

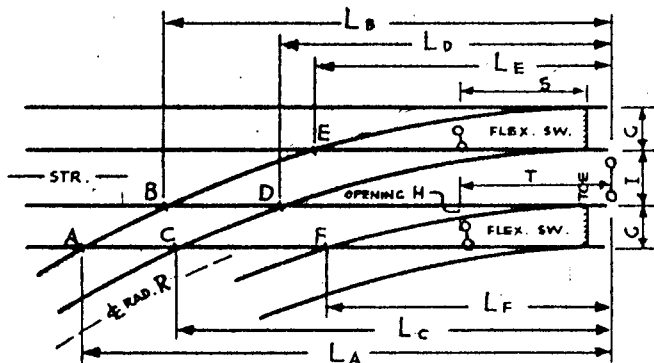
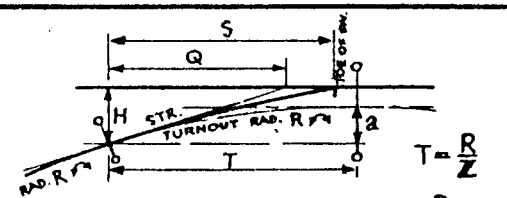
PERMANENT WAY NOTES.

DOUBLE JUNCTIONS (4)

FLEXIBLE SWITCHES (STR. MAIN LINE.)

ACCURATE FORMULÆ FOR LENGTHS & ANGLES.

THESE NOTES ARE INTENDED FOR THE GUIDANCE AND ASSISTANCE OF STAFF ENGAGED UPON PERMANENT WAY WORK. THEY DO NOT IN ANY WAY MODIFY SUPPLEMENT OR AMEND THE INSTRUCTIONS LAID DOWN IN E.D.I., STANDARD DRAWINGS CIRCULARS ETC., WHICH SHOULD BE REFERRED TO IN ALL CASES.



DETAILS OF SWITCH

ALIGNMENT. (FOR Z, SEE BELOW)

TYPE OF SWITCH	S	Q	H
B	22'5"	15'8876"	'83613" (I.E. ABT. 10" AT HEEL OF TONGUE)
C	28'5"	20'0448"	'85239" (I.E. ABT. 10 1/2" AT HEEL OF TONGUE)
D	34'6"	25'4756"	'83333" (I.E. 10" AT HEEL OF STOCK RAIL.)

LENGTHS OF LEGS

$$AB = \sqrt{(L_A - L_B)^2 + G^2} \quad CD = \sqrt{(L_C - L_D)^2 + G^2} \quad BE = \sqrt{(L_B - L_E)^2 + I^2}$$

$$AC = L_A - L_C \quad BD = L_B - L_D \quad CF = L_C - L_F$$

($G^2 = 22.1684$ $G^2 = 42.25$)

TANGENT LENGTHS

(FOR VALUES OF CONSTANTS V, W, X, Y, Z, SEE BELOW)

$$L_A = \frac{\sqrt{R(R+V)}}{Z}$$

$$L_B = \frac{\sqrt{(R+\frac{G}{2})(R+W)}}{Z}$$

$$L_C = \frac{\sqrt{(R-\frac{G}{2})(R+W)}}{Z}$$

$$L_D = \frac{\sqrt{R(R+X)}}{Z}$$

$$L_E = \frac{\sqrt{(R+\frac{I+G}{2})(R+Y)}}{Z}$$

$$L_F = \frac{\sqrt{(R-\frac{I+G}{2})(R+Y)}}{Z}$$

CROSSING ANGLES

(FOR VALUES OF CONSTANTS V, W, X, Y, Z, SEE BELOW)

$$N_A = Z \sqrt{\frac{R}{R+V}} \quad (= \frac{R}{L_A})$$

$$N_{B,C} = Z \sqrt{\frac{R}{R+W}} \quad (\text{APPROX.})$$

(ACCURATE FORMULÆ FOR ELBOWS)

$$N_B = Z \sqrt{\frac{R+\frac{G}{2}}{R+W}} \quad N_C = Z \sqrt{\frac{R-\frac{G}{2}}{R+W}}$$

$$N_D = Z \sqrt{\frac{R}{R+X}} \quad (= \frac{R}{L_D})$$

$$N_E = Z \sqrt{\frac{R+\frac{I+G}{2}}{R+Y}} \quad (= \frac{R+\frac{I+G}{2}}{L_E})$$

$$N_F = Z \sqrt{\frac{R-\frac{I+G}{2}}{R+Y}} \quad (= \frac{R-\frac{I+G}{2}}{L_F})$$

VALUE OF CONSTANTS, ACCORDING TO TYPE OF SWITCH AND INTERVAL.

CONSTANTS.		"B" SWITCHES.			"C" SWITCHES			"D" SWITCHES.		
		FOR 6'-6" INTERVAL	ADD. FOR EA. ADDNL. FT. OF INTVL.	ADD. FOR EA. ADDNL. IN. OF INTVL.	FOR 6'-6" INTERVAL.	ADD. FOR EA. ADDNL. FT. OF INTVL.	ADD. FOR EA. ADDNL. IN. OF INTVL.	FOR 6'-6" INTERVAL	ADD. FOR EA. ADDNL. FT. OF INTVL.	ADD. FOR EA. ADDNL. IN. OF INTVL.
V	$[= \frac{2Q^2}{H^2} (I + 2C - H)]$	10890	722	60	16661	1106	92	28193	1869	156
W	$[= \frac{2Q^2}{H^2} (I + C - H)]$	7490	722	60	11454	1106	92	19392	1869	156
X	$[= \frac{2Q^2}{H^2} (I - H)]$	4090	722	60	6246	1106	92	10592	1869	156
Y	$[= \frac{2Q^2}{H^2} (G - H)]$	2796	0	0	4265	0	0	7243	0	0
Z	$[= \frac{Q}{H}]$	19 (log = 1.2787821)			23.52 (log = 1.3713627)			30.57 (log = 1.4853056)		
	$2Z^2 \quad [= \frac{2Q^2}{H^2}]$	722 (log = 2.8585942)			1106 (log = 3.0437554)			1869 (log = 3.2716412)		