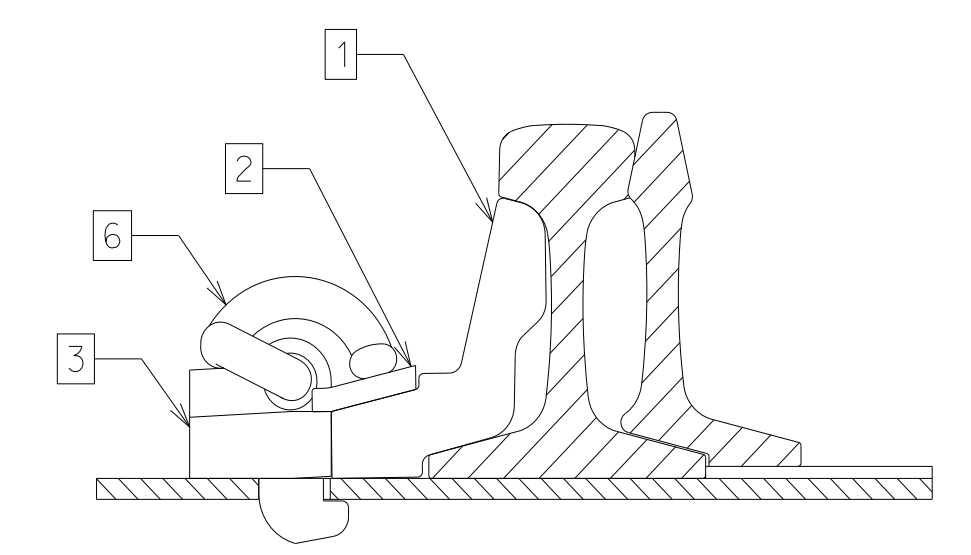
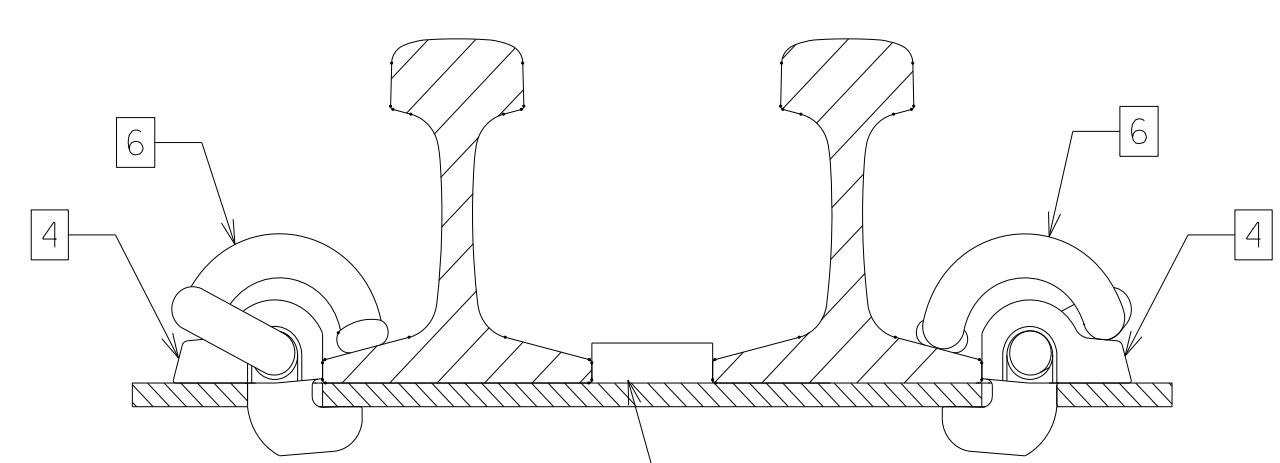


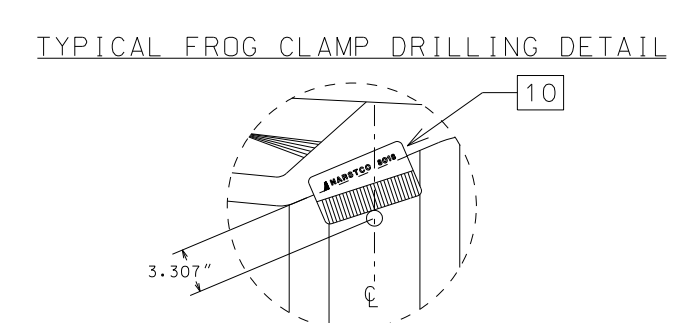
ROD	POSITION FROM POINT OF SWITCH
1	1' 5"
2	3' 1"



A TYPICAL RAIL BRACE ASSEMBLY



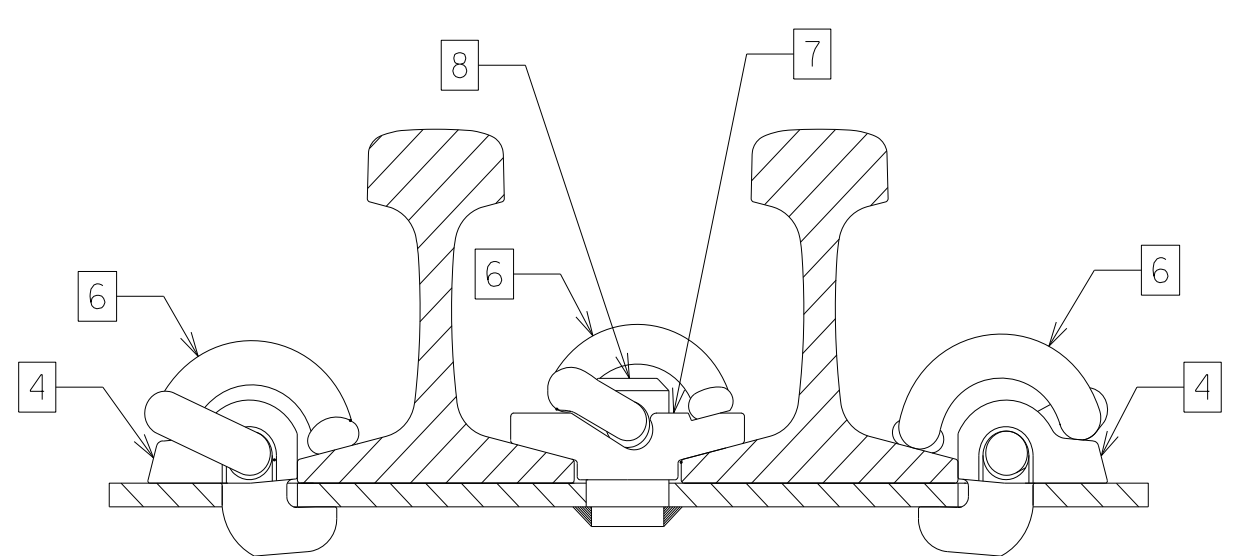
B TYPICAL AWOS ASSEMBLY



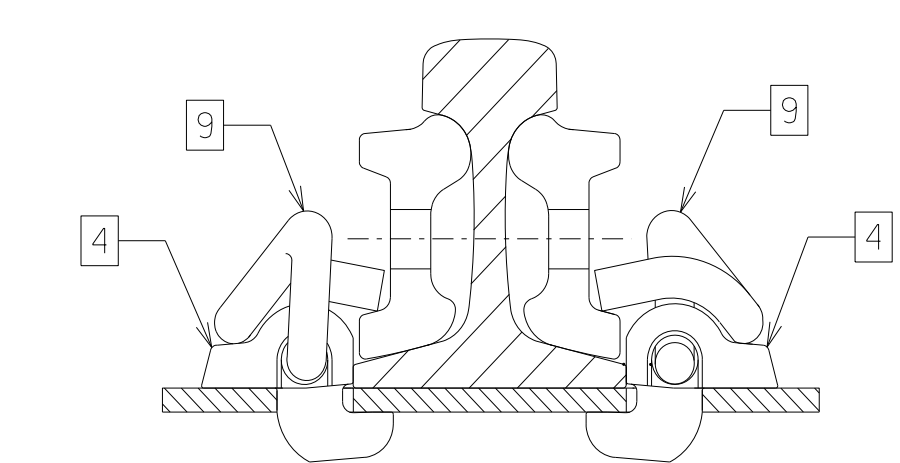
TYPICAL FROG CLAMP DRILLING DETAIL

FROG CLAMP DRILLING PROCEDURE IN PRACTICE:

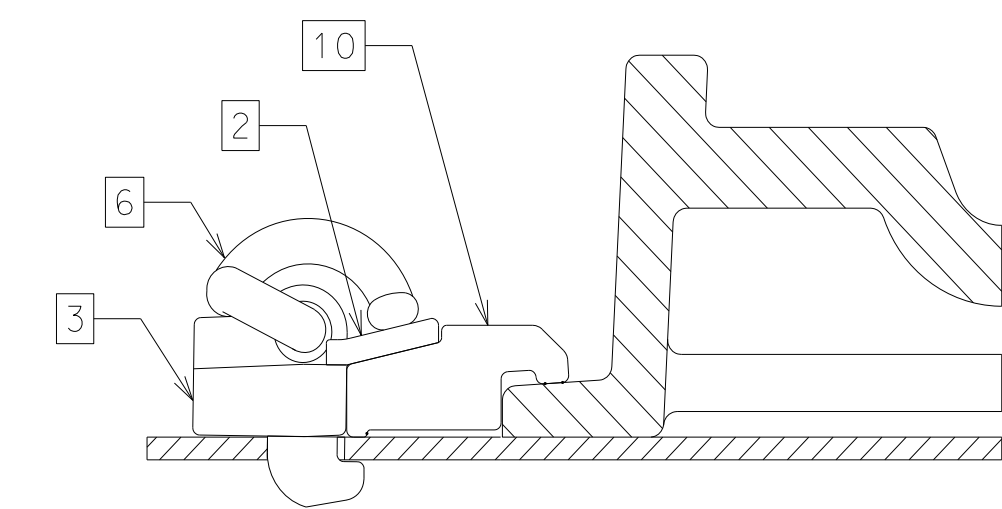
- LOCATE 8018 FROG CLAMP AS SHOWN IN DETAIL
- PLACE ANNULAR CUTTER AGAINST FROG CLAMP ON TIE CENTER
- ENERGIZE MAGNET AND REMOVE FROG CLAMP
- DRILL HOLE
- PLACE HOOK-IN SHOULDER 8016 IN HOLE AND DRIVE FROG CLAMP 8018 IN FROM RIGHTHAND SIDE
- INSTALL SERRATED WASHER AND THEN CLIP.



C TYPICAL WEDGE PLATE ASSEMBLY



D TYPICAL JOINT BAR ASSEMBLY



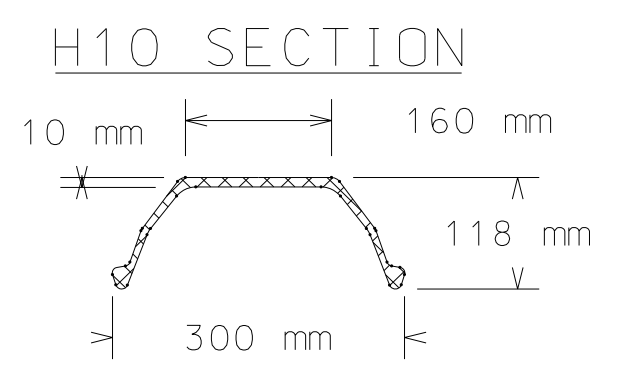
E TYPICAL S.M.S.G. FROG ASSEMBLY
NOTE: (SEE TYPICAL FROG CLAMP DRILLING DETAIL)

TURNOUT DATA		
FROG S.M.S.G.	NUMBER	9
	ANGLE	6°21'35"
	LENGTH	TOE 2' 11" HEEL 6' 10" TOTAL 9' 9"
SPREAD	TOE	3 3/8"
	HEEL	9 5/8"
SWITCH	LENGTH	16' 6"
	HEEL SPREAD	6 1/4"
	ANGLE	1°46'22"
	VERTEX DISTANCE	7 5/8"
TURNOUT	THROW	4 3/4"
	ACTUAL LEAD	72' 3 1/2"
CURVE ON CENTER LINE	DEGREE	9°19'30"
	RADIUS	615.12'
CLOSURE	STRAIGHT	52' 10 1/2"
	CURVED	53' 0 15/16"
TANGENT ADJACENT TO HEEL OF SWITCH		0.00"
RAIL GAUGE		4' 8 1/2"

AREMA SPECIFICATION REFERENCES	
PLAN #	TITLE
112-03	16'-6" STRAIGHT SPLIT SWITCH WITH GRADUATED RISERS
641-03	SOLID MANGANESE STEEL SELF GUARDED FROGS
910-02	TURNOUT AND CROSSOVER DATA FOR STRAIGHT SPLIT SWITCHES
911-02	LOCATION OF JOINTS FOR TURNOUTS WITH STRAIGHT SPLIT SWITCHES

No.	CROSSOVER COMPONENTS	PART No.	QTY
1	ADJUSTABLE RAIL BRACE	8024	8
2	RAIL BRACE SERRATED WASHER	8015	20
3	RAIL BRACE HOOK-IN SHOULDER	8016	20
4	NARSTCO HOOK-IN SHOULDER	4020	390
5	INTENTIONALLY LEFT BLANK		
6	'e' CLIP ('e' TYPE CLIP)	'e' CLIP	415
7	WEDGE PLATE	14, 15 & 39	5
8*	WEDGE PLATE PIN	14, 15 & 39	5
9	'J' CLIP	NJ1	32
10	FROG CLAMP (S.M.S.G.)	8018	12
11	L/H 'e' CLIP	Ne2	5

* PINS WELDED TO TIE DURING MANUFACTURE



SECTION PROPERTIES

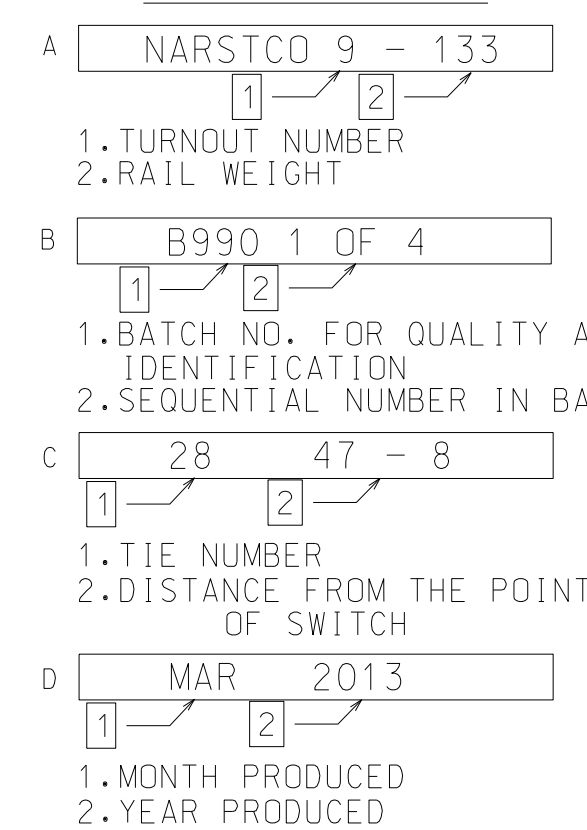
WEIGHT OF BAR: 30.8 kg/m

YIELD STRENGTH: 250 MPa (min)

SECTION MODULI: Z TOP = 153 x 10³ mm

Z BOT = 79.7 x 10³ mm

LABEL FORMAT



- NOTE
- TRANSITION TIES ARE FLAT SEAT DESIGN (NO CANT) REF. NARSTCO DWG. 1013.
 - LABELS A, B & D AFFIXED TO TOP TIE IN EVERY BUNDLE ONLY. LABEL C AFFIXED TO EVERY TIE EXCEPT TRANSITION.
 - 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.
 - GRADUATED RISER PLATE THICKNESS:-
- 1/4" FOR TIES 2 TO 8
- 1/8" FOR TIE 9
 - TIES WILL BE PUNCHED FOR 7/8" DIA. INSPECTION HOLES. LOCATION VARIES WITH RAIL POSITION.
 - TIES FOR S.M.S.G. FROG TO BE FIELD-DRILLED FOR ADJUSTABLE FROG CLAMPS. SEE TYPICAL FROG CLAMP DRILLING DETAIL.
 - JOINT BARS SHOULD BE USED TEMPORARILY FOR TURNOUT INSTALLATION ONLY. ALL JOINTS SHOULD BE WELDED TO PRODUCE CONTINUOUS RAIL.
 - SIDE JAW (SINGLE HOLE, NON-ADJUSTABLE) CLIPS SHOULD BE USED WITH SWITCH RODS THAT ARE SEATED IN CHANNEL TIES.

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REV.	DATE	DESCRIPTION	EC#
01	3/21/13	GENERAL BORDER REVISION AND UPDATE	EC13-01

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CLIENT	DWG. NO.
AREMA STANDARD	2347
DRAWN	APPROVED
MG	SS
DATE	
JANUARY 2, 2013	

TITLE	SCALE
NO. 9 UNINSULATED TURNOUT FOR 133 LB. RE RAIL WITH 16' - 6" SWITCH & SMSG FROG	

REV.	FILE
01	AREMA#9-133.0.ctb 10/1/965.FIN