

Weld-on shoulder recommendations and instructions

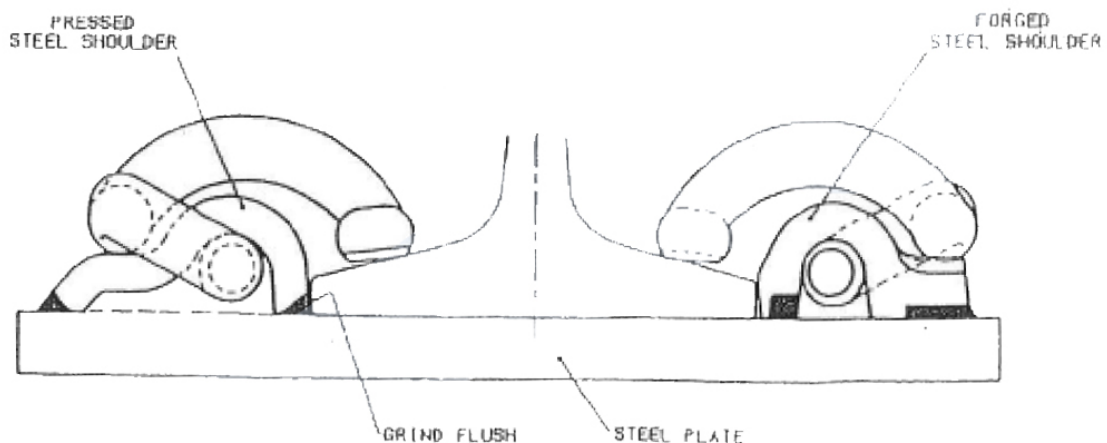
Updated December 19, 2019

Forged weld-on shoulder welding recommendations

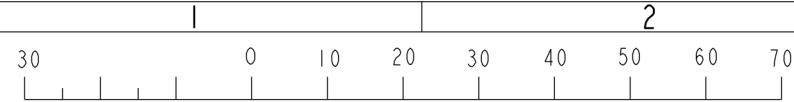
The following are basic recommendations for welding the Pandrol brand forged shoulder. The welds on the front of the shoulder at the predetermined indents should fill the gaps, approximately 1/4", but not overflow into the clip housing. The welds along both sides of the shoulder should begin 1/4" behind the back edge of the clip housing and continue to the back edge. The welds on the back should extend a minimum of 1" from each outer edge, to a maximum of the entire width of the shoulder. All of the welds should be a 3/8" fillet welds minimum and provide adequate penetration into both parts.

Pressed steel weld-on shoulder recommendations

The following are basic recommendations for welding the Pandrol brand pressed steel weld-on shoulder (WOS). Both of the welds should be 3/8" fillet welds minimum and provide adequate penetration into both parts. The weld on the front of the WOS should be ground flush so that it does not protrude into the rail seat area. Care should be taken not to undercut the front or rear chamfer as this will affect the toe load of the clip.



NOTE:
ALL WELDS 3/8" FILLET MINIMUM



A

B

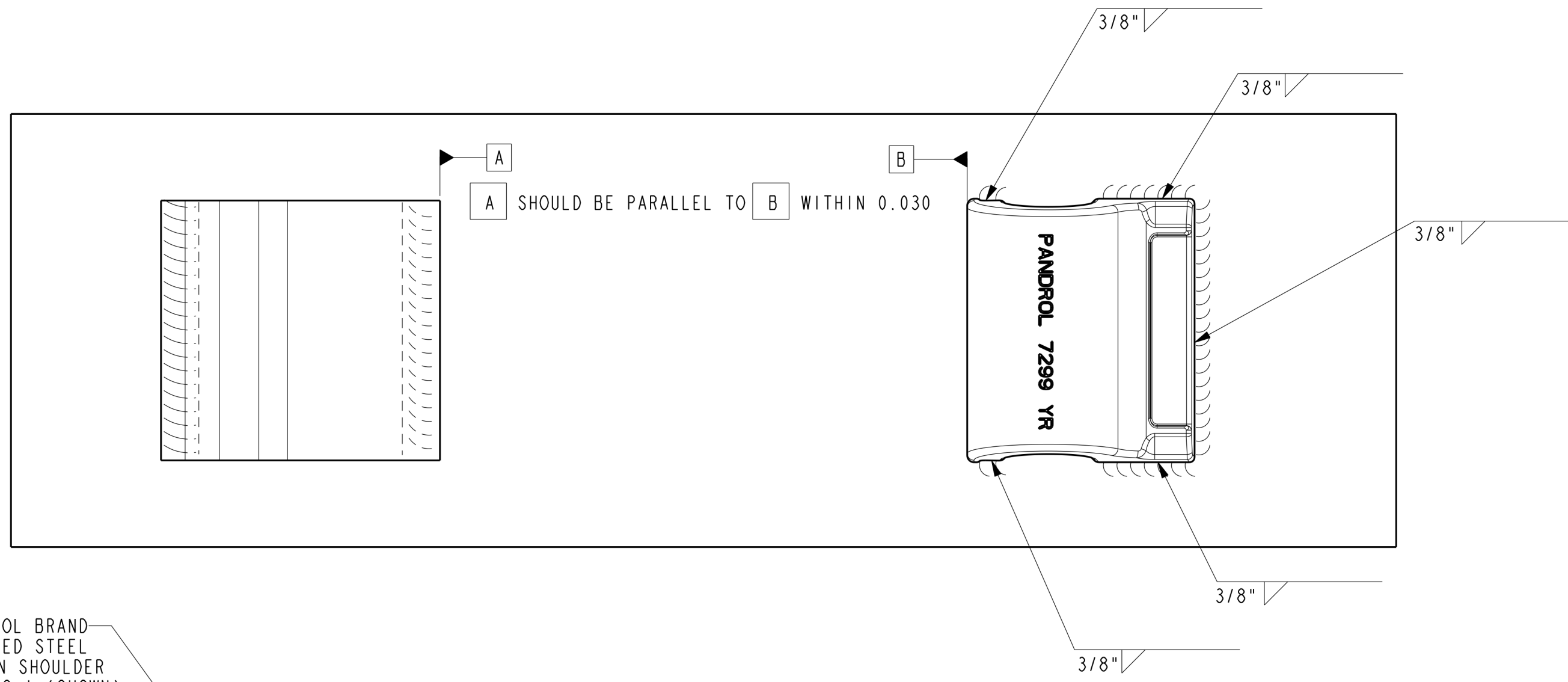
C

D

E

F

G



PANDROL BRAND
PRESSED STEEL
WELD-ON SHOULDER
TYPE 2172-1 (SHOWN)
USE BOTH SIDES

CLIP
HOUSING

3/8"

THE WELD ON THE BACK EDGE OF THE SHOULDER EXTENDS THE ENTIRE WIDTH OF THE SHOULDER. THE WELD SHOULD BE 3/8" FILLET MINIMUM, AND PROVIDE ADEQUATE PENETRATION BOTH PARTS.

6.09±0.03 FOR 6" RAILS
5.59±0.03 FOR 5 1/2" RAILS

PANDROL BRAND
FORGED
WELD-ON SHOULDER
TYPE 7299
USE BOTH SIDES

CLIP
HOUSING

THE WELD ON THE BACK EDGE OF THE SHOULDER EXTENDS THE ENTIRE WIDTH OF THE SHOULDER.

RAIL SEAT AREA

3/8"

THE WELD ON THE FRONT OF THE SHOULDER AT THE BEVEL SHOULD FILL THE GAP APPROXIMATELY 3/8", BUT NOT OVERFLOW INTO RAIL SEAT AREA. GRIND FACE OF WELD IN RAIL SEAT TO BE FLUSH WITH SURFACE OF SHOULDERS. ALSO GRIND WELD ON CORNERS OF SHOULDERS TO PERMIT FULL SURFACE BEARING FOR RAIL PAD (IF REQUIRED). CARE IN GRINDING MUST BE EXERCISED TO PREVENT ANY NOTCHING OF THE WELD OR SHOULDER.

THE WELD ALONG BOTH SIDES OF THE SHOULDER SHALL BEGIN 1/4" BEHIND THE BACK EDGE OF THE CLIP HOUSING AND CONTINUE TO THE BACK EDGE.

THE WELDS ON THE FRONT OF THE SHOULDER AT THE INDENTS SHOULD FILL THE INDENTS BUT NOT OVERFLOW INTO THE CLIP HOUSING.

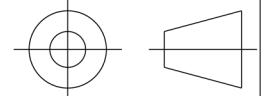
NOTES:

1. ALL WELDS SHALL USE LOW HYDROGEN FILLER ROD 7018 OR EQUIVALENT.
2. ALL WELDS SHOULD BE 3/8" FILLET WELDS MINIMUM, AND PROVIDE ADEQUATE PENETRATION INTO BOTH SHOULDER AND PLATE.
3. WELD MUST NOT INTERFERE WITH EITHER RAIL OR PANDROL CLIP.
4. RAIL SEATS SHALL BE FREE OF EXCESS WELD, SLAG AND SPLATTER.
5. SHOULDERS SHALL BE TACKED (OR CLAMPED) DOWN PRIOR TO FINAL WELDING TO PREVENT THE SHOULDER FROM RISING DURING FINAL WELDING.

TECHNICAL INFORMATION

ALL DIMENSIONS IN INCHES	ORIGINAL SCALE 3/4
GENERAL TOLERANCES UNLESS OTHERWISE STATED	
TO :±	> :±
> TO :±	ANGLES:±
MATERIAL/FINISH	

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ISSUE CODE	DRAWN	DATE
A	J. MEAGHER	31JUL07
	CHECKED	DATE
	B. GEISSELE	03AUG07
	APPROVED	DATE
	J. PORRILL	03SEP07

IDI/ECR NUMBER	ORIGINAL DRAWN
6561	BY: J. MEAGHER
	DATE: 31JUL07

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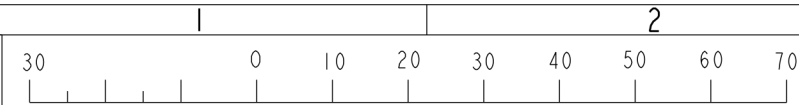
TITLE
**DETAIL WELDMENT
DRAWING FOR
PRESSED STEEL / FORGED
NON-INSULATED SHOULDERS**

DRAWING NO.
13236

FILE REF. No.	SHEET
-	1 OF 1 A2

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ISSUE CODE HISTORY	ISS	MOD	ISS	MOD	ISS	MOD



A

B

C

D

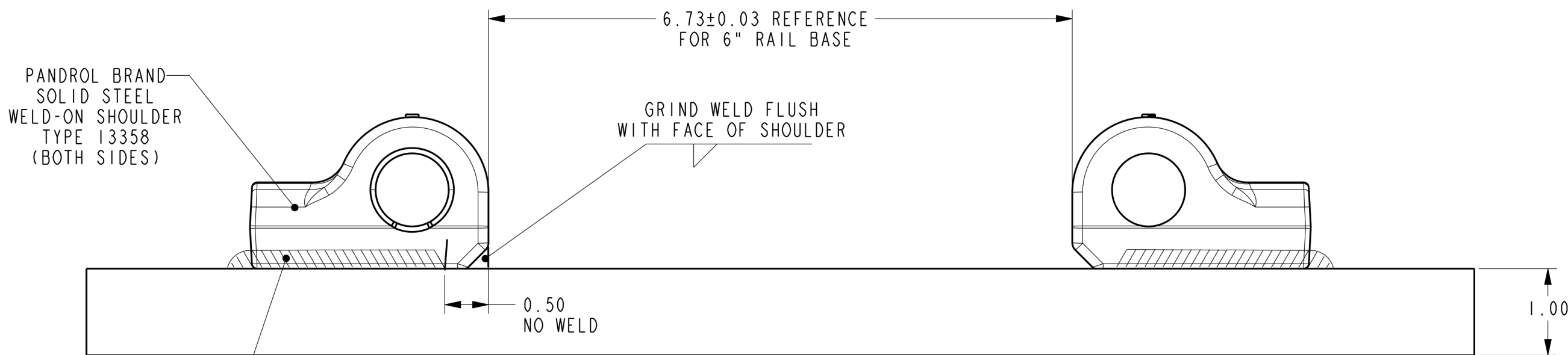
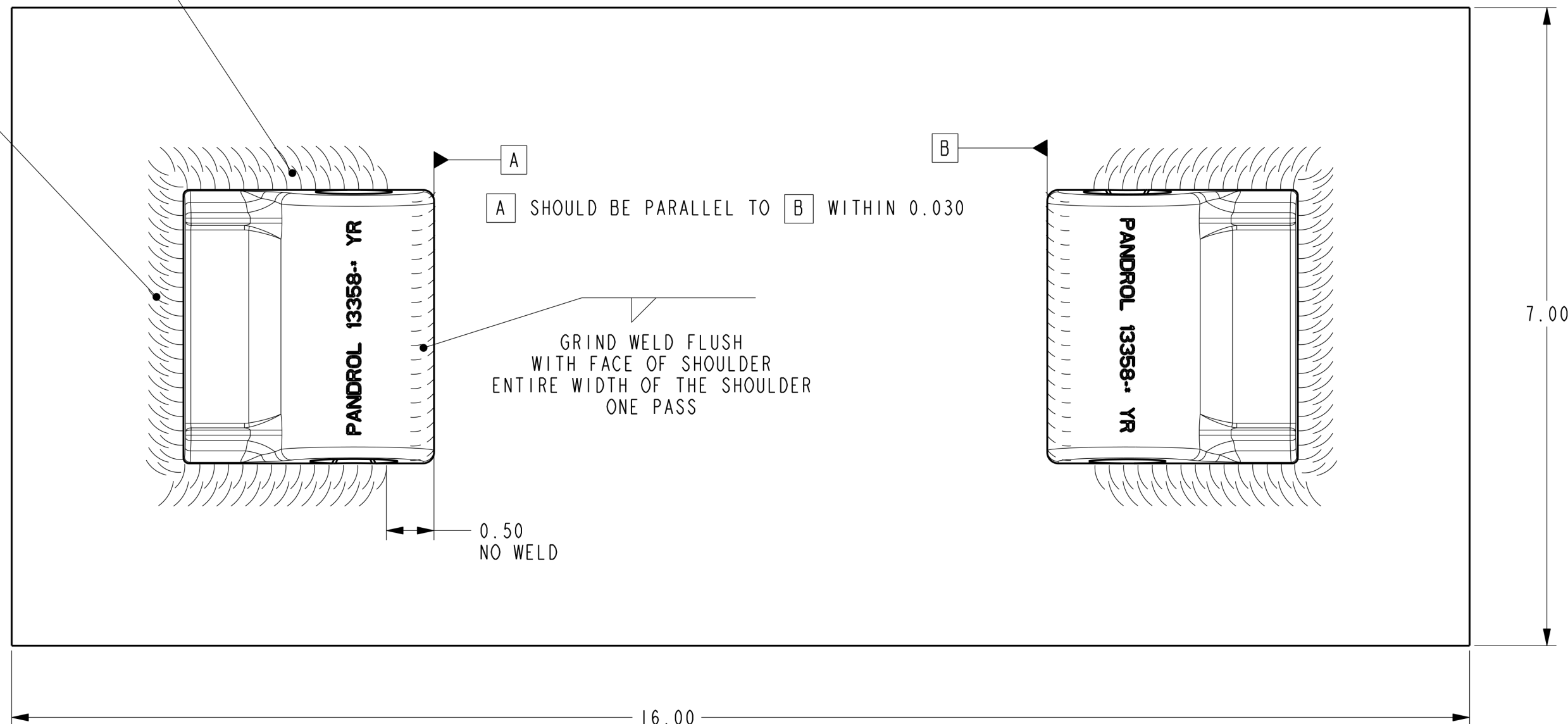
E

F

G

3/8"
WELD ALONG SIDE OF
THE SHOULDER TWO PASSES
(BOTH SIDES)

3/8"
WELD ON THE BACK EDGE
OF THE SHOULDER EXTEND THE
ENTIRE WIDTH OF THE SHOULDER
TWO PASSES



SCALE 3:4

NOTES:

1. ALL WELDS SHALL USE LOW HYDROGEN FILLER ROD 7018 OR EQUIVALENT.
 2. ALL WELDS SHOULD BE 3/8" FILLET WELDS MINIMUM, AND PROVIDE ADEQUATE PENETRATION INTO BOTH SHOULDER AND PLATE.
 3. WELD MUST NOT INTERFERE WITH EITHER RAIL OR PANDROL CLIP, OR PAD.
 4. RAIL SEATS SHALL BE FREE OF EXCESS WELD, SLAG AND SPLATTER.
 5. SHOULDERS SHALL BE TACKED (OR CLAMPED) DOWN PRIOR TO FINAL WELDING TO PREVENT THE SHOULDER FROM RISING DURING FINAL WELDING.
- REF: BN DRAWING NUMBER 1604 SOLID SHOULDER FOR FIELD WELDING.

A PANDROL BRAND RAIL FASTENING ASSEMBLY

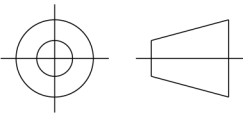
TECHNICAL INFORMATION

ALL DIMENSIONS IN INCHES	ORIGINAL SCALE NOTED
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GENERAL TOLERANCES UNLESS OTHERWISE STATED
 TO :± > :±
 > TO :± ANGLES:±

MATERIAL/FINISH

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C	J. MEAGHER	01JUN10
	CHECKED L. NOTARIANNI	DATE 04JUN10
	APPROVED B. COATS	DATE 04JUN10

DI/ECR NUMBER 8235	ORIGINAL DRAWN BY: J. MEAGHER DATE: 16OCT07
-----------------------	---

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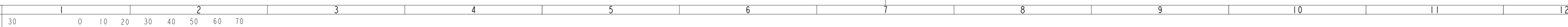
TITLE
**WELDMENT,
 SHOULDER TO SHOULDER
 USING 13358 SOLID
 STEEL SHOULDERS**

DRAWING NO.
13359

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ISSUE CODE HISTORY	B	7295				
	A	6886				
	ISS	MOD	ISS	MOD	ISS	MOD

FILE REF. No.	SHEET
-	1 OF 1 A2



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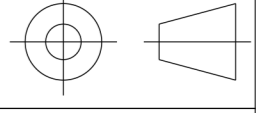
INCHES	NOTED
GENERAL TOLERANCES UNLESS OTHERWISE STATED	
TO :±	> :±
> TO :±	ANGLES :±

MATERIAL/FINISH

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A	6686		
ISS	MOD	ISS	MOD

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	J. MEAGHER	01 JUN10
	CHECKED	DATE
	L. NOTARIANNI	04 JUN10
B	APPROVED	DATE
	B. COATS	04 JUN10

ID1/ECR NUMBER	ORIGINAL DRAWN BY:
8235	J. MEAGHER
	DATE:
	16OCT07

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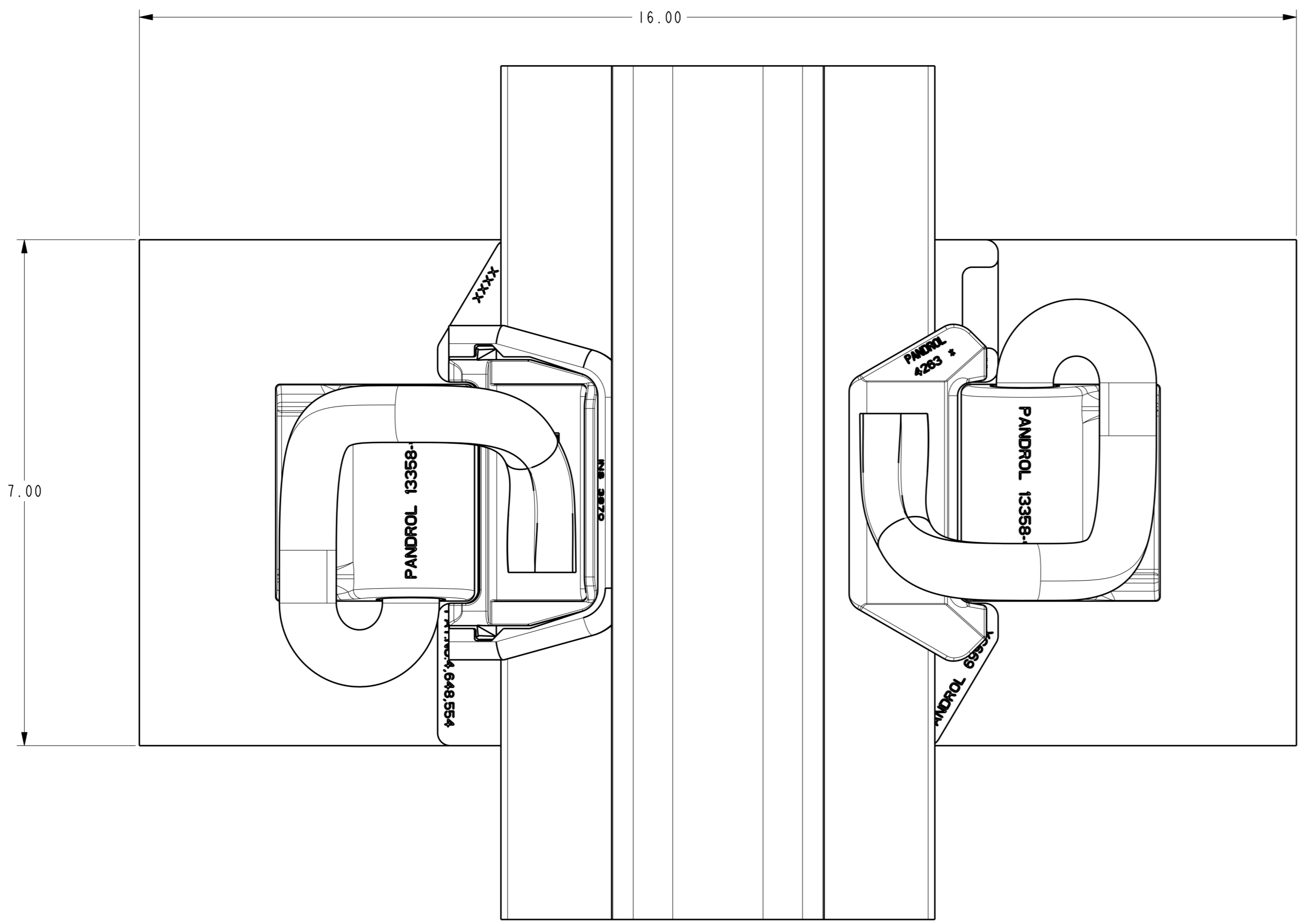
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TITLE

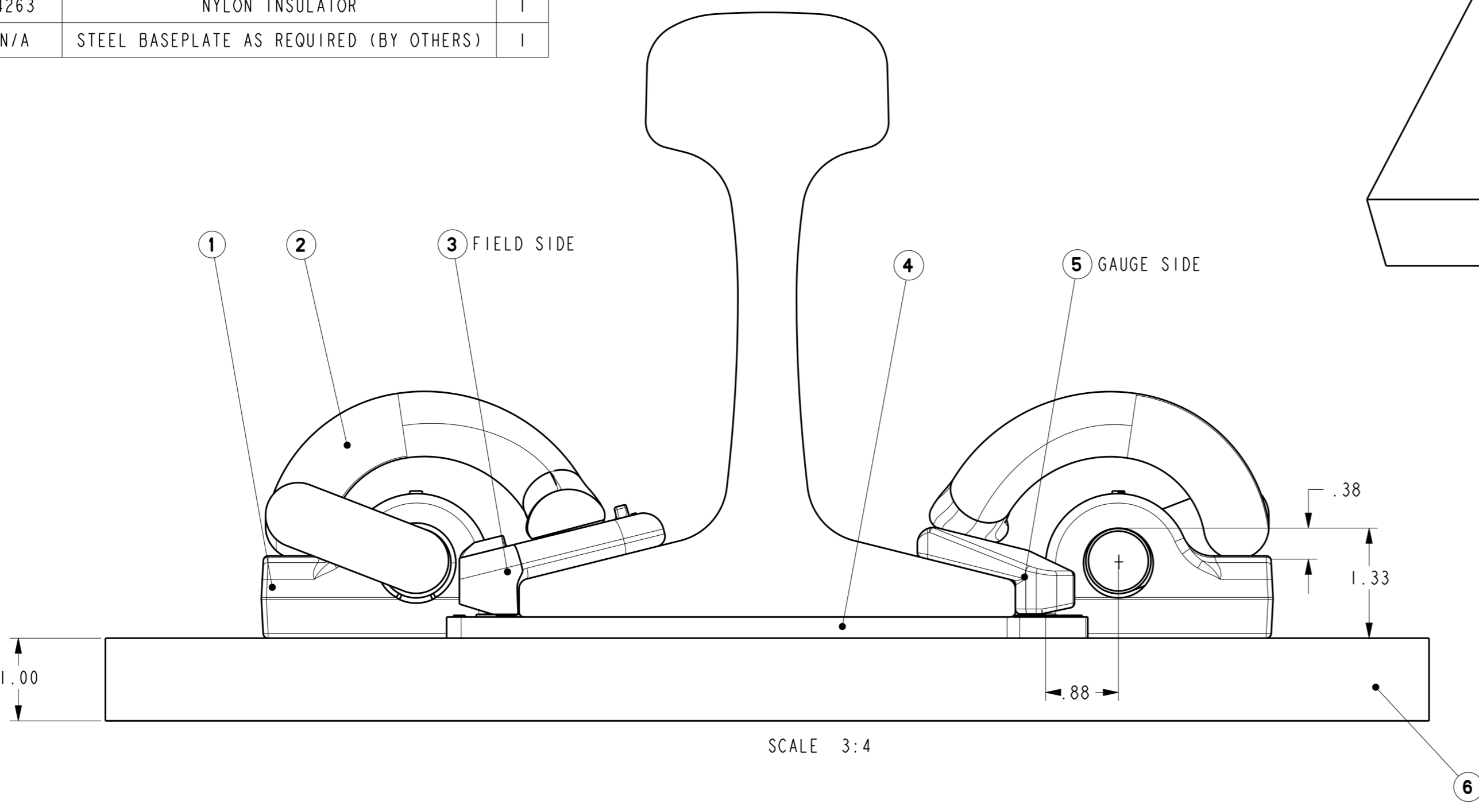
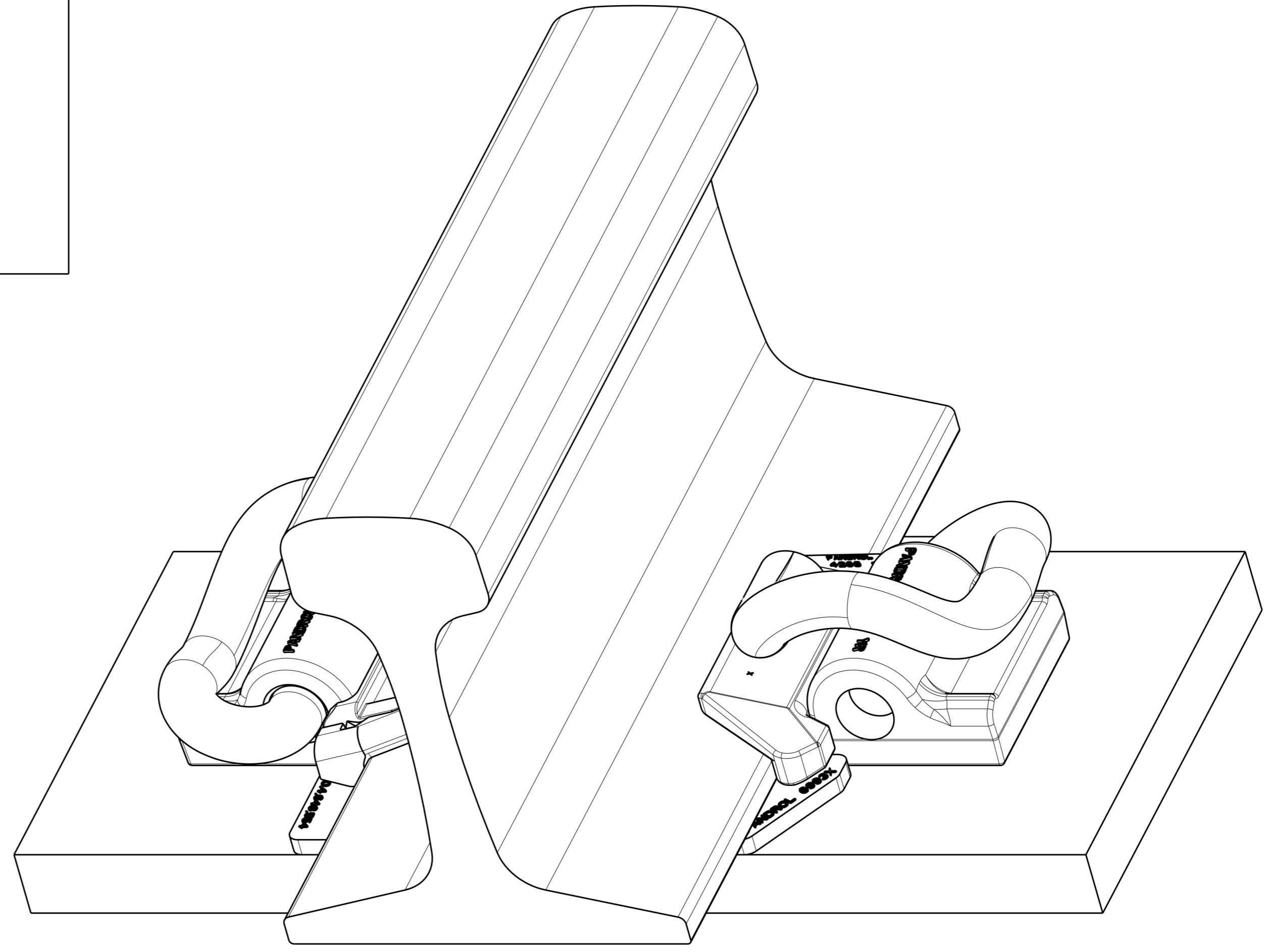
**ASSEMBLY,
SOLID STEEL
WELD-ON SHOULDER
FOR INSULATED RAIL**

DRAWING No. **13357**

FILE REF. No. SHEET 1 OF 1 A1



PARTS LIST			
ITEM NO.	PART NO.	DESCRIPTION	QTY
1	13358	STEEL WELD-ON SHOULDER	2
2	4218X	RAIL CLIP TYPE e2055	2
3	3870	HEAVY DUTY INSULATOR	1
4	6993	RAIL PAD	1
5	4263	NYLON INSULATOR	1
6	N/A	STEEL BASEPLATE AS REQUIRED (BY OTHERS)	1

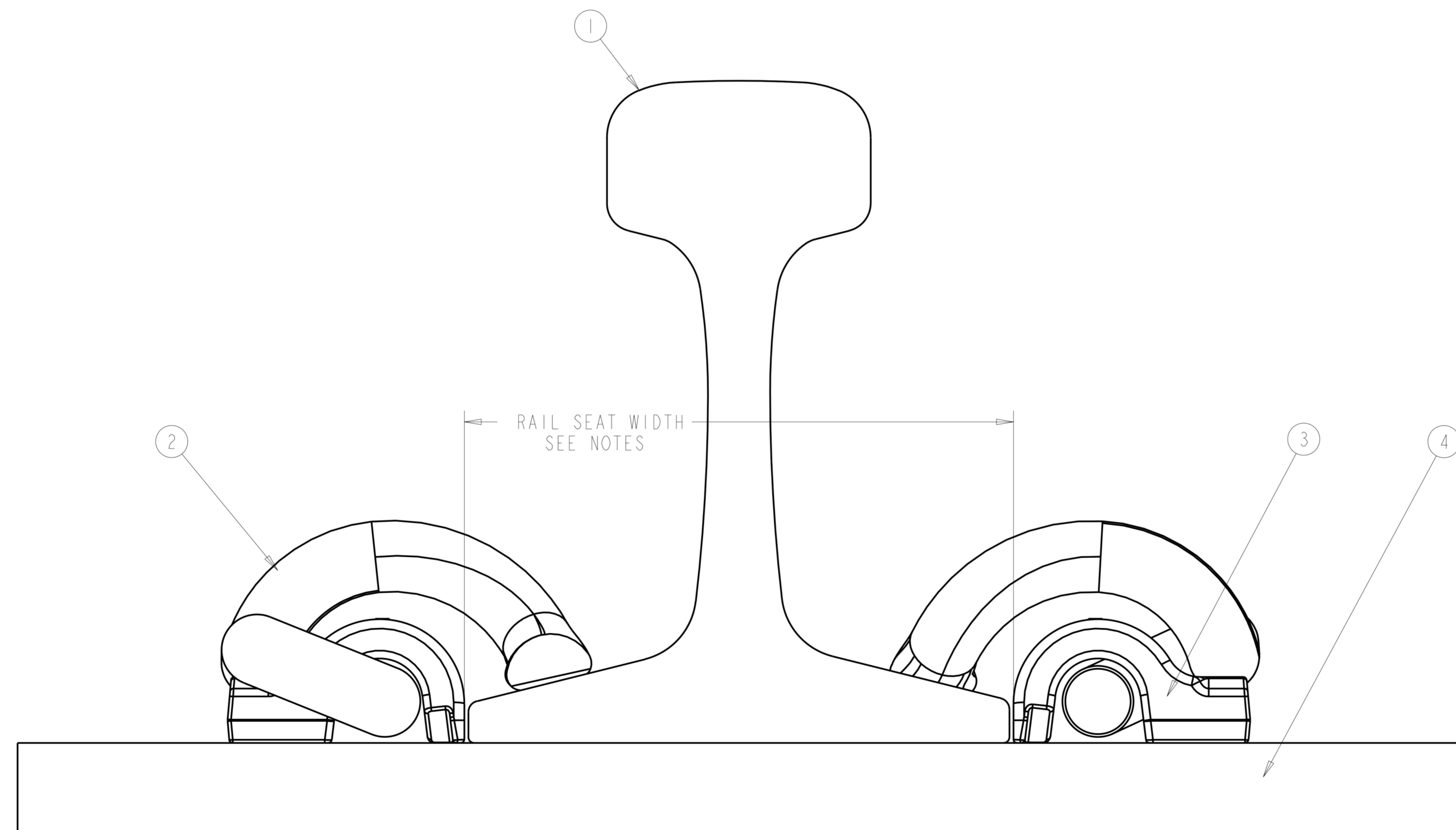
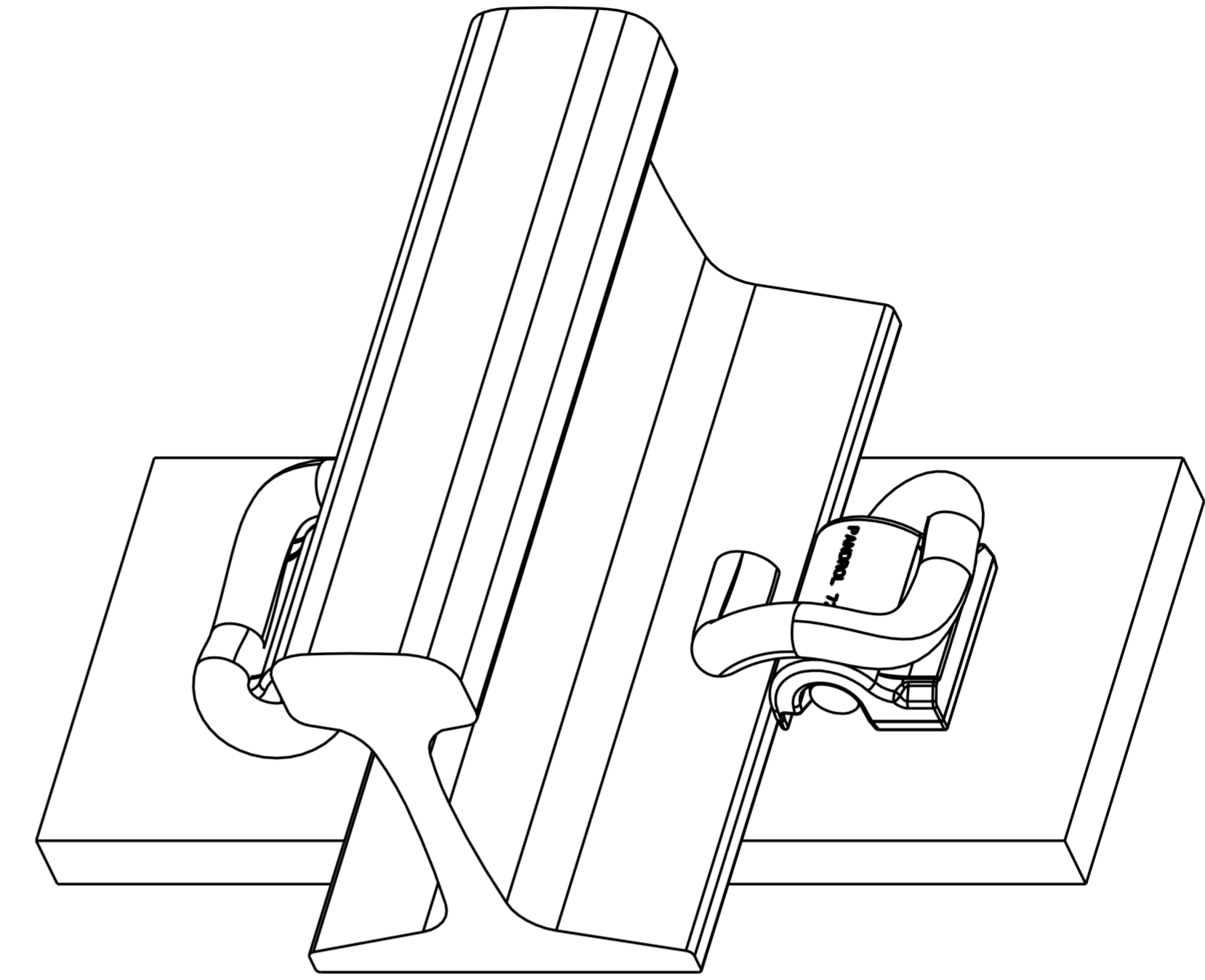


A PANDROL BRAND RAIL FASTENING ASSEMBLY

PARTS LIST

ITEM NO.	PART NO.	DESCRIPTION	REMARKS	QTY
1	N/A	RAIL	NOTE 1	-
2	4218	e2055	-	2
3	7299	FORGED WELD-ON SHOULDER	-	2
4	N/A	STEEL PLATE	-	-

QUANTITIES LISTED PER RAIL SEAT



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IN	1:1
GENERAL TOLERANCES UNLESS OTHERWISE STATED	
TO :±	> :±
> TO :±	ANGLES ±
MATERIAL / FINISH	

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ISS	ECR	ISS	ECR	ISS	ECR

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ISSUE CODE	REVISED BY	DATE
A	CHECKED BY	DATE
	S. TRIPPLE	05SEPT12
	APPROVED BY	DATE
	J. PORRILL	05NOV12

ID1/ECR NUMBER	ORIGINAL DRAWN BY:
9763	C. LOPEZ
	DATE:
	05SEPT12

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TITLE

7299 WELD-ON SHOULDER ASSEMBLY

DRAWING No. 16186

FILE REF. No. 55203 SHEET 1 OF 1 A1

NOTES:
 1. MEASUREMENTS ARE A 5.5" & 6" RAIL
 6.09±0.03 FOR 6" RAILS
 5.59±0.03 FOR 5.5" RAILS
 2. SEE WELDMENT DRAWING 13236