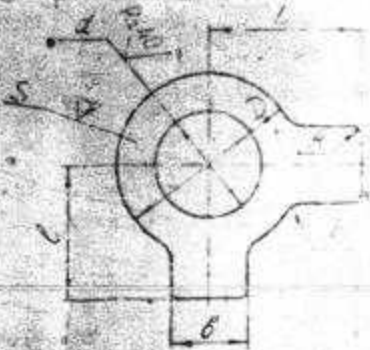


672-31-719

Rz 320 (✓)



1. Alternate material is steel 08kp, 10kp, GOST 1050-74.
2. Unspecified limit deviations are ±0.5mm.
3. Misalignment of circumference D with respect to hole d and asymmetry of tabs with respect to axis of hole d should be 1mm.
4. Coating: Zinc-plated, 9 microns thick, chromated. Remove hydrogen embrittlement.

Designation	d, MM	D, MM	L, MM	l, MM	B, MM	S, MM	R, MM	Mass in kg
672-31-71	6.4 ^{+0.36}		15	10	6			0.002
-01	8.4 ^{+0.36}	14	18	12	7	1	2	0.002
-02	10.5 ^{+0.43}	18	20	14	8			0.002
-03	13 ^{+0.43}	22	25	20	10	1.5		0.005

672-31-71-01

DRG. NO. SIGN. DATE

TAB WASHER

SHEET WEIGHTS

Steel

NAME SIGN DATE

672-31-71

EXPLANATORY NOTES TO TECH. CONDITIONS.

TAB WASHER SHOULD BE MANUFACTURED FROM CARBON STRUCTURAL HOT ROLLED STEEL OF GRADE 10 OR 08 KP OR 10 KP (KP - RIMMED) TO GOST 1050 - 74.

I CHEMICAL COMPOSITIONS.

STEEL GRADE	CONTENTS OF ELEMENTS, %			
	CARBON	SILICON	MANGANESE	CHROMIUM
10	0.07 - 0.14	0.17 - 0.37	0.35 - 0.65	0.15 (MAX.)
08 kp	0.05 - 0.11	0.03 (MAX.)	0.25 - 0.50	0.10 (MAX.)
10 kp	0.07 - 0.14	0.07 (MAX.)	0.25 - 0.50	0.15 (MAX.)

II MECHANICAL PROPERTIES. STEEL GRADE.

HEAT TREATMENT OF BLANK.	STEEL GRADE.	
	08 NORMALISING.	10 NORMALISING.
YIELD POINT Kgf/mm^2 (Min)	20	21
ULTIMATE TENSILE STRENGTH Kgf/mm^2 (Min)	33	34
PERCENTAGE ELONGATION, % (Min)	33	31
REDUCTION OF AREA, % (Min)	60	55
HARDNESS (WITHOUT HEAT TREATMENT BHN (MAX))	134	143

III SURFACE FINISH.

✓ REPRESENTS SURFACE FINISH TO BE OBTAINED WITHOUT REMOVAL OF MATERIAL.

Rz 320 (✓) REPRESENTS SURFACE FINISH TO BE OBTAINED BY MACHINING IN Rz VALUE.

320 (✓) ON THOSE SURFACES WHERE SURFACE FINISH IS NOT SPECIFIED.

D.C(I)	DATE	ZONE	BRIEF RECORD	SIGN

INScribed

CHECKED *[Signature]*

APPROVED *[Signature]*

DATE *[Signature]*

TOLERANCE UNLESS OTHERWISE SPECIFIED.

GEN. DEC. ANG.

DRG. NOT TO BE SCALED. ALL SHARP EDGES & CORNERS TO BE ROUNDED OFF. ALL DIMENSIONS ARE IN YMM UNLESS OTHERWISE SPECIFIED.

TAB WASHER.

672-31-71

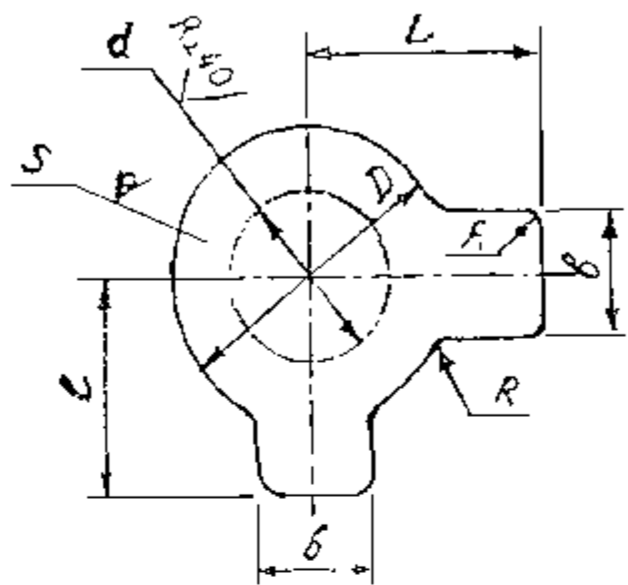
SCALE: -

CONTROLLERATE OF INSPECTION FIRE FIGHTING EQPT. PUNE

Easy2Copy.com

672-31-71

R2320



TECHNICAL CONDITIONS

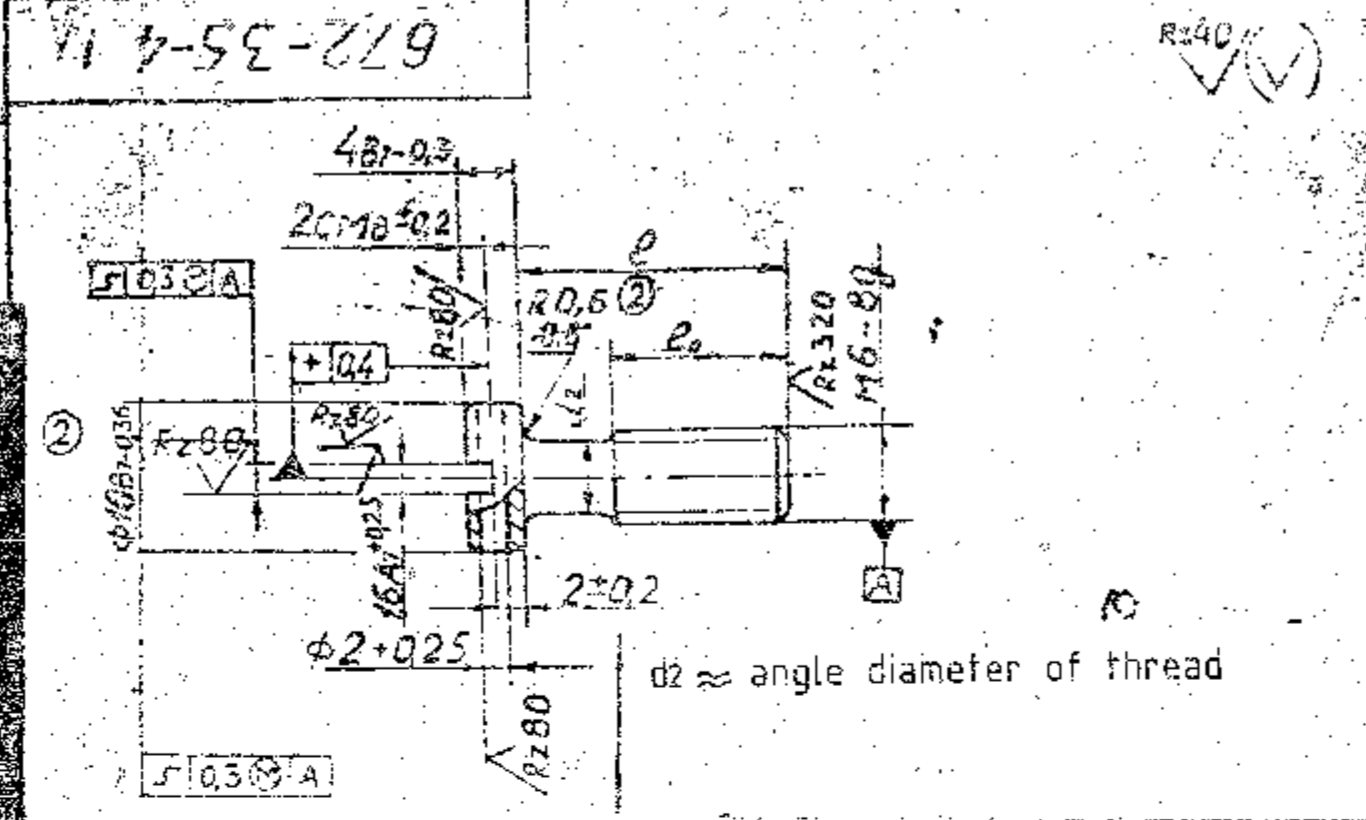
1. Alternate material is steel 08k1 10kn, GOST 1050-74.
2. Unspecified limit deviations are ± 0.5 mm
3. Misalignment of circumference D with respect to hole d and asymmetry of tabs with respect to axis of hole d should be 1mm.
4. Coating: Zinc-plated, 9 microns thick, chromated
Remove hydrogen embrittlement.

- Ⓐ ALTERNATE MATERIAL - STEEL Gde Fe 330 TO IS: 1079-88
- Ⓑ EQ. MATERIAL - COLD ROLLED STEEL SHEET GRADE D/D TO IS: 4030-74
- Ⓒ EQ. MATERIAL - STEEL GRADE - 'D' TO IS 513-86 FOR 672-31-71-02 AND 672-31-71-03.

Designation	d, MM	D, MM	L, MM	I, MM	B, MM	S, MM	R, MM	Mass in Kg
672-31-71	6.4 ^{+0.36}	14	15	10	6	1	2	0.002
-01	8.4 ^{+0.36}		18	12	7			0.002
-02	10.5 ^{+0.43}	18	20	14	8	1.5	2	0.002
-03	13 ^{+0.43}	22	25	20	10			0.005

		00862-ICV 31 MAY 01	Ⓒ	EQ. MATERIAL ADDED.
GOLD ROLLED STEEL SHEET Gde 'D' TO SPEC. IS:4030-75 NEAREST EQ. MATERIAL		00769-ICV 7 MAR 2000	Ⓑ	EQ. MATERIAL ADDED.
STEEL 10 GOST 1050-74		00561-ICV 14 MAY 95	Ⓐ	ALTERNATE MATERIAL ADDED. (1/96 N OF A)
ORGL MATERIAL:-		DC(I)No. & DATE	ISSUE	AMENDMENTS
ALL SHARP EDGES & CORNERS TO BE ROUNDED OFF	ALL THREADS TO CONFORM TO SPECIFICATION	STAMP OR ETCH, PART No. MANUFACTURER'S NAME & YEAR OF MFR.		
DRG. NOT TO BE SCALED	TOLERANCE ON DIMENSIONS UNLESS OTHERWISE SPECIFIED	USED ON:		
SCALE: -	DATE: 09 MAR 90			
DRN.	WT :- (Kg)	672-31-71 TAB WASHER		
TCD.	SEE TABLE			
CHD APPD				
CONTROLLERATE OF QUALITY ASSURANCE (INFANTRY COMBAT VEHICLES)				

THE ABBRIVATIONS AND SYMBOLS ARE BASED ON RUSSIAN SPECIFICATIONS.
ALL DIMENSIONS ARE IN mm.



- Alternate material is steel 25,30,35,40 GOST 1050-74. When screws are made by cold upsetting, use steel 10, 10kn,20,20kn, GOST 1050-74.
- Coating: Zinc-plated, 9 microns thick, chromatised. Remove hydrogen embrittlement.

Designation	l, MM	l ₀ , not less than	Mass, kg.
672-35-4	10±0,5	10	0,0039
-01	22±0,6	18	0,0060
-02	6±0,5	6	0,0027

SN/SH	DOC NO	SIGN	DATE
DRAWN	V.J.RAO		20.7.84
EDT/CHKD	B. Sarma		27.8.84
F/M, DC	S.R. NAIR		27.8.84
DIV/OFFR	T. BANERJEE		27.8.84
NAME	SIGN	DATE	

SCREW

Steel 45 GOCT 1050-74

SHEET WEIGHT SCALE	
2.1	2.1
TOTAL SHEETS	

672-35-4

EXPLANATORY NOTES TO TECHNICAL CONDITIONS.

- SCREW SHOULD BE MANUFACTURED FROM STEEL GRADE 45 TO GOST-1050-75 AND ALTERNATIVE MATERIAL OF STEEL GRADES 10, 10KP, 20, 20KP, 25, 30, 35, 40 TO GOST-1050-74.
- CHEMICAL COMPOSITION OF ABOVE STEEL GRADE GIVEN AS BELOW:-

No.	CONTENT OF ELEMENTS	STEEL GRADE 10	STEEL GRADE 10 KP	STEEL GRADE 20	STEEL GRADE 20 KP	STEEL GRADE 25	STEEL GRADE 30	STEEL GRADE 35	STEEL GRADE 40	STEEL GRADE 45
1	CARBON	0.07-0.14	0.07-0.14	0.17-0.24	0.17-0.24	0.22-0.30	0.27-0.35	0.31-0.40	0.37-0.45	0.42-0.50
2	SILICON	0.17-0.37	MAX.0.07	0.17-0.37	MAX.0.07	0.17-0.37	0.17-0.37	0.17-0.37	0.17-0.37	0.17-0.37
3	MANGANESE	0.35-0.65	0.25-0.50	0.35-0.65	0.25-0.50	0.50-0.80	0.50-0.80	0.50-0.80	0.50-0.80	0.50-0.80
4	CHROMIUM, MAX.	0.15	0.15	0.25	0.25	0.25	0.25	0.25	0.25	0.25

- MECHANICAL PROPERTIES OF STEEL GRADE- 10, 20, 25, 30, 35, 40, 45 AS PER GOST-1050-74.

NO.	PROPERTIES	STEEL GRADE 10	STEEL GRADE 20	STEEL GRADE 25	STEEL GRADE 30	STEEL GRADE 35	STEEL GRADE 40	STEEL GRADE 45
1.	HEAT TREATMENT OF BLANKS	NORMALISING	NORMALISING	NORMALISING	NORMALISING	NORMALISING	NORMALISING	NORMALISING
2.	YIELD POINT, MIN. kgf/mm ²	21	25	28	30	32	34	36
3.	ULTIMATE TENSILE STRENGTH, kgf/mm ² MIN.	34	42	46	50	54	58	61
4.	PERCENTAGE ELONGATION	31	25	23	21	20	19	16
5.	REDUCTION OF AREA, % MIN.	55	55	50	50	45	45	40
6.	IMPACT STRENGTH, KJ/M.C.M. ² MIN.			9	8	7	6	5

4. HARDNESS

STEEL GRADE	10	20	25	30	35	40	45
B.H.N. MAX.	143	163	170	179	207	217	229

HEATING TEMPERATURE °C (NORMALISING) GRADE

GRADE	HEATING TEMPERATURE °C	RECOMMENDED MIN. HOLDING PERIOD
10	920	
20	900	NOTE: IN CASE OF NORMALISING OR HARDENING 30 MINUTES
25	890	
30	880	
35	880	
40	870	
45	860	

5. SURFACE FINISH:-

- Rz80 - INDICATES SURFACE FINISH R_Z VALUE 80 MICRONS.
- Rz320 - INDICATES SURFACE FINISH R_Z VALUE 320 MICRONS.
- 0.30 A - DISPLACEMENT OF THE INDICATED AXIS FROM BASE AT THE MAX METAL CONDITION WITHIN 0.3 MM AT THE -
- Rz40 (✓) - INDICATES SURFACE FINISH R_Z VALUE 40 MICRONS ON THOSE SURFACES WHERE SURFACE FINISH IS NOT SPECIFIED.

INScribed		DRG. NOT TO BE SCALED.		PERTAINS TO	
CHECKED	<i>[Signature]</i>	ALL SHARP EDGES & CORNERS TO BE ROUNDED OFF.		672-35-4	
APPROVED	<i>[Signature]</i>	ALL DIMENSIONS ARE IN MM. UNLESS OTHERWISE SPECIFIED.		SCREW	
DATE	16.08.86	TOLERANCE UNLESS OTHERWISE SPECIFIED		SCALE: 1:1	
RECD	DT.	ZONE	BRIEF RECORD	SIGN.	GEN. DEC. NAME
				CONTROLLERATE OF INSPECTION FIRE FIGHTING DEPT. PUNE.	

672-47-5

EXPLANATORY NOTES TO TECHNICAL CONDITION

1) AXLE SHOULD BE MANUFACTURED FROM A STEEL OF GRADE 45X DIMENSION 8mm ACCURACY CLASS -5 SURFACE QUALITY GROUP 'B' AS PER GOST 1051-73.

2) CHEMICAL COMPOSITION OF STEEL GRADE 45X AS PER GOST 1051-73 AS REFERRED IN GOST 1051-73 IS AS BELOW

- i) CARBON - 0.41 - 0.49 %
- ii) SILICON - 0.17 - 0.37 %
- iii) MANGANESE - 0.50 - 0.80 %
- iv) CHROMIUM - 0.80 - 1.10 %

3) MECHANICAL PROPERTIES OF STEEL SHOULD BE CORRESPONDED TO GOST 4543-71 AND ARE AS GIVEN BELOW.

- i) HEAT TREATMENT OF BLANKS - **WATER OILING HARDENING TEMP - 840°C**
- ii) YIELD POINT - **55 kg/mm² (MIN)**
- iii) ULTIMATE TENSILE STRENGTH - **105 kg/mm² (MIN)**
- iv) PERCENTAGE ELONGATION - **18 % MIN.**
- v) REDUCTION OF AREA - **48 %**
- vi) IMPACT STRENGTH - **5 kgm/cm² (MIN)**
- vii) COOLING MEDIUM - **WATER/OIL**
- viii) TEMPERING TEMP - **520°C**

4) ALTERNATE MATERIAL IS STEEL GRADE 38XC, 38XA, 40X, 40XC TO THE GOST 4543-71 AND HAVING FOLLOWING CHEMICAL COMPOSITIONS.

CONTENTS OF ELEMENTS				
STEEL GRADE	CARBON	SILICON	MANGANESE	CHROMIUM
38XC	0.34 - 0.42	1.0 - 1.4	0.30 - 0.60	1.50 - 1.60
38XA	0.35 - 0.42	0.17 - 0.37	0.50 - 0.80	0.80 - 1.10
40X	0.36 - 0.44	0.17 - 0.37	0.50 - 0.80	0.80 - 1.10
40XC	0.37 - 0.45	1.20 - 1.60	0.80 - 0.60	1.30 - 1.60

ii) CONTENTS OF CHEMICAL COMPOSITIONS, %

PHOSPHORUS	SULPHUR	COPPER	NICKLE	CHROMIUM
0.025	0.025	0.30	0.30	0.30

5) MECHANICAL PROPERTIES OF STEEL GRADE 38XC, 38XA, 40X, 40XC TO GOST 4543 ARE AS GIVEN BELOW.

STEEL GRADE	38XC	38XA	40X	40XC
YIELD POINT	75	80	80	110
TENSILE STRENGTH	95	95	100	125
PERCENTAGE ELONGATION	12	12	10	12
REDUCTION OF CROSS-SECTIONAL AREA	50	50	45	40
IMPACT STRENGTH	7	9	5	3.5

ii) HEAT TREATMENTS OF BLANKS

STEEL GRADE	38XC	38XA	40X	40XC
HARDENING TEMP	900°C	860°C	860°C	900°C
COOLING MEDIUM	OIL	OIL	OIL	OIL
TEMPERING TEMP	630°C	550°C	500°C	540°C
COOLING MEDIUM	OIL OR WATER	OIL OR WATER	OIL OR WATER	OIL OR WATER

ii) HARDNESS NUMBER SHOULD NOT EXCEED THE FOLLOWING GIVEN BELOW.

STEEL GRADE	38XC	38XA	40X	40XC
HARDNESS No. BHN (MAX)	255	207	217	255

6) SURFACE FINISH

2.5 - INDICATES SURFACE ROUGHNESS TO BE OBTAINED BY ANY PRODUCTION METHOD HAVING 2.5 MICRON MAX.

A - BASE INDICATED AS A

Q/C - INDICATES SURFACE ROUGHNESS TO BE OBTAINED WITHOUT REMOVAL OF MATERIAL ON THOSE SURFACES WHERE SURFACE ROUGHNESS IS NOT SPECIFIED.

Q4W - NOMINAL DIMENSION IS 4 AND TOLERANCE IS W - DENOTES RUSSIA SYMBOL FOR TOOL RUNNING FIT.

Dimension	mm	inch	tolerance
Ø	10.00	3/8	±0.02
L	210.00	8 1/4	±0.025
Ø	75.00	3	±0.025
Ø	100.00	4	±0.025

AXLE

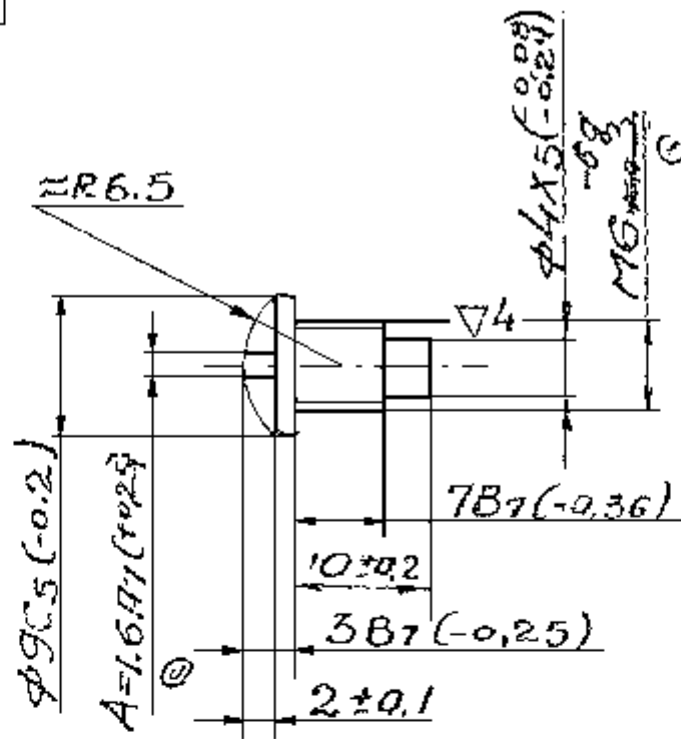
672-47-5

Easy2Convert
www.easy2convert.com

INSCRIBED CHECKED APPROVED DATE TOLERANCE UNLESS OTHERWISE SPECIFIED	DRG NOT TO BE SCALED. ALL SHARP EDGES AND CORNERS TO BE ROUNDED OFF. ALL DIMENSIONS ARE IN MM, UNLESS OTHERWISE SPECIFIED.	PERTAINS TO AXLE 672-47-5
	SCALE CONTROLLER/DATE OF INSPECTION/FIRE FIGHTING/EGPT/PUNE	
	DDD/DATE ZONE BRIEF RECORD SIGN. GEN. DES. ANG.	
	3/198	

89E-9E-007

▽3(▽)



1. Alternate material is steel cm5, GOST 380-71, steel 40: 50, GOST 1050-74, and steel 40Г, GOST 4543-71.
 2. HB 255 to 207 (φ3,8 to 4,2).
 3. Incomplete thread should not exceed 2 mm.
 4. Displacement of slot with respect to axis of rod should not exceed 0,4 mm,
 5. coating: MH 9.
 6. It is allowed to perform dimension A equal to $16^{+0.25}_{-0.00}$
- Ⓐ EQ. MATERIAL:- 45 CB TO IS: 5517-93

00722-ICV
V. Rame
07 SEP 99
DC(I)No.
& DATE

Ⓐ
Cur
ISSUE

EQ. MATERIAL ADDED.

AMENDMENT'S

APPROVED

M. V. 2023

CHECKED

DKUMAR

700-35-368

CONTROLLERATE
OF
QUALITY ASSURANCE
(ICV)

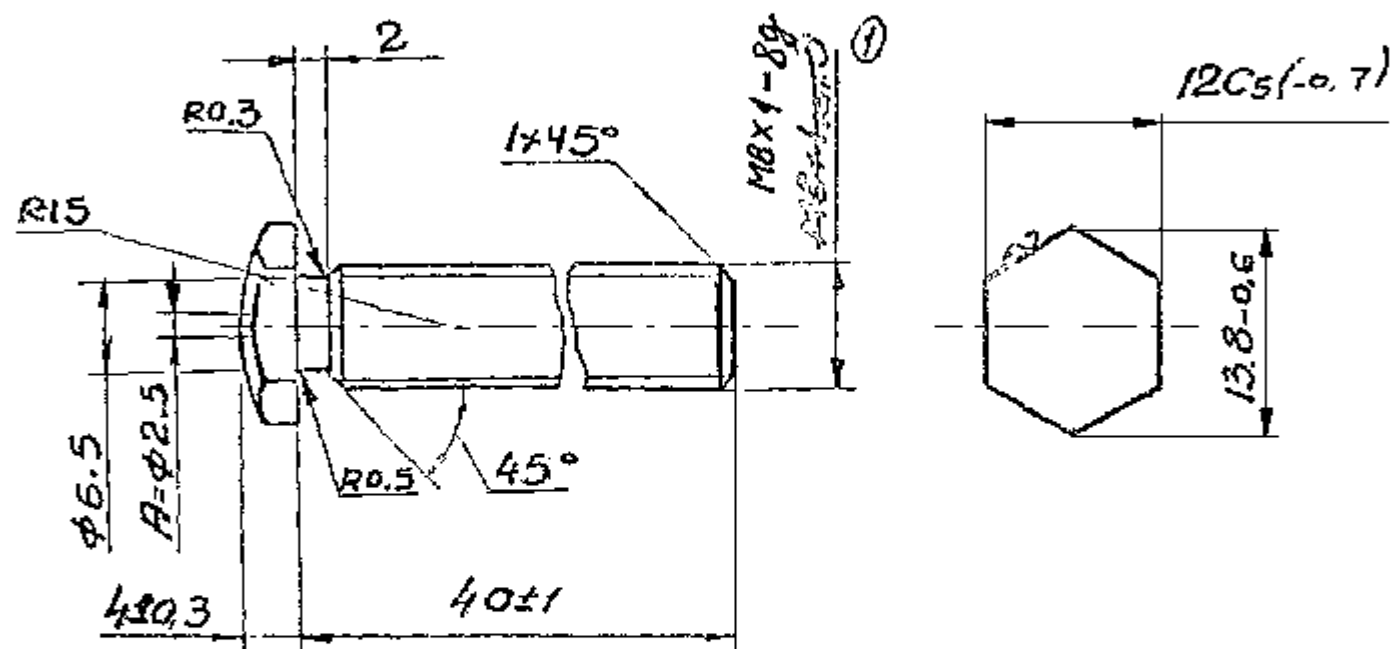
SCREW

45, GOST 1050-74

WEIGHT SCALE

0.0028 2:1

SHT 1 SHTS 1

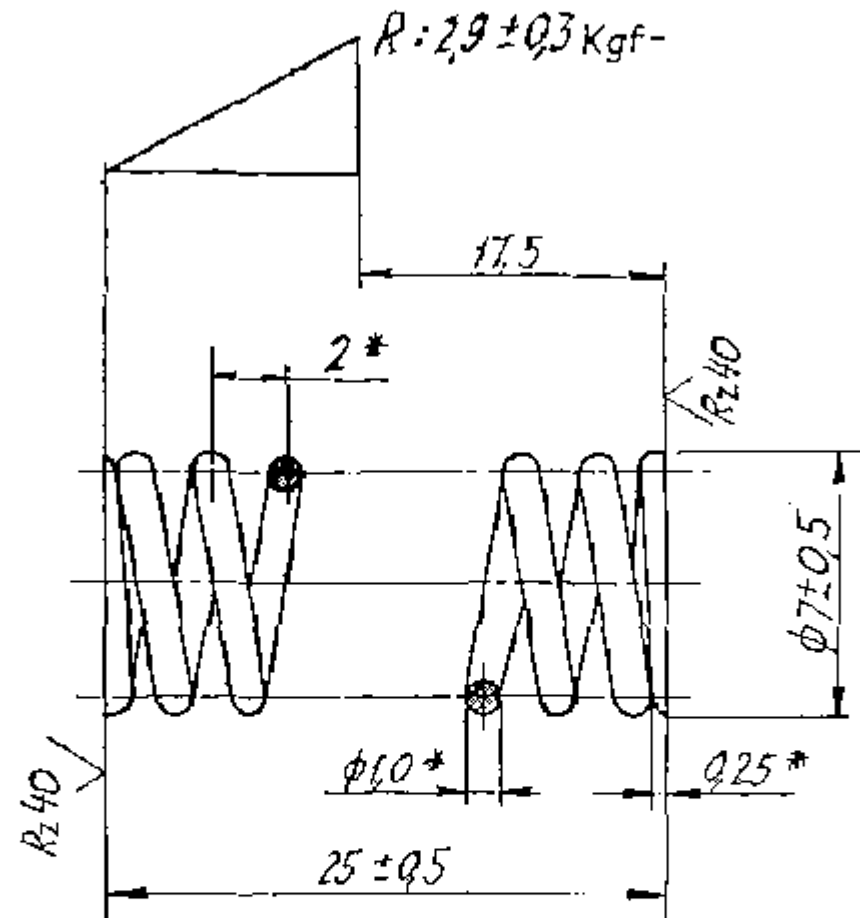


- 1) Alternate material is steel 40, GOST 1050-74.
 - 2) HB 255 to 207 (φ 3,8 to 4,2).
 - 3) Unspecified limit deviations of dimensions of holes are as per A7.
 - 4) Presence of area A is allowed on the face of sphere.
 - 5) Coating :- Zinc plated , 9 microns thick, chromated.
Remove hydrogen embrittlement
- (A) EQ. MATERIAL:- 45 CB TO IS: 5517-93 OR
(B) GRADE-C45 TO IS:1570


00889-ICV 18 JUL 01 <i>[Signature]</i>	(B)	EQ. MATERIAL ADDED.
00722-ICV 07 SEP 99 <i>[Signature]</i>	(A)	EQ. MATERIAL ADDED.
DCI No. & DATE	ISSUE	AMENDMENTS

APPROVED	<i>[Signature]</i>	700-35-408	
CHECKED	<i>[Signature]</i>		
CONTROLLERATE OF QUALITY ASSURANCE (ICV)		SCREW	
45, GOST 1050-74		0.02	2:1
		SHT	SHTS 1

700-38-1123



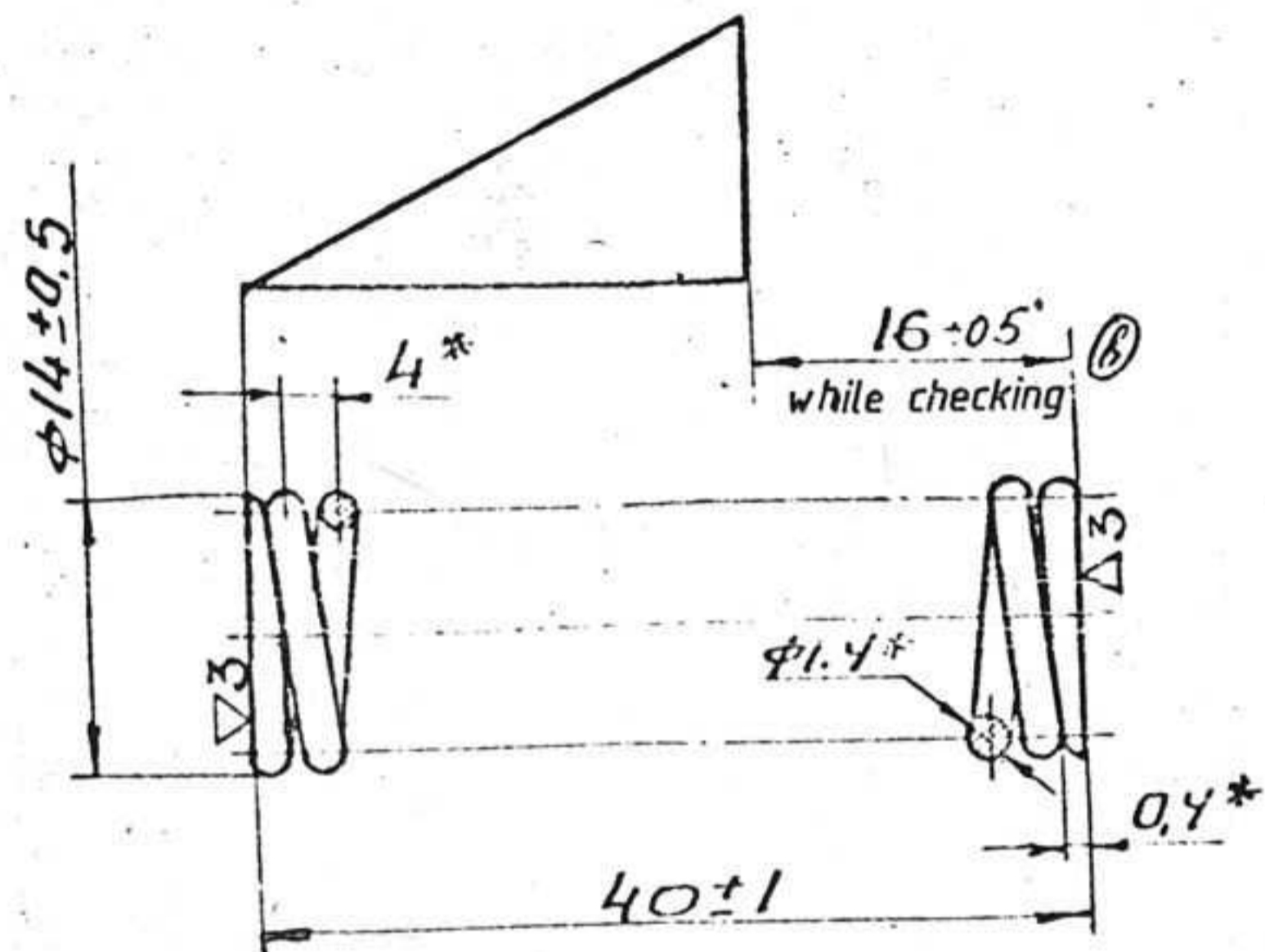
- 1 Shear modulus $G^* = 8000 \text{ Kgf/mm}^2$
- 2 Tangential twisting stress (maximum) $\tau_3^* = 56,8 \text{ Kgf/cm}^2$
- 3 After compressing the spring for 10 times till the turns are in ^{the} contact one with another, no residual deformation is allowed.
- 4 Total length of the spring $L^* = 266 \text{ mm}$
- 5 Number of working turns $n = 12$
- 6 Number of complete turns $n_1 = 14 \pm 0,75$
- 7 Winding direction is right hand.
- 8 Machined surface of the butt-ends should not be less than $5/8$ of the turn.
- 9 Non-squareness of the spring axis to the butt-ends should not exceed $0,1 \text{ mm}$
- 10 * Dimensions are given for reference
- 11 Coating Zinc-plated, 9 microns thick, chromated; cadmium-plated, 9 microns thick, chromated. Remove hydrogen embrittlement

APPROVED		700-38-1123			
CHECKED					
CONTROLLERATE OF QUALITY ASSURANCE (ICV)		SPRING		WEIGHT	SCALE
				0.0016	5:1
		WIRE II-10, GOST 9389-75		SHT 1	SHTS 1

100-38-1495

(2) (V)

$P = 5,15 \pm 0,5 \text{ kgf}$

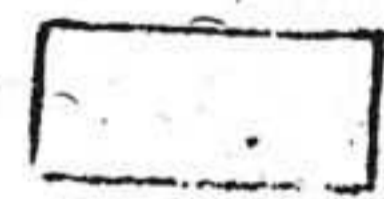


- 1) Shear modulus is $G^* = 8,10^3 \text{ kg/mm}^2$, max.
- 2) Tangential twisting stress. $\tau_3^* = 73 \text{ kg/mm}^2$, max.
- 3) Total length of spring is $L^* \approx 450 \text{ mm}$.
- 4) Number of working coils $n = 9$.
- 5) Complete number of coils is $n_1 = 11 \pm 0,5$.
- 6) Direction of winding is arbitrary.

7) *Dimensions are given for reference.

8) Coating : Chemically parkerized, chromitized, accelerated, oiled, with preservation oil k-17 GOST 10877-76 as per instructions 053,25289,00002 or with varnish k0-815 GOCT 11066-74.

9) Coating : chemically parkerized, chromitized, accelerated, oiled with varnish k0-815, GOST 11066-74.

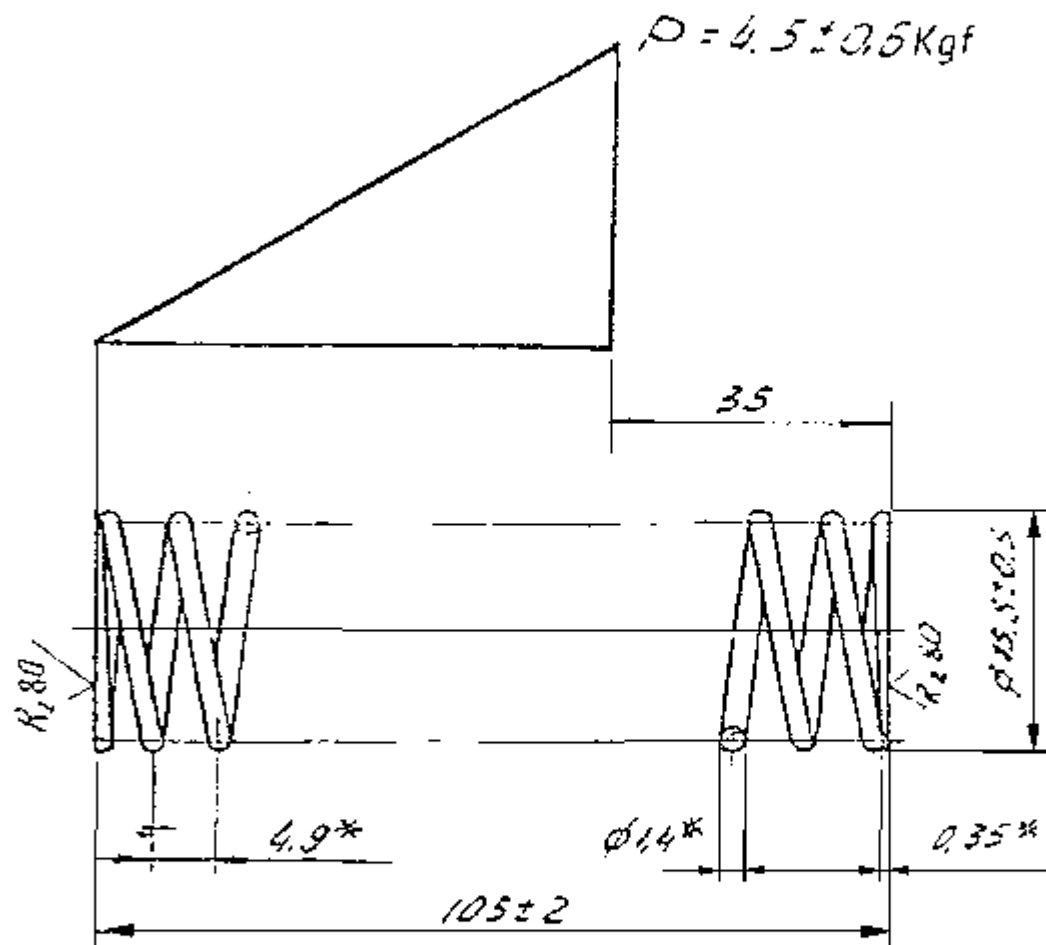


1	-	765.237-82	Jyoti	21.4.82
1	-	765.238-76	Ucpos	11.51.
2	1	765.415-75	Jyoti	5.2.73
1	1	804/166		21.76
1	1	53/773		11.7.81

700-38-1495

DRW	DOC NO	SIGN	DATE
DRAWN	Y.R.Ganesh	YR	2.7.84
EDT.CHKD	D.K.JAIN	DK	4.7.84
F/M,DC	S.R.NAIR	SR	4.7.84
L.V.OFFR.	DU	DU	11.7.84
	NAME	SIGN	DATE

<h1>SPRING</h1>	SHEET	WEIGHT	SCALE
		0,0053	2:1
WIRE II - 1,4 GOCT 9389-75		TOTAL SHEETS	
ORDNANCE FACTORY PROJECT HYDERABAD			

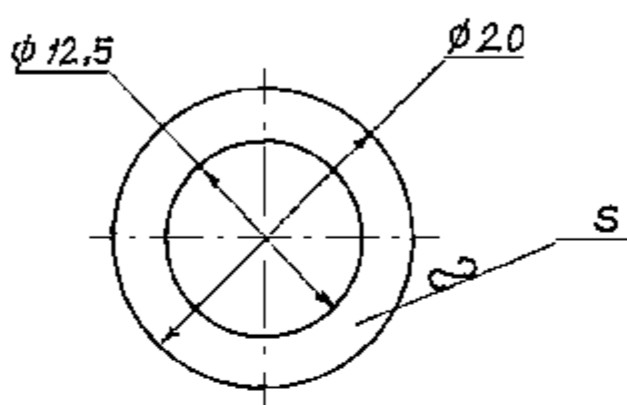
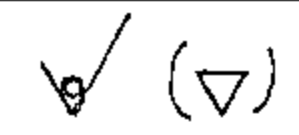


1. Shear modulus $G^*=8000 \text{ Kg/mm}^2$.
2. Tangential stress during twisting is (maximum) $\tau^*=72 \text{ Kg/mm}^2$
3. Total length of spring is $L^*=1100 \text{ mm}$
4. Number of working coils is $n=21$
5. Total number of coils is $n_1=23\pm 1$
6. Direction of winding is arbitrary
7. Machined surface of butt-ends should not be less than $3/4$ of a coil
8. Increase in external diameter of bearing coils is allowed upto 0.2 mm above tolerance
9. * Dimensions are given for references.
10. Coating: Cadmium-plated, 9 microns thick, chromating
Remove hydrogen embrittlement.
11. Permissible coating: Zinc-plated, 9 microns thick, chromating
Remove hydrogen embrittlement

00886-ICV <i>[Signature]</i> 28 JUN 01	<i>[Signature]</i>	DRAWING REVISED AND RETRACED.
DC(No. & DATE	ISSUE	AMENDMENTS

APPROVED	<i>[Signature]</i> IN VAS	700-38-1577		
CHECKED		SPRING	WEIGHT	SCALE
CONTROLLERATE OF QUALITY ASSURANCE (ICV)			0.014	2:1
		WIRE-II-1.4, GOST 9389-75	SHT 1	SHTS 1

700-40-71/73



1. ALTERNATE MATERIAL IS STEEL 08nc 08Kn, 10Kn AND 10 GOST-1950-11.
 2. UNSPECIFIED LIMIT DEVIATIONS OF DIMENSIONS ARE $\pm 0.5mm$.
 3. COATING CHEMICALLY OXIDISED, OILED OR CHEMICALLY OXIDISED PARKERISED OILED.
 4. NOTE FOR EQUIVALENT MATERIAL:- GRADE-'0' IS:513, OR GRADE EDD RIMMED STEEL TO IS:4030-73, EN32A,32B BS:970.
- (B) EQ. MATERIAL- GRADE-'DD' TO IS: 513-86

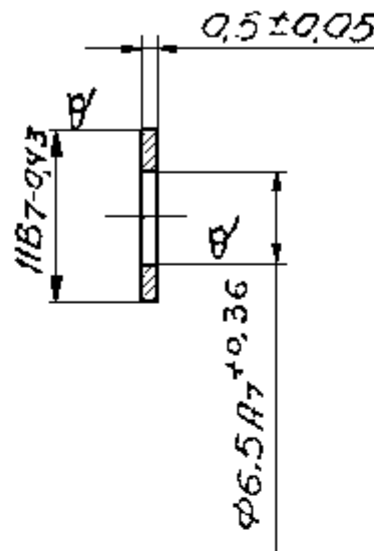
DESIGNATION	S, mm		MASS, Kg
	NOMINAL	DEV	
700-40-71	0.2	± 0.03	0.0003
700-40-72	0.5	± 0.07	0.00075
700-40-73	1	± 0.12	0.0015

NEAREST EQ. MATERIAL		00898-ICV 21 AUG 01 00753-ICV 23 FEB 00	(B) (A)	EQ. MATERIAL ADDED. FOR 700-40-72 DRAWING REVISED AND RETRACED
MATERIAL:- 08 Kn GOST 9045-80		DC(1)No. & DATE	ISSUE	AMENDMENTS
ALL SHARP EDGES & CORNERS TO BE ROUNDED OFF	DRG. NOT TO BE SCALED	SCALE: 2:1	DATE: 23 FEB 2000	ALL THREADS TO CONFORM TO SPECIFICATION
		TOLERANCE ON DIMENSIONS UNLESS OTHERWISE SPECIFIED		STAMP OR ETCH, PART No. MANUFACTURER'S NAME & YEAR OF MFR.
		USED ON: 765-18-Sb5 765-18-Sb117		
DRN.	TCD.	CHD	APPD	WT :- (Kg) SEE TABALE
				700-40-71/73
				GASKET
CONTROLLERATE OF QUALITY ASSURANCE (INFANTRY COMBAT VEHICLES)				

NOTE:-
1. ALL DIMENSIONS ARE IN mm.

700-40-153

2 (Δ)



- 1). Alternate material is steel cm2, cm3, GOST 380-71 and steel 08nc,¹⁰ 10kn, 15, 15kn, 20, 25 and 30 GOST 1050-74.
- 2). Coating: Zinc-plated, 9 microns thick, chromated. Remove hydrogen embrittlement.

- (A) EQ. MATERIAL: -Gdr 'D' (OR) 'DD' (OR) EDD TO IS: 1079-88 OR
 (B) GRADE - 'D' TO IS: 513-86

00898-ICV <i>Handwritten signature</i> 21 AUG 01	(B) Gsm	EQ. MATERIAL ADDED.
00272-ICV <i>v. Roman</i> 07 SEP 99	(A) Gsm	EQ. MATERIAL ADDED.
DC(I) No. & DATE	ISSUE	AMENDMENTS

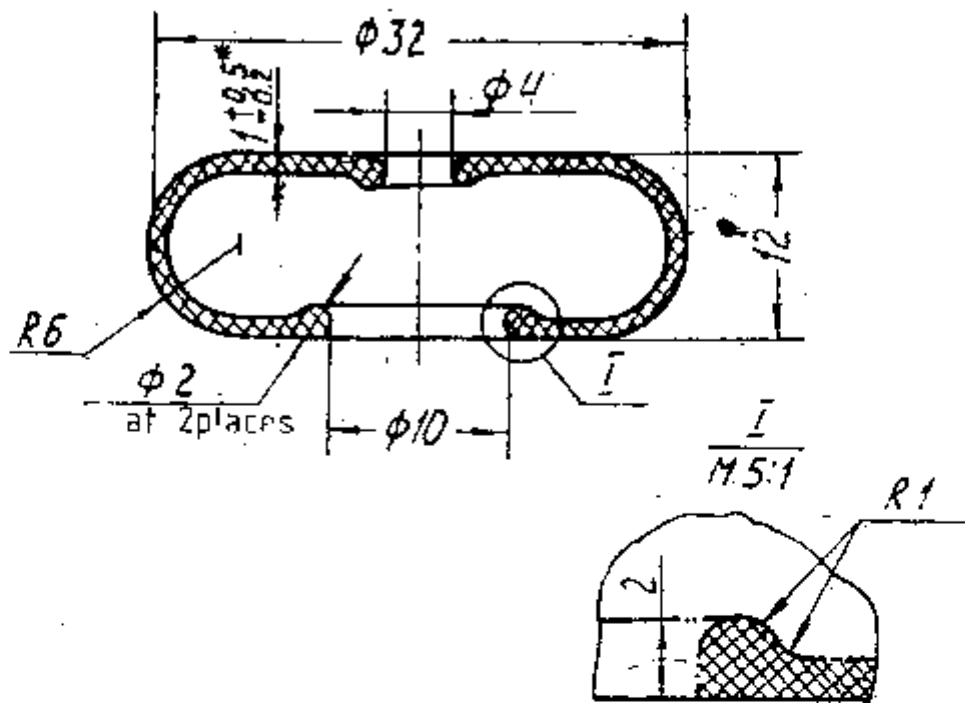
APPROVED *M. VASELI*
 CHECKED *A. V. OSKUNIAK*
 CONTROLLERATE
 OF
 QUALITY ASSURANCE
 (ICV)

700-40-153

GASKET
 08Kn GOST 1050-74

	WEIGHT	SCALE
	0.0003	2:1
SHT	SHTS	

66h-7A-591



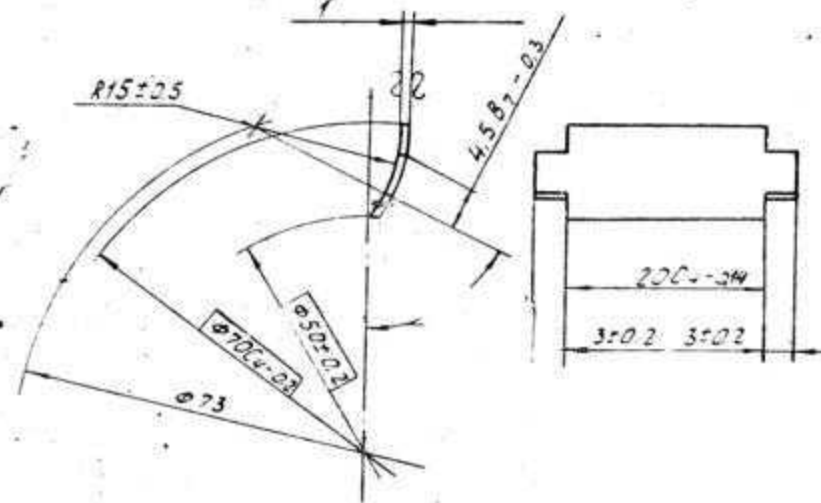
00948-ICV	EQ. MATERIAL ADDED
ISSUE	
AMENDMENTS	

1. All dimensions except for those marked with * should be provided by tool.
2. Flash along the parting line of die to height and width 0.5mm is allowed.
3. Part may be made as per conventional dotted line.
4. Variation in wall thickness within the limits of tolerance is allowed.
5. Mark on tag.
6. Other requirements are to be as per technical specifications TY 005216-75. for articles, code 253151.

(A) EQ.MATERIAL:-TYPE 'A' GRADE 2, IS: 5192-75.

APPROVED	M YASU	765-64-499	161 of 188	
CHECKED	<i>[Signature]</i>		WEIGHT	SCALE
CONTROLLERATE OF INSPECTION (ICV)		CUP	0.0035	2:1
			SHT.	SHTS
		1847 TY005216-75		

765-71-349



1. Blunt sharp edges.
2. Provide dimension given in in assembly.
3. Coating: Anodic oxidized, chromated or chemically parkerized, blue, chromated.
4. Alternate material is AMF5 or AMF2, GOST 4784-74.

765-71-349

NO	DOC NO	SIGN	DATE
DRAWN	V.J.RAO.		22.8.8
EDT/CHKD	Pravasi		22.8.8
FM, DC	S.R.NAIR		31.8.8
DIV. OFFR	J.K. BHARDE		31.8.8

BLADE		SHEET WEIGHT SCALE
		000000 2:1
		TOTAL SHEETS

Plate AMF66M-1	GOST 21631-76
----------------	---------------

765-71-349

EXPLANATORY NOTES TO TECHNICAL CONDITIONS.

BLADE SHOULD BE MANUFACTURED FROM ALUMINIUM ALLOY SHEET, 1 mm THICK OF GRADE AMg 6 OR GRADE AMg 5, AMg 2 WITH TECHNOLOGICAL CLADDING B(B) ANNEALED (M) WITH NORMAL SURFACE FINISH AND NORMAL MANUFACTURING ACCURACY CONFORMING TO GOST-21631-76.

I CHEMICAL COMPOSITION (GOST-4784-74 AS REFERRED IN GOST-21631-76)

GRADE	ALLOYING CONSTITUENT %						IMPURITIES % (MAXIMUM)					
	ALUMINIUM.	MAGNESIUM.	MANGANESE	TITANIUM.	BERYLLIUM	IRON.	SILICON	COPPER	ZINC.	CHROMIUM.	TITAN	OTHER IMPURITIES.
AMg 6	BASE CONSTITUENT.	5.8-6.8	0.5-0.8	0.02-0.1	0.0002-0.005	0.4	0.4	0.1	0.2	-	-	EACH INDIVIDUALLY. TOTAL.
AMg 5	BASE CONSTITUENT.	4.8-5.8	0.3-0.8	0.02-0.1	0.0002-0.005	0.6	0.5	0.1	0.2	-	-	0.05 0.10
AMg 2	BASE CONSTITUENT.	1.8-2.6	0.2-0.6	-	0.0002-0.005	0.4	0.4	0.1	0.2	0.05	0.1	0.05 0.10

II MECHANICAL PROPERTIES (GOST-21631-76) AMg 6 B M.

TENSILE STRENGTH. 32.0 Kgf/mm² (MIN).
 YIELD POINT. 16.0 Kgf/mm² (MIN).
 ELONGATION PERCENTAGE. 15.0

III CHEMICAL COMPOSITION OF CLADDING MATERIAL (GOST-21631-76).

GRADE	ALLOY ELEMENTS %	ADMIXTURES % (MAXIMUM)								OTHER ADMIXTURES		SUM TOTAL OF PERMISSIBLE ADMIXTURES.
		ALUMINIUM.	IRON.	SILICON	COPPER	MAGANESE.	ZINC.	TITANIUM	MAGNESIUM	EACH SEPARATELY.	SUM TOTAL.	
AMg 6B	99.3 (MIN)	0.30	0.30	0.02	0.025	0.10	0.15	0.05	0.02	-	0.70	

IV NOTE :-

THICKNESS OF CLADDING LAYER ON EACH SIDE OF SHEET FROM NOMINAL SHEET THICKNESS SHOULD NOT EXCEED 15%

IV TOLERANCE -

THICKNESS 1.0 TOLERANCE - 0.10

V SURFACE FINISH.

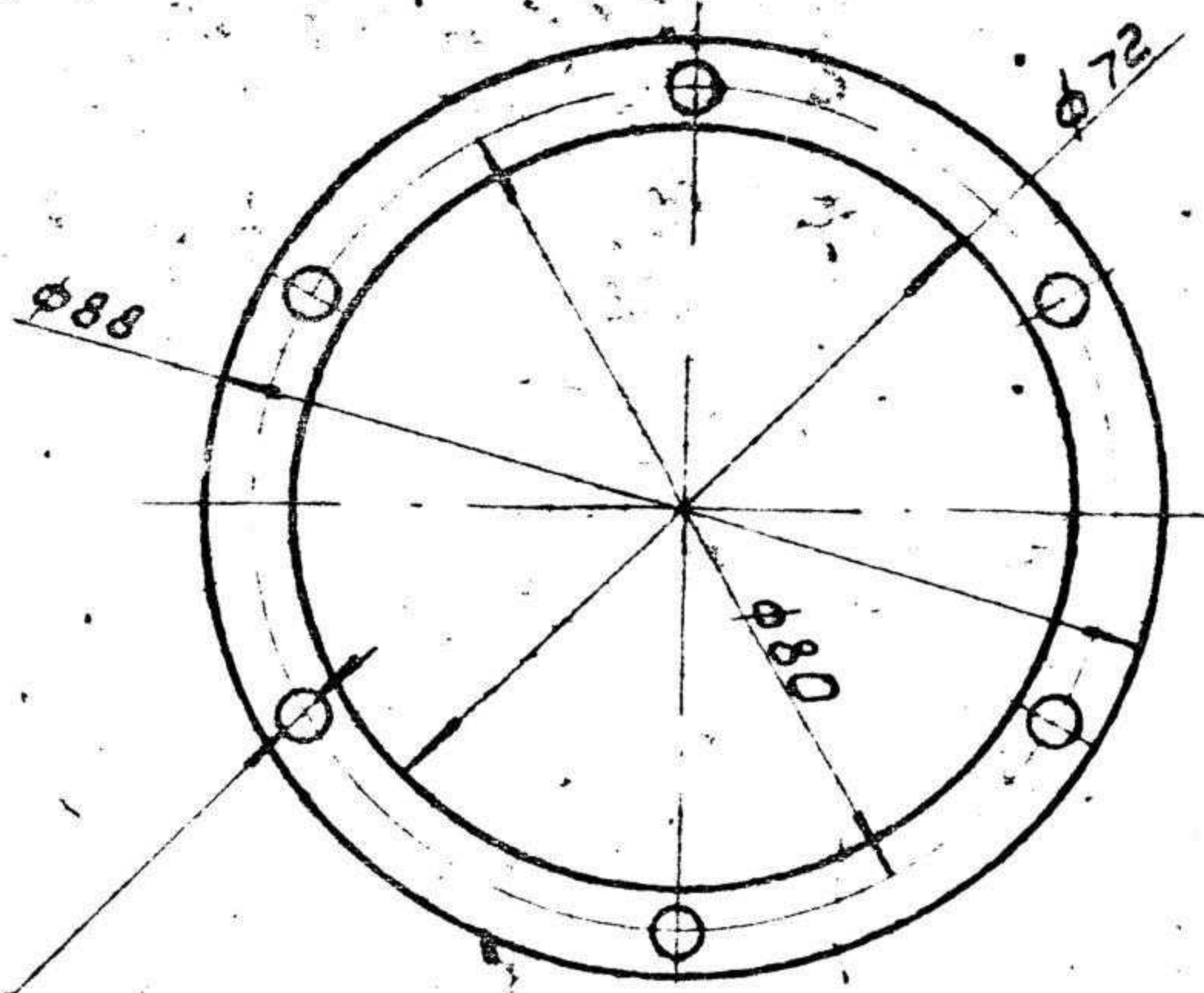
REPRESENTS SURFACE FINISH TO BE OBTAINED ON BOTH SIDE IN Ra VALUE 80 MICRONS.

D.C.(I)	DATE	ZONE	BRIEF RECORD.	SIGN.
---------	------	------	---------------	-------

INSCRIBED.	DRG. NOT TO BE SCALED.	PERTAINS TO :-
CHECKED. <i>S.W.</i>	ALL SHARP EDGES & CORNERS TO BE ROUNDED OFF.	
APPROVED. <i>Evor.</i>	ALL DIMENSIONS ARE IN mm. UNLESS OTHERWISE SPECIFIED.	765-71-349
DATE. <i>30.08.80</i>	BLADE.	
TOLERANCE UNLESS OTHERWISE SPECIFIED.	SCALE :-	
GEN. DEC. ANG.	CONTROLLERATE OF INSPECTION FIRE FIGHTING EQPT. PUNE.	

Easy2Convert

765-71-362



6 Holes $\phi 5$ Equally spaced along circumference.

- 1). Unspecified limit deviations of dimensions are $\pm 0.5\text{mm}$.
- 2). Displacement of axes of holes from true position should not exceed 0.2 mm .

REFER TO DRG. NO. 675-71-235 FOR EXPLANATORY NOTES OF PARONITE.

(R. VEERARAGHAVAN)
SSO-II

CIFE PUNE

765-71-362

Взам. инв. № Инв. № дубл. Подп. и дата
Исполн. и дата

SNOSHT	DOC NO	SIGN	DATE
DRAWN	BHUSHAN.		27.8.84
EDT,CHKD	J.K.JAIN	<i>[Signature]</i>	29.8.84
F/M,DC.	S.R.NAIR	<i>[Signature]</i>	31.8.84
DIV.OFFR	T.K.BANERJEE	<i>[Signature]</i>	3.9.84
	NAME	SIGN	DATE

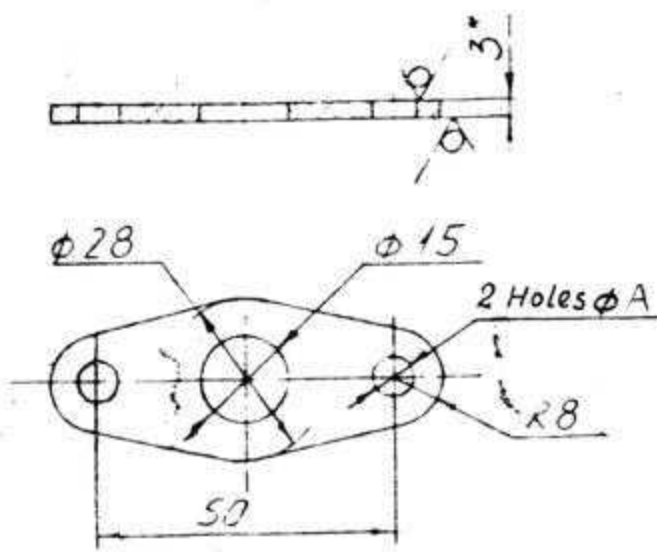
GASKET

Paronite noH-06 GOST
481-80.

SHEET	WEIGHT	SCALE
1	0.002	1:1
TOTAL SHEETS		
TRAN. 4:1	Easy 2 Conve	
CHECKED	www.easy2convert.com	
INSCRIBED	1-2-A4	

765-71-364

R2160



Designation	φ A, mm	Weight kg.
765 - 71 - 364	5	0,010
- 01	8	0,010

- 1) Unspecified limit deviations of dimensions are $\pm 0,5\text{mm}$.
- 2) Coating : Zinc-plated 9 microns thick, chromated.
- 3) Dimension with (*) is given for reference.
- 4) Alternate material is 45, GOST 1050-74.

765-71-364

SNO	SH	DOC NO	SIGN	DATE
1	DRAWN	Y.R. Ganesh		23.8.84
2	EDT/CHKD	R. Sankar		23.8.84
3	F/M, DC	S.R. NAIR		23.8.84
4	DIV. OFFR	T. BANERJEE		21.8.84
		NAME	SIGN	DATE

FLANGE

PLATE 5-n H-0-3 FOCT 19903-74
3-II-Cm 3cn, FOCT 16523-70

SHEET WEIGHT SCALE
1 See Table 7.4
TOTAL SHEETS

765-71-364

EXPLANATORY NOTES TO TECHNICAL CONDITION.

FLANGE SHOULD BE MANUFACTURED FROM HOT ROLLED SHEET STEEL IN THE PLATE FORM OF 3mm THK. (NOMINAL) CONFORMING TO GOST 19903-74 AND HAVING FOLLOWING CHARACTERISTICS:-

- a) NORMAL ACCURACY - B(C)
- b) NORMAL PLANENESS - PNC(DH)
- c) WITH TRIMMED EDGE - 0

THE HOT-ROLLED ORDINARY CARBON SHEET STEEL OF THICKNESS 3MM SHOULD BE OF CATEGORY 3, HAVING HIGH FINISH AND GRADE CT 3CN (3-II-Cm 3cn) CONFORMING TO GOST - 16523-70

1. THE MECHANICAL PROPERTIES OF CARBON STEEL GRADE CT 3CN (CT 3 DENOTES TO STEEL GRADE 3 & CN DENOTES KILLED STEEL) IN ACCORDANCE WITH GOST - 380-71 (AS REFERRED IN GOST - 16523-70) SHOULD BE AS FOLLOWS -

GRADE OF STEEL	ULTIMATE STRENGTH IN Kgf/mm ²	STRESS AT YIELD POINT Kgf/mm ² FOR 3mm THK.	RELATIVE ELONGATION 85% FOR 3mm THK.	BENDING TO 180° (φ, THICKNESS OF SAMPLE DIA. OF MANDREL)
CT 3 CN	38-49	25	26	d = 0.5a

ALTERNATIVE MATERIAL -

HOT-ROLLED CARBON STEEL GRADE 45 (GOST 1050-74)

2. CHEMICAL COMPOSITION & MECHANICAL PROPERTIES OF CARBON STEEL GRADE 45 CONFORMING TO GOST - 1050-74 SHOULD BE AS FOLLOWS -

CHEMICAL COMPOSITION

CARBON - 0.42 - 0.50%
SILICON - 0.17 - 0.37%
MANGANESE - 0.50 - 0.80%
CHROMIUM - 0.25% (MAX)

3. MECHANICAL PROPERTIES -

- 1) HEAT TREATMENT OF BLANK : NORMALISING.
- 2) YIELD POINT MIN. : 36 Kg/mm²
- 3) ULTIMATE TENSILE STRENGTH (MIN.) : 61 Kg/mm²
- 4) PERCENTAGE ELONGATION (MIN.) : 16%
- 5) REDUCTION OF AREA (MIN.) : 40%
- 6) IMPACT STRENGTH (MIN.) : 5 Kg.m/cm²

4. HARDNESS (WITH OUT HEAT TREATMENT) 229 BHN (MAX)

5. THE RECOMMENDED HEATING TEMPERATURE DURING HEAT TREATMENT OF BLANKS (SPECIMENS) FOR CARRYING OUT TESTS OF MECHANICAL PROPERTIES OF STEEL GRADE 45 ARE :-

NORMALISING : 860°C } RECOMMENDED MINIMUM HOLDING PERIOD: 30 MINUTES

6. SURFACE FINISH

R. z 160 (✓) - REPRESENTS SURFACE FINISH OF VALUE 160 MICRONS

✓ - INDICATES ROUGHNESS TO BE OBTAINED WITHOUT REMOVAL OF MATERIAL.

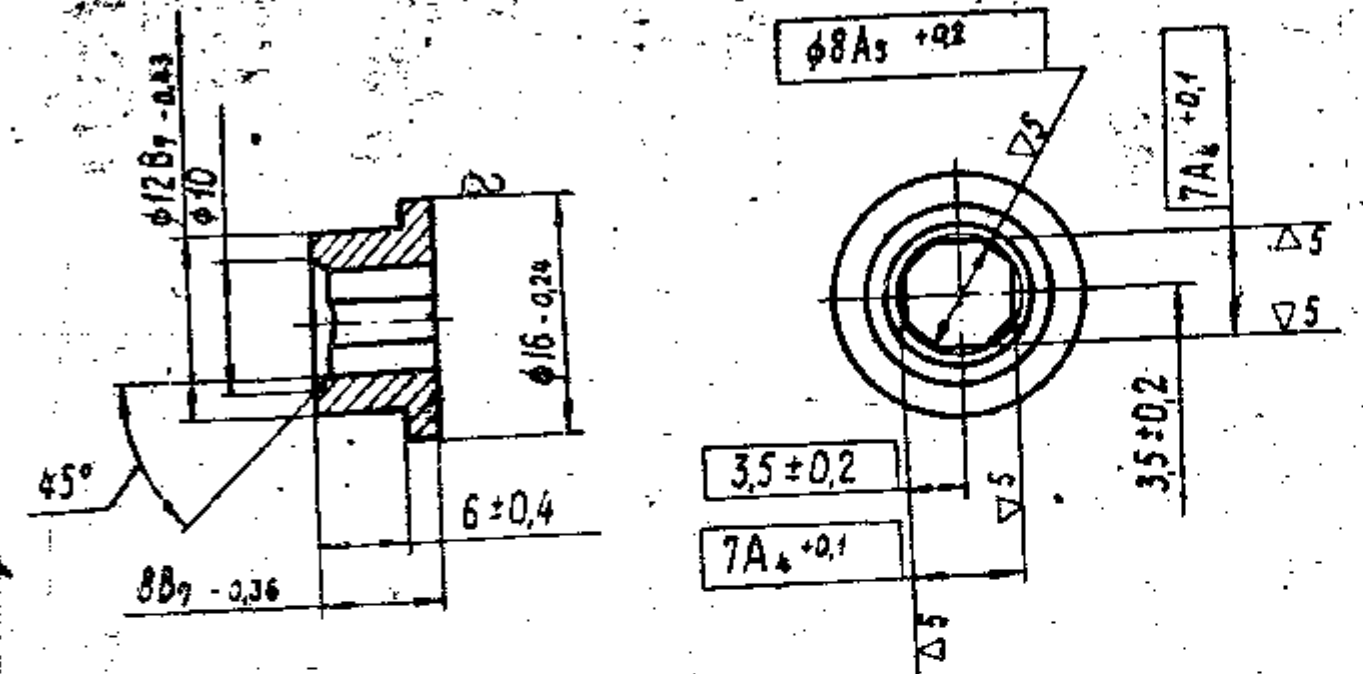
Easy2Convert

www.easy2convert.com

INScribed		DRG NOT TO BE SCALED	PERTAINS TO:
CHECKED	<i>[Signature]</i>	ALL SHARP EDGES & CORNERS TO BE ROUNDED OFF	
APPROVED	<i>[Signature]</i>	ALL DIMENSIONS ARE IN MM UNLESS OTHERWISE SPECIFIED	765-71-364
DATE	31.7.86		
TOLERANCE UNLESS OTHERWISE SPECIFIED		FLANGE	
GEN	DEC	ANG	SCALE :
CONTROLLERATE OF INSPECTION FIRE FIGHTING SPT. FUNE-			

16E-1L-59L

Unless otherwise specified.



1. Blunt sharp edges.
2. Provide dimensions given in in assembly.
3. Alternate material is 10 and 15 GOST 1050-74.

NO	DOC NO	SIGN	DATE
DRAWN	V.J.RAO		22.8.84
EDT, CHKT	B. Sankar		28.8.84
F/M, DC	S.R.NAIR		29.8.84
DIV. OFFR.	T.K. BANERJEE		31.8.84

765-71-391

BUSH

SHEET WEIGHT SCALE	
0.005	2:1
TOTAL SHEETS	
ORDNANCE FACTORY PROJECT	
20 OCT 1050-74	

16E-1L-59L

EXPLANATORY NOTES TO TECHNICAL CONDITIONS

1) BUSH SHOULD BE MANUFACTURED FROM STEEL GRADE 20 OF GOST 1050-74. THE CHEMICAL COMPOSITIONS IS AS GIVEN BELOW

CARBON	0.17 - 0.24 %
SILICON	0.17 - 0.37 %
MANGANESE	0.35 - 0.65 %
CHROMIUM	0.25 % (MAXIMUM)

2) MECHANICAL PROPERTIES OF STEEL GRADE 20 OF GOST 1050-74 IS AS GIVEN BELOW

HEAT TREATMENT OF BLANKS	NORMALISING
YIELD POINT (MIN)	25 KGF/MM ²
ULTIMATE TENSILE (MIN) STRENGTH	42 KGF/MM ²
PERCENTAGE ELONGATION (MIN)	25 %
REDUCTION OF AREA (MIN)	55 %

HARDNESS WITHOUT HEAT TREATMENT
BHN - 163 (MAXIMUM)

3) ALTERNATE MATERIAL IS STEEL GRADE 10 AND 15 OF GOST 1050-74 THE CHEMICAL COMPOSITIONS IS AS GIVEN BELOW

CHEMICAL COMPOSITION	GRADE	
	10	15
CARBON %	0.07 - 0.14	0.12 - 0.19
SILICON %	0.17 - 0.37	0.17 - 0.37
MANGANESE %	0.35 - 0.65	0.35 - 0.65
CHROMIUM (MAX)	0.15 % (MAX)	0.25 % (MAX)

4) MECHANICAL PROPERTIES OF STEEL GRADE 10 AND 15 OF GOST 1050-74 ARE AS GIVEN BELOW

MECHANICAL PROPERTIES	GRADE	
	10	15
HEAT TREATMENT OF BLANKS	NORMALISING	NORMALISING
YIELD POINT	21 KGF/MM ² (MIN)	23 KGF/MM ² (MIN)
ULTIMATE TENSILE STRENGTH	34 KGF/MM ² (MIN)	38 KGF/MM ² (MIN)
PERCENTAGE ELONGATION	31 % (MIN)	27 % (MIN)
REDUCTION OF AREA	55 % (MIN)	55 % (MIN)
HARDNESS WITHOUT HEAT TREATMENT		
STEEL GRADE 10 - 143 BHN (MAXIMUM)		
STEEL GRADE 15 - 149 BHN (MAXIMUM)		

5) HEATING TEMPERATURE :-
THE RECOMMENDED HEATING TEMPERATURE DURING HEAT-TREATMENT OF BLANKS (SPECIMEN) FOR CARRYING OUT THE TESTS OF MECHANICAL PROPERTIES IS AS FOLLOWS:-

STEEL GRADE	HEATING TEMPERATURE (NORMALISING)
20	900°C
10	920°C
15	900°C

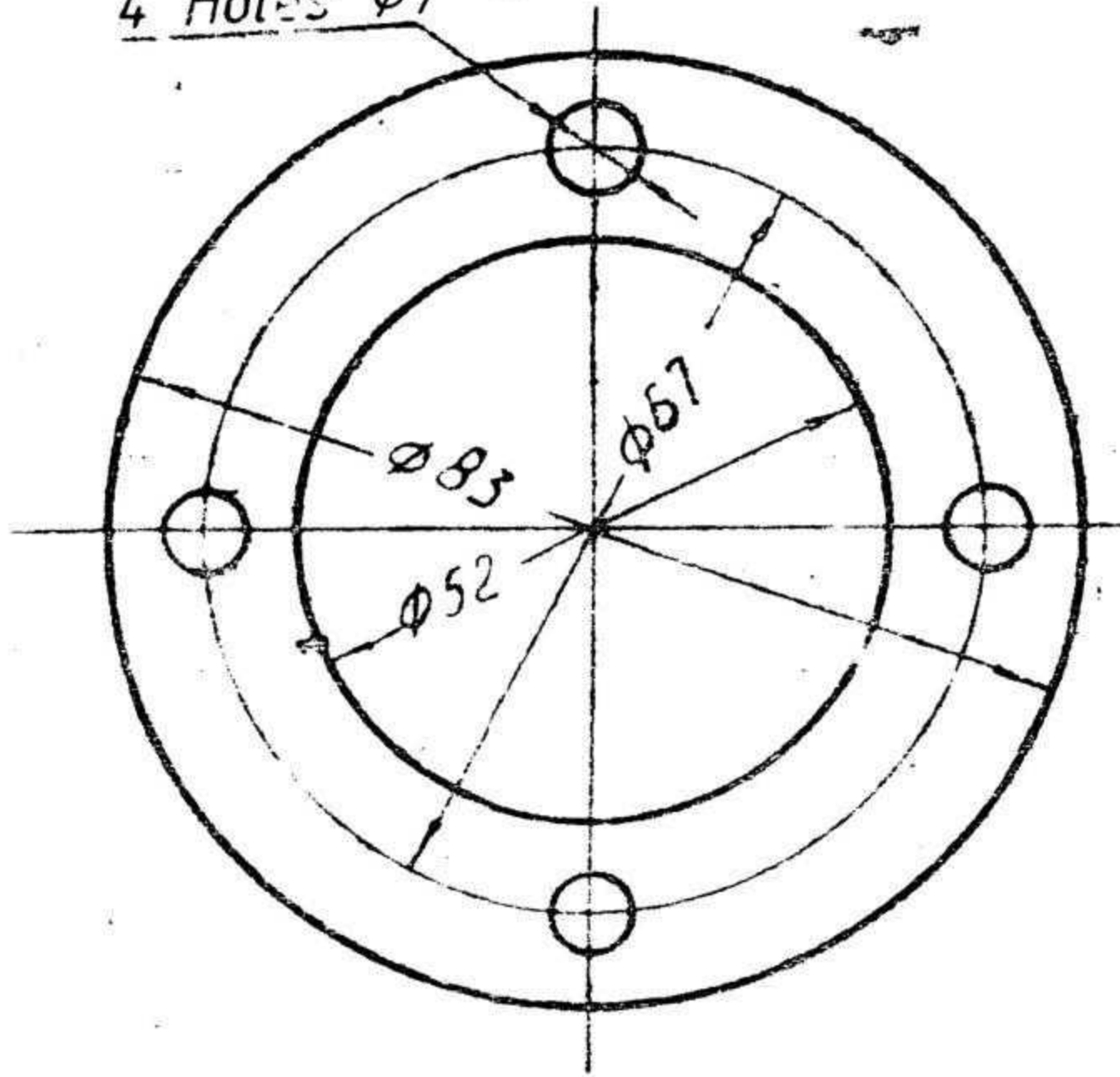
RECOMMENDED MINIMUM HOLDING PERIOD IN CASE OF NORMALISING IS 30 MINUTES.

- SURFACE ROUGHNESS :-
- $\nabla 3$ - REPRESENTS THE SURFACE FINISH OF $\nabla 3$ (i.e. Ra 20) MICRONS ON THOSE SURFACES WHERE SURFACE FINISH IS NOT SPECIFIED
 - $\nabla 5$ - SURFACE FINISH VALUE Ra 5 MICRONS
 - \sim - SURFACE FINISH VALUE Ra 80 MICRONS

	INSCRIBED		DRG NOT TO BE SCALED	PERTAINS TO			
	CHECKED		ALL SHARP EDGES & CORNERS TO BE ROUNDED OFF				
	APPROVED		ALL DIMENSIONS ARE IN MM UNLESS OTHERWISE SPECIFIED				
	DATE		31.7.86				
	TOLERANCE UNLESS OTHERWISE SPECIFIED						
D-CW	D-T	ZONE	BRIEF RECORD	SIGN	GEN. DEC. LANG.	BUSH	765-71-391
SCALE :-							
CONTROLLERATE OF INSPECTION FIRE FIGHTING EOPTRIPRE							

765-71-551

4 Holes $\phi 7$



1) Provide dimensions without deviations with an accuracy of $\pm 0,5$ mm.

REFER TO DRG. NO. 675 - 71 - 245 FOR EXPLANATORY NOTES OF PARONITE.

(R.VEENARAGHAYAN)
650-II

CIFE PUNE

765-71-551

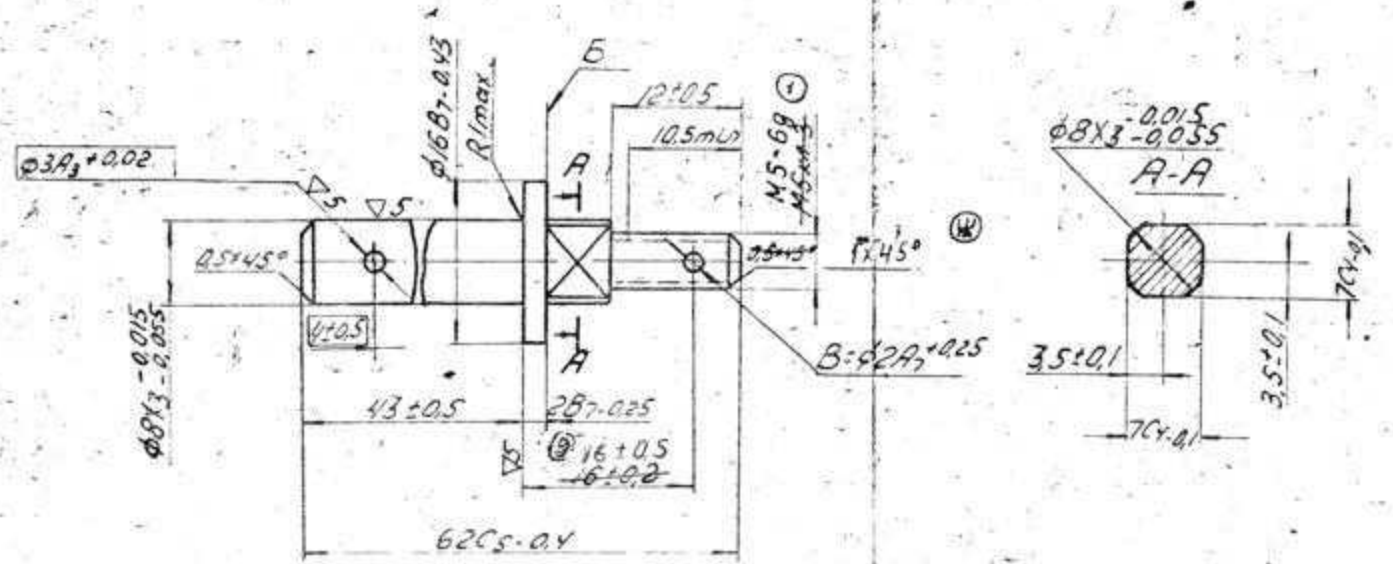
SNO	SHT	DOC NO	SIGN	DATE
	DRAWN	Y.R.Ganesh		30.7.74
	EDT,CHKD	D.K. JAIN		30.7.84
	F/M,DC.	S.R.NAIR		31.7.84
	DIV.OFFR	T.K.BANERJEE		31.7.84
		NAME	SIGN	DATE

GASKET

SHEET	WEIGHT	SCALE
	0.004	1:1
TOTAL SHEETS		

PARONITE noH 1,0 FOCT
481 - 80.

Unless otherwise specified



- 1) Blunt sharp edges
- 2) Unspecified radii should not be more than R 0.5
- 3) Position of hole B with respect to square is arbitrary.
- 4) Step not exceeding 0.5 mm is allowed on butt-end B.
- 5) Alternate material is 30 x 13, GOST 5632-72.
- 6) Carry out machining as per dimensions given in assembly.

765-71-810

NO. IN SHEET	DOC NO	SIGN	DATE
DRAWN	Y.R. Ganesh		23.8.84
EDT, CHKD	S. S. Nair		24.8.84
F/M, DC	S. R. Nair		24.8.84
DIV. OFFR	T. K. Banerjee		1.9.84
NAME	SIGN	DATE	

SHAFT

20 X 13 GOCT 5632-72

SHEET WEIGHT	SCALE
0.025	2:1
TOTAL SHEETS	

EXPLANATORY NOTES TO TECHNICAL CONDITIONS

(I) SHAFT SHOULD BE MANUFACTURED FROM MARTENSITIC CLASS STEEL GRADE 20x13 OR GRADE 30x13 CONFORMING TO GOST 5632-72, HAVING CHEMICAL COMPOSITION AS FOLLOWS.

STEEL GRADE	CONTENTS OF ELEMENTS %					
	CARBON	SILICON	MANGANESE	CHROMIUM	IRON	PHOSPHORUS
20x13	0.16-0.25	0.8	0.8	12.0-14.0	BASE	0.025
30x13	0.26-0.35	0.8	0.8	12.0-14.0	BASE	0.025

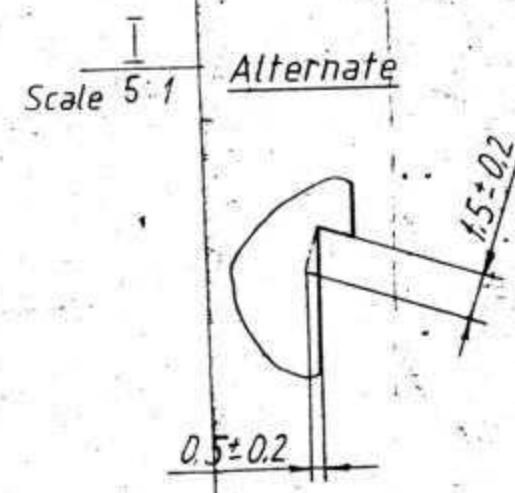
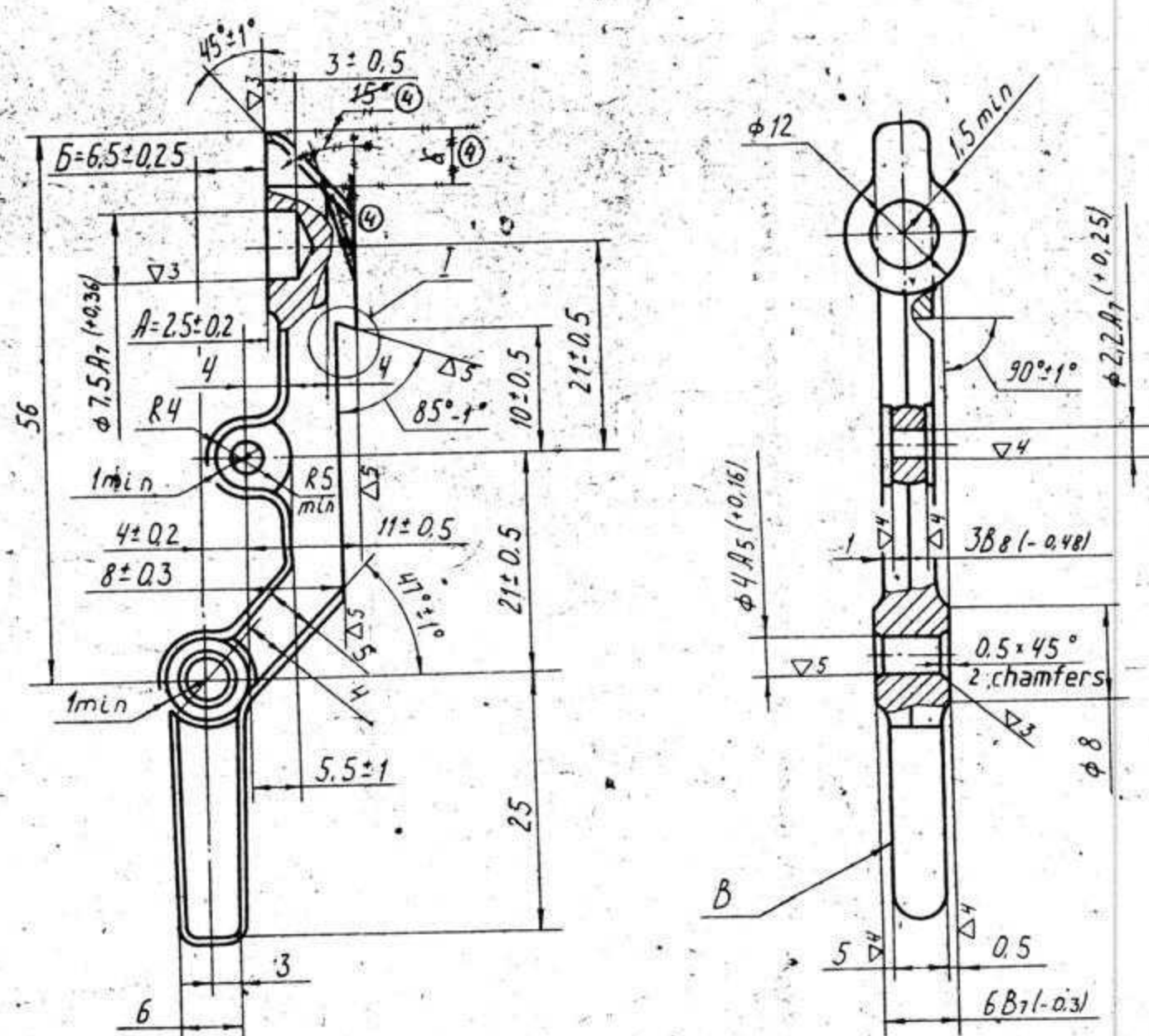
(II) SURFACE FINISH

- ▽5 REPRESENTS SURFACE FINISH TO BE OBTAINED IN R_a VALUE 5 μ MAX.
- ▽3 REPRESENTS SURFACE FINISH TO BE OBTAINED IN R_a VALUE 20 μ MAX. ON THOSE SURFACES WHERE SURFACE FINISH IS NOT SPECIFIED.

INSCRIBED	Chavan	DRG. NOT TO BE SCALED	PERTAINS TO
CHECKED	S. S. Nair	ALL SHARP EDGES & CORNERS TO BE BOUNDED OFF.	
APPROVED	S. S. Nair	ALL DIMENSIONS ARE IN MM UNLESS OTHERWISE SPECIFIED.	765-71-810
DATE	20.08.84	SHAFT	
TOLERANCE UNLESS OTHERWISE SPECIFIED		SCALE: —	
DC (1)	DATE	ZONE	BRIEF RECORD
GEN.	DEC.	ANG.	SIGN.

CONTROLLERATE OF INSPECTION FIRE FIGHTING EGPT. PUNE

95-33 100
 2012-11-10
 5/H



- 1) Unspecified stamping radii should not exceed 3,0 mm.
- 2) Other requirements for forging are as per class II, GOST 7505-74.
- 4) HB 285 to 229 (3,6 to 4,0).
- 5) Alternate material is steel 40, GOST 1050-74.
- 7) Cut not exceeding 0,3 mm is allowed on surface B.
- 8) Coating : Zinc-plated, 9 microns thick chromated. Remove hydrogen embrittlement. Do not check coating, in holes.
- 9) Local recesses not exceeding 0,5 mm are allowed on unmachined surfaces.
- 10) Retainer may be made as per alternate.
- 11) Dimension B may be provided instead of dimension A.

SNO	SHT	DOC NO	SIGN	DATE
1	1	765-71-812	Y.R. Ganesh	23.8.84
2	1		S.R. NAIR	31.8.84
3	1			
4	1			
5	1			

RETAINER

SHEET WEIGHT	SCALE
00.4	2:1
TOTAL SHEETS	
45	

EXPLANATORY NOTES TO TECHNICAL CONDITIONS

1) RETAINER SHOULD BE MANUFACTURED FROM STEEL GRADE 45 TO GOST 1050-74 HAVING FOLLOWING CHEMICAL COMPOSITIONS AND MECHANICAL PROPERTIES

CHEMICAL COMPOSITION	CONTENTS OF ELEMENTS %
CARBON	0.42 - 0.50 %
SILICON	0.17 - 0.37 %
MANGANESE	0.50 - 0.80 %
CHROMIUM	0.25 % (MAXIMUM)

II) MECHANICAL PROPERTIES

HEAT TREATMENT OF BLANK	NORMALISING
YIELD POINT	36 kgf/mm ² (MIN)
ULTIMATE TENSILE STRENGTH	61 kgf/mm ² (MIN)
PERCENTAGE OF ELONGATION	16 % (MIN)
REDUCTION OF AREA	40 % (MIN)
IMPACT STRENGTH	5 kgf M/cm ² (MIN)

III) HARDNESS BHN (MAX) = 229 (WITHOUT HEAT TREATMENT)

2) ALTERNATE MATERIAL IS STEEL GRADE 40 TO GOST 1050-74 HAVING THE CHEMICAL COMPOSITION AND MECHANICAL PROPERTIES

CHEMICAL COMPOSITION	CONTENTS OF ELEMENTS %
CARBON	0.37 - 0.45 %
SILICON	0.17 - 0.37 %
MANGANESE	0.50 - 0.80 %
CHROMIUM	0.25 (MAX)

II) MECHANICAL PROPERTIES

HEAT TREATMENT	NORMALISING
YIELD POINT	34 kgf/mm ² (MIN)
ULTIMATE TENSILE STRENGTH	58 kgf/mm ² (MIN)
PERCENTAGE ELONGATION	19 % (MIN)
REDUCTION OF AREA	45 % (MIN)
IMPACT STRENGTH	6 kgf M/cm ²

III) HARDNESS BHN (MAX) - 217 (WITHOUT HEAT TREATMENT)

3) RECOMMENDED HEATING TEMPERATURES DURING HEAT TREATMENT OF BLANKS FOR CARRYING OUT THE TESTS OF MECHANICAL PROPERTIES ARE GIVEN BELOW :-

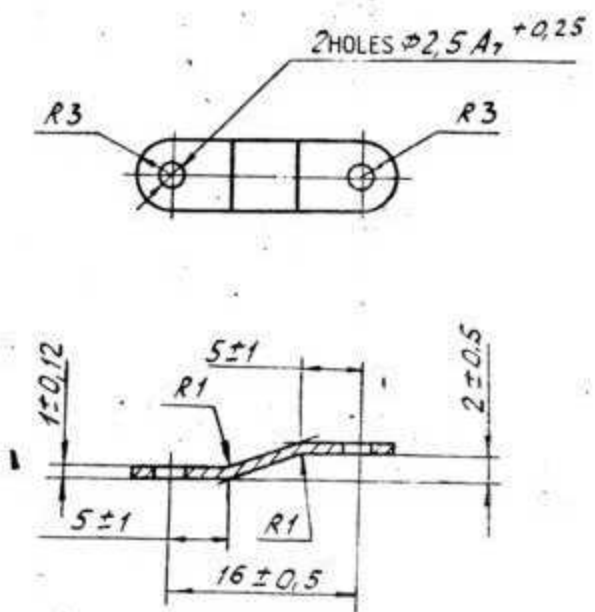
STEEL GRADE	HEATING TEMPERATURE °C (NORMALISING)
40	870
45	860

RECOMMENDED MINIMUM HOLDING PERIOD IN CASE OF NORMALISING IS 30 MINUTES.

4) SURFACE FINISH

- a) ∇_3 ∇_4 ∇_5 - INDICATES SURFACE FINISH IN Ra VALUE SHOULD BE 20 MICRONS, 10 MICRONS AND 5 MICRONS RESPECTIVELY.
- b) ∇ - INDICATES SURFACE FINISH TO BE OBTAINED WITHOUT REMOVAL OF MATERIAL ON THOSE SURFACES WHERE SURFACE FINISH IS NOT SPECIFIED.

DRN		DRG NOT TO BE SCALED	PERTAINS TO
TCO		ALL SHARP EDGES & CORNERS TO BE ROUNDED OFF.	
CHD	sd/-	ALL DIMENSIONS ARE IN mm UNLESS OTHERWISE SPECIFIED	
PSD			
APPD	sd/-		
DATE	31.7.86	RETAINER	765-71-812
TOLERANCE UNLESS OTHERWISE SPECIFIED	GEN DEC ANG	SCALE :-	
D.C.(I) DATE ZONE	BRIEF RECORD SIGN	CQA(FE) AUNDH CAMP, PUNE-411027	
		1-2-AB	



- Burrs are not allowed.
- Alternate material is steel cm3cn, GOST 380-71, Steel 08kn, 10, 10kn, GOST 1050-74.
- Coating: Zinc-plated, 9 microns thick, chromated. Remove hydrogen embrittlement.

SNO	SHT	DOC NO	SIGN	DATE

SHACKLE
Steel cm3kn GOCT 380-71

SHEET	WEIGHT	SCALE
	0.001	2:1
TOTAL SHEETS		
1		

765-71-813

765-71-813

EXPLANATORY NOTES TO TECHNICAL CONDITIONS

- SHACKLE SHOULD BE MANUFACTURED FROM RIMMED CARBON STEEL OF ORDINARY QUALITY OF GRADE CM3KT OF GOST 380-71 OR FROM CARBON STRUCTURAL OF GRADES 08KN, 10, 10KN OF GOST 1050-74 L STEEL
- MECHANICAL PROPERTIES OF STEEL GRADE CM3KT AS PER GOST 380-71 ARE GIVEN BELOW:
 - ULTIMATE STRENGTH ——— 37-47 kgf/mm²
 - STRESS AT YIELD POINT ——— 24 kgf/mm² (MIN)
 - RELATIVE ELONGATION ——— 27% (MIN)
- CHEMICAL COMPOSITION OF STEEL GRADE 08KN, 10, 10KN AS PER GOST 1050-74 ARE GIVEN BELOW

STEEL GRADE	CONTENT OF ELEMENTS			
	CARBON	SILICON	MANGANESE	CHROMIUM (MAX)
08KN	0.05 - 0.11	0.03 (MAX)	0.25 - 0.50	0.10
10	0.07 - 0.14	0.17 - 0.37	0.35 - 0.65	0.15
10KN	0.07 - 0.14	0.07 (MAX)	0.25 - 0.50	0.15

- MECHANICAL PROPERTIES OF STEEL GRADE 10 AS PER GOST 1050-74
 - HEAT TREATMENT OF BLANKS ——— NORMALISING
 - YIELD POINT STRESS ——— 21 kgf/mm² (MIN)
 - ULTIMATE TENSILE STRENGTH ——— 34 kgf/mm² (MIN)
 - PERCENTAGE ELONGATION ——— 31% (MIN)
 - REDUCTION OF AREA ——— 55% (MIN)

HARDNESS

STEEL GRADE	BHN (MAX) (WITHOUT HEAT TREATMENT)
10	143

- THE RECOMMENDED HEATING TEMPERATURE DURING HEAT TREATMENT OF BLANKS FOR CARRYING OUT THE TESTS OF MECHANICAL PROPERTIES OF STEEL ARE GIVEN BELOW

STEEL GRADE	NORMALISING
10	920°C

RECOMMENDED MINIMUM HOLDING PERIOD IN CASE OF NORMALISING — 30 MINUTS
COOLING MEDIUM IN CASE OF HARDENING — WATER

SURFACE FINISH

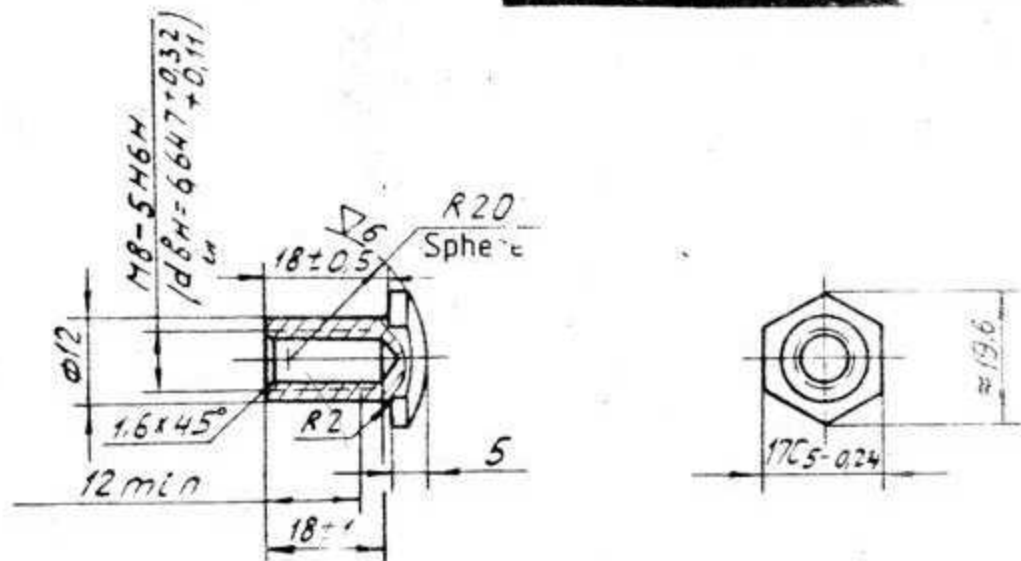
- REPRESENTS THE SURFACE FINISH VALUE 80 MICRONS ON THOSE SURFACES WHERE SURFACE FINISH IS NOT SPECIFIED.

D-CO	D-T	ZONE	BRIEF	RECORD	SIGN	INSCRIBED	DRG NOT TO BE SCALED	PERTAINS TO
						CHECKED	ALL SHARP EDGES & CORNERS TO BE ROUNDED OFF	
						APPROVED	ALL DIMENSIONS ARE IN MM UNLESS OTHERWISE SPECIFIED	765-71-813
						DATE	SHACKLE	
						TOLERANCE UNLESS OTHERWISE SPECIFIED	SCALE :-	CONTROLLERATE OF INSPECTION FIRE FIGHTING & EOPT PUNE
						GEN DEC ANG		

easy2convert
www.easy2convert.com

518-71-59L

▽3 Unless otherwise specified.



1. Blunt sharp edges.
2. Provide dimensions without deviations as per accuracy class 7, OST 1010.
3. Perform heat treatment HB 302 to 255 (φ3.5 to 3.8).
4. Alternate material is 30x13, GOST 5632-72.
5. Surfaces of hexahedron may be ground to \approx

518-71-815

EXPLANATORY NOTES TO TECH CONDITIONS

I) PUSHER SHOULD BE MANUFACTURED FROM MARTENSITIC CLASS STEEL GRADE 20X13 OR GRADE 30X13 CONFORMING TO GOST-5632-72 HAVING CHEMICAL COMPOSITION AS FOLLOWS

STEEL GRADE	CONTENTS OF ELEMENTS %						
	CARBON	SILICON	MANGANESE	CHROMIUM	IRON	SULPHUR	PHOSPHORUS
		NOT MORE THAN				NOT MORE THAN	
20x13	0.16 - 0.25	0.8	0.8	12.0 - 14.0	BASE	0.025	0.030
30x13	0.26 - 0.35	0.8	0.8	12.0 - 14.0	BASE	0.025	0.030

II) TOLERANCE :-

$$\phi 72 :- +0.740$$

$$15 :- -0.3$$

III) SYMBOL :-

$$\approx 19.6 = 19.6 \text{ APPROXIMATELY}$$

IV) SURFACE FINISH :-

▽6 :- REPRESENTS SURFACE FINISH TO BE OBTAINED IN Ra VALUE 2.5μ max

▽3 :- REPRESENTS SURFACE FINISH TO BE OBTAINED IN Ra VALUE 20μ max ON THOSE SURFACES WHERE SURFACE FINISH IS NOT SPECIFIED.

SNOISHTIDOC NO	SIGN	DATE
DRAWN V.J.RAO		23.8.84
EDT, CHKD A.K. DUSRY		23.8.84
F/M, DC S.R. NAIR		23.8.84
DIV. OFFR. T.K. BANERJEE		21.8.84
NAME	SIGN	DATE

PUSHER

20X13 GOCT 5632-72

SHEET WEIGHT	SCALE
0015	1:1
TOTAL SHEETS	

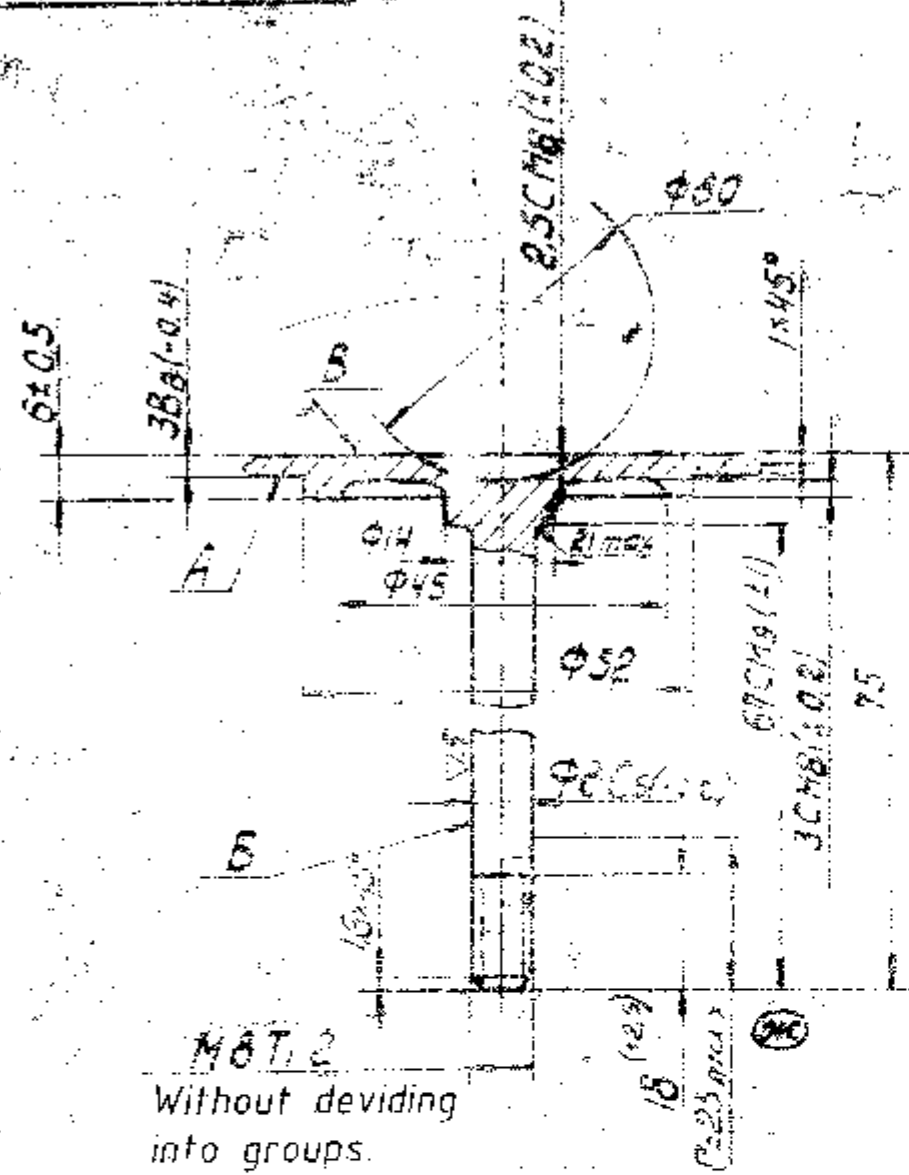
765-71-815

INSCRIBED	<i>Prodee</i>	DRG NOT TO BE SCALED	PERTAINS TO				
CHECKED	<i>Prodee</i>	ALL SHARP EDGES & CORNERS TO BE ROUNDED OFF.					
APPROVED	<i>Prodee</i>	ALL DIMENSIONS ARE IN mm UNLESS OTHERWISE SPECIFIED	765-71-815				
DATE	20.08.84	PUSHER					
TOLERANCE UNLESS OTHERWISE SPECIFIED	GEN DEC ANG	SCALE :- -					
DC(i)	DATE	ZONE	BRIEF RECORD	SIGN	CONTROLLERATE OF INSPECTION FIRE FIGHTING EQPT, PUNE		

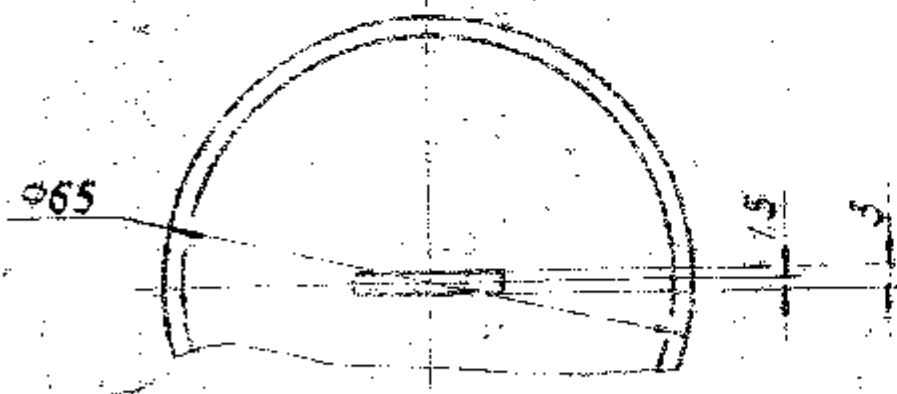
Easy2Convert

765-71-816

▽3 (▽)



M6T.2
Without deviding
into groups.



1. HB 302 to 255 (435 to 341)
2. Alternate material is 20x13 GOCT 5632-72.
3. Unspecified limit deviations of dimensions are:
For holes -as per A₇ and for shafts -as per B₇.
4. Unspecified radii are 5 mm.
5. End play of surface A with respect to the axis of surface B should not exceed 0.2 mm.
6. Centre hole A₂ GOCT 14034-74, on surface B is allowed.
7. It is allowed to make thread by rolling. In this case, diameter of part of stem over length F should be equal to the major diameter of thread.

EN	SH	DC	CNO	SIGN	DATE
DRAWN	CHV.RAO	6/22			26.7.84
EN	CHV.RAO	6/22			30.7.84
EN	CHV.RAO	6/22			30.7.84
EN	CHV.RAO	6/22			30.7.84

VALVE
30x13 GOCT 5632-72

765-71-816

SHEET WEIGHT SCALE
TOTAL SHEETS

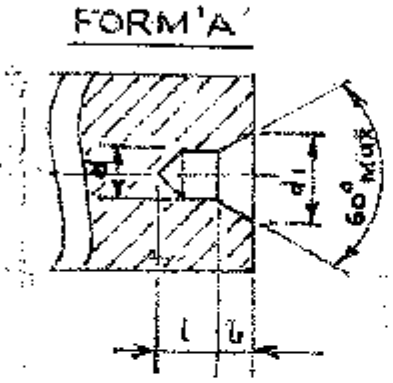
765-71-816

EXPLANATORY NOTES TO TECH CONDITIONS

(I) VALVE SHOULD BE MANUFACTURED FROM MARTENSITIC CLASS STEEL OF GRADE 30 X 13 OR GRADE 20 X 13 AS PER GOCT 5632-72, HAVING THE CHEMICAL COMPOSITION AS FOLLOWS:

STEEL GRADE	CONTENTS OF ELEMENTS %						
	CARBON	SILICON	MANGANESE	CHROMIUM	IRON	SULPHUR	PHOSPHORUS
30 X 13	0.26-0.35	0.8 (Max)	0.8 (Max)	12.0 - 14.0	BASE	0.025 (Max)	0.030 (Max)
20 X 13	0.16-0.25	0.8 (Max)	0.8 (Max)	12.0 - 14.0	BASE	0.025 (Max)	0.030 (Max)

(II) REFER NOTE 6 - CENTRE HOLE A₂ AS PER GOCT 14034-74 IS GIVEN BELOW.

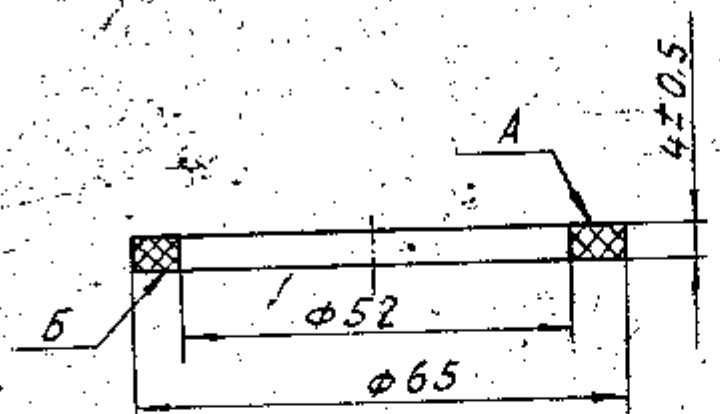


(III) SURFACE FINISH

▽5 - REPRESENTS SURFACE FINISH TO BE OBTAINED IN R_a VALUE 5 μ Max.
▽3 (▽) - REPRESENTS SURFACE FINISH TO BE OBTAINED IN R_a VALUE 20 μ Max, ON THOSE SURFACES WHERE SURFACE FINISH IS NOT SPECIFIED.

INSCRIBED	DRG NOT TO BE SCALED	PERTAINS TO
CHECKED	ALL SHARP EDGES & CORNERS TO BE ROUNDED OFF	
APPROVED	ALL DIMENSIONS ARE IN MM, UNLESS OTHERWISE SPECIFIED	765-71-816
DATE	VALVE	
TOLERANCE UNLESS OTHERWISE SPECIFIED	SCALE: -	CONTROLLERATE OF INSPECTION FIRE FIGHTING EQPT PUNE
DC (I) DATE	ZONE	BRIEF RECORD
SIGN	GEN	DEC
	ANG	

765-71-817



- Gasket may be made by moulding, in this case, working surfaces of gaskets are surfaces A and B and rounding off radii should not exceed 0.5mm.
- Other requirements are as per technical specifications TY 005216-75 for article code 254311.
- Gasket may be made from rubber mixture 1847, TY 005216-75.

765-71-817

SN/SHY	DOC NO	SIGN	DATE
DRAWN	V.J.RAO.		23.8.84
EDT, CHKO			
F/M, DC	S.R.NAIR		28.8.84
DIV. OFFR.	T. K. BANERJEE		21.8.84

GASKET

Plate 254311-4
Rubber 3311 TY005216-75

SHEET WEIGHT	SCALE
0.008	1:1
TOTAL SHEETS	

765-71-817

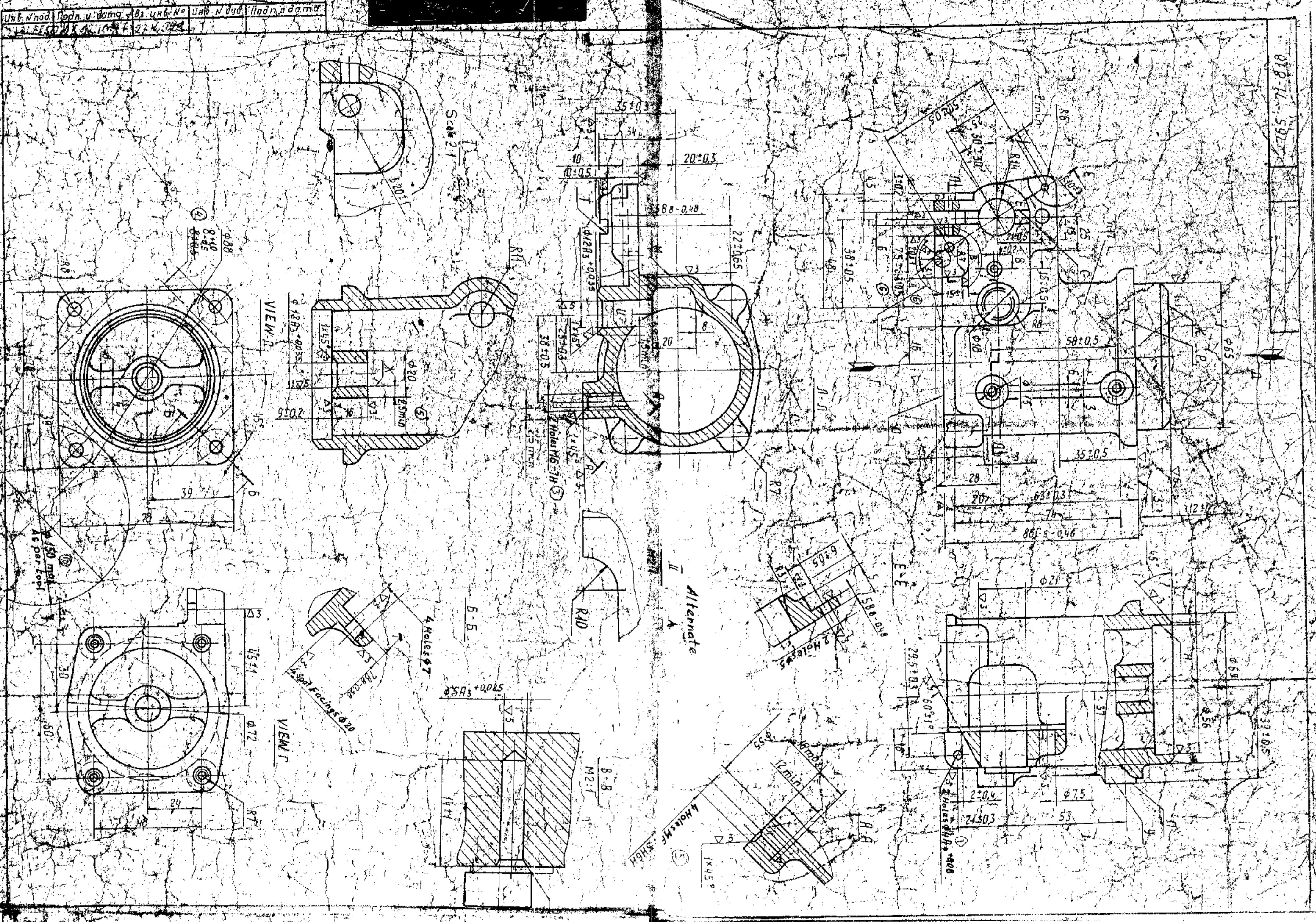
EXPLANATORY NOTES TO TECH CONDITIONS

GASKET SHOULD BE MANUFACTURED FROM RUBBER PLATES (CODE 254311 REFERS TO ROLLED TECHNICAL PLATES WITHOUT CLOTH LINERS) OF GRADE 3311 OR GRADE 1847. PHYSICAL, MECHANICAL AND TECHNOLOGICAL PROPERTIES OF RUBBER GRADE 3311 AND 1847 IN ACCORDANCE WITH SPECIFICATION TY-005216-75 ARE AS GIVEN BELOW

	RUBBER GRADE			RUBBER GRADE	
	1847	3311		1847	3311
TYPE OF RAW RUBBER	HK	HK	SHORE HARDNESS	35-50	30-45
MODE OF VULCANIZATION AND THERMOSTATTING (T)			BRITTLINESS TEMPERATURE WHILE FREEZING	-50°C (min)	-55°C (min)
a) TEMPERATURE	151±3°C	143±3°C	HEAT AGEING IN AIR	70°C	70°C
b) TIME	15 MINUTES	10 MINUTES			
ULTIMATE STRENGTH DURING BREAKAGE	160 kgf/cm ² (min)	150 kgf/cm ² (min)			
RELATIVE ELONGATION DURING BREAKAGE	600% (min)	700% (min)	b) TIME	144 hrs	144 hrs
RELATIVE RESIDUAL ELONGATION AFTER BREAKAGE	32% (max)	25% (max)	c) AGEING COEFFICIENT AS PER RELATIVE ELONGATION	0.75 (min)	0.75 (min)
			DENSITY	1.05±0.05 g/cm ³	0.98±0.05 g/cm ³

INSCRIBED	<i>Rodde</i>	DRG NOT TO BE SCALED	PERTAINS TO
CHECKED	<i>low</i>	ALL SHARP EDGES & CORNERS TO BE ROUNDED OFF	
APPROVED	<i>low</i>	ALL DIMENSIONS ARE IN mm UNLESS OTHERWISE SPECIFIED	765-71-817
DATE	20.08.84	GASKET	
TOLERANCE UNLESS OTHERWISE SPECIFIED		SCALE: - -	CONTROLLERATE OF INSPECTION FIRE FIGHTING EQPT, PUNE
GEN. DEC. ANG.			

DC (i)	DATE	ZONE	BRIEF RECORD	SIGN



- 1) Pattern drafts are 2° beyond tolerance
- 2) Unspecified casting radii should not exceed R5. Thickness of casting walls should be 5.0 mm
- 3) Provide dimensions without deviations of machined surfaces as per accuracy class 7, OST 1010. Deviations of casting dimensions are 1/2
- 4) Other requirements for casting are as per technical requirements TU.UJ-408.
- 5) Non-squareness of axis of surface X with respect to axis of surfaces K should not exceed 0.7 mm over a length of 100 mm.
- 6) Non-parallelity of axis of surface N with respect to surface J should not exceed 0.3 mm over a length of 50 mm.
- 7) Non-squareness of axis of surface X with respect to surface K should not exceed 0.3 mm over a length of 100 mm (Qualified tolerance).
- 8) Blunt sharp edges
- 9) Alternate material is aluminum A114, GOST 2685-75, in this case apply marking [A114]
- 10) The body may be made as per conventional dotted line, in this case cutting into boss Y not exceeding 2.0 mm, is allowed.
- 11) Displacement of axes of holes from true position should not exceed 0.2 mm.
- 12) Tool trace is allowed on surface M.
- 13) Dark spots of any size are allowed on surface H.
- 14) Non-parallelity of surface D and K should not exceed 0.3 mm over a length of 100 mm.
- 15) When machining surface T, cutting into surface P is allowed.
- 16) Incision not exceeding 1.0 mm is allowed on surfaces C and T.
- 17) Apply marking A119

SHOUSTDOC NO.	SIGN.	DATE
EDM.CHKD	A. S. S.	1975.10.10
DM.DC	S. R. M.	1975.10.10
DV.OFFR.	T. B. K.	1975.10.10
NAME	SIGN	DATE
BODY		
SHEET WEIGHTS SCALE		
TOTAL SHEETS		
ALUMINIUM A119 GOST 2085-75		

EXPLANATORY NOTES TECHNICAL CONDITIONS

1. Body should be manufactured from aluminum pressure die-casting alloy of grade A119 or A114 of GOST 2685-75. The chemical composition as per GOST 2685-75 is as under:

2. GROUP OF ALLOYS: ALLOYS ON ALUMINIUM-SILICON BASE.

3. GRADE OF ALLOYS: A114, A119

BASIC COMPONENTS %

ALUMINIUM	AL 9 GRADE	AL 4 GRADE
MANGANESE	BASE	BASE
SILICON	0.2-0.4	0.17-0.31
WANGANESE	6.0-8.0	8.0-10.5%
	0.2-0.5%	

AMMIXTURES NOT MORE THAN 1/2

IRON	GRADE A119	GRADE AL 4
MANGANESE	0.50%	1.00%
COPPER	0.20%	0.10%
ZINC	0.30%	0.20%
TIN	0.01%	0.01%
LEAD	0.05%	0.05%
BARIUM	0.10%	0.10%
ZIRCONIUM	0.15%	0.15%
LOTA	2.00%	1.50%

MECHANICAL PROPERTIES

GRADE OF ALLOYS	METHOD OF CASTING	TYPE OF HEAT TREATMENT	PARTIAL RESISTANCE (N/mm ²)	SPECIFIC ELONGATION %	HARDNESS PER BRINELL #
A114	PRESSURE DIE CASTING	-	15	2	50
A119	PRESSURE DIE CASTING	-	17	1	50

2. TOLERANCE (AS PER GOST 1010)
 - ▷ $\phi 65, \phi 69, \phi 76, \phi 72, \phi 75 = \pm 0.120$
 - ▷ $\phi 20, \phi 21 = \pm 0.520$

3. SURFACE ROUGHNESS: —

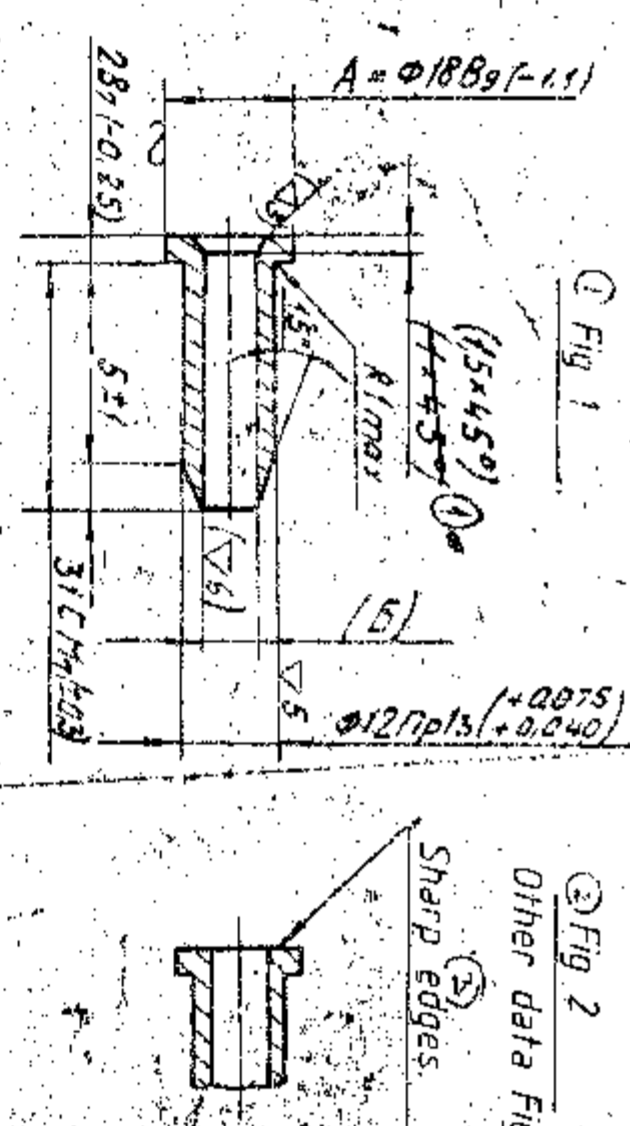
▷ $\Delta 2$ = INDICATE SURFACE FINISH VALUE (e.g. Ra = 20 MICRON; MAX.

▷ $\Delta 5$ = INDICATE SURFACE FINISH VALUE (e.g. Ra = 5 MICRON)

▷ $\Delta 6$ = INDICATE SURFACE FINISH VALUE (e.g. Ra = 0.5 MICRON)

DESIGNED	DATE	APPROVED	DATE
CHECKED	DATE	APPROVED	DATE
BODY			
CONTROLLEDATE OF INSPECTION FIRE FIGHTING EQUIPMENT			
765-71-818			

618-11-59L $\nabla 3(\nabla)$



Designation	Figure	1/5
765-71-819	Fig 1	10843 (100%)
-01	Fig 2	108545 (100%)

- 1) Alternate material is Bronze Bp AMU 9 2 GOST 18175-78, in this case use 0178-043 instead of dimension A and Bronze BpAK 9-4, GOST 18175-78.
- 2) Dimensions and roughness of surfaces given in brackets are after assembly.

SNOSHITDOC NO	SIGN	DATE
DRAWN BHUSHAN		24.8.86
EDT,CHKD		
F/M,DC		
DIV/OFFER		
NAME	SIGN	DATE

765-71-819

BUSH

SHEET WEIGHT	SCALE
1200	1:1
TOTAL SHEETS	

618-11-59L

EXPLANATORY NOTES TO TECH. CONDITION.
 BUSH SHOULD BE MANUFACTURED FROM TIN FREE PRESSURE WORKED ALUMINIUM BRONZE GRADE BYAZH TS 10-3-1-5 OR GRADE BYAMTS 4-2 OR GRADE BYAZH 4-4 CONFORMING TO GOST 18175-78 HAVING THE CHEMICAL COMPOSITION AS GIVEN IN TABLE BELOW

CHEMICAL COMPOSITION.

BASIC COMPONENT % (BY WEIGHT)	GRADES		
	BYAZH TS 10-3-1-5	BYAMTS 4-2	BYAZH 4-4
ALUMINIUM	9.0 - 11.0	8.0 - 10.0	8.0 - 10.0
IRON	2.0 - 4.0	-	2.0 - 4.0
MANGANESE	1.0 - 2.0	1.5 - 2.5	-
COPPER	REST	REST	REST
IMPURITIES % (BY WEIGHT) MAX			
TIN	0.1	0.1	0.1
SILICON	0.1	0.1	0.1
LEAD	0.03	0.03	0.01
PHOSPHORUS	0.1	0.01	0.01
IRON	-	0.5	-
ZINC	0.5	1.0	1.0
MANGANESE	-	-	0.5
TOTAL	0.7	1.5	1.7

NOTE:
 NICKEL UP TO 0.5% (PART BY WEIGHT) WITHOUT CONSIDERING IT IN TOTAL IMPURITIES IS ALLOWED IN ABOVE GRADES OF BRONZE
 SURFACE ROUGHNESS :-
 $\nabla 3(\nabla)$: REPRESENT THE SURFACE FINISH OF RA VALUE OF 20 MICRONS BY ANY PRODUCTION METHOD ON THOSE SURFACES WHERE SURFACE FINISH IS NOT SPECIFIED

- $\nabla 5$ - SURFACE FINISH VALUE Ra 5 MICRON.
- $\nabla 6$ - SURFACE FINISH VALUE Ra 2.5 μ L.
- ∇ - SURFACE FINISH VALUE Ra 80 μ L.

DC1)	DATE	ZONE	BREF RECORD	SIGN

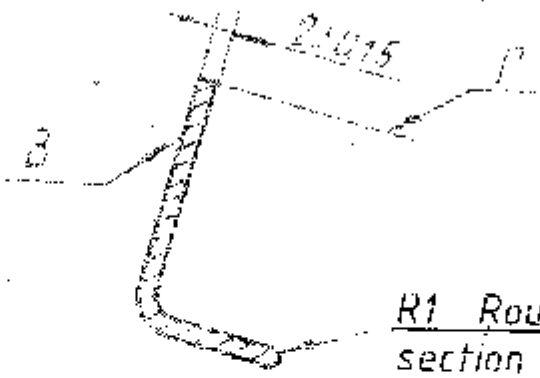
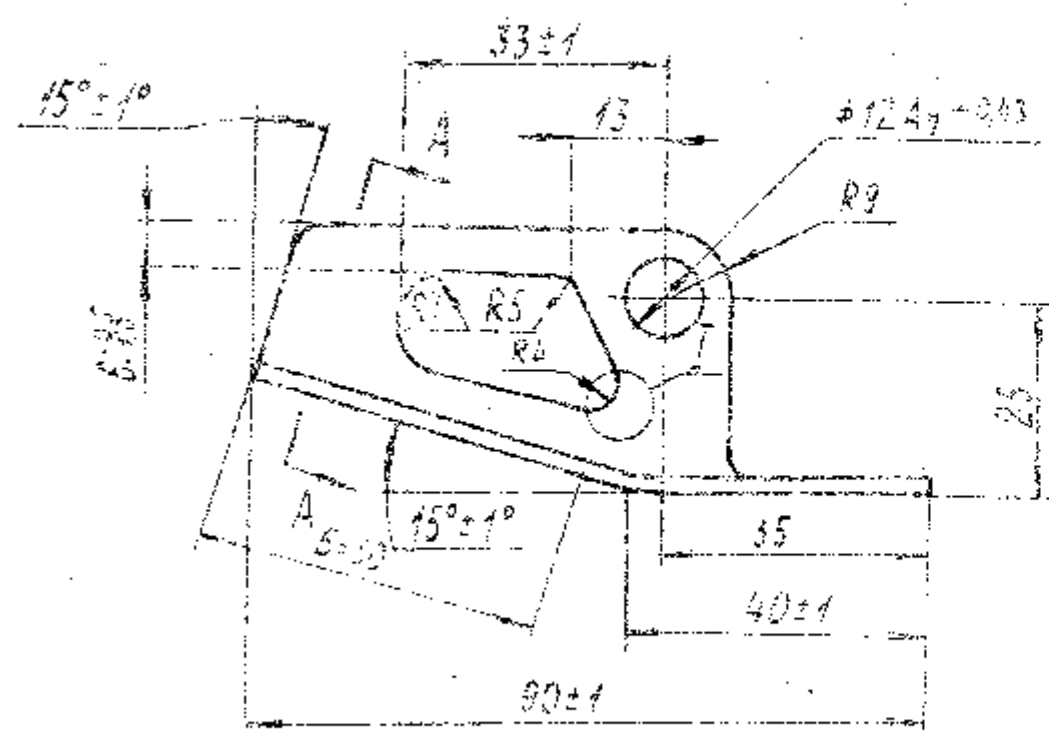
INSCRIBED	
CHECK	BY
APPROVED	DATE
	31.7.86
TOLERANCE UNLESS OTHERWISE SPECIFIED	

DRG NOT TO BE SCALED
 ALL SHARP EDGES & CORNERS TO BE ROUNDED OFF
 ALL DIMENSIONS ARE IN MM UNLESS OTHERWISE SPECIFIED

PERTAINS TO

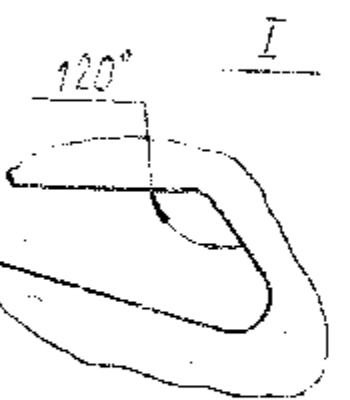
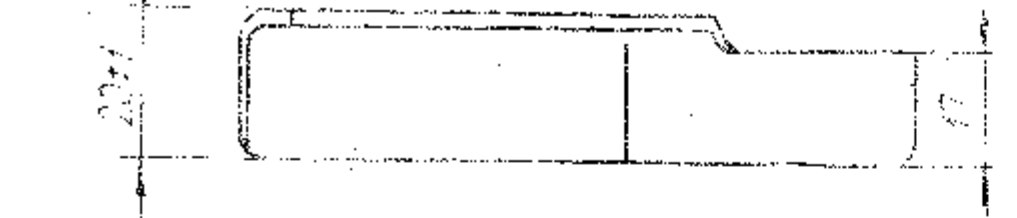
BUSH

765-71-819



R1 Round off on section b.

1. Blunt sharp edges.
2. Make dimensions without deviations with an accuracy ± 0.5
3. Unspecified radii are R3.
4. Non-flatness of surface B should not exceed 0.5.
5. Incomplete cut is allowed followed by welding and dressing the welds.
6. To be heat treated, HB 302 to 255 (3.5 to 3.8)
7. On surface F contraction, bevelling and chippings are not allowed. Machining of surface F is allowed.



DRAWN	CHEKED	APPROVED	DATE
CHV.RAO	26.7.84
S.R.NAIN	26.7.84
J.K.BANERJEE	1.8.84

765-71-820

LEVER

SHEET WEIGHT SCALE

0.04 1:1

TOTAL SHEETS

30X FCA GOST 4543-71

EXPLANATORY NOTES TO TECHNICAL CONDITIONS

LEVER SHOULD BE MANUFACTURED FROM STRUCTURAL CHROM, SILICON, MANGANESE STEEL OF GRADE 30X FCA OF GOST 4543-71 AND HAVING THE FOLLOWING CHEMICAL COMPOSITION.

I CHEMICAL COMPOSITION

GRADE OF STEEL	ELEMENT CONTENT %				IMPURITIES
	CARBON	SILICON	MANGANESE	CHROMIUM	SULPHUR AND PHOSPHORUS
30X FCA	0.28-0.34	0.90-1.20	0.80-1.10	0.80-1.10	0.020 MAX.

II MECHANICAL PROPERTIES OF STEEL GRADE 30X FCA AS PER GOST 4543-71 ARE AS GIVEN BELOW:-

- | | | |
|--|---|--------------------------------|
| 1) YIELD POINT | ≥ | 85 kgf/mm ² (MIN.) |
| 2) TENSILE STRENGTH | ≥ | 110 kgf/mm ² (MIN.) |
| 3) % ELONGATION | ≥ | 10 |
| 4) REDUCTION OF CROSS SECTIONAL AREA % | ≥ | 45 (MIN.) |
| 5) IMPACT STRENGTH | ≥ | 5 kgf m/cm ² |
| 6) CROSS SECTIONAL DIMENSIONS | ≥ | 25 Sq. mm. |

HEAT TREATMENT:-

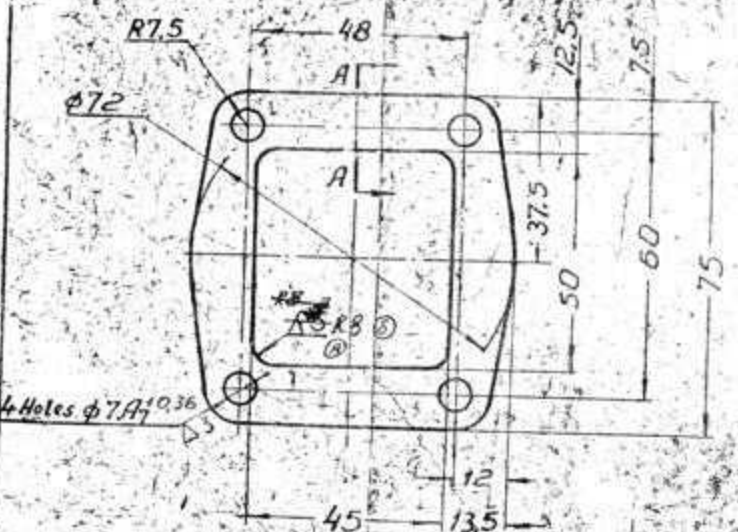
- 1st HARDENING OR NORMALISING - 880°C
- TEMPERING - 540°C
- COOLING MEDIUM - WATER OR OIL.

III SURFACE FINISH

∅ REPRESENTS THE SURFACE FINISH VALUE R_a 80 MICRONS ON THOSE SURFACES WHERE SURFACE FINISH IS NOT SPECIFIED

DCC (1)	DATE	ZONE	BRIEF RECORD	SIGN.

INSCRIBED	DRG. NOT TO BE SCALED	PERTAINS TO:-
CHECKED	ALL SHARP EDGES AND CORNERS TO BE ROUNDED OFF	
APPROVED	ALL DIMENSIONS ARE IN mm UNLESS OTHERWISE SPECIFIED	765-71-820
DATE	LEVER	
TOLERANCE UNLESS OTHERWISE SPECIFIED	SCALE:-	CONTROLLERATE OF INSPECTION FIRE FIGHTING EQPT. PUNE.
GEN DEC ANG.		



- Unless otherwise specified.
- 1) Provide dimensions without deviations with an accuracy of ± 0.5 mm.
 - 2) Carry out machining as per dimension given in assembly.
 - 3) Displacement of axes of holes from true position should not exceed 0.2 mm.
 - 4) Stamping draft not exceeding 0.8 mm is allowed.
 - 5) Alternate material is AMF 5 GOST 4784-74.

SING SHEET	DOCNO	SIGN	DATE
DRAWN BY	R. Ganesh		23.8.84
EDITED AND CHECKED BY			
FOREMAN OF DC	S.R. NAIR		
DIVISIONAL OFFICER			
NAME		SIGNATURE	

FLANGE

AM F 6 GOCT 4784-74.

765-71-821

SHEETS WEIGHT SCALE

TOTAL SHEETS

765-71-821

EXPLANATORY NOTES TO TECHNICAL CONDITIONS

(I) FLANGE SHOULD BE MANUFACTURED FROM ALUMINIUM ALLOYS SHEET OF GRADE AMF5 (AMg5) OR AMF6 (AMg6) CONFORMING TO GOST 4784-74, AND HAVING THE FOLLOWING CHEMICAL COMPOSITIONS.

GRADES	CHEMICAL COMPOSITION%				
	ALLOYING CONSTITUENT				
	ALUMINIUM	MAGNESIUM	MANGANESE	TITANIUM	BERILIUM
AMF5 (AMg5)	BASE CONSTITUENT	4.8 - 5.8	0.3 - 0.8	0.02 - 0.10	0.0002 - 0.005
AMF6 (AMg6)	BASE CONSTITUENT	5.8 - 6.8	0.5 - 0.8	0.02 - 0.10	0.0002 - 0.005

IMPURITIES

GRADES	CHEMICAL COMPOSITIONS%					
	IMPURITIES, MAXIMUM					
	IRON	SILICON	COPPER	ZINC	OTHER IMPURITIES	
EACH INDIVIDUALLY					TOTAL	
AMF5 (AMg5)	0.6	0.5	0.1	0.2	0.05	0.1
AMF6 (AMg6)	0.4	0.4	0.1	0.2	0.05	0.1

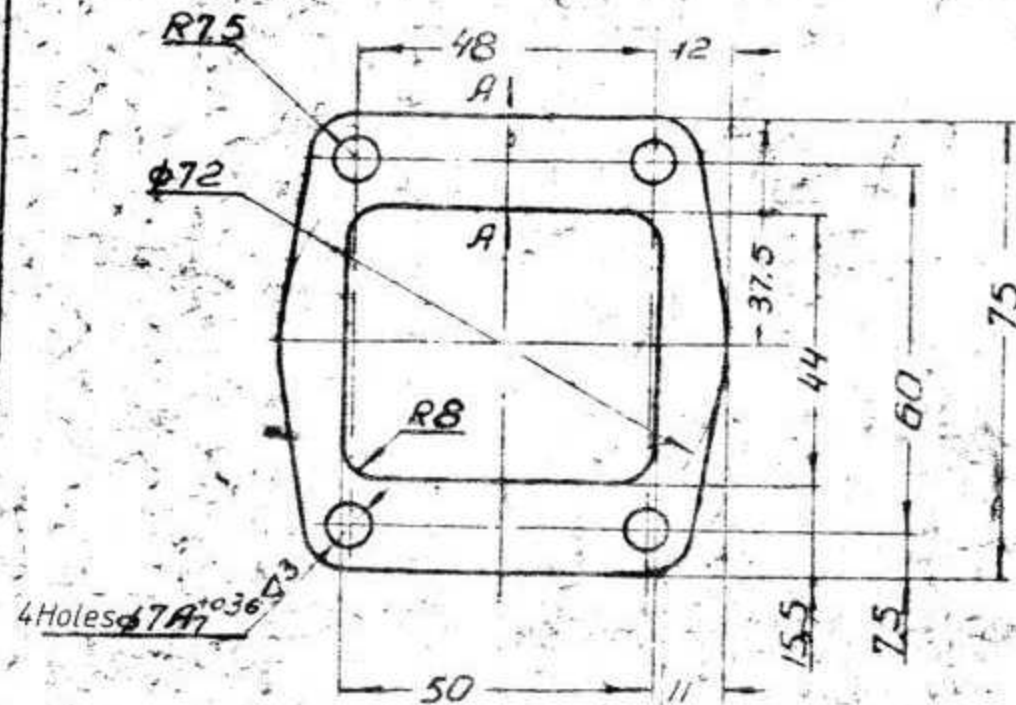
(II) SURFACE FINISH

- $\nabla 3$:- REPRESENTS SURFACE FINISH TO BE OBTAINED IN Ra VALUE 20- μ MAX.
- \sim :- REPRESENTS SURFACE FINISH TO BE OBTAINED IN Ra VALUE 80- μ MAX. ON THOSE SURFACES WHERE SURFACE FINISH IS NOT SPECIFIED.

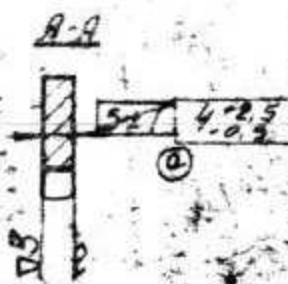
INSCRIBED	APRIL	DRG NOT TO BE SCALED ALL SHARP EDGES & CORNERS TO BE ROUNDED OFF.	PERTAINS TO
CHECKED			
APPROVED		ALL DIMENSIONS ARE IN mm UNLESS OTHERWISE SPECIFIED	765-71-821
DATE	20/08/84		
TOLERANCE UNLESS OTHERWISE SPECIFIED		FLANGE	
DC (1)	DATE	ZONE	BRIEF RECORD
			SIGN
		CONTROLLERATE OF INSPECTION FIRE FIGHTING EQPT, PUNE	

765-71-873

Unless otherwise specified



- 1). Provide dimensions without deviations with an accuracy of $\pm 0.5\text{mm}$.
- 2). Carryout machining in assembly as per dimensions given in
- 3). Displacement of axes of holes from true position should not exceed 0.2mm.
- 4). Stamping bevel not exceeding 0.8mm is allowed.
- 5). Alternate material is AMr5 GOST 4784-74.



S/NO	SHEET	DOC NO	SIGN	DATE

FLANGE

765-71-873

SHEETS	WEIGHT	SCALE

AMr6 GOST 4784-74

765-71-873

EXPLANATORY NOTES TO TECHNICAL CONDITIONS

1. FLANGE SHOULD BE MANUFACTURED FROM ALUMINIUM ALLOYS SHEET OF GRADE AMr5 (AMg5) OR AMr6 (AMg6) CONFORMING TO GOST 4784-74, & HAVING THE FOLLOWING CHEMICAL COMPOSITION:-

GRADES	CHEMICAL COMPOSITION %				
	ALLOYING CONSTITUENT				
	ALUMINIUM	MAGNASIUM	MANGANESE	TITANIUM	BARYLLIUM
AMr5 (AMg5)	BASE CONSTITUENT	4.8-5.8	0.3-0.8	0.02-0.10	0.0002-0.005
AMr6 (AMg6)	BASE CONSTITUENT	5.8-6.8	0.5-0.8	0.02-0.10	0.0002-0.005

IMPURITIES:-

GRADES	CHEMICAL COMPOSITION %					
	IMPURITIES, (MAXIMUM)					
	IRON	SILICON	COPPER	ZINC	OTHER IMPURITIES	
EACH INDIVIDUALLY					TOTAL	
AMr5 (AMg5)	0.6	0.5	0.1	0.2	0.05	0.1
AMr6 (AMg6)	0.4	0.4	0.1	0.2	0.05	0.1

SURFACE FINISH

1. \sim :- INDICATES SURFACE FINISH Ra VALUE 80 MICRONS (MAX) ON THOSE SURFACES WHERE SURFACE FINISH IS NOT SPECIFIED.
2. $\nabla 3$:- INDICATES SURFACE FINISH Ra VALUE 20 MICRONS. (MAX)

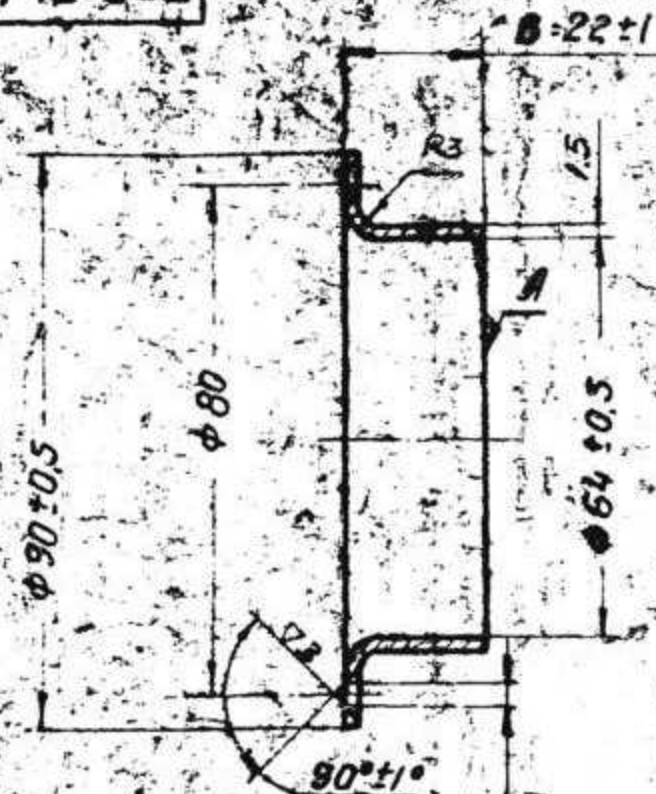
INSCRIBED	CHECKED	APPROVED	DATE	TOLERANCE UNLESS OTHERWISE SPECIFIED	GEN	DEC	ANG	DRG NOT TO BE SCALED	PERTAINS TO:-
								ALL SHARP EDGES & CORNERS TO BE ROUNDED OFF	
								ALL DIMENSIONS ARE IN mm UNLESS OTHERWISE SPECIFIED	
								SCALE :-	
DC (I)	DATE	ZONE	BRIEF RECORD	SIGN				765-71-873	
CONTROLLERATE OF INSPECTION FIRE FIGHTING EQPT PUNE									

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Unless otherwise specified.

6801-11-591



6 Holes $\phi 5A7 \pm 0.3$
Equally spaced along
circumference.

- Burrs are not allowed.
- Displacement of axes of hole from true position should not exceed 0.2 mm.
- Coating: Anodic oxidization; chromated.
- Surface ruptures to a depth not exceeding 2 mm are allowed on butt-end A.
- Thinning of metal upto 1 mm min. is allowed over section B.

SNO	SHEET	DOCNO	SIGN	DATE
DRAWN BY	CH.V.RAO			26.7.84
EDITED AND CHECKED BY				27.7.84
FOREMAN OF DC	S.R.NAIN			26.7.84
DIVISIONAL OFFICER	T.K. BANERJEE			18.8.84
	NAME	SIGN	DATE	

FLANGE
SHEET AMUM-1.5,
FOCT 21631-76.

765-71-1089		
SHEETS	WEIGHT	SCALE
TOTAL SHEETS		
ORDNANCE FACTORY PROJECT HYDERABAD		

6801-11-591

EXPLANATORY NOTES TO TECH CONDITIONS

FLANGE SHOULD BE MANUFACTURED FROM ALUMINIUM ALLOY SHEET 1.5 mm THICK, GRADE AMTS, ANNEALED(M) WITH NORMAL SURFACE FINISH AND NORMAL MANUFACTURING ACCURACY, HAVING CHEMICAL COMPOSITION CONFORMING TO GOST-4784-74 (AS REFERRED IN GOST-21631-76).

I) CHEMICAL COMPOSITION :-

GRADE	ALLOYING CONSTITUENTS%				IMPURITIES, % (max)						
	ALUMINIUM	MAGNASIUM	MANGANESE	IRON	SILICON	COPPER	ZINC	TITANIUM	MAGNASIUM	OTHER IMPURITIES	
AMTS	BASE CONSTITUENT	-	1.0-1.6	0.7	0.6	0.15	0.10	0.20	0.2	EACH INDIVIDUALLY	TOTAL
										0.05	0.10

II) MECHANICAL PROPERTIES (GOST-21631-76)

- i) MATERIAL CONDITION — ANNEALED
- ii) TENSILE STRENGTH, kgf/mm² (min) — 9.0
- iii) YIELD POINT, kgf/mm² (min) — —
- iv) PERCENTAGE ELONGATION, (min) — 22.0

III) TOLERANCE ON SHEET THICKNESS :-

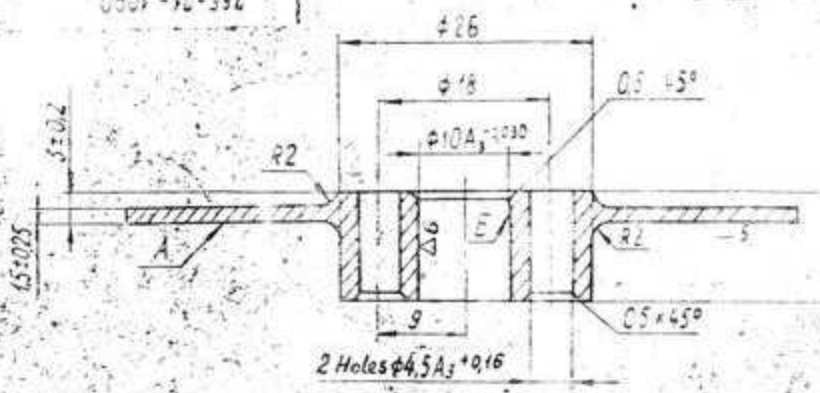
THICKNESS :- 1.5 mm, TOLERANCE :- -0.20 mm

IV) SURFACE FINISH :-

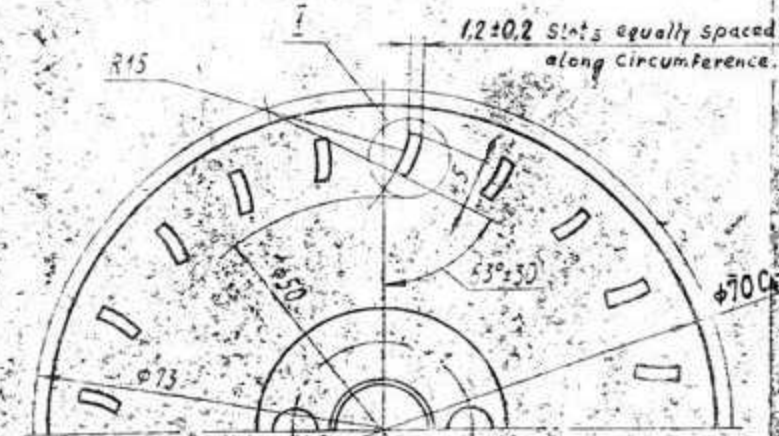
- $\nabla 3$:- INDICATES SURFACE FINISH TO BE OBTAINED BY ANY PRODUCTION METHOD IN Ra VALUE 20 μ max.
- \sim :- INDICATES SURFACE ROUGHNESS IN Ra VALUE NOT EXCEED TO 80 μ max.

DC(i)	DATE	ZONE	BRIEF RECORD	SIGN	GEN	ANG	DEC	INSCRIBED	<i>Godse</i>	DRG NOT TO BE SCALED	PERTAINS TO
								CHECKED	<i>Godse</i>	ALL SHARP EDGES & CORNERS TO BE ROUNDED OFF.	
								APPROVED	<i>Godse</i>	ALL DIMENSIONS ARE IN mm UNLESS OTHERWISE SPECIFIED	765-71-1089
								DATE	26.07.84	SCALE :-	
								TOLERANCE UNLESS OTHERWISE SPECIFIED		CONTROLLERATE OF INSPECTION FIRE FIGHTING EQPT, PUNE	

0601-11-59L



2 Holes $\phi 4.5 A_3 \pm 0.16$



12 ± 0.2 Slots equally spaced along circumference.

φ70C-02 Machine in assembly.

- 1) Blunt sharp edges.
- 2) Provide dimensions without deviations as per accuracy class 7 (IST 1010).
- 3) Displacement of slots and axes of holes from true position should not exceed 0.3 mm.
- 4) Run-out of surface A with respect to axis of surface B should not exceed 0.5 mm.
- 5) Slots may be made as per conventional dotted line.
- 6) Coating : Anodic oxidation, chromating.
- 7) Alternate material is 2116, 2120, (IST 4784-74).

Unless otherwise specified.

SN	DATE	BY	DATE
DRAWN	Y.R. Ganesh	7/2	23.8.84
EDT. CHKD	A. Suresh	20.9.	20.9.84
F/M, DC	S.R. Nair	01.	14.9.84
DIV OFFR	T.K. Suresh	10.9.	19.84
NAME	SIGN	DATE	

765-71-1090

FLANGE

SHEET WEIGHT	SCALE
005	2:1
TOTAL SHEETS	

AMG 6 GOCT 4784-74.

0601-11-59L

EXPLANATORY NOTES TO TECHNICAL CONDITIONS:

FLANGE SHOULD BE MANUFACTURED FROM ALUMINIUM ALLOY SHEET OF GRADE AMg6 OR GRADE D-16 CONFORMING TO GOST 4784-74.

I CHEMICAL COMPOSITION:

GRADE	ALLOYING CONSTITUENTS %						IMPURITIES % (MAX)							
	ALUMINIUM	COPPER	MAGNESIUM	MANGANESE	TITANIUM	BARLIUM	IRON	SILICON	COPPER	ZINC	NICKEL	TITANIUM	OTHER IMPURITIES	
													EACH INDIVIDUALLY	TOTAL
AMg6	BASE CONSTITUENT	-	5.8-6.8	0.5-0.8	0.02-0.10	0.0002-0.005	0.4	0.4	0.1	0.2	-	-	0.05	0.1
D-16	BASE CONSTITUENT	3.8-4.9	12-1.8	0.3-0.9	-	-	0.5	0.5	-	0.3	0.1	0.1	0.05	0.1

II LIMIT DEVIATIONS AS PER ACCURACY CLASS 7 (REF. NOTE NO 2)

DIMENSION	DEVIATION (mm)
φ 18	+ 0.430 0.0
φ 26	+ 0.520 0.0
φ 50	+ 0.620 0.0
φ 73	+ 0.740 0.0

III SURFACE FINISH:

▽3 - INDICATES SURFACE FINISH IN R_a VALUE 20μ, ON THOSE SURFACES WHERE SURFACE FINISH IS NOT SPECIFIED.

▽5,▽6-INDICATES SURFACE FINISH IN R_a VALUE 5 AND 2.5μ RESPECTIVELY.

D.C.(I)	DATE	ZONE	BRIEF RECORD	SIGN.

INSCRIBED	DRG. NOT TO BE SCALED	PERTAINS TO:
CHECKED	ALL SHARP EDGES & CORNERS TO BE ROUNDED OFF.	765-71-1090
APPROVED	ALL DIMENSIONS ARE IN mm UNLESS OTHERWISE SPECIFIED.	
DATE	FLANGE	
TOLERANCE UNLESS OTHERWISE SPECIFIED.		
GEN. DEC. ANG.		
CONTROLLERATE OF INSPECTION FIRE FIGHTING EQPT. PUNE.		

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