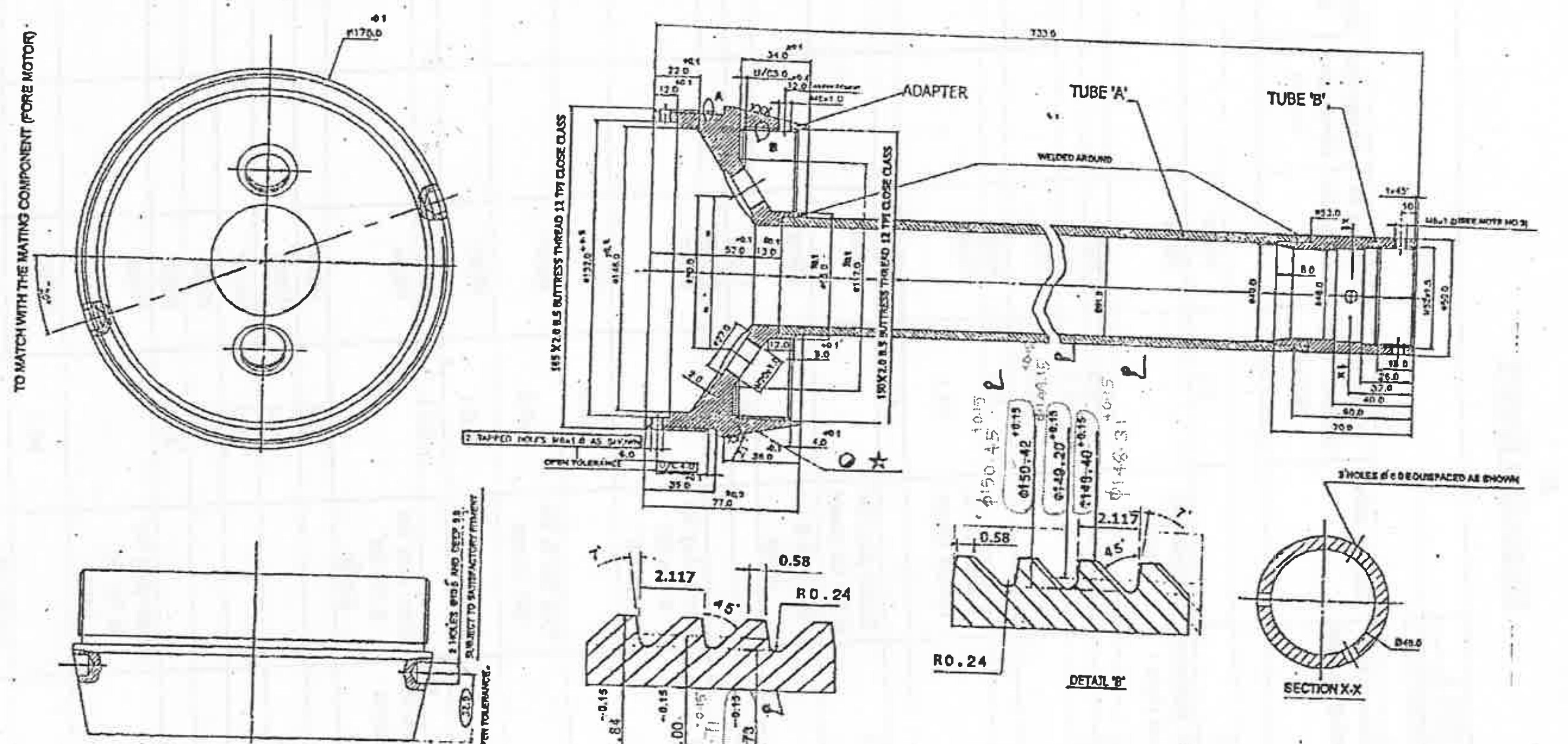
Revision No.	Revision Note	Date	Authority
1.	THREAD DIMNS NOTE 1. AMENDED	19-09-19	ARD 2576

MARKING NOTES:-

THE FOLLOWING MARKINGS TO BE STENCILLED WITH BLACK COLOUR PAINT TO SPEC IS:138 IN 10MM LETTER SIZE LEAVING 14MM SPACE FROM ENDS ON SURFACE HAVING WIDTH 38MM AND INNER Ø150MM. TAPPED HOLE AREA TO BE AVOIDE DDURING STENCILLING:-

- SERIAL NO.
- MANUFACTURER'S LOGO



NOTES :-

1. MATL. FOR ADAPTER EN24(BS:970 Gde 817M40) HARDENED AND TEMPERED 'U' CONDITION.
2. MATL. FOR TUBE A & B ASTM 106 Gde B.
3. WELDING OF TUBE AND BODY - CONCENTRICITY BE MAINTAINED WITHIN 0.2mm.
4. SURFACES TO BE PHOSPHATED TO IS 3618 CLASS B.
5. INTERNAL SURFACE OF ADAPTER BE COATED WITH ZIRCONIUM SILICATE TO APPX 'C' TO SPEC ARDE/SPEC/334/1985 OR APC 216 TO SPEC JSS:8010-51:09 & EXTERNAL SURFACE OF TUBE 'A' AND 'B' COATED WITH ZIRCONIUM SILICATE OR APC 216.
6. TUBE B & BUSH TO BE LOCKED WITH 2 GRUB SCREWS (M6x1.0) (DURING FINAL ASSEMBLY OF ROCKET) ON PREFERRED LOCATION AS INDICATED IN DRG No.NASK 1068/10. APC 5 AND RD CEMENT 1241 B TO BE APPLIED AS INDICATED IN DRG No NASK 1061
7. EXTERNAL SURFACES MARKED XXX TO BE PAINTED WITH P U PAINT DOVE GREY (ISC No 694 TO IS: 5) EXCEPT THREADED SURFACES.
8. BUTTRESS THREADS TO CONFORM TO SPEC BS:1657
9. METRIC THREAD TO CONFORM TO SPEC IS:4218

SCHEDULE OF COMPONENTS

NASK 1134/1/4(P)

SEE DRG.

Dte Gen of Naval Armament Inspection

ADAPTER MOD 1

NASK 1134/1/4/1(P)

RGB-60 MOD 1

NASK 1068/1(P)

Inspection Report

Description of the item	**ADAPTOR MOD 1**
Drawing No.	NASK 1134/1/4/1(P)

Ser	Description of parameter	Nominal dimension as per drawing in mm	Gauge used	Tolerance (As per drg/ spec.)	Nature of Parameter	Observed dimension in mm	Deviation in mm	Remarks
Adaptor								
1	Outer dia	170		-0.1	Major			
2	External thread	165 x 12 TPI Buttress Thread close class	Screw ring gauge		Major			
3	Inner step dia.	152		+0.5	Major			
4	Inner step dia.	146		±0.2	Major			
5	Length of inner dia(152).	12		+0.1	Major			
6	Inner length	22		+0.1	Major			
7	Inner length	35	T plate 'Go' & 'No Go' gauge	+0.1	Major			
8	Under cut width	4		+0.1	Minor			
9	Tapped hole (2 nos.)	M6 x 1	Screw plug 'Go' & 'No Go gauge		Major			
10	Centre distance of tapped hole	6	Depth H & L gauge .		Minor			
11	Inner length	52		+0.1	Major			
12	Inner straight length	13		±0.1	Major			
13	Tapped hole (2 nos.)	M20 x 1	Screw plug 'Go' & 'No Go' gauge		Major			
14	Pitch distance of M20 tapped hole	80		±0.3	Major			
15	M20 Tap hole counter dia.	27	Plug 'Go' & 'No Go' gauge	±0.2	Major			
16	Other side Inner step dia.	65		±0.1	Minor			
17	Other side Inner dia.	117		±0.1	Minor			
18	Internal thread	150 x 12 TPI Buttress Thread close class	Screw plug 'Go' & 'No Go' gauge		Major			
19	Inner under cut width	3		±0.1	Minor			
20	Outer under cut width	4		±0.1	Minor			
21	Collar step length	12		±0.2	Major			
22	Tapper length	38		-0.1	Major			
23	Tapper angle	12°		±30'	Major			
24	Tap hole (1 no.)	M6 x 1	Screw plug 'Go' & 'No Go' gauge		Major			
25	Tap hole centre distance from edge	12		+0.1	Major			
26	Inner length	34	Depth H&L gauge	±0.1	Major			
27	Total length	77		±0.2	Major			
28	Dia of Tommy Hole	12		±0.2	Major			
29	Depth of Tommy Hole	8		±0.1	Major			
30	Position of Tommy Hole	32		±0.2	Major			

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Ser	Description of parameter	Nominal dimension as per drawing in mm	Gauge used	Tolerance (As per drg/ spec.)	Nature of Parameter	Observed dimension in mm	Deviation in mm	Remarks
Tube - A								
1	Inner dia	51		±0.3	Minor			
2	Outer dia	60		±0.3	Minor			
Tube - B								
1	Inner dia	46	Plug 'Go' & 'No Go' gauge	±0.3	Major			
2	Inner dia	49		±0.3	Major			
3	Internal thread	M52 x 1.5	Screw plug 'Go' & 'No Go' gauge		Major			
4	Outer dia	60		±0.3	Major			
5	Outer step dia.	53	Snap 'Go' & 'No Go' gauge	±0.3	Major			
6	Inner step length	18		±0.2	Major			
7	Inner step length	26	Depth H&L gauge	±0.2	Major			
8	Holes (3 nos) equispaced	6	Plug 'Go' & 'No Go' gauge	±0.1	Major			
9	Holes centre distance from end	32		±0.2	Major			
10	Inner step length	40	Plug 'Go' & 'No Go' gauge	±0.3	Major			
11	Outer step length	60	Snap 'Go' & 'No Go gauge	±0.3	Major			
12	Overall length	70		±0.3	Major			
13	Tap hole (2 nos)	M6 x 1	Screw plug 'Go' & 'No Go' gauge		Major			
14	Centre distance of tapped hole from end (2 nos.)	10		±0.2	Major			
Assembly of Adaptor, Tube A & Tube B								
1	Overall length	733.0		±0.8	Major			
2	Concentricity	Within 0.2			Major			

Spec Notes:

Ser	Note	Observations
1	Material for Adapter Steel to spec BS:970 (Pt.3)-91 Gde 817M40 (EN 24) Hardened &Tempered 'U' Condition	
2	Material for Tube A&B: Steel to spec ASTM A 106 Gde B	
3	General Tolerance specn. IS 2102 except specified.	
4	Welding of Tube and Adapter-concentricity be maintained within 0.2mm.	
5	Surfaces to be phosphated to IS 3618 Class B.	
6	Internal surface of Adapter be coated with Zirconium Silicate to Appendix C of ARDE/SPECN/334/1985 or APC 216 to Spec JSS:8010-51 and external surface of Tube A & Tube B be coated with Zirconium Silicate or APC 216.	
7	Tube-B and bush to be locked with 2 grub screws (M 6 x 1 x 5 with allen head) during final assy of rocket on preferred location as indicated in NASK 1068/10. APC 5 to JSS:8030-20 and RD cement 1241 B to be applied as indicated in Drg.NASK 1134/1(P).	
8	External surfaces marked XXX in the Drawing to be painted with PU paint colour dove grey (three coats i.e. ChemZinc 1000 as first coat, ChemPrime 3001 as second coat & ChamThane 3300 as third coat) (ISC No. 694 to IS:5) except threaded surfaces.	
9	100% thread gauging to be undertaken to check major dia	
10	Thread profile is to be checked on 10% of the lot size.	
11	Buttress Thread to conform to Spec BS:1657	
12	Metric Thread to conform to Spec IS:4218	
13	Manufacturer's logo and Serial No. to be stencilled with black colour paint to Spec IS 138 in 10mm letter size leaving 14mm space from ends on surface having width 38mm and inner Ø150mm. Tapped hole area to be avoided during stencilling.	

K. KASTURI, JWM

HEPF, TRICHY

The HIGH ENERGY PROJECTILE FACTORY (HEPF) is an Indian Defence establishment under Munitions India Limited, A Government of India Enterprise, Ministry of Defence, for production of anti tank kinetic energy projectiles of various calibers and the factory is located about 25 kilometres from the main city of Tiruchirappalli.

SCOPE OF WORK

PR No: 2300161

MACHINING OF RGB60 ADAPTOR FROM STEEL BLANK (OD 180 MM AND LENGTH 85 MM) AS PER DRG No: NASK 1134/1/4/1 (P) (Except TubeA & B) AND QUALITY ASSURANCE PROCEDURE (QAP)

1. Raw material, steel rod (OD 180mm and length 85 mm) BS 970(Pt3)-91Gde 817 M40 (EN24), Hardened and Tempered to U condition and weight 17 KGs approximately will be supplied by HEPF.
2. The firm has to carry out only machining work of Adaptor. (Except Tube A & B.)
3. The firm need not return the scrap generated during machining, however, the firm should submit their offer lowest by taking the cost of steel scrap of 13.25 kgs (approx) generated in machining into account.
4. The firm has to take utmost care to avoid material rejection due to dimensional deviation during machining.
5. In case of rejection exceeds 2%, the existing cost of raw material will be recovered from the firm. The firm shall also return the rejected components to HEPF.
6. The firm should submit Bank guarantee for the cost of raw material for minimum50 Nos, and collect the material from HEPF store within 10 days of placement of supply order.
7. Firm should make their own arrangement (including loading/ unloading) for collection of raw material from HEPF stores and deliver the finished / accepted components to HEPF stores.
8. Firm should submit pilot sample along with dimension report within 15 days of receipt of raw material for prior approval.
9. The pilot sample submitted by the firm shall be inspected by HEPF Quality Control Section / inspection authority before bulk production.
10. After obtaining approval of pilot sample, the firm should maintain the delivery schedule of minimum 50 Nos for every week from the date of receipt of the raw material

QUALITY ACCEPTANCE CRITERIA:

12. The components shall be inspected by Quality Control Section /HEPF or Navel Armament of Inspectorate (NAI) as per drawing and Quality Assurance Procedure (Inspection Report). If it is confirming to both drawing and Quality Assurance Procedure (Inspection Report) the same will be accepted.

Note: 1. Prospective bidders are free to visit HEPF before bidding, for understanding the operation.

2. In case of technical clarification the bidders may contact : : 0431-2584-645 & 662, 0431-2584600 Extn: 271.

GO/MS **DO/MS** **OIC/MS**