

### MACHINED COMPONENTS (GROUP -III)

SI No	LF No	Drawing No	Nomenclature
1	6106210094	172.27.106	CUP
2	6106210115	172.27.127-1	FLANGE
3	6106211055	172.28.001-2	CASE
4	6106211059	172.28.004-1	FLANGE
5	6106890331	172.28.004-3	FLANGE
6	6106211134	172.28.108-2	HOUSING
7	6106401039	172.40.045	TRAP OIL
8	6106401043	172.40.142	HOUSING RING REAR
9	6106401067	172.40.228	TRUST DISC
10	6101040058	172.40.325	THRUST DISK
11	6101040083	172.40.339-1	RING
12	6101040085	172.40.341	FRONT BODY OF RINGS
13	6101040086	172.40.342	OIL TRAP
14	6106402076	172.41.011	FILLER CAP
15	6106404019	175.43.003-1	CAP
16	6101043014	172.43.024	PACKING COVER
17	6106406033	172.45.015-A	CLAMP
18	6106407099	172.46.043-2	SUCTION PUMP COVER
19	6106407033	172.46.051-1	DELIVERY PUMP COVER
20	6106407056	172.46.087	COVER SUCTION PUMP
21	6106401108	175.40.009-2	FLANGE
22	6106401151	175.40.121	DISC THRUST
23	6106402016	175.41.036	OIL SEAL BODY
24	6106402017	175.41.037	BEARING HOUSING
25	6106402033	175.41.043	COVER
26	6106402037	175.41.053	BEARING HOUSING
27	6106402038	175.41.054	BODY SEAL OIL,ISSUE-6A,
28	6106402056	175.41.080	BEARING HOUSING
29	6106406179	175.45.016-1	BODY
30	6101041011	188.41.004	RING
31	6106401197	432.40.128	THRUST DISK
32	6106401201	432.40.144-2	BODY, RING FRONT
33	6106401029	432.40.011CB-2	RING HOUSING FRONT
34	6106404033	432.43.046	BUSHING
35	6106113054	434.23.041-1	COVER
36	6106402097	54.08.125-5	FAN DRIVE NECK SEAT




### MACHINED COMPONENTS (GROUP -III)

Sl no.	Nomenclature & drawing No.	Manufacturing technology & Testing / Inspection Facilities required to produce the item		Must be possessed by the vendor in his premises (P&M list and testing / inspection equipment list to be submitted)	May be possessed by the vendor in his premises or out sourced (Self declaration to be submitted)	FIRM Compliance (Y/N)	Remarks	
1	Components as per enclosed list of Machined Components (Group III) <i>Total items = 36 Nos</i>	TECHNOLOGY-1	Turning	CNC Turning machine suitable to accommodate component upto 200 mm diameter with 0.010mm accuracy				
			Milling & Drilling	HMC/VMC machine as per component requirement with 0.010mm accuracy				
			Grinding	Internal/ External /Surface grinding machine as per component requirement with 0.010mm accuracy				
		TECHNOLOGY-2	Heat Treatment		Carburising, Hardening, Induction Hardening & Tempering furnace with Oil quenching facility suitable to the components			
			Protection coating		Oxidising , Phosphating, Zinc chromatising, Hard Chromium Plant suitable to the components			
		TECHNOLOGY-3	Raw material		Firm should be capable to arrange the raw material like forging, casting, bar material etc as per drawing specification and standard.			

  
(D.SATHISH KUMAR)  
WM/QA(NF& QMSC)


  
(LUXMAN SINGH)  
WM/TRG-II,HT & EP

  
(K.DURAIRAJ)  
JWM/Trans -II


Sl no.	Nomenclature & drawing No.	Manufacturing technology & Testing / Inspection Facilities required to produce the item		Must be possessed by the vendor in his premises (P&M list and testing / inspection equipment list to be submitted)	May be possessed by the vendor in his premises or out sourced (Self declaration to be submitted)	FIRM Compliance (Y/N)	Remarks
1	Components as per enclosed list of Machined Components (Group III)	TEST / INSPECTION-1	3D CMM	3D CMM 300 x 300 mm			
			Surface Roughness Tester		Surface Roughness Tester for Ra & Rz values		
			Gauges	Standard Gauges for checking Holes and threads suitable to the requirement of the components. Firm should submit the undertaking in this regard that they will create the facilities within 6 months from the date of receipt of order.			
			Measuring Instruments	Vernier Caliper, Groove Vernier, Radius gauge, Feeler Gauge etc. suitable to the requirement of the components			
		TEST / INSPECTION-2	Hardness measurement		Brinell / Rockwell Hardness Tester		


**Note : Justification for alternate facilities may be shared to prove that alternate facilities can be utilised to manufacture the item wherever the facilities are mentioned above are not available, but vendor has alternate facilities.**

  
**(D.SATHISH KUMAR)**  
 WM/QA(NF& QMSC)

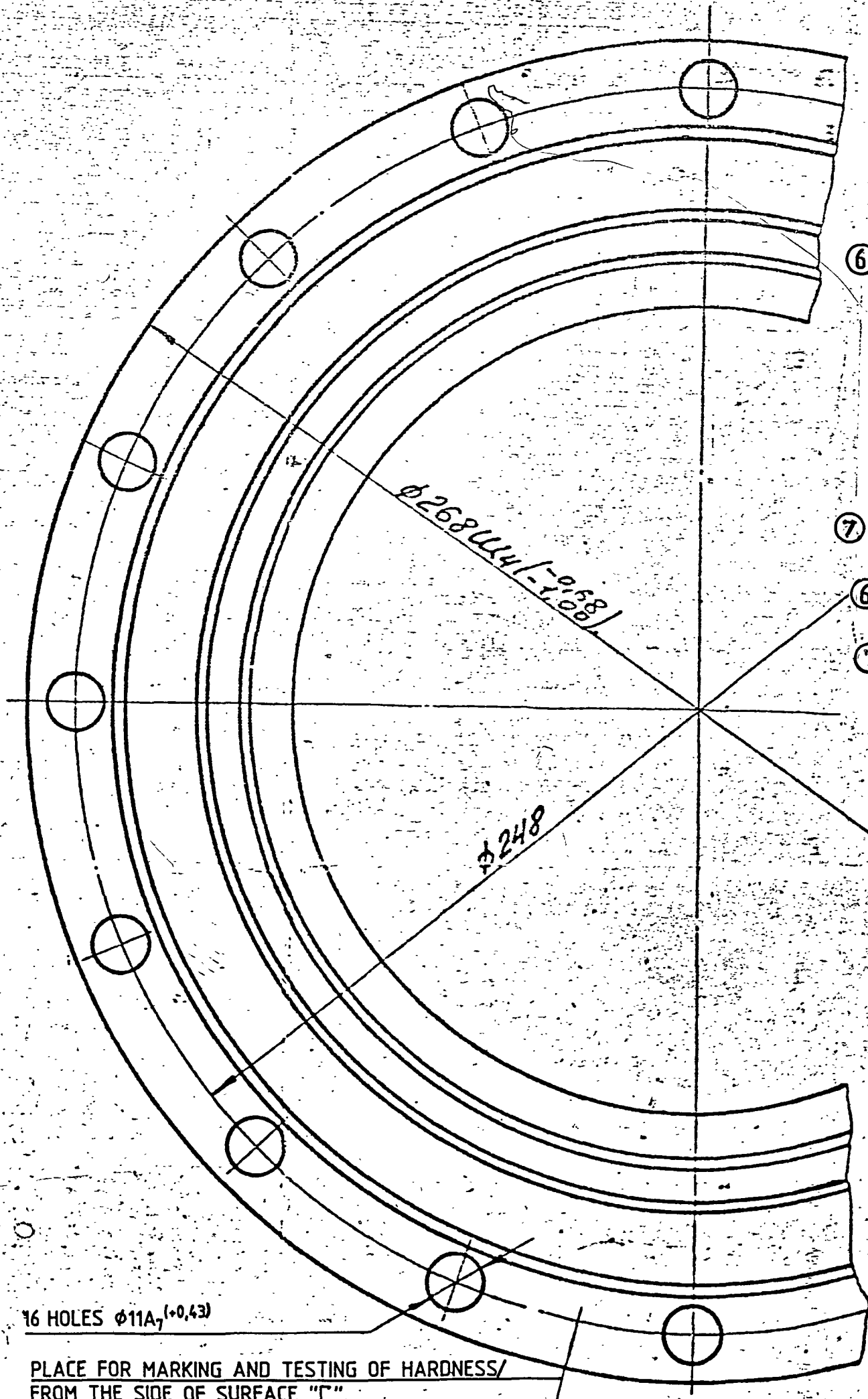
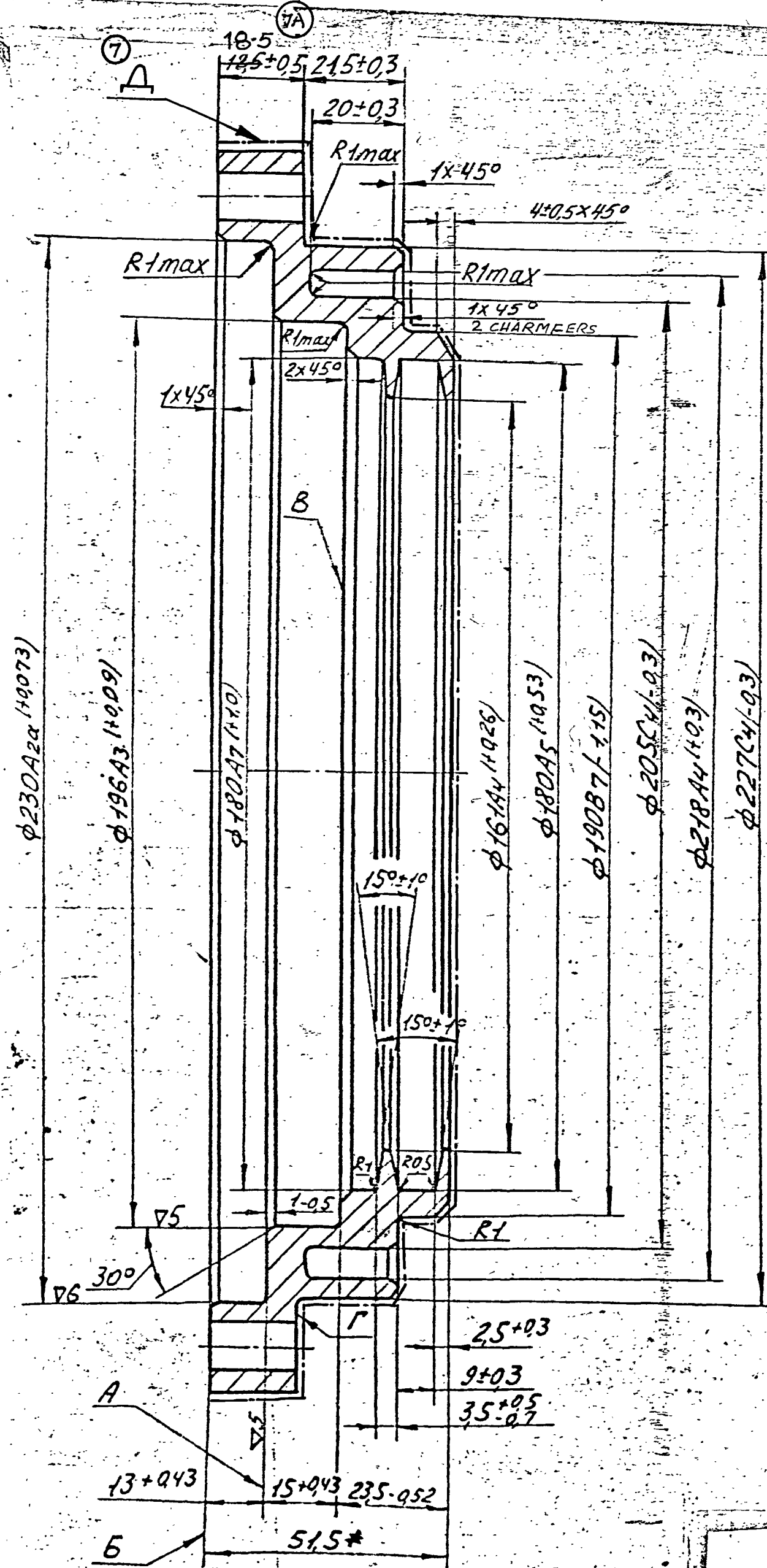
  
**(J.P.SINGH)**  
 GM-OPERATIONS I

  
**(LUXMAN SINGH)**  
 WM/TRG-II, HT & EP

  
 AH to **(NEERAJ KUMAR)**  
 QA-RIG(OE)

  
**(K.DURAIRAJ)**  
 JWM/Trans -II

  
**(ANIMESH PAIK)**  
 DGM/CA, TRG & RG



1. RELATIVE SURFACE  $\phi$  230 AND END FACE A , MACHINED WITH ONE SET UP , THE FOLLOWING ARE ALLOWED:
  - a) RUN OUT OF SURFACE  $\phi$  196 NOT EXCEEDING 0.05 mm.
  - b) END PLAY OF FACES E AND B NOT EXCEEDING 0.1 mm .
  - c) RUN OUT OF SURFACES  $\phi$  161,  $\phi$  205,  $\phi$  218 AND  $\phi$  227 NOT EXCEEDING 0.15 mm.
2. SHIFT OF AXES OF HOLES  $\phi$  11 FROM TRUE POSITION RELATIVE TO  $\phi$  230 A2a - NOT EXCEEDING 0.2 mm. (MMC TOLERANCE)
3. TO BE HEAT TREATED. HARDNESS BHN 302 TO 255 (DIA OF INDENTATION 3.5 TO 3.8).
4. COATING: OXIDIZING, PHOSPHATING.
5. \* DIMENSION FOR REFERENCE.
6. ~~VARNISH PAINT COATING IN COMPLIANCE WITH THE EXISTING SPECIFICATION.~~
7. INCREASING OF 3 NON-ADJACENT HOLES  $\phi$  11 A<sub>7</sub> UPTO  $\phi$  11 A<sub>8</sub> (+0.7) IS PERMITTED.
6. COATING OF SURFACE A PRIMER  $\phi$  A-03K KHAKI ENAMEL XB-518 PRESENCE OF PAINTING IN THE HOLES FOR BOLTS AND ON THE INTERNAL SURFACES OF LABYRINTH IS PERMITTED. REQUIREMENTS AS PER 520 T<sub>5</sub>.

16 HOLES  $\phi$ 11A<sub>1</sub> (+0.43)  
PLACE FOR MARKING AND TESTING OF HARDNESS/  
FROM THE SIDE OF SURFACE "T"

COMMON TO BLT

DRG. INDIANISED BASED ON RUSSIAN ORIGINAL ISSUE-5

PILOT SAMPLE SHOULD BE APPROVED BY A H S P BEFORE BULK PRODUCTION.

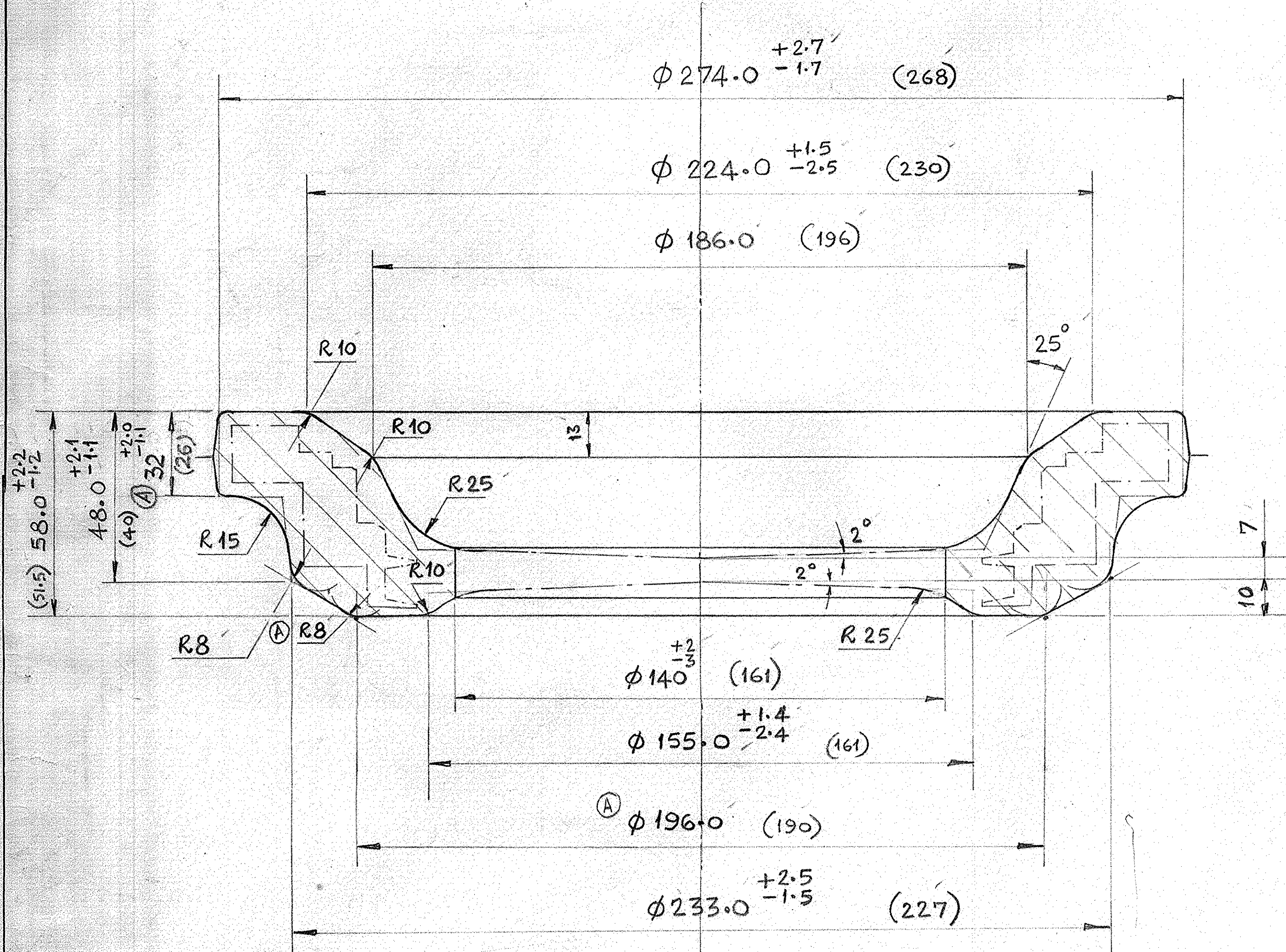
EST. WT. 4.72 Kg	TO BE STAMPED OR MARKED WHERE INDICATED THUS # ( LETTERS)
ALL SHARP EDGES AND CORNERS TO BE REMOVED UNLESS OTHERWISE STATED. MACHINED CORNERS TO HAVE R OUTSIDE R INSIDE EQUIVALENT CHAMFERS ARE PERMISSIBLE.	

DRN	CHD	TCD	APPD	DATE	SCALE	DIMENSIONS IN mm.	TOLERANCE ON DIMNS UNLESS OTHERWISE STATED IS 2102-69	D S CAT NUMBER	DRAWING NUMBER
				04-02-88	- 1 : 1				175 43 003-1
MATERIAL :- STEEL 38XC GOST 4543-71					USED ON :- 175 43 001 Cb-1				
CONTROLLERATE OF QUALITY ASSURANCE (HEAVY VEHICLES)					A V A D I				
TITLE					CAP				
7A 7-9-96 D.O ERROR		7 1-7-91 NOTN.172M. 807A'-88 AL.12/1		6 297-89 172 M 534 'A'-87 A.L.9/5		ALL THREADS TO CONFORM TO			
ISSUE	DATE	NATURE OF AMENDMENTS							



DRAWING NO.  
175-43-003-1/F

ISSUE	MODIFICATION	DATE
A	TO ACCOMODATE T-90 REQUIREMENT THE FOLLOWING DIMNS ARE MODIFIED. 32 <sup>+2</sup> DIMN. WAS 24 <sup>+2</sup> , R. 8 SHIFTED TO DIA 196 INTERSECTION POINT. NOTE ADDED	27/12/04



TECHNICAL REQUIREMENTS.

1. HEAT TREAT. DIA. OF IND. 3.5 TO 3.8.
2. DESCALE.
3. DEPTH OF SURFACE DEFECTS AND PITS FROM SCALES SHOULD NOT EXCEED 0.5 OF ACTUAL MACHINING ALLOWANCE.
4. MISMATCH SHOULD NOT EXCEED 1.3 mm.
5. RESIDUAL FIN ALONG PARTING LINE SHOULD NOT EXCEED 1.5 mm. FOLDING OF FIN IN PIERCED HOLE IS ALLOWED.
6. ECCENTRICITY OF PIERCED HOLE SHOULD NOT EXCEED 2.0 mm.
7. BUCKLING SHOULD NOT EXCEED 1.5 mm.
8. MARK PART NO.
9. DRAFT ANGLES TO BE 7° UNLESS OTHERWISE SPECIFIED.
10. UNSPECIFIED RADII TO BE R 3 mm.
11. UNTOLERANCED DIMENSIONS ARE FOR CONSTRUCTION.
12. MACHINING DIMENSIONS ARE SHOWN IN BRACKETS.

MATERIAL:- STEEL 38 XC GOST 4543-71.

WEIGHT OF FORGING:- 13.3 Kg

(27)

(A) FORGING IS COMMON FOR T-90 COMPT. NO 172.43.024/F

20047	PIERCING TOOL	600T	
20046	TRIMMING TOOL	600T	
20045	STAMPING DIES.	DG 13.	
TOOL NO.	DESCRIPTION	MACHINE	EQUIP. TO BE USED.
SCALE	COMPONENT ~ T-72/T-90	MACHINE	COMPONENT / FORGING.
1:1	175-43-003-1 RETAINING COVER.	DG 13	1
			H.V.F. AVADI.