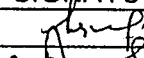
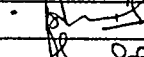
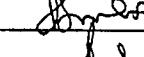
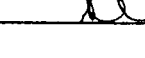
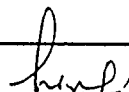



SCHEDULE	SCHEDULE OF INFRASTRUCTURAL REQUIREMENTS FOR MANUFACTURING & TESTING FOR TENSION BRACKET LH AND RH TO DRAWING. NO. AW03208, AW03209 & CC03149	MDST: 41 Rev: NIL PAGE 1 OF 4
		Dated 30.12.2005

SCHEDULE OF INFRASTRUCTURAL REQUIREMENTS FOR MANUFACTURING & TESTING FOR TENSION BRACKET LH & RH

NAME	DESIGNATION	SIGNATURE	DATE	LEVEL
Harish Kumar	SSE/VD		30.12.05	Prepared
Joginder Singh	ADE/VD		2/1/06	Agreed
Amitabh Sinha	Dy.CME/TOT		4/1/06	Reviewed
S. K. Aggarwal	CDE		20/1/06	Approved

Issue/Rev	Details of Changes	Date


Prepared By


Agreed By

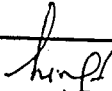
SCHEDULE	SCHEDULE OF INFRASTRUCTURAL REQUIREMENTS FOR MANUFACTURING & TESTING FOR TENSION BRACKET LH AND RH TO DRAWING. NO. AW03208, AW03209 & CC03149	MDST: 41 Rev: NIL PAGE 2 OF 4
		Dated 30.12.2005

1.0 REQUIREMENTS

1.1 This schedule is applicable for Tension Bracket LH and RH to drawing no. AW03208 AW03209 & CC03149. The vendors seeking approval shall comply with all the requirements mentioned below :

2.0 GENERAL & MANUFACTURING FACILITIES

- 2.1 Covered area with adequate space underneath for storage of raw materials e.g. billets, round corner squares, rounds etc. The covered area should have display board showing different colour shades nominated to different grades of steel to avoid mix up of materials. Arrangement of painting the billets, RCS rounds etc with particular paint shade previously nominated according to the grade of steel should be available.
- 2.2 At least 1 No. Fork-lift or 1 No. Over-head crane of 2t (Min.) capacity shall be available for material handling.
- 2.3 Minimum 1 No. of band saw /power hacksaw machine should be available.
- 2.4 The firm shall have atleast one number of press brake of suitable facility and of standard make along with set of punch & die for bending / forming of components.
- 2.5 Adequate machining facilities comprising of universal milling machine, lathe, radial/pillar drilling machine etc. of suitable capacities and standard makes should be available.
- 2.6 At least one no. of profile cutting machine with suitable facilities shall be available.
- 2.7. Atleast two number of MIG/MAG welding machine of suitable capacity and standard make shall be available.
- 2.8 Adequate Nos. of hand grinders for removal of fins & burrs shall be available.
- 2.9 The raw material should be procured from authorized distributor of original manufacturer of steel and firm should procure material with test certificate from primary manufacturer
- 2.10 The firm shall comply with IS:822 regarding selection of weld wire, storage of consumables, calibration of welding equipment , training of welder, testing of welding and remedies for welding defects.
- 2.11 The welder shall have a minimum of 2 years experience of the same type of welding.
- 2.12 The fabricator shall have adequate fabrication and process capability to obtain all the tolerances and geometrical tolerances and shall have arrangement of jig/fixture/clamping device for main assembly & sub-assembly work.
- 2.13 The firm shall have suitable facility for shot blasting of the component.

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SCHEDULE	SCHEDULE OF INFRASTRUCTURAL REQUIREMENTS FOR MANUFACTURING & TESTING FOR TENSION BRACKET LH AND RH TO DRAWING. NO. AW03208, AW03209 & CC03149	MDST: 41 Rev: NIL PAGE 3 OF 4
		Dated 30.12.2005

2.14 The firm shall have suitable facility for Red oxide zinc primer to IS: 2074.

3.0 TESTING FACILITIES

3.1 **Chemical Lab:** The firm should have permanent arrangement with NABL certified Lab or a reputed steel making company for arranging the spectro analysis of the material.

3.2 **Physical Testing Lab:** The firm must possess a well-equipped physical lab with following facilities:

- Universal Testing machine of 40t capacity with load/ deflection plotting arrangement to conduct UTS, Yield strength .
- The firm shall have arrangement for conducting non- destructive test for welding as per requirement of the purchaser.

3.3 **Other Testing Facilities:** The firm shall possess the following:

- The firm shall have adequate facilities for preparation of test sample. Facilities like machining, grinding, polishing etc. should be available in house.
- Adequate number of fine punches for stamping marking particulars on finished components for traceability of the components.
- Adequate numbers of measuring instruments such as:
 - Digital Vernier Calipers - 0 mm to 300 mm
 - Measuring scales – 1 meter
 - Inside & outside Micrometers - Ranging from 0 to 150 mm
 - GO & NO-GO gauges.
 - Profile gauges
 - Radius gauge
 - Bevel protector
 - Surface table size 2 x 4 metre.

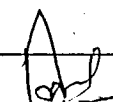
4.0. QUALITY CONTROL REQUIREMENTS

4.1 There should be a system to ensure the traceability of the product from raw material stage to finished product stage. This system should also facilitate to identify the raw material composition from the finish product stage.

4.2 Ensure that there is a QAP for the product detailing various aspects: -

- QA Organisational Chart
- Flow Process Chart
- Stage inspection details
- Various parameters and to ensure control over them


Prepared By


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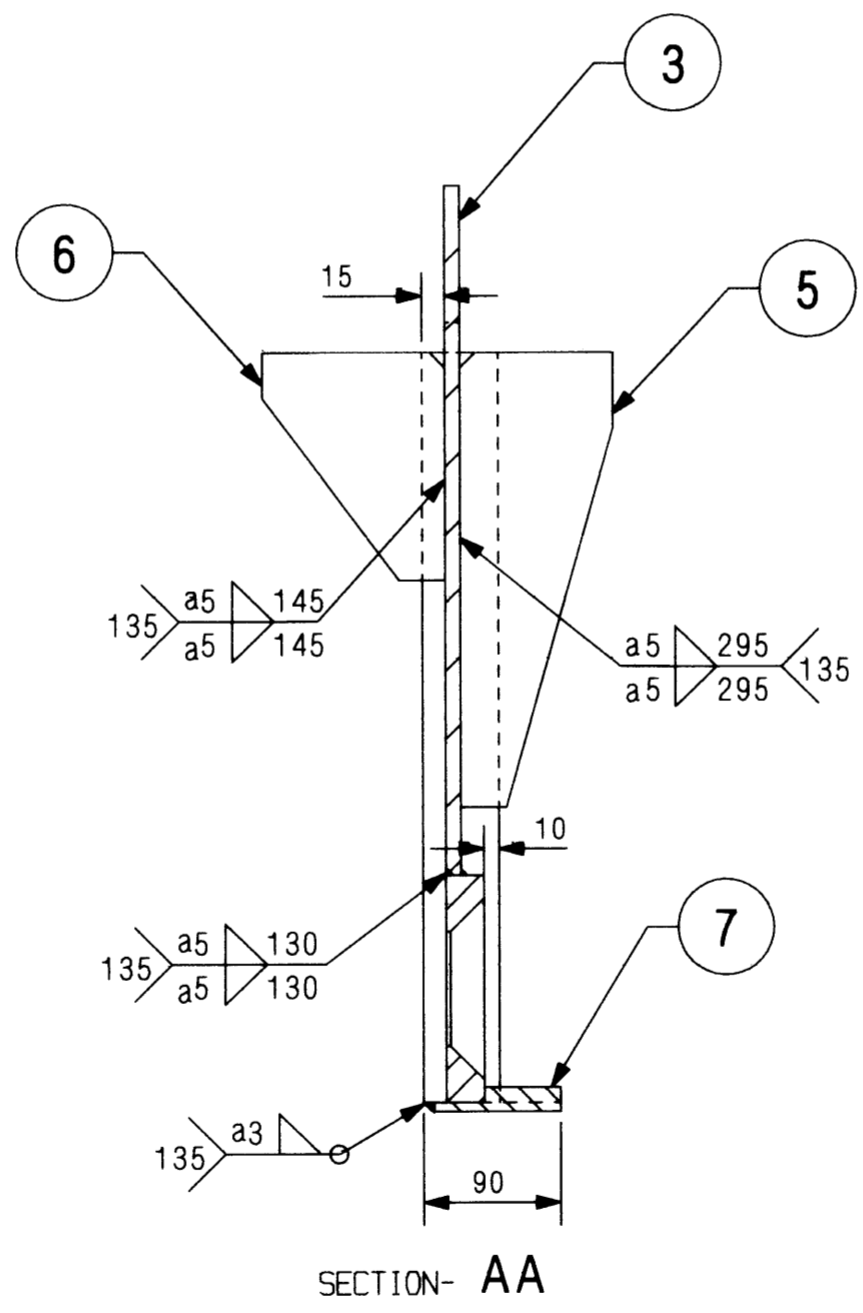
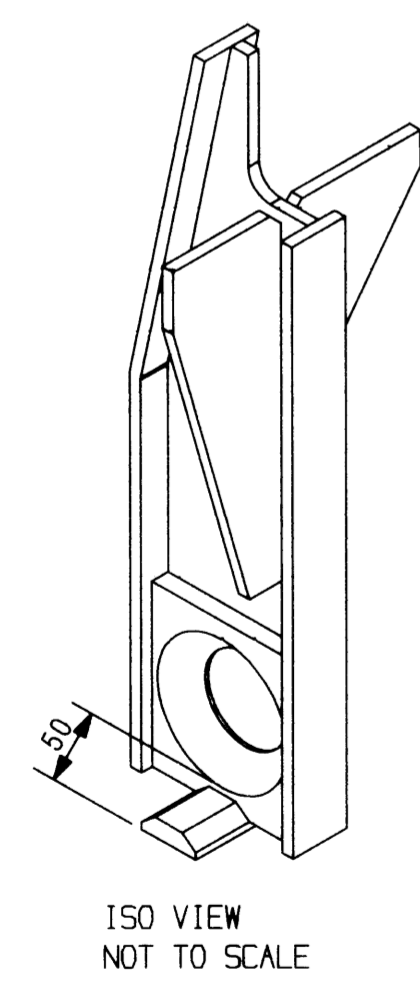
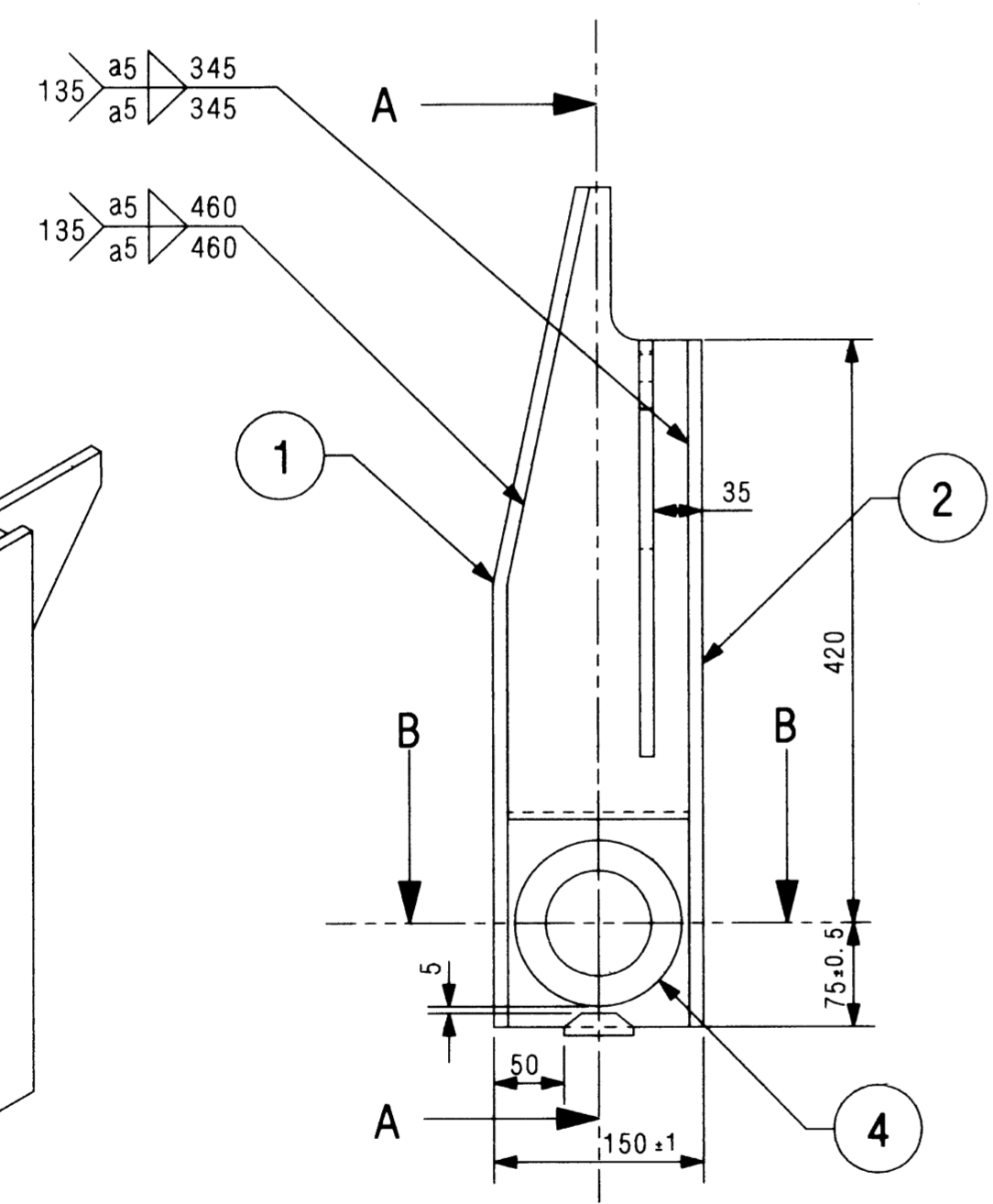
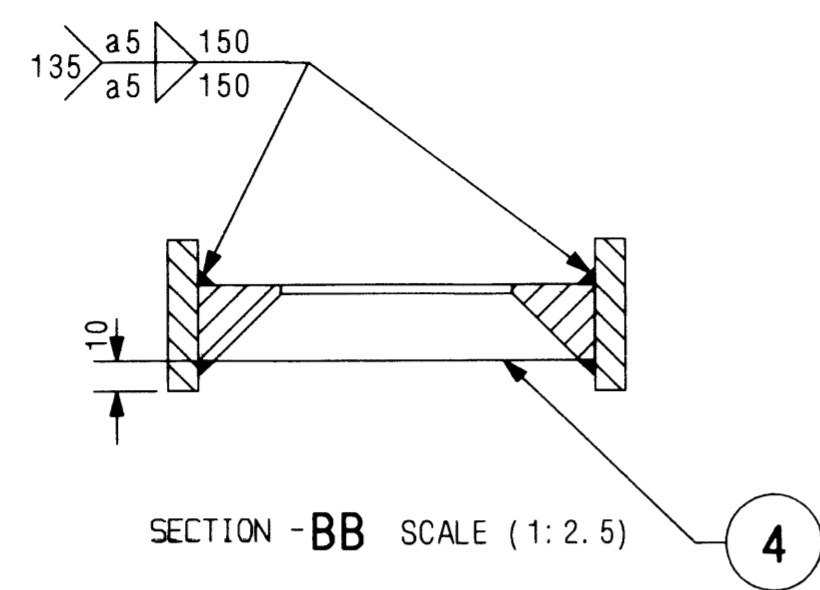
SCHEDULE	SCHEDULE OF INFRASTRUCTURAL REQUIREMENTS FOR MANUFACTURING & TESTING FOR TENSION BRACKET LH AND RH TO DRAWING. NO. AW03208, AW03209 & CC03149	MDST: 41 Rev: NIL PAGE 4 OF 4
		Dated 30.12.2005

- 4.3 There should be at least one full time technologist having a minimum bachelor's degree in relevant field & 5 years experience or a person with diploma in relevant field with 12 years experience.
- 4.4 The firm should have acquired ISO: 9000 series certification and the product for which an approval is sought should be broadly covered in the scope of the certification for manufacture and supply.
- 4.5 The Quality manual of the firm for ISO: 9000 should clearly indicate at any stage the control over manufacturing and testing of the said railway product.
- 4.6 The firm shall ensure that proper analysis is being done on monthly basis to study the rejection at various internal stages and it is documented.
- 4.7 The firm shall ensure that all the relevant specifications, IS standards are available with them.

Prepared By 

Agreed By 

ALT. NO	ALT. DATE	ZONE	ALTERATIONS	AUTHORITY
(a)	24/03/99	F9 C8 B4	1. ITEM NO. 5, 6 & 7 ADDED. 2. PLANETARY SYMBOLS ADDED. 3. SECTION BB UPDATED.	DY. CME/D NOTE ON MD23111 DT. 27/03/99
(b)	01/12/2000	F9	1. ITEM NO. 1, 2 AND 3 UPDATED.	DIC MD000221



ITEM	DESCRIPTION & DIMENSIONS	QTY	CODE	MATL. & SPEC.	REMARKS
7	STOPPER	1	CC03286	NIL	NIL
6	RIB	1	AW03135	NIL	NIL
5	RIB	1	AW03134	NIL	NIL
4	THICKNER	1	CC03158	NIL	NIL
3	WEB L.H	1	AW03205	NIL	NIL
2	PLATE	1	AW03207	NIL	NIL
1	BENT PLATE	1	AW03151	NIL	NIL

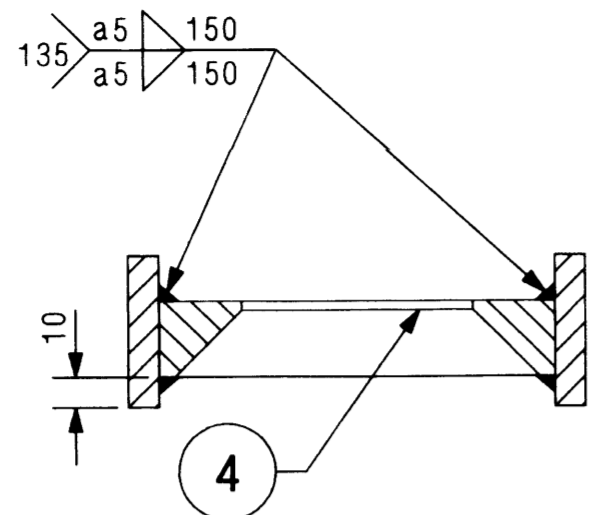
WELD LENGTH	ITEM	DESCRIPTION & DIMENSIONS	QTY	DETAIL DRG	MATL. & SPEC.	REMARKS				
2.39000	M	GROUP BOGIE FRAME				SUPERSEDES: AW03208 ALT a				
		FILE /users1/bog2/16t_bog/aw03208b.prt								
13.220	KG	TENSION BRACKET(L.H) (FOR ALTERNATOR MOUNTING)				SCALE	1:5	SSE/REC	CHD	
0.3720	M ²					DRN	JLAL			
0.15000	M	RAIL COACH FACTORY, KAPURTHALA				REF.DRG.No.	WTAC3-0-3-309	ALT-d		
0.2300	M	INDIAN RAILWAYS STANDARD					PL NO. 02030858			
0.6050	M					DRG. NO.	AW03208			
						ALT.	b	SHEET	1/1	

A
B
C
D
E
F
G

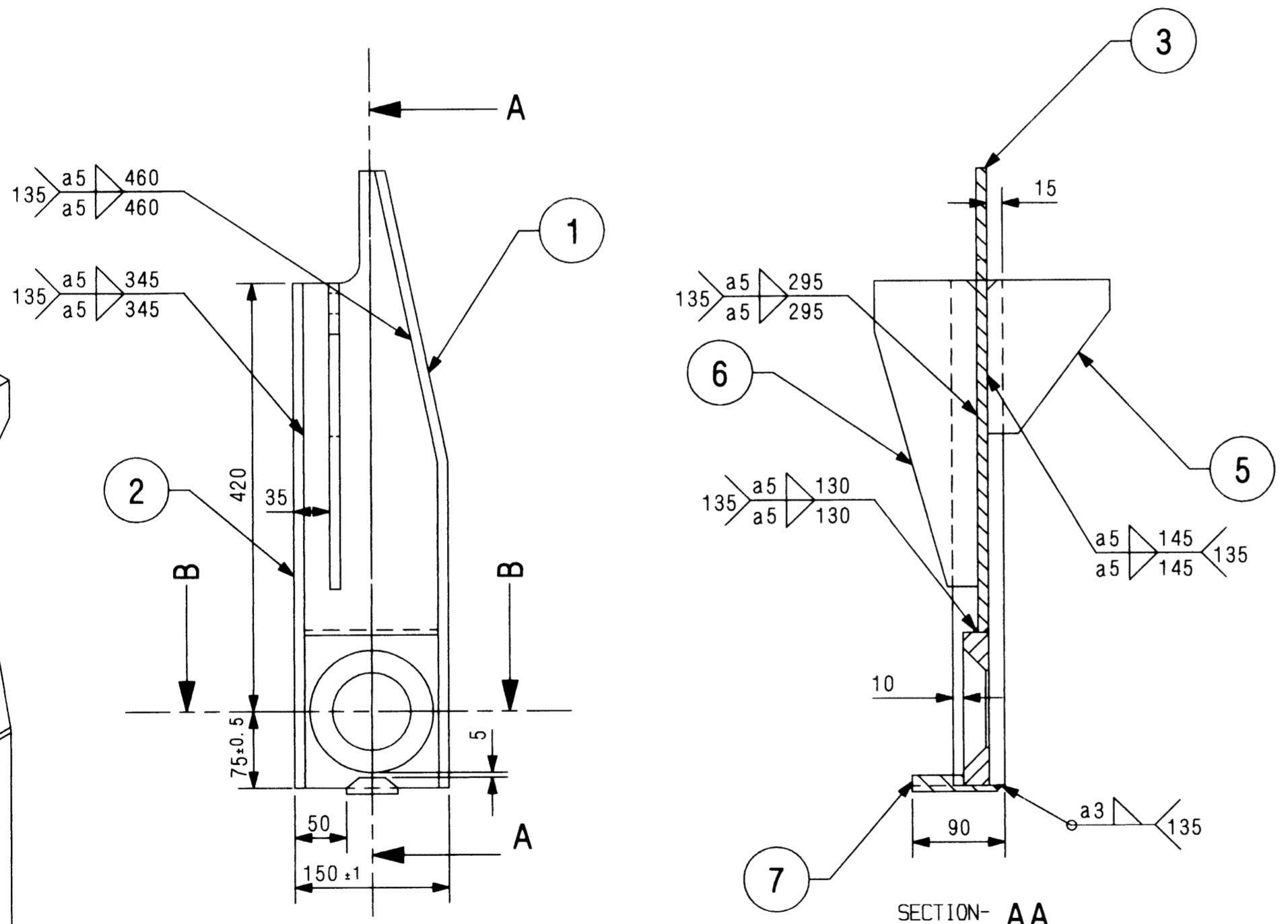
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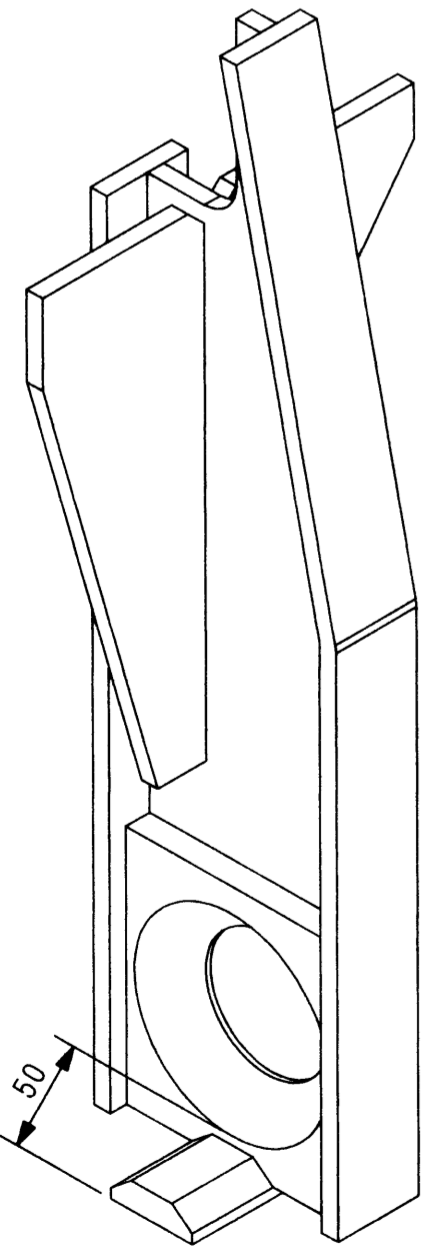
ALT. NO	ALT. DATE	ZONE	ALTERATIONS	AUTHORITY
(a)	24/03/99	F9 C8 B4	1. ITEM NO. 5, 6 & 7 ADDED. 2. PLANETARY SYMBOLS ADDED. 3. SECTION BB UPDATED.	DY. CME/D NOTE ON MD23111 DT. 27/03/99
(b)	02/12/2000	F9	1. ITEM NO. 1, 2 AND 3 UPDATED.	DIC MD000221



SECTION - BB SCALE (1:2.5)



SECTION- AA



ISO VIEW
NOT TO SCALE

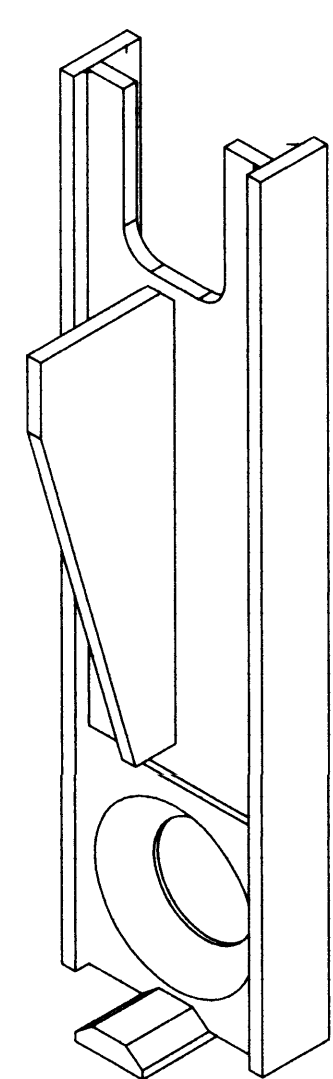
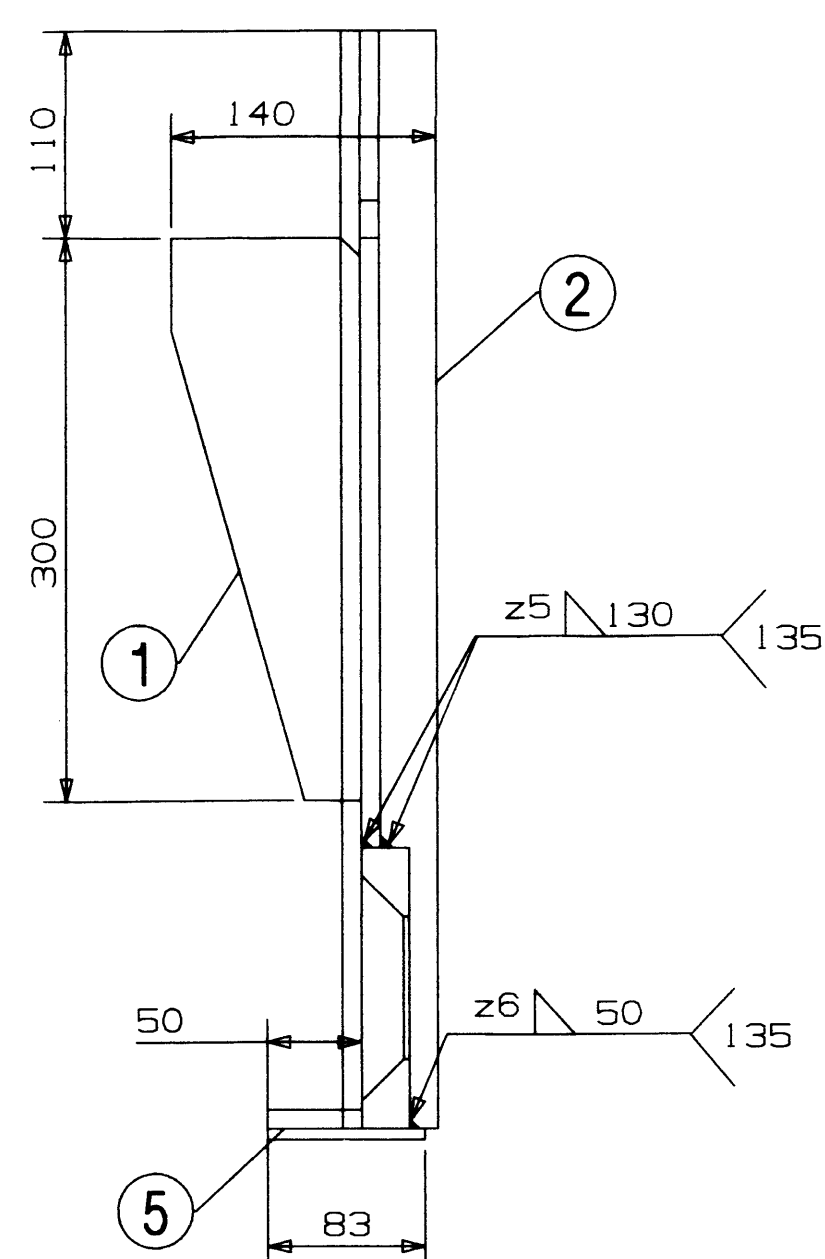
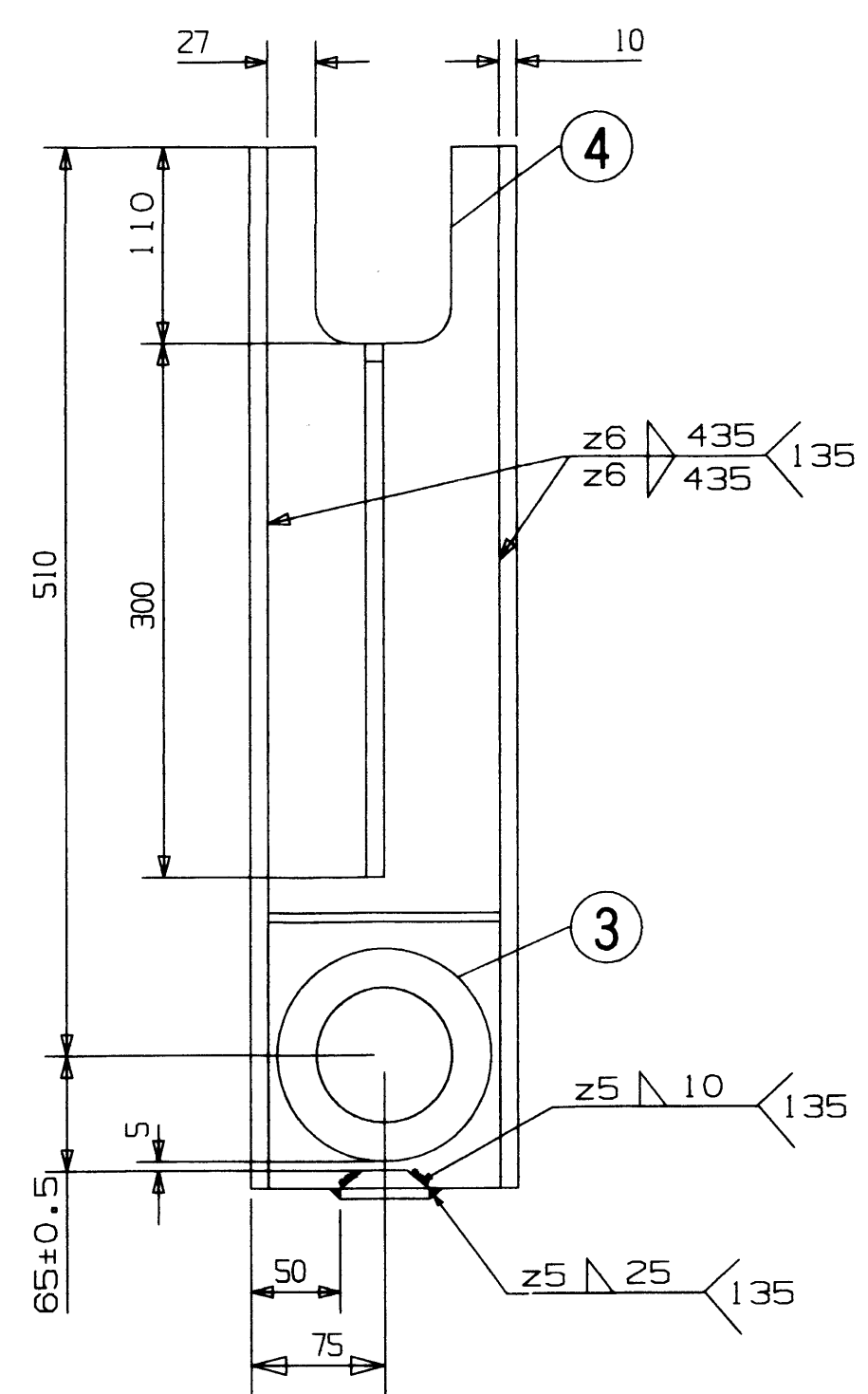
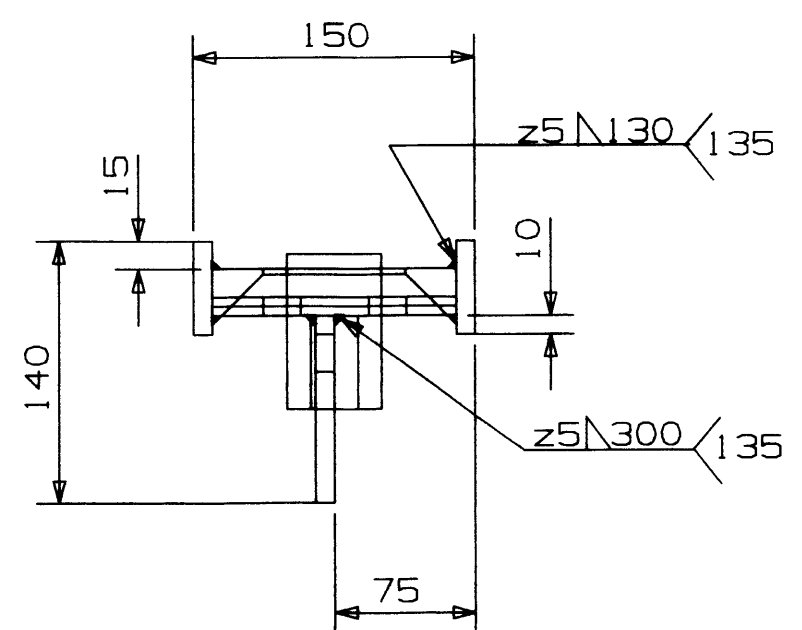
ITEM	DESCRIPTION	QTY	MATERIAL	SPEC.	REMARKS
7	STOPPER	1	CC03286	NIL	NIL
6	RIB	1	AW03135	NIL	NIL
5	RIB	1	AW03134	NIL	NIL
4	THICKNER	1	CC03158	NIL	NIL
3	WEB R. H	1	AW03204	NIL	NIL
2	PLATE	1	AW03207	NIL	NIL
1	BENT PLATE	1	AW03151	NIL	NIL

WELD LENGTH	ITEM	DESCRIPTION & DIMENSIONS	QTY	DETAIL DRG	MATL. & SPEC.	REMARKS
2.39000	M	GROUP BOGIE FRAME				SUPERSEDES: AW03209 ALT NIL
	FILE	/users1/bog2/16t_bog/aw03209b.prt				
13.220	KG	TENSION BRACKET(R.H)			SCALE	1:5
	S. AREA	(FOR ALTERNATOR MOUNTING)			CHD	
0.3720	M ²	RAIL COACH FACTORY, KAPURTHALA			DRN	JLAL LOGIN
	LENGTH / DIA	INDIAN RAILWAYS STANDARD			REF. DRG. No.	WTAC3-0-3-309 ALT-d
0.15000	M	PL NO. 02030792			DRG. NO.	AW03209
	WIDTH / THICK	N.R			ALT.	b
0.2300	M	D.Y. CME			SHEET	1/1
	HEIGHT	CDE				
0.6050	M					

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REVIEW NO. / PROTOTYPE / FINAL DATE OF FIRST ISSUE 03/02/1996



ALT. NO.	ALT. DATE	ZONE	ALTERATIONS	AUTHORITY
a	12/05/90	E-6 B-3 D10	1. SIDE VIEW CORRECTED. 2. WELDING SIZE ADDED FOR WELDING ITEM 2&4. 3. NOTE ADDED.	SME/D
b	01/10/92	D-3 ALL	1. WELDING LENGTH CHANGED FOR ITEM NO. 4&2 FROM 6X360 TO 6X435. 2. VIEW CHANGED.	SME/D
c	12/05/98	ALL F-9 C-8	1. DRAWING REDRAWN ON UG11. 2. ITEM NO.5 ADDED AND DIMENSIONS REVISED ACCORDINGLY. 3. ISO VIEW ADDED.	DIC NO.MD980168 DT.12/05/98

NOTE :-

1. ASSEMBLY SHELL BE PROTECTED AS PER PROCEDURE ORDER WL100100.

ITEM	DESCRIPTION & DIMENSIONS	QTY	OF ASSLY	DETAIL DRG	MATL. & SPEC.	REMARKS
5	STOPPER	1	CC03286	NIL	NIL	
4	WEB	1	CC03159	NIL	NIL	
3	THICKNER	1	CC03158	NIL	NIL	
2	PLATE	2	CC03157	NIL	NIL	
1	RIB	1	CC03156	NIL	NIL	

WELD LENGTH	ITEM	DESCRIPTION & DIMENSIONS	OF ASSLY	DETAIL DRG	MATL. & SPEC.	REMARKS
2.17000	M	BOGIE FRAME				SUPERSEDES: CC03149 ALT b
WEIGHT	FILE	/users1/bog1/13t_bog/cc03149c.prt				
12.98000	KG	TENSION BRACKET COMPLETE (FOR ALTERNATOR BELT)				
S.AREA						
0.36520	M ²	SCALE: 1:2.5 SS/REC: CHD DRN: PKLR LOBIN: <i>[Signature]</i>				
LENGTH / DIA		RAIL COACH FACTORY, KAPURTHALA				
0.14000	M	REF.DRG.No. SKETCH-97039				
WIDTH / THICK		INDIAN RAILWAYS STANDARD				
0.15000	M	DRG. NO. CC03149				
HEIGHT		N.R				
0.59100	M	ALT. C SHEET 1/1				
ADE (SHE...)		BY (SME (D))		CDE		CODE NO. NIL

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