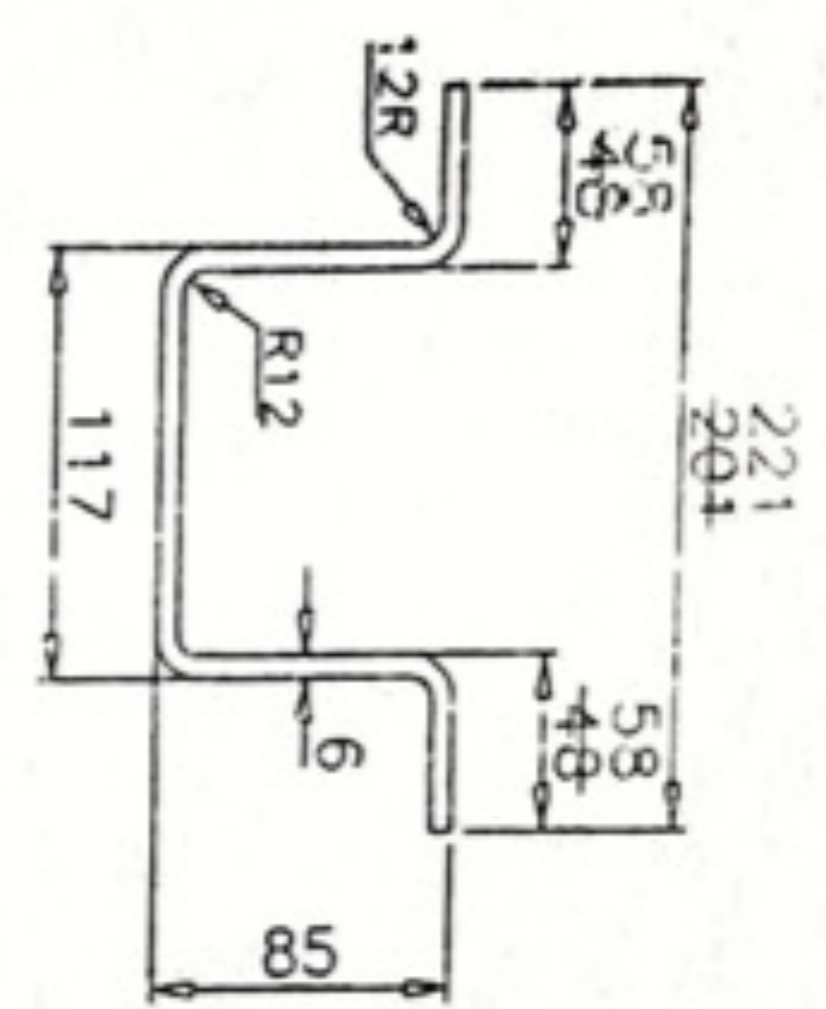
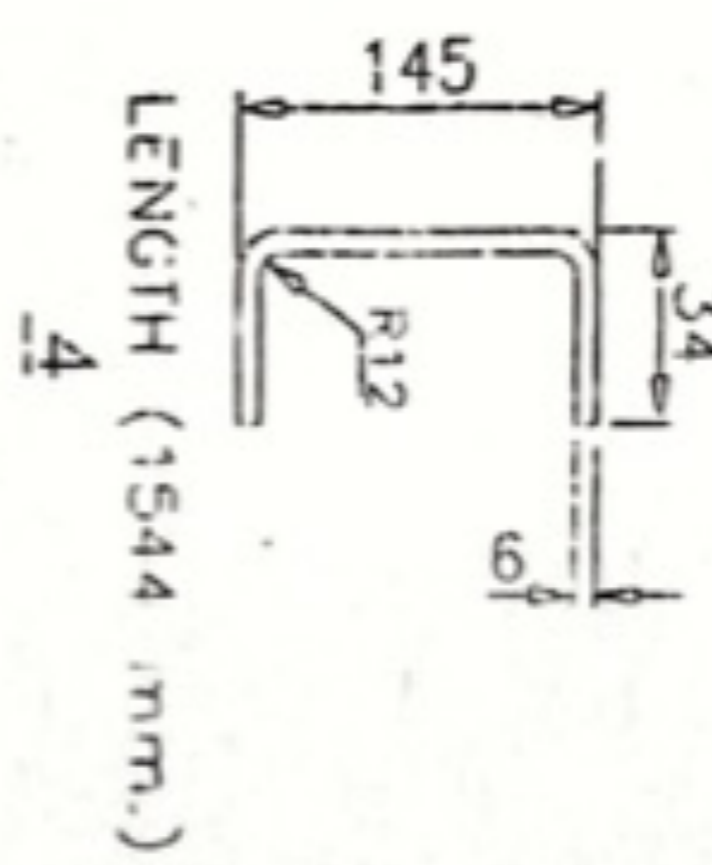
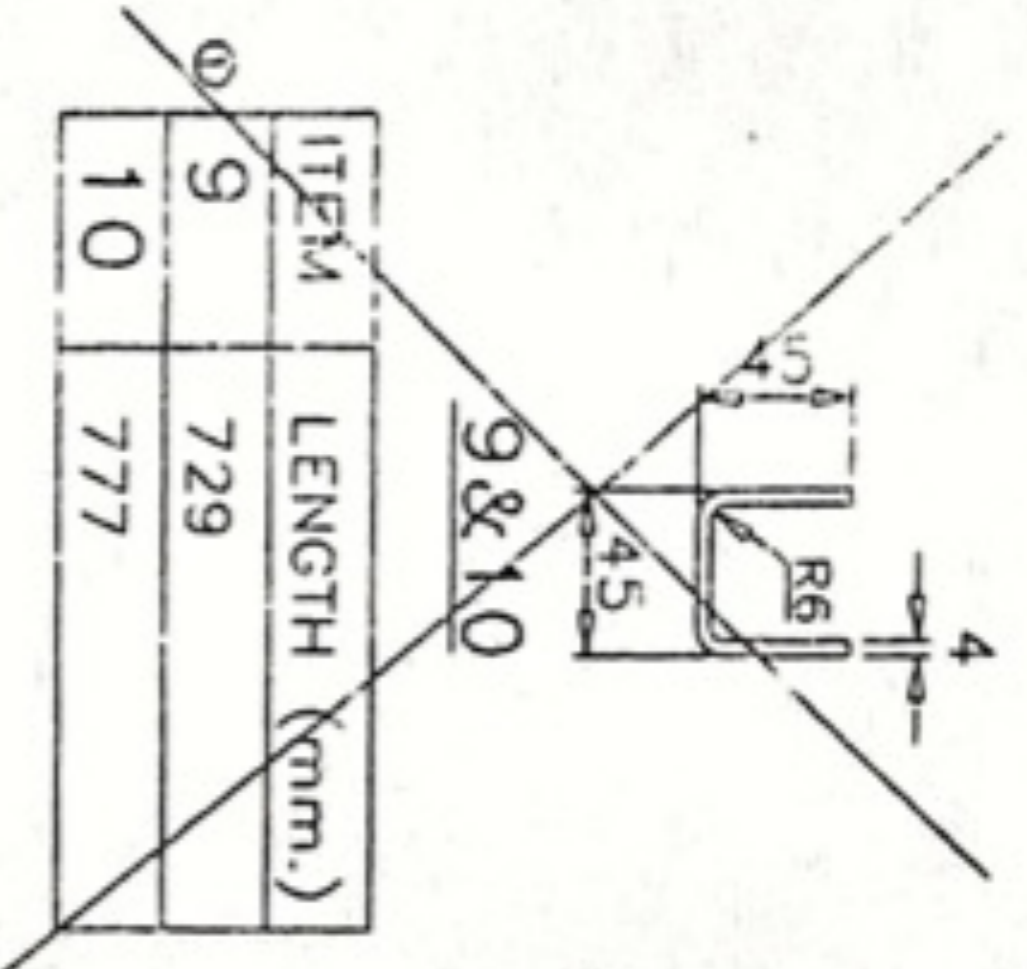


ITEM	LENGTH (mm.)
1	2990
6	2950

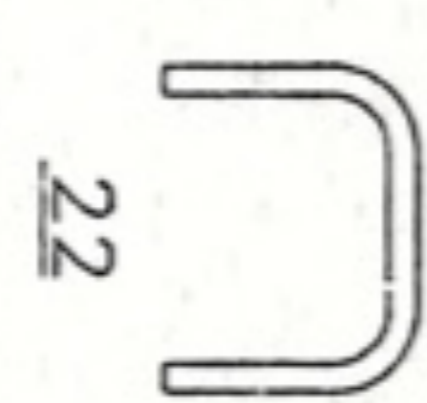


2,3,5,7,8A,8B,18,19&20

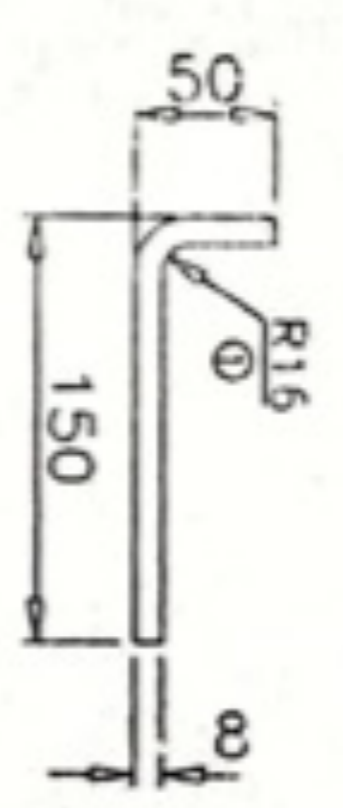
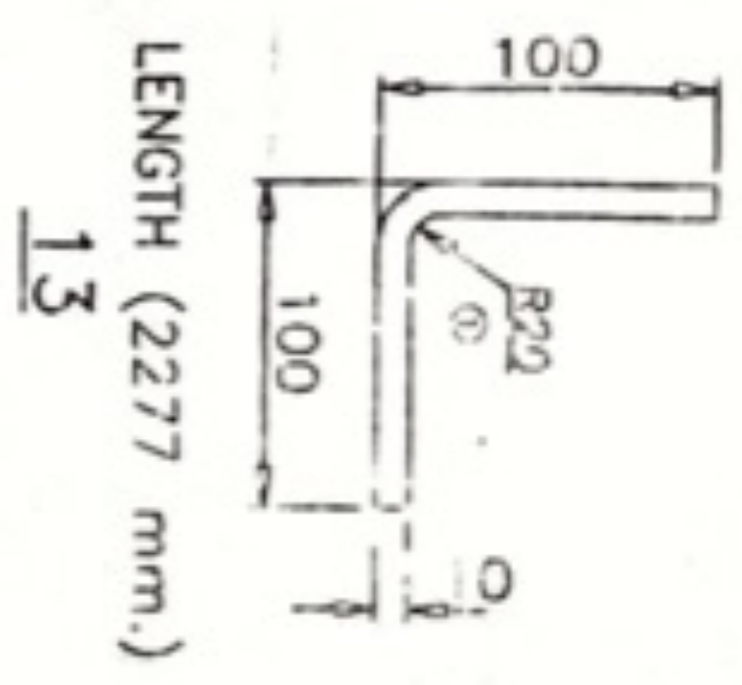
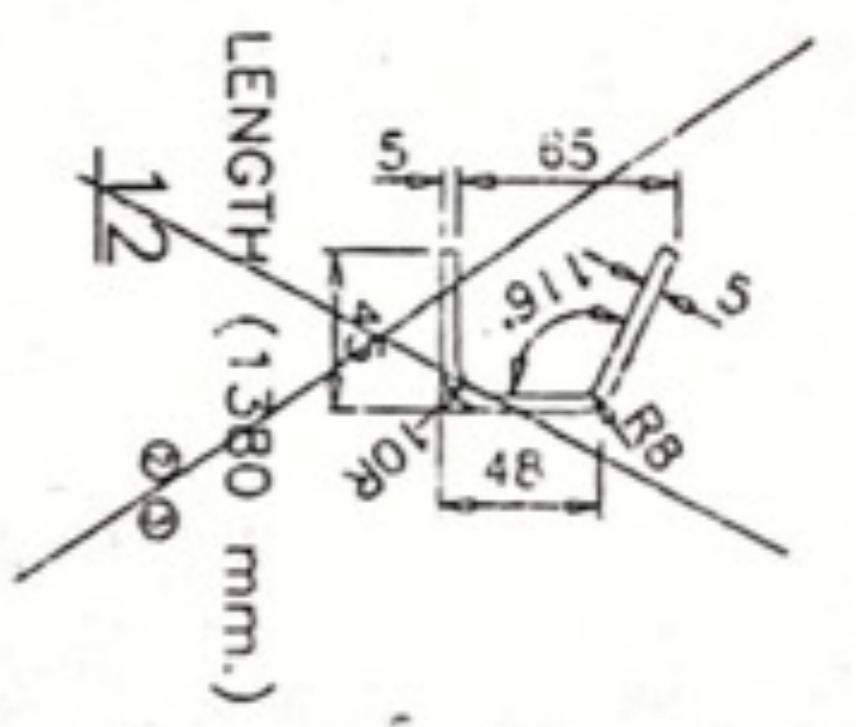
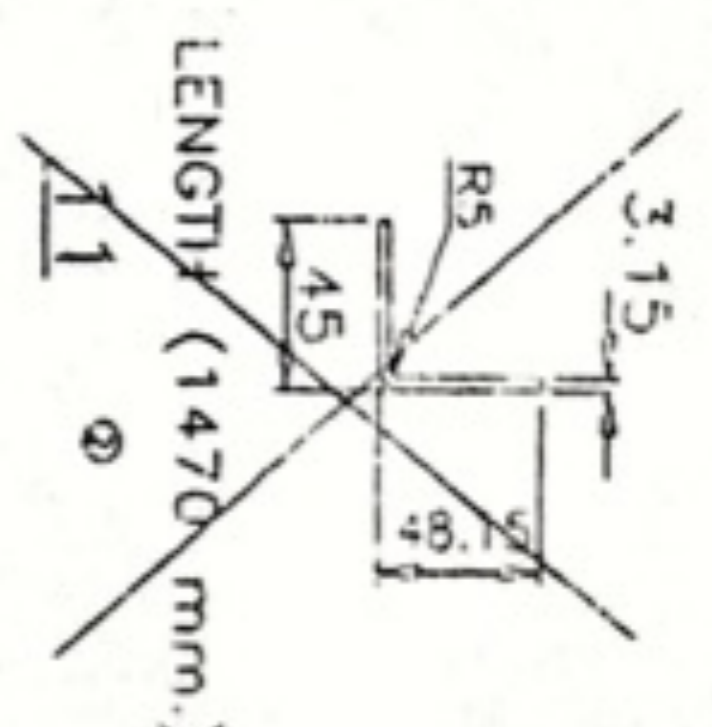
ITEM	LENGTH (mm.)
2	2271
3	1132
5	814.5
7	938
8A	2960
8B	544
18	715
19	713
20	597.5



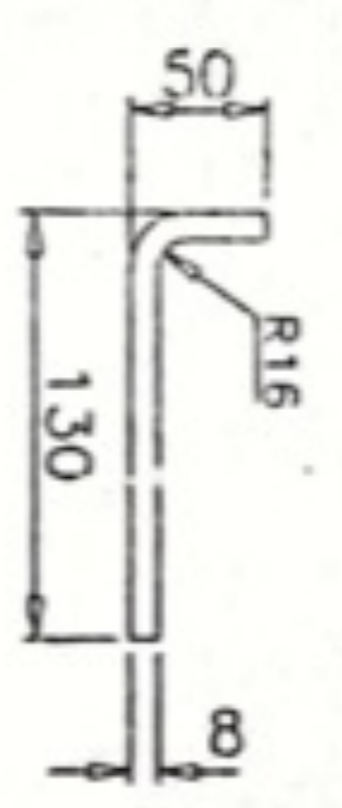
ITEM	LENGTH (mm.)
9	729
10	777



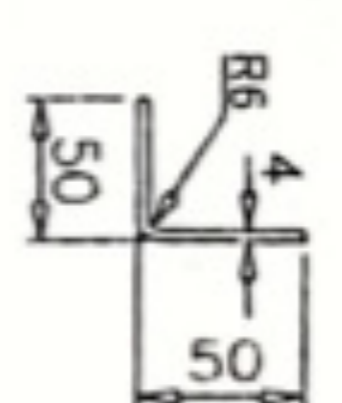
ITEM	LENGTH (mm.)
22(a)	1450
22(b)	765
22(c)	672



LENGTH (88 mm.)



LENGTH (110 mm.)



15,16&17

ITEM	LENGTH (mm.)
15	1655
16	3518
17	2960

TABLE OF TOLERANCES

S.No	Characteristics	1&6	2,3,5,7,8,18,19 & 20	4	9&10	11	12	13	14	15,16&17	21
1	Flanges	±1.50	48 ±1.25	34 ±1.25	—	—	—	—	—	—	—
2	Thickness	6 ±0.30	6 ±0.30	4 ±0.20	3 ±0.20	5 ±0.20	10 ±0.50	8 ±0.40	4 ±0.20	8 ±0.40	—
3	Top width	—	—	—	—	—	—	—	—	—	—
4	Bottom width	—	117 ±1.25	—	—	—	—	—	—	—	—
5	Height	—	85 ±1.25	145 ±1.25	45 ±1.25	45 ±1.25	45 ±1.25	100 ±1.5	150 ±1.50	50 ±1.25	130 ±1.5
6	Radius	±1.5	—	—	—	—	—	—	—	—	—
7	Angle	±1.15°	—	—	—	—	—	—	—	—	—
8	Warping	2 max	—	—	—	—	—	—	—	—	—
9	Dist	1 in 600	—	—	—	—	—	—	—	—	—
10	Curves	1 in 600	—	—	—	—	—	—	—	—	—
11	Twist	1 deg/metre	—	—	—	—	—	—	—	—	—

LENGTH TOLERANCES

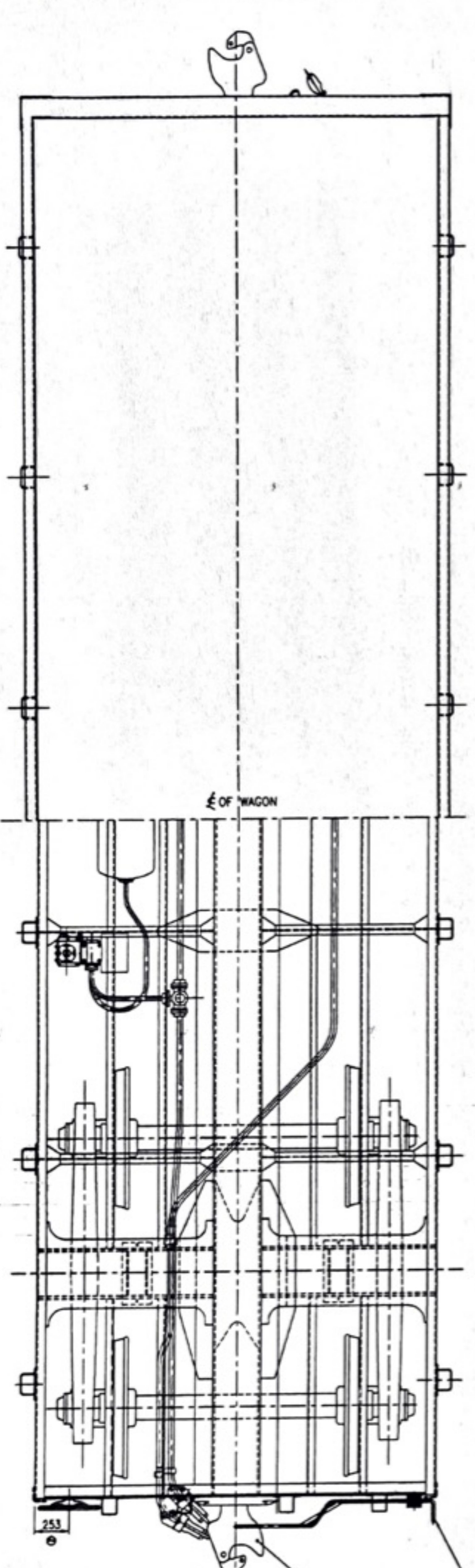
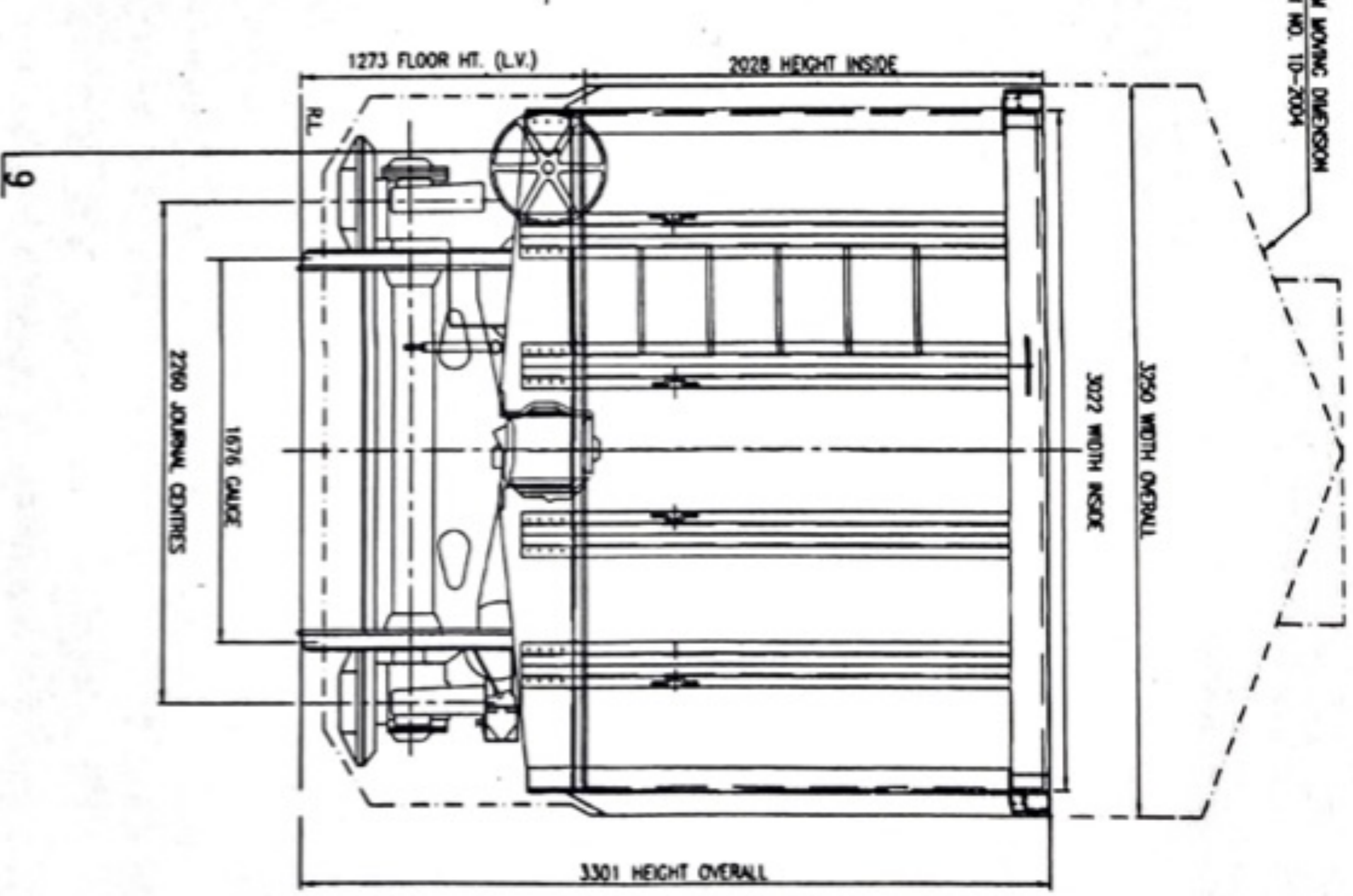
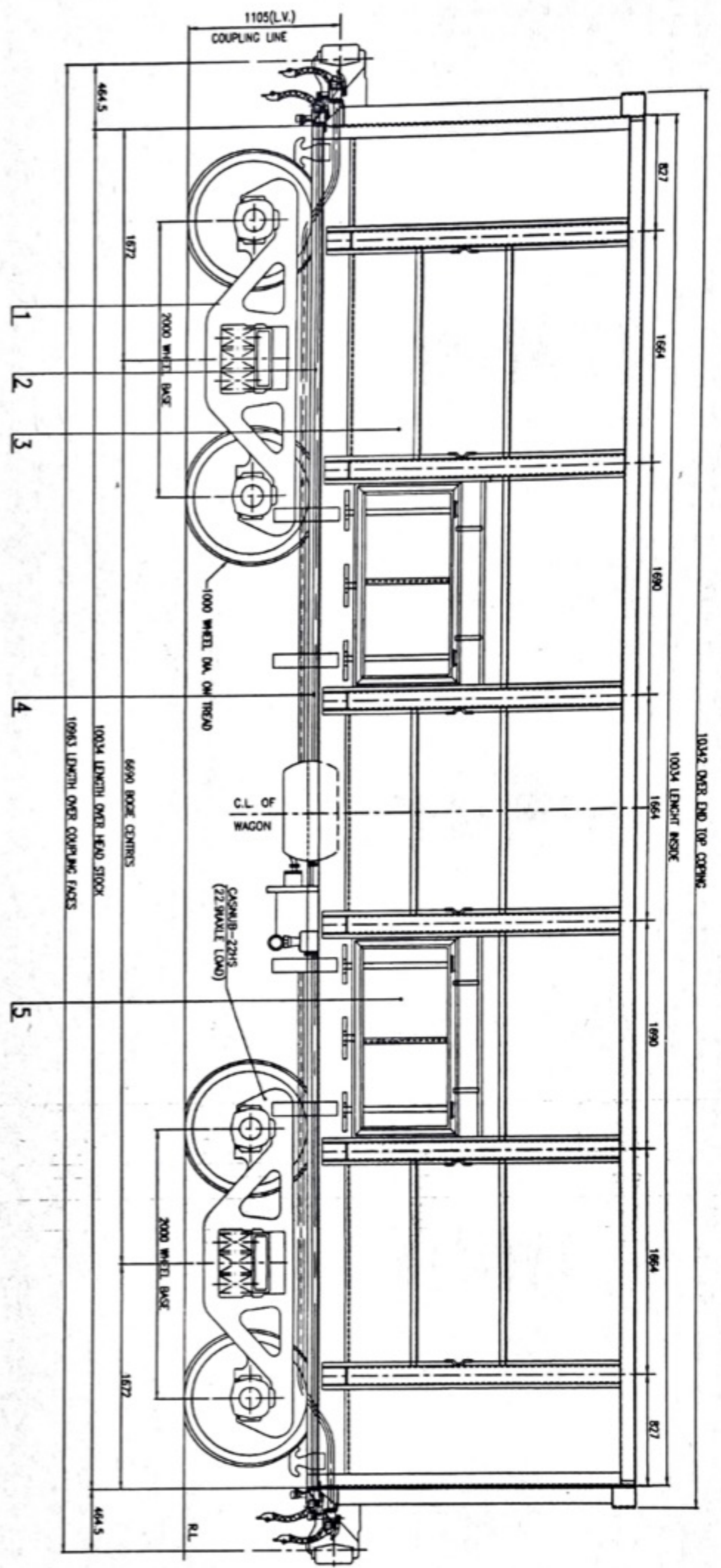
UP TO 2 m.	±1.0 mm.
Above 2 m. TO 6 m.	+3.0 mm. -1.0 mm.
Above 6 m. TO 10 m.	+4.0 mm. -1.0 mm.
Above 10 m. TO 15 m.	+4.0 mm. -2.0 mm.

- ALL DIMENSIONS ARE IN MM. UNLESS OTHERWISE MENTIONED.
- ITEM NO 1,2,3,5,6,7,8A,8B,11,16,19 & 20 TO BE MADE OF CR SECTION ONLY.
- ITEM NO 4,9,11,12,14,15,18,17&21 CAN BE MADE BY PRESS (PRESSING SECTION).
- CRF SECTIONS SHOULD BE AS PER ROSSO SPECIFICATION NO. MO-01-01 WITH LATEST REVISION/AMENDMENT.

NO.	REVISION	DATE	BY	CHKD
1	ISSUED			
2				
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22				

ITEM	DESCRIPTION	QTY	UNIT	REMARKS
22	(a) DOOR FRAME (HORIZ)	8	PCS	
22	(b) DOOR FRAME (VERTICAL)	8	PCS	
22	(c) DOOR FRAME (CENTER)	4	PCS	
21	PACKING COVER PLATE	8	PCS	
20	END STANCHION TOP	4	PCS	
19	SIDE MIDDLE COPING (CENTER)	4	PCS	
18	DOOR SIDE MIDDLE COPING	4	PCS	
17	END CRIB ANGLE	2	PCS	
16	SIDE CRIB ANGLE (INNER)	2	PCS	
15	SIDE CRIB ANGLE (OUTER)	4	PCS	
14	COVER PLATE	4	PCS	
13	CORNER STANCHION	4	PCS	
12	DOOR FRAME BOTTOM	4	PCS	
11	DOOR FRAME TOP	4	PCS	
10	DOOR FRAME SIDE	4	PCS	
9	DOOR FRAME WELD	4	PCS	
8	END STANCHION WELD	4	PCS	
7	END STANCHION BOTTOM	4	PCS	
6	END TOP COPING	2	PCS	
5	SIDE END WELD COPING	4	PCS	
4	DOOR WELD COPING	4	PCS	
3	DOOR WELD COPING	4	PCS	
2	DOOR SIDE STANCHION	4	PCS	
1	SIDE TOP COPING	2	PCS	

COLD ROLLED FORMED SECTION



- NOTE:-
1. CSMSB 22HS BOGE TO R250 SPECIFICATION NO WD-17 CSMSB-22 HS BOGE -02 (LATEST REVISION & AMENDMENT)
 2. HIGH TENSILE CIRC TO R250 STR NO WD-70-BD-10(LATEST REVISION & AMENDMENT)
 3. HIGH TENSILE CIRC TO R250 STR NO WD-66-BD-06
 4. AIR BRAKE EQUIPMENT TO R250 SPECIFICATION NO 02-ABR-2002 (LATEST REVISION & AMENDMENT)
 5. AIR BRAKE PIPE AND PIPE JOINTS TO R250 SPECIFICATION NO 04-ABR-2002 (LATEST REVISION & AMENDMENT)
 6. BRGS EQUIPMENT FITTED WITH CSMSB THE BOGE TO R250 SPEC NO WD-23-BRGS-2008 (LATEST REVISION & AMENDMENT)

ITEM	DESCRIPTION	QTY	REF. DRWG	REV	DATE	BY	CHKD
1	BOGE ASSEMBLY (CSMSB 22HS)	2	WD-09034-S-01				
2	UNDERFRAME ASSEMBLY	2	WD-09034-S-04				
3	BOGE SILE ASSEMBLY	2	WD-09034-S-02				
4	AIR BRAKE PIPE LAYOUT	1	WD-09034-S-11				
5	FLAP BOGE ASSEMBLY	4	WD-09034-S-07				
6	AIR BRAKE PIPE	2	WD-09034-S-11				
7	BOGE END ASSEMBLY	2	WD-09034-S-13				
8	UNDERFRAME ASSEMBLY AND DETAILS	1	WD-09034-S-16				
9	ARRANGEMENT OF CIRC	2	WD-4110-S-01				

PRELIMINARY SKETCH
ONLY FOR PROTOTYPE APPLICATION OF R.D.S.O. (WAGON)

REV	DATE	DESCRIPTION	BY	CHKD
01	12/10/09	ISSUED FOR PRODUCTION	...	...
02	01/11/09	...	...	...
03	01/11/09	...	...	...
04	01/11/09	...	...	...

SUPERSEDED BY:		DATE:	
DRAWN BY:		DATE:	
CHECKED BY:		DATE:	
DESIGNED BY:		DATE:	
APPROVED BY:		DATE:	
SCALE:		DATE:	

GROUP: B.G. R.D.S.O. (W) WD-09034-S-03

WITH FLOOR PLATE

WITHOUT FLOOR PLATE

GENERAL ARRANGEMENT

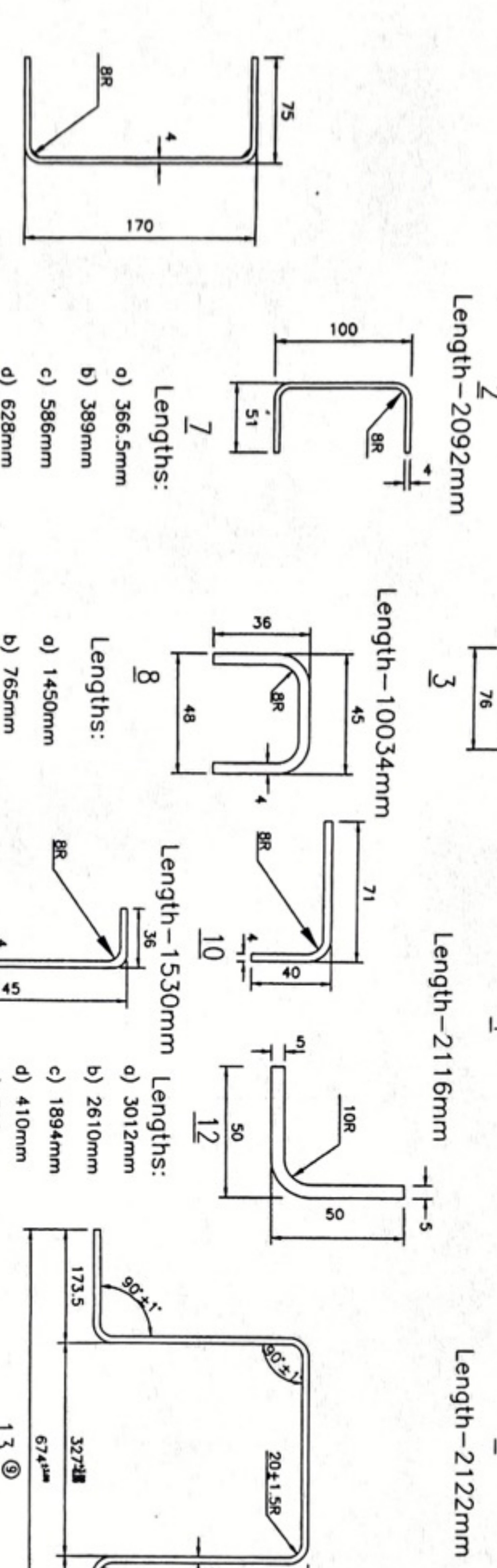
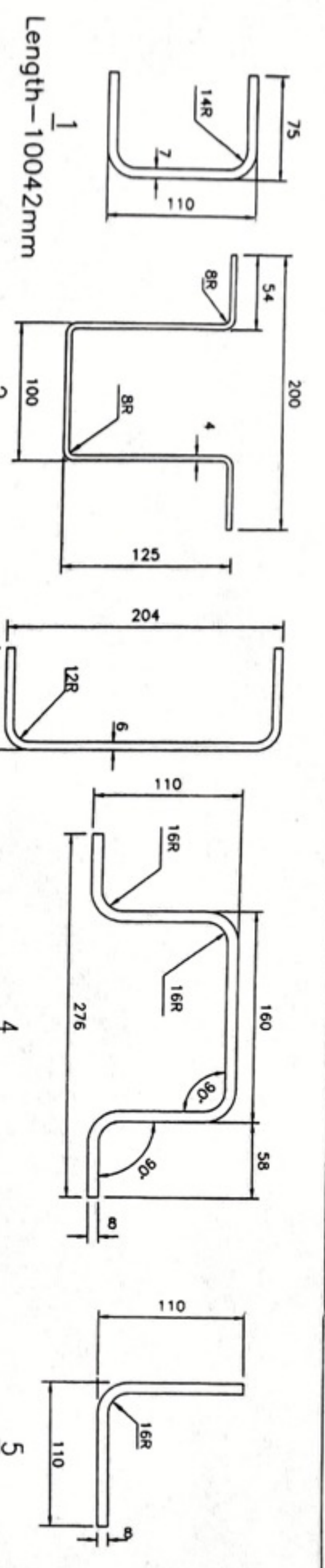


TABLE OF TOLERANCES

S.No	Characteristics	Item No.	1	2	3	4	5	6	7	8	9	10	11	12	13
1	Flanges	75 ^{±0.15}	54 ^{±0.15}	76 ^{±0.15}	58	110 ^{±0.15}	75 ^{±0.15}	51 ^{±0.15}	36 ^{±0.15}	71 ^{±0.15}	98±10	36 ^{±0.15}	59 ^{±0.15}	173.5	173.5
2	Thickness	7 ^{±0.15}	6 ^{±0.15}	6 ^{±0.15}	6 ^{±0.15}	6 ^{±0.15}	6 ^{±0.15}	6 ^{±0.15}	6 ^{±0.15}	6 ^{±0.15}	6 ^{±0.15}	6 ^{±0.15}	6 ^{±0.15}	6 ^{±0.15}	6 ^{±0.15}
3	Top width	200 ^{±0.15}	160 ^{±0.15}	200 ^{±0.15}	160 ^{±0.15}	200 ^{±0.15}	160 ^{±0.15}	200 ^{±0.15}	160 ^{±0.15}	200 ^{±0.15}	160 ^{±0.15}	200 ^{±0.15}	160 ^{±0.15}	200 ^{±0.15}	160 ^{±0.15}
4	Bottom width	100 ^{±0.15}	276 ^{±0.15}	100 ^{±0.15}	276 ^{±0.15}	100 ^{±0.15}	276 ^{±0.15}	100 ^{±0.15}	276 ^{±0.15}	100 ^{±0.15}	276 ^{±0.15}	100 ^{±0.15}	276 ^{±0.15}	100 ^{±0.15}	276 ^{±0.15}
5	Height	110 ^{±0.15}	125 ^{±0.15}	204 ^{±0.15}	110 ^{±0.15}	110 ^{±0.15}	110 ^{±0.15}	110 ^{±0.15}	110 ^{±0.15}	110 ^{±0.15}	110 ^{±0.15}	110 ^{±0.15}	110 ^{±0.15}	110 ^{±0.15}	110 ^{±0.15}
6	Radius	±1.50	±1.50	±1.50	±1.50	±1.50	±1.50	±1.50	±1.50	±1.50	±1.50	±1.50	±1.50	±1.50	±1.50
7	Angle	±1.00°	±1.00°	±1.00°	±1.00°	±1.00°	±1.00°	±1.00°	±1.00°	±1.00°	±1.00°	±1.00°	±1.00°	±1.00°	±1.00°
8	Workiness	2 max	2 max	2 max	2 max	2 max	2 max	2 max	2 max	2 max	2 max	2 max	2 max	2 max	2 max
9	Bow	1 in 600	1 in 600	1 in 600	1 in 600	1 in 600	1 in 600	1 in 600	1 in 600	1 in 600	1 in 600	1 in 600	1 in 600	1 in 600	1 in 600
10	Camber	1 in 600	1 in 600	1 in 600	1 in 600	1 in 600	1 in 600	1 in 600	1 in 600	1 in 600	1 in 600	1 in 600	1 in 600	1 in 600	1 in 600
11	Twist	1 deg/metre	1 deg/metre	1 deg/metre	1 deg/metre	1 deg/metre	1 deg/metre	1 deg/metre	1 deg/metre	1 deg/metre	1 deg/metre	1 deg/metre	1 deg/metre	1 deg/metre	1 deg/metre

All dimensions are in mm unless otherwise mentioned.

LENGTH TOLERANCES

UP TO 2m.	±1.0 mm.
ABOVE 2m. TO 6m.	+3.0 mm. -1.0 mm.
ABOVE 6m. TO 10m.	+4.0 mm. -1.0 mm.
ABOVE 10m. TO 15m.	+4.0 mm. -2.0 mm.

NO.	REVISION	DESCRIPTION	DATE
1	ISSUED	FOR 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58, 59, 60, 61, 62, 63, 64, 65, 66, 67, 68, 69, 70, 71, 72, 73, 74, 75, 76, 77, 78, 79, 80, 81, 82, 83, 84, 85, 86, 87, 88, 89, 90, 91, 92, 93, 94, 95, 96, 97, 98, 99, 100	04/16
2	ISSUED	REVISIONS TO 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58, 59, 60, 61, 62, 63, 64, 65, 66, 67, 68, 69, 70, 71, 72, 73, 74, 75, 76, 77, 78, 79, 80, 81, 82, 83, 84, 85, 86, 87, 88, 89, 90, 91, 92, 93, 94, 95, 96, 97, 98, 99, 100	01/15
3	ISSUED	REVISIONS TO 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58, 59, 60, 61, 62, 63, 64, 65, 66, 67, 68, 69, 70, 71, 72, 73, 74, 75, 76, 77, 78, 79, 80, 81, 82, 83, 84, 85, 86, 87, 88, 89, 90, 91, 92, 93, 94, 95, 96, 97, 98, 99, 100	04/14
4	ISSUED	REVISIONS TO 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58, 59, 60, 61, 62, 63, 64, 65, 66, 67, 68, 69, 70, 71, 72, 73, 74, 75, 76, 77, 78, 79, 80, 81, 82, 83, 84, 85, 86, 87, 88, 89, 90, 91, 92, 93, 94, 95, 96, 97, 98, 99, 100	11/11
5	ISSUED	REVISIONS TO 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58, 59, 60, 61, 62, 63, 64, 65, 66, 67, 68, 69, 70, 71, 72, 73, 74, 75, 76, 77, 78, 79, 80, 81, 82, 83, 84, 85, 86, 87, 88, 89, 90, 91, 92, 93, 94, 95, 96, 97, 98, 99, 100	12/10
6	ISSUED	REVISIONS TO 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58, 59, 60, 61, 62, 63, 64, 65, 66, 67, 68, 69, 70, 71, 72, 73, 74, 75, 76, 77, 78, 79, 80, 81, 82, 83, 84, 85, 86, 87, 88, 89, 90, 91, 92, 93, 94, 95, 96, 97, 98, 99, 100	11/10
7	ISSUED	REVISIONS TO 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58, 59, 60, 61, 62, 63, 64, 65, 66, 67, 68, 69, 70, 71, 72, 73, 74, 75, 76, 77, 78, 79, 80, 81, 82, 83, 84, 85, 86, 87, 88, 89, 90, 91, 92, 93, 94, 95, 96, 97, 98, 99, 100	06/10
8	ISSUED	REVISIONS TO 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58, 59, 60, 61, 62, 63, 64, 65, 66, 67, 68, 69, 70, 71, 72, 73, 74, 75, 76, 77, 78, 79, 80, 81, 82, 83, 84, 85, 86, 87, 88, 89, 90, 91, 92, 93, 94, 95, 96, 97, 98, 99, 100	04/10

ITEM	DESCRIPTION	QTY	REF. Dwg.	DATE	BY	CHKD	APPD
13	CENTRE SILL (HAT SECTION)	1	09-0904-5-14	996 46	IRS-M44		
12	(a) END ANGLE	2	09-0904-5-14				
	(b) CRIB ANGLE OUTER	4	09-0904-5-16				
	(c) CRIB ANGLE INNER	2	09-0904-5-18				
	(d) STAY FOR END WALL	4	09-0904-5-18				
	(e) SUPPORT ANGLES	3	09-0904-5-11				
	(f) SUPPORT ANGLES	1	09-0904-5-11				
	(g) SUPPORT ANGLES	1	09-0904-5-11				
	(h) SUPPORT ANGLES	2	09-0904-5-11				
	(i) CROSS STRINGER	2	09-0904-5-15				
	(j) CROSS STRINGER	2	09-0904-5-15				
	(k) PART OF ROLLER BKT	1	09-0904-5-10				
	(l) HORIZONTAL LEVER HANGER BKT	1	09-0904-5-10				
	(m) HORIZONTAL LEVER SUPPORT BKT-SMALL	1	09-0904-5-10				
	(n) HORIZONTAL LEVER SUPPORT BKT-LARGE	1	09-0904-5-10				
	(o) BRACKET FOR PIPE OF 3248	2	09-0904-5-11				
	(p) CRF SOX/SOX/STH X 204 LONG	1	09-0904-5-11				
	DOORWAY STIFFENING	4	09-0904-5-05				
	CRIB END COPING	4	09-0904-5-05				
	DOOR WALL	12	09-0904-5-07				
	SIDE MIDDLE COPING	8	09-0904-5-07				
	(a) DOOR FRAME (HORIZ)	8	09-0904-5-07				
	(b) DOOR FRAME (VERTICAL)	8	09-0904-5-07				
	(c) DOOR FRAME (CENTER)	4	09-0904-5-07				
	(d) CROSS STRINGER	2	09-0904-5-15				
	(e) CROSS STRINGER	2	09-0904-5-15				
	(f) CROSS STRINGER	2	09-0904-5-15				
	(g) STRINGER(OUTER)	8	09-0904-5-15				
	(h) STRINGER(END)	4	09-0904-5-15				
	(i) STRINGER(CENTRE)	4	09-0904-5-15				
	(j) STRINGER(INNER)	8	09-0904-5-15				
	(k) CHANNEL FOR APN RESERVOIR	1	09-0904-5-04				
	(l) STRINGER BRACKET	1	09-0904-5-10				
	(m) STRINGER BRACKET FOR END LEVER SUPPORT BRACKET	1	09-0904-5-10				
	END TOP COPING	4	09-0904-5-08				
	CORNER STANCHION	4	09-0904-5-08				
	BODY SIDE STANCHION	12	09-0904-5-17				
	SOLEBAR	2	09-0904-5-08				
	END TOP COPING	2	09-0904-5-08				

CRF SECTIONS

B.G.	R.D.S.O.	GROUP	WD-09034-S-22
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