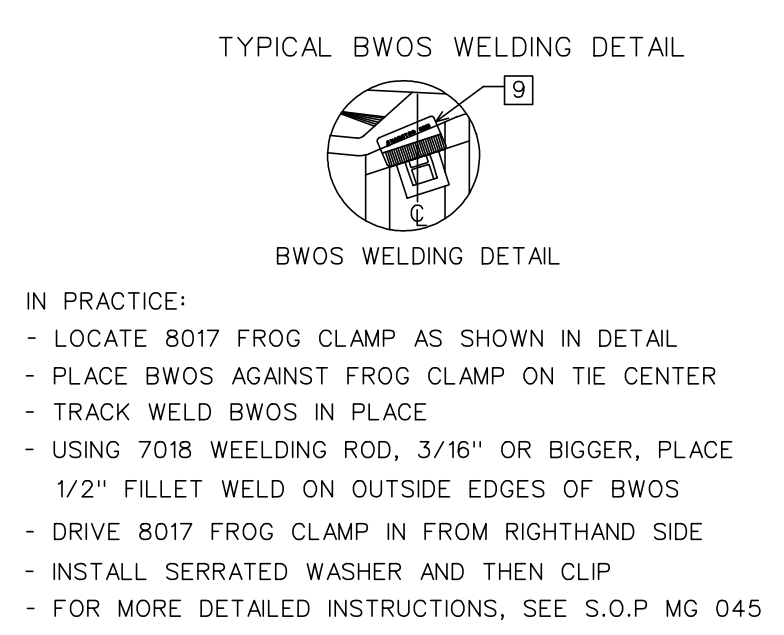
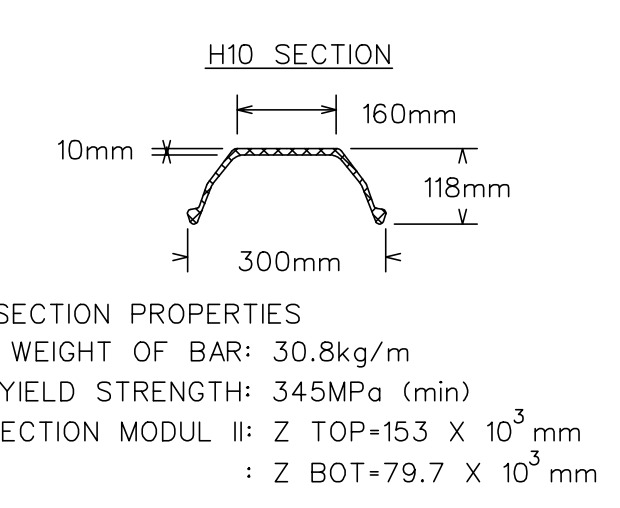


- NOTE:**
- TRANSITION TIES ARE FLAT SEAT DESIGN (NO CANT) REF. GTS-2106.
 - LABELS A, B & C AFFIXED TO TOP TIE IN EVERY BUNDLE ONLY.
 - TO AVOID VARIANCE IN RAIL GAUGE, DUE TO RAIL HEAD TO BASE ECCENTRICITY, ENSURE THAT THE RAIL BRAND OF ALL RAILS FACES IN THE SAME DIRECTION.
 - UNIFORM RISER PLATE THICKNESS:
 - 1/4" FOR TIES 2 TO 15
 - 3/16" FOR TIE 16
 - 1/8" FOR TIE 17
 - 1/16" FOR TIE 18
 - UNIFORM RISER PLATES SHALL CONFORM WITH LATEST ISSUES OF ASTM A36.
 - TIES WILL BE PUNCHED FOR 7/8" DIA. INSPECTION HOLES, LOCATION VARIES WITH RAIL POSITION.
 - POINT AND FROG AREA TIES ARE NARSTCO PATENTED INSULATED MULTI-STACK DESIGN. NARSTCO PATENT NO.7731099.
 - USE OFF-SET RAIL PADS IN RAIL SEATS FOR TIES WITH HOLES PUNCHED OFF CENTER, (TIES 22, 23, 52 & 66)
 - JOINT BARS SHOULD BE USED AS NECESSARY, JOINTS CAN BE WELDED TO PRODUCE CONTINUOUS RAIL IF REQUIRED.
 - ADJUSTABLE MJ CLIPS WITH VERTICAL SWITCH RODS SHOULD BE USED IN CHANNEL TIES.
 - TIES 71-82 ARE 15' OR OVER IN LENGTH.
 - TRANSITION TIES NOT INCLUDED IN TURNOUT PACKAGE.
 - IF ZERO POINT SWITCH POINTS ARE USED, A NOMINAL 3/8" WIDE GAUGE WILL OCCUR AT THE POINT OF SWITCH AND WILL TAPER BACK TO STANDARD GAUGE THROUGH THE SWITCH AREA BEFORE THE HEEL.
 - HEADBLOCK TIES ARE FIELD-DRILLED TO ACCEPT POWER OR MANUAL SWITCH STANDS.
 - ⊕ -MECHANICAL JOINT LOCATIONS TO BE FIELD WELDED OR REMAIN AS STANDARD JOINTS AS DIRECTED BY METROLINX.
 - ⊞ -INSULATED JOINT LOCATIONS TO BE INSTALLED WHEN TRACK CIRCUITS EXIST OR ARE REQUIRED AND SHALL BE THE CONTINUOUS GLUED TYPE WITH THE INSULATED JOINT UNDRILLED (BLANKED) RAIL ENDS FIELD WELDED.



TIE BUNDLE LABEL FORMAT

A NARSTCO 12 - 115

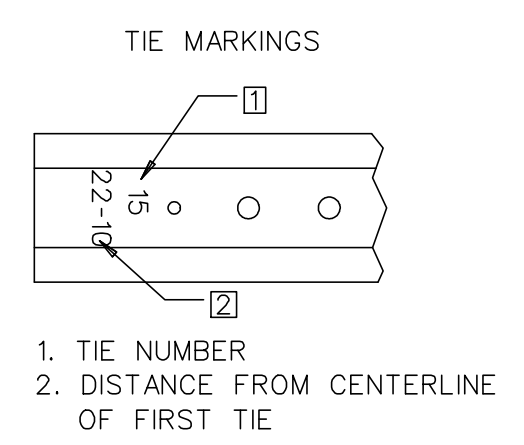
1. TURNOUT NUMBER
 2. RAIL WEIGHT

B B1967 1 OF 1

1. BATCH NO. FOR QUALITY ASSURANCE IDENTIFICATION
 2. SEQUENTIAL NUMBER IN BATCH

C JANUARY 2019

1. MONTH PRODUCED
 2. YEAR PRODUCED



TURNOUT DATA			
FROG R.B.M.	NUMBER	12	
	ANGLE	TOE	4°46'19"
		HEEL	7'1"
TOTAL		19'0"	
SWITCH	SPREAD	TOE	6 37/64"
		HEEL	1'0 27/64"
	TANGENT ADJACENT TO TOE OF FROG	0"	
	TANGENT ADJACENT TO HEEL OF SWITCH	3 13/16"	
	LENGTH	22'0"	
	HEEL SPREAD	6 1/4"	
TURNOUT	ANGLE	1°16'31"	
	VERTEX DISTANCE	14 7/8"	
	THROW	4 3/4"	
	ACTUAL LEAD	98'1"	
TRACK GAUGE	CLOSURE	DEGREE	5°06'12"
		RADIUS	1123.08'
		STRAIGHT	69'0"
	CURVED	69'1 1/2"	
			4'8 1/2"

METRIC CONVERSION: 1 inch=25.4mm, 1 foot=304.8mm		
No.	Date	Revision
0	19/03/15	DWG VERSION ESTABLISHED
		By Approved

Standard / **GO TRANSIT #12-115b INS CT PS UNIFORM FXHL RBM 13' GUARD RAIL**

Drawn MR. C Checked GWM Approved VP Engineering & Asset Management

METROLINX

Date MAR 15/2019 Plan Number GTS-2711 Rev 0

REFERENCE: NARSTCO 2711 Sheet 1 OF 1

BILL OF MATERIALS FOR GTS-2711

ITEM	DESCRIPTION	NARSTCO PART NO.	QTY					
TURNOUT COMPONENT								
1	ADJUSTABLE RAIL BRACE	8014	20					
2	RAIL BRACE SERRATED WASHER	8015	46					
3#	RAIL BRACE HOOK-IN SHOULDER	8016	114					
4	NARSTCO HOOK-IN SHOULDER	4010	420					
5	'e' CLIP ('e' TYPE CLIP)	'e' CLIP	648					
6	WEDGE PLATE	17S,17T,18S, 18T, 19S, 19T, 20S, 20T, 21S, 21T	10					
7*	WEDGE PLATE PIN	17, 18, 19, 20, 21	10					
8	'J' CLIP	NJ1	32					
9	FROG CLAMP (R.B.M.)	8017	26					
10	L/H 'e' CLIP	Ne2	5					
11*	RAIL BRACE WELD-ON SHOULDER	BWOS	46					
12*	WELD-ON SHOULDER	WOS	58					
13	INSULATOR	HD-10	534					
14	OFFSET INSULATING PAD 5 1/2"	3020	12					
15	NARSTCO INSULATING PAD 5 1/2"	IN-0030	188					
16	INSULATED JOINT INSULATOR	J7819	8					
17	INSULATED JOINT CLIP	e2063	8					
18	CUSTOM INSULATOR PAD	19, 20, 21, 53, 63, 64, 65	10					
19	JOINT BAR INSULATOR	N8J-HD	32					
GO TRANSIT REFERENCES								
PLAN #	TITLE							
GTS-0003-REV1	GEOMETRY FOR NO. 12 TURNOUTS							
GTS-0012-REV1	NO. 12 TURNOUT -115LB. R.E. RAIL 22'0" SAMSON POINT SWITCH UNIFORM RISER DESIGN WOOD TIES							
GTS-0832-REV1	ASSEMBLY - NO.12 RAIL BOUND MANGANESE FROG - 132 LB. R.E. RAIL							
GTS-1125	GUARD RAILS TEE RAIL DESIGN WITH PLANED FLARES AND FLAT PLATES							
FROG CLAMP (AFC) & RAIL BRACE (ARB) LOCATION FOR GUARD RAILS								
TIE NUMBER	54	55	56	57	58	59	60	61
THROUGH RAIL	AFC	ARB	AFC	ARB	AFC	AFC	ARB	AFC
TURNOUT RAIL	AFC	ARB	AFC	ARB	AFC	AFC	ARB	AFC
LEGEND								
* WELDED TO TIE DURING MANUFACTURING								
# INSTALLED ON TIE DURING MANUFACTURING								