

**ATC DOCUMENT**

**SPECIFICATION DETAILS OF GAUGES**

**PAGE – 1/2**

PRODUCT TITLE	SL. NO.	PRODUCT SPECIFICATION	Qty.
GAUGES	01	Gauge for checking External Dia of Groove over Band for Shell 155mm M 107 (Empty) to Drg. No. BL/SK/G/QC/444 (Item Code : 2425000283)	04 Nos.
	02	Gauge for checking External Dia over Band Groove H & L for shell 155mm M 107 (Empty) Drg. No. BL/SK/G/QC/443 (Item Code : 2425000284)	04 Nos.
	03	Gauge for checking Total length GO & NO GO for shell 155mm M 107 (Empty) Drg. No. BL/SK/G/QC/442 (Item Code : 2425000285)	04 Nos.
	04	Gauge for checking external length for shell 155mm M 107 (Empty) Drg. No. BL/SK/G/QC/441 (Item Code : 2425000286)	04 Nos.
	05	Gauge for checking internal thread minor Dia Go & NO GO for shell 155mm M 107 (Empty) Drg. No. BL/SK/G/QC/440 (Item Code : 2425000287)	04 Nos.
	06	Gauge for checking external dia of band side for shell 155mm M 107 (Empty) Drg. No. BL/SK/G/QC/439 (Item Code : 2425000288)	04 Nos.
	07	Gauge for checking external dia L for shell 155mm M 107 (Empty) Drg. No. BL/SK/G/QC/438 (Item Code : 2425000289)	04 Nos.
	08	Gauge for checking external dia GO for shell 155mm M 107 (Empty) Drg. No. BL/SK/G/QC/437 (Item Code : 2425000290)	04 Nos.
	09	Gauge for checking external dia H & L for shell 155mm M 107 (Empty) Drg. No. BL/SK/G/QC/436 (Item Code : 2425000291)	04 Nos.
	10	Gauge for checking Nose dia NO GO & form of radii for shell 155mm M 107 (Empty) Drg. No. BL/SK/G/QC/435 (Item Code : 2425000292)	04 Nos.
	11	Gauge for checking external dia over band for shell 155mm M 107 (Empty) Drg. No. BL/SK/G/QC/434 (Item Code : 2425000293)	04 Nos.
	12	Gauge for checking Nose dia GO & form of radii for shell 155mm M 107 (Empty) Drg. No. BL/SK/G/QC/433 (Item Code : 2425000294)	04 Nos.
	13	Gauge for checking internal Dia H&L from face dia for shell 155mm M 107 (Empty) Drg. No. BL/SK/G/QC/432 (Item Code : 2425000295)	04 Nos.
	14	Gauge for checking end taper Dia for shell 155mm M 107 (Empty) Drg. No. BL/SK/G/QC/430 (Item Code : 2425000296)	04 Nos.
	15	Gauge for checking outside dia after painting GO for shell 155mm M 107 (Empty) Drg. No. BL/SK/G/QC/429 (Item Code : 2425000297)	04 Nos.
	16	Gauge for checking end taper Dia for shell 155mm M 107 (Empty) Drg. No. BL/SK/G/QC/428 (Item Code : 2425000298)	04 Nos.
	17	Gauge for checking position of band from base H & L for shell 155mm M 107 (Empty) Drg. No. BL/SK/G/QC/427 (Item Code : 2425000299)	04 Nos.
	18	Gauge for checking position of groove on band H & L for shell 155mm M 107 (Empty) Drg. No. BL/SK/G/QC/426 (Item Code : 2425000300)	04 Nos.
	19	Gauge for checking width of D/Band groove for shell 155mm M 107 (Empty) Drg. No. BL/SK/G/QC/425 (Item Code : 2425000301)	04 Nos.
	20	Gauge for checking groove width over Band for shell 155mm M 107 (Empty) Drg. No. BL/SK/G/QC/424 (Item Code : 2425000302)	04 Nos.
	21	Gauge for checking Dovetail Angle of Band for shell 155mm M 107 (Empty) Drg. No. BL/SK/G/QC/423 (Item Code : 2425000303)	04 Nos.
	22	Gauge for checking form of Band for shell 155mm M 107 (Empty) Drg. No. BL/SK/G/QC/422 (Item Code : 2425000304)	04 Nos.

फोन / Phone: 06655-250 969 – 973,

फैक्स / FAX: 06655-250561/250271,

ई-मेल / e-mail: pvi.ofbl@munitionsindia.in

23	Gauge for checking width of Band for shell 155mm M 107(Empty) Drg. No. BL/SK/G/QC/421 (Item Code : 2425000305)	04 Nos.
24	Gauge for checking external dia over Band for shell 155mm M 107(Empty) Drg. No. BL/SK/G/QC/419 (Item Code : 2425000306)	04 Nos.
25	Gauge for checking base thickness H & L for shell 155mm M 107(Empty) Drg. No. BL/SK/G/QC/418 (Item Code : 2425000307)	04 Nos.
26	Device for checking deviation in wall for shell 155mm M 107(Empty) Drg. No. BL/SK/G/QC/453 (Item Code : 2425000308)	04 Nos.
27	Gauge for checking wall thickness variation & cavity run out for shell 155mm M 107(Empty) Drg. No. BL/SK/G/QC/447 (Item Code : 2425000309)	04 Nos.
28	Gauge for checking concentricity of external Dia w.r.t body dia for shell 155mm M 107(Empty) Drg. No. BL/SK/G/QC/455 (Item Code : 2425000310)	04 Nos.
29	Gauge for checking external length for band groove H&L for shell 155mm M 107 Drg No. BL/SK/QC/456 (Item Code : 2425000311)	04 Nos.
30	Gauge for checking wall thickness minimum from face for shell 155mm M 107 Drg. No. BL/SK/G/QC/454 (Item Code : 2425000312)	04 Nos.

### DECLARATION BY BIDDER

I/WE HEREBY ACCEPT TO SUPPLY THE ITEM AS PER ABOVE BID SPECIFICATION.

Seal and Signature of  
Authorized Signatory of BIDDER

[Instruction:- Bidder has to upload above specification acceptance,  
duly signed along with in the bid.]

**Ordnance Factory Badmal**  
Unit of Munitions India Limited  
Govt. of India Enterprise  
Ministry of Defence  
Badmal, Bolangir (Odisha) - 767070



आयुध निर्माणी बडमाल  
मूनिशंस इंडिया लिमिटेड की इकाई  
भारत सरकार का उद्यम  
रक्षा मंत्रालय  
बडमाल, बलांगीर (ओडिशा) - 767 070

फोन / Phone: 06655-250 969 – 973,

फैक्स / FAX: 06655-250561/250271.  
GSTIN : 21AAOCM8781H1Z2

ई-मेल / e-mail: [pvi.ofbl@munitionsindia.in](mailto:pvi.ofbl@munitionsindia.in)

### **Instructions to Bidder for submission of documents along with the Bid**

1. Firm has to upload all the documents stipulated in the OTE as per Pre-qualification criteria (if any) and any other document as mentioned in tender document.
2. Firm has to upload Proof (such as UAM/UDYAM) of MSE firm (IF APPLICABLE).
3. Firm has to submit proof of MSEs owned by Women Entrepreneurs as a manufacture of this item/similar item if owned by Women Entrepreneurs (IF APPLICABLE).
4. Firm has to submit proof of MSEs owned by SC/ST Entrepreneurs as a manufacture of this item/similar item if owned by SC/ST Entrepreneurs (IF APPLICABLE).
5. Firm has to upload EMD(if applicable) submission/exemption document details in GeM portal during bid submission [EMD may be in the Account Payee Demand Draft, Fixed Deposit Receipt, Banker's Cheque or Bank Guarantee from any of the commercial banks or payment online in an acceptable form]. The EMD (IF APPLICABLE) is normally to be valid for a period of forty-five days beyond the final bid validity period. Firm has to submit original copy of Account Payee Demand Draft, Fixed Deposit Receipt, Banker's Cheque or Bank Guarantee within 07 days of bid opening date.
6. Firm has to pay the valid EMD Amount or the EMD exemption document as mentioned in Bid document. The firm has to upload the soft copy along with tender as proof of paying EMD or EMD exemption document.
  - a. Further firm has to send the original document of paying EMD to Ordnance Factory Badmal in sealed condition(Envelope) mentioning the following details:
  - b. EMD (with Bold Letter)
  - c. TE No....., Date:.....
  - d. TE Opening date:.....
7. If the Firm fails to submit the original EMD payment document within seven days of bid opening date, then the offer of the firm will be rejected without any intimation/communication in this regard. Firm should submit the same to the following address:  
THE CHIEF GENERAL MANAGER, ORDNANCE FACTORY BADMAL, BOLANGIR-767070.
8. Any payment regarding EMD/PSD will be made in favor of MUNITIONS INDIA LIMITED\_ ORDNANCE FACTORY BADMAL, BALANGIR remittance to Bank A/c No.-40471239635, payable at SBI Badmal Branch (IFSC CODE: SBIN0008703 & MICR CODE: 767002526) . If the firms deposit EMD/PSD through e-remittance, transaction details for the same will be intimated to OFBL in mail ID: [pvi.ofbl@munitionsindia.in](mailto:pvi.ofbl@munitionsindia.in) .
9. Supplier has to raise tax invoice (by mentioning their bank details) at GeM portal, for error less online remittance of bill amount to their respective bank account.

Sd/-  
(L. K. NAIK)  
Jr. WORKS MANAGER (SG)  
FOR CHIEF GENERAL MANAGER

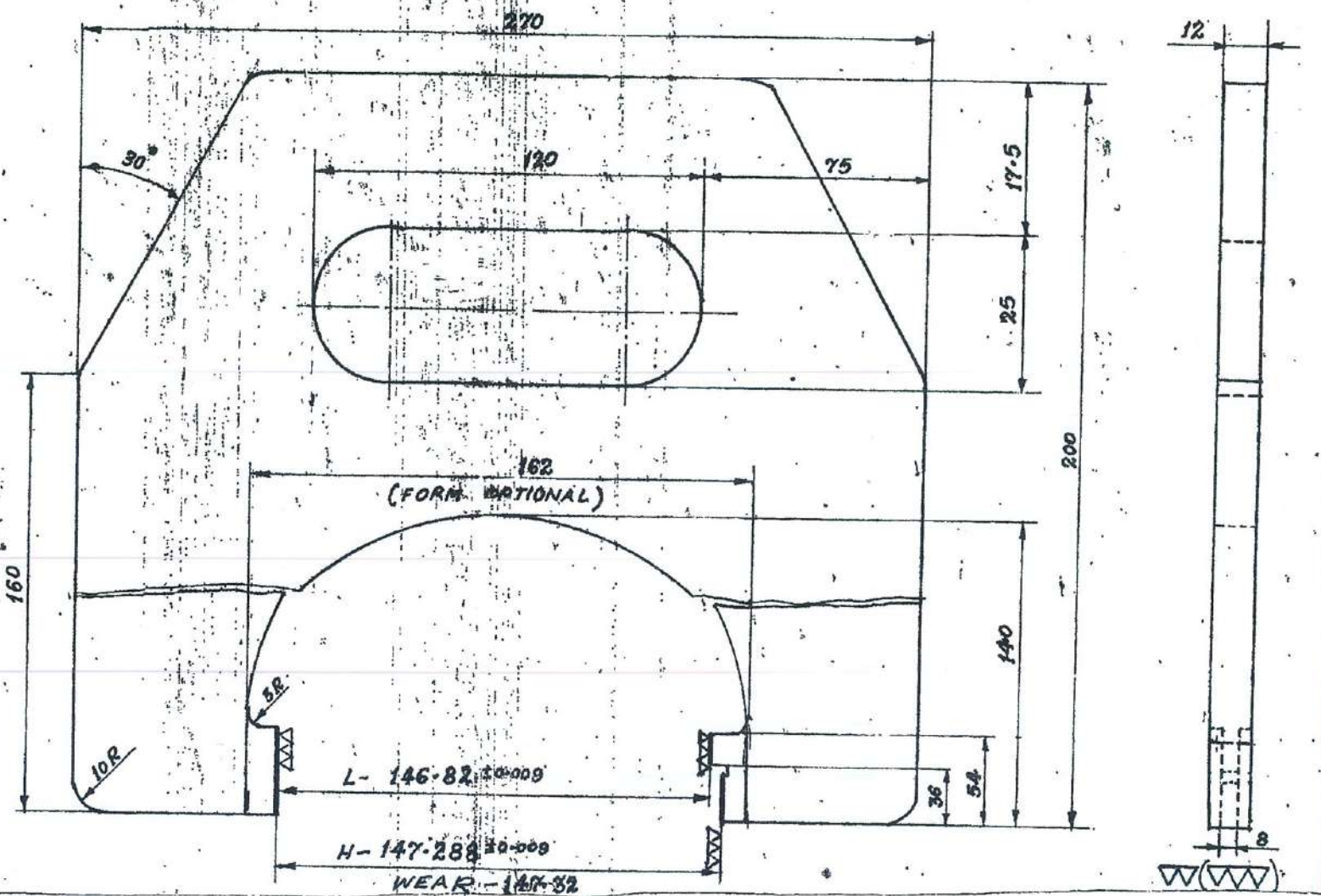






NOTE: GAUGING SURFACES ARE SHOWN BY THICK LINES  
UNNECESSARY SHARP EDGES TO BE REMOVED

EXTERNAL DIA OVER  
BAND GROOVE H&L  
 $\phi 147.0 \pm 0.25$



APPROVED BY

Checked by  
*[Signature]*  
JESM/T&E

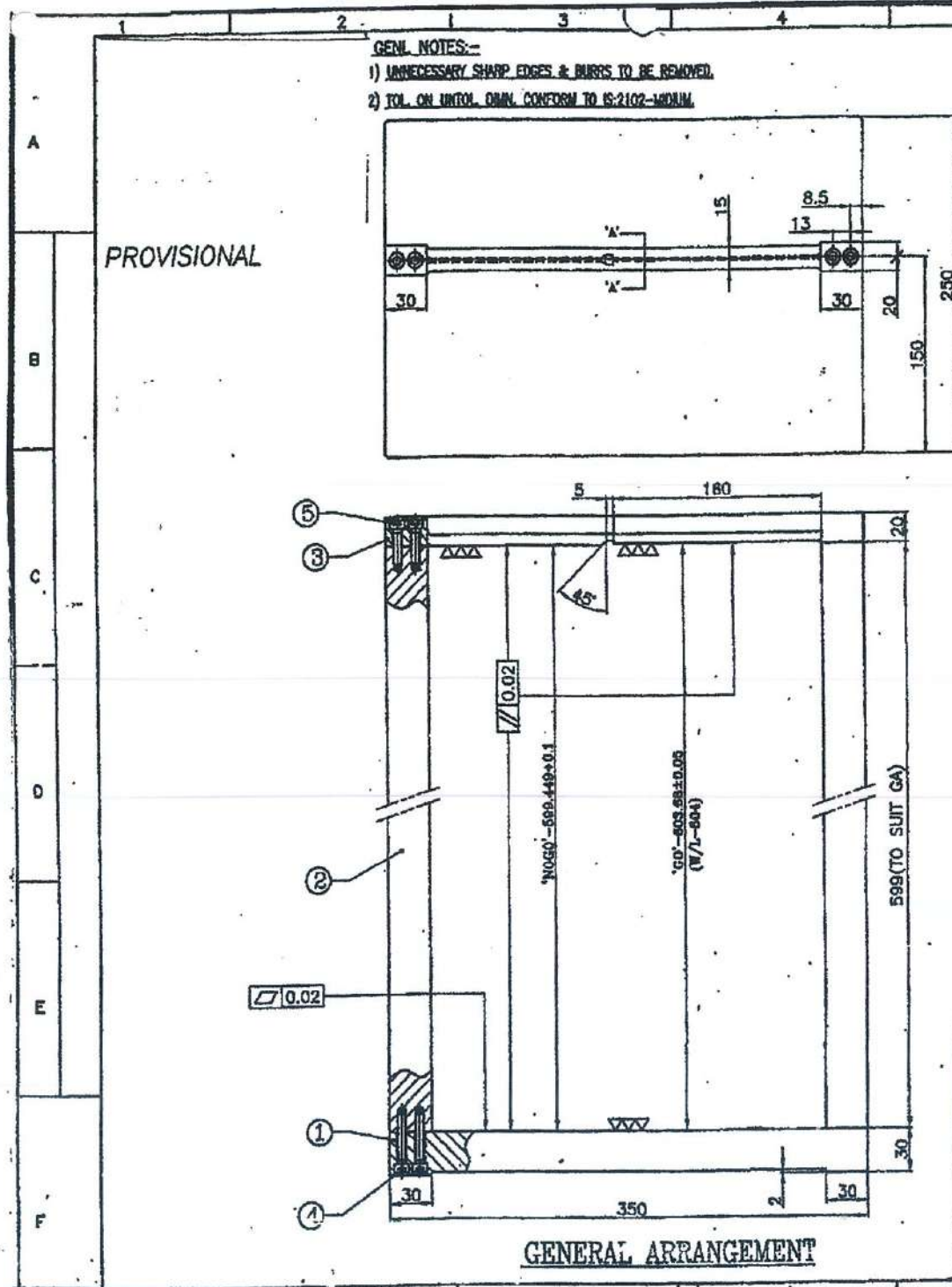
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OIC/QC(P&C)

*[Signature]*  
DO/QC(P&C)

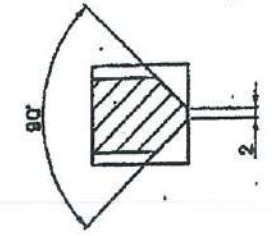
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GO/QC

ITEM NO.	DESCRIPTION	NO. OFF	STD.	MATERIAL	SIZE	REMARKS
SCALE	ALL DIMENSIONS ARE IN MM			SEC. EP	ORDNANCE FACTORY BADMAL	
NTS	GEN.TOL. AS PER IS:2102 MED. CLASS					
AMMENDS	EXTERNAL DIA OVER BAND GROOVE H&L $\phi 147.07 \pm 0.25$			TCD	DRG. NO.	
NO	DATE			DRN.	S.ACHARYA	BL/SK/G/QC/443
				CKD.		REF DRG. NO. SM/G-1676A
				COMP.	OIC/EP	MIC
				STORE	DO/EP	DATE 25-01-24 SHTS 1/1





GRADE	UP TO & INCL.	TOL.	GRADE OF SURFACE	TOL.
0.5	5	±0.1	10	±0.1
5	30	±0.2	10	±0.2
30	120	±0.3	10	±0.3
120	315	±0.5	10	±0.5
315	1000	±0.8	10	±0.8
1000	2500	±1.2	120	±1.2
2500	4000	±2	SURFACE FINISHING VALUES	
4000	8000	±3	PER IS: 10000 MAX.	
8000	12000	±4	▽	▽▽
12000	16000	±5	▽▽	▽▽▽



APPROVED BY

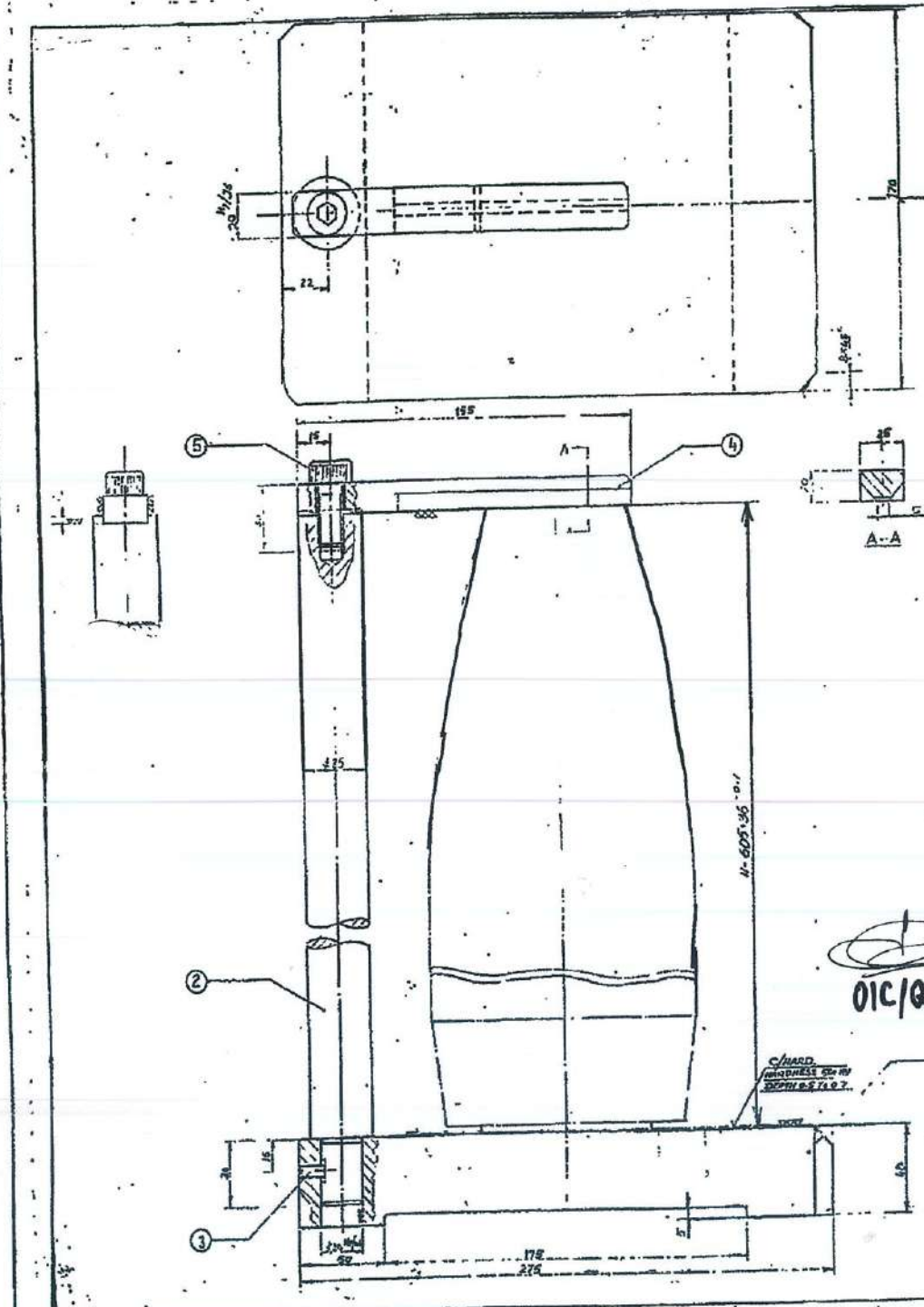
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 OIC/QC (PAC)  
*[Signature]*  
 DO/QC  
*[Signature]*  
 GO/QC

PART NO.	DESCRIPTION	NO. OFF.	MATERIAL	REMARKS
5	HEX. SOC. CAP SCREW M8x25 Lg.	4	IS:5517-83; 40CB	STD.
4	HEX. SOC. CAP SCREW M8x35 Lg.	4	IS:5517-83; 40CB	STD.
3	BRIDGE BAR	1	IS:3748-80, T90Mn6WCr2 OR ASTM A881 GR.(01)	HRO. TO RC-58 MIN.
2	PILLER	2	IS:5517-83; 40CB	
1	BASE PLATE	1	IS:3748-80, T90Mn6WCr2 OR ASTM A881 GR.(01)	HRO. TO RC-58 MIN.

ITEM NO.	DESCRIPTION	NO. OFF.	STD.	MATERIAL	SIZE	REMARKS
SCALE NTS: ALL DIMENSIONS ARE IN MM GEN.TOL. AS PER IS:2102 MED. CLASS						
AMMENDS				TCD.	S.ACHARYA	DRG. NO.
NO DATE				DRN.		BL/SK/G/QC/442
				CKD.		REF. DRG. NO.
				OIC/EP	<i>[Signature]</i>	SM/G-1679
COMP.:				DO/EP		MIC
STORE: M107 (155mm)						DATE 25.01.24
						SHTS 1/1

GENERAL ARRANGEMENT





APPROVED BY

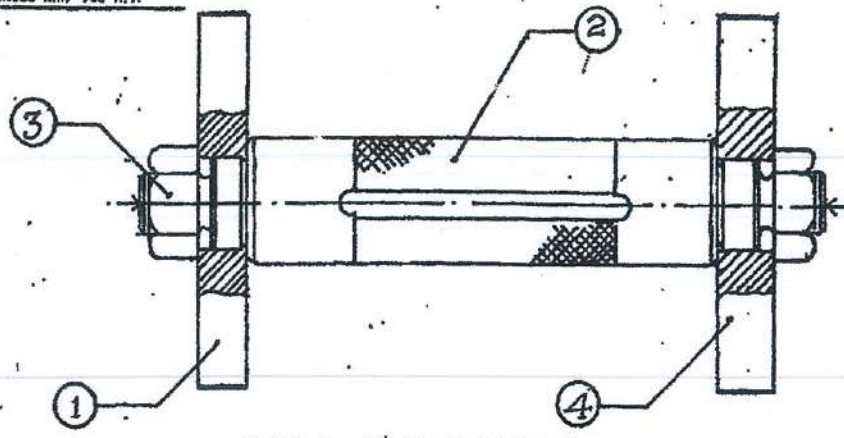
*[Signature]* OIC/QC(P&C) *[Signature]* DO/QC *[Signature]* GO/QC

ITEM NO.	DESCRIPTION	NO. OFF.	STD.	MATERIAL	SIZE	REMARKS
SCALE	ALL DIMENSIONS ARE IN MM					
NTS	GEN. TOL. AS PER IS:2102 MED. CLASS					
AMMENDS	EXTERNAL LENGTH	TCD.	S. P. CHARYA	DRG. NO.	ORDNANCE FACTORY BADMAL	
NO	DATE	DRN.		BL/SK/G/QC/441		
		CKD.		REF. DRG. NO.		
		OIC/EP		SM/G-1688		
		DO/EP		M/C		
COMP. :				DATE	SHTS	
STORE : M107(155mm)				25.01.24	1/1	

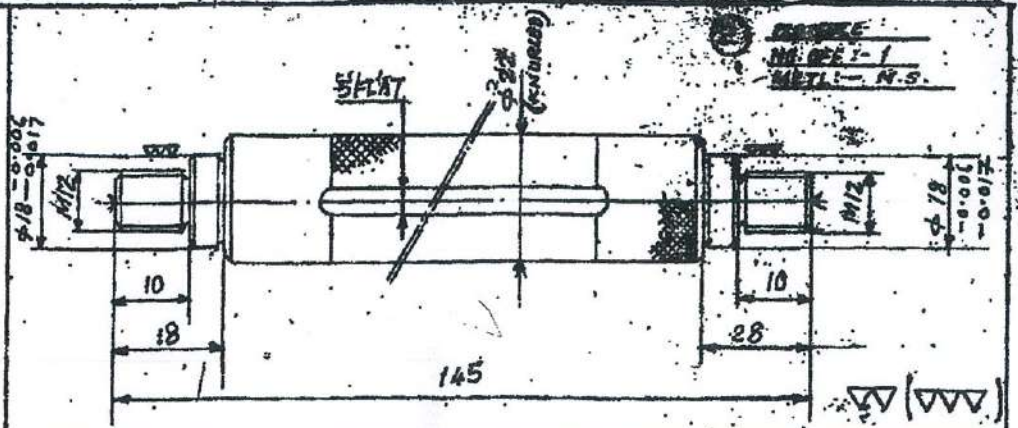


NOTE- GAUGING SURFACES ARE SHOWN BY THICK LINES  
UNNECESSARY SHARP EDGES TO BE REMOVED

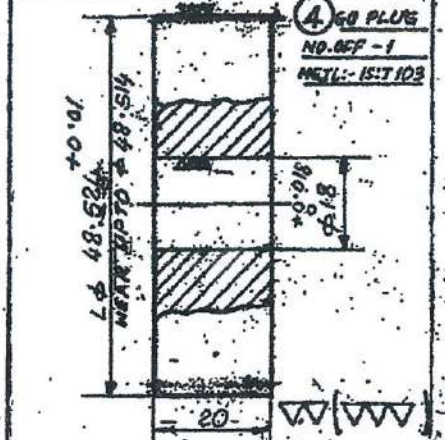
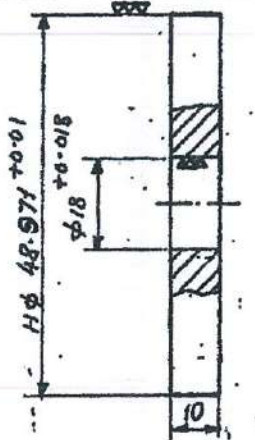
HARDENED & TEMPERED  
HARDNESS MIN 700 H.V.



GEN ASSEMBLY



1 NO GO PLUG  
NO. OFF - 1  
METL - IS: T103



APPROVED BY

OK/QC(P&C) DO/QC GO/QC

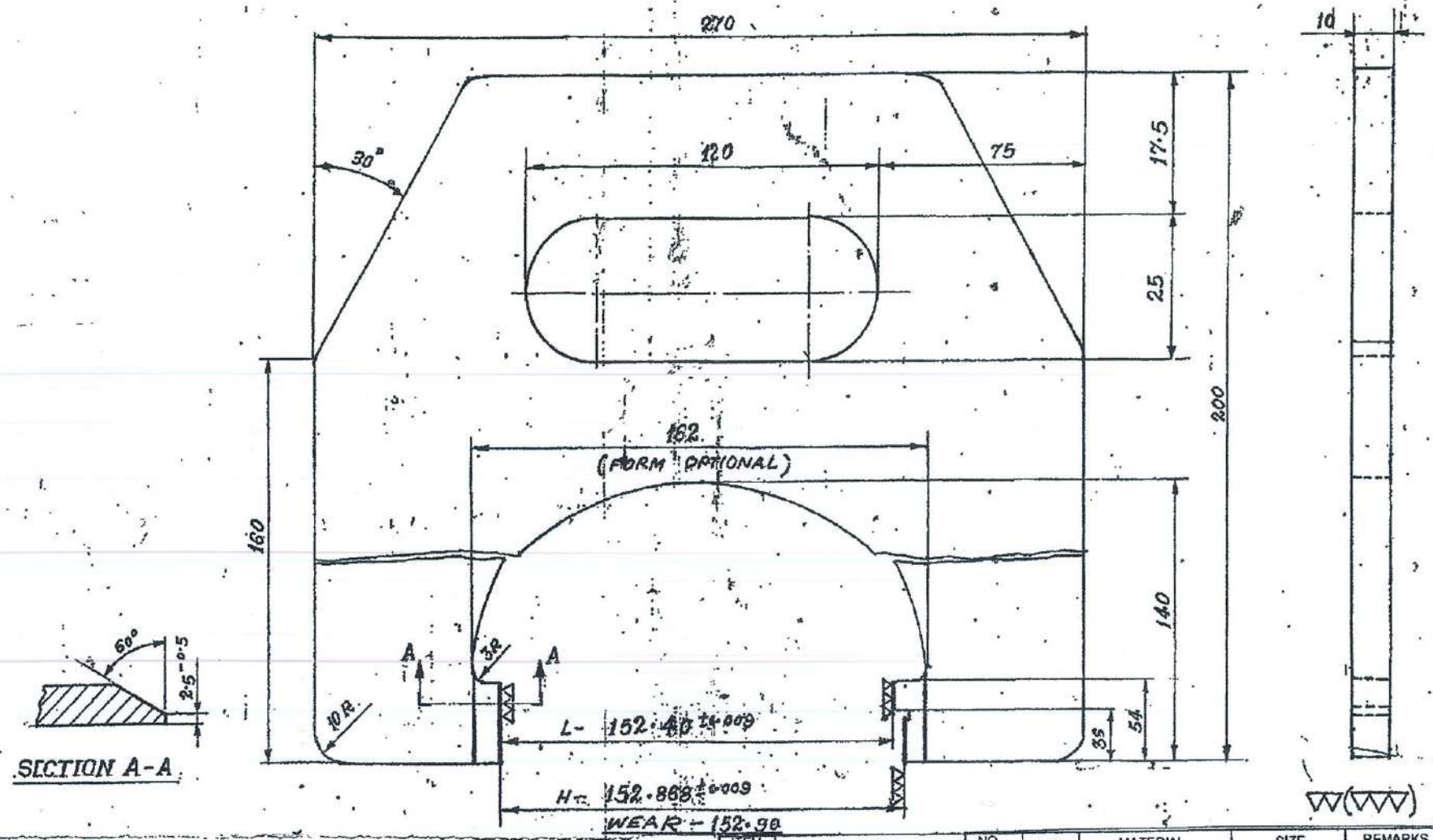
PART	DESCRIPTION	NO. OFF	METAL	REMARKS
4	GO PLUG	1	IS: T103	HARD & TEMP.
3	HEX. NUT M 12	2	M.S.	
2	HANDLE	1	M.S.	
1	NO GO PLUG	1	IS: T 103	HARD & TEMP.

REV.	DATE	DESCRIPTION	SIGN.
AMENDMENTS			

Item No.	Description	No. Off	Std.	Material	Size	Remarks
SCALE NTS	ALL DIMENSIONS ARE IN MM GEN. TOL. AS PER IS: 2102 MED. CLASS			SEC. EP		ORDNANCE FACTORY BADMAL
AMMENDS	INTERNAL THREAD MINOR DIA 'GO' & 'NO GO'			TCD. S. ACHARYA		DRG. NO.
NO	DATE			DRN.		BL/SK/G/QC/440
				CKD.		REF. DRG. NO. SM/G-1667
				COMP.: OIC/EP		M/C
				STORE: M 107 (155 mm)	DO/EP	DATE 24.01.24 SHTS 1/1



NOTE- GAUGING SURFACES ARE SHOWN BY THICK LINES  
UNNECESSARY SHARP EDGES TO BE REMOVED



SECTION A-A

APPROVED BY

*[Signature]*  
OIC/QC(P&C)

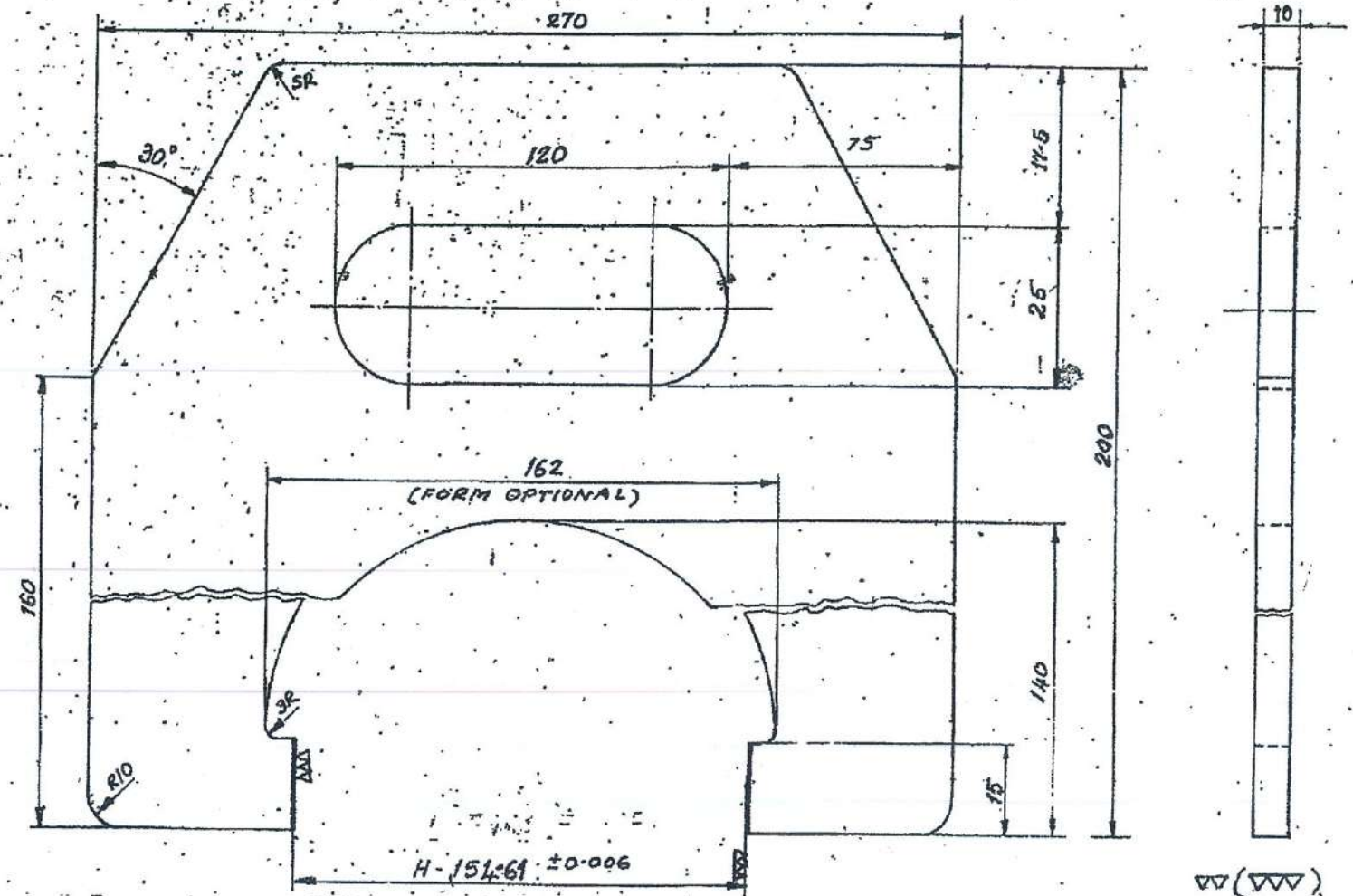
*[Signature]*  
DO/QC GORC

ITEM NO.	DESCRIPTION	NO. OFF	STD.	MATERIAL	SIZE	REMARKS
SCALE NTS	ALL DIMENSIONS ARE IN MM GEN.TOL. AS PER IS:2102 MED. CLASS			SEC. EP	ORDNANCE FACTORY BADMAL	
AMMENDS	EXTERNAL DIA OF BAND SIDE H&L Ø 152.65 ±0.25	TCD.	S. ACHARYA		DRG. NO.	
NO		DATE	DRN.	BLISK/G/QC/439		
		CKD.			REF. DRG. NO.	
		OIC/EP	✓		M/G-1684	
		DO/EP			DATE	SHTS
	STORE: M107(155mm)				24.01.24	1/1



NOTE - GAUGING SURFACES ARE SHOWN BY THICK LINES  
UNNECESSARY SHARP EDGES TO BE REMOVED

HARDENED & TEMPERED  
HARDNESS MIN. 700 H.V.



APPROVED BY

*[Signature]* OIC/QC (P&C)  
*[Signature]* DO/QC  
*[Signature]* GO/QC

ITEM NO.	DESCRIPTION	NO. OFF	STD.	MATERIAL	SIZE	REMARKS
SCALE NTS	ALL DIMENSIONS ARE IN MM GEN. TOL. AS PER IS:2102 MED. CLASS			SEC. EP	ORDNANCE FACTORY BADMAL	
AMMENDS	EXTERNAL DIA	TCD.	S. AGARVA	DRG. NO.		
NO	DATE	'L' $\phi$ 154.71 - 0.1	DRN.	BL/SK/G/QC/438		
			CKD.	REF. DRG. NO.		
			OIC/EP	SM/G-1670A		
		COMP.:	MC			
		STORE: M107 (155mm)	DO/EP	DATE	SHTS	
				23.01.24	1/1	





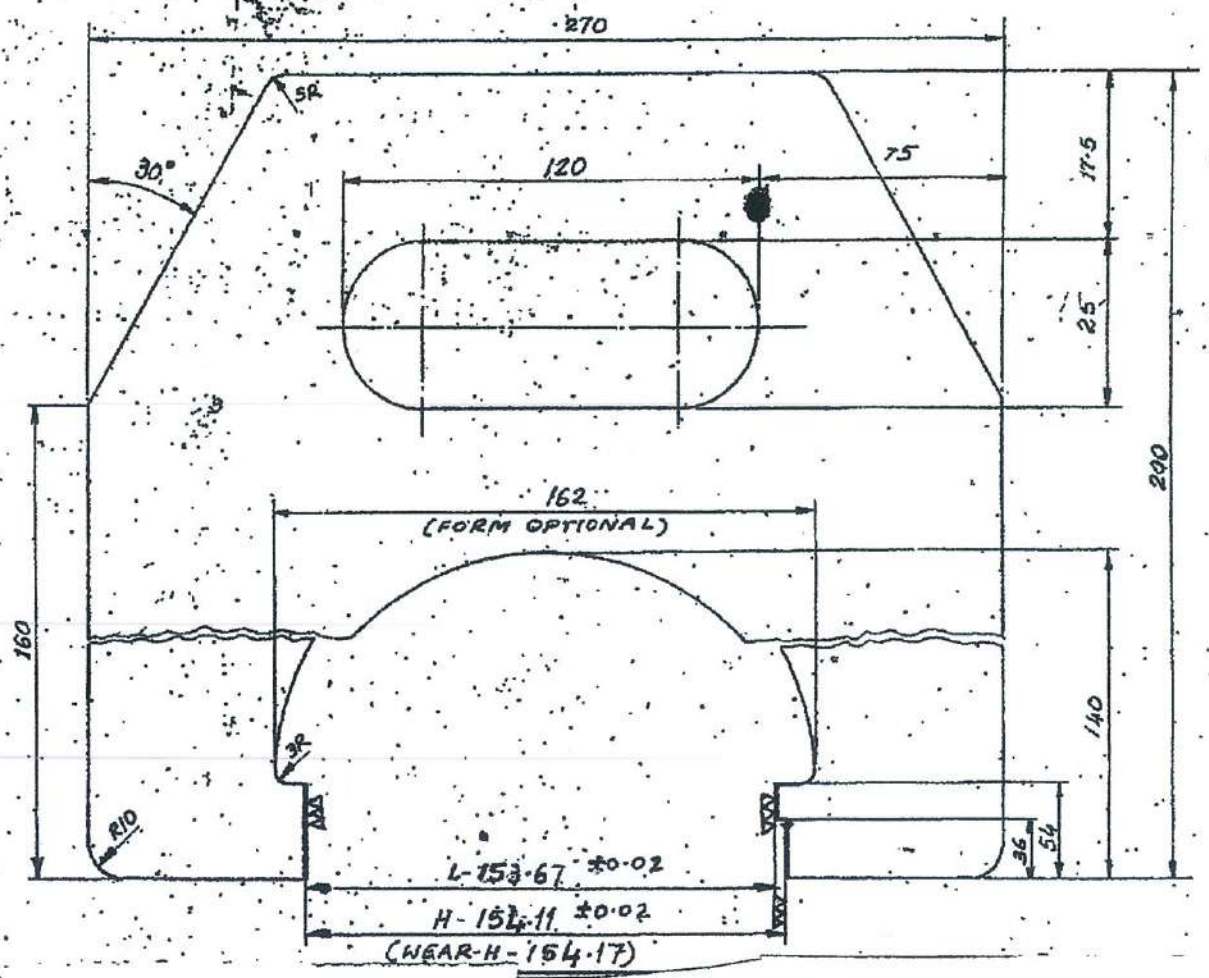


NOTE - GAUGING SURFACES ARE SHOWN BY THICK LINES  
UNNECESSARY SHARP EDGES TO BE REMOVED

HARDENED & TEMPERED.  
HARDNESS MIN. 700 H.V.

APPROVED BY

OIC/QC(P&C) DO/QC GO/QC



▽▽(▽▽)

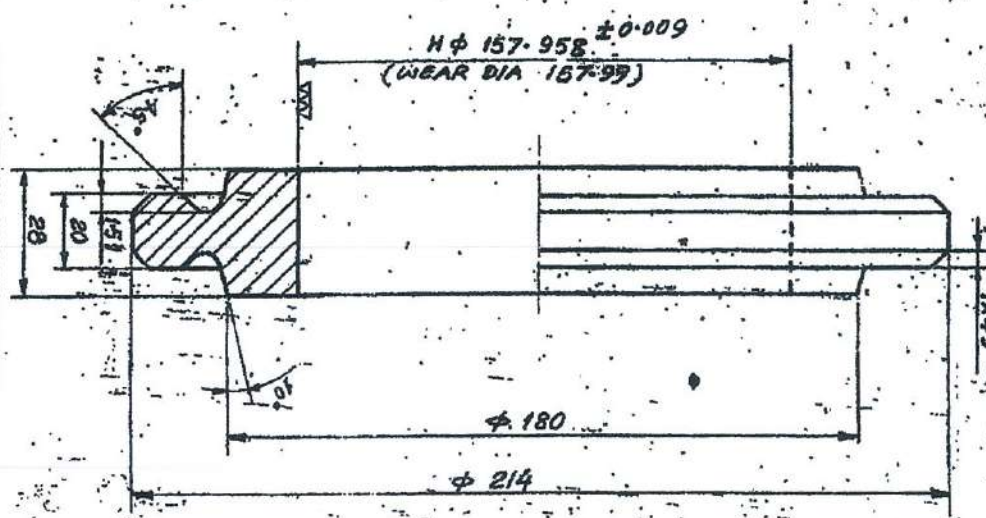
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SCALE	ALL DIMENSIONS ARE IN MM			SEC. EP	ORDNANCE FACTORY BADMAL	
NTS	GEN.TOL. AS PER IS:2102 MED. CLASS					
AMMENDS	EXTERNAL DIA	TCD.		S.ACHARYA	DRG. NO.	
NO	DATE	H&L $\phi 153.92 \pm 0.25$		DRN.	BL/SK/G/QC/436	
				CKD.	REF. DRG. NO.	
				OIC/EP	SM/G-1671	
				DO/EP	M/C	
					DATE	SHTS
					22.01.24	1/1







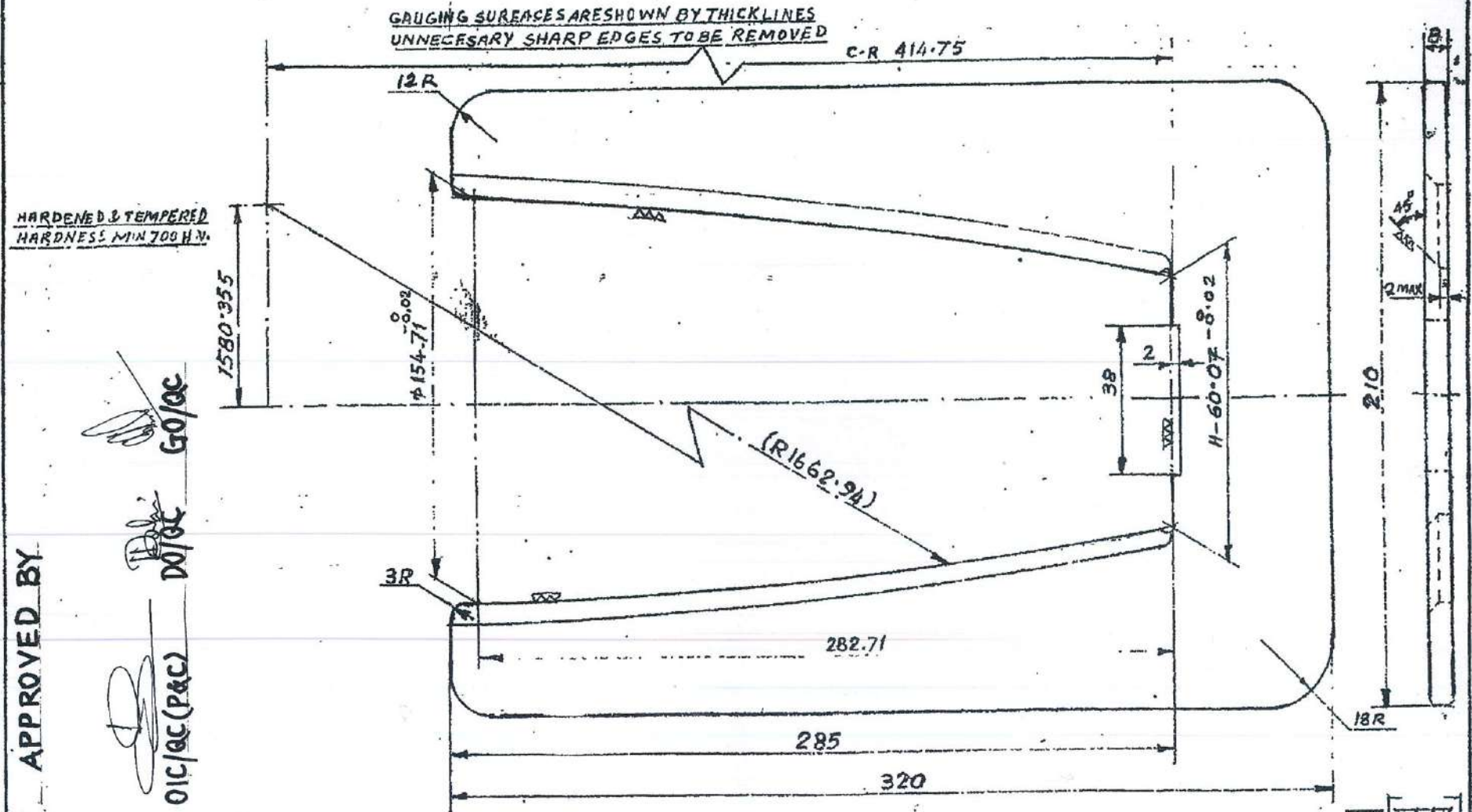
NOTE - DIMENSIONS SHOWN BY THICK LINES - DIMENSIONS SHOWN BY THIN LINES -



ITEM NO.	DESCRIPTION	NO. OFF.	STD.	MATERIAL	SIZE	REMARKS
	ALL DIMENSIONS ARE IN MM GEN.TOL. AS PER IS:2102 MED. CLASS					
	EXTERNAL DIA OVER BAND Ø 157.99-8.2			S. AQUARI		DRG. NO. BL/SK/161/QC/1434 REF. DRG. NO. SM/16-1681
	COMP.:			✓		DATE 23.01.24
	STORE:					SHTS 1/1

 OIC/AC(PAC)  
 DO/AC  
 GO/AC





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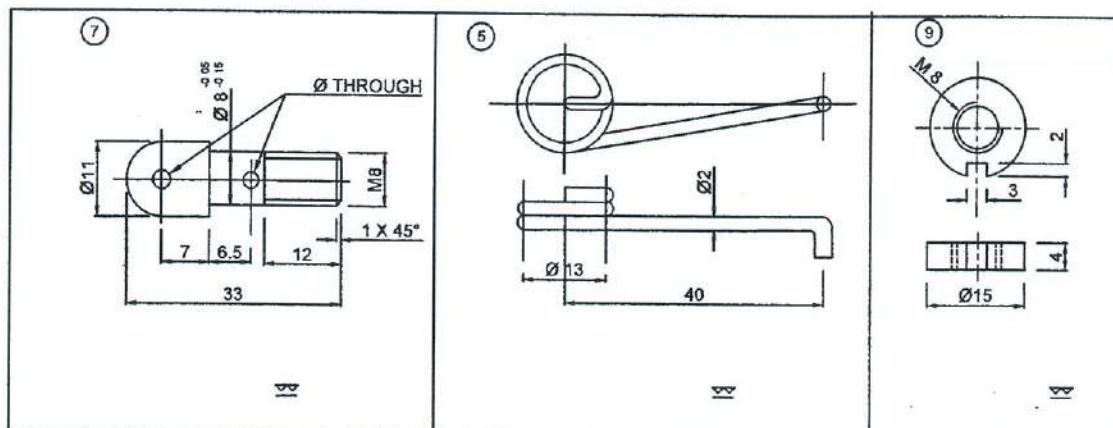
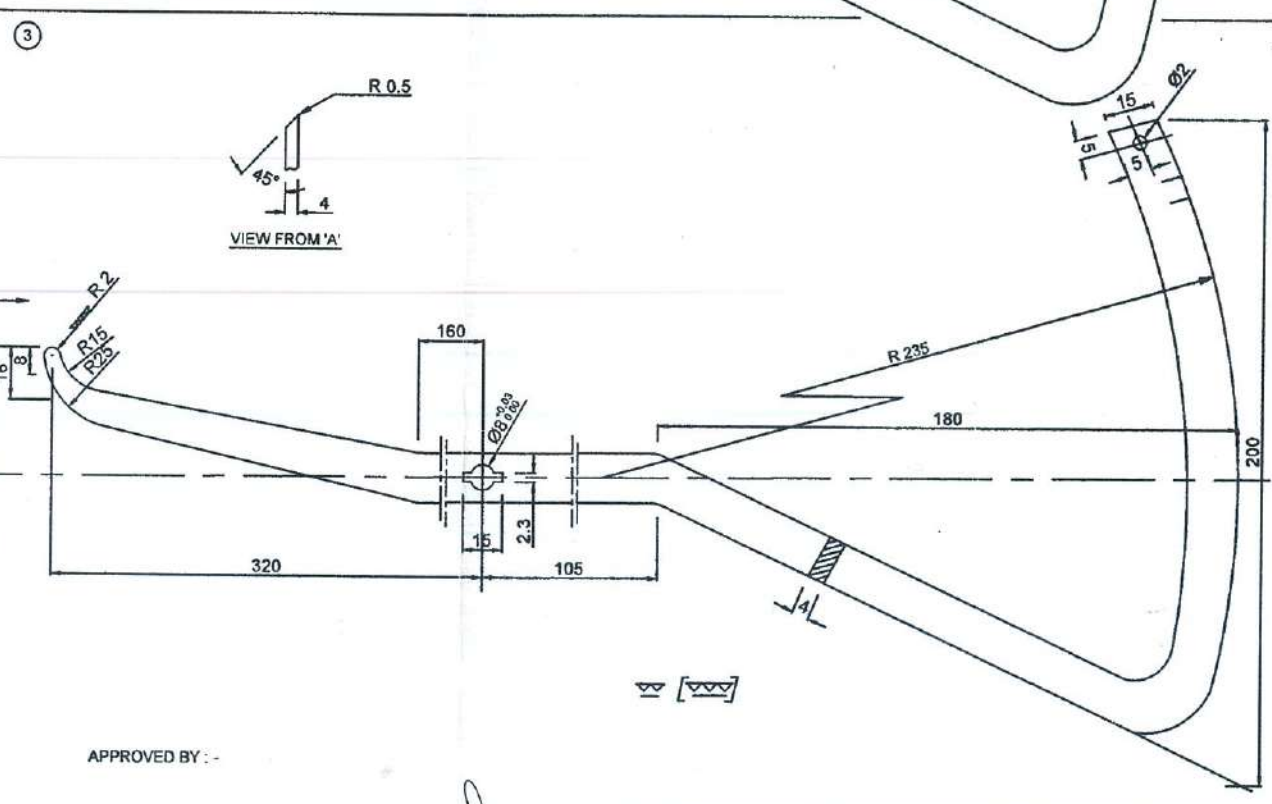
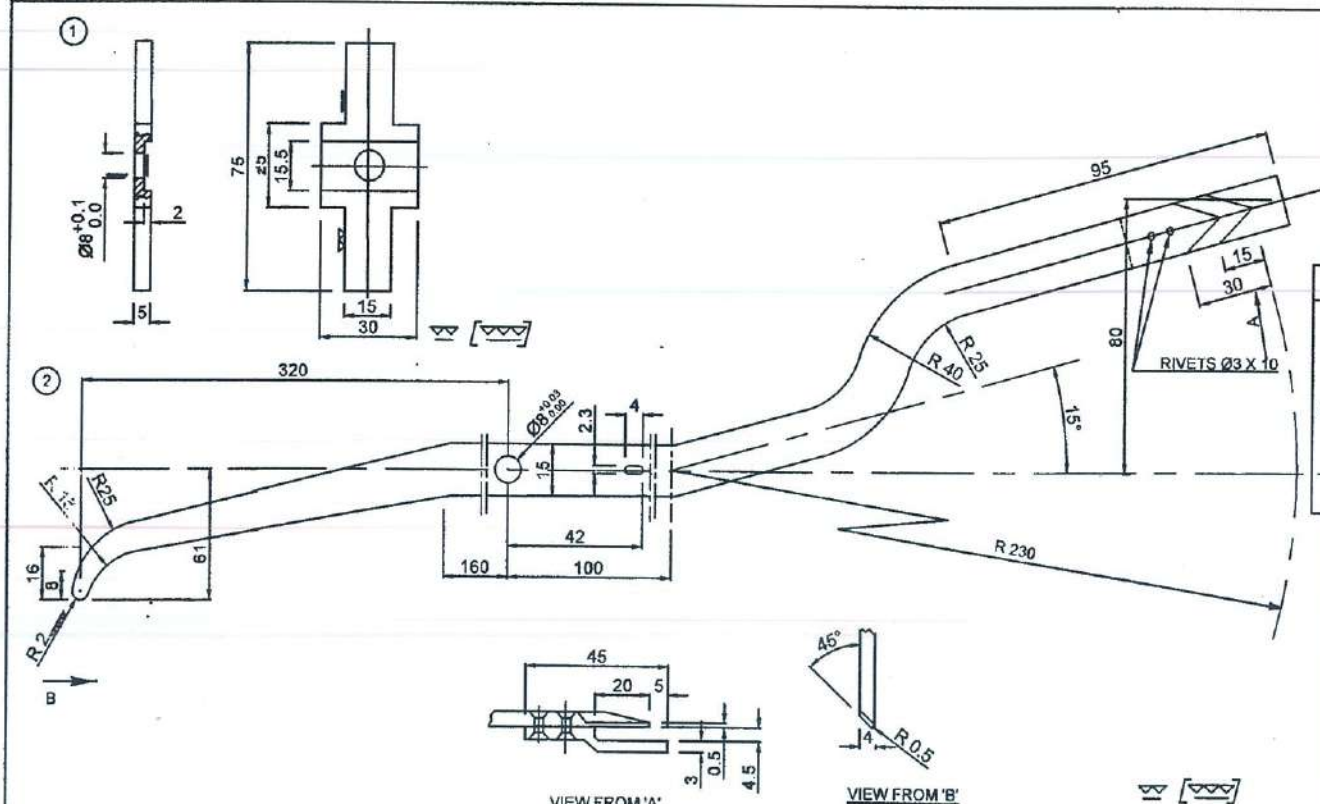
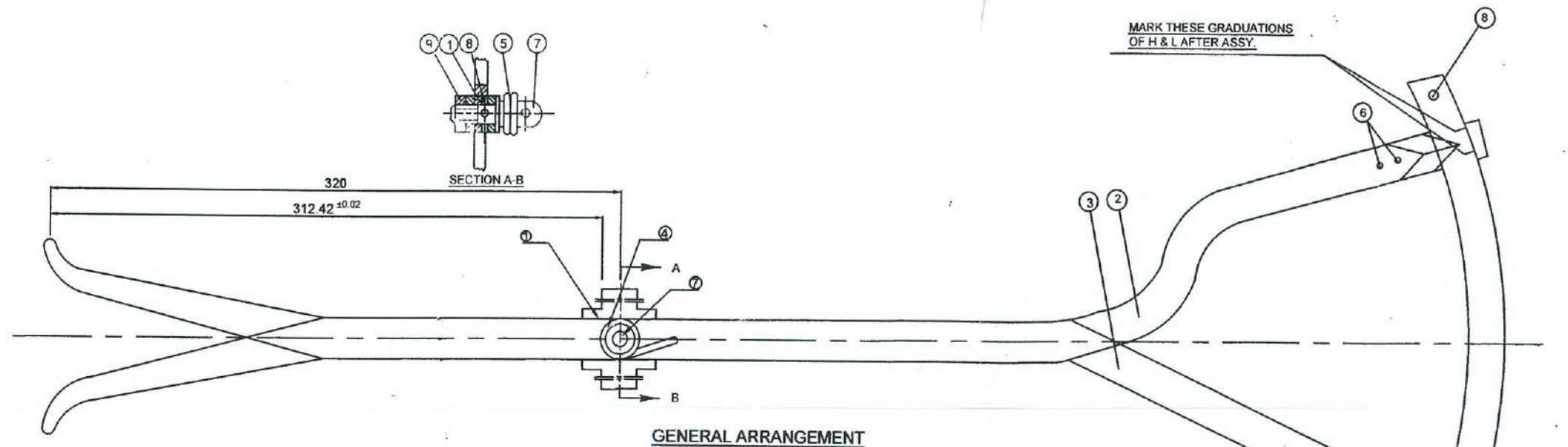
G.O./QC  
  
 D.O./QC  
  
 OIC/EC (P&C)

UNSPECIFIED DIMENSIONS		ANGULAR DIMENSIONS		SURFACE ROUGHNESS	
LINEAR DIMENSIONS	ANGULAR DIMENSIONS	LENGTH OF SURFACE	ANGLE	SYMBOL	RA VALUE
6	30	0.1	10	0.1	3.2
30	120	0.2	10	0.2	3.2
120	318	0.5	10	0.5	3.2
318	1000	1.0	10	1.0	3.2
1000	2000	1.2	10	1.2	3.2

ITEM NO.	DESCRIPTION	NO. OFF	STD.	MATERIAL	SIZE	REMARKS
SCALE	ALL DIMENSIONS ARE IN MM			SEC. EP	ORDNANCE FACTORY BADMAL	
NTS	GEN. TOL. AS PER IS:2102 MED. CLASS				DRG. NO.	
AMMENDS	NOZE DIA 60 & FORM OF RADII			TCD. S. ACHARYA	BL/SK/G/QC/433	
NO	DATE	60.07 H, R1662.94		DRN.	REF. DRG. NO.	
				CKD.	SM/G-1668	
				OIC/EP	M/C	
				DO/EP	DATE	SHTS
					20.01.24	4/1
					STORE: M107(155)	



NOTE : - GAUGING SURFACES ARE SHOWN BY THICK LINES.  
UNNECESSARY SHARP EDGES TO BE REMOVED



APPROVED BY :

8	NUT AND LOCK NUT	2	M.S.	
8	CYLINDRICAL PIN Ø 2 X 12	1	M.S.	
7	AXLE	1	IS T-103	HRD & TEMPO
6	RIVET Ø 3 X 10	1	M.S.	
5	SPRING	1	SPRING STEEL	
4	WASHER 15 Ø 15 X Ø 8.5 X 4	1	M.S.	
3	LEG OF THE INSIDE GAUGE	1	IS T-103	
2	POINTER WITH PLATE	1	IS T-103	
1	STOPPER	1	IS T-103	HRD & TEMPO

ITEM NO.	DESCRIPTION	NO. OFF.	STD.	MATERIAL	SIZE	REMARKS
SCALE NTS	ALL DIMENSIONS ARE IN MM GEN.TOL. AS PER IS:2102 MED. CLASS			SEC. EP		ORDNANCE FACTORY BADMAL
AMMENDS	INTERNAL DIA H & L FROM FACE DIA 122.94 +0.89 & LENGTH 312.42			TCD.		DRG. NO.
NO	DATE			DRN.	S.ACHARYA	BL/SK/G/QC/432
				CKD.		REF. DRG. NO.
				OIC/EP		SM/G-1680
	COMP. : SHELL BODY (MACHINED) S-66			DO/EP		M/C
	STORE : 107 (155 mm)					DATE 25-01-24 SHTS 1/1

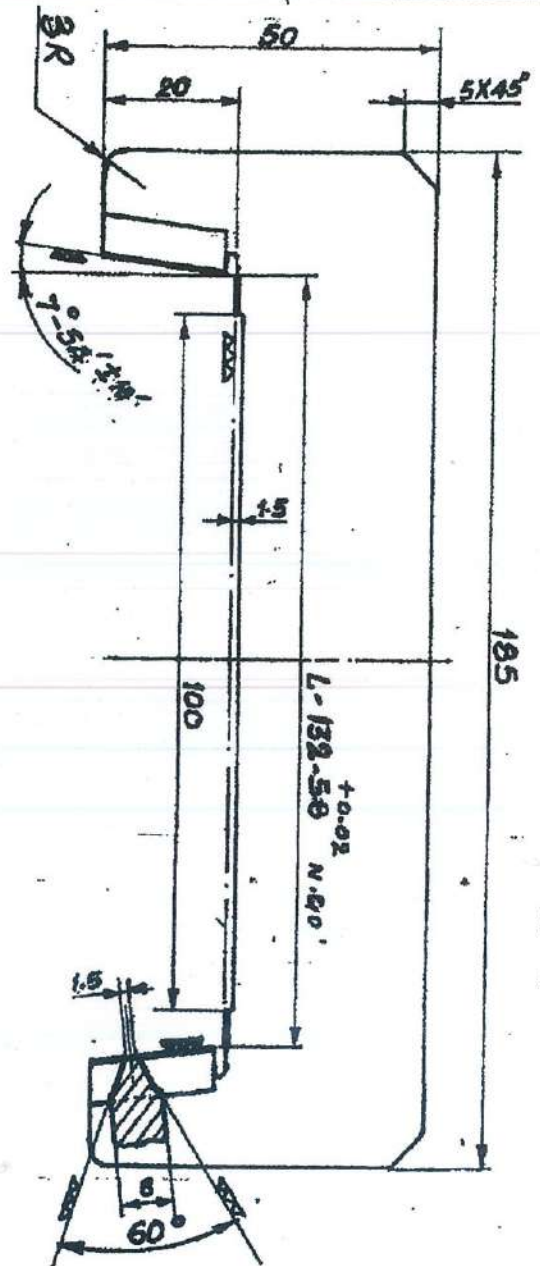
Checked by  
  
 JWM/TEB

Gauge for checking Internal Dia H & L from face dia for 155 mm M-107 shell  
 DRG NO: BL/SK/G/QC/432



APPROVED BY

OIC/QC(P&C) *[Signature]*  
DO/QC *[Signature]*  
GO/QC *[Signature]*



▽, (▽▽)

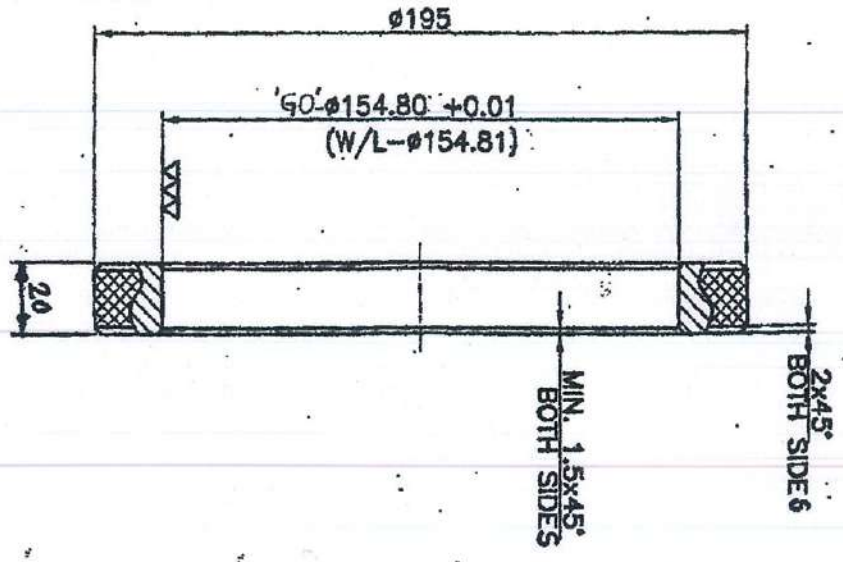
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	ALL DIMENSIONS ARE IN MM GEN.TOL. AS PER IS:2102 MED. CLASS					
AMMENDS	END TAPER DIA L $\phi$ 134.87 - 0.29			S. Acharya	DRG. NO.	
NC	DATE			DRN.	REF. DRG. NO.	
				CKD.	SM/G - 1673	
	COMP. :			OIC/EP	M/C	
	STORE :			DO/EP	DATE	SHTS
					12-01-24	1/1

Gauge for checking End-taper Dia for small 15mm M-107  
Drg No: BL/SK/G/QC/430



DRG. NO. -	EXTRACT OF IS:2102- MED & SURFACE ROUGHNESS VALUES									
	LINEAR DIMENSIONS			ANGULAR DIMENSIONS			SURFACE ROUGHNESS VALUES			
TO BE MARKED ON GAUGES	ABOVE (mm & IN)	TOL.	TOL.	LENGTH OF SHORTEST SIDE OF ANGLE	ANGLE	RA	RM	MAX	MIN	AVG
DRG NO	0.5	±0.1	±0.1	10	10	±0.1	±1	±1	±1	±1
SL. NO.	30	±0.2	±0.3	10	50	±0.2	±30	±30	±30	±30
MFG'S. INTIAL	120	±0.5	±0.5	10	120	±0.6	±20	±20	±20	±20
DATE OF MFG.	315	±1.2	±1.2	120	120	±0.8	±10	±10	±10	±10
DIMENSION 154.81 MAX. (AFTER PAINTING)	2000	±2	±2	120	120	±0.8	±10	±10	±10	±10
	4000	±3	±3	120	120	±0.8	±10	±10	±10	±10
	8000	±4	±4	120	120	±0.8	±10	±10	±10	±10
	12000	±5	±5	120	120	±0.8	±10	±10	±10	±10
	16000	±5	±5	120	120	±0.8	±10	±10	±10	±10

- GENL. NOTES:-  
 1) UNNECESSARY SHARP EDGES & BURRS TO BE REMOVED.  
 2) TOL. ON UNTOL. DIMN. CONFORM TO IS:2102-MEDIUM.



APPROVED BY

*[Signature]*  
OIC/QC (P&C)

*[Signature]*  
DO/QC

*[Signature]*  
GO/QC

HARD & TEMPD.  
 HARDNESS 58 RC MIN.  
 VV [VVV]

ITEM NO.	DESCRIPTION	NO. OFF	STD.	MATERIAL	SIZE	REMARKS
SCALE NTS	ALL DIMENSIONS ARE IN MM GEN. TOL. AS PER IS:2102 MED. CLASS					
AMMENDS	OUTSIDE DIA. AFTER PAINTING '60' $\phi$ 154.81 MAX					
NO	DATE	TCD.	SEC. EP	ORDNANCE FACTORY	BADMAL	DRG. NO.
		DRN.				BL/SK/G/QC/429
		CKD.				REF. DRG. NO. SM/G-1664
	COMP.:	OIC/EP				M/C
	STORE:	DO/EP				DATE 12-01-24 SHTS 1/1

Skil Gauge for checking outside dia after painting 60 for 45 mm dia  
 Drng No: BL/SK/G/QC/429

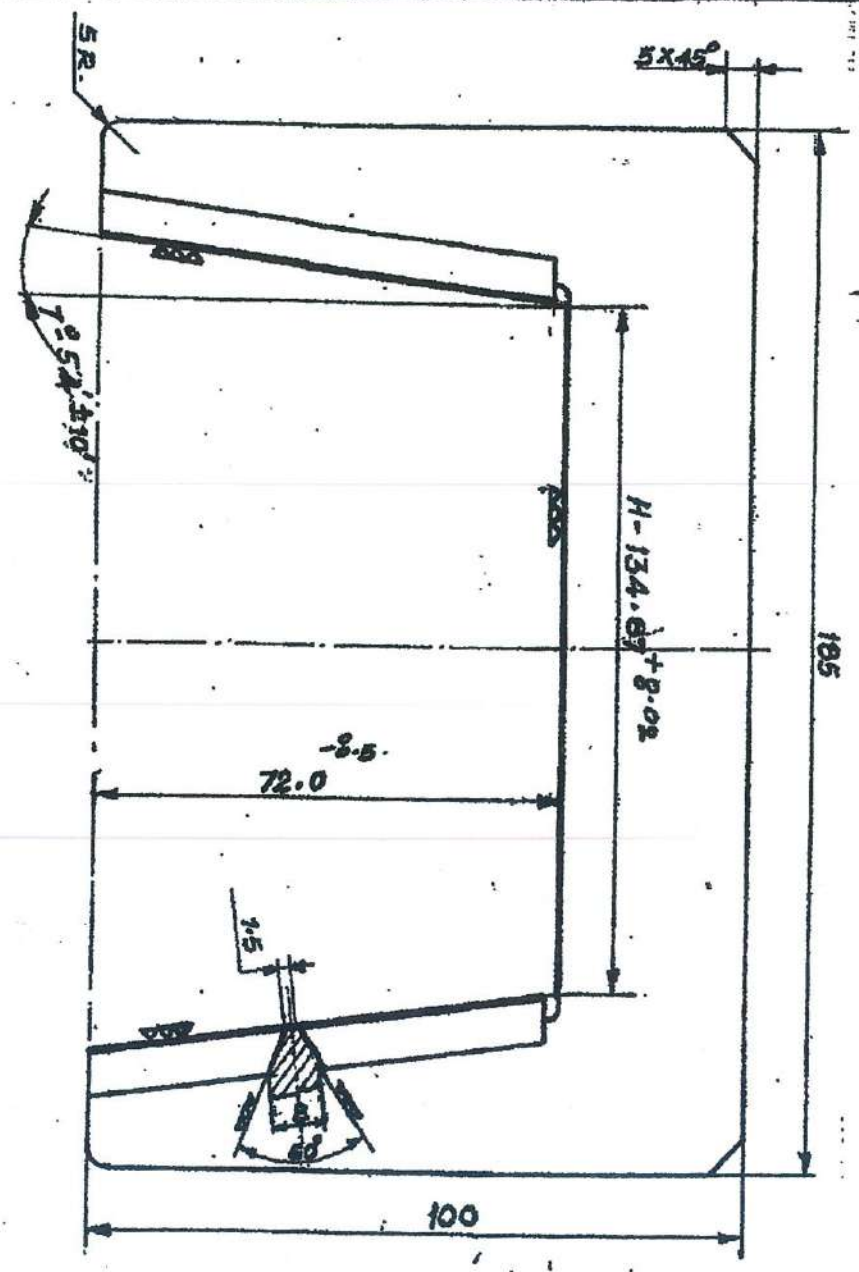


APPROVED BY

OIC/QC (PKC) 

DO/QC 

GO/QC 



▽, ▽

ITEM NO.	DESCRIPTION	NO. OFF	STD.	MATERIAL	SIZE	REMARKS
	ALL DIMENSIONS ARE IN MM GEN.TOL. AS PER IS:2102 MED. CLASS					
AMMENDS	END TAPER DIA H φ 134.87 -2.29			S. ACHARYA	DRG. NO.	ORDNANCE FACTORY BADMAL
NO	DATE	TCD.	DRN.	CKD.	REF. DRG. NO.	
					SM/G- 1672	
	COMP. :	OIC/EP		M/C		
	STORE :	DO/EP				
				DATE	SHTS	
				12-01-24	1/1	

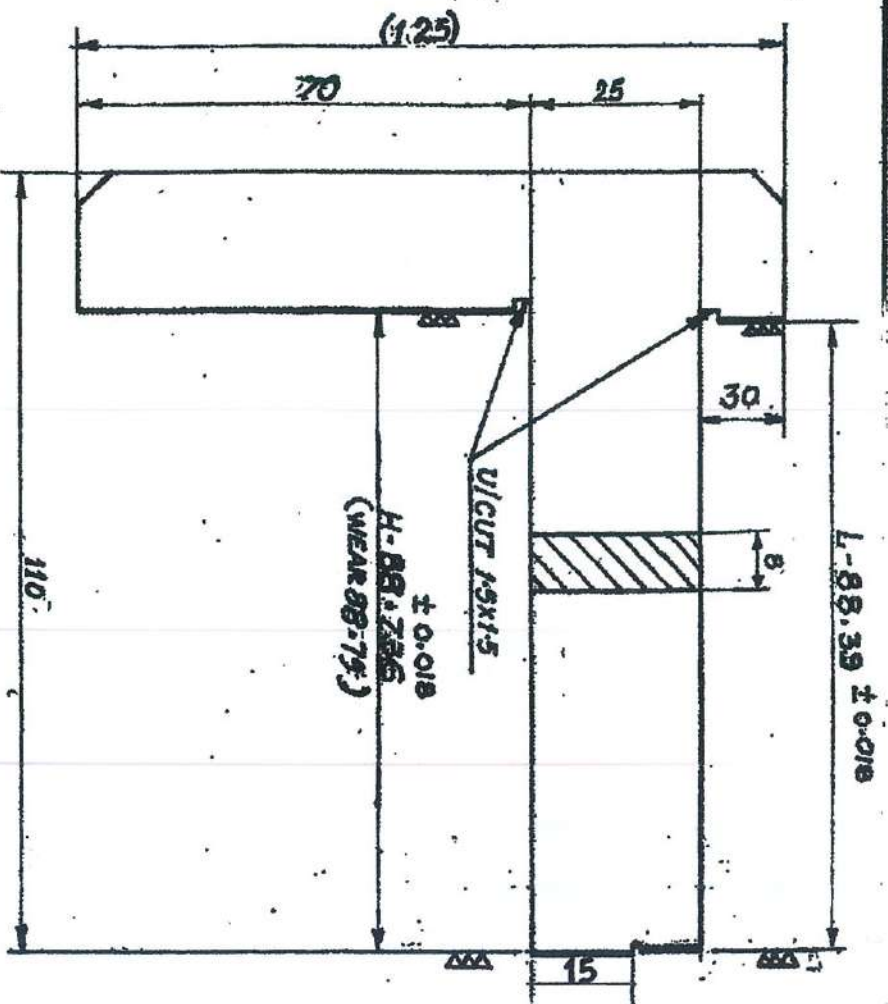
Gauge for checking End Taper Dia for ~~155mm~~ 155mm M107 shell Dwg No. BL/SK/109/QC/428



REF. DRG. NO. **SM/G-1689'B**

UNFINISHED DIMENSIONS		ANGULAR DIMENSIONS		SURFACE ROUGHNESS	
LENGTH	WIDTH	ANGLE	SYMBOL	IN	MM
30	± 0.1	90	V	3.2	0.8
70	± 0.2	90	V	3.2	0.8
120	± 0.3	90	V	3.2	0.8
150	± 0.4	90	V	3.2	0.8
200	± 0.5	90	V	3.2	0.8
250	± 0.6	90	V	3.2	0.8
300	± 0.7	90	V	3.2	0.8
350	± 0.8	90	V	3.2	0.8
400	± 0.9	90	V	3.2	0.8
450	± 1.0	90	V	3.2	0.8
500	± 1.1	90	V	3.2	0.8
550	± 1.2	90	V	3.2	0.8

GAUGING SURFACES ARE SHOWN BY THICK LINES —  
 UNNECESSARY SHARP EDGES TO BE REMOVED  
 HAND, & TEMPERED  
 HARDNESS MIN. . . 700 H.V.



APPROVED BY

*[Signature]*  
OIC/QC(P&C)

*[Signature]*  
DO/QC

*[Signature]*  
GO/QC

▽, [▽]

PART	DESCRIPTION	NO. OFF	MATERIAL	SIZE	REMARKS
ITEM NO.	DESCRIPTION	NO. OFF.	STD.	MATERIAL	REMARKS
SCALE	ALL DIMENSIONS ARE IN MM GEN. TOL. AS PER IS: 2102 MED. CLASS				
AMMENDS	POSITION OF BAND FROM BASE H & L - 88.39 ± 0.43				
NO.	DATE	COMP.	TCD.	DRN.	CKD.
		COMP.	OIC/EP	M/C	
	STORE:	DO/EP		DATE	SHTS
				13-01-24	1/1

Gauge for checking position of Band from Base H & L  
 DRG NO: BL/SK/G/RC/427

DRG. NO. BL/SK/G/RC/427  
 REF. DRG. NO. SM/G-1689'B

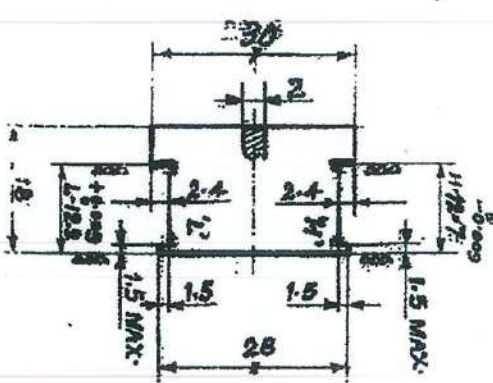
(82)



REF. DRG. NO. **SM/G-1690 B**

UNFINISHED PARTS		ANGULAR DIMENSIONS		SURFACE ROUGHNESS	
LINEAR DIMENSIONS		LEAD IN OF SURFACES		MAX. RA VALUE	
SIZE	TOLERANCE	ANGLE	SYMBOL	IN	MM
6	± 0.1	10	V	50	25
30	± 0.2	10	V	50	25
130	± 0.3	10	V	50	25
315	± 0.5	10	V	50	25
515	± 0.8	10	V	50	25
1000	± 1.2	10	V	50	25
2000	± 1.2	10	V	50	25

GAGING SURFACES ARE SHOWN BY THICK LINES  
 UNNECESSARY SHARP EDGES TO BE REMOVED  
 HARD. & TEMPERED  
 HARDNESS MIN. ... 700 HV.



APPROVED BY

*[Signature]*  
 OIC/QC(P&C)

*[Signature]*  
 DO/QC

*[Signature]*  
 GO/QC

▽, [▽▽]

ITEM NO.	DESCRIPTION	NO. OFF.	STD.	MATERIAL	SIZE	REMARKS
	ALL DIMENSIONS ARE IN MM GEN. TOL. AS PER IS:2102 MED. CLASS					
	POSITION OF GROOVE ON BAND 48L 12.45 TO 0.05			SSUS		
COMP.:		OIC/EP		M/C		
STORE:		DO/EP		DATE		
					13-01-24	SHTS 1/1

Gauge for checking position of Groove on Band H&L  
 Drg No: BL/SK/G/OC/426

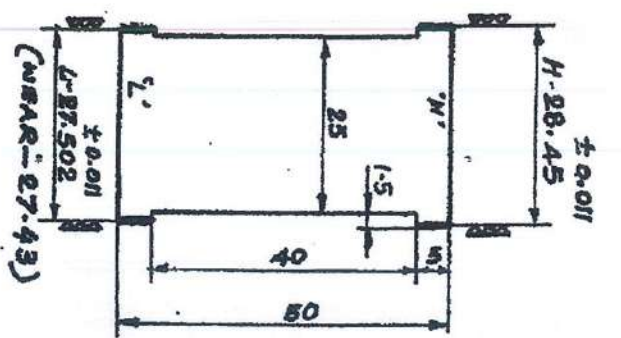
21



REF. DRG. NO. SM/G-1678

UNDESIGNED REACHING DEVIATIONS	MEASURED DEVIATIONS	SURFACE REQUIREMENTS
LINEAR DIMENSIONS	LENGTH OR POSITION IN mm	SCALE IN VALUE IN μm
ANGULAR	POSITION OR ANGLE	SCALE IN VALUE IN μm
FORM	FORM	SCALE IN VALUE IN μm
30	± 0.1	30
60	± 0.2	60
120	± 0.4	120
240	± 0.8	240
480	± 1.6	480
960	± 3.2	960
1920	± 6.4	1920
3840	± 12.8	3840

GAGING SURFACES ARE SHOWN BY THICK LINES  
 UNNECESSARY SHARP EDGES TO BE REMOVED  
 HARD. & TEMPERED  
 HANDNESS MIN. ... 200HV.



APPROVED BY

OIC/PCPC DO/PC

GO/RC

▽, [▽▽]

ITEM NO.	DESCRIPTION	NO. OFF	STD.	MATERIAL	SIZE	REMARKS
	ALL DIMENSIONS ARE IN MM GEN. TOL. AS PER IS:2102 MED. CLASS					ORDNANCE FACTORY BADMAL
	WIDTH OF BAND GROOVE HQL-274341.02			S.0CHHRYA		DRG. NO.
AMMENDS						BL/SK/G/RC/425
NO	DATE			OKD.		REF. DRG. NO. SM/G - 1678
				OIC/EP		M/C
	COMP.:			DO/EP		DATE 13-01-24
	STORE:					SHTS 1/1

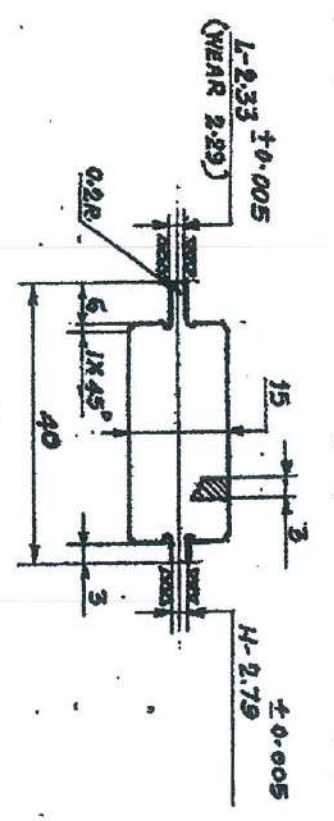
Gauge for checking width of Band Groove  
 DRG NO: BL/SK/G/RC/425

1.5



Under the microscope	Actual size	Symbol	Max. Rm Value
0	± 0.1	~	50
10	± 0.2	~	25
20	± 0.3	~	15
30	± 0.4	~	10
40	± 0.5	~	7.5
50	± 0.6	~	6.3
60	± 0.7	~	5.6
70	± 0.8	~	5.0
80	± 0.9	~	4.5
90	± 1.0	~	4.0
100	± 1.2	~	3.5

GAUGING SURFACES ARE SHOWN BY THICK LINES  
 UNNECESSARY SHARP EDGES TO BE REMOVED  
 HARD & TEMPERED  
 HARDNESS MIN. ... 700 HV.



APPROVED BY

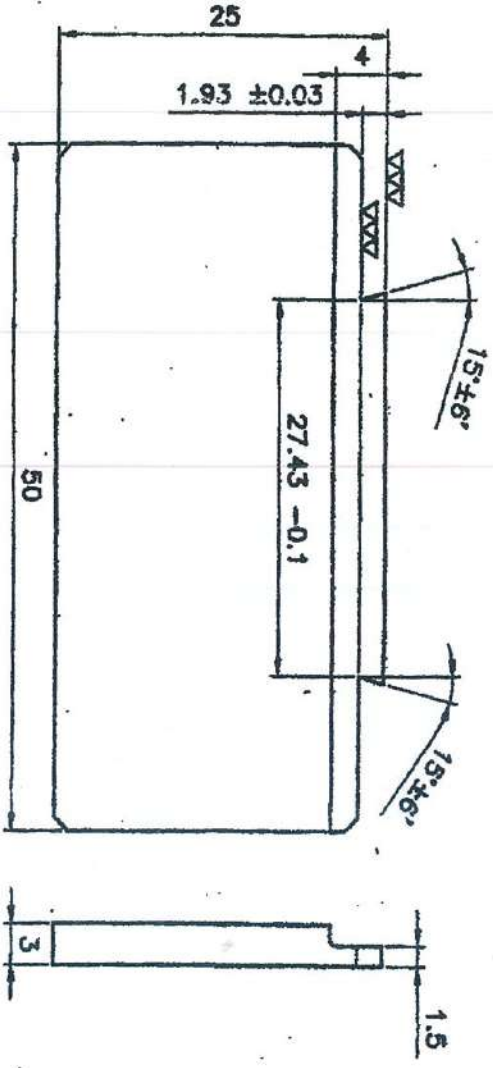
ITEM NO	DESCRIPTION	NO. OFF	STD.	MATERIAL	SIZE	REMARKS
SCALE NTS	ALL DIMENSIONS ARE IN MM GEN. TOL. AS PER IS:2102 MED. CLASS					ORDNANCE FACTORY BADMAL
AMMENDS NO	DATE					
	GROOVE WIDTH OVER BAND H & L - 2.54 ±0.25			SSU	DRG. NO.	BL/SK/G/QC/424
	COMP. :			DRN.	REF. DRG. NO.	SM/G-1686
	STORE :			CKD.	M/C	
				O/C/EP	DATE	18-01-24
				DO/EP	SHTS	1/1

Gauge for checking Groove Width over Band  
 Drg NO: BL/SK/G/QC/424



A M E N D M E N T S		
REV	DATE	DESCRIPTION

- GENL. NOTES:-**
- 1) UNNECESSARY SHARP EDGES & BURRS TO BE REMOVED.
  - 2) TOL. ON UNTOL. DIMN. CONFORM TO IS:2102-MIDIUM.



APPROVED BY

*[Signature]*  
 OIC/AC(P&C) DO/AC

*[Signature]*  
 G0/AC

HARD & TEMPD.  
 HARDNESS 58 RC.MIN.  
 [VV [VVV]]

ITEM NO.	DESCRIPTION	NO. OFF	STD.	MATERIAL	SIZE	REMARKS
SCALE NTS	ALL DIMENSIONS ARE IN MM GEN.TOL. AS PER IS:2102 MED. CLASS			SEC. EP		ORDNANCE FACTORY BADMAL
AMMENDS NO	DOVETAIL ANGLE OF BAND GROOVE			SSW		DRG. NO. BLSK/G/QC/423
DATE	15°					REF/DRG. NO. SM/G-1739
	COMP.:			OIC/EP		M/C
	STORE: M107 (155mm)			DO/EP		DATE 19-01-24
						SHTS 1/1

Gauge for checking Dovetail Angle of Band  
 DRG NO: BLSK/G/QC/423

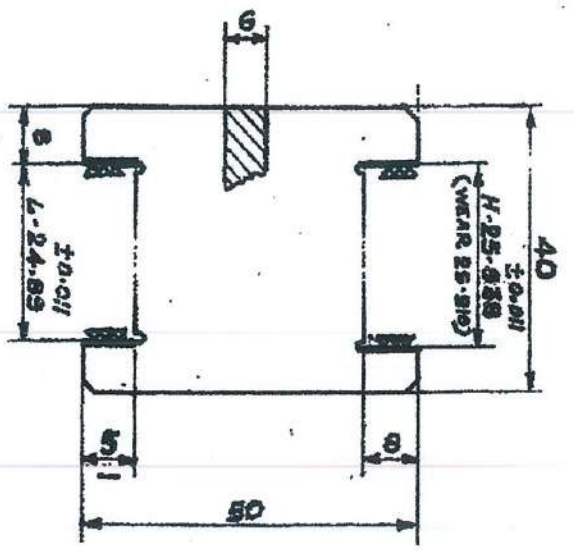






UNFINISHED SURFACES		ANGULAR SURFACES		SURFACE ROUGHNESS	
Label	UNIT	Label	UNIT	Symbol	MAX. VALUE
5	± 0.1	10	± 0.1	√	50
30	± 0.2	10	± 0.2	√	25
120	± 0.3	10	± 0.3	√	12.5
250	± 0.4	10	± 0.4	√	6.3
500	± 0.5	10	± 0.5	√	3.15
1000	± 0.6	10	± 0.6	√	1.6
2000	± 0.7	10	± 0.7	√	0.8

GAUGING SURFACES ARE SHOWN BY THICK LINES —  
 UNNECESSARY SHARP EDGES TO BE REMOVED  
 HAND & TEMPERED  
 HARDNESS MIN. ... 720 HV.



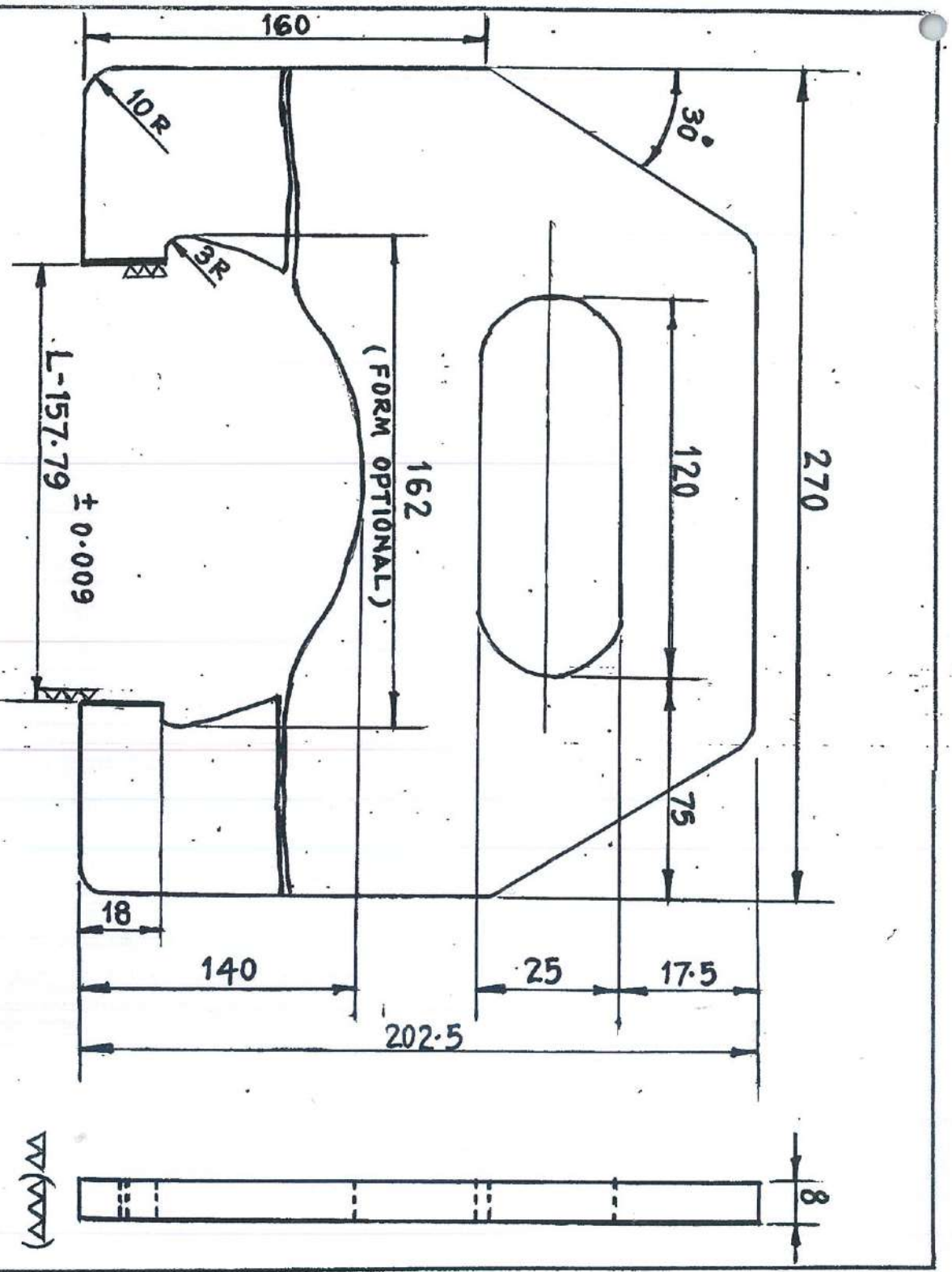
APPROVED BY [VVV]

ITEM NO.	DESCRIPTION	NO. OFF	STD.	MATERIAL	SIZE	REMARKS
	ALL DIMENSIONS ARE IN MM GEN. TOL. AS PER IS:2102 MED. CLASS					
	WIDTH OF BAND					
	H&L - 25.91 ± 0.02					
AMENDS						
NO	DATE					
COMP. :		OIC/EP				
STORE :		DO/EP				
		DATE				
		19-01-24				
		SHTS				
		1/1				

OIC/PPAC DO/AC GO/AC

Gauge for checking width of band H&L - for shell 155mm M-107  
 DRG No: BL/SK/G/RC/421





APPROVED BY

*[Signature]*  
OIC/QC (P&C)

*[Signature]*  
DO/QC (P&C)

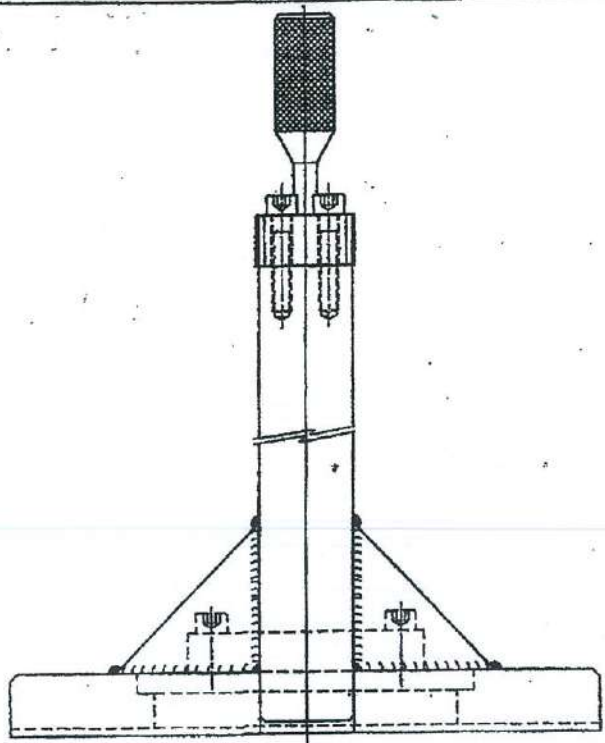
*[Signature]*  
GO/QC

Checked by  
*[Signature]*  
Jusmi Teh

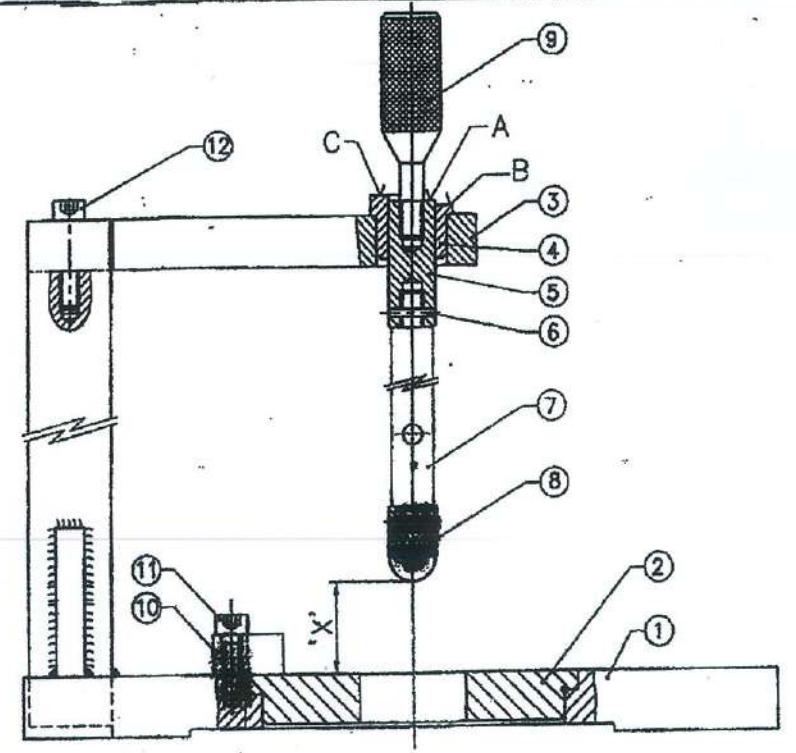
ITEM NO	DESCRIPTION	NO OFF	STD	MATERIAL	SIZE	REMARKS
SCALE	ALL DIMENSIONS ARE IN MM. NTS			SEC. EP	ORDNANCE FACTORY BADMAL	
AMENDS	EXTERNAL DIA OVER BAND L $\phi$ 157.99 - 0.2			TCD 4305	DRG. NO. BL/SK/G/QC/419	
NO DATE				CKD	REF. DRG. NO. SM/G-1682	
	COMP: SHELL BODY (MACHINED)			HOS/EP	M/C	
	STORE (M-107) - 155			DVD/EP	DATE 11-01-2024	SHTS 1/1

Grange for checking External Dia over band 155mm m-107  
Drng. NO: BL/SK/G/QC/419





GENL. ARRANGEMENT



GENL. NOTES:

- 1) BURS & UNNECESSARY SHARP EDGES TO BE REMOVED.
- 2) TOL. ON UNTOL. DIMN. CONFORM TO IS:2102-MEDIUM.

NOTE:

DIMN. 'X' WILL BE  $H-36.58 \pm 0.2$  WHEN FACE 'A' FLUSHES WITH FACE 'C' AND DIMN. 'X' WILL BE  $L-32.52 \pm 0.2$  WHEN FACE 'A' FLUSHES WITH FACE 'B'

APPROVED BY

OIC/QC(P&C)
   
 DO/QC
   
 GO/QC

PART	DESCRIPTION	NO.OFF.	MATERIAL	REMARKS
12	HEX. SOC. CAP SCREW (M8x35 Lg.)	2	IS: 5517-93; 40C8	STD.
11	HEX. SOC. CAP SCREW (M8x24 Lg.)	2	"	"
10	'V' BEDOCK	1	"	"
9	HANDLE	1	"	"
8	TIP	1	IS:3748-90; TP0Mn6WCr2	HRD. TO RC. 58 MN.
7	EXTENSION ROD	1	IS: 5517-93; 40C8	
6	PIN	2	"	
5	PLUNGER	1	IS:3748-90; TP0Mn6WCr2	HRD. TO RC. 58 MN.
4	BUSH TOP	1	"	"
3	TOP PLATE	1	IS: 5517-93; 40C8	
2	BUSH BOTTOM	1	IS:3748-90; TP0Mn6WCr2	HRD. TO RC. 58 MN.
1	BASE UNIT	1	IS: 5517-93; 40C8	

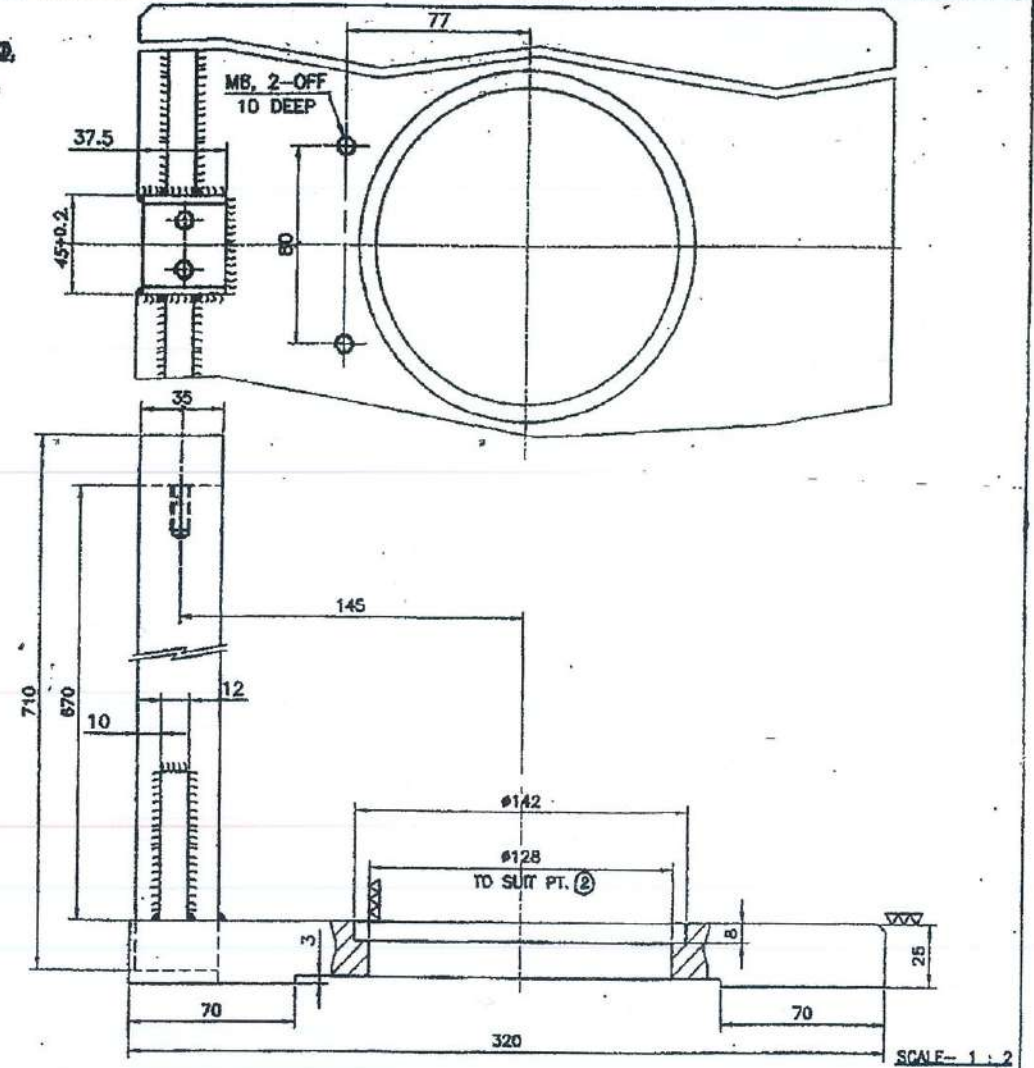
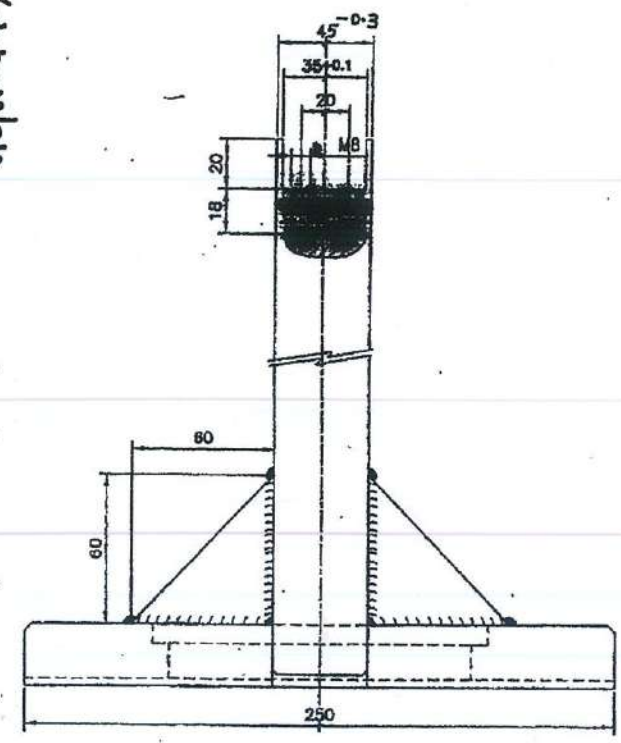
ITEM NO.	DESCRIPTION	NO. OFF.	STD.	MATERIAL	SIZE	REMARKS
SCALE NTS	ALL DIMENSIONS ARE IN MM GEN.TOL. AS PER IS:2102 MED. CLASS			SEC. EP	ORDNANCE FACTORY BADMAL	
AMMENDS	BASE THICKNESS 'H & L'			TCD.	866	DRG. NO.
NO	DATE	36.58-4.06		DRN.		BL/SK/G/QC/418
				CKD.		REF. DRG. NO. SM/G/1674
COMP.:				OIC/EP	12	M/C
STORE:	M 107 (155mm)			DO/EP		DATE 11-01-24 SHTS 1/3

Gauge for checking Base thickness 'H & L' of 155 mm M-107 shell  
 DRG NO: BL/SK/G/QC/418

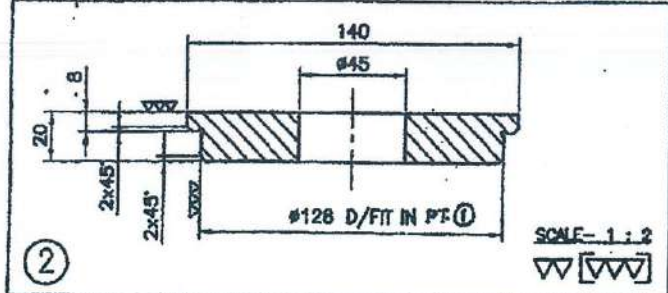


APPROVED BY  
 OIC (ACC/PAC) DO/AC  
 G/AC

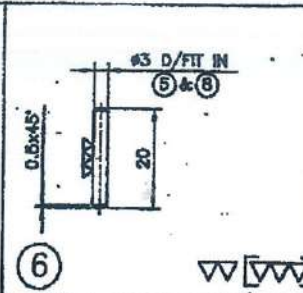
GENL. NOTES:  
 1) BURRS & UNNECESSARY SHARP EDGES TO BE REMOVED.  
 2) TOL. ON UNITL. DIM. CONFORM TO IS:2102-MEDIUM.



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⑥

ITEM NO.	DESCRIPTION	NO. OFF	STD.	MATERIAL	SIZE	REMARKS
SCALE NTS	ALL DIMENSIONS ARE IN MM GEN.TOL. AS PER IS:2102 MED. CLASS			SEC. EP.	ORDNANCE FACTORY BADMAL	
AMMENDS	BASE THICKNESS	TCD.	SRU	DRG. NO.	BL/ISK/G/RC/410	
NO	DATE	'H & L' 36.58-4.02	DRN.	REF. DRG. NO.	SM/G-1674	
	COMP.:	OIC/EP	DR.	M/C		
	STORE:	DO/EP		DATE	11-01-24	SHTS 2/3

SCALE- 1 : 2

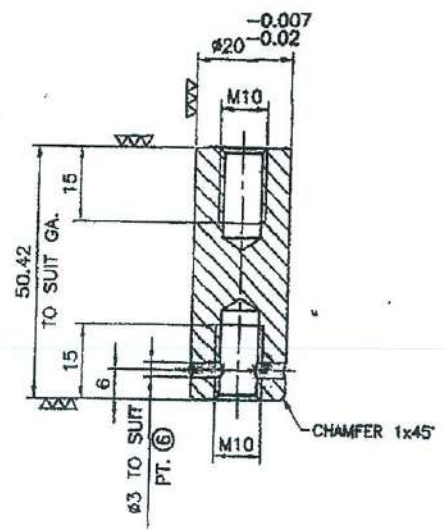


GENL. NOTES:

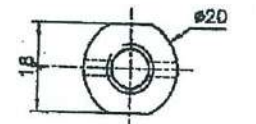
- 1) BURRS & UNNECESSARY SHARP EDGES TO BE REMOVED
- 2) TOL. ON UNTOL. DIMN. CONFORM TO IS:2102-MEDIUM

APPROVED BY

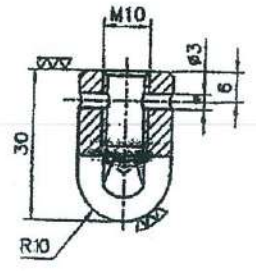
G/G/G  
 D/O/AC  
 OIC/ACC(PAC)



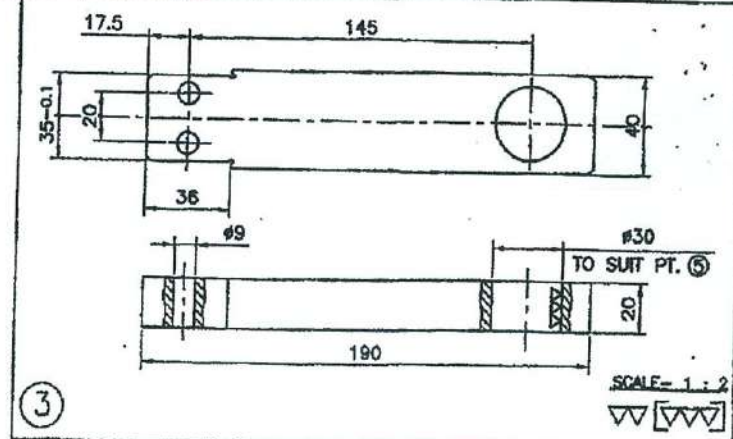
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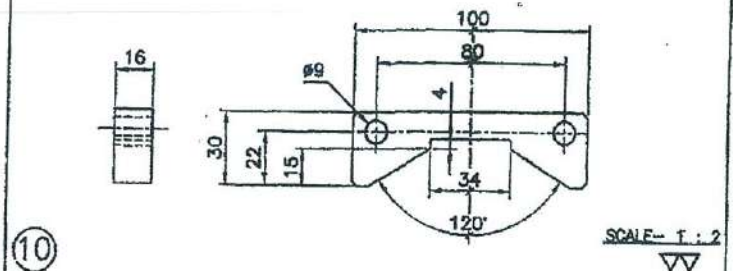
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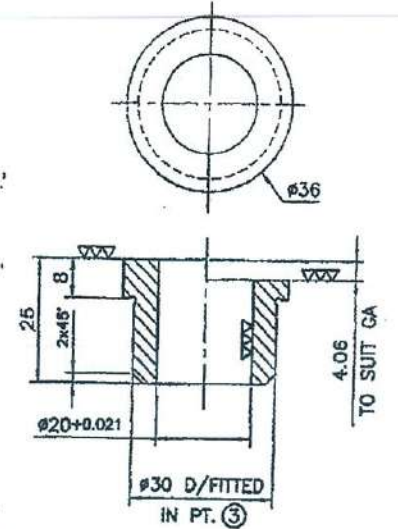
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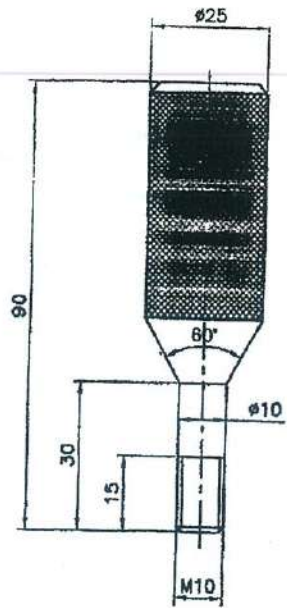
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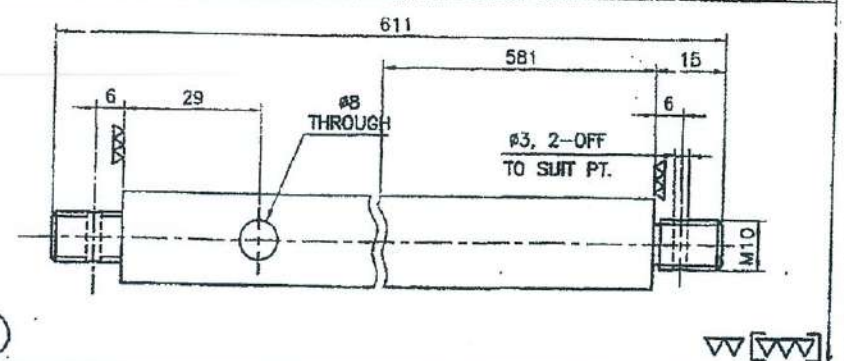
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4



9



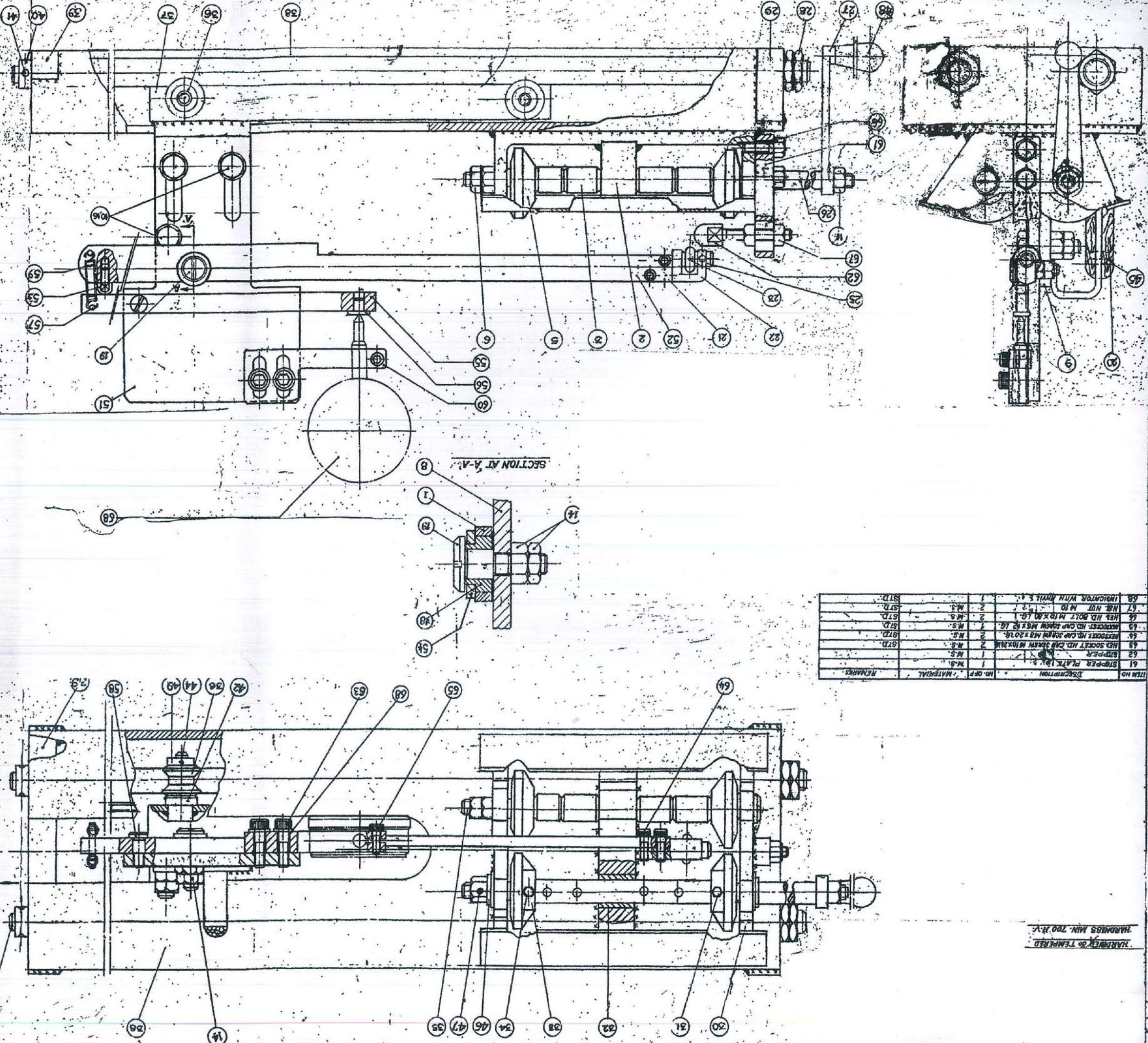
7

ITEM NO.	DESCRIPTION	NO. OFF	STD.	MATERIAL	SIZE	REMARKS
SCALE NTS	ALL DIMENSIONS ARE IN MM GEN. TOL. AS PER IS:2102 MED. CLASS			SEC. EP		ORDNANCE FACTORY BADMAL
AMMENDS	<b>BASE THICKNES</b> <b>H &amp; L</b> <b>36.58 - 4.06</b>			TCD. <i>S. Acharya</i>		DRG. NO. <b>BLISK/G/AC/418</b>
NO	DATE			DRN.		REF. DRG. NO. <b>SM/G-1674</b>
				CKD.		M/C
COMP.:				OIC/EP		DATE <b>20.01.24</b>
STORE:				DO/EP		SHTS <b>3/3</b>




HARDNESS 90 TEMPERED  
HARDNESS MIN. 200 R.V.

ITEM NO.	DESCRIPTION	NO. OFF.	MATERIAL	REMARKS
61	STEEL PLATE 1/2"	1	M.S.	
62	ROCKER	1	M.S.	
63	HEX SOCKET HD. CAP SCREW 1/2 X 2 1/2"	2	M.S.	
64	ROCKET HD. CAP SCREW 1/2 X 2 1/2"	1	M.S.	
65	ROCKET HD. CAP SCREW 1/2 X 2 1/2"	1	M.S.	
66	HEX. HD. BOLT 1/2 X 2 1/2"	2	M.S.	
67	HEX. NUT 1/2"	2	M.S.	
68	INDICATOR WITH NUTS 1/2"	1	STD.	



REM	SIZE	MATERIAL	NO. OFF.	STD.	DESCRIPTION
AMENDS	SCALE	ALL DIMENSIONS ARE IN MM	GEN. TOL. AS PER IS: 2102 MET. CLASS		
DATE	NG	DATE	DEVIATION IN WALL (5.0 mm TIR)		
DRN.	CRD.	COMP.	OIC/FP		
TOD	DRG. NO.	DRG. NO.	REF. DRG. NO. 49		
SEC. EP.	DRG. NO.	DRG. NO.	BL/SK/BL/		
ORDNANCE FACTORY B	S. ACHARY				

ITEM NO.	DESCRIPTION	NO. OFF.	MATERIAL	REMARKS
1	HANDLE	1	IS: 11M2	
2	PIN 6 X 25 LONG	1	IS: C40	
3	WASHER 1/2"	1	IS: C15	
4	STD. RIVET 5 X 20 LONG	2	IS: C15	
5	SPLIT PIN 3 X 25 LONG	1	IS: C15	
6	CAMMER SHIRT	1	IS: 11M2	
7	CAMMER SHIRT	1	IS: 11M2	
8	CAMMER SHIRT	1	IS: 11M2	
9	CAMMER SHIRT	1	IS: 11M2	
10	CAMMER SHIRT	1	IS: 11M2	
11	CAMMER SHIRT	1	IS: 11M2	
12	CAMMER SHIRT	1	IS: 11M2	
13	CAMMER SHIRT	1	IS: 11M2	
14	CAMMER SHIRT	1	IS: 11M2	
15	CAMMER SHIRT	1	IS: 11M2	
16	CAMMER SHIRT	1	IS: 11M2	
17	CAMMER SHIRT	1	IS: 11M2	
18	CAMMER SHIRT	1	IS: 11M2	
19	CAMMER SHIRT	1	IS: 11M2	
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25	CAMMER SHIRT	1	IS: 11M2	
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30	CAMMER SHIRT	1	IS: 11M2	
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35	CAMMER SHIRT	1	IS: 11M2	
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40	CAMMER SHIRT	1	IS: 11M2	
41	CAMMER SHIRT	1	IS: 11M2	
42	CAMMER SHIRT	1	IS: 11M2	
43	CAMMER SHIRT	1	IS: 11M2	
44	CAMMER SHIRT	1	IS: 11M2	
45	CAMMER SHIRT	1	IS: 11M2	
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49	CAMMER SHIRT	1	IS: 11M2	
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53	CAMMER SHIRT	1	IS: 11M2	
54	CAMMER SHIRT	1	IS: 11M2	
55	CAMMER SHIRT	1	IS: 11M2	
56	CAMMER SHIRT	1	IS: 11M2	
57	CAMMER SHIRT	1	IS: 11M2	
58	CAMMER SHIRT	1	IS: 11M2	
59	CAMMER SHIRT	1	IS: 11M2	
60	CAMMER SHIRT	1	IS: 11M2	

Approved by :-  
  
 OIC/FP (P&C) DO/FP (P&C) GO/FP (P&C)













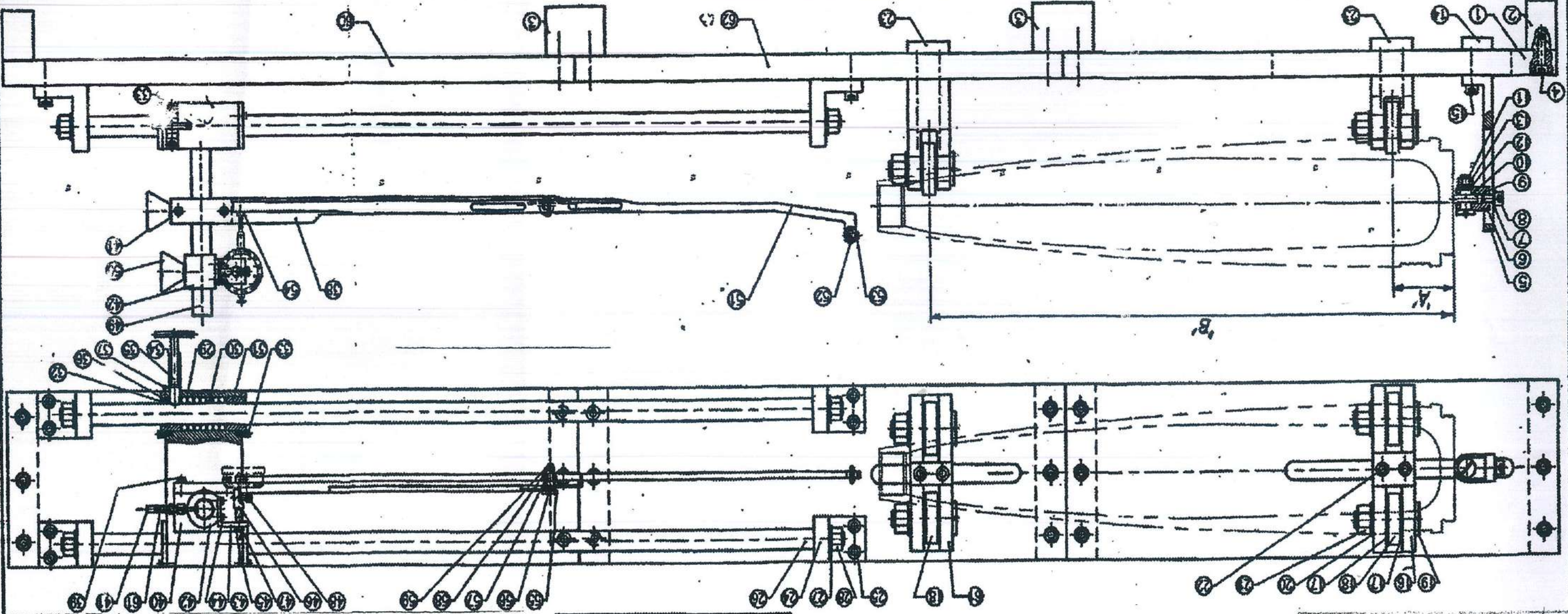


PART NO.	DESCRIPTION	NO. OF	MATERIAL	REMARK
1	BASE PLATE-1	1	IS:5517-93, 40C8	
2	LEG	2	IS:5517-93, 40C8	
3	MIDDLE LEG	2	IS:5517-93, 40C8	
4	HEX SOC. HD. CAP SCREW M10x32lg.	18	IS:5517-93, 40C8	STD.
5	STOPPER	1	IS:5517-93, 40C8	
6	STOPPER BEARING HOLDER	1	IS:5517-93, 40C8	
7	WASHER (ID-10.5, OD-25, THICK-2.5)	1	IS:5517-93, 40C8	
8	HEX SOC. HD. CAP SCREW M10x15lg.	1	IS:5517-93, 40C8	STD.
9	BALL BEARING SKF 6002-2Z	1		STD.
10	WASHER (ID-15.5, OD-20, THICK-1.5)	1	IS:5517-93, 40C8	
11	REAR STOPPER SCREW	1	IS:5517-93, 40C8	
12	WASHER (ID-12.5, OD-20, THICK-2.5)	1	IS:5517-93, 40C8	
13	HEX NUT M12	1	IS:5517-93, 40C8	STD.
14	TENNON FOR STOPPER	1	IS:5517-93, 40C8	
15	HEX SOC. HD. CAP SCREW M10x52lg.	1	IS:5517-93, 40C8	

DATE:	DO/EP	STORE SHELL 155 mm ERFB
M/C	OIC/EP	COMP.
REF. DRG. NO. SM/5-2143 E	CKD.	
BL/SK/G/OC/447	DRN.	VARIATION & CAVITY RUNOUT
DRG. NO. S. ACHARYA	TCD.	GRUPE FOR WALL THICKNESS
ORDNANCE FACTORY BADMAL	SEC. EP	ALL DIMENSIONS ARE IN MM GEN. TOL. AS PER IS: 2102 MED. CLASS
REMARKS	MATERIAL	DESCRIPTION
SIZE	NO. OFF	STD.

DIM 'A'	81
DIM 'B'	653

NOTE: DIM. A & B TO BE MAINTAINED WHILE INSPECTING SHELLS.



12000	16000	F5	25	6.3	0.8	0.1
8000	12000	F4	16	4.0	0.4	0.05
4000	8000	F3	10	2.5	0.25	0.02
2000	4000	F2	6	1.6	0.16	0.01
1000	2000	F1.2	4	1.0	0.10	0.005
315	1000	F0.8	3	0.8	0.08	0.003

0.05	0.1	0.2	0.5	1.0	2.0	5.0	10.0
0.05	0.1	0.2	0.5	1.0	2.0	5.0	10.0

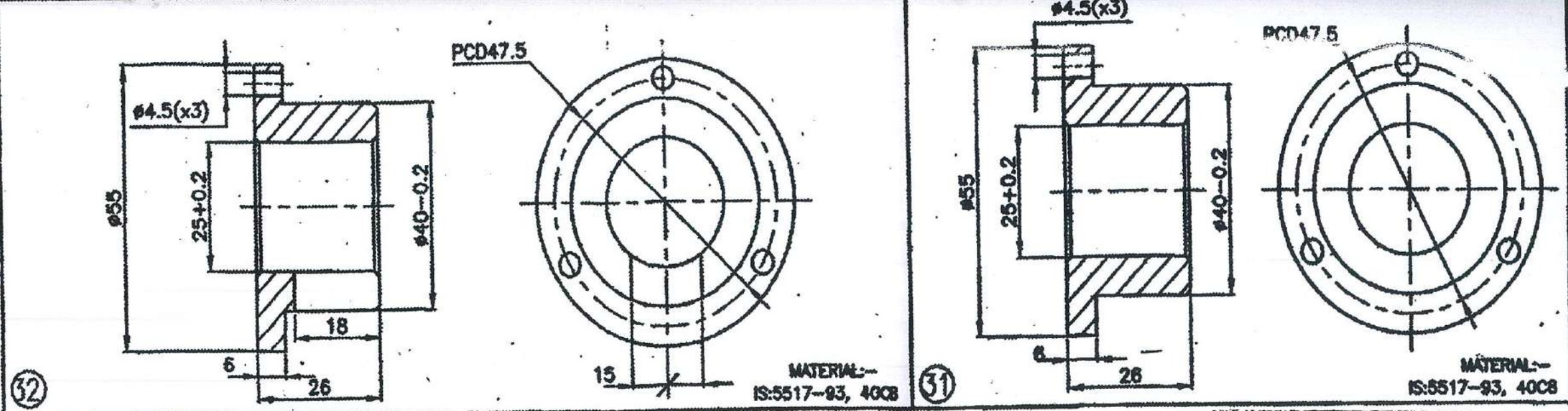
1) UNNECESSARY SHARP EDGES TO BE REMOVED.

Handwritten notes and signatures in the bottom right corner, including a signature and some illegible text.



APPROVED

*[Handwritten signatures and initials]*



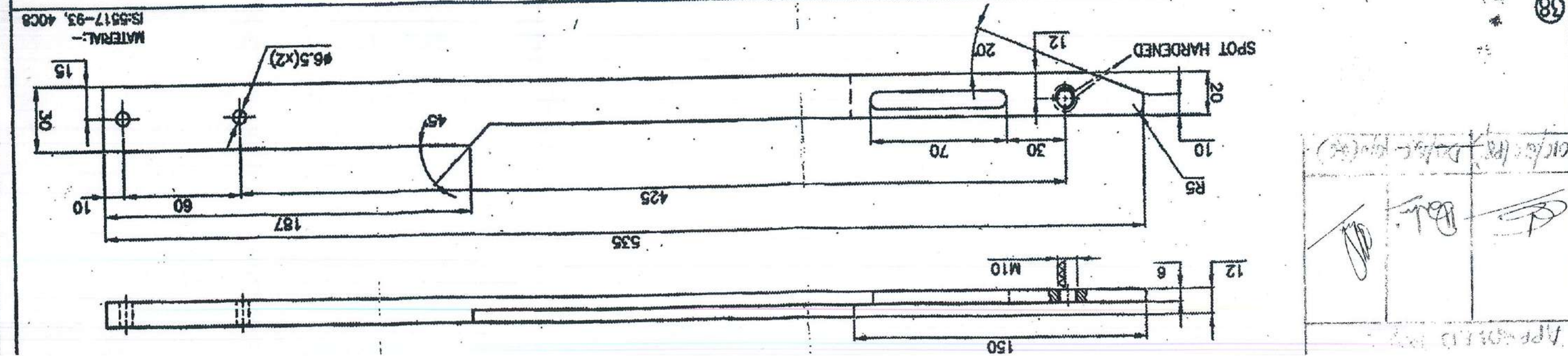
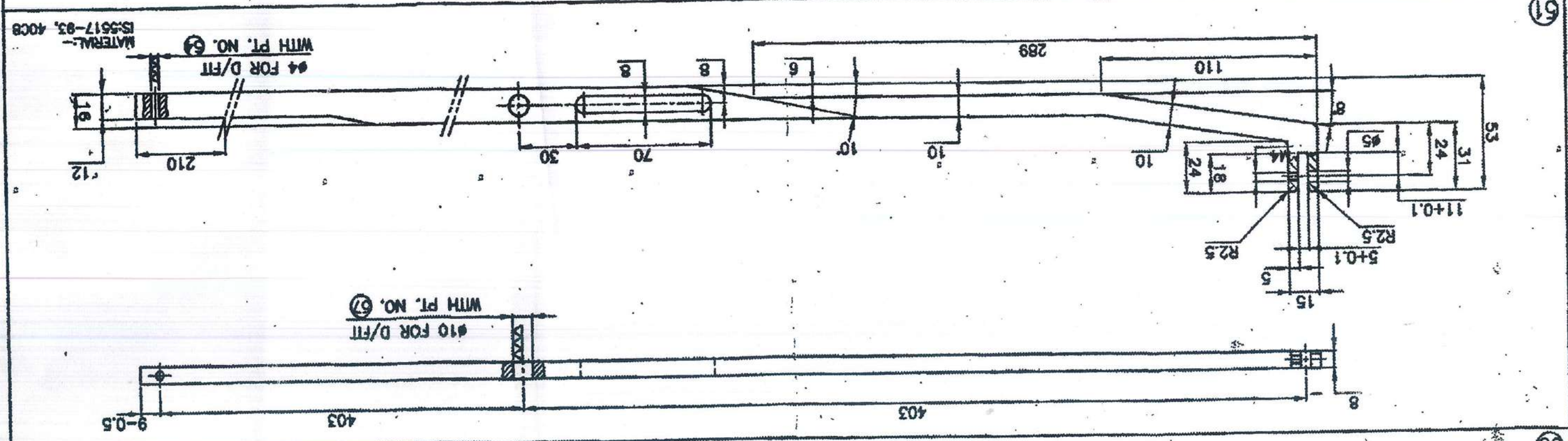
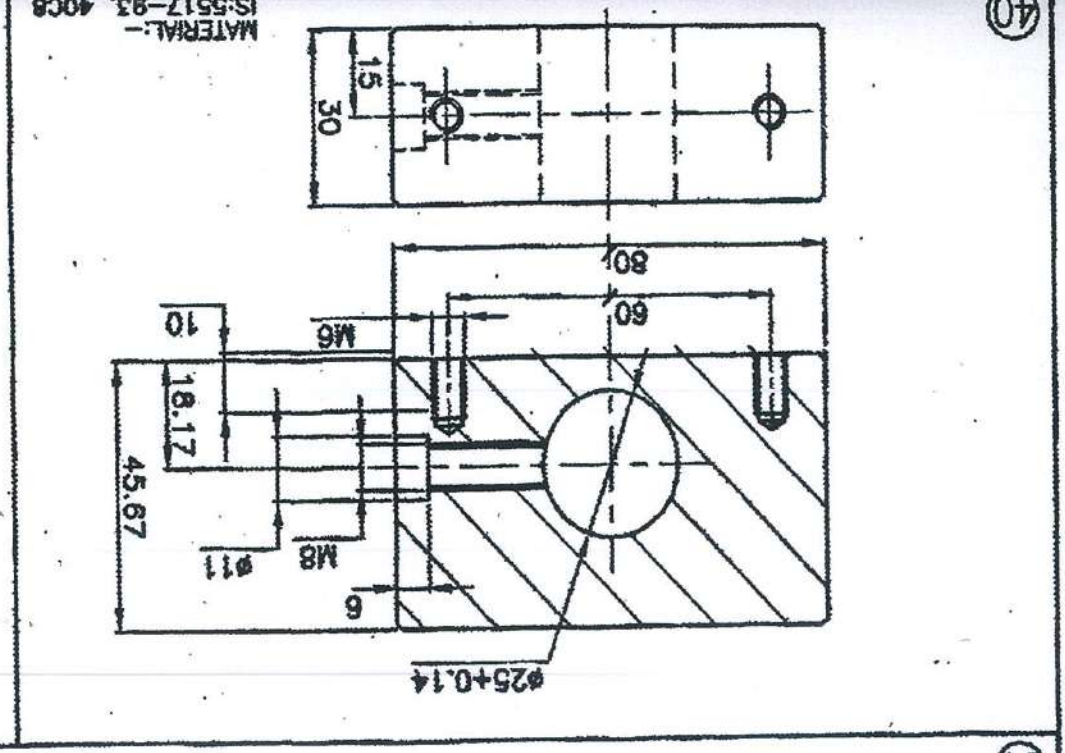
PART NO.	DESCRIPTION	NO.OFF	MATERIAL	REMARK
63	BASE PLATE-III	1	IS:5517-93, 40C8	
62	BRACKET	1	IS:5517-93, 40C8	
61	HEX. SOC. HD. CAP SCREW M4x45Lg.	1	IS:5517-93, 40C8	STD.
60	BASE PLATE-II	1	IS:5517-93, 40C8	
59	HEX. NUT M6	1	IS:5517-93, 40C8	STD.
58	WASHER (ID-7, OD-15, THICK-2)	4	IS:5517-93, 40C8	STD.
57	LINER BUSH	4	IS:3748-90,T90Mn6WCr2	HARD. & TEMP. RC55 MIN.
56	FLY SPRING	1	STD. SPRING STEEL WIRE	
55	FULCRUM	1	IS:3748-90,T90Mn6WCr2	HARD. & TEMP. RC55 MIN.
54	DWELLING PIN	1	IS:3748-90,T90Mn6WCr2	HARD. & TEMP. RC55 MIN.
53	ROLLER PIN	1	IS:3748-90,T90Mn6WCr2	HARD. & TEMP. RC55 MIN.
52	GAUGING ROLLER	1	IS:3748-90,T90Mn6WCr2	HARD. & TEMP. RC55 MIN.
51	LEVER	1	IS:5517-93, 40C8	STD.
50	CLAMPING SCREW DIAL CLAMP HOLDER	4	IS:5517-93, 40C8	
49	MOVEABLE PILLER	1	IS:5517-93, 40C8	
48	HEX. SOC. HD. CAP SCREW M6x18Lg.	1	IS:5517-93, 40C8	STD.
47	HEX. NUT M6	1	IS:5517-93, 40C8	
46	SPACER	1	IS:5517-93, 40C8	
45	DIAL INDICATOR HOLDER	1	IS:5517-93, 40C8	
44	HEX. SOC. HD. CAP SCREW M4x8Lg.	1	IS:5517-93, 40C8	STD.
43	DIAL CLAMP	1	IS:5517-93, 40C8	
42	DIAL CLAMP HOLDER	1	IS:5517-93, 40C8	
41	CLAMPING SCREW FOR BLOCK ARM	1	IS:5517-93, 40C8	
40	ARM HOLDER	1	IS:5517-93, 40C8	
39	HEX. SOC. HD. CAP SCREW M6x14Lg.	1	IS:5517-93, 40C8	STD.
38	ARM	1	IS:5517-93, 40C8	
37	HEX. SOC. HD. CAP SCREW M2x6Lg.	1	IS:5517-93, 40C8	
36	LOCKING ROD	1	IS:5517-93, 40C8	
35	LOCKING SCREW	1	IS:5517-93, 40C8	
34	CLAMP	1	IS:5517-93, 40C8	STD.
33	HEX. SOC. HD. CAP SCREW M4x12Lg.	1	IS:5517-93, 40C8	
32	SLITTING BUSH	1	IS:5517-93, 40C8	
31	BUSH	3	IS:5517-93, 40C8	
30	LINEAR MOTION BALL BEARING (COLLER TYPE) (ID-25, OD-40, LENGTH-60) (MAKE- OZAK JAPAN)	2		STD.
29	SLIDE	1	IS:5517-93, 40C8	
28	HEX. NUT M16	4	IS:5517-93, 40C8	STD.
27	WASHER (ID-16.5, OD-32, THICK-3)	4	IS:5517-93, 40C8	
26	GUIDE ROD	2	IS:5517-93, 40C8	
25	HEX. SOC. HD. CAP SCREW M10x40Lg.	8	IS:5517-93, 40C8	
24	BRACKET FOR GUIDE ROD	4	IS:5517-93, 40C8	
23	TENNON FOR BRACKET	2	IS:5517-93, 40C8	
22	HEX. SOC. HD. CAP SCREW M10x52Lg.	4	IS:5517-93, 40C8	STD.
21	HEX. NUT M20	4	IS:5517-93, 40C8	STD.
20	WASHER (ID-20.5, OD-40, THICK-3)	4	IS:5517-93, 40C8	
19	SPL. BLOT	4	IS:5517-93, 40C8	
18	BALL BEARING SKF 6208-2Z	4		STD.
17	WASHER (ID-30.5, OD-45, THICK-2)	8	IS:3748-90,T90Mn6WCr2	HARD. & TEMP. RC55 MIN.
16	BRACKET	1	IS:5517-93, 40C8	

ITEM NO.	DESCRIPTION	NO.OFF	STD.	MATERIAL	SIZE	REMARKS
SCALE		ALL DIMENSIONS ARE IN MM		SEC. EP		ORDNANCE FACTORY BADMAL
NTS		GEN. TOL. AS PER IS: 2102 MED. CLASS				
AMMENDS		GAUGE FOR WALL THICKNESS		TCD.	S. ACHARYA	DRG. NO.
NO		VARIATION & CAVITY RUNOUT		DRN.		BL/ISK/G/QC/447
DATE				CKD.		REF. DRG. NO.
				OIC/EP		SM/G-2143E
						M/C
						DATE
						SHTS: 2



ITEM NO.	DESCRIPTION	NO. OFF.	STD.	MATERIAL	SIZE	REMARKS
	ALL DIMENSIONS ARE IN MM. GEN. TOL. AS PER IS: 2102 MED. CLASS					
SCALE	NTS					
AMMENDS	DATE					
TCD.	S. ACHARYA	DRG. NO.				
CKD.		REF. DRG. NO.				
OIC/EP		M/C				
DO/EP		DATE:				
COMP.		SHTS:	7/7			
STORE.	SHELL 155mm ERFB					

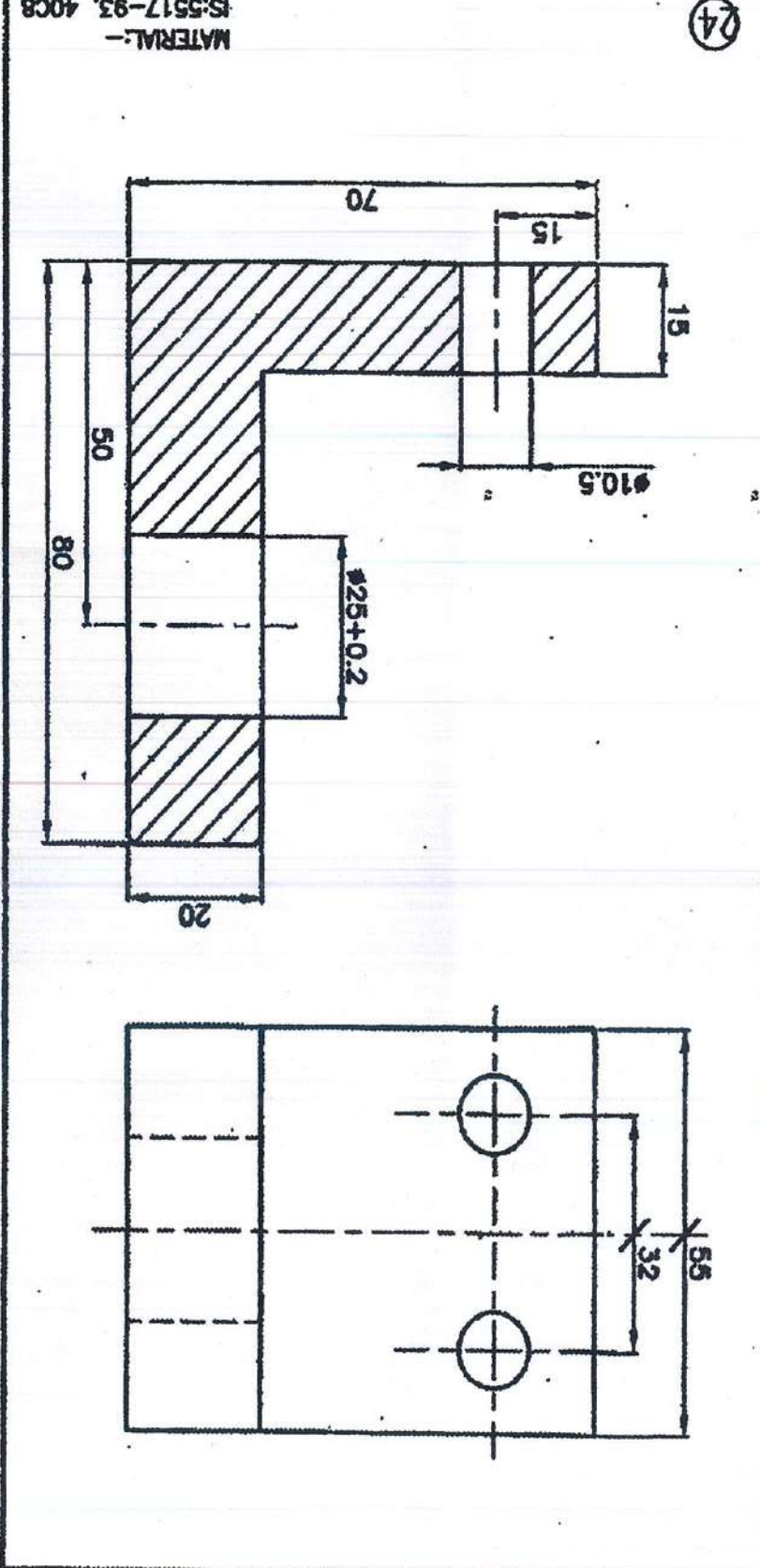
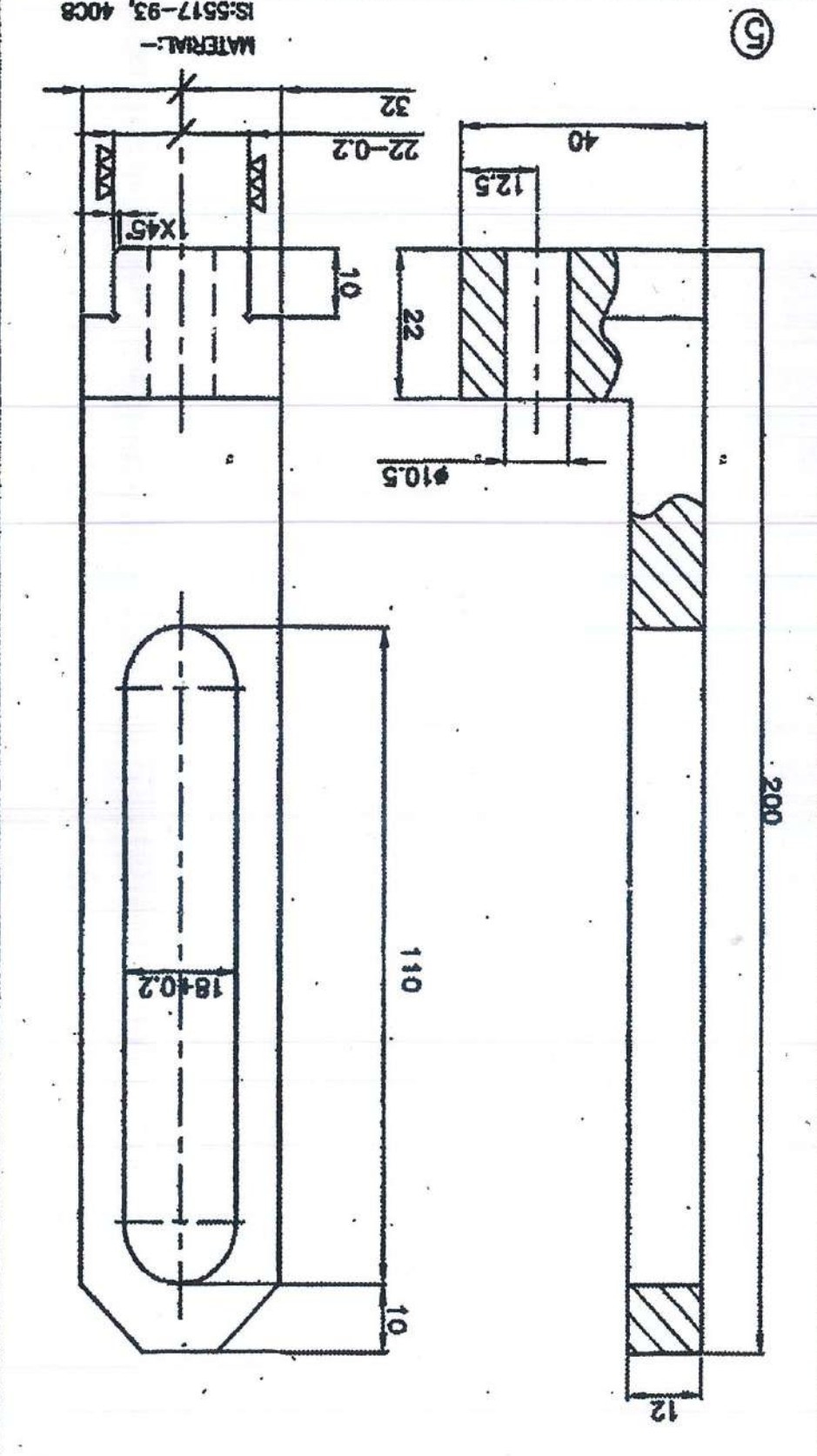
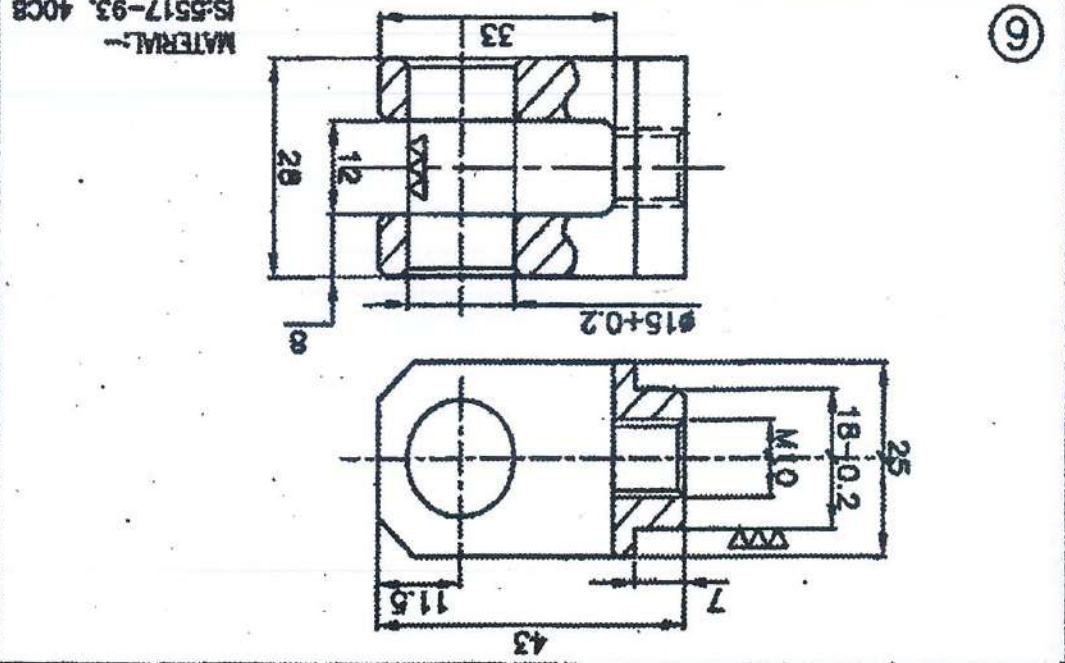
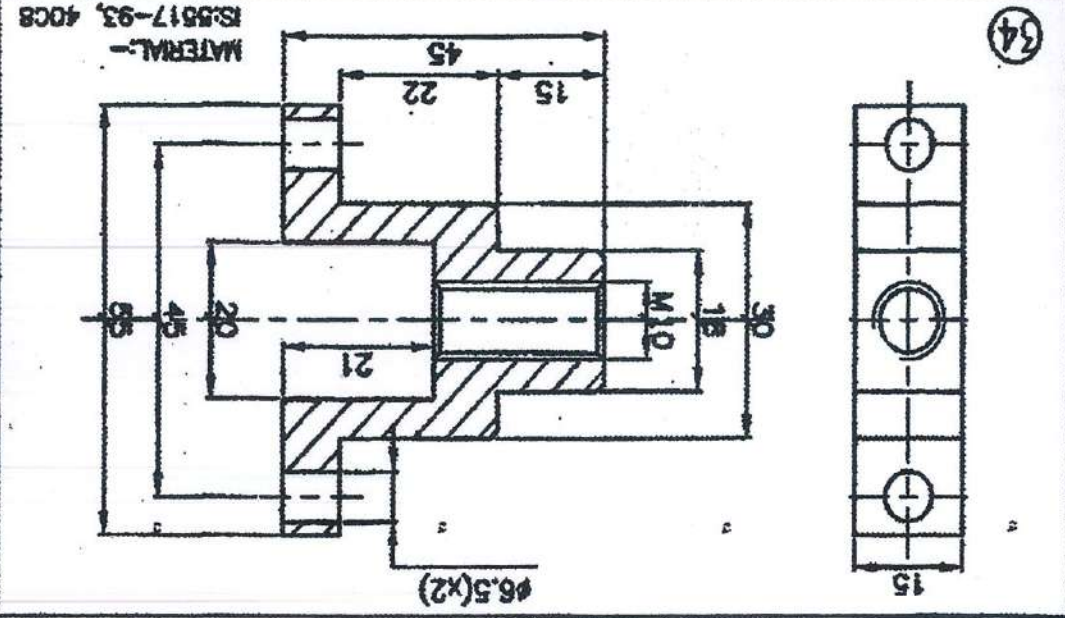
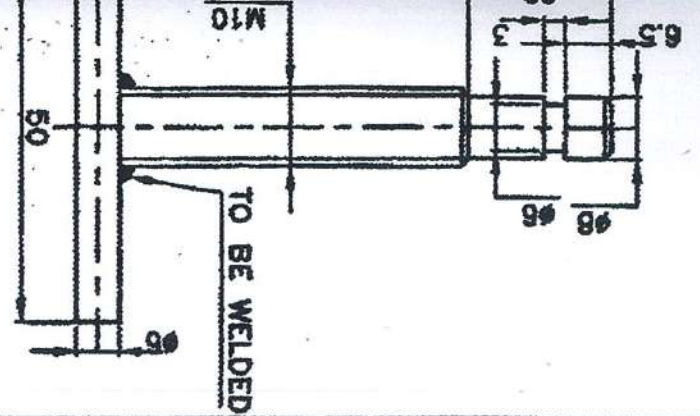
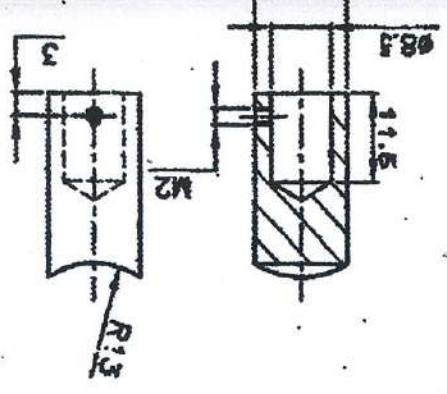
GAUGE FOR WALL THICKNESS  
 VARIATION & CAVITY RUNOUT  
 BL/SK/G/RC/447  
 S.M.S. - 2193E



APPROVED BY: [Signature]  
 DATE: [Signature]  
 CHECKED BY: [Signature]



ITEM NO.	DESCRIPTION	NO. OFF.	STD.	MATERIAL	SIZE	REMARKS
SCALE	NTS	ALL DIMENSIONS ARE IN MM GEN. TOL. AS PER IS: 2102 MED. CLASS		SEC. EP	ORDNANCE FACTORY BADMAL	
AMMENDS	DATE	GAUGE FOR WALL THICKNESS VARIATION & CAVITY RUNDOUT		TCD.	DRG. NO.	
		DRN.	CKD.			
					REF. DRG. NO.	5M/G-2143E



APPROVED BY: [Signature]

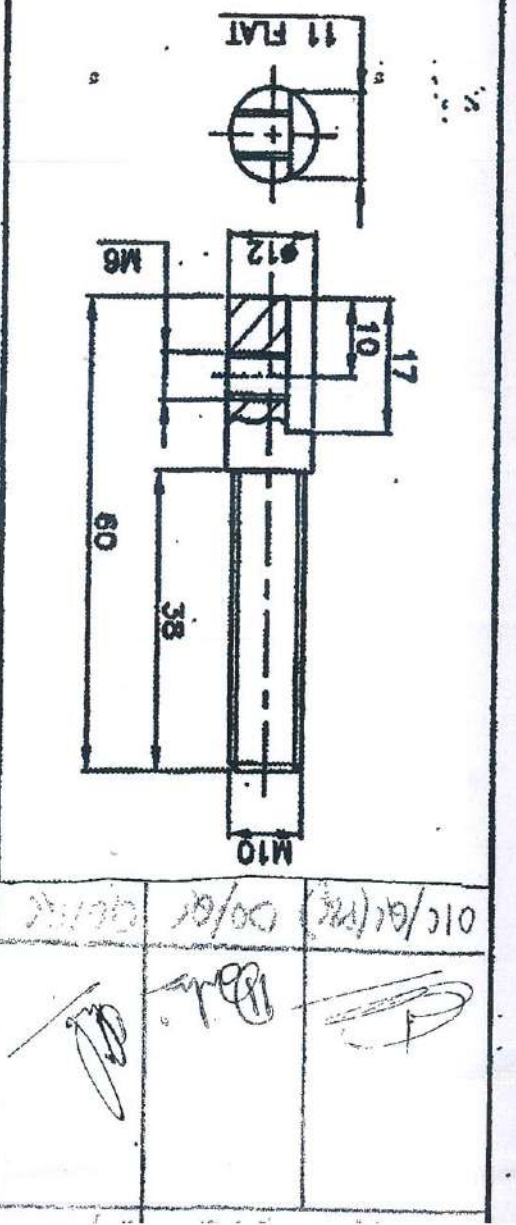
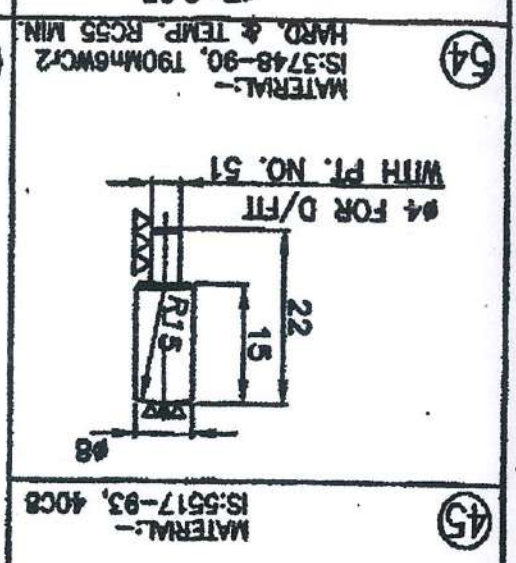
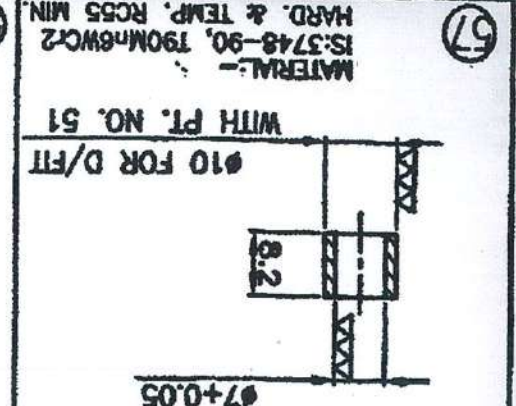
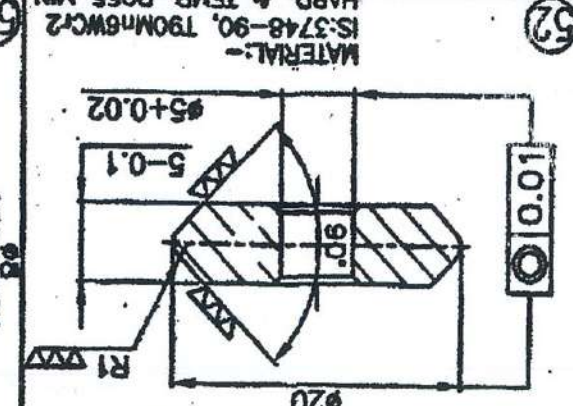
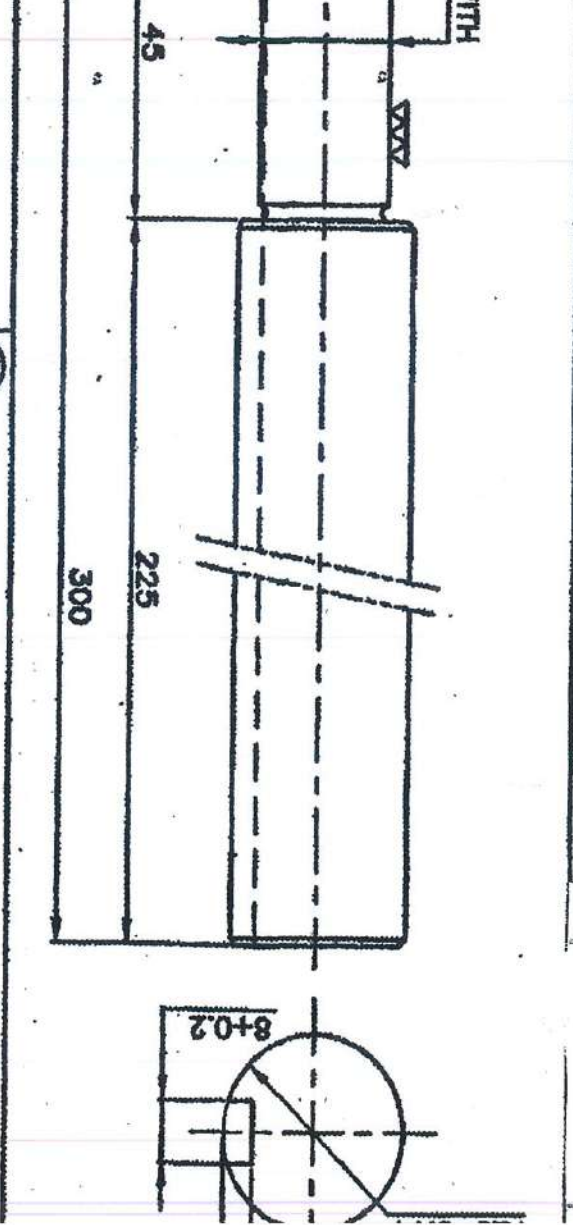
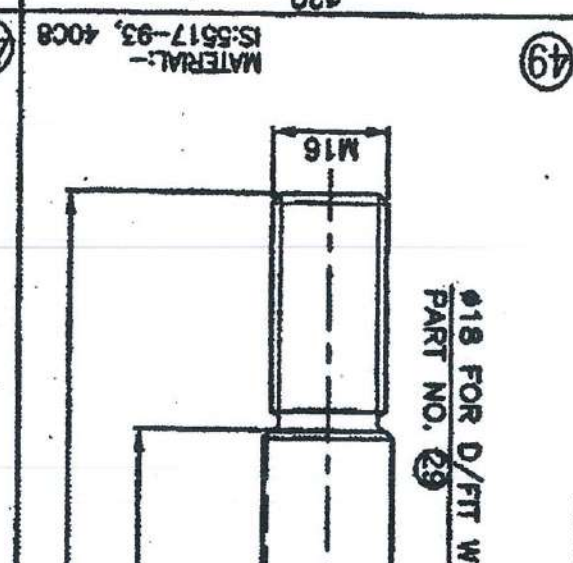
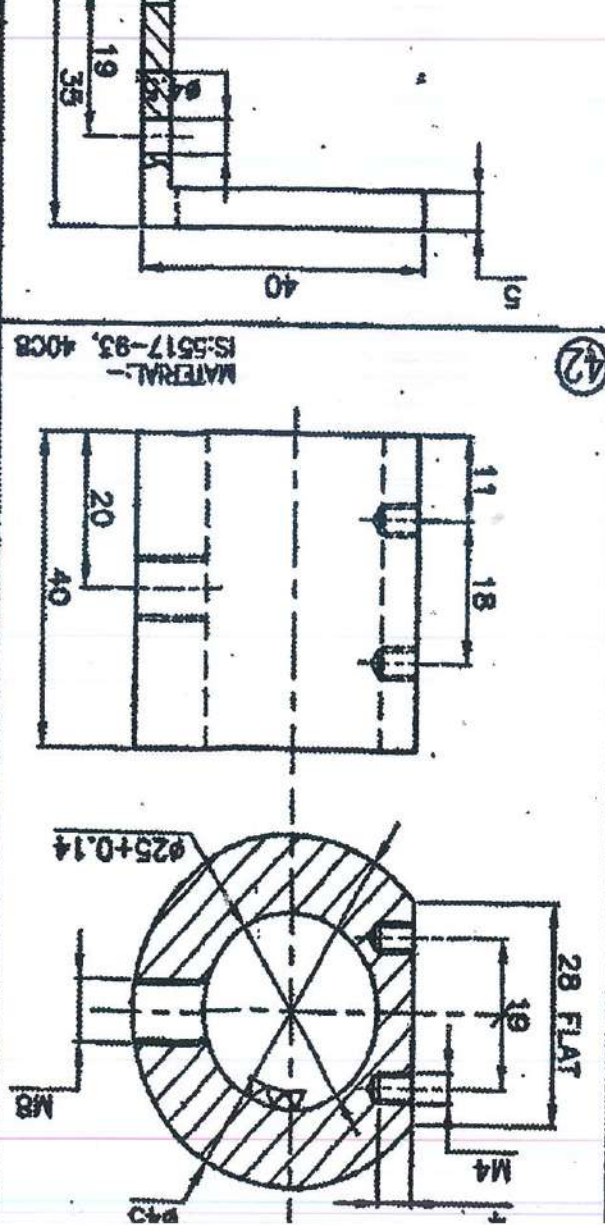
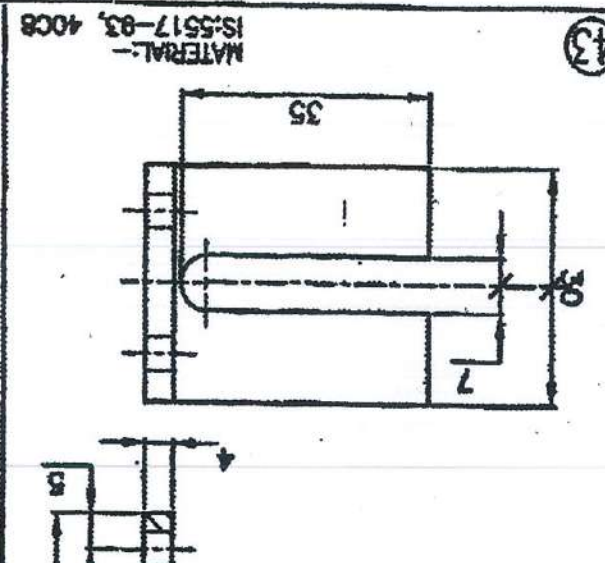
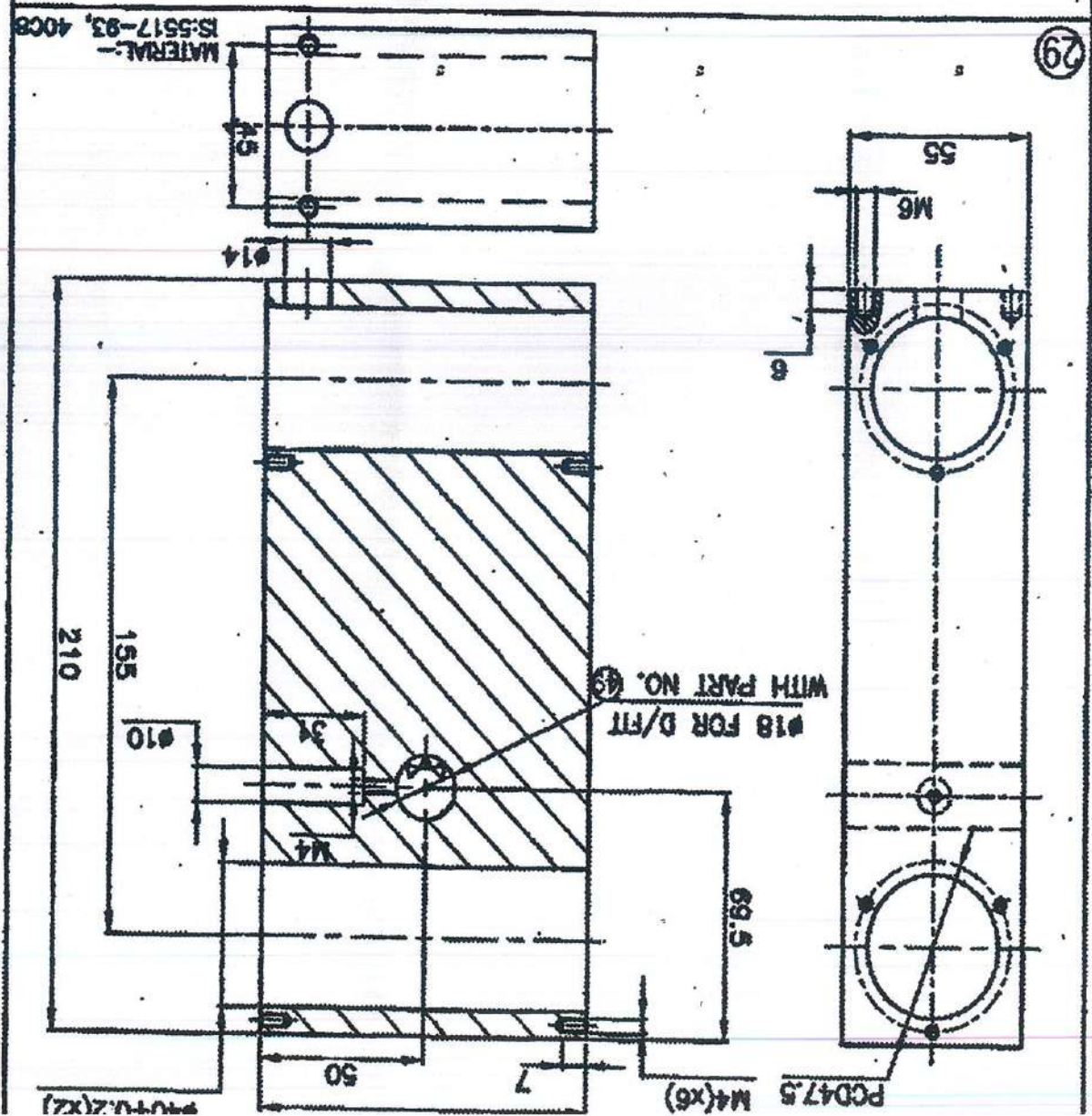
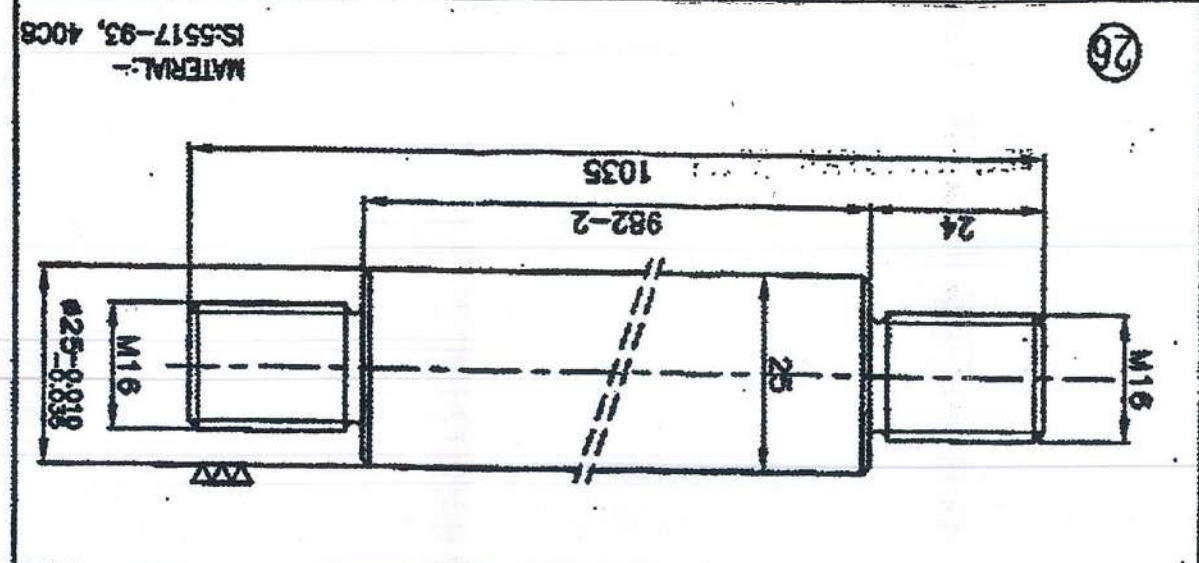
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DRAWN BY: [Signature]

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4000	9000	FS	25	FS	0.8	0.1
2000	4000	FS	25	FS	0.8	0.1
1000	2000	FS	25	FS	0.8	0.1
315	1000	FS	25	FS	0.8	0.1
120	315	FS	25	FS	0.8	0.1
30	120	FS	25	FS	0.8	0.1
6	30	FS	25	FS	0.8	0.1
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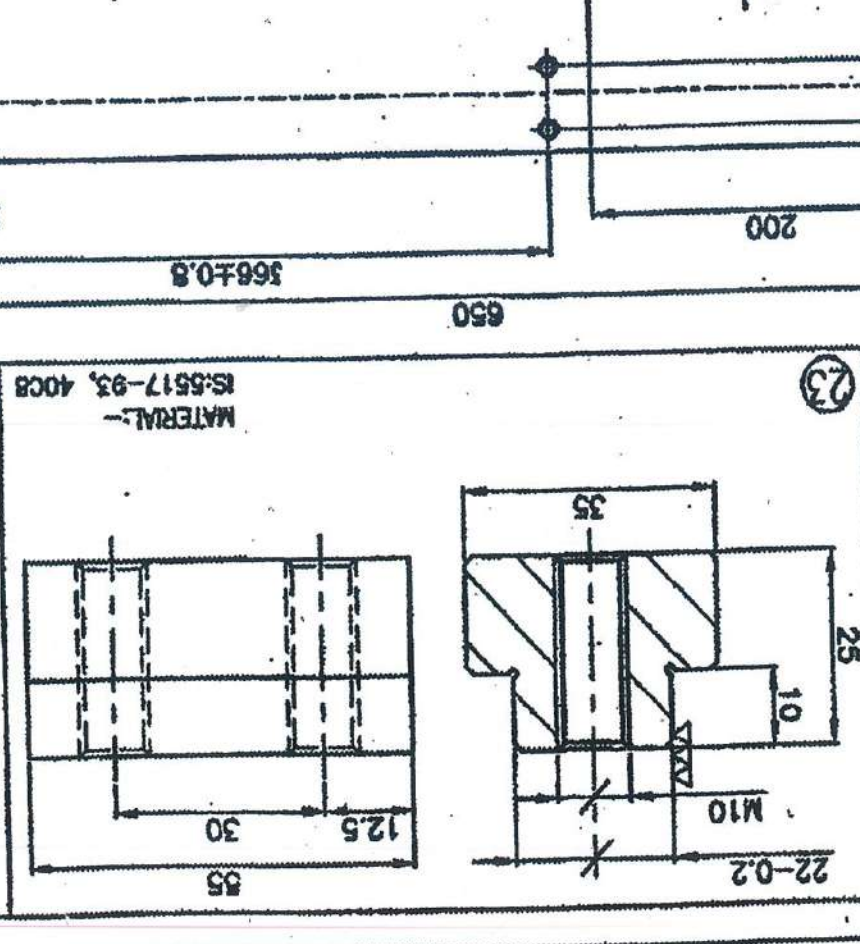
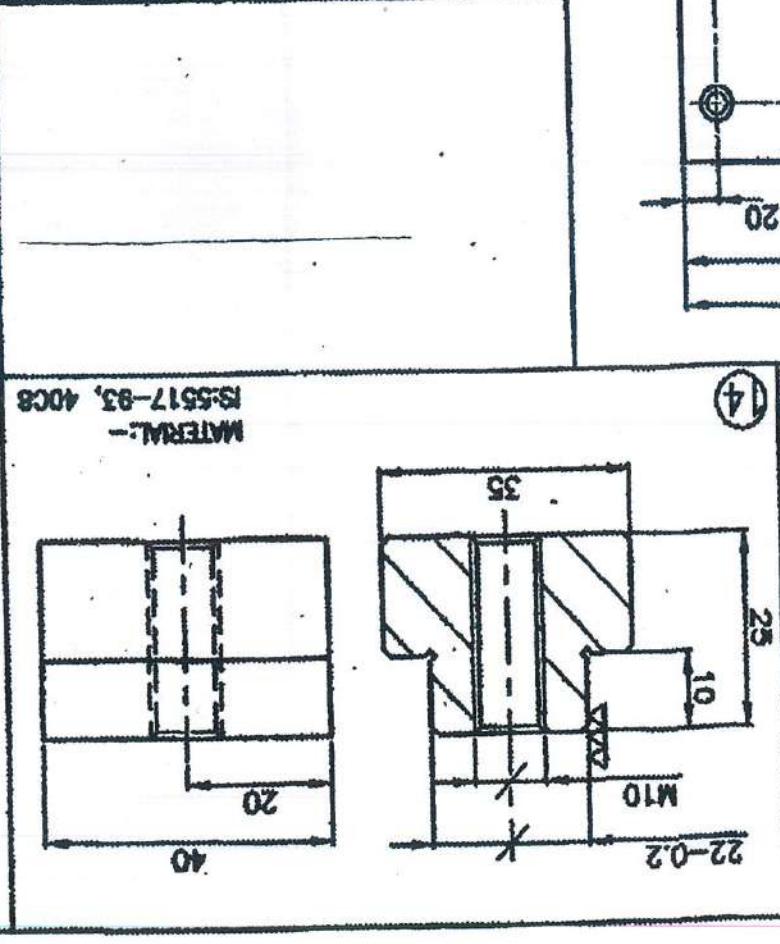
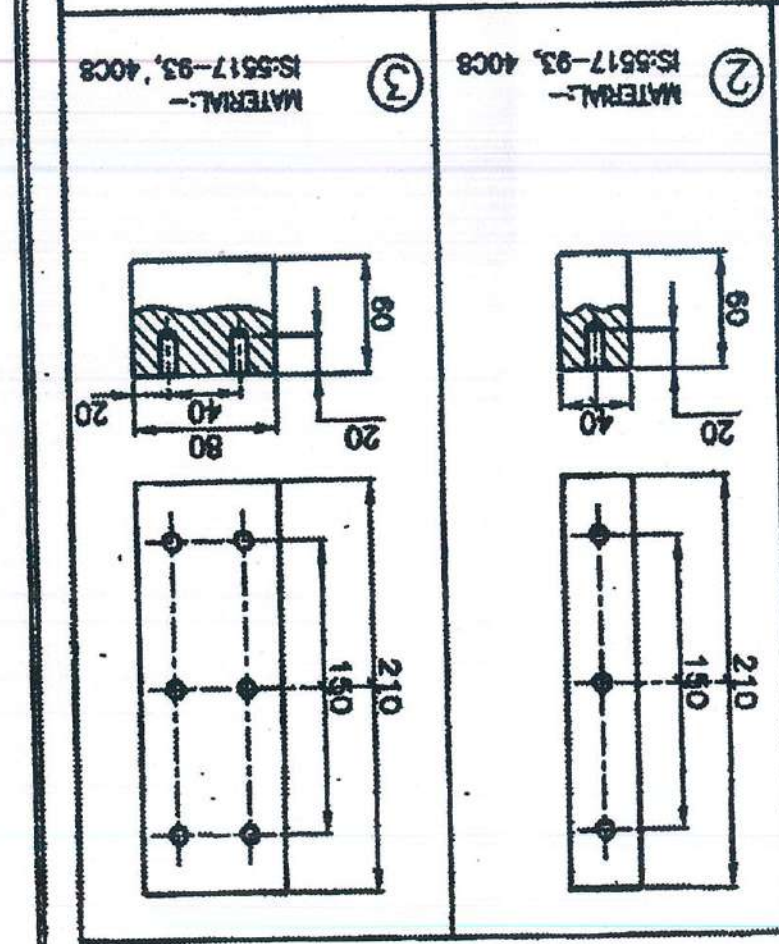
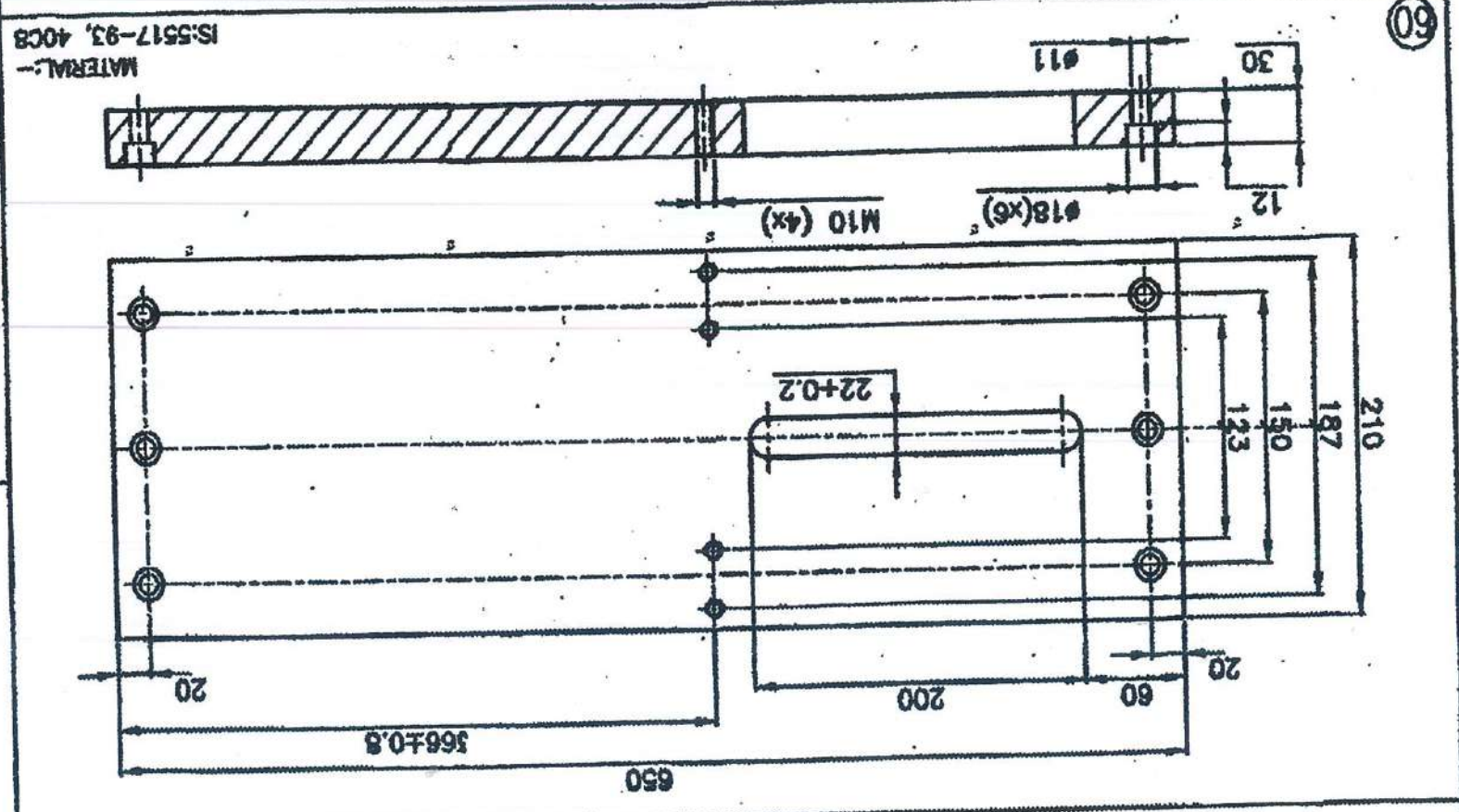
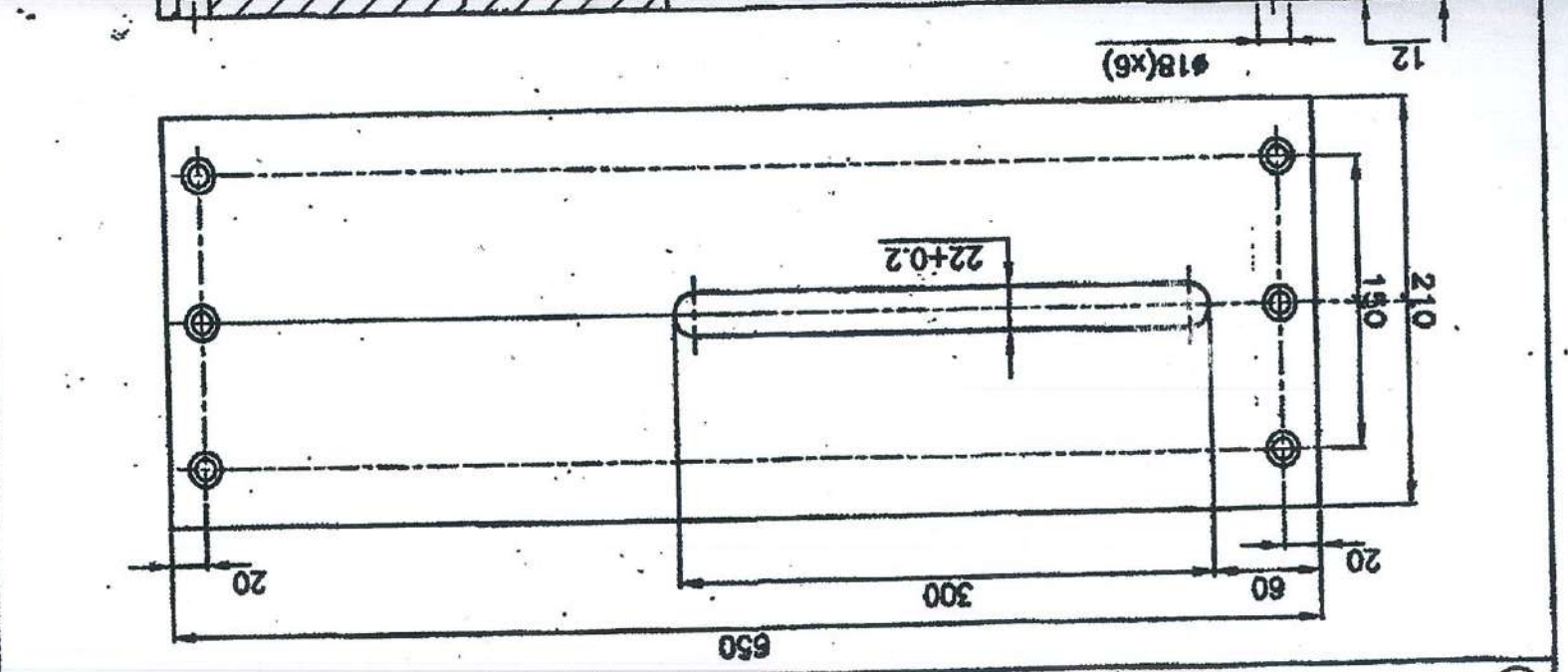
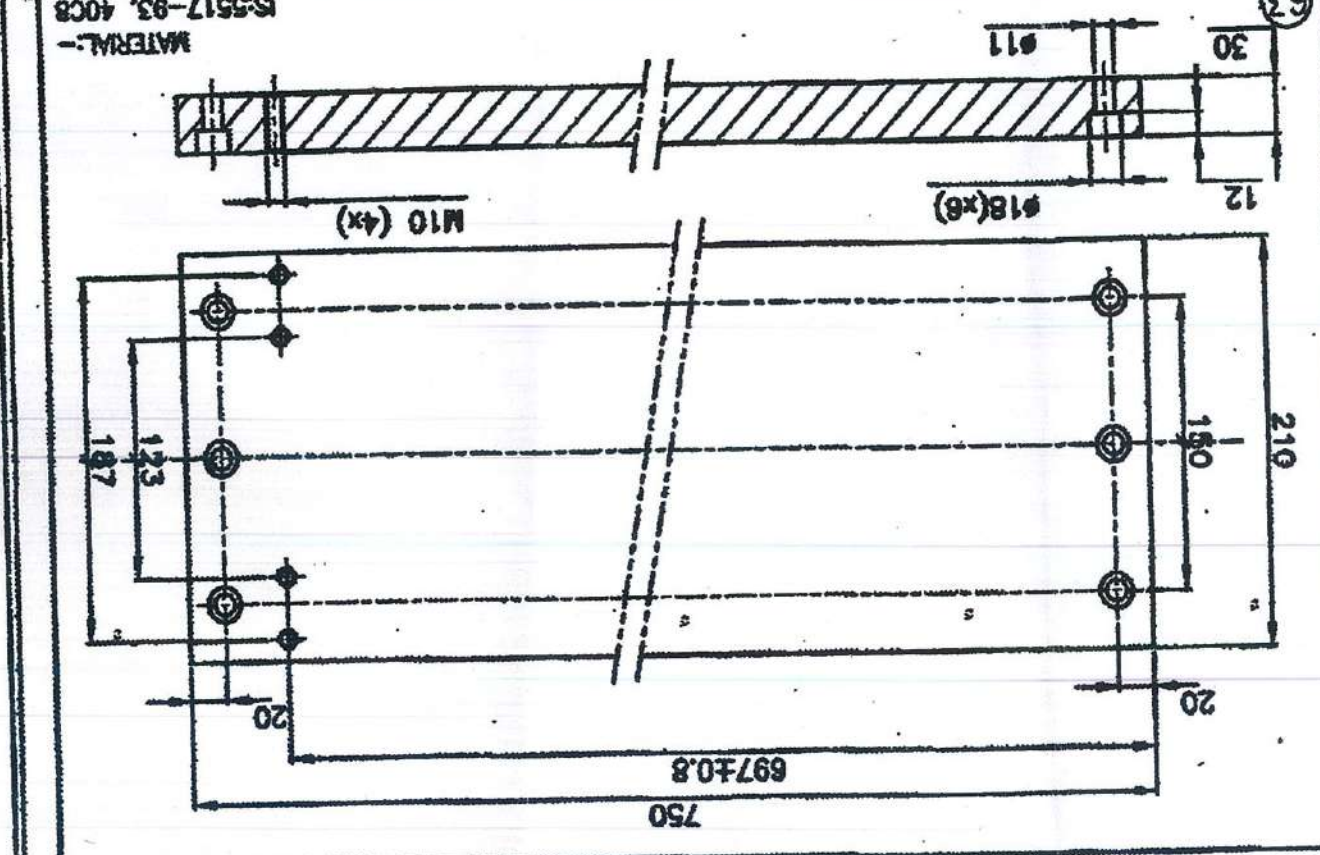
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OIC/EP/DRG DO/EP



ITEM NO.		DESCRIPTION		NO. OFF.		STD.		MATERIAL		SIZE		REMARKS	
SCALE		ALL DIMENSIONS ARE IN MM		GEN. TOL. AS PER IS: 2102 MED. CLASS		SEC. EP		ORDNANCE FACTORY BADMAL		DRG. NO.		S. ACHARYA	
AMMENDS		DATE		DRN.		CKD.		REF. DRG. NO.		M/C		S.M/G-2143E	
GAUGE FOR WALL THICKNESS		VARIATION & CAVITY NUMBER		BL/SK/G/BC/447									



Approved By: \_\_\_\_\_

Date: \_\_\_\_\_

Signature: \_\_\_\_\_





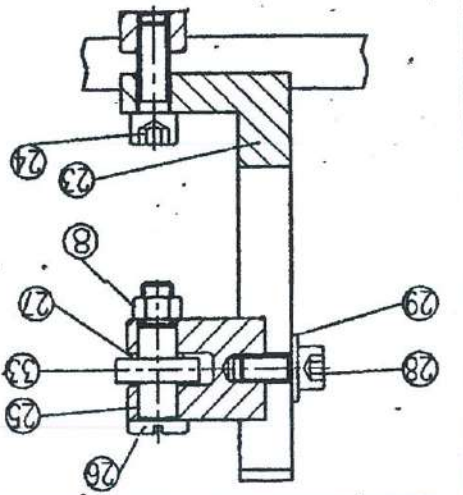


DATE: 15-04-24	SHTS: 1/6	DATE	NO	DATE	NO	DATE	NO	DATE	NO	DATE	NO
M/C	W	DRG. NO.	BL/SK/RC/455	REF. DRG. NO.	SM/6-1677C	COMP. SHELL BODY	EXT. DIA. W/IT BODY DIA.	CONCENTRICITY OF	GEN. TOL. AS PER IS: 2102 MED. CLASS	SCALE	NTS
DRG. NO.	S. ACHARYA	TCD.		DRN.		AMENDS					
SEC. EP		SEC. EP		SEC. EP		DESCRIPTION					
REMARKS		NO. OFF.		STD.		MATERIAL					
SIZE											

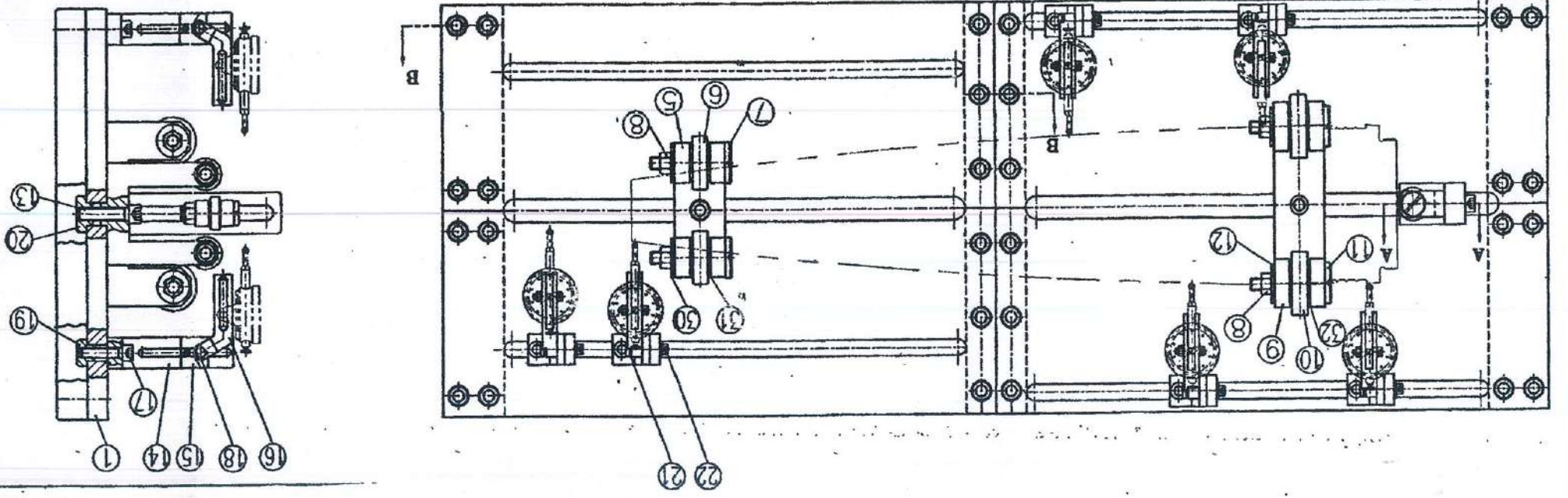
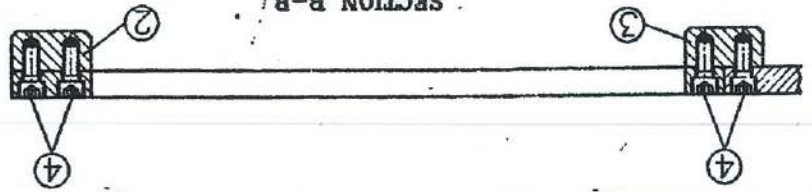
APPROVED BY :-

01C/RC(P&C) DO/RC(P&C) 50/RC(P&C)

SECTION A-A



SECTION B-B



GENL. NOTES:

- 1) UNNECESSARY SHARP EDGES & BURS TO BE REMOVED.
- 2) TOL. ON UNTOOL DIMN. CONFORM TO IS:2102-MEDIUM.

DRG NO: BL/SK/RC/455 NO of pages 06



2

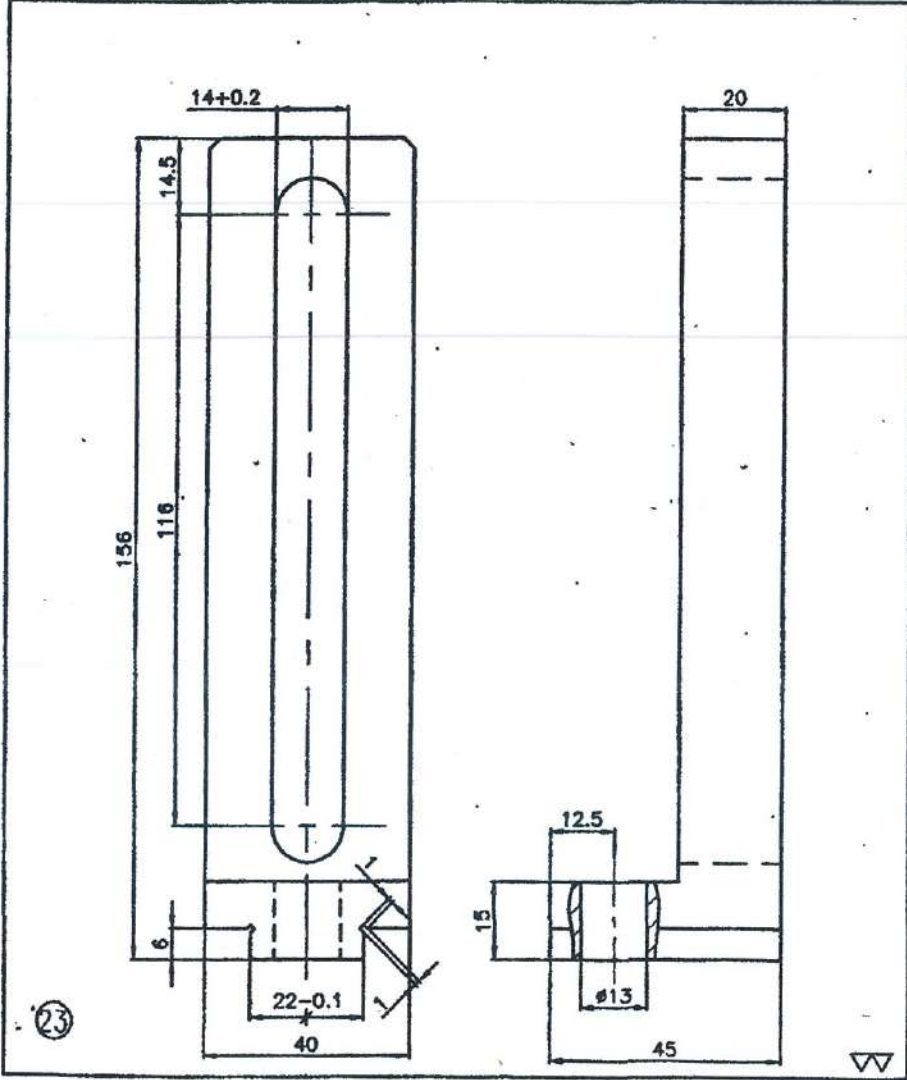
**GENL. NOTES:**

- 1) UNNECESSARY SHARP EDGES & BURRS TO BE REMOVED.
- 2) TOL. ON UNTOL. DIMN. CONFORM TO IS:2102-MEDIUM.

APPROVED BY:-

*[Signatures]*

OIC/QC/PAK DO/QC/PAK G/O/QC/PAK



ITEM NO.	DESCRIPTION	NO.OFF	MATERIAL	REMARKS
33	SKF BEARING NO. 6002	1		STD.
32	WASHER (ID-31, OD-38, THICK-2)	4	M.S.	
31	WASHER (ID-26, OD-34, THICK-2.5)	4	M.S.	
30	WASHER (ID-13, OD-32, THICK-2.5)	2	M.S.	
29	WASHER (ID-11 OD-25, THICK-2.5)	1	M.S.	
28	HEX. SOC. HD. CAP SCREW M10x20Lg	2	M.S.	STD.
17	WASHER (ID-15.5, OD-20, THICK-2)	2	M.S.	
26	STEPPED SCREW	1	M.S.	STD.
25	REAR STOPPER HOLDER	1	IS:5517-93, 40C8	
24	HEX. SOC. HD. CAP SCREW M12x45Lg	1	M.S.	STD.
23	REAR STOPPER STAND	1	IS:5517-93, 40C8	
22	HEX. SOC. HD. CAP SCREW M6x30Lg	6	M.S.	STD.
21	SPLIT WASHER (ID-6.5, OD-12, THICK-1.5)	6	M.S.	
20	TENNON	3	IS:5517-93, 40C8	
19	TENNON	6	IS:5517-93, 40C8	
18	SPL. BOLT	6	IS:5517-93, 40C8	
17	HEX. SOC. HD. CAP SCREW M10x42Lg	6	M.S.	STD.
16	INDICATOR CLAMP	6	IS:5517-93, 40C8	
15	INDICATOR CLAMP HOLDER	6	IS:5517-93, 40C8	
14	INDICATOR COLOUM	6	IS:5517-93, 40C8	
13	HEX. SOC. HD. CAP SCREW M12x50Lg	3	M.S.	STD.
12	WASHER (ID-13, OD-38, THICK-2.5)	2	M.S.	
11	AXLE FOR BEARING BRACKET REAR	2	IS:5517-93, 40C8	
10	SKF BEARING NO. 6206 (SERIES 62-2Z)	2		STD.
9	BEARING BRACKET REAR	1	IS:5517-93, 40C8	
8	HEX. NUT M12	5	M.S.	STD.
7	AXLE FOR BEARING BRACKET FRONT	2	IS:5517-93, 40C8	
6	SKF BEARING NO. 6205 (SERIES 62-2Z)	2		STD.
5	BEARING BRACKET FRONT	1	IS:5517-93, 40C8	
4	HEX. SOC. HD. CAP SCREW M12x25Lg	32	M.S.	STD.
3	LEG MIDDLE	2	M.S.	
2	LEG END	2	M.S.	
1	BASE PLATE (200x550x20)	4	M.S.	

**PART LIST**

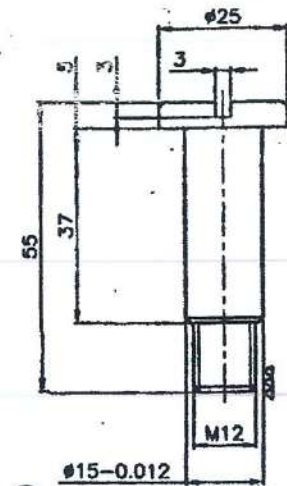
ITEM NO.	DESCRIPTION	NO.OFF	STD.	MATERIAL	SIZE	REMARKS
SCALE	ALL DIMENSIONS ARE IN MM		GEN. TOL. AS PER IS: 2102 MED. CLASS	SEC. EP	ORDNANCE FACTORY BADMAL	
AMMENDS	CONCENTRICITY OF		TCD.	S.ACHARYA	DRG. NO	
NO	DATE	EXT. DIA. WRT		DRN.	BL/SK/QC/455	
		BODY DIA.		CKD.	REF. DRG. NO.	
		COMP. SHELL BODY		OIC/EP	SM/9-1671C	
		STORE. M107&M114/155mm		DO/EP	M/C	
					DATE: 16-4-24	SHTS: 2/6



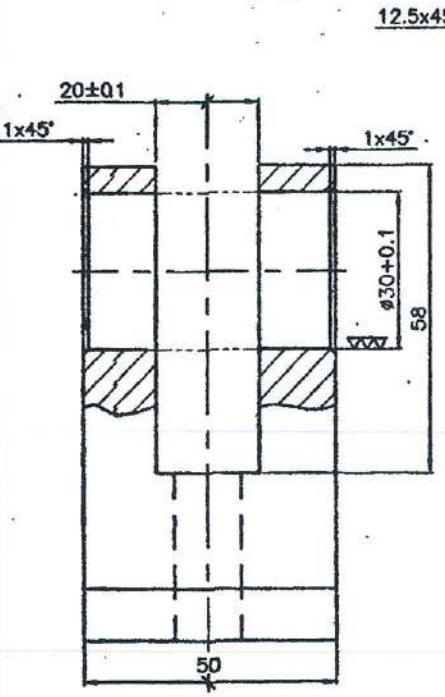




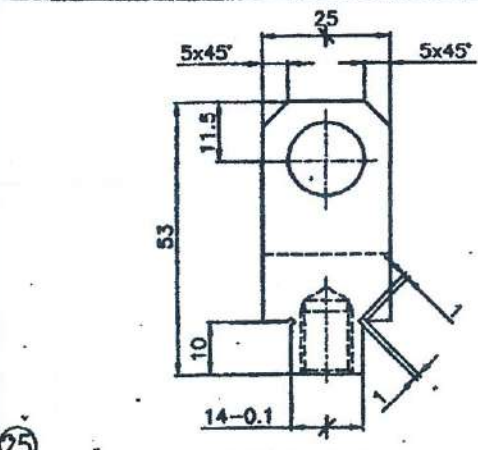
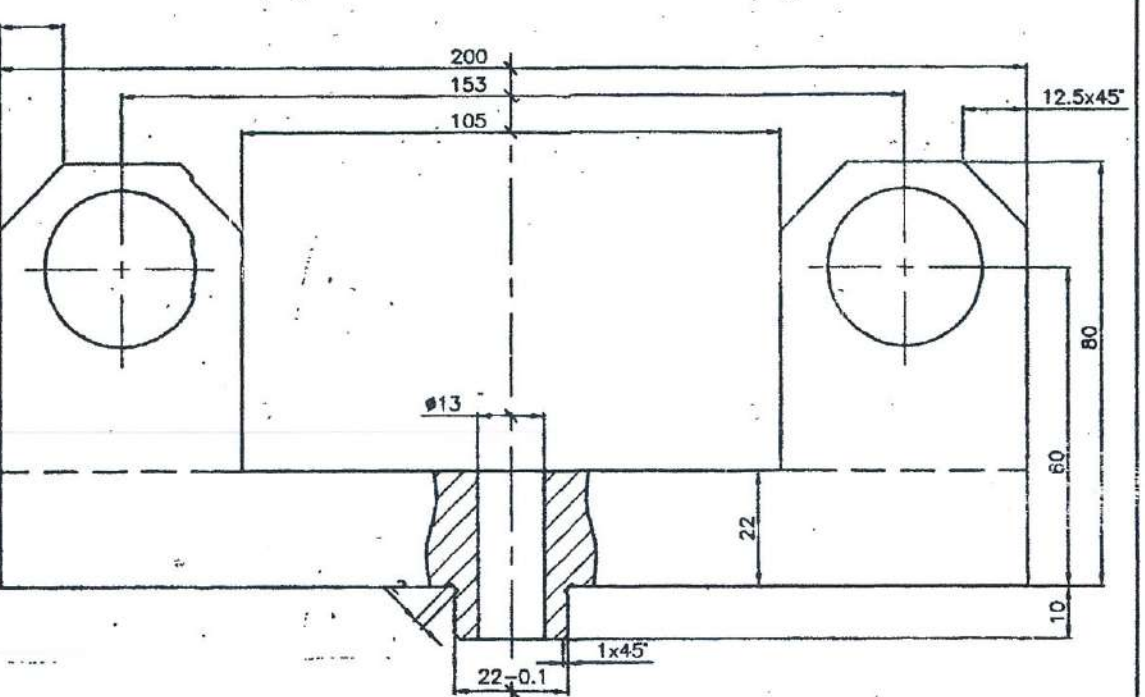
GENL. NOTES:  
 1) UNNECESSARY SHARP EDGES & BURRS TO BE REMOVED.  
 2) TOL. ON UNTOL. DIMN. CONFORM TO IS:2102-MEDIUM.



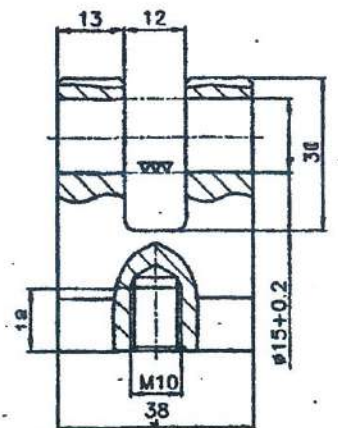
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27



25



28

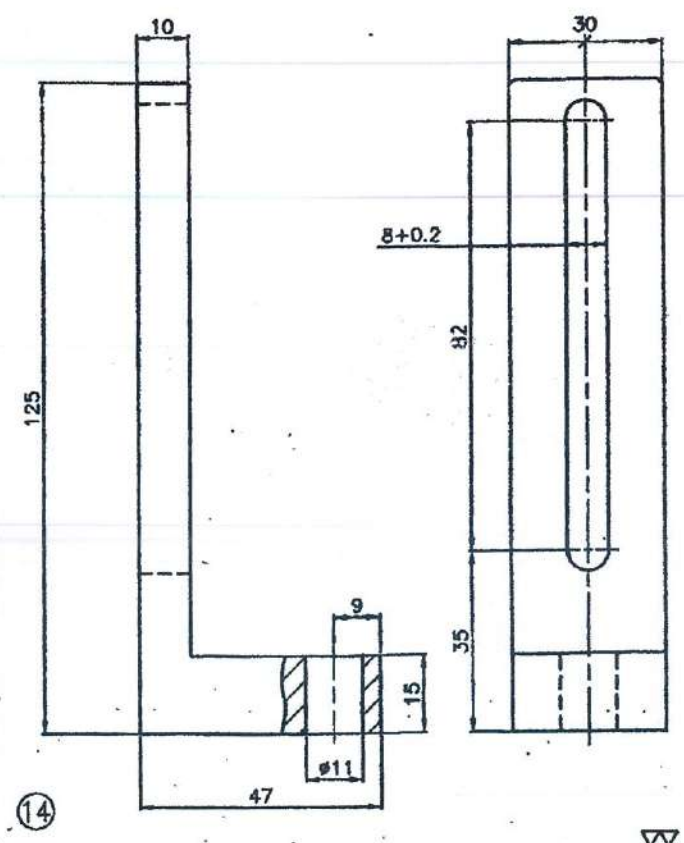
APPROVED BY: [Signatures]

ITEM NO.	DESCRIPTION	NO. OFF.	STD.	MATERIAL	SIZE	REMARKS
SCALE	ALL DIMENSIONS ARE IN MM			SEC. EP		ORDNANCE FACTORY BADMAL
NTS	GEN. TOL. AS PER IS: 2102 MED. CLASS					
AMMENDS	CONCENTRICITY OF			TCD	S. ACHARYA	DRG. NO. BL/SK/AC/455
NO	DATE					REF. DRG. NO. SM16-1677C
				DRN.		M/C
				CKD.		
	COMP. SHELL BODY			OICEP		
	STORE. M107 & M1A4(155)			DOIEP		DATE: 19.04.24 SHTS: 4/6

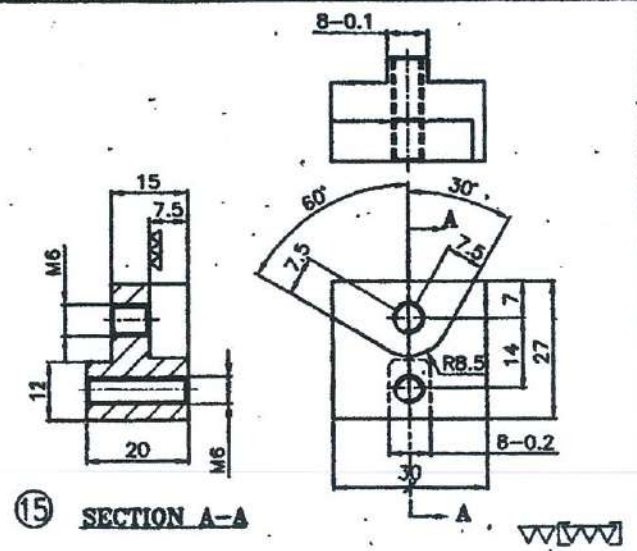


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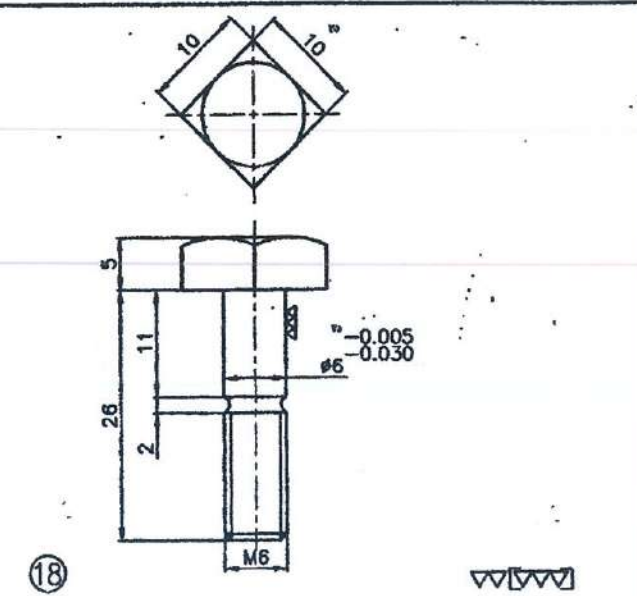
GENL. NOTES:  
 1) UNNECESSARY SHARP EDGES & BURRS TO BE REMOVED.  
 2) TOL. ON UNTOL. DIMN. CONFORM TO IS:2102-MEDIUM.



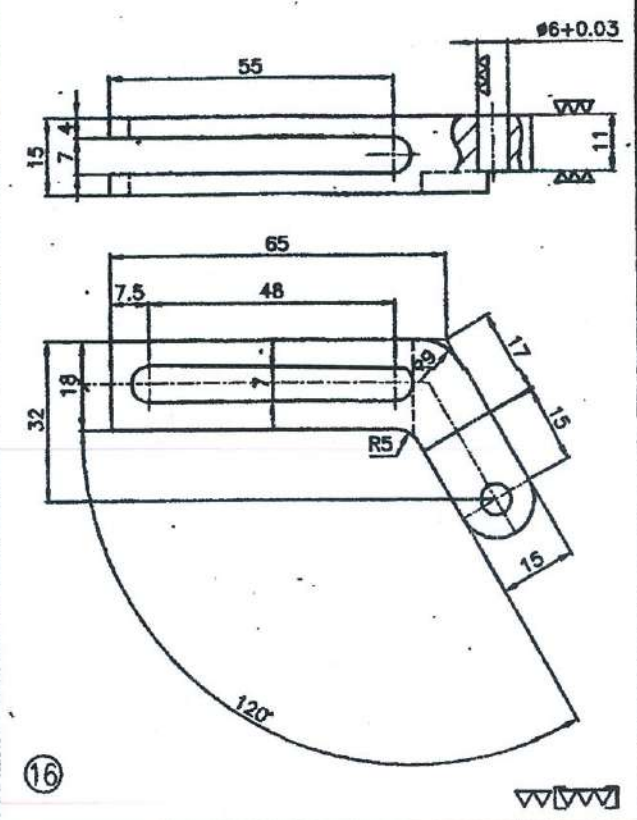
14



15 SECTION A-A



18



16


APPROVED BY:

*[Signature]* *[Signature]* *[Signature]*

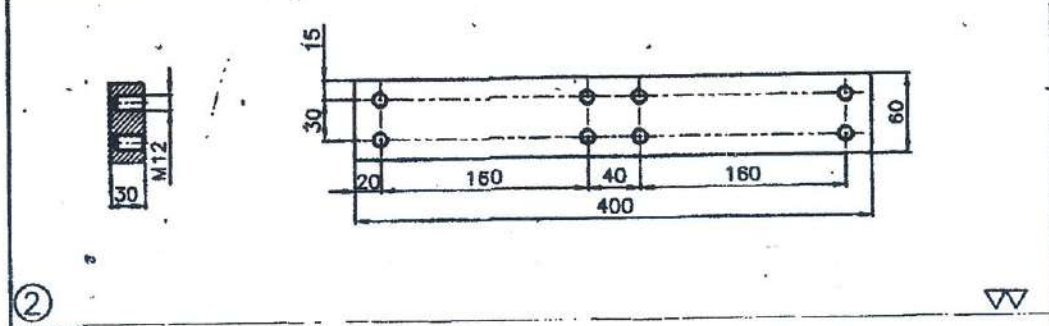
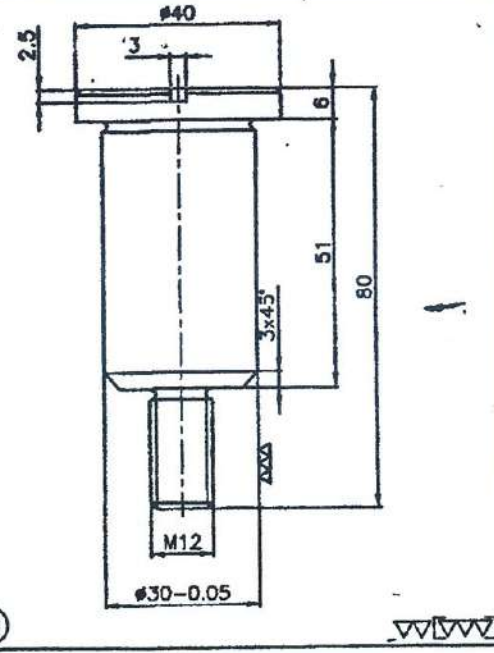
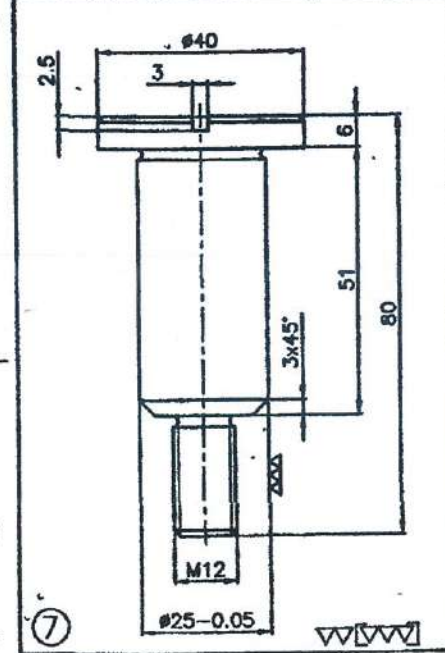
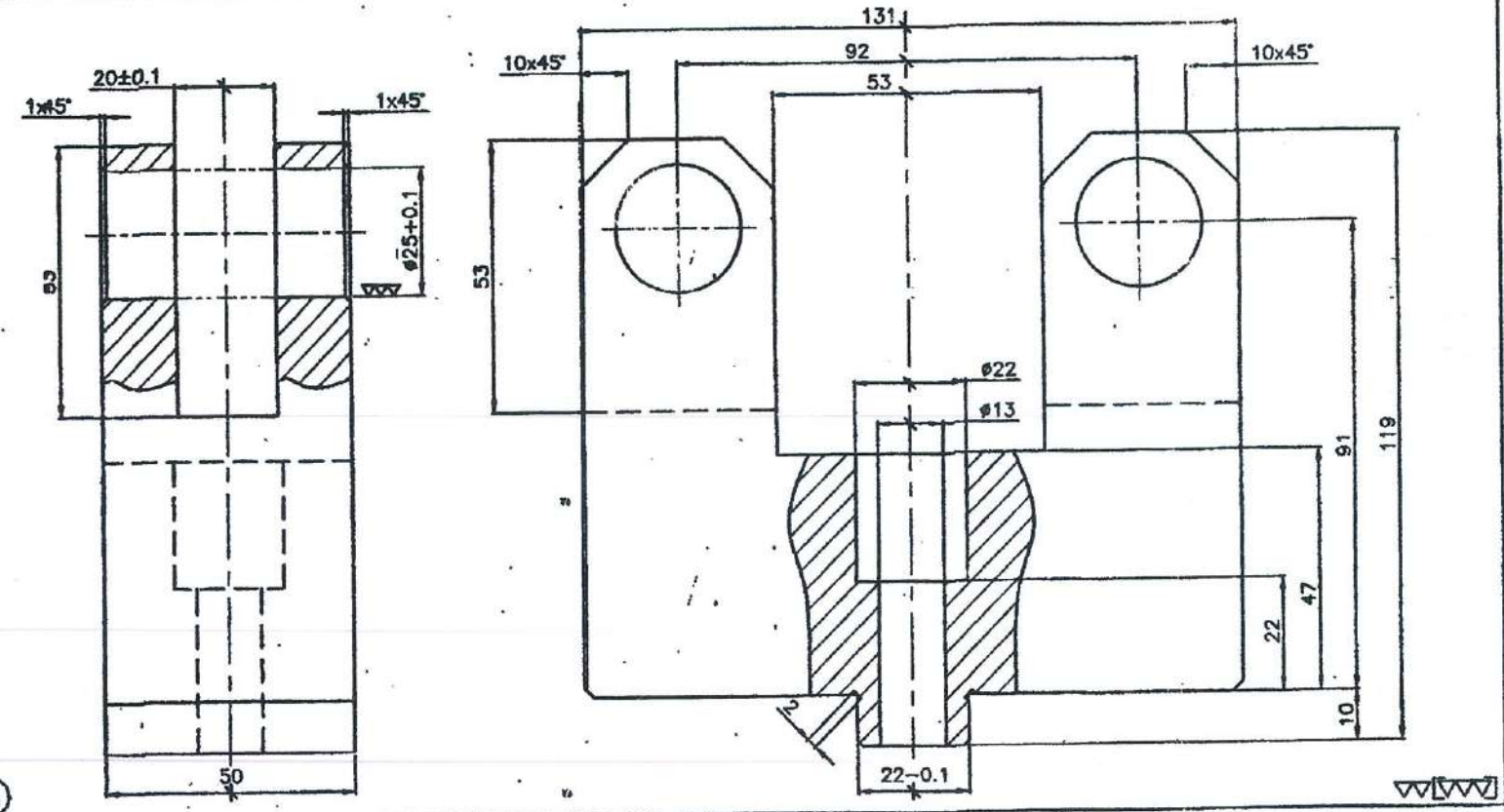
OIC/QC(P&C) DQ/QC(P&C) GO/QC(P&C)

ITEM NO.	DESCRIPTION	NO.OFF	STD.	MATERIAL	SIZE	REMARKS
SCALE N/A	ALL DIMENSIONS ARE IN MM GEN. TOL. AS PER IS: 2102 MED. CLASS			SEC. EP		ORDNANCE FACTORY BADMAL
AMMENDS	CONCENTRICITY OF			TCD. S. ACHARYA		DRG NO. BL/SK/QC/455
NO	DATE			DRN.		REF. DRG. NO. SM/6-1677'e
				CKD.		M/C
	COMP. SHELL BODY			OIC/EP CV		DATE: 20.4.24
	STORE M107&M104 (155m)			DO/EP		SHTS: 5/6



APPROVED BY :-  
  
 OIC/QC (P&S) DO/QC (P&S) GO/QC (P&S)

GENL. NOTES:  
 1) UNNECESSARY SHARP EDGES & BURS TO BE REMOVED.  
 2) TOL. ON UNTOL. DIMN. CONFORM TO IS:2102-MEDIUM.



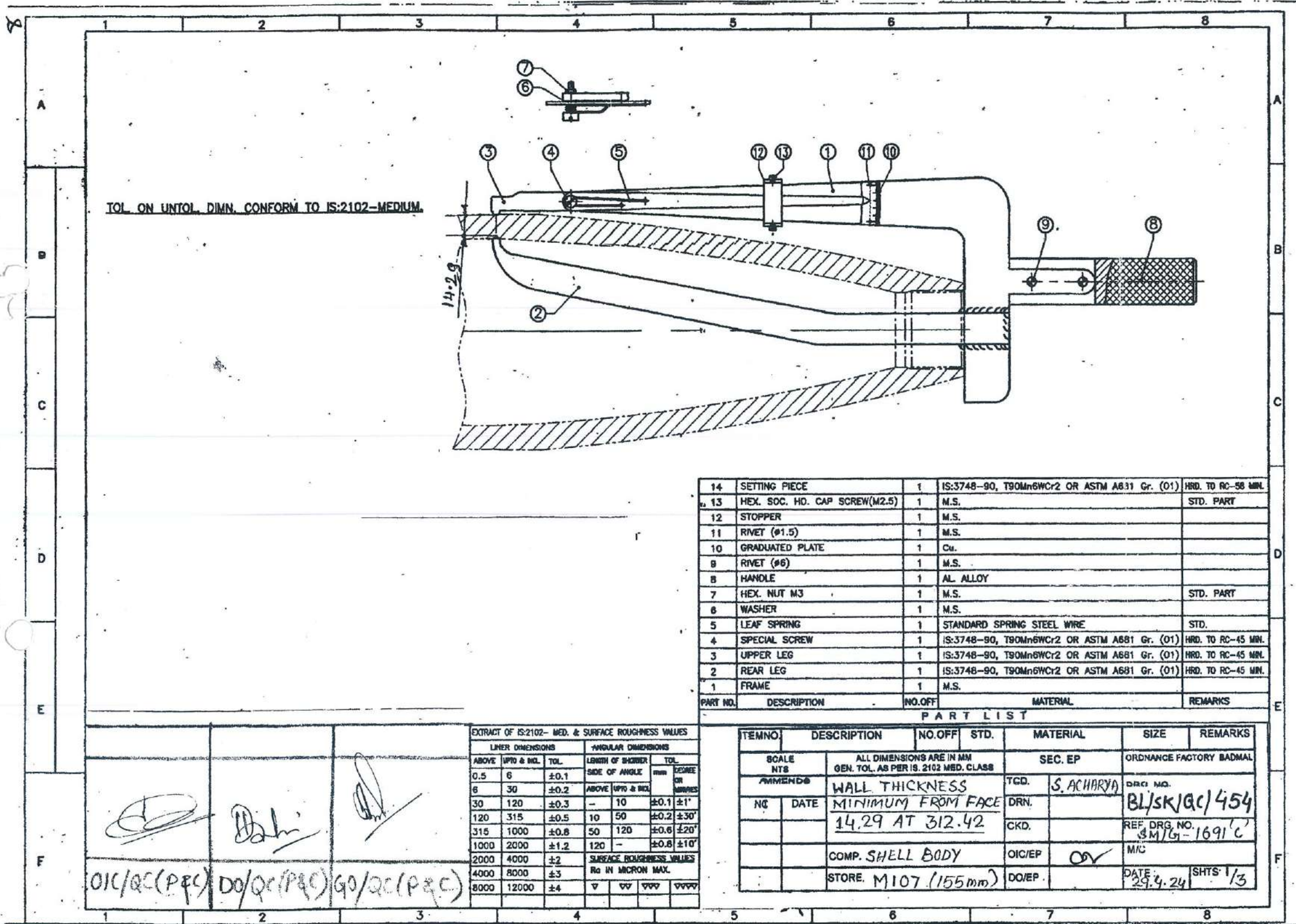
ITEM NO.	DESCRIPTION	NO.OFF	STD.	MATERIAL	SIZE	REMARKS
SCALE	ALL DIMENSIONS ARE IN MM			SEC. EP	ORDNANCE FACTORY BDMAL	
NTB	GEN. TOL. AS PER IS: 2102 MED. CLASS			TCD.	S.ACHARYA	DRG. NO.
AMMENDS	CONCENTRICITY OF EXT. DIA. WRT BODY DIA.			DRN.		BL/SK/BC/455
NO				DATE	CKD.	
				OIC/EP	CA	M/C
	COMP. SHELL BODY			DO/EP		DATE: 22.04.21
	STORE. M107&M1A4(153)					SHTS: 6/6

Gauge for checking Concentricity of External dia wrt Body dia for 155mm M-107 shell  
 Drg No: BL/SK/BC/455









TOL. ON UNTOL. DIMN. CONFORM TO IS:2102-MEDIUM.

14.29

PART NO.	DESCRIPTION	NO.OFF	MATERIAL	REMARKS
14	SETTING PIECE	1	IS:3748-90, T90Mn6WCr2 OR ASTM A811 Gr. (01)	HRD. TO RC-58 MIN.
13	HEX. SOC. HD. CAP SCREW(M2.5)	1	M.S.	STD. PART
12	STOPPER	1	M.S.	
11	RIVET (#1.5)	1	M.S.	
10	GRADUATED PLATE	1	Cu.	
9	RIVET (#6)	1	M.S.	
8	HANDLE	1	AL ALLOY	
7	HEX. NUT M3	1	M.S.	STD. PART
6	WASHER	1	M.S.	
5	LEAF SPRING	1	STANDARD SPRING STEEL WIRE	STD.
4	SPECIAL SCREW	1	IS:3748-90, T90Mn6WCr2 OR ASTM A881 Gr. (01)	HRD. TO RC-45 MIN.
3	UPPER LEG	1	IS:3748-90, T90Mn6WCr2 OR ASTM A881 Gr. (01)	HRD. TO RC-45 MIN.
2	REAR LEG	1	IS:3748-90, T90Mn6WCr2 OR ASTM A881 Gr. (01)	HRD. TO RC-45 MIN.
1	FRAME	1	M.S.	

Handwritten signatures and initials in the bottom left corner of the drawing area.

EXTRACT OF IS:2102- MED. & SURFACE ROUGHNESS VALUES			
LINEAR DIMENSIONS		ANGULAR DIMENSIONS	
ABOVE	UP TO & INCL.	LENGTH OF SHORER SIDE OF ANGLE	TOL.
0.5	6		±0.1
6	30		±0.2
30	120	10	±0.1 ±1'
120	315	10 50	±0.2 ±30'
315	1000	50 120	±0.6 ±20'
1000	2000	120	±0.8 ±10'
2000	4000		±2
4000	8000		±3
8000	12000		±4

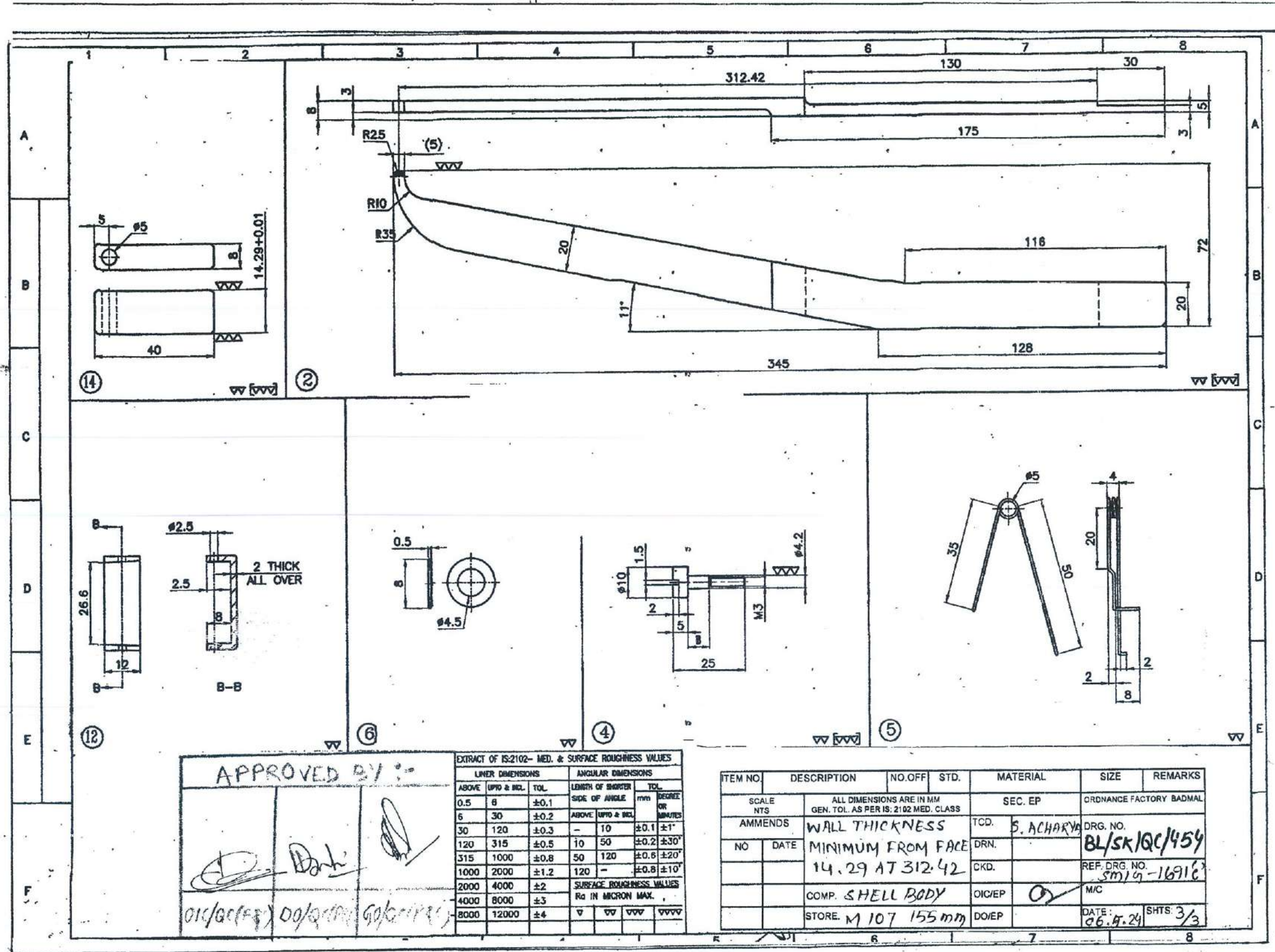
ITEM NO.	DESCRIPTION	NO.OFF	STD.	MATERIAL	SIZE	REMARKS
	SCALE NTS			ALL DIMENSIONS ARE IN MM GEN. TOL. AS PER IS. 2102 MED. CLASS		
	AMMENDS			WALL THICKNESS	TCD. S. ACHARYA	DRG. NO. BL/SK/QC/454
	NC			MINIMUM FROM FACE	DRN.	REF. DRG. NO. SM/G-1691C
				14.29 AT 312.42	CKD.	M/C
				COMP. SHELL BODY	OIC/EP	DATE: 29.4.24
				STORE. M107 (155mm)	DO/EP	SHTS: 1/3

Gauge for checking wall thickness minimum from face for 155 mm M-107 shell to DRG NO: BL/SK/QC/455









APPROVED BY :-  
  
 01/00/0000 00/00/0000 00/00/0000

EXTRACT OF IS:2102- MED. & SURFACE ROUGHNESS VALUES			
LINER DIMENSIONS		ANGULAR DIMENSIONS	
ABOVE	UP TO & INCL.	TOL.	LENGTH OF SHORTER SIDE OF ANGLE
0.5	8	±0.1	mm
6	30	±0.2	mm
30	120	±0.3	10
120	315	±0.5	50
315	1000	±0.8	120
1000	2000	±1.2	mm
2000	4000	±2	mm
4000	8000	±3	mm
8000	12000	±4	mm

ITEM NO.	DESCRIPTION	NO.OFF	STD.	MATERIAL	SIZE	REMARKS
SCALE	ALL DIMENSIONS ARE IN MM			SEC. EP	ORDNANCE FACTORY BADMAL	
AMMENDS	GEN. TOL. AS PER IS: 2102 MED. CLASS			DRN.	DRG. NO. BL/SK/QC/454	
NO	DATE	WALL THICKNESS MINIMUM FROM FACE 14.29 AT 312.42			REF. DRG. NO. sm/9-16916	
		COMP. SHELL BODY			M/C	
		STORE. M 107 155 mm			DATE: 06.4.24 SHTS: 3/3	