



TURNOUT AND CROSSOVER DATA

DRAWN No. 6

NOTES

①	PROPERTIES OF SWITCHES		④	CLOSURE DISTANCE		LEAD CURVE		GAGE LINE OFFSETS						PROPERTIES OF FROGS						DATA FOR CROSSOVERS						
	②	③		⑤	⑥	⑦	⑧	⑨	⑩	⑪	⑫	⑬	⑭	⑮	⑯	⑰	⑱	⑲	⑳	㉑	㉒	㉓	㉔	⑳	㉕	⑳
FROG No.	LENGTH OF SWITCH RAIL	SWITCH ANGLE	ACTUAL LEAD	STRAIGHT CLOSURE RAIL	CURVED CLOSURE RAIL	RADIUS OF CENTER LINE	DEGREE OF CURVE	FT. IN.	FT. IN.	FT. IN.	FT. IN.	FT. IN.	FT. IN.	FT. IN.	FT. IN.	FROG No.	FROG ANGLE	OVERALL LENGTH	TOE LENGTH	HEEL LENGTH	TOE SPREAD	HEEL SPREAD	STRAIGHT TRACK	CROSSOVER TRACK	STRAIGHT TRACK	CROSSOVER TRACK
	FT. IN.	DEG. MIN. SEC.	FT. IN.	FT. IN.	FT. IN.	FT. IN.	DEG. MIN. SEC.	FT. IN.	FT. IN.	FT. IN.	FT. IN.	FT. IN.	FT. IN.	FT. IN.	FT. IN.		DEG. MIN. SEC.	FT. IN.	FT. IN.	FT. IN.	INCHES	INCHES	FT. IN.	FT. IN.	FT. IN.	FT. IN.
5	11'-0"	2°-39'-34"	42'-6 1/2"	28'-0"	28'-4 1/16"	177'-9 9/32"	32°-39'-56"	18'-0"	25'-0"	32'-0"	11 13/16"	1'-8 27/32"	2'-8 27/32"	0"	9 1/32"	5	11°-25'-16"	9'-0"	3'-6 1/2"	5'-5 1/2"	7 3/32"	13 17/32"	16'-10 3/16"	18'-1 13/16"	4'-11 3/32"	5'-0 9/32"
6	11'-0"	2°-39'-34"	47'-6"	32'-9"	33'-0 7/16"	258'-6 27/32"	22°-17'-57"	19'-2 1/4"	27'-4 1/2"	35'-6 3/4"	1'-0 3/8"	1'-9 9/32"	2'-9 3/32"	0"	1'-9 1/16"	6	9°-31'-38"	10'-0"	3'-9"	6'-3"	6 3/32"	12 3/32"	20'-5 1/2"	21'-6 1/2"	5'-11 1/2"	6'-0 1/2"
7	16'-6"	1°-46'-22"	62'-1"	40'-10 1/2"	41'-1 11/32"	365'-7 3/32"	15°-43'-17"	26'-2 1/4"	35'-10 1/2"	45'-6 3/4"	11 3/8"	1'-7 9/16"	2'-6 7/8"	1/16"	1/32"	7	8°-10'-16"	12'-0"	4'-8 1/2"	7'-3 1/2"	7 9/16"	12 3/32"	24'-0 7/16"	24'-11 9/16"	6'-11 9/16"	7'-0 7/16"
8	16'-6"	1°-46'-22"	68'-0"	46'-5"	46'-7 1/2"	487'-3 3/8"	11°-46'-44"	27'-7 1/4"	38'-8 1/2"	49'-9 3/4"	11 23/32"	1'-8 7/32"	2'-7 25/32"	7 9/16"	1/32"	8	7°-09'-10"	13'-0"	5'-1"	7'-11"	7 1/8"	12 11/32"	27'-7 1/8"	28'-4 7/8"	7'-11 5/8"	8'-0 3/8"
9	16'-6"	1°-46'-22"	72'-3 1/2"	49'-5"	49'-7 1/4"	615'-1 7/16"	9°-19'-29"	28'-10 1/4"	41'-2 1/2"	53'-6 3/4"	1'-0 5/16"	1'-9 3/8"	2'-9 7/16"	0"	2 1/32"	9	6°-21'-35"	16'-0"	6'-4 1/2"	9'-7 1/2"	8"	13 5/16"	31'-1 27/32"	31'-10 1/32"	8'-11 27/32"	9'-0 1/32"
10	16'-6"	1°-46'-22"	78'-9"	55'-10"	56'-0 1/32"	779'-4 11/16"	7°-21'-23"	29'-11 3/4"	43'-5 1/2"	56'-11 1/4"	1'-0 1/4"	1'-9 1/32"	2'-8 5/8"	2'-0 25/32"	1/16"	10	5°-43'-29"	16'-6"	6'-5"	10'-1"	7 3/16"	12 9/32"	34'-8 3/32"	35'-3 29/32"	9'-11 1/16"	10'-0 5/16"
11	22'-0"	1°-19'-46"	91'-10 1/4"	62'-10 1/4"	63'-0 1/16"	927'-3 1/4"	6°-10'-55"	37'-8 1/2"	53'-5"	69'-1 1/2"	1'-0 7/32"	1'-9 3/8"	2'-9 3/4"	0"	1 15/32"	11	5°-12'-18"	18'-8 1/2"	7'-0"	11'-8 1/2"	7 1/8"	13 1/4"	38'-2 15/32"	38'-9 9/16"	10'-11 23/32"	11'-0 9/32"
12	22'-0"	1°-19'-46"	96'-8"	66'-10 1/2"	67'-0 3/16"	1104'-7 9/16"	5°-11'-19"	38'-8 1/2"	55'-5"	72'-1 1/2"	1'-0 13/32"	1'-9 5/8"	2'-9 7/8"	0"	6 1/16"	12	4°-46'-19"	20'-4"	7'-9 1/2"	12'-6 1/2"	7 9/32"	13 1/32"	41'-8 3/4"	42'-3 1/4"	11'-11 3/4"	12'-0 1/4"
14	22'-0"	1°-19'-46"	107'-0 3/4"	76'-5 1/4"	76'-6 23/32"	1581'-2 13/32"	3°-37'-27"	41'-1 1/4"	60'-2 1/2"	79'-3 3/4"	1'-0 5/16"	1'-10 3/8"	2'-10 9/32"	2 23/32"	1/32"	14	4°-05'-27"	23'-7"	8'-7 1/2"	14'-11 1/2"	6 7/8"	13 5/16"	48'-9 7/32"	49'-2 25/32"	13'-11 25/32"	14'-0 7/32"
15	30'-0"	0°-58'-30"	126'-4 1/2"	86'-11 1/2"	87'-0 25/32"	1720'-9 1/4"	3°-19'-48"	51'-9"	73'-6"	95'-3"	1'-0 1/8"	1'-9 3/32"	2'-9 23/32"	1'-6 9/16"	0"	15	3°-49'-06"	24'-4 1/2"	9'-5"	14'-11 1/2"	7 1/32"	12 15/32"	52'-3 13/32"	52'-8 19/32"	14'-11 13/16"	15'-0 3/16"
16	30'-0"	0°-58'-30"	131'-4"	91'-11"	92'-0 7/32"	2007'-1 7/16"	2°-51'-18"	53'-0"	76'-0"	99'-0"	1'-0 7/16"	1'-9 25/32"	2'-10 5/16"	7 29/32"	0"	16	3°-34'-47"	26'-0"	9'-5"	16'-7"	6 9/16"	12 5/16"	55'-9 19/32"	56'-2 15/32"	15'-11 13/16"	16'-0 3/16"
18	30'-0"	0°-58'-30"	140'-11 1/2"	99'-11"	100'-0 1/16"	2578'-9 15/32"	2°-13'-19"	55'-0"	80'-0"	105'-0"	1'-0 3/4"	1'-10 9/32"	2'-10 15/32"	6 25/32"	0"	18	3°-10'-56"	29'-3"	11'-0 1/2"	18'-2 1/2"	6 27/32"	12 5/8"	62'-9 27/32"	63'-2 3/16"	17'-11 27/32"	18'-0 5/32"
20	30'-0"	0°-58'-30"	151'-11 1/2"	110'-11"	111'-0"	3289'-3 15/32"	1°-44'-31"	57'-9"	85'-6"	113'-3"	1'-1 3/32"	1'-10 23/32"	2'-11 5/32"	2'-5 1/2"	1/16"	20	2°-51'-51"	30'-10 1/2"	11'-0 1/2"	19'-10"	6 1/8"	12 13/32"	69'-10 1/16"	70'-1 31/32"	19'-11 27/32"	20'-0 5/32"

- TURNOUTS AND CROSSOVERS RECOMMENDED
For main line high speed movements, No.16 or No.20. For main line slow speed movements, No.12 or No.10. For yards and sidings, to meet general conditions, No.8.
- The data shown are computed for turnouts out of straight standard 4'-8 1/2" gage track. If the wheel base of the equipment used requires wider gage for the switch alignment or curvature shown, the lead and alignment of curved closure rail shall be maintained, and inside stock and curved rails shall be moved out the necessary amount. The gage of straight track through switch will then be increased and the straight closure rail shall be bent to true alignment in advance of toe of frog.
- FROG DESIGNS
For short spring rail type frogs, the straight closure, and for solid manganese frogs, the straight and curved closures, shall be lengthened to conform.
- MODIFICATION OF ALIGNMENT
The alignment specified may be used without appreciable wear for switch points made in accordance either with Detail 4000 (thickness of point - 1/4"), or with Detail 5000 (thickness of point - 0").
- For length of closure rails, see Plan Basic No. 911.
- For bills of timber for various turnouts and crossovers see Plan Basic No. 912.

AMERICAN RAILWAY ENGINEERING AND MAINTENANCE OF WAY ASSOCIATION

TURNOUT AND CROSSOVER DATA FOR STRAIGHT SPLIT SWITCHES