-4
	364.....	3-5-6			

*In addition to bridge No. 362, any of the bridges specified for the various point sizes can be used, except those having a No. 7 notch.

Note:—Every combination selected must include bridge notch corresponding to respective font slot of matrices, as indicated below:

Font Slot	Corresponding Bridge Notch	Font Slot	Corresponding Bridge Notch
5½, 9, 18, 36, 54 Point.....	5	4, 6½, 7½, 8, 10, 13, 16, 20,	
6, 6¾, 7, 10½, 11½, 12, 14,		27, 30, 32, 60 Point.....	7
21, 24, 28, 42, 48 Point.....	6	5, 11, 22, 34 Point.....	8

Matrix Bridge and Notches for Four-Magazine Models 29 and 30

The separation of matrices in the four-magazine mixer Models 29 and 30 has already been explained in this chapter. The table of matrix bridges (as above) serves also for these models. However, it should be remembered that even though the notching may consist of one, two or three notches (comprising any between 2 and 7 inclusive), only one notch is used for separation in these models.

Matrix Bridges for Model 9

Matrices on the Model 9 are separated in the primary distributor for the various magazines to which they are to be distributed by means of small bridges having different combinations or projections.

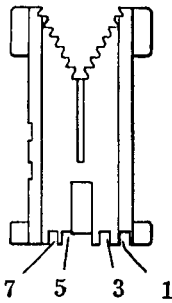
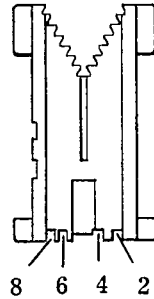


FIG. 3-29. Templates for bridge notches on matrices for Model 9. If it is desired to run Model 9 matrices on Models 29 and 30, a special indicator dial must be used.



The various bridge combinations are listed as follows:

Bridge			Bridge			Bridge		
Old	New	Notches	Old	New	Notches	Old	New	Notches
1.....		1-2-8	17.....	117.....	2-3-8	32.....	107.....	3-4-6
2.....		1-2-3	18.....		1-2-4	33.....		1-7-8
3.....	103.....	2-5-8	19.....	119.....	3-4-5	34.....	101.....	2-7-8
4.....		1-2-5	20.....	120.....	3-5-8	35.....	115.....	3-7-8
5.....		1-2-6	21.....	121.....	4-5-8	36.....	116.....	4-7-8
6.....		1-3-6	22.....		1-3-5	37.....		1-6-7
7.....		1-4-6	23.....		1-4-5	39.....	105.....	2-6-7
8.....	108.....	2-3-6	24.....		1-5-8	40.....	106.....	3-6-7
9.....		1-3-4	25.....	102.....	2-3-5	41.....	113.....	4-6-7
11.....		1-2-7	26.....	126.....	2-4-6	42.....	127.....	6-7-8
12.....		1-3-7	27.....	111.....	2-4-7	.....	104.....	2-5-6
13.....		1-4-7	28.....	109.....	3-4-8	.....	122.....	3-5-6
14.....	114.....	2-3-7	29.....	124.....	2-4-5	.....	123.....	4-5-6
15.....		1-3-8	30.....	112.....	3-4-7	.....	125.....	5-6-7
16.....		1-4-8	31.....	118.....	2-4-8			

Note:—Every combination selected must include bridge notch corresponding to respective font slot of matrices, as indicated below:

Font Slot	Corresponding Bridge Notch	Font Slot	Corresponding Bridge Notch
5, 11, 22, 34 Point.....	8	4, 7½, 8, 16, 27, 32 Point.....	6
6, 6¾, 7, 10½, 11½, 12, 14, 21, 24, 28, 42, 48 Point.....	5	6½, 10, 13, 20, 30, 60 Point.....	7
		5½, 9, 18, 36, 54 Point.....	Font Slot cut out by bevel

All matrices used in the Model 9 must have the beveled notch, in addition to the bridge notches for separating fonts for the various magazines. All sorts matrices are supplied without bridge notches, except for Model 9's equipped with the four-deck pi stacker, where sorts matrices must be notched.

FACE IDENTIFICATION NUMBERS

Matrices are marked on the sides for the purpose of easy identification as follows: 6△8, 6△9, 8△12, etc. The triangle is a trade-mark and has nothing whatever to do with the identification of the font and face. The figure on the left of the triangle indicates the point size and the figure on the right indicates the name of its face and not its number. Thus, for instance, 10△8 does not mean 10-point No. 8, but 10-point Caslon with Italic and Small Caps; 8△12 does not mean 8-point No. 12, but 8-point Cheltenham with Italic and Small Caps. These reference marks will be found convenient for ordering sorts for fonts already in use. If in doubt when ordering sorts, send a sample lower case "n", with order.