

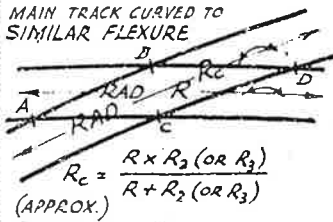
PERMANENT WAY NOTES

CURVED TRACK ACROSS STRAIGHT FOUR-FOOT. (SHEET 1.)

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.

FOR DATA RELATING TO EQUAL ANGLES ACROSS FOUR-FOOT, SEE P.W. NOTE SHEET NO R.1778
FOR DATA RELATING TO CURVED TRACK ACROSS PARALLEL SIX-FOOT, SEE P.W. NOTE SHEET NO R.4366 & R.4367

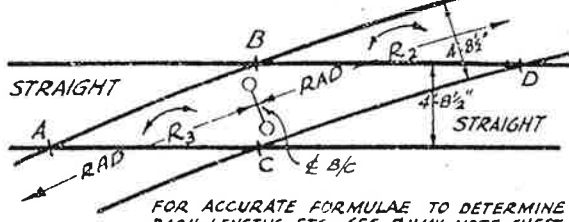
MAIN TRACK CURVED TO SIMILAR FLEXURE



$$R_c = \frac{R \times R_2 \text{ (OR } R_1)}{R + R_2 \text{ (OR } R_1)}$$

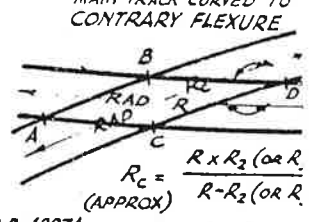
(APPROX.)

STRAIGHT



FOR ACCURATE FORMULAE TO DETERMINE RADI, LENGTHS ETC., SEE P.W. NOTE SHEET NO R.4297A.

MAIN TRACK CURVED TO CONTRARY FLEXURE



$$R_c = \frac{R \times R_2 \text{ (OR } R_1)}{R - R_2 \text{ (OR } R_1)}$$

(APPROX.)

MAIN TRACK STRAIGHT

USE OF TABLES*

APPROX. DIMENSIONS FOR 'FRACTIONAL' ANGLES:-

THE TABLES BELOW GIVE THE DIMENSIONS AB, AC & \angle RAD R_3 FOR GIVEN ANGLES A (COMMON XING) & B/C (\angle OBTUSE XING)

THE TABLES CAN BE USED TO CHECK (APPROX. BY PROPORTION) THE DIMENSIONS FOR 'FRACTIONAL' ANGLES PRODUCED BY A GIVEN RADIUS.

FOR DIMENSIONS 'BD', 'CD' & \angle RAD R_2 WITH GIVEN ANGLES B/C (\angle OBTUSE XING) & D (COMMON XING) SEE SHEET R.4365

EXAMPLE:- WITH RADIUS $R_3 = 355'$ GIVING ANGLES A, $1 \text{ in } 4'$ & B/C, $1 \text{ in } 5-30'$, WHAT IS THE LENGTH AB?

MAIN TRACK CURVED

THE DIMENSIONS AS TABLED APPLY ONLY WHEN THE MAIN TRACK IS STRAIGHT & WILL VARY IF THE MAIN TRACK IS CURVED. EXCEPT WHERE THE MAIN TRACK CURVATURE IS RELATIVELY FLAT THESE DIMENSIONS SHOULD BE SPECIALLY CALCULATED ACCORDINGLY & RADIUS R_2 CALCULATED IN ACCORDANCE WITH DIAGRAMS ABOVE.

LENGTH AB FOR ANGLES A/B/C = $4/5 \frac{1}{2} = 22' \frac{1}{2}''$
 " " " " " " " " = $4/5 \frac{3}{4} = 21' \frac{3}{8}'' = 21' \frac{3}{8}''$
 ADDITION TO AB FOR 0.25 DIFF. IN ANGLE $\frac{5 \frac{1}{2}''}{1''} = +1''$
 APPROX LENGTH AB FOR ANGLES A/B/C = $4/5-30 = 21'-9 \frac{1}{8}''$

ALL DIMENSIONS ARE TO KING INTERSECTIONS.

* TO SERVE AS A USEFUL CHECK ON CALCULATIONS... C.C.E. 5.1.55 REF: JY/40394.

COMMON XING ANGLE A 1 IN	OBTUSE XING ANGLE B/C 1 IN	LENGTH			RADIUS R ₃	COMMON XING ANGLE A 1 IN	OBTUSE XING ANGLE B/C 1 IN	LENGTH			RADIUS R ₃	COMMON XING ANGLE A 1 IN	OBTUSE XING ANGLE B/C 1 IN	LENGTH			RADIUS R ₃			
		AB	AC	\angle				AB	AC	\angle				AB	AC	\angle		AB	AC	\angle
3 1/4	4 1/4	17-11	17-10 1/2	500	4 1/4	5 1/4	23-2 1/2	23-2 1/2	2201	6 1/4	6 1/2	30-2 3/8	30-2 1/4	4904	8	9	40-0 1/2	40-0 1/4	281	
"	4 1/2	18-4 3/8	18-4 1/2	363	"	5 1/2	23-8 3/4	23-8 1/2	1182	"	7	31-3 3/8	31-3 1/8	1823	"	10	42-0	41-11 5/8	16	
"	4 3/4	18-10 3/8	18-9 5/8	296	"	5 3/4	24-3	24-2 5/8	843	"	7 1/2	32-3 1/2	32-3 3/8	1192	"	11	43-9	43-8 5/8	12	
"	4 3/4	19-3 5/8	19-2 5/8	255	"	5 3/4	24-8 3/8	24-8 3/8	674	"	8	33-2 3/8	33-2 3/8	948	"	12	45-4 1/8	45-3 3/8	10	
3 3/8	4	18-2 3/4	18-2 3/8	703	"	6	25-2 1/2	25-1 7/8	573	"	9	34-11	34-10 1/4	713	8 1/2	9	40-8 1/4	40-8	40	
"	4 1/4	18-9	18-8 3/8	460	"	6 1/2	26-1	26-0 1/4	459	"	6 1/2	7	31-11	31-10 7/8	2903	"	10	42-8 1/2	42-8 1/2	20
"	4 1/2	19-2 1/4	19-2	356	5	5 1/2	24-4 1/4	24-4 1/8	2555	"	7 1/2	32-11 5/8	32-11 3/8	1606	"	11	44-6 3/8	44-6	14	
"	4 3/4	19-8 3/4	19-7 1/4	300	"	5 1/2	24-10 3/4	24-10 1/2	1368	"	8	33-11 3/8	33-11	1175	"	12	46-3	46-1 5/8	12	
"	5	20-1 1/2	20-0 1/2	263	"	5 3/4	25-5	25-4 5/8	973	"	9	35-8 1/2	35-8	834	8 1/2	9	41-3 1/4	41-3 1/2	63	
3 3/4	4	18-6 3/4	18-6 1/4	1111	"	6	25-11	25-10 1/2	776	"	10	37-3 1/4	37-2 1/2	691	"	10	43-4 1/8	43-4 1/2	2	
"	4 1/4	19-0 1/2	19-0 1/8	606	"	6 1/2	26-10 1/4	26-9 1/2	580	"	6 1/2	7	32-6 1/2	32-6 3/8	6147	"	11	45-3 1/2	45-3 1/8	16
"	4 1/2	19-7	19-6 1/4	439	5 1/2	5 1/2	25-6 1/4	25-6 3/8	2946	"	7 1/2	33-7 5/8	33-7 3/8	2268	"	12	47-0	46-11 1/2	13	
"	4 3/4	20-0 3/4	19-11 1/4	355	"	5 3/4	26-0 3/8	26-0 5/8	1572	"	8	34-7 7/8	34-7 1/2	1495	8 3/4	9	41-11	41-10 7/8	13	
"	5	20-5	20-5	306	"	6	26-7 1/8	26-6 3/4	1115	"	9	36-5 5/8	36-5 3/8	983	"	10	44-0 7/8	44-0 5/8	30	
"	5 1/2	20-11	20-10 1/2	277	"	6 1/2	27-6 3/8	27-6 1/4	751	"	10	38-1 1/8	38-0 3/4	790	"	11	46-0 3/8	46-0	19	
4	4 1/4	19-6 3/8	19-6 1/8	1337	"	7	28-5 3/4	28-5	596	"	7 1/2	34-3 3/8	34-3	3596	"	12	47-9 1/2	47-9	15	
"	4 1/2	20-2 3/4	20-2 1/8	728	5 1/2	5 1/2	26-8 1/4	26-8 3/8	3374	"	8	35-3 3/4	35-3 1/2	1976	9	10	44-8 3/4	44-8 5/8	4	
"	4 3/4	20-8 3/4	20-8 1/4	524	"	6	27-2 7/8	27-2 5/8	1796	"	9	37-2 3/4	37-2 3/8	1172	"	11	46-8 3/8	46-8 3/8	2	
"	5	21-2 3/4	21-1 7/8	423	"	6 1/2	28-3 1/4	28-2 5/8	1009	"	10	38-11 1/4	38-10 3/4	907	"	12	48-6 3/8	48-6 1/4	17	
"	5 1/2	21-8 1/4	21-7 1/4	362	"	7	29-2 3/8	29-2 5/8	748	"	11	40-5 1/4	40-4 5/8	777	"	14	51-8 1/2	51-8	13	
"	5 3/4	22-1 1/2	22-0 1/2	322	"	7 1/2	30-1 1/8	30-0 1/2	619	"	7 1/2	34-10 3/8	34-10 1/2	7584	9 1/2	10	46-0	45-11 3/8	8	
4 1/4	4 1/2	20-10 1/4	20-10 3/8	1594	5 3/4	6	27-10 3/8	27-10	3842	"	8	35-11 3/4	35-11 1/2	2781	"	11	48-1 1/2	48-1 1/4	30	
"	4 3/4	21-4 3/8	21-4 1/2	862	"	6 1/2	28-11 3/8	28-11	1440	"	9	37-11 3/8	37-11 1/4	1414	"	12	50-1 1/4	50-0 3/8	20	
"	5	21-11	21-10 1/2	619	"	7	29-11 1/4	29-10 3/4	962	"	10	39-8 7/8	39-8 3/8	1045	"	14	53-5	53-4 1/2	15	
"	5 1/2	22-4 3/4	22-4 1/8	498	"	7 1/2	30-10 1/8	30-9 5/8	759	"	11	41-3 3/4	41-3 3/8	877	10	11	49-5 3/8	49-5 1/4	5	
"	5 3/4	22-10 1/4	22-9 1/2	426	"	8	31-8 3/8	31-7 3/4	647	"	7 1/2	8	36-7 3/8	36-7 1/8	4391	"	12	51-5 3/4	51-5 1/2	30
"	5 3/4	23-3 3/4	23-2 5/8	378	6	6 1/2	29-7	29-6 3/4	2305	"	9	38-8 1/4	38-7 3/8	1739	"	14	55-0 1/2	55-0 1/8	15	
4 1/2	4 3/4	22-0 1/4	22-0 3/8	1281	"	7	30-7 1/2	30-7 3/8	1284	"	10	40-6 3/8	40-5 3/4	1214	10 1/2	11	50-8 1/2	50-8 3/8	11	
"	5	22-6 1/4	22-6 1/2	1014	"	7 1/2	31-7 1/8	31-6 5/8	946	"	11	42-1 3/4	42-1 1/2	992	"	12	52-10 3/8	52-10	4	
"	5 1/2	23-0 3/8	23-0 1/2	725	"	8	32-5 3/4	32-5 1/8	778	"	7 1/2	8	37-2 3/4	37-2 3/8	9229	"	14	56-7 1/4	56-7	2
"	5 3/4	23-6 3/8	23-6 1/4	582	"	9	33-1 1/4	33-0 3/4	612	"	9	39-4 3/8	39-4 1/8	2195	"	11	54-1 1/8	54-1 1/4	7	
"	5 3/4	24-0 3/8	23-11 3/8	436	THE LENGTHS ARE TO NEAREST 1/8"					"	10	41-3 3/8	41-2 3/4	1420	"	14	58-1 1/8	58-1 1/4	2	
"	6	24-5 3/4	24-5	139	RADI TO THE NEAREST FOOT					"	11	42-11 1/2	42-11	1125	12	14	60-11 1/4	60-11 1/8	5	