

TENDER SPECIFICATION

NO. CLW/ES/3/0140

ALT.	A	B	C	D		
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ENCLOSURES:

1. ANNEXURE:
2. DRG. NOS.  
 CLW/ES/3/SK-1/0140,  
 CLW/ES/3/SK-2/0140,  
 CLW/ES/3/SK-3/0140.

TOTAL NO. OF SHEETS. 8 9

ALT.	-	A	B	C	D	
SHEET		8	9	9	10	

SPECIFICATION FOR

SET OF PLASTICS

WAG-9 (CO'CO), ELECTRIC LOCOMOTIVES

ISSUED BY  
 DY. CHIEF ELECTRICAL ENGINEER/CON/TU  
 CHITTARANJAN LOCOMOTIVE WORKS  
 P.O. CHITTARANJAN, 713331  
 DIST. BURDWAN, WEST BENGAL, (INDIA)

SPECIFICATION FOR SET OF PLASTICS	DRN. <i>[Signature]</i> SDM.	CHK/REV <i>[Signature]</i> 1/7/97 AET/D&D	D & D CENTRE CHITTARANJAN LOCOMOTIVE WORKS. WEST BENGAL, INDIA			
	APPROVED BY <i>[Signature]</i>		DATE. 30/06 /97			
	BY: CEK/CON/TU		NO. CLW/ES/3/0140/K/E/C			
	ALT	A	B	C	D	

ALTERATION RECORD SHEET

Amendment No.	Date of Amendment	SHEET No.	Alteration	Reason	Authority
1.	10-02-98	4,5, +8.	A	Addition in nos. of drawings. CLW/ES/3/SK-3/0140 FIG. NO. 5 in scope of supply is added.	hul 10/2
2.	30/4/99	4	B.	In scope of supply of stt. no. 4 individual type nos. given as applicable	hul 30/4
3.	11/01/2000	9	C	Fig. no. 6 of sheet no 9 added and Fig. no. 6 in scope of supply of sheet no 4 included.	hul 11/1/2000
4	02-7-2010	8,10,4	D	Fig. no. 5 (Insulating Plate) (Sh-8) design/Dwg with material changed and new drawing attached at sheet 10, as per ABB M/A 449 & Shop requirement.	hul 2/7/2010

SPECIFICATION FOR SET OF PLASTICS	DRN. <i>Udy.</i>	CHKD/REV <i>[Signature]</i>	D & D CENTRE CHITTARANJAN LOCOMOTIVE WORKS. WEST BENGAL, INDIA			
	SDM	AEE/D&D	APPROVED BY <i>[Signature]</i>	DATE. 10/2/98	NO. CLW/ES/3/0140/A/B/C	
	BY. CEE/CON/TU		ALT	A	B	C
				D		

SPECIFICATION FORSET OF PLASTICS

## 1. SCOPE :

This specification covers the manufacture and supply of SET OF PLASTICS for WAG-9 (Co'Co), 6000 HP, 3-phase, 25KV 50 HZ. AC locomotive.

2. SERVICE CONDITION :-

## 2.1 Climatic and environmental condition :-

Maximum atmospheric temperature : +70°C (in sun) &  
 : 50°C (in shade)  
 Normal humidity : 60%  
 Maximum humidity : 100% saturation during  
 rainy season.

Altitude : 160 m.a.s.l.

Rain fall : very heavy in certain areas.  
 The equipment should be designed in such a way as to withstand its running at 10Km /hr. in flood water level of 102mm. above rail level.

Atmosphere during hot weather : Extremely dusty and desert terrain in certain areas.

Coastal areas : Locomotive and equipment will be design to work in coastal areas in humid and salty laden atmosphere.

Vibration : The equipment sub-system and their mounting arrangement will be designed to withstand vibration and shocks encountered in service as specified in correspondence unless otherwise prescribed.

3. STANDARD :

The relevant IEC, BS, DIN, Standard & Indian standard shall apply with respect to all materials used in the manufacture of PLASTIC.

WAG-9(co-co)	DRN. <i>[Signature]</i>	CHKD/REV. <i>[Signature]</i> 1/7/97	CHITTARANJAN LOCOMOTIVE WORKS			
SPECIFICATION FOR SET OF PLASTICS	SDM	AEE/D&D	WEST BENGAL, INDIA			
	APPROVED BY <i>[Signature]</i>		NO. CLW/ES/3/0140/A/E/JC			
	DY.CEE/CON/TU		DATE: 30/06/97			
		ALT.	A	B	C	D

4. SCOPE OF SUPPLY

Sheet-4

*NOTE - ALL Materials should be fire retardant / self Extinguishing Type as per IS: 11731 or any other relevant standard*

Fig. No.	Description	ABB Ref. Ident. No.	Qty./ Loco	Matl.
1.	COVER (TYPE-1)	3EHP230140P0001	1	Polyester Resine
2.	COVER (TYPE-2) SCREENING COVER	3EHP330154P0002	2	Reinforced Polyester Resin
2.	-DO. (TYPE-3)	3EHP330154P0001	2	-DO-
3.	CASING	3EHP330156P0001	1	Polyester Resin
4.	HV CONNECTOR CLIP	3EHP431521P0001	1	Laminated Plastic sheet hard treated on one side
5.	INSULATING PLATE	HBT416016P0001	125	<b>THERMOSETTING PLASTIC</b> Laminated Plastic sheet Soft treated
6.	THREADED BAR	3EHP431041P0001	4	GLASS REINFORCED PLASTIC

5. SUBMISSION OF TENDER QUOTATION:

- 5.1 All tender documents including the quotation shall be submitted in duplicate including any correspondence till a contract is finalised.
- 5.2 The tenderer shall give sufficient information to prove that his factory has adequate facilities and capacity to manufacture the PLASTIC to meet fully the technical requirements of the specification and quality of materials and workmanship.
- 5.3 Quotations shall not be considered complete unless all information is furnished and are therefore liable to be rejected.
- 5.4 Detailed drawings of the plastic should be submitted for approval of purchaser.

SPECIFICATION FOR SET OF PLASTIC	DRN. <i>[Signature]</i> CDM	CHKD/REV <i>[Signature]</i> SEE/D&D	D & D CENTRE CHITTARANJAN LOCOMOTIVE WORKS WEST BENGAL, INDIA			
	APPROVED BY <i>[Signature]</i> DY.CEE/CON/TU-1		DATE: - NO: CLW/ES/3/0140/A/A/C			
		ALT	A	B	C	D

6. DRAWINGS:

The following drawings are attached with the specification :

Drg.No.: CLW/ES/3/SK-1/0140 ; CLW/ES/3/SK-2/0140 ,  
4 CLW/ES/3/SK-3/0140.

6.1 Technical documents and drawings to be furnished by the supplier as part of the contract.

7. TESTS :

1) Type test and routine test shall be carried out according to the standard.

2) Fire retardant test as per IS: 11731.

8. TECHNICAL DOCUMENTS TO BE SUPPLIED BY THE SUPPLIER :

- |      |   |             |
|------|---|-------------|
| i)   | Type test reports                       | : 10 copies |
| ii)  | Routine test report along with each set | : 4 copies  |
| iii) | Maintenance manual                      | : 20 copies |
| iv)  | Detailed drawings                       | : 6 copies  |

9. The tenderer shall confirm that the equipments are as either used in 3 - phase AC locomotive manufactured by ABB for Indian railways or similar.

## 10. NOTE:

TYPE NO. OF EACH ITEM IS REQUIRED TO BE ENGRAVED

WAG-9(co-co)  SPECIFICATION FOR SET OF PLASTICS	DRN.	CHKD/REV.	CHITTARANJAN LOCOMOTIVE WORKS			
	<i>[Signature]</i>	<i>[Signature]</i> 11/7/97	WEST BENGAL, INDIA			
	SDM	AEE/D&D	NO. CLW/ES/3/0140/A/B/C			
	APPROVED BY <i>[Signature]</i>		DATE: 30/06/97			
	DY.CEE/CON/TU	ALT.	A	B	C	<i>[Signature]</i>

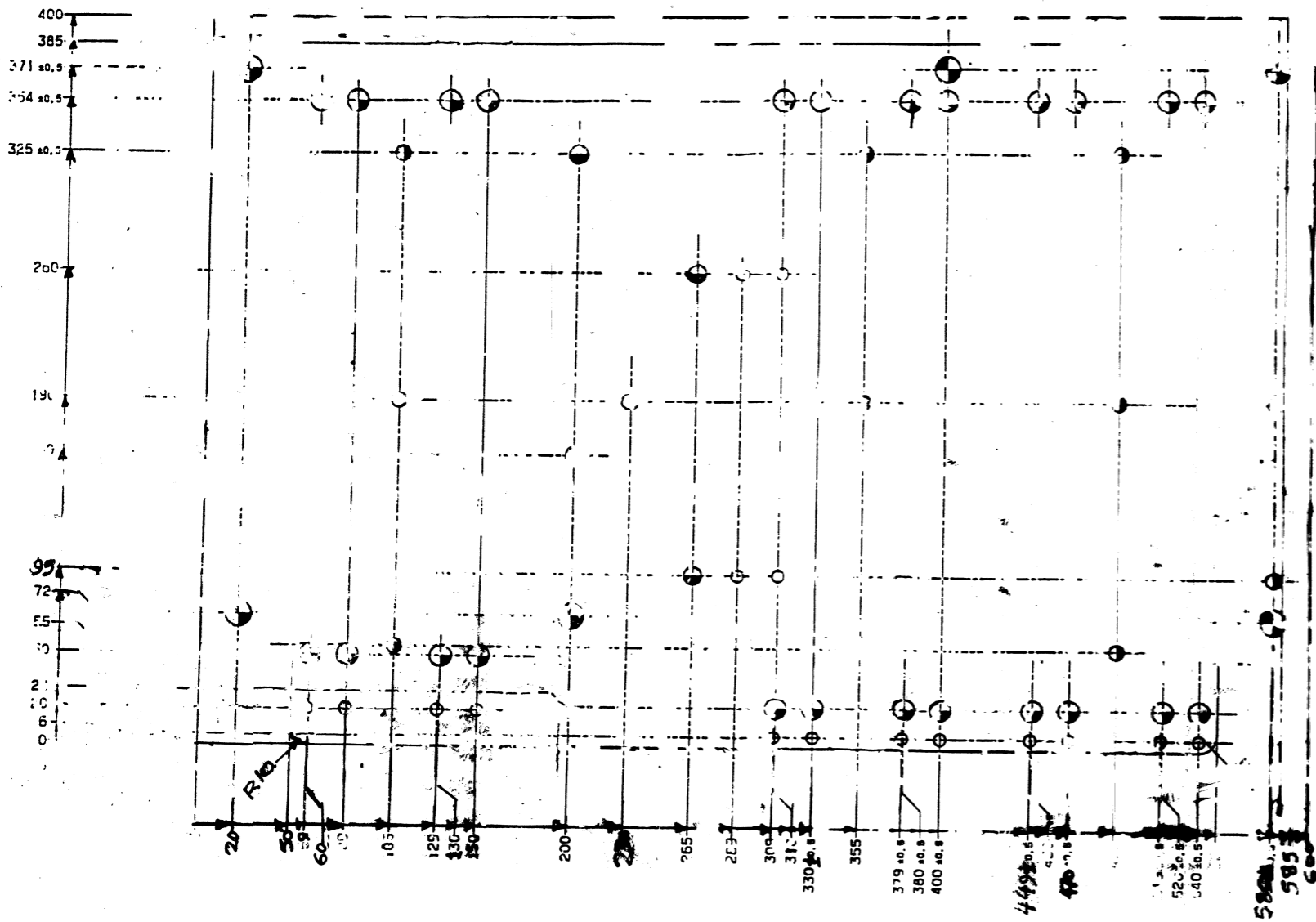
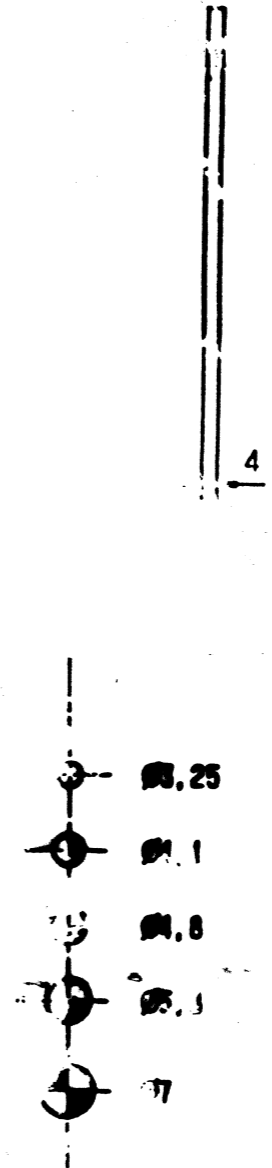


Fig-1.



वर्णन DESCRIPTION	अंकित पदार्थ माशांष्टे NO. MATL SPAN
	लोको LOCO
असिड्रॉन्ड ASIDROND	अभिकल्पना विकास केंद्र D & D CENTRE चिप्टेमान लोकोमोटिव डेपॉ CHITTEMAN LOCOMOTIVE DEPO
क्याड नं. CAD NO.	1st ANGLE PROJECTION
उपयोग USE FOR	लोको LOCO
ड्रॉइंग नं. DRAWING NO.	CEN/ES/3/SK-1/0140P 1A/B/C

30/6/97

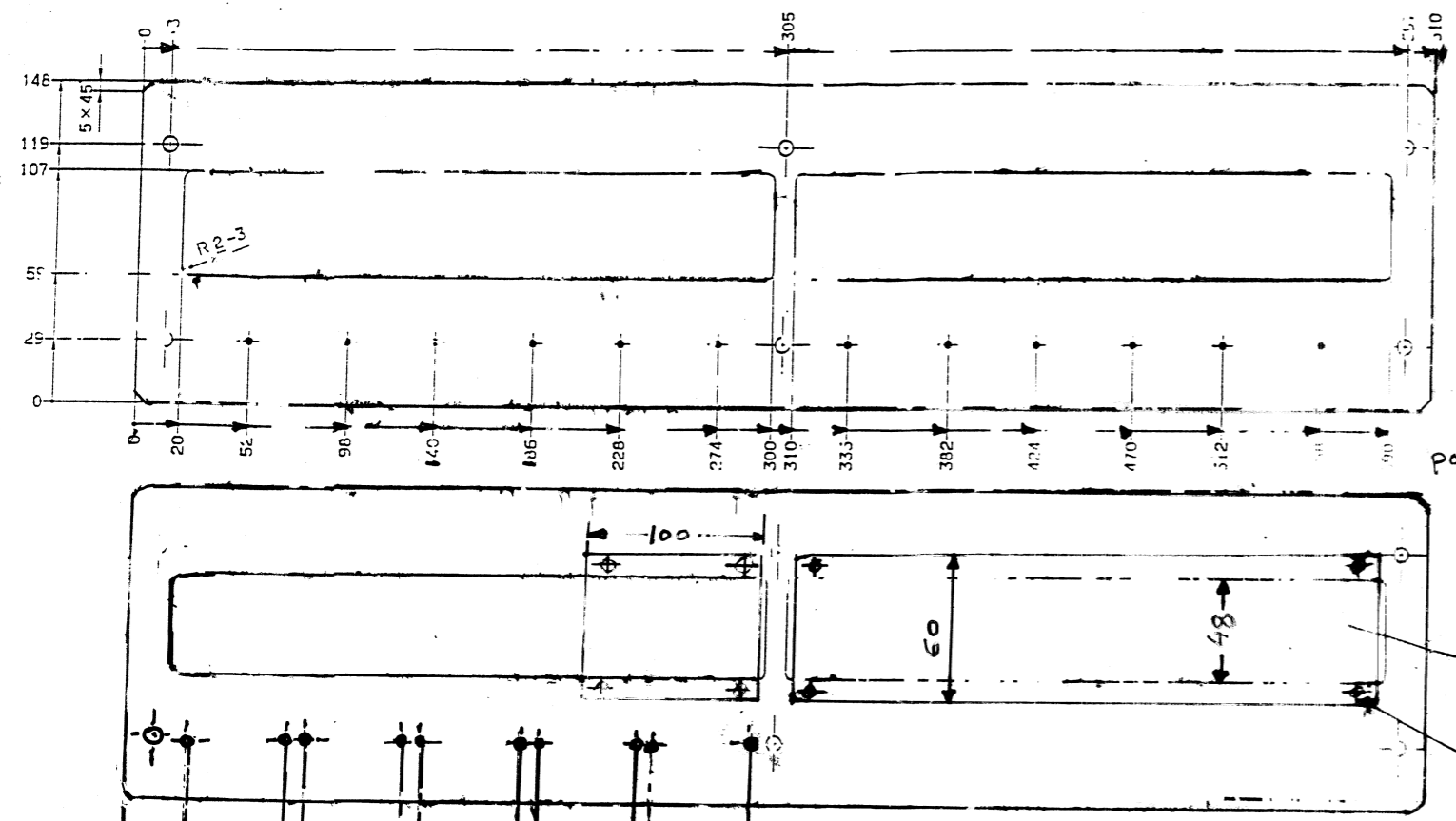


FIG-2

● Holes: 1 nos. holes of Ø7  
 \* Twenty-two nos. of holes of Ø3.2

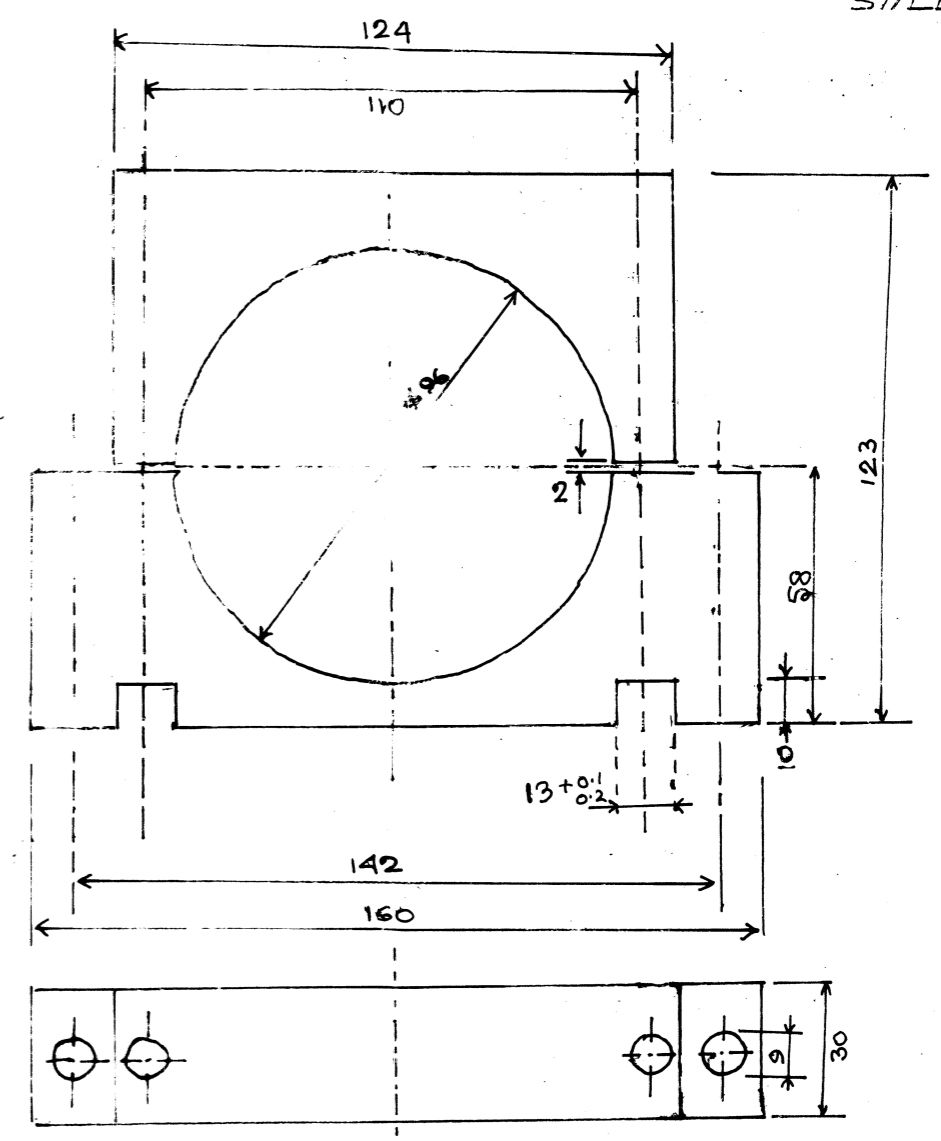


FIG. 4

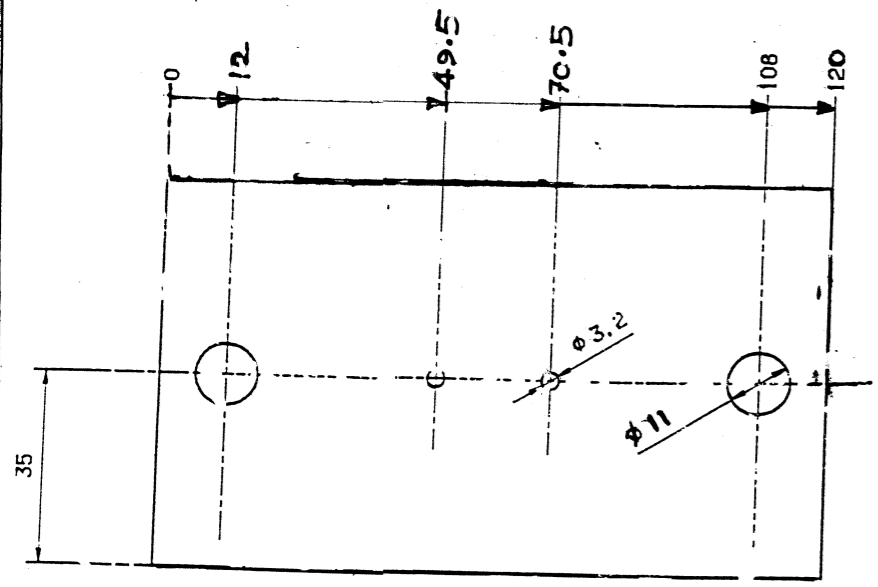
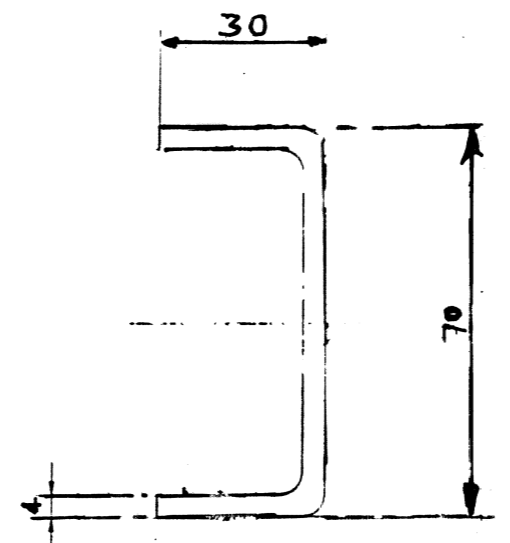


FIG-3



DESCRIPTION	MATL. SPECN
REF. ASSEMBLY DRG. NO.	NO. OF LOCOS
DATE: 01/7/97	DRG. NO.
BY: [Signature]	1ST ANGLE PROJECTION
30/6/97	USED FOR LOCOS
SET OF PLASTICS	DRAWING NO.
	CLW/ES/3/SK-2/10140/AB/4D

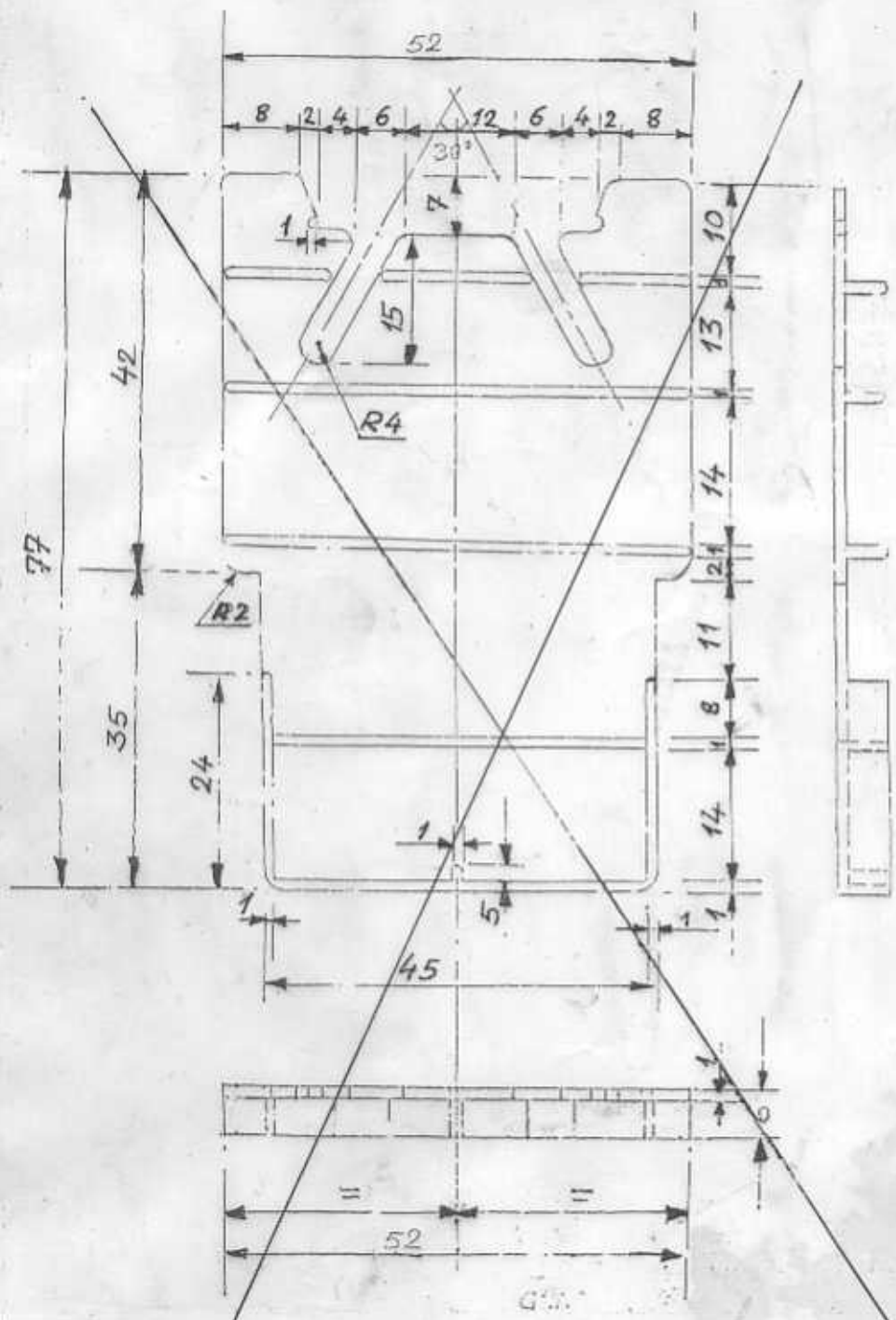


FIG. 5-

Supershited key  
page no- 10

NOTE :-

ALL DIMENSIONS ARE IN MM.  
M~~ATL.~~ - ~~PLASTICS.~~  
ABB IDENT. NO. HBT416 016 P0001

जांचा  
CHKD.  
अभिजात  
REVIEWED  
SE (M/E)  
दिनांक  
DATE

**SET OF PLASTICS**

शीट  
TITLE  
संदर्भ  
REF.

अनुमोदित / APPROVED

*(Signature)*  
अप सु. वि. नं.  
D.Y. CEE / *(Signature)*

अभि, ल. मुर्क, निकान, के. नू.  
D&D CENTRE  
चित्तारान्जन रेल इंजिन कारखाना  
CHITTARANJAN LOCOMOTIVE WORKS  
अ. र. म. नं.  
NO. CLW/ES/3/SK-3/01401  
ALT-118C



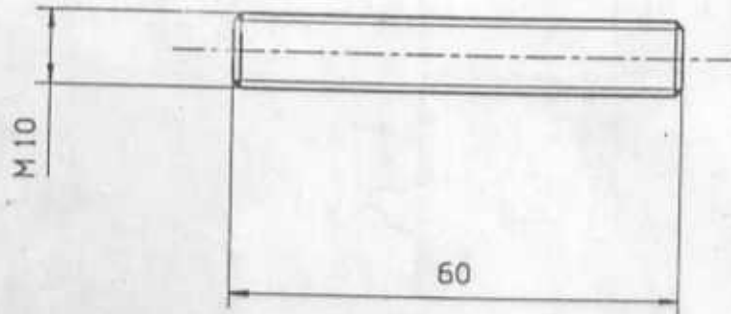


FIG.-6

THREADED BAR M10 X 1650 GRP

ABB. IDENT. NO. 3EHP431041P0001

MATERIAL: GLASS REINFORCED PLASTIC (GRP)

QTY./LOCO. 4

PREPD. BY	CHKD BY	REVIEWED BY	APPROVED BY	CENTRE for D & D CHITTARANJAN LOCOMOTIVE WORKS CHITTARANJAN-713331
<i>Wj</i>		<i>Shankar</i> 11/1/2000	<i>L</i> 11/1/2000 DY. CEE/ CON/TU	

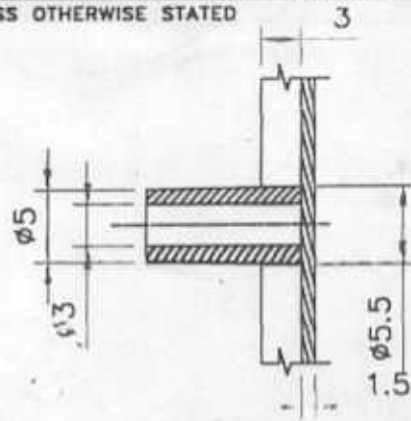
ATE DRAWN	REV.	DATE	GENERAL TOLERANCES AS PER IS 2102 LINEAR & ANGULAR DIMENSIONS WITHOUT INDIVIDUAL TOLERANCES INDICATIONS		SURFACE FINISH V - 12 TO 40µm W - 4 TO 12µm WW - <4µm ALL SHARP CORNERS TO BE FREE FROM BURRS.
		DRAWN	PERMISSIBLE DEVIATIONS LINEAR BASIC SIZE	PERMISSIBLE DEVIATIONS FOR RANGES OF LENGTHS IN mm OF SHORTER SIZE OF ANGLE CONCERNED	
			0-10mm ±0.1 10-50mm ±0.2 50-150mm ±0.3 150-450mm ±0.5	0-10mm ±1°-30' 10-50mm ±1° 50-250mm ±0-30'	
UNSPECIFIED RADIUS OF EXTERNAL & INTERNAL CORNERS SHOWN SQUARE= 0.5 TO 1 mm					

ALL DIMENSIONS, IN mm UNLESS OTHERWISE STATED

MATL. : THERMOSETTING PLAST

TEST:- Material test.

• Di-Electric test at 1.5 kV, 1min.



SECTIONAL VIEW  
FOR BOSS

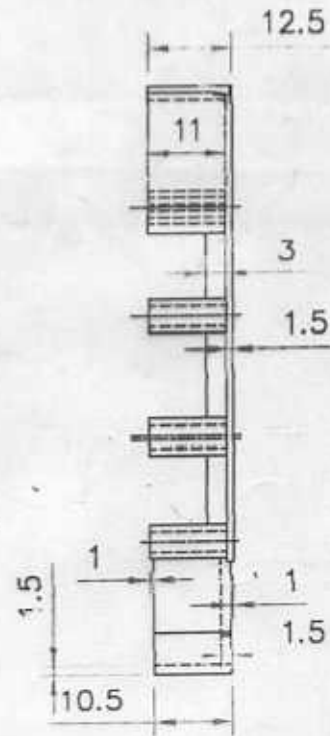
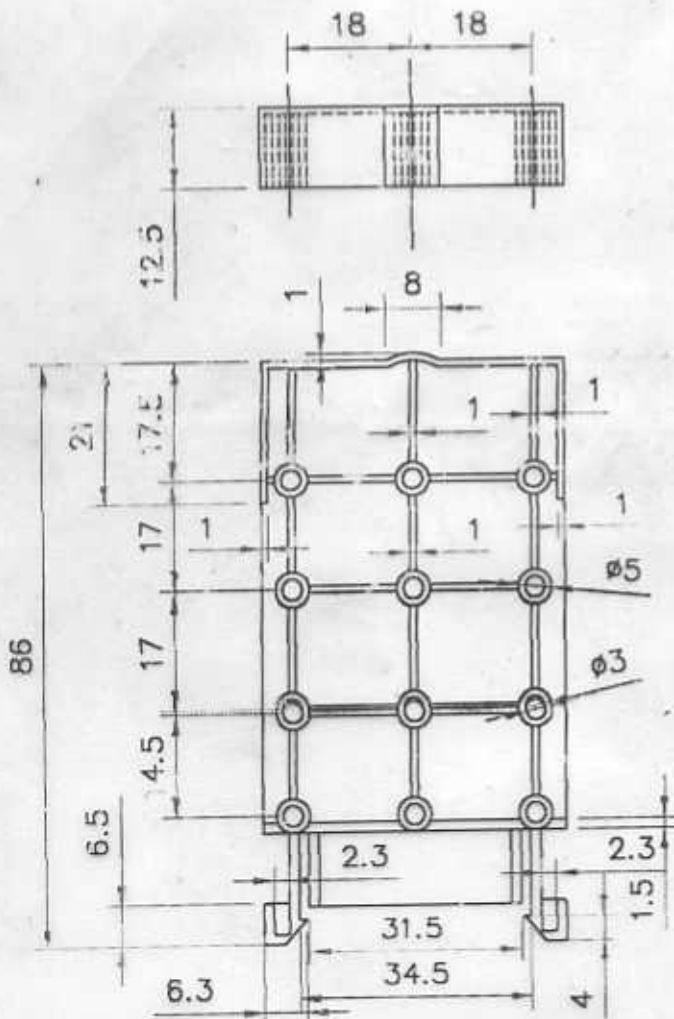


FIG-5

PREPD. BY	CHKD BY	REVIEWED BY	APPROVED BY	SET OF PLASTIC	CENTRE for D & D CHITTARANJAN LOCOMOTIVE WORKS CHITTARANJAN-713331
<i>[Signature]</i>	<i>[Signature]</i>	<i>[Signature]</i>	<i>[Signature]</i> DY. CEE/ CON/TU		NO. CLW/ES/3/SK-5/0140
				ALT NO.	D