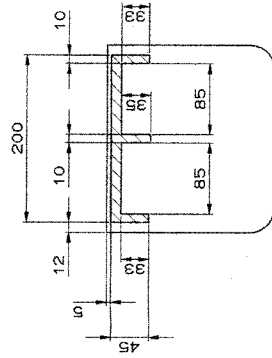
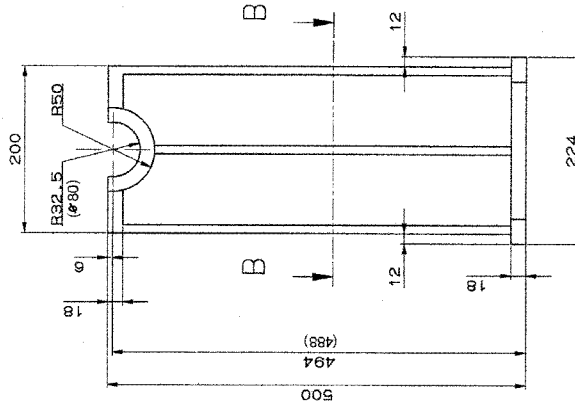
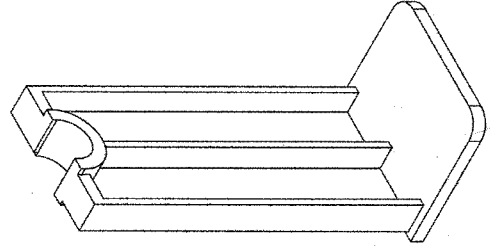


SECTION A-A



SECTION B-B



- NOTE:
1. CASTING TO BE DULY CLEANED & FREE FROM FINS, RUNNERS, RISERS, ETC.
 2. CASTING TO BE FREE FROM CRACKS, BLOW HOLES & OTHER CASTING DEFECTS.
 3. CASTING TO BE SUPPLIED IN HEAT TREATED CONDITION TO ACHIEVE MECHANICAL PROPERTIES AS SPECIFIED.
 4. ALL UNSPECIFIED RADII ARE 5mm.
 5. CASTING AND TEST BAR SHOULD BE SUPPLIED AT SAME HEAT TREATED CONDITION.
 6. CASTING SHOULD BE TESTED FOR RADIOGRAPHIC TEST AS PER ASTM E-446-1998 LEVEL-II
 7. MACHINING SIZE SHOWN IN BRACKET

GRADE	C	Si	Mn	Cr	Ni	S	P	Max	CU	Max
GR 280-520 W	0.25	0.60	1.20	0.35	0.40	0.035	0.040	0.40		
LS-1030-89	0.35	0.60	1.0							
BS:3100	0.35	0.60	1.0							

YIELD STRENGTH (MIN)	ULTIMATE TENSILE STRENGTH (MIN)	PERCENTAGE ELONGATION % (MIN)	REDUCTION OF AREA % (MIN)	IMPACT STRENGTH (MIN)	ANGLE BEND (MIN)
280 MPa	520 MPa	18	25	22 K&f.m/om2	60°
260 N/mm2	490 N/mm2	18		20 J.Min	90°

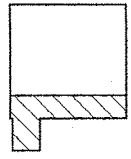
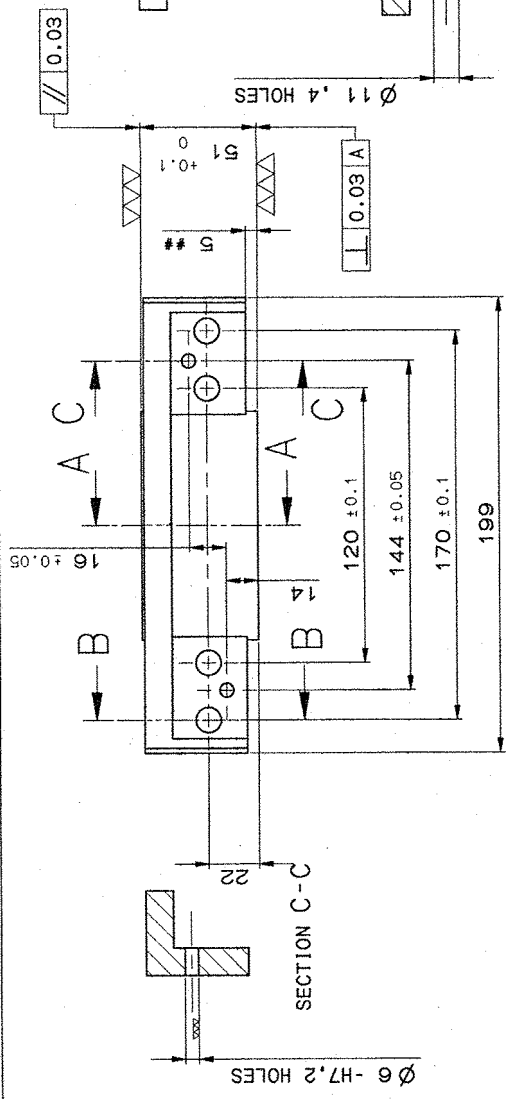
FOR EACH REDUCTION OF 0.01% CARBON BELOW 0.25% AN INCREASE OF 0.04% MANGANESE ABOVE THE MAXIMUM SPECIFIED WILL BE PERMITTED UP TO A MAXIMUM OF 1.40% FOR GRADE 280-520W

- + THE TOTAL CONTENT OF THESE RESIDUAL ELEMENTS SHALL NOT EXCEED 1.00%
- IF MEASURABLE THE UPPER YIELD STRESS OTHERWISE 0.2 PERCENT PROOF STRESS.

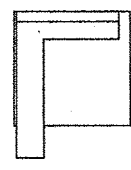
** MATL. I. Gr. A2 BS:3100
ALT. MATL: GR 280-520W IS:1030-89

NO. OFF	DESCRIPTION	PART No.	MATERIAL	STANDARD	DIMENSIONS	REMARKS																																																																																																																																				
1	CASTING FOR LAUNCHER MOUNTING BRACKET-I					WT:-20.1Kg																																																																																																																																				
<table border="1"> <thead> <tr> <th>GENERAL TOLERANCE</th> <th>LINEAR DIMENSIONS</th> <th>ANGULAR DIMENSION</th> <th>FINISH</th> <th>PL</th> <th>DR</th> <th>VAL</th> <th>VAL</th> <th>VAL</th> <th>VAL</th> <th>VAL</th> </tr> </thead> <tbody> <tr> <td></td> <td>0-9</td> <td>0-1</td> <td></td> <td>10</td> <td>10</td> <td>10</td> <td>10</td> <td>10</td> <td>10</td> <td>10</td> </tr> <tr> <td></td> <td>10-30</td> <td>0.1-0.2</td> <td></td> <td>10</td> <td>10</td> <td>10</td> <td>10</td> <td>10</td> <td>10</td> <td>10</td> </tr> <tr> <td></td> <td>30-100</td> <td>0.2-0.3</td> <td></td> <td>10</td> <td>10</td> <td>10</td> <td>10</td> <td>10</td> <td>10</td> <td>10</td> </tr> <tr> <td></td> <td>100-200</td> <td>0.3-0.4</td> <td></td> <td>10</td> <td>10</td> <td>10</td> <td>10</td> <td>10</td> <td>10</td> <td>10</td> </tr> <tr> <td></td> <td>200-500</td> <td>0.4-0.5</td> <td></td> <td>10</td> <td>10</td> <td>10</td> <td>10</td> <td>10</td> <td>10</td> <td>10</td> </tr> <tr> <td></td> <td>500-1000</td> <td>0.5-0.6</td> <td></td> <td>10</td> <td>10</td> <td>10</td> <td>10</td> <td>10</td> <td>10</td> <td>10</td> </tr> <tr> <td></td> <td>1000-2000</td> <td>0.6-0.7</td> <td></td> <td>10</td> <td>10</td> <td>10</td> <td>10</td> <td>10</td> <td>10</td> <td>10</td> </tr> <tr> <td></td> <td>2000-5000</td> <td>0.7-0.8</td> <td></td> <td>10</td> <td>10</td> <td>10</td> <td>10</td> <td>10</td> <td>10</td> <td>10</td> </tr> <tr> <td></td> <td>5000-10000</td> <td>0.8-0.9</td> <td></td> <td>10</td> <td>10</td> <td>10</td> <td>10</td> <td>10</td> <td>10</td> <td>10</td> </tr> <tr> <td></td> <td>10000-20000</td> <td>0.9-1.0</td> <td></td> <td>10</td> <td>10</td> <td>10</td> <td>10</td> <td>10</td> <td>10</td> <td>10</td> </tr> <tr> <td></td> <td>20000-50000</td> <td>1.0-1.2</td> <td></td> <td>10</td> <td>10</td> <td>10</td> <td>10</td> <td>10</td> <td>10</td> <td>10</td> </tr> </tbody> </table>							GENERAL TOLERANCE	LINEAR DIMENSIONS	ANGULAR DIMENSION	FINISH	PL	DR	VAL	VAL	VAL	VAL	VAL		0-9	0-1		10	10	10	10	10	10	10		10-30	0.1-0.2		10	10	10	10	10	10	10		30-100	0.2-0.3		10	10	10	10	10	10	10		100-200	0.3-0.4		10	10	10	10	10	10	10		200-500	0.4-0.5		10	10	10	10	10	10	10		500-1000	0.5-0.6		10	10	10	10	10	10	10		1000-2000	0.6-0.7		10	10	10	10	10	10	10		2000-5000	0.7-0.8		10	10	10	10	10	10	10		5000-10000	0.8-0.9		10	10	10	10	10	10	10		10000-20000	0.9-1.0		10	10	10	10	10	10	10		20000-50000	1.0-1.2		10	10	10	10	10	10	10
GENERAL TOLERANCE	LINEAR DIMENSIONS	ANGULAR DIMENSION	FINISH	PL	DR	VAL	VAL	VAL	VAL	VAL																																																																																																																																
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	20000-50000	1.0-1.2		10	10	10	10	10	10	10																																																																																																																																
<p>INSPECTION BY: (G. Ramakrishna) Commander, Chief Inspector of Naval Armaments, Inspector of Naval Armament Inspection</p>																																																																																																																																										
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<p>SCALE: 1:1 DRAWN: [Signature] CHECKED: [Signature] APPROVED: [Signature]</p>																																																																																																																																										
<p>REPLACED FOR: [Signature] REPLACED FOR: [Signature]</p>																																																																																																																																										
<p>DRAWING NO.: DW-1109-0103-12-2 OFFICE: AMBARNATH</p>																																																																																																																																										

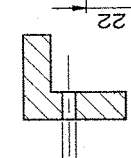
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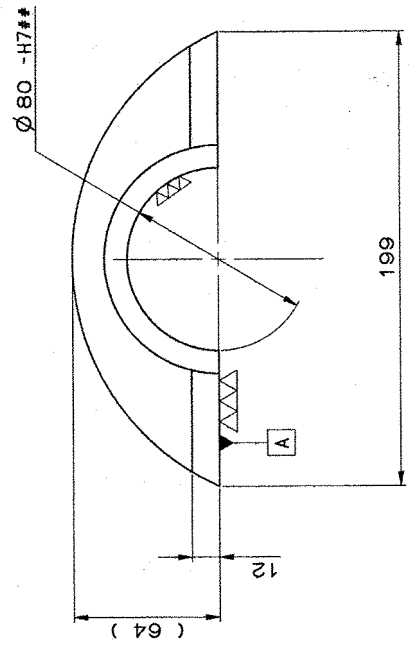
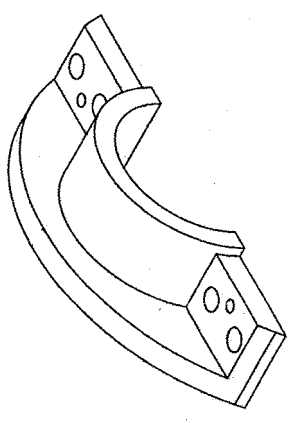
SECTION A - A



SECTION B - B



SECTION C - C



TO BE DONE IN ASSY. WITH DW-1109-0103-12 AFTER SCREWING AND DOWELING

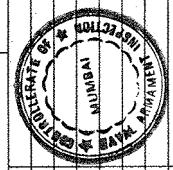
** TO BE MANUFACTURED FROM DW-1109-0104-13-2

** PHOSPHATING AND PAINTING

1. PHOSPHATING TO BE DONE AS PER IS:3618 CLASS B
2. PRIMER RED OXIDE TO STANDARD IS:12744 TO BE APPLIED BY FIRM WHO IS SUPPLYING STORE TO MPF AS PER DW-1134
3. PAINTING TO BE DONE AT MPF IN OR DURING ASSEMBLY AS PER DW-1134
4. DO NOT APPLY PRIMER AND PAINT ON BORE SURFACE

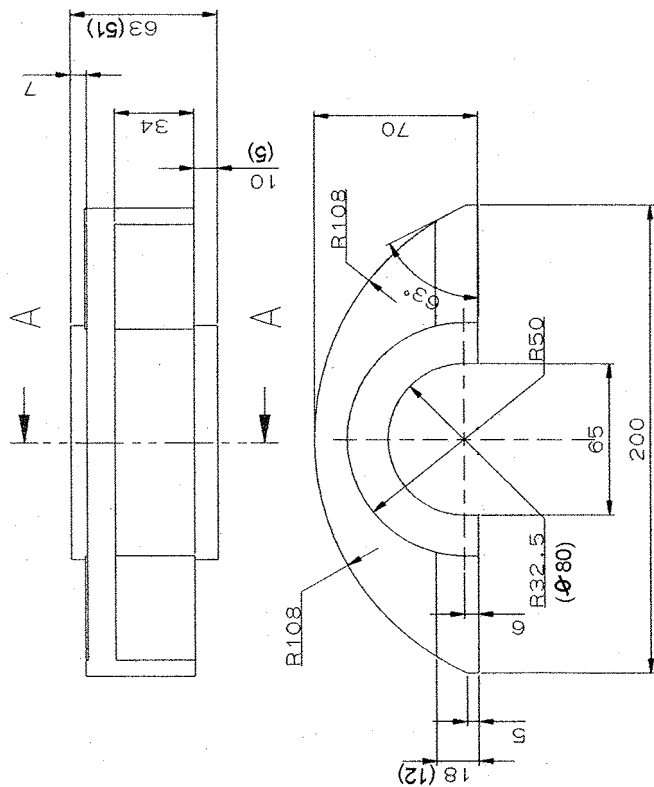
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No. OFF	DESCRIPTION	PART No.	MATERIAL	STANDARD	DIMENSIONS	REMARKS
1	MOUNTING BLOCK					**
GENERAL TOLERANCE						
LINEAR DIMENSIONS						
0-6	±0.1					
6-30	±0.2					
30-120	±0.3					
120-315	±0.5					
315-1000	±0.8					
1000-2000	±1.2					
ANGULAR DIMENSION						
1-10	±1'					
10-50	±30"					
50-100	±30"					
100	±10"					
VALUE IN "µm"						
0	±25					
0	±10					
0	±10					
0	±10					
0	±10					
0	±10					
0	±10					
MOUNTING BLOCK						
LAUNCHER MOUNTING BRACKET ASSY-1						
SECR LAUNCHER						
KAVACH MOD-II						
SCALE 1:1						
DRAWN 01.08.09 VIJAY						
CHECKED " " APPROVED " " APPROVED						
REPLACED BY						
REPLACED FOR						
DRAWING No. DW-1109-0104-13						
MACHINE TOOL PROTOTYPE FACTORY, AMBERNATH						
@rsigit @fftr						



(G Ramesh)
Commander
Chief Inspector of Naval Armament
for Controller of Naval Armament Inspection

No. OFF	ISS. No. OF ASSOCIATED PART	INDEX	ALTERNATION	DATE	NAME



SECTION A - A

NOTE:

1. CASTING TO BE DULY CLEANED & FREE FROM FINS, RUNNERS, RISERS ETC.
2. CASTING TO BE FREE FROM CRACKS, BLOW HOLES & OTHER CASTING DEFECTS.
3. CASTING TO BE SUPPLIED IN HEAT TREATED CONDITION TO ACHIEVE MECHANICAL PROPERTIES AS SPECIFIED.
4. ALL UNSPECIFIED RADII ARE 5mm.
5. CASTING AND TEST BAR SHOULD BE SUPPLIED AT SAME HEAT TREATED CONDITION.
6. CASTING SHOULD BE TESTED FOR RADIOGRAPHIC TEST AS PER ASTM E-446-1998, LEVEL-11
7. MACHINING SIZE SHOWN IN BRACKET

* *

MATL.: Gr. A2 BS:3100

ALL. MATL.: GR 280-520W IS:1030-89

GRADE	C	Si	Mn	Cr	Ni	S	P	Max	Max	CU
GR 280-520 W	0.25	0.60	1.20	0.35	0.40	0.035	0.040	0.40	+	
IS:1030-89										
Gr A2	0.35	0.60	1.0	-	-	0.060	0.060	-	-	
BS:3100	Max	Max	Max							

YIELD STRENGTH (Min)	ULTIMATE TENSILE STRENGTH (Min)	PERCENTAGE ELONGATION OF AREA % (Min)	REDUCTION OF AREA % (Min)	IMPACT STRENGTH (Min)	ANGLE OF BEND (Min)
280 MPa	520 MPa	18	25	22 Ksf.m/cm2	60°
260 N/mm2	490 N/mm2	18	-	20 J.Min	90°

FOR EACH REDUCTION OF 0.01% CARBON BELOW 0.25% AN INCREASE OF 0.04% MANGANESE ABOVE THE MAXIMUM SPECIFIED WILL BE PERMITTED UPTO A MAXIMUM OF 1.40% FOR GRADE 280-520W

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- + THE TOTAL CONTENT OF THESE RESIDUAL ELEMENTS SHALL NOT EXCEED 1.00%
- IF MEASUREABLE THE UPPER YIELD STRESS. OTHERWISE 0.2 PERCENT PROOF STRESS.

1	CASTING FOR MOUNTING BLOCK	* *	MATERIAL	STANDARD	DIMENSIONS	REMARKS
No. OFF	DESCRIPTION	PART No.				
(G Ramesh) Commander Chief Inspector of Naval Armament Chief Controller of Naval Armament Inspection						
No. OFF	DRG. No. OF ASSOCIATED PART	INDEX	CASTING FOR MOUNTING BLOCK LAUNCHER BRACKET ASSY. - I SRCR LAUNCHER KAVACH MOD-11			
SCALE 1:1 CHECKED BY [Signature] APPROVED BY [Signature] REPLACED BY [Signature] REPLACED FOR [Signature]						
MACHINE TOOL PROTOTYPE FACTORY. @Prsigt AMBERNATH @ffirt DW-1109-0104-13-2						