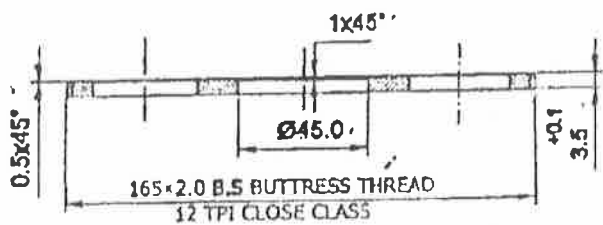
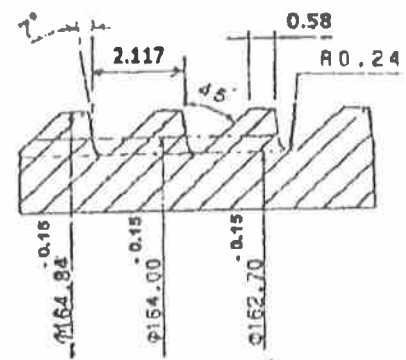
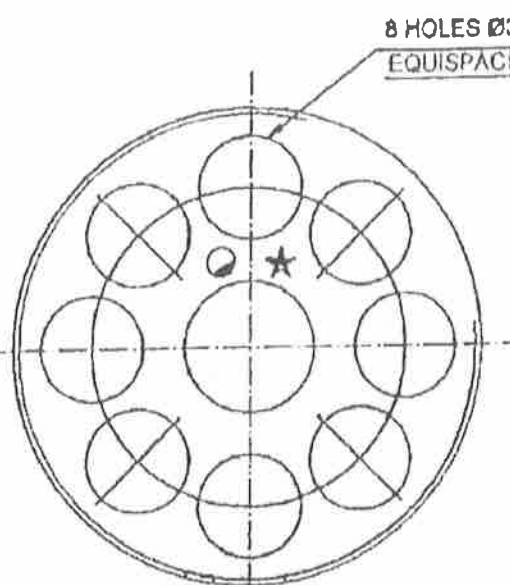


1	2	3	4
RevNo	Revision note	Zone	Issued Date
1.	THREAD DIMENSIONS AMENDED	-	19-09-2019
			Authority
			ARD 2576
			Engineer Sign
			<i>[Signature]</i>



**NOTES:-**

- PROTECTIVE FINISH:-** SURFACE TO BE PHOSPHATED TO IS:3618 CLASS 'B' FOLLOWED BY UNIFORM COATING OF ZIRCONIUM SILICATE TO APPENDIX 'C' OF SPECN ARDE/SPECN/334/1985 EXCEPT THREADED REGIONS OR APC 216 TO SPEC JSS:8010-51:09.
- THREAD TO BE CONFORMED TO SPEC BS:1657.

**MARKING NOTES:-**

THE FOLLOWING MARKINGS TO BE ENGRAVED IN 08 TO 12MM LETTER SIZE BETWEEN ANY OF THE Ø36.0 HOLE AND CENTRAL Ø45.0 HOLE  
 ● SERIAL NO.      ★ MANUFACTURER'S LOGO  
 DEPTH OF ENGRAVING .50 TO 120 MIC

इन आरेखों का प्रयोग केवल इनके साथ ही सम्पूर्ण सामग्री का सुरक्षित रखने के लिए किया जाना चाहिए। प्रतिलिपि के बिना इनकी नकल या किसी भी रूप में इनके उद्घरण या इनमें संशोधन करना किसी अनधिकृत व्यक्ति को नहीं करना चाहिए।  
 THE COPYRIGHT OF THESE DRAWINGS AND ALL ATTACHMENTS THERE OF BELONGS TO THE DTE GEN. OF NAVAL ARMAMENT INSPECTION, MINISTRY OF DEFENCE, GOVT. OF INDIA THEY SHOULD NOT BE COPIED, REPRODUCED IN ANY WAY OR THE INFORMATION CONTAINED THEREIN MADE AVAILABLE TO UNAUTHORISED PERSONS WITHOUT THE WRITTEN PERMISSION OF THE DTE GEN. OF NAVAL ARMAMENT INSPECTION

पुर्जा संख्या Item No	मात्रा Qty	विवरण Description	आरेख का Drawing No	अभ्युक्ति Remarks
<b>पुर्जा की तालिका      SCHEDULE OF COMPONENTS</b>				
सामग्री और विनिर्देश Matl & Spec	STEEL TO SPEC BS: 070(Pl.I) Gds 070 M20	संरक्षित आवरण Protective Finish	SEE DRG	माप जि नि में Dimension in MM
समस्या आरेख का Assy Dwg No	NASK 1134/1(P)	आवृत्त संख्या Spec Ref		सामग्री विनिर्देश Gen Spec A318
निर्देशावली NAI			डीटीएन का DCAN No	माप तालिका का Gauge Sch No
प्र./व. प्र. डा./डॉ. Material Dgn/Comp	प्र. डा. CD	सी.टी.ओ. (डी.) C.T.O. (D)	विभागाध्यक्ष Mod	<b>नौसेना आयुध निरीक्षण महानिदेशालय</b> रक्षा मंत्रालय (नौसेना) नई दिल्ली <b>Dte Gen of Naval Armament Inspection</b> IHQ/ MoD (NAVY), New Delhi
जांचा Checked	जांचा Checked	जांचा Passed	अनुमोदित Approved	
मापनी Scale	मापनी Scale	मापनी Scale	मापनी Scale	
प्र./व. प्र. डा./डॉ. Matl Dgn/Comp	प्र. डा. CD	सी.टी.ओ. (डी.) C.T.O. (D)	अनुमोदित Approved	मापनी Scale
शीर्षक Title	DISC MOD 1		आरेख का Drg No	NASK 1134/1/3(P)

इस रेखा से कतलब है जब किसी कारणवश में भेजा जाये FROM ON THIS LINE WHEN SUPPLY TO TRACE

## QUALITY ASSURANCE PLAN FOR A/S ROCKET RGB 60 (EMPTY) MOD 1

Item Description	<b>DISC MOD 1</b>
Ref. Document	NASK 1134/1/3 (P)
Material	Steel to spec BS 970(Pt 3)-91 Gde 070M20
Heat Treatment	Normalised

Component name/operations	Characteristics	Class	Type of check	Quantum of check	Reference document	Acceptance norms	Format of record	Inspection Activity Categorisation	Inspection by
<b>Disc (Raw material)</b>	General finish, appearance	Semi critical	Visual	100%	BS 970(Pt 3)-91 Gde 070 M20 (Normalised)	BS 970(Pt 3)-91 Gde 070 M20 (Normalised)	Visual Inspn. Report	Critical	NAI
	Chemical properties	Critical	Chemical lab analysis	Three samples per lot or as per the discretion of inspection authority	BS 970(Pt 3)-91 Gde 070 M20 (Normalised)		Test report from NABL Lab/Govt lab		
	Mechanical properties	Critical	Mechanical lab analysis	Three samples per lot or as per the discretion of inspection authority			Test report from NABL Lab / Govt lab		
<b>In process - Sheet cutting, turning and coating</b>	Dimensions specified in Inspection Report for the Component.	Critical	Dimensional measurement	As per sampling plan IS 2500 level II	Tolerance as specified in Drg. NASK 1134/1/3 (P)	Tolerance as specified in Drg.NASK 1134/1/3 (P)	Dimensional Inspection report of Disc Mod 1	Critical	NAI
	Phosphating	Critical	Visual & Test Sample	100%	IS:3618 Class B	IS:3618 Class B	Inspection report of Disc Mod 1		
<b>Final finish</b>	Zirconium Silicate or APC 216	Critical	Visual & as specified in specification.	100%	Appendix 'C' of ARDE/spec/334/1985 or JSS:8010-51:09	Appendix 'C' of ARDE/spec/334/1985 or JSS:8010-51:09	Inspection report of Disc Mod 1	Critical	

### Inspection Report

Description of the item	<b>DISC MOD 1</b>
Drawing No.	NASK 1134/1/3(P)
Date of Inspection	

Sno.	Description of parameter	Nominal dimension as per drawing in mm	Gauge used	Tolerance (As specified in the drg.)	Nature of Parameter	Observed dimension in mm	Deviation in mm	Remarks
1	External thread	165 x 12 TPI Buttress Thread close class			Major			
2	Centre hole dia.	45	Plug 'Go' & 'No Go' gauge No.105		Minor			
3	Thickness	3.5		+0.1	Major			
4	Chamfer	0.5 x 45°			Minor			
5	Chamfer	1 x 45°			Minor			
6	Holes dia. On PCD 110 ( 8 Nos.)	36	Plug 'Go' & 'No Go' gauge No.34		Minor			
7	PCD	110			Minor			

**Special notes:**

Sno.	Note	Observations
1	Material: Steel to spec BS 970(Pt.3)-91 Gde 070 M20(Normalised)	
2	100% thread gauging of major diameter to be undertaken. Thread profile to be checked on 10% of lot size.	
3	General Tolerance specn. IS 2102 (Medium class) unless specified.	
4	Surface to be phosphated to IS 3618 class B followed by uniform coating of zirconium silicate to Appendix C of ARDE/SPECN/334-1985 or APC 216 to Spec JSS:8010-51 except threaded regions.	
5	Manufacturer's logo and Serial No. to be engraved in 8 to 12mm letter size between any of the Ø36.0 hole and central Ø45.0 hole. Depth of engraving .50 to 120 microns.	
6	Thread to be conformed to spec BS:1657	

Table 13 — Chemical composition: carbon and carbon manganese steels

Steel	C	Si	Mn	P	S
	%(m/m)	%(m/m)	%(m/m)	%(m/m)	%(m/m)
080A15	0.13 to 0.18	0.10 to 0.40	0.70 to 0.90	0.05 max.	0.05 max.
080M15	0.12 to 0.18	0.10 to 0.40	0.60 to 1.00	0.05 max.	0.05 max.
070M20	0.16 to 0.24	0.10 to 0.40	0.50 to 0.90	0.05 max.	0.05 max.
080A30	0.26 to 0.34	0.10 to 0.40	0.70 to 0.90	0.05 max.	0.05 max.
080M30	0.26 to 0.34	0.10 to 0.40	0.60 to 1.00	0.05 max.	0.05 max.
080M40	0.36 to 0.44	0.10 to 0.40	0.60 to 1.00	0.05 max.	0.05 max.
080A42	0.40 to 0.45	0.10 to 0.40	0.70 to 0.90	0.05 max.	0.05 max.
080A47	0.45 to 0.50	0.10 to 0.40	0.70 to 0.90	0.05 max.	0.05 max.
080M50	0.45 to 0.55	0.10 to 0.40	0.60 to 1.00	0.05 max.	0.05 max.
070M55	0.50 to 0.60	0.10 to 0.40	0.50 to 0.90	0.05 max.	0.05 max.
150M19	0.15 to 0.23	0.10 to 0.40	1.30 to 1.70	0.05 max.	0.05 max.
150M36	0.32 to 0.40	0.10 to 0.40	1.30 to 1.70	0.05 max.	0.05 max.

NOTE See also 3.3 g) and option A.1, A.2 and A.4.

Table 14 — Chemical composition: case hardening steels (carbon and carbon manganese steels)

Steel	C	Si	Mn	P	S
	%(m/m)	%(m/m)	%(m/m)	%(m/m)	%(m/m)
045A10	0.08 to 0.13	0.10 to 0.40	0.30 to 0.60	0.05 max.	0.05 max.
045M10	0.07 to 0.13	0.10 to 0.40	0.30 to 0.60	0.05 max.	0.05 max.
080M15	0.12 to 0.18	0.10 to 0.40	0.60 to 1.00	0.05 max.	0.05 max.
210M15	0.12 to 0.18	0.10 to 0.40	0.90 to 1.30	0.05 max.	0.10 to 0.18

Table 15 — Chemical composition: alloy case hardening Steels<sup>a</sup>

Steel	C	Si	Mn	Cr	Mo	Ni
	%(m/m)	%(m/m)	%(m/m)	%(m/m)	%(m/m)	%(m/m)
635M15	0.12 to 0.18	0.10 to 0.40	0.60 to 0.90	0.4 to 0.80	—	0.70 to 1.10
637M17	0.14 to 0.20	0.10 to 0.40	0.60 to 0.90	0.60 to 1.00	—	0.85 to 1.25
655M13	0.10 to 0.16	0.10 to 0.40	0.35 to 0.60	0.70 to 1.00	—	3.00 to 3.75
665M17	0.14 to 0.20	0.10 to 0.40	0.35 to 0.75	—	0.20 to 0.30	1.50 to 2.00
805M17	0.14 to 0.20	0.10 to 0.40	0.60 to 0.95	0.35 to 0.65	0.15 to 0.25	0.35 to 0.75
805M20	0.17 to 0.23	0.10 to 0.40	0.60 to 0.95	0.35 to 0.65	0.15 to 0.25	0.35 to 0.75
815M17	0.14 to 0.20	0.10 to 0.40	0.60 to 0.90	0.80 to 1.20	0.10 to 0.20	1.20 to 1.70
820M17	0.14 to 0.20	0.10 to 0.40	0.60 to 0.90	0.80 to 1.20	0.10 to 0.20	1.50 to 2.00
822M17	0.14 to 0.20	0.10 to 0.40	0.40 to 0.70	1.30 to 1.70	0.15 to 0.25	1.75 to 2.25
835M15	0.12 to 0.18	0.10 to 0.40	0.25 to 0.50	1.00 to 1.40	0.15 to 0.30	3.90 to 4.30

NOTE See also 3.3 c), 3.3 i) and options A.2 and A.5.

<sup>a</sup> Sulfur 0.05 % max., phosphorous 0.04 % max. for all qualities.

Table 20 — Mechanical properties for carbon and carbon manganese steels (18)

Steel	Condition (2)	Size (1) (diameter across flats or thickness) mm	R <sub>m</sub> N/mm <sup>2</sup>	R <sub>e</sub> min. N/mm <sup>2</sup>	A min. on 5.65√S <sub>0</sub> %	Impact <sup>a</sup>		R <sub>p0.2</sub> (3) min. N/mm <sup>2</sup>	HB (13)	
						Izod min. J	KCV min. J			
080M15	Normalized + turned or ground	≥ 6 ≤ 63	350 min.	175	22	—	—	—	109 to 163 101 to 152	
		> 63 ≤ 150	330 min.	165	22	—	—			
		Hot rolled + cold drawn or hot rolled + cold drawn + ground	≥ 6 ≤ 13 > 13 ≤ 29 > 29 ≤ 100	450 min. 430 min. 400 min.	330 320 300	10 12 13	—	—		
070M20	Normalized + turned or ground	≥ 6 ≤ 150	430 min.	215	21	—	—	126 to 179 116 to 170		
		> 150 ≤ 250	400 min.	200	21	—	—			
	Hot rolled + cold drawn or hot rolled + cold drawn + ground	≥ 6 ≤ 13	560 min.	440	10	—	—	420 390 340 290 280	— — — — —	
		> 13 ≤ 16	530 min.	420	12	—	—			
		> 16 ≤ 40	490 min.	370	12	—	—			
	Hot rolled + cold drawn or hot rolled + cold drawn + ground	> 40 ≤ 63	480 min.	355	13	—	—	290 280	— — —	
		> 63 ≤ 76	450 min.	325	14	—	—			
		Normalized + turned or ground	≥ 6 ≤ 150 > 150 ≤ 250	490 min. 460 min.	245 230	20 19	—			—
080M30	Hot rolled + cold drawn or hot rolled + cold drawn + ground	≥ 6 ≤ 13	620 min.	480	9	—	—	460 450 400 345 320	— — — — —	
		> 13 ≤ 16	600 min.	470	10	—	—			
		> 16 ≤ 40	570 min.	430	11	—	—			
	Hot rolled + cold drawn or hot rolled + cold drawn + ground	> 40 ≤ 63	560 min.	415	12	—	—	345 320	— — —	
		> 63 ≤ 76	530 min.	385	12	—	—			
		Hardened and tempered + turned or ground	P ≥ 6 ≤ 63 Q ≥ 6 ≤ 19	550 to 700 625 to 775	340 415	18 16	34 34			28 28
Hardened and tempered + cold drawn or hardened and tempered + cold drawn + ground	P ≥ 6 ≤ 63 Q ≥ 6 ≤ 19	550 to 700 625 to 775	385 460	13 12	34 34	—	340 430	152 to 207 179 to 229		

<sup>a</sup> See also option A.3.