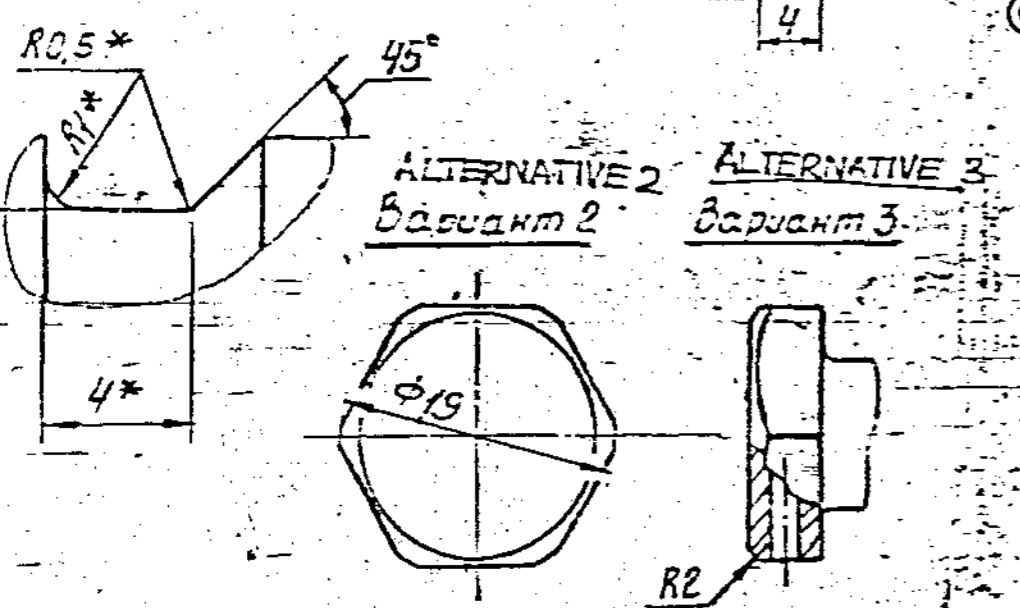


M5:1
SCALE 5:1



1. ALTERNATE MATERIAL : STEEL 40 AND 50 OF GOST 1050-74.
2. UNSPECIFIED MAXIMUM DEVIATIONS OF DIMENSIONS :
FOR HOLES - AS PER H 14, FOR SHAFTS AS PER h 14, THE REMAINING ± IT 15
2
3. END PLAY ON SURFACE 'A' RELATIVE TO THE AXIS OF THREAD 'B' SHOULD NOT EXCEED 0.1 mm.
5. COATING : Cd 9 Cr. AS PER ULM-104 WITH HYDROGEN EMBRITHEMENT REMOVED.
6. THREAD SHOULD BE FORMED BY ROLLING, IT MAY ALSO BE FORMED BY CUTTING.
7. BOLT HEAD MAY BE MADE BY UPSETTING.
8. MARKING MAY BE DONE ON A TAG FOR A BATCH OF COMPONENTS, WITH PACKING AND SEALING.
9. * DIMENSIONS TO BE ENSURED BY TOOL.
10. *1 DIMENSIONS FOR REFERENCE.
12. REPAIR SIZE DIMENSIONS ADDED BASED ON LETTER NO. 82847/OH/QAS/ ED. DT. 27 MAR 95 AS PER TABLE -1.

ALTERNATE MATERIAL: STEEL 080 M40
(EN 8) TO BS: 970, Pt 1-1983 OR 45CB TO IS: 1570
* * HEXAGON 17-5 GOST 8560-78
45 GOST 1051-73
PROT SAMPLE SHOULD BE APPROVED BY A HSP BEFORE BULK PRODUCTION

EST. MASS 0.02 Kg	TO BE STAMPED OR MARKED WHERE INDICATED THIS #
3 rd ALTN. COMM. MINUTES POINT 6, DT 27-2-09	LETTERS I
REPAIR SIZES ADDED	ALL SHARP EDGES AND CORNERS TO BE REMOVED UNLESS OTHERWISE STATED MACINED CORNERS TO HAVE R* OUTSIDE R INSIDE EQUIVALENT CHAMFERS ARE PERMISSIBLE
ISSUE (DATE) NATURE OF AMENDMENTS	MATERIAL: * * SEE ABOVE USED ON- CB 406-13-32 CB 406-17-21 CB 20-15-44-4
DRWD SCALE: 2:1	CONTROLLERATE OF QUALITY ASSURANCE (HEAVY VEHICLES) AVADI
CHEF DIMENSIONS IN mm	TITLE PLUG
TCD TOLERANCE ON DIMENS UNLESS OTHERWISE STATED	D S CAT NUMBER
APPD ALL THREADS TO CONFORM TO	DRAWING NUMBER 301-101
DATE 7-4-88	

EXPLANATORY NOTE:-

MATERIAL QUOTED :- HEXAGONAL BAR 17-5 GOST 8560-78
45 GOST 1051-73.

ALTERNATE MATERIAL QUOTED:- 40 & 50 GOST 1050-74.

BRIGHT STEEL HEXAGONAL FROM GRADES 40, 45 & 50 STEEL WITH ACROSS FLATS 17mm OF ACCURACY CLASS-5.

CHEMICAL COMPOSITION:-

GRADE OF STEEL	CONTENT OF ELEMENTS %							
	C	Si	Mn	Cr	P	S	Cu	Ni
40	0.37-0.45	0.17-0.37	0.50-0.80	0.25	0.035	0.040	0.25	0.25
45	0.42-0.50	0.17-0.37	0.50-0.80	0.25	0.035	0.040	0.25	0.25
50	0.47-0.55	0.17-0.37	0.50-0.80	0.25	0.035	0.040	0.25	0.25

MECHANICAL PROPERTIES:-

GRADE OF STEEL	TENSILE STRENGTH	YIELD POINT	ELONGATION	REDUCTION	IMPACT
	Kgf/mm ²	Kgf/mm ²	%	IN AREA %	STRENGTH Kgf/cm ²
40	MINIMUM				
40	58	34	19	45	6
45	61	36	16	40	5
50	64	38	14	40	4

REPAIR SIZE DIMENSIONS ARE ADDED WHERE INDICATED THIS TABLE -1

SL. No.	R	REMARKS
1	M14 X 1.5 - 6h	1. ALL OTHER CONDITIONS AS PER STD. DRG. 2. MARK REPAIR SIZE.
2	φ 18.5	
3	14 ± 0.1	
4	A/F 19 - 0.14	
5	A/C φ 21	

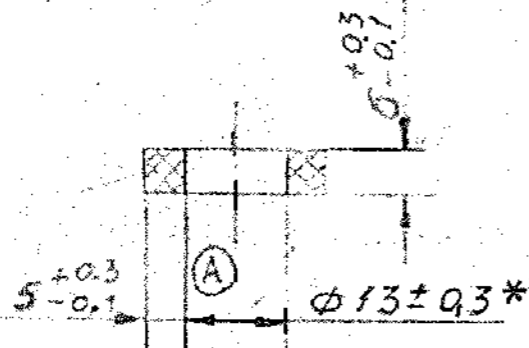
303-10-4

EXPLANATORY NOTE:-

THE COMPONENT 'RING' (RECTANGULAR SEALING RING) SHOULD BE MANUFACTURED FROM RUBBER GRADE 9831, RUBBER CODE CLASSIFICATION 253113 TO SPECN. TY 005216-75.

TECHNICAL PARAMETERS OF THE SUBJECT ITEM SHOULD BE AS FOLLOW:-

1. NOMENCLATURE OF RUBBER ----- RECTANGULAR JOINT SEALING RINGS.
2. WORKING MEDIA ----- WATER, LOW PRESSURE LIQUID WITH OIL PENETRATION.
3. OPERATING TEMPERATURE °C ----- -30°C TO +150°C
4. DESTINATION OF LIMIT PARAMETERS OF USE ----- SEAL FOR RINGS PS 100kgf/cm²
5. APPARANT DENSITY g/cm³ ----- 1.18
6. RUPTURE STRENGTH (MIN) $\frac{\text{kgf}}{\text{cm}^2}$ ----- 100
7. ELONGATION AT RUPTURE % (MIN) ----- 300%
8. HARDNESS TNP ----- 55 - 70



1. * DIMENSION IS TO BE ENSURED WITH TOOL.
2. TO BE MARKED ON TAG.
3. THE REST OF THE REQUIREMENTS AS PER TY 005216-75.

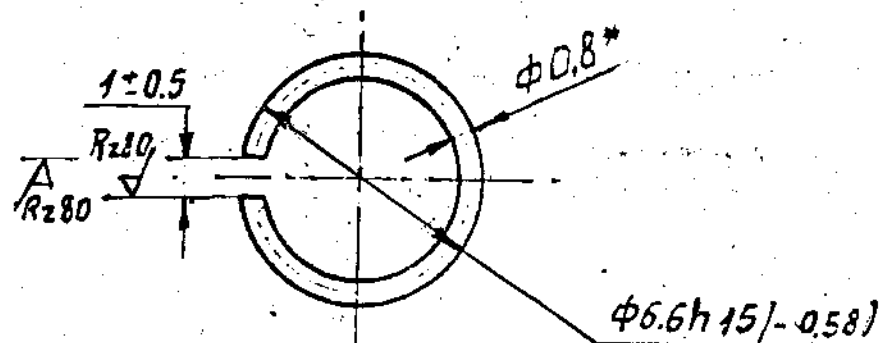
Ⓒ ALT. MATL. : RUBBER GRADE N2 TO SPECN. COA(HVI)/NBR

DRG. REDRAWN

<p>TEST SAMPLE SHOULD BE APPROVED BY A M U V BEFORE BEING USED</p>		DRN	<i>[Signature]</i>	MATERIAL -	USED ON -
EST. Wt	TO BE STAMPED OR MARKED WHERE INDICATED THIS =	ENG	<i>[Signature]</i>	RUBBER 9831	CB 3334-00-27
0.002Kg		TCD	<i>[Signature]</i>	TY 005216-75.	
<p>ALL SHARP EDGES AND CORNERS TO BE REMOVED UNLESS OTHERWISE STATED. MACHINED CORNERS TO HAVE R. OUT-SIDE RADIUS EQUIVALENT CHAMFERS ARE PERMISSIBLE</p>		APPD	<i>[Signature]</i>	CONTROLLERATE OF INSPECTION (HEAVY VEHICLES)	
		DATE	24-8-1988	AVADI	
		SCALE :-	1:1	TITLE:-	
		DIMENSIONS IN MM		RING	
C	19-6-88	AUTHY. LT. No. TC/GEN/IND-III DT. 02-04-88.		DRAWING NUMBER	
B	15-9-98	LT No EFA/P/PDO/023		303-10-4	
		DE 15th July 98.			
A	28-2-96	AUTHY. LT. No. EFA/PDO/2556-4/		DRAWING NUMBER	
		DT: 21-2-96		303-10-4	
6	ISSUE	DATE	NATURE OF AMENDMENTS		

DRAWING NUMBER
304-34

(V/A)



1. Заусенцы не допускаются.
2. Покрытие хим. окс. прм.
3. *Размеры для справок.
4. Неплоскостность не более 0.8 мм (развод концов); местное искривление не допускается.

1. BURRS ARE NOT PERMITTED.
2. COATING: CHEMICAL OXIDIZING OIL FINISHING.
3. *DIMENSIONS FOR REFERENCE.
4. NON FLATNESS SHOULD NOT EXCEED 0.8mm SPREAD ENDS LOCAL DISTORTION IS NOT ALLOWED.

5. EXPLANATORY NOTE :

MATERIAL QUOTED :-

WIRE - II 0,8 GOST 9389-75
II - SECOND CATEGORY
0,8 - NOMINAL DIAMETER OF THE WIRE

CHEMICAL COMPOSITION :-

GRADE OF STEEL	CONTENT OF ELEMENTS %							
	C	Mn	Si	S	P	Cr	Ni	Cu
KT - 2	0,86 - 0,91	0,20 - 0,40	0,17 - 0,37	0,020	0,020	0,05	0,05	0,10
SK - 7	0,68 - 0,76	0,50 - 0,80	0,17 - 0,37	0,030	0,020	0,05	0,05	0,04

MECHANICAL PROPERTIES :-

TENSILE STRENGTH kgf/mm^2 215 - 260

NO: OF BENDS = 12 (MIN)

NO: OF TWISTS = 17 (MIN)

(A) EQUIVALENT MATERIAL
Gr. SM/SH IS: 4454-2001

K V D No, 78085.

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

EST. WT. 0,001 Kg TO BE STAMPED OR MARKED WHERE INDICATED THIS # (LETTERS)

ALL SHARP EDGES AND CORNERS TO BE REMOVED UNLESS OTHERWISE STATED MACHINED CORNERS TO HAVE R OUT SIDE INSIDE EQUIVALENT CHAMFERS ARE PERMISSIBLE

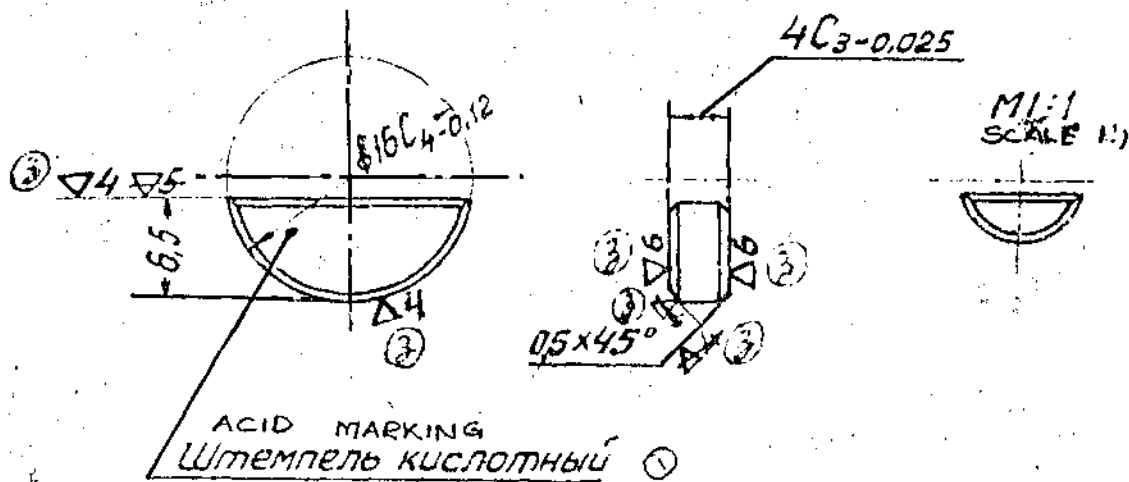
DRN	G. no. 100	MATERIAL:- WIRE II - 0,8	USED ON
CHD	100	GOST 9389-75	CB 3304-02-4
TCD	100		
APPD	100		
DATE	05-05-88	CONTROLLERATE OF QUALITY ASSURANCE (HEAVY VEHICLES)	
SCALE:-	5:1	AVADI	
DIMENSIONS IN mm		TITLE RETAINING RING	
TOLERANCE ON DIMNS UNLESS OTHERWISE STATED IS: 2102-69			
ALL THREADS TO CONFORM TO		D S CAT NUMBER	DRAWING NUMBER
			304-34
A	16-8-10	4 th Alt. Comm. Meeting Minutes	
		Point No. 13 Dt: 26-10-09	
ISSUE DATE	NATURE OF AMENDMENTS		

A3
116

SIZE A3

308-88

Остальное
UNLESS OTHERWISE
STATED.



INSPECTION GROUP IV TT-II

DIMENSION WITH UNSPECIFIED TOLERANCES SHOULD BE MAINTAINED AS PER ACCURACY CLASS 7 OST 1010.

HARDNESS HRC 26-33

SHARP EDGES SHOULD BE BLUNTED.

COATING: CHEMICAL OXIDIZING, OIL FINISHING

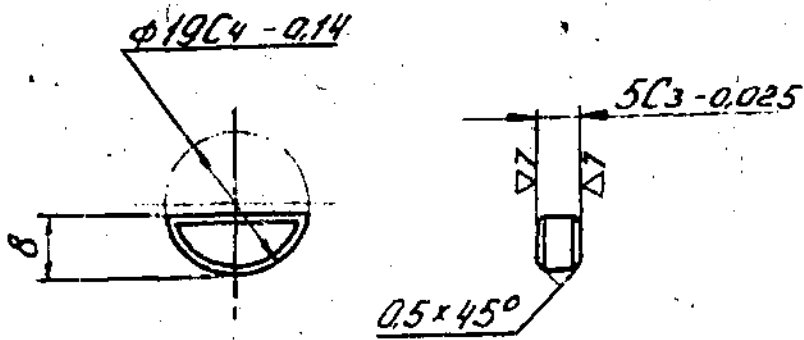
1 BK79-528 Key, 21/12-79c
75-320 Key

		EST. MASS 0.002 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.	
ISSUE DATE	NATURE OF AMENDMENTS	MATERIAL:- STEEL 30XC GOST 4543-71	USED ON:- CB 327 00 45
DRN	SCALE - 2 : 1	CONTROLLERATE OF INSPECTION (HEAVY VEHICLES) AVADI	
CHD	DIMENSIONS IN mm.	TITLE:- WOODRUFF KEY	
TCD	TOLERANCE ON DIMNS UNLESS OTHERWISE STATED.	D S CAT NUMBER	
APD	ALL THREADS CONFORM TO	DRAWING NUMBER 308 88	
DATE			

308-90

~~1. 308-90~~

(21)



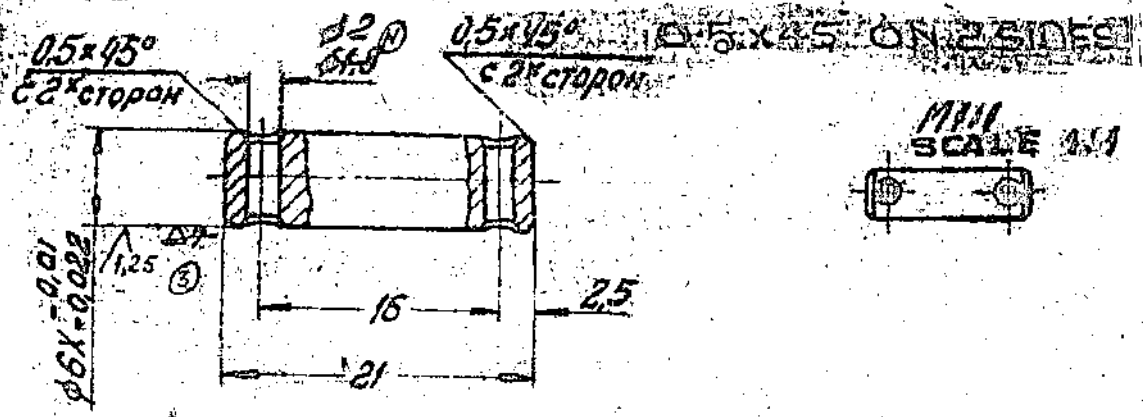
1. IV K
1. Группа контроля IV по ТТ-11
 2. Твердость HRC 26 - 33
 3. Размеры без допусков выполнять по 7 классу точности ОСТ 1010.
 4. Острые кромки затушить.
 5. Оксидировать Покрытие Хим. Окс. прм.
- 1) INSPECTION GROUP IV TT-II
 - 2) HARDNESS HRC 26 - 33
 - 3) DIMENSIONS WITH UNSPECIFIED TOLERANCES SHOULD BE MAINTAINED AS PER ACCURACY CLASS 7 OST 1010
 - 4) COATING :- CHEMICAL OXIDIZING, OIL FINISHING

1 1 75-616 *Лысый* EQUIVALENT MATERIAL STEEL 709M40
 (A) (EN19) BS:970/40Cr4Mo3 IS:1570

		EST. MASS	TO BE STAMPED OR MARKED WHERE INDICATED THUS #	
		0.005 Kg	LETTERS)	
A	13.8.10	4 th Alt. Comm. Meeting Minutes	ALL SHARP EDGES AND CORNERS TO BE REMOVED UNLESS OTHERWISE STATED MACHINED CORNERS TO HAVE R OUTSIDE R INSIDE EQUIVALENT CHAMFERS ARE PERMISSIBLE.	
ISSUE	DATE	NATURE OF AMENDMENTS		
DRN		SCALE - 1 : 1	MATERIAL :- STEEL 65 X	USED ON :-
CMO		DIMENSIONS IN mm.	4543-71	CB 327-00-45
TCO		TOLERANCE ON DIMS UNLESS OTHERWISE STATED	CONTROLLERATE OF INSPECTION (HEAVY VEHICLES) AVADI	
APPD		ALL THREADS CONFORM TO	TITLE :- WOODRUFF KEY	
DATE			D S CAT NUMBER	DRAWING NUMBER
				308 90

DRAWING INDICATED BY NUMBER OF ISSUES

0.5x45 ON 2 SIDES



1. Группа контроля IV по ТТ-11
2. Твердость HRC 24-30. HRC 25-32
3. Размеры без допусков выполнять по 7 классу точности ГОСТ 1010.
4. Острые кромки затушить.
5. Покрытие хим. окс. прм.

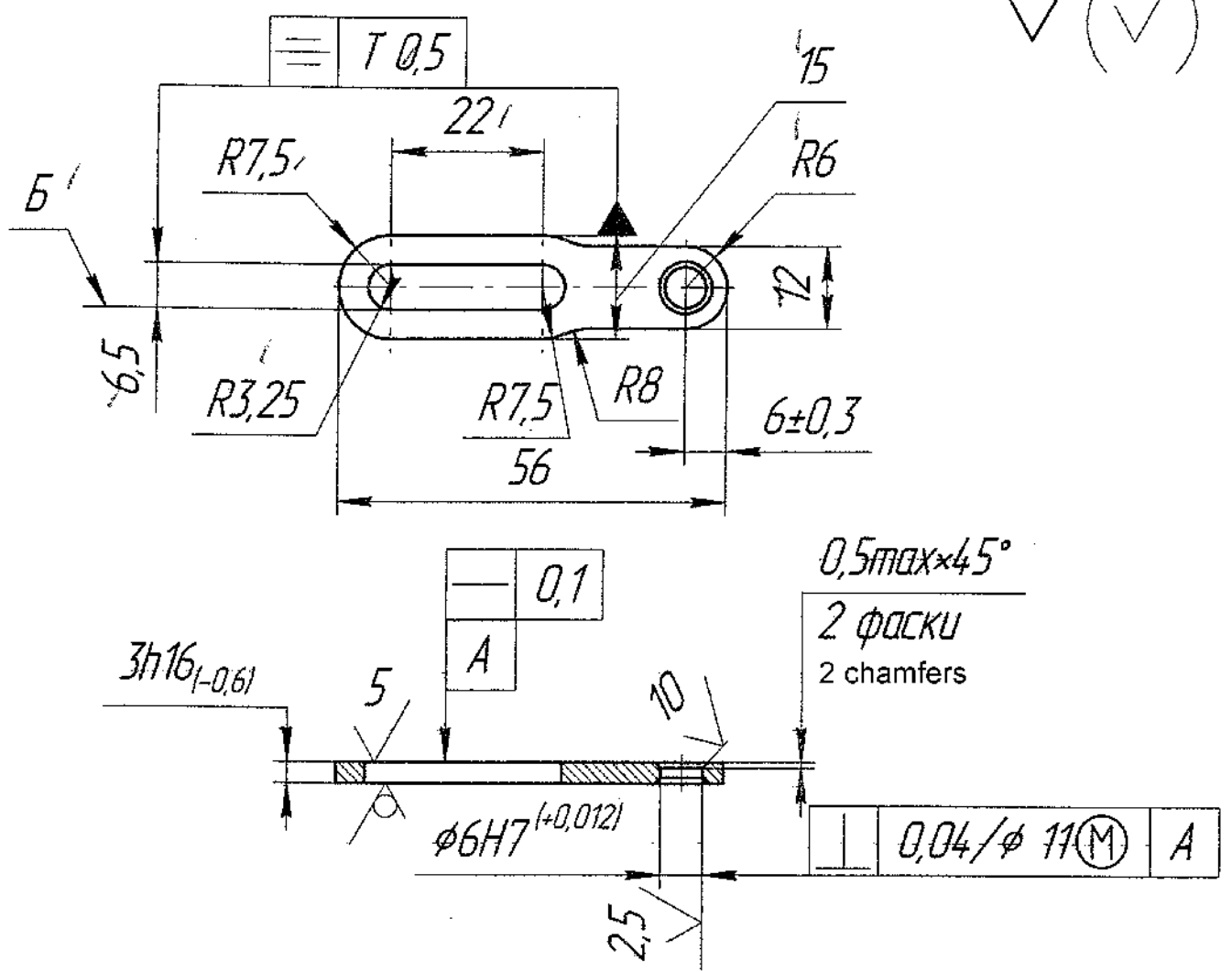
1. INSPECTION GROUP IV, T.T-11
2. HRC 24-30. HRC 25-32
3. DIMENSIONS WITH UNSPECIFIED TOLERANCES SHOULD BE OBTAINED AS PER ACCURACY CLASS OST 1010.
4. SHARP EDGES SHOULD BE BLUNTED.
5. COATING: CHEMICAL OXIDIZING, OIL FINISHING.

Ум. 630М.ВНВ. Ум. 630М.ВНВ. Подпись дата

		EST. MASS	TO BE STAMPED OR MARKED WHERE INDICATED THIS #	
		0.004 Kg	LETTERS)	
A 23-11-87		ALL SHARP EDGES AND CORNERS TO BE REMOVED UNLESS OTHERWISE STATED MACHINED CORNERS TO HAVE R OUTSIDE R INSIDE EQUIVALENT CHAMFERS ARE PERMISSIBLE.		
ISSUE DATE	NATURE OF AMENDMENTS			
DRN	SCALE - 2 : 1	MATERIAL:- STEEL 45 GOST 1050-74	USED ON:- СБ 327-00-45	
CHD	DIMENSIONS IN mm.	CONTROLLER OF INSPECTION (HEAVY VEHICLES) AVADI		
TCD	TOLERANCE ON DIMNS UNLESS OTHERWISE STATED.	TITLE:- PIN		
APPL	ALL THREADS CONFORM TO	D S CAT NUMBER		DRAWING NUMBER
DATE				315-42

01-77-915

80 ✓ (✓)

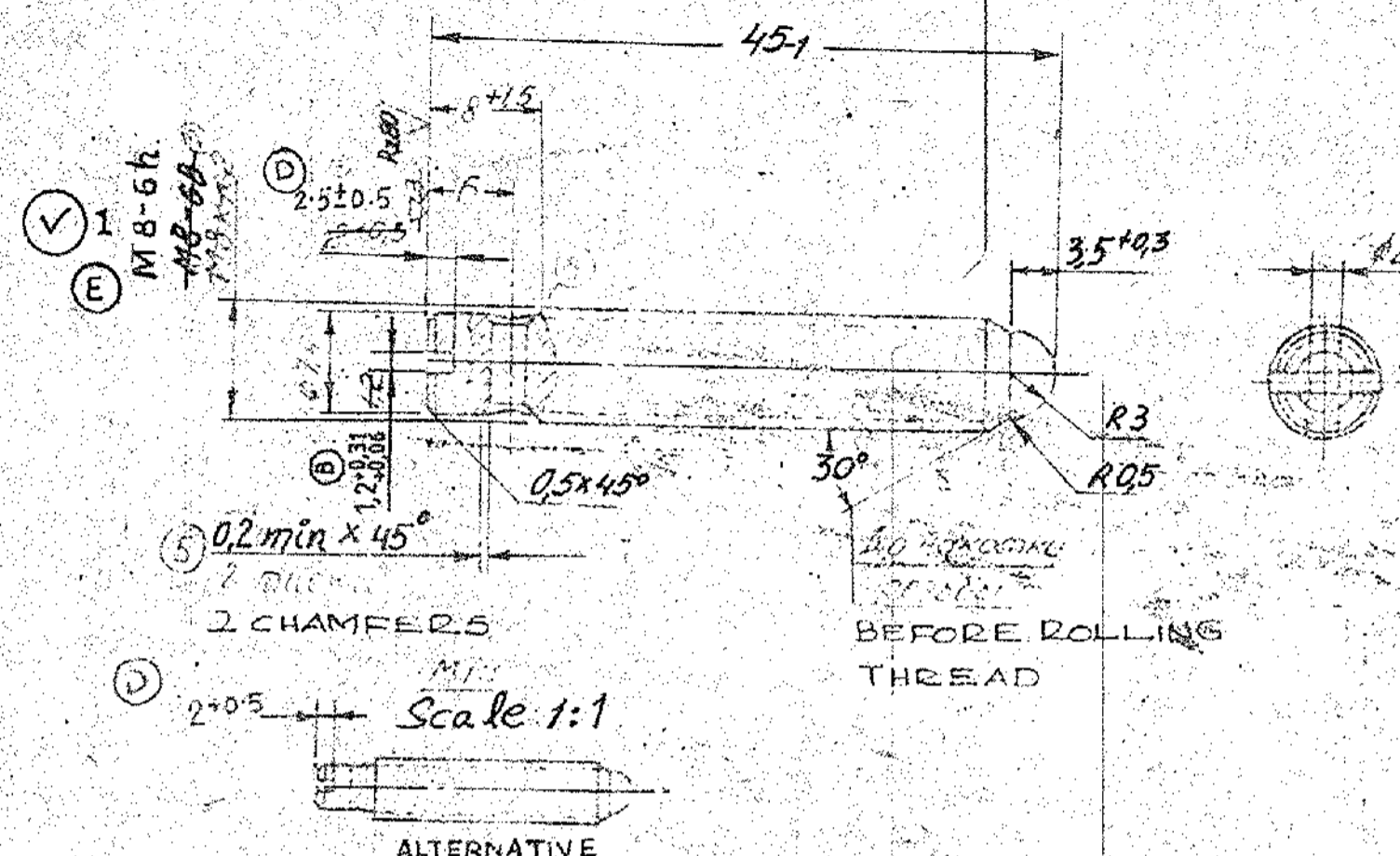


1. Неуказанные предельные отклонения размеров выполнять с точностью $\pm 0,3$ мм.
2. Покрытие Хим. Окс. прм по ИЛ-681-87.
3. По наружному контуру и в пазу Б допускается скол 0,3 мм не более на сторону.
4. На поверхн. А, по наружному контуру допускается необработанный поясok, шириной не более 0,5 мм.

1. Unspecified limit deviations of dimensions is carried out with accuracy ± 0.3 mm.
2. Coating : chemical oxidation and oil finished as per ИЛ-681-87.
3. On external profile and in slot Б, chip max. 0.3mm is permitted in sides.
4. On surface А along the external profile, un-machined strips having width max. 0.5 mm is permitted.

Подп. и дата
 Инв. № дубл.
 Инв. №
 Взам. инв. №
 Подп. и дата
 Инв. № подл.
 ИИЗНА

HINGED LINK				315-44-10		
Steel 45 GOST 1050-88						
Изм.	Лист	№ докum.	Подп.	Дата	Лит.	Масса
3	-	2001-298			0,1	0,015
Trans. & Ckd. by: M/s SWYAZ						Scale 1:1
Authenticated by:					Лист	Листов 1
Approved by:					Sheet	Sheets
Engine Factory, Avadi					F	64
Звено шарнира						
Сталь 45 ГОСТ 1050-88						



1. Inspection group III, TT-11
2. Casehardening by cyaniding to a depth of 0.10 to 0.25 mm. HRC ≥ 48 ; to be checked with hardness-test file.
3. Dimensions with unspecified tolerances should be made as per accuracy class 7 OST 1010.
4. Technical requirements for thread as per standard 82021-00
5. During cutting the slot for screwdriver, radius $R \geq 25$ mm. from cutter is allowed.
6. There may be no coating on the internal surfaces. Coating Zn 3Cr should be as per instruction U.I. 483-87. Coating: Cd 9 chromating as per instructions U.I. 569-84 U.I. 104 with elimination of hydrogen embrittlement.
7. Dimensions are to be calibrated before coating.

- 1188/CA-1
25/07/09
RDS
1. Группа контроля III по ТТ-11
 2. Цианировать на глубину 0.10-0.25 мм. HRC ≥ 48 , проверить прибором с минимальным допуском
 3. Размеры без допусков выполнять по 7 классу точности OST 1010
 4. Технические требования на резьбу выполнять по нормам 82021-00.
 5. При прорезке паза под отвертку допускается оставление радиуса фрезы $R \geq 25$ мм.
 6. Цинковать и хромировать по У.И. 483-87. Толщина слоя покрытия 4.003 ± 0.006 мм. На внутренних поверхностях допускается отсутствие покрытия.
 7. Размеры контролировать до покрытия.
 8. Покрытие H 3 по У.И. 569-84 с исключением H 2 по У.И. 104 с исключением водородной хрупкости.

EXPLANATORY NOTE :-

8. MATERIAL QUOTED : STEEL 10 GOST 1050-74.
STEEL 10 = GRADE OF STEEL.
- a) CHEMICAL COMPOSITION :
CARBON = 0.07 - 0.14
SILICON = 0.17 - 0.37
MANGANESE = 0.35 - 0.65
CHROMIUM = 0.15 (max)
PHOSPHORUS = 0.035 (max)
SULPHUR = 0.040 (max)
COPPER = 0.25 (max)
NICKEL = 0.25 (max)
- b) MECHANICAL PROPERTIES :
TENSILE STRENGTH Kgf/mm² (min) = 34
YIELD POINT Kgf/mm² (min) = 21
% ELONGATION = 31 (min)
% REDUCTION IN AREA = 55 (min)

9. REPAIR SIZE DIMENSION ARE ADDED BASED ON LETTER NO: 328A7/0H/GAS/ED DT 21 MAR 95 WHERE INDICATED THUS $\text{\textcircled{R}}$ AS FOLLOWS.

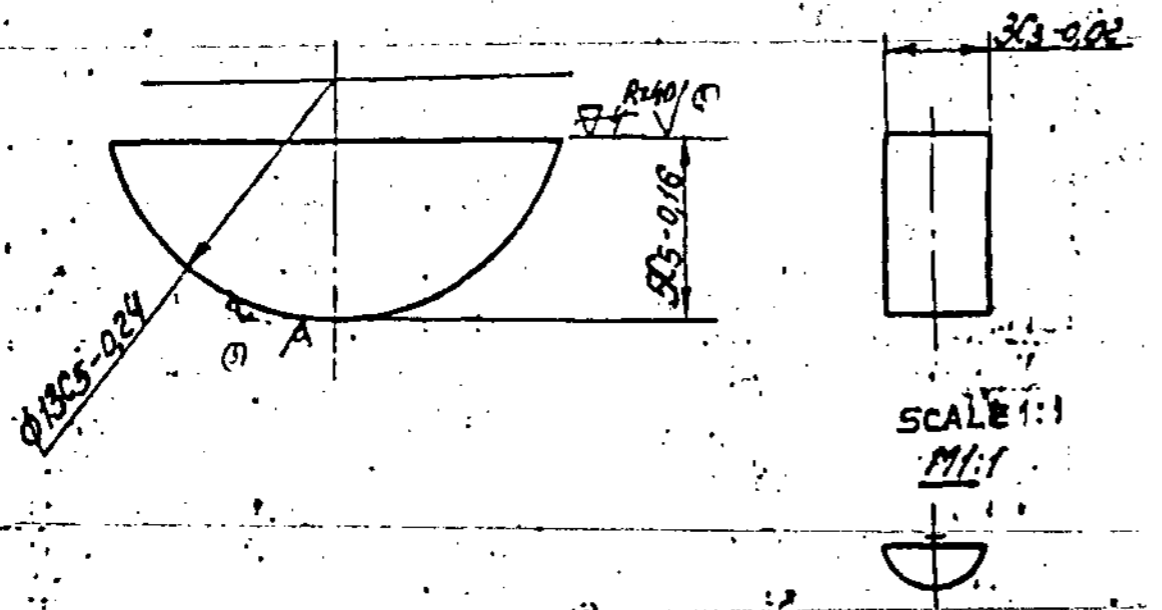
Sl.No	R	REMARKS
1	M 10x6 h	ALL OTHER CONDITIONS AS PER STD DRG. MARK REPAIR SIZE

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

EST. MASS 0.012 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.	ALL THREADS CONFORM TO
				09-5-86	2:1			
MATERIAL - STEEL 10 GOST 1050-74					USED ON - CB 315 663 21 CB 20-15-663-4			
CONTROLLERATE OF INSPECTION (HEAVY VEHICLES) AVADI					TITLE - LIMITER SCREW			
D S CAT NUMBER					DRAWING NUMBER 315 49			
ISSUE	DATE	NATURE OF AMENDMENTS						
E	10-7-09	DO-CORRECTION						
D	26-9-93	AUTHY. BK 90-357						
C	15-2-88	AUTHY BK 85-141						
B	15-2-88	AUTHY. NO. BK 84-127						
	22-1-87							

DRAWING NUMBER
315-64



EXPLANATORY NOTE :-

MATERIAL QUOTED : 13-4 GOST 7417-75
45 GOST 1051-73

SIZED COLD DRAWN STEEL

13 = DIAMETER IN mm.

4 = CLASS OF ACCURACY (-0.120)

45 = SIZED STEEL GRADE AS PER GOST 1051-73

a) CHEMICAL COMPOSITION : (AS PER GOST 1050-74.)

CARBON = 0.42 - 0.50

SILICON = 0.17 - 0.37

MANGANESE = 0.50 - 0.80

CHROMIUM = 0.25 (max)

SULPHUR = 0.040 (max)

PHOSPHORUS = 0.035 (max)

COPPER = 0.25 (max)

NICKEL = 0.25 (max)

b) MECHANICAL PROPERTIES :

TENSILE STRENGTH Kgf/mm² = 61 (min)

YIELD POINT Kgf/mm² = 36 (min)

ELONGATION % = 16 (min)

REDUCTION IN AREA % = 40 (min)

1. INSPECTION GROUP IV TT-11.
2. ~~HRC 26-30~~ HRC 26-32
3. COATING : COATING OXIDIZING OIL FINISHING.
4. SHARP EDGES ARE NOT ALLOWED.

KVD NO 78512 & 63484

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

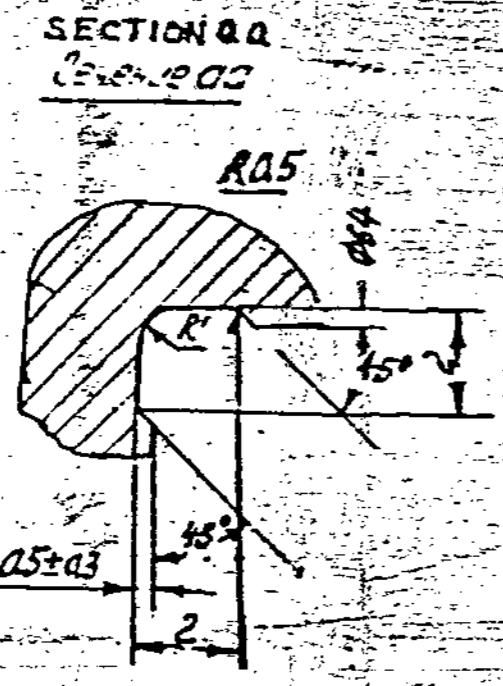
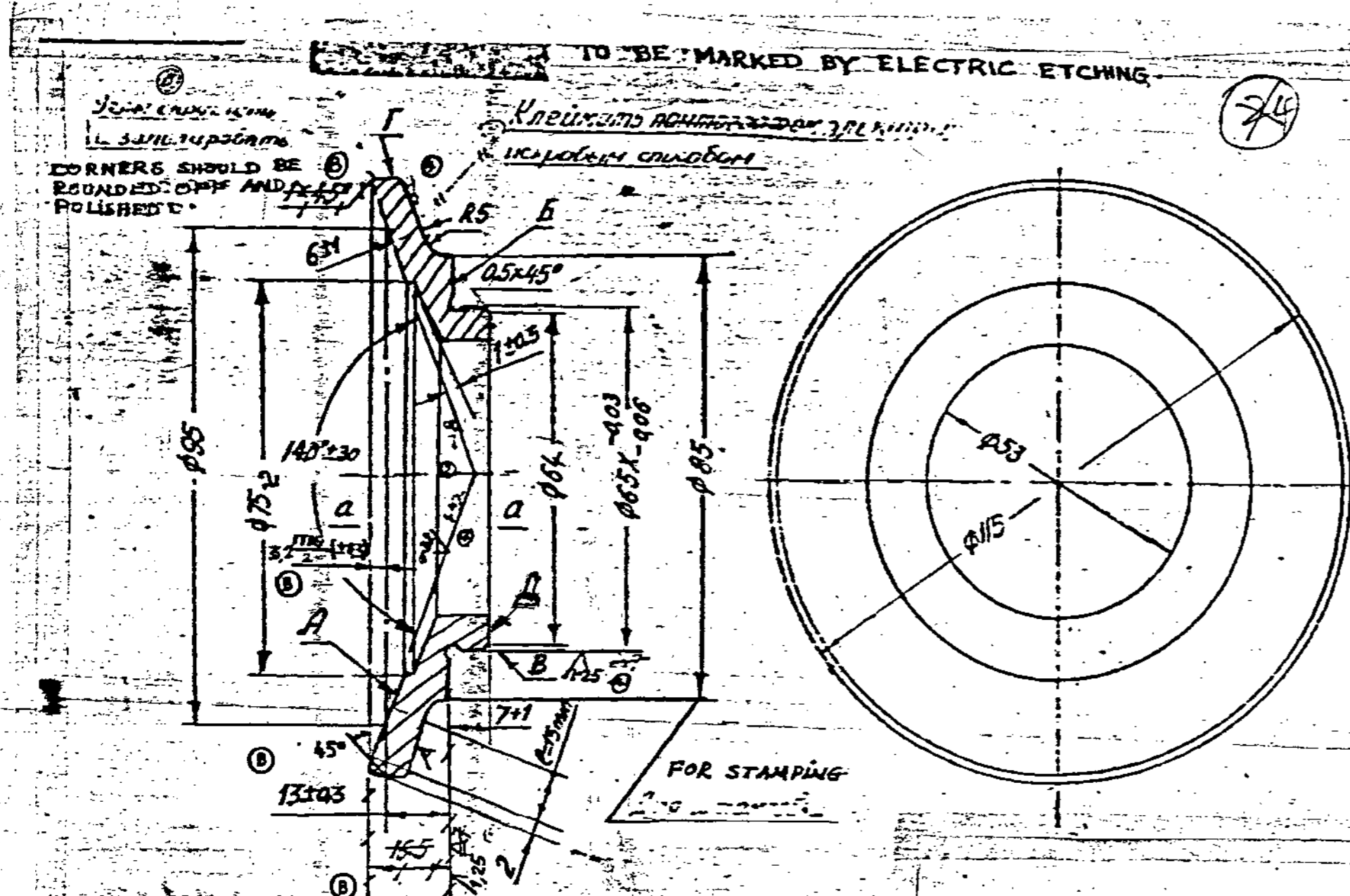
EST. WT. 0.001 Kg TO BE STAMPED OR MARKED WHERE INDICATED THUS # 1 LETTERS)

ALL SHARP EDGES AND CORNERS TO BE REMOVED UNLESS OTHERWISE STATED MACHINED CORNERS TO HAVE R OUT SIDE INSIDE EQUIVALENT CHAMFERS ARE PERMISSIBLE.

DRN	Uf	MATERIAL:-	USED ON: C6 20-15-663-4
CHD	Uf	ROUND BAR 13-4 GOST 7417-75	C6 315-663-21
TCD	Uf	45 GOST 1051-73	
APPD	Uf	CONTROLLERATE OF QUALITY ASSURANCE(HEAVY VEHICLES)	
DATE	15/5-87	AVADI	
SCALE:-	5:1	TITLE	
DIMENSIONS IN mm		SEMI CIRCULAR KEY 3X5	
TOLERANCE ON DIMNS		D S CAT NUMBER	
UNLESS OTHERWISE STATED IS:2102-69		DRAWING NUMBER	
ALL THREADS TO CONFORM TO		315-64	
A	23-11-87	NATURE OF AMENDMENTS	
AUTHY BK-82-394.			

A-6
SIZE A3

DRAWING NUMBER
315-610-2A



1. Inspection group III TT-11
2. To be carburized. Depth of carburized layer on the finished article should not be less than 0.7 mm on surface A and on the rest of the surfaces ≤ 1.6 mm.
3. HRC ≥ 56 . HRC ≥ 57 .
4. Requirements for stamping as per Gost 7505-74.
5. Local depressions upto 0.5 mm. are allowed on the surfaces not to be machined.
6. Dimensions with unspecified tolerances should be obtained as per accuracy class 7 OST 1010.
7. Run-out of surface A relative to face B and B should not exceed 0.05 mm on taper diameter 95 mm.
8. Run-out of face B relative to surface B should not exceed 0.05 mm on dia 84 mm.
9. Run-out of surface relative to surface B should not exceed 0.5 mm.
10. Straightness of surface B is to be checked by blueing fitting should cover 80% minimum of circumference length and should be 5 mm wide.
11. Unmachined surfaces should be thoroughly cleaned sharp edges should be blunted.
12. There may be no chromium plating in the external groove and on face A.
13. Non-straightness of surface A after chromium plating, should not exceed 0.015 mm. To be checked on the working strip $e = 15$ mm wide at A places circumference.
14. Coating: - Chromium 35 to 60, hard (except surfaces B and B) with elimination of hydrogen embrittlement at 180 to 200°C. allowed coating: chromium 24 to 60.
15. Allowed coating on surfaces B, B, A and in the groove chemical oxidizing.

EXPLANATORY NOTE :-

16. MATERIAL QUOTED : STEEL 20X GOST 4543-71
- STRUCTURAL CHROMIUM ALLOY QUALITY STEEL TO GRADE 20X AS PER GOST 4543-71
- a) CHEMICAL COMPOSITION :-
- | | | | | | |
|----|---|-------------|----|---|-------------|
| C | = | 0.17 - 0.23 | P | = | 0.035 (max) |
| Si | = | 0.17 - 0.37 | S | = | 0.035 (max) |
| Mn | = | 0.50 - 0.80 | Cu | = | 0.30 (max) |
| Cr | = | 0.70 - 1.00 | Ni | = | 0.30 (max) |
- b) MECHANICAL PROPERTIES :-
- | | | |
|---|---|----|
| YIELD POINT Kgf/mm ² (min) | = | 65 |
| ULTIMATE TENSILE STRENGTH Kgf/mm ² (min) | = | 80 |
| % RELATIVE ELONGATION (min) | = | 11 |
| % RELATIVE REDUCTION ALONG CROSS SECTION (min) | = | 40 |
| IMPACT STRENGTH Kgf/cm ² (min) | = | 6 |

C. SEPERATE RADIAL MICROCRACKS ACCORDING TO REFERENCE PIECE ARE PERMITTED ON SURFACE 'B' AFTER PLATING.

D. FINALLY FINISHED COMPONENTS ARE TO BE CHECKED WITH MAGNETIC FIELD FLAW DETECTOR. ACCEPTANCE IS TO BE CARRIED OUT AS PER TR UB-17.

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

EST. WT. 0.555 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.

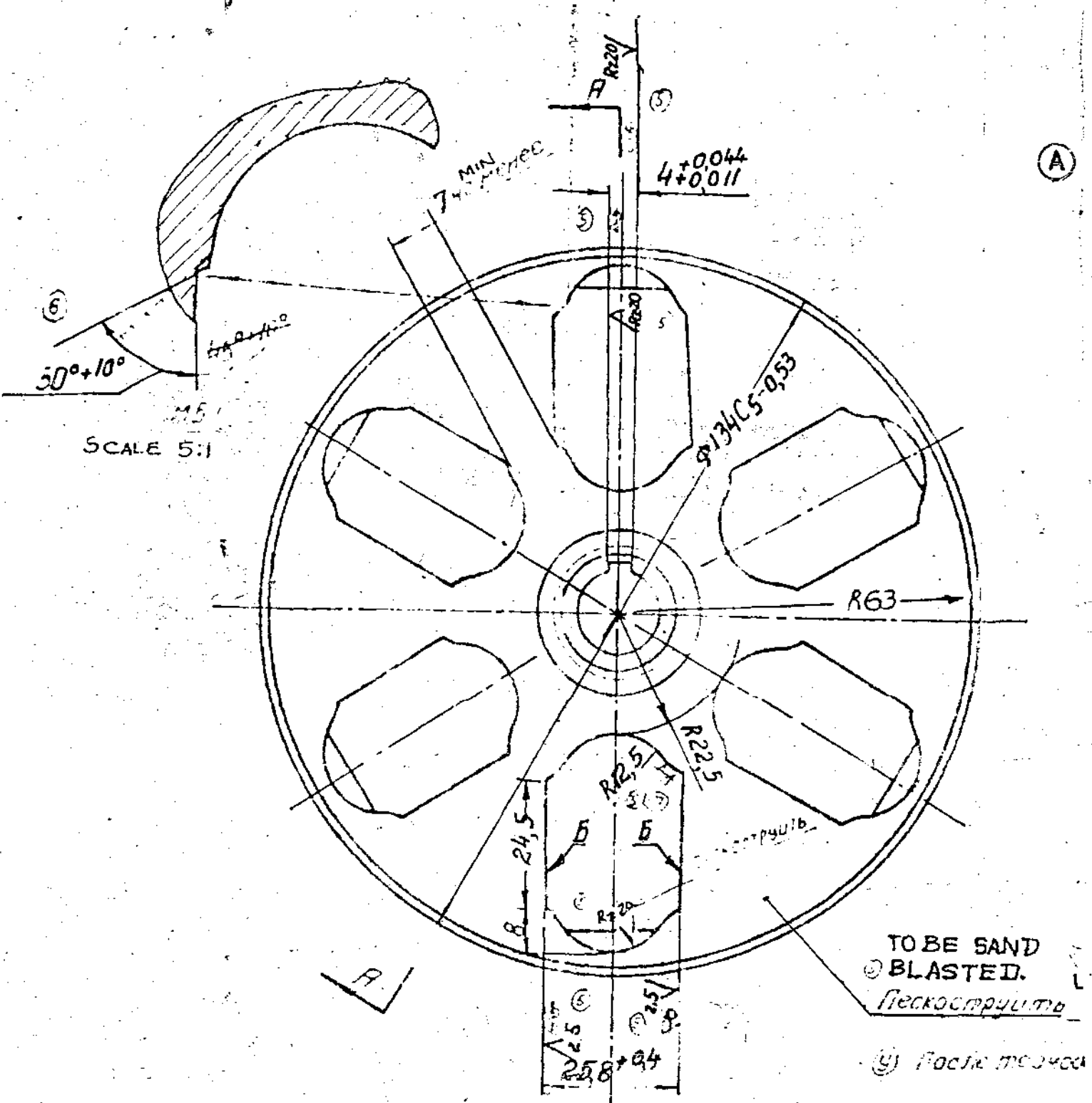
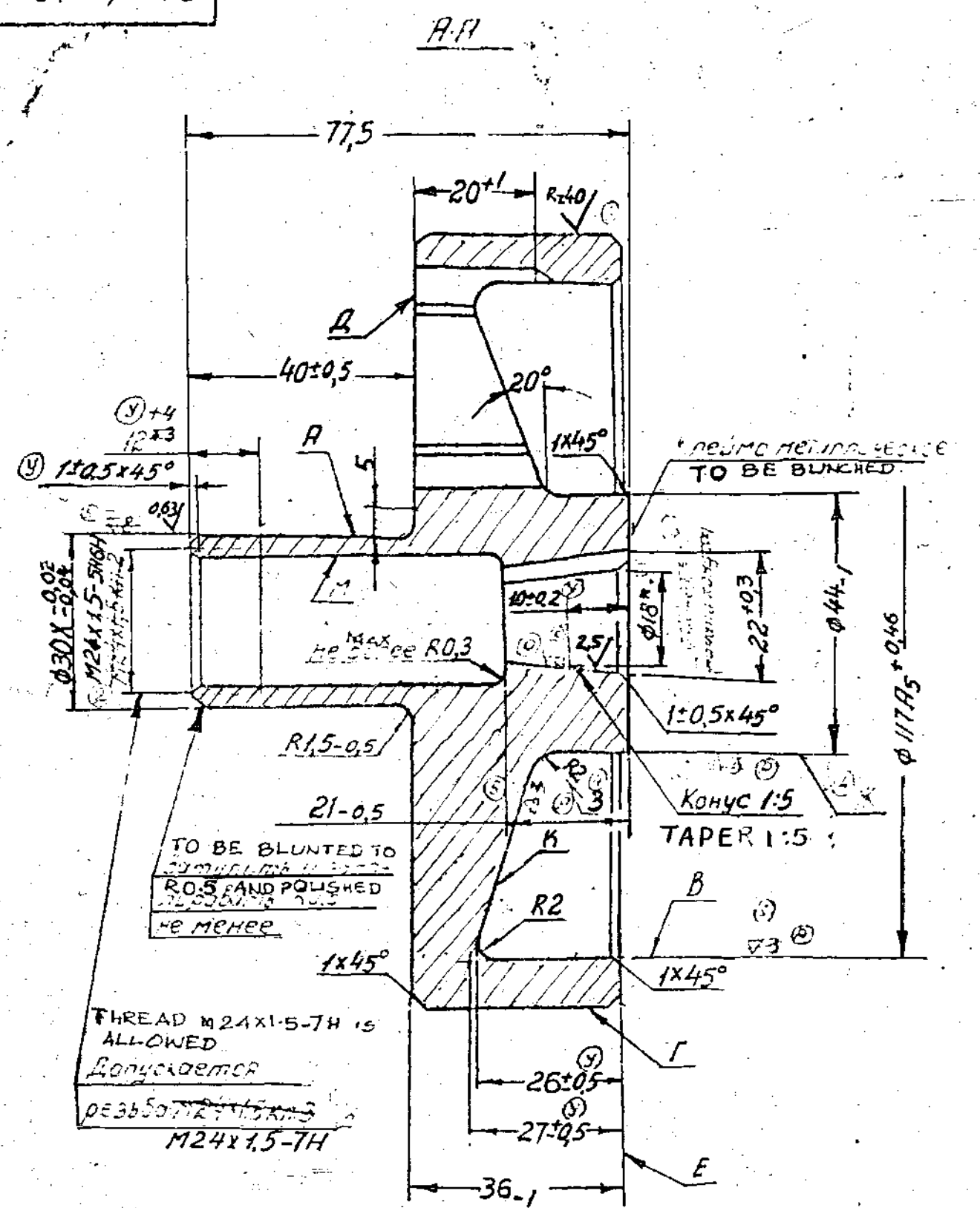
DRN	CHD	TCD	APPD	DATE	SCALE	DIMENSIONS IN	TOLERANCE ON DIMNS UNLESS OTHERWISE STATED IS 2102-69	ALL THREADS TO CONFORM TO
				17-5-89	1:1	mm		
MATERIAL - STEEL 20X GOST 4543-71					USED ON - CE 327-00-45.			
CONTROLLERATE OF QUALITY ASSURANCE (HEAVY VEHICLES)					A V A D I			
TITLE					REGULATOR PLATE			
D S CAT NUMBER					DRAWING NUMBER			
D 15-2-88					315-610-2A			
ISSUE					DATE			
NATURE OF AMENDMENTS								

DRAWING INDIANISED BASED ON ISSUE - 5. KVDNO 78513

A6

DIMENSIONS INDICATED BASED ON ISSUE 0

2-119516
315611-2



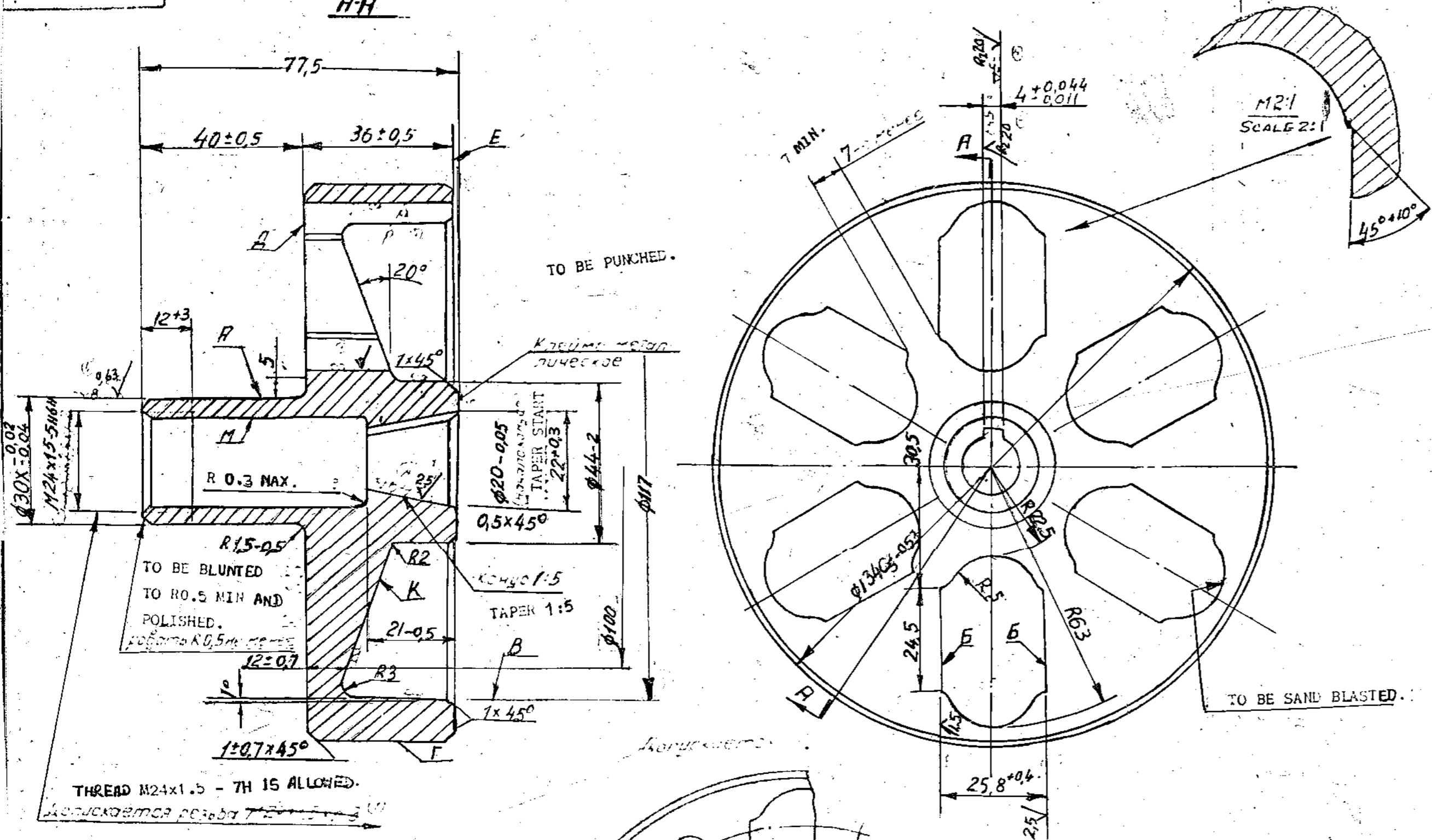
1. Inspection group III, TT-11.
2. Surfaces A and B should be carburized to a depth of not less than 0.5 mm.
3. It is permitted to case-harden all over to a depth ≤ 1.3 mm except surface M.
4. HRC ≥ 56 on surface B and HRC ≥ 50 on surface A.
5. Dimensions with unspecified tolerances should be obtained as per standard 82050-07.
6. Technical requirements for thread as per standard 82021-00.
7. Run-out of end portion of surface A relative to the taper should not exceed 0.1 mm.
8. Run-out of surfaces B and C relative to the taper should not exceed 0.5 mm.
9. Run-out of surfaces D and E relative to the taper should not exceed 0.3 mm on dia. 130 mm.
10. Run-out surface K relative to the taper should not exceed 0.5 mm on dia 100 mm.
11. Shift of key-way axis relative to the taper axis should not exceed 0.04 mm. (MMC)
12. Shift of axis of symmetry of slots B from taper diametrical plane should not exceed 0.2 mm.
13. On surface A grinding wheel mark is allowed at a distance of 5 mm; min, from the shank.
14. Taper 1: 5 is to be checked by blueing, fitting should be uniform and should cover not less than 80% of the entire area.
15. Finally finished component should be balanced. For this purpose it is allowed to remove excessive metal in any place at dia 117 A5.
16. Unbalance upto 6 gr is allowed at R 67 mm.
17. Sharp edges should be blunted.
18. Coating:- Chemical oxidizing, oil finishing.
19. May be manufactured from steel 20 X Gost 4543-71.

20. After heat-treatment buckling of surfaces B and C by upto 0.5 mm, beyond the limit diameters is allowed.
21. After heat-treatment, roughness Rz 20 is allowed on surfaces B.
22. *Dimension is to be ensured with tool.
23. Cutting-in along radius 3 to 0.5 mm., max is allowed on surface *

		EST. MASS 1742 Kg	TO BE STAMPED OR MARKED WHERE INDICATED THUS #.
			LETTERS)
B	15.2.88	AUTHY BK 83-672	ALL SHARP EDGES AND CORNERS TO BE REMOVED UNLESS
A	23.11.87	AUTHY BK 82-394.	OTHERWISE STATED MACHINED CORNERS TO HAVE R
ISSUE	DATE	NATURE OF AMENDMENTS	R INSIDE EQUIVALENT CHAMFERS ARE PERMISSIBLE.
DRN		SCALE - 1 : 1	MATERIAL - STEEL 20
CHD		DIMENSIONS IN mm.	USED ON:- 16 327 00 45
TCD		TOLERANCE ON DIMS UNLESS OTHERWISE STATED.	CONTROLLERATE OF INSPECTION (HEAVY VEHICLES) AVADI
APPD		ALL THREADS CONFORM TO	TITLE:- GOVERNOR SLOTTED DISC
DATE	11-5-86		D S CAT NUMBER
			DRAWING NUMBER 315 611 2

A-6

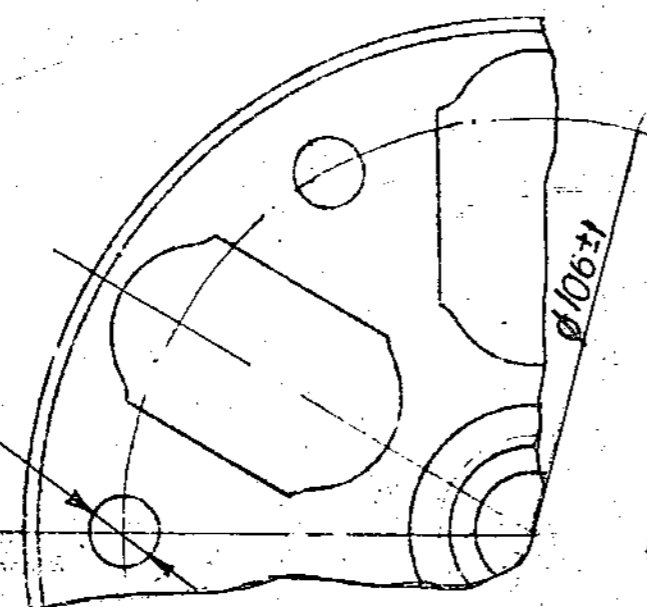
А-А



1. Inspection group III, IT - 11.
2. Surfaces A and B should be carburized to a depth of 0.6mm; max.
3. It is permitted to case-harden all over to a depth ≤ 1.2 mm, except surface M.
4. Hardness of surfaces not to be machined after heat-treatment should be HRC₂ ≥ 56.57 and of surface A, HRC₃ ≥ 50 , HRC₃ ≥ 51 .
5. Dimensions with unspecified tolerances should be obtained as per A7, B7 OST 1010.
6. Technical requirements for thread as per standard 82021-00
7. Run-out of end portion of surface A relative to the taper should not exceed 0.1 mm.
8. Run out of surfaces B and C relative to the taper should not exceed 0.7 mm.
9. Run-out of surface D relative to the taper should not exceed 0.3 mm at dia. 130 mm.
10. Run-out of surface K relative to the taper should not exceed 0.7 mm at dia 100 mm.
11. Run-out of surface E relative to the taper should not exceed 0.3 mm. at dia. 130 mm.
12. Shift of key-way axis relative to the taper axis should not exceed 0.04 mm. (MMC)
13. Shift of axis of symmetry of slots B from taper diametrical plane should not exceed 0.2 mm.
14. On surface D grinding wheel mark is allowed at a distance of 5 mm, min; from the shank.
15. Finally finished component should be balanced. For this purpose it is allowed to remove excessive metal in any place at dia 117.
16. Un balance upto 6gr is allowed at R 67.5 mm.
17. Sharp edges should be blunted.
18. Coating:- Chemical oxidizing, oil finishing.

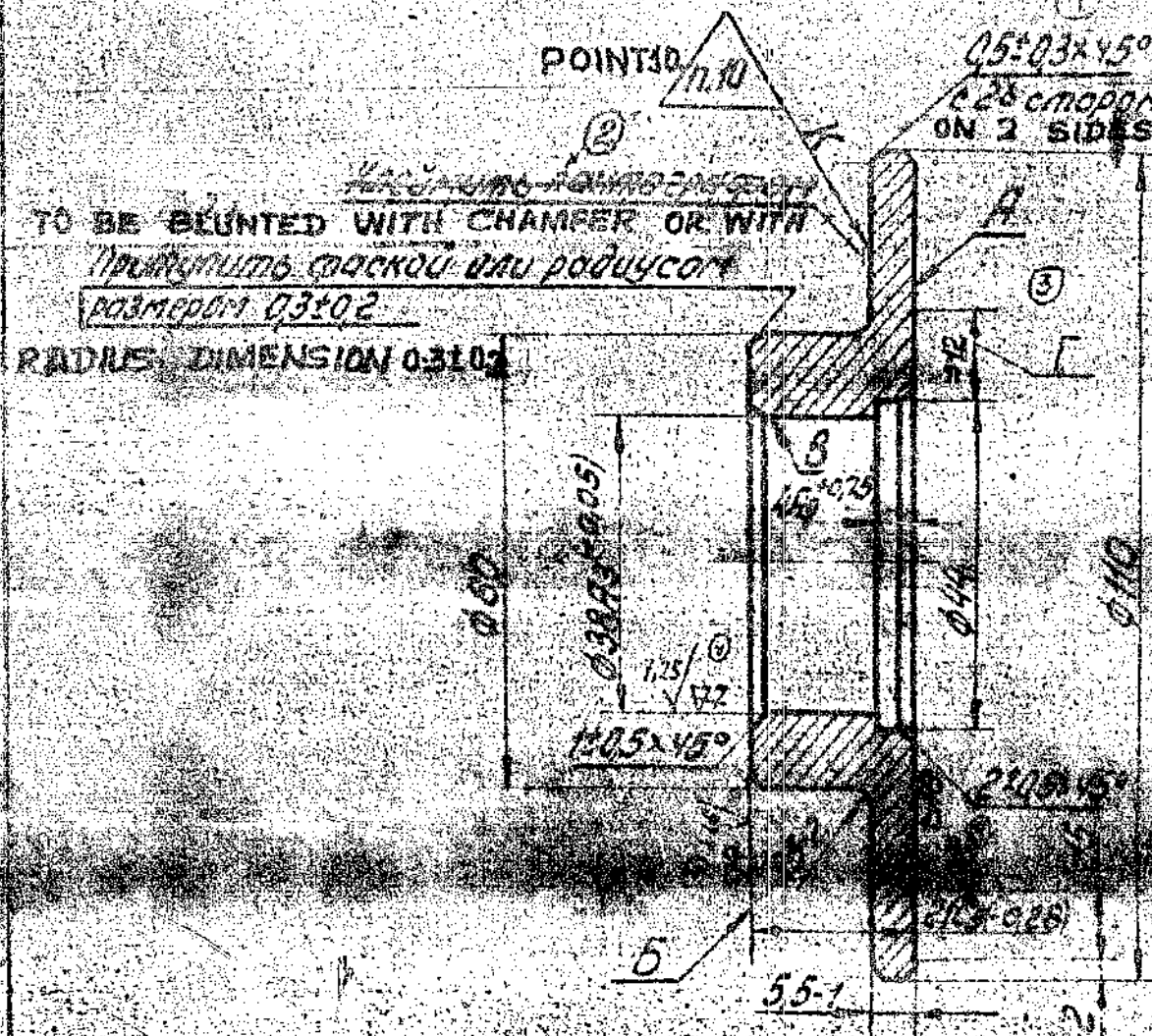
Позволено в литых деталях
 равномерно расположить
 по 6 отверстий диаметром
 8 ± 0.5 мм, равноудаленных
 друг от друга и от краев
 детали. Поверхности
 отверстий должны быть
 обработаны до Rz 320.

PERMITTED ARE 6 CASTING HOLES, DIA 8 ± 0.5
 ARE EQUI-SPACED ALONG THE CIRCUMFERENCE TO
 BE CAST ACCURATELY. DIRTY HOLE SURFACES
 SHOULD BE DRESSED TO Rz 320.



		EST. MASS 1.575 Kg	TO BE STAMPED OR MARKED WHERE INDICATED THUS #
		LETTERS!	
A 9-12-87 AUTHY BK 82-394		ALL SHARP EDGES AND CORNERS TO BE REMOVED UNLESS OTHERWISE STATED MACHINED CORNERS TO HAVE R OUTSIDE R INSIDE EQUIVALENT CHAMFERS ARE PERMISSIBLE.	
ISSUE	DATE	NATURE OF AMENDMENTS	
DRN		SCALE - 1 : 1	MATERIAL:- STEEL 20П-1 ГОСТ 977-75
CHO		DIMENSIONS IN mm.	USED ON:- CB 327-00-45
TCO		TOLERANCE ON DIMNS UNLESS OTHERWISE STATED.	CONTROLLERATE OF INSPECTION (HEAVY VEHICLES) AVADI
APPO		ALL THREADS CONFORM TO	TITLE: GOVERNOR SLOTTED DISC
DATE	11/5/86		D S CAT NUMBER
			DRAWING NUMBER 315-611-2A

А-В



1. Inspection group III, TT-11.
2. To be carburized. Depth of case-hardened layer on surfaces A and B should be 0.8 mm; min, on the rest of the surfaces ≤ 1.6 mm Hardness HRC ≥ 56 ; on surface B \geq HRC 48. HRC ≥ 57 HRC ≥ 41
3. Dimensions with unspecified deviations should be obtained as per accuracy class 7 OST 1010.
4. Run-out of surface 'A' relative to surface 'B' should not exceed 0.1 mm. at dia. 100 mm.
5. Run-out of face B relative to surface B should not exceed 0.05 mm. at dia. 55 mm.
6. Face 'A' is to be checked with tool makers straight-edge., clearance of not more than 0.2 mm is allowed at dia. 10mm
7. Sharp edges are not allowed.
8. Non-straightness of surface A should not exceed 0.007 mm. To be checked on working strip 15 mm wide in 4 places along the circumference.
9. Coating:- Chemical, oxidizing, except surface A.
10. To be marked by electric-etching.
11. Surface roughness 0.63 is allowed on section.

(A6)

** CB20-15-664-1

		EST. MASS	TO BE STAMPED OR MARKED WHERE
		0.520 Kg	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.	
ISSUE DATE	NATURE OF AMENDMENTS	MATERIAL - STEEL 20 x GOST 4543-71	USED ON:- ** CB 315-644-2
DRN	SCALE - 1:1	CONTROLLERATE OF INSPECTION (HEAVY VEHICLES) AVADI	
CHD	DIMENSIONS IN mm.	TITLE:- STOP DISC	
TCD	TOLERANCE ON DIMNS UNLESS OTHERWISE STATED.		
APD	ALL THREADS CONFORM TO	D S CAT NUMBER	DRAWING NUMBER
DATE			315-613-3



DRAWING DIMENSIONED BASED ON ISSUE NIL.



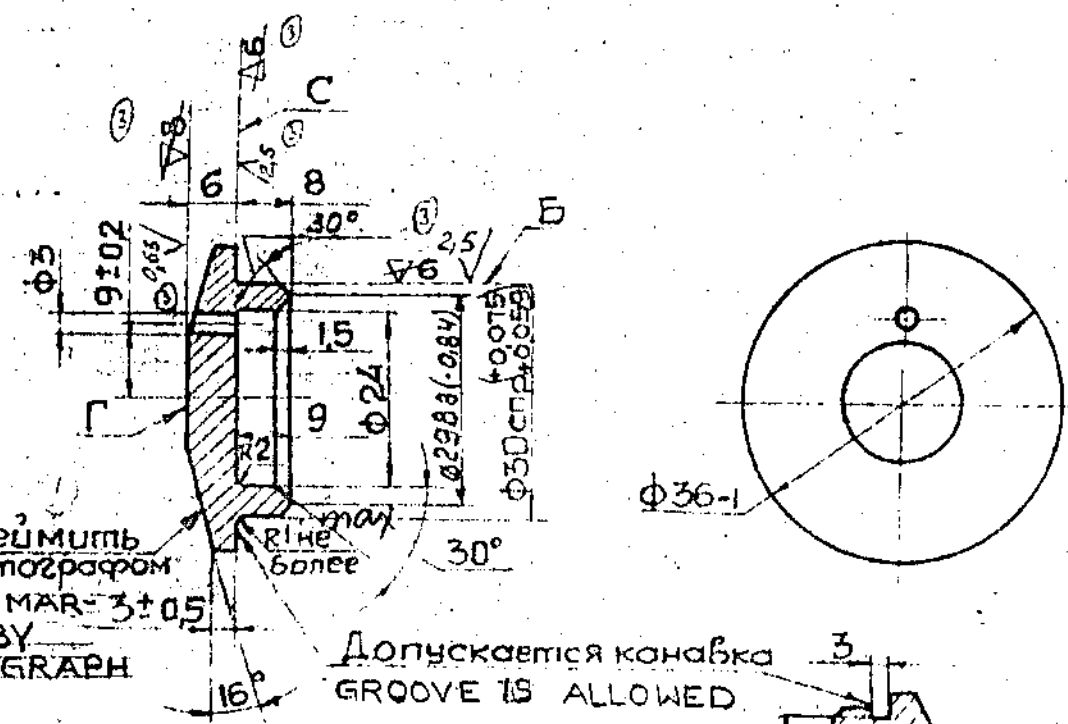
Ф25 ± 0.005

Допускается использование шариков
 5-й степени точности класса ГОСТ 3722-60.
 BALLS, ACCURACY DEGREE II ACCURACY
 CLASS II, GOST 3722-60 MAY BE USED.

		EST. MASS 0.065 Kg	TO BE STAMPED OR MARKED WHERE INDICATED THUS #
			LETTERS)
A	7.12.87 AUTHY BK 83-297	ALL SHARP EDGES AND CORNERS TO BE REMOVED UNLESS OTHERWISE STATED MACHINED CORNERS TO HAVE R OUTSIDE R INSIDE EQUIVALENT CHAMFERS ARE PERMISSIBLE.	
ISSUE	DATE	NATURE OF AMENDMENTS	
DRN		SCALE - 1 : 1	MATERIAL GOST 3722-60 & USED ON:- 25.6 П ETY 500-65 (A) CB 327 00 65
CHD		DIMENSIONS IN mm.	CONTROLLER OF INSPECTION (HEAVY VEHICLES) AVADI
TEDS		TOLERANCE ON DIMNS UNLESS OTHERWISE STATED.	TITLE:- BALL
APPO		ALL THREADS CONFORM TO	D S CAT NUMBER
DATE	11.5.86		DRAWING NUMBER 315 614

315-615-3

5240
 (A) 315-615-3
 (B)



Клеймить
 пантографом
 TO BE MARKED BY
 PANTOGRAPH

Допускается канавка
 GROOVE IS ALLOWED

1. Inspection group III, TT - 11.
2. HRC ~~60-63~~ HRC₂ 61...64
3. Dimensions with unspecified tolerances should be obtained as per accuracy class 7 OST 1010.
4. Non-parallelism of faces "Г" and "С" should not exceed 0.05 mm. at diameter 14 mm.
5. Non-squareness of face "Г" relative to axis of surface Б should not exceed 0.05 mm. at dia. 14 mm.
6. Sharp edges should be blunted.
7. Recess with dia of 5 mm and depth of 1.5 mm is allowed on bottom Ø 24 mm.
8. Coating:- Chemical oxidizing, oil finishing.

A-6

CB 315-664-2

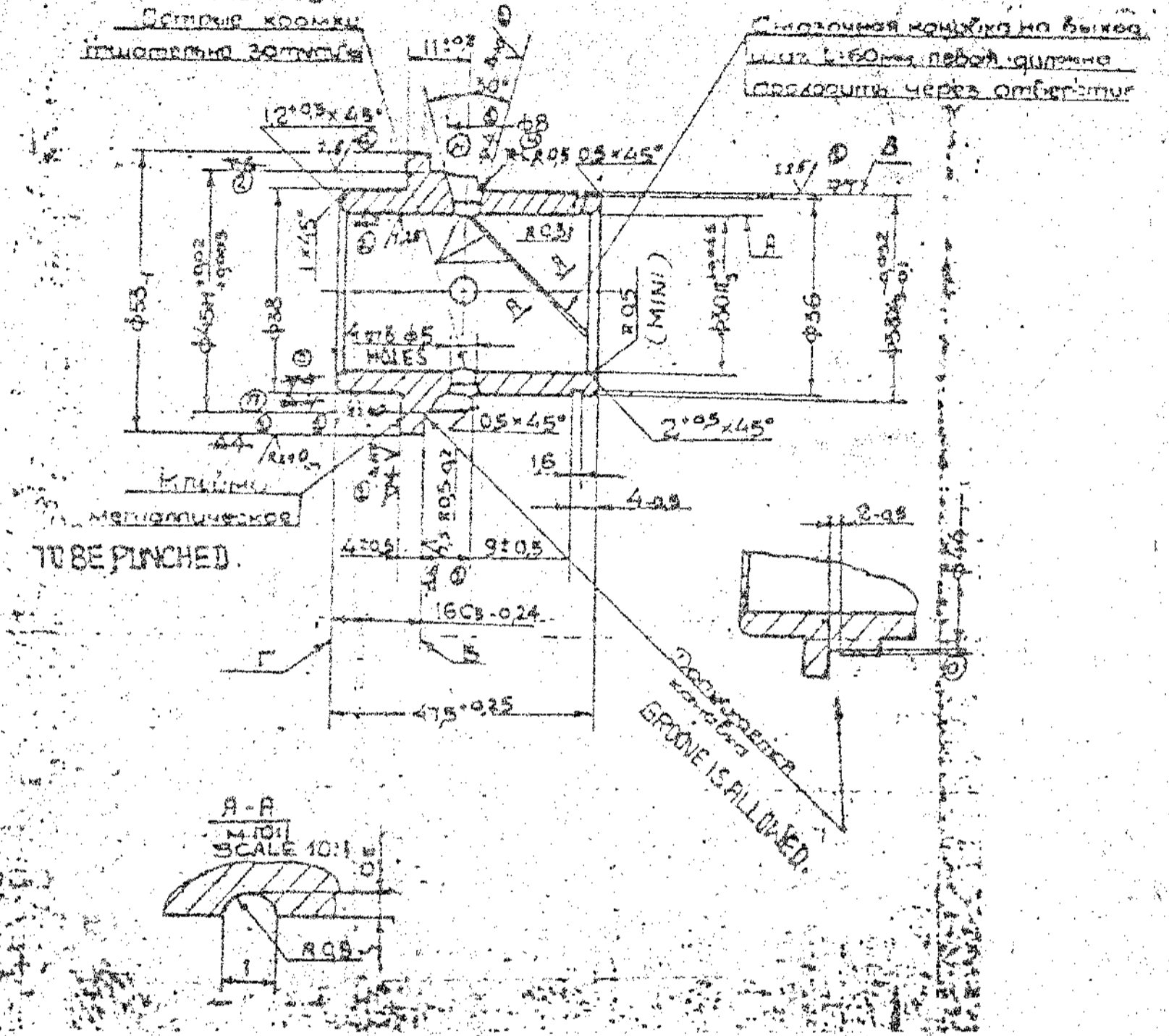
		EST. MASS 0.05 Kg	TO BE STAMPED OR MARKED WHERE INDICATED THIS
A 23-11-87		AUTHY BK 82-394	ALL SHARP EDGES AND CORNERS TO BE REMOVED UNLESS OTHERWISE STATED MACHINED CORNERS TO HAVE A OUTSIDE R INHIDE EQUIVALENT CHAMFERS ARE PERMISSIBLE
ISSUE DATE	NATURE OF AMENDMENTS	MATERIAL - STEEL U X15 GOST 881-78	USED ON:- * CB 315 615 2
SCALE	- 1 : 1	CONTROLLER OF INSPECTION HEAVY VEHICLE AVADI	
DIMENSIONS IN mm.		TITLE:- LEVER STOP	
TOLERANCE ON DIMS UNLESS OTHERWISE STATED		D S CAT NUMBER	DRAWING NUMBER 315 615 3
ALL THREADS CONFORM TO			

DRAWING INDICATED BASED ON ISSUE 3

Директор ПОПР и ООП: В.В.М. Директор ПОПР и ООП: В.В.М. Директор ПОПР и ООП: В.В.М.
 18/34

SHARP EDGES SHOULD BE THOROUGHLY BLUNTED.

THROUGH LUBRICATING GROOVE L.H. PITCH $t = 60\text{MM}$, PASSING THROUGH THE HOLE.



1. Dimensions with unspecified tolerances should be obtained as per accuracy class 7 of IT10/10.
2. Run-out of surface B relative to the axis of surface A should not exceed 0.03 mm at dia 50 mm.
3. Run-out of face B relative to the axis of surface A should not exceed 0.05 mm.
4. Non squareness of face Γ with the axis of surface A should not exceed 0.1 mm at dia 35 mm.
5. Sharp edges should be blunted.
6. Alternate material: Bronze grade БРОС 10-10, TY 23-108-49-75.

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

EST. WT. 0.210 kg	TO BE STAMPED OR MARKED WHERE INDICATED THIS # LETTERS
ALL SHARP EDGES AND CORNERS TO BE REMOVED UNLESS OTHERWISE STATED MACHINED CORNERS TO HAVE R OUTSIDE R INSIDE EQUIVALENT CHAMFERS ARE PERMISSIBLE.	

EXPLANATORY NOTE:

Material quoted: Bronze bar БРАЖ 9.4 GOST 1628-78.
 Alternate material Quoted: Bronze grade БРОС 10-10, TY 23-108-49-75.
 БРАЖ 9.4 : grade of bronze = БРА Ж 9.4 As per standard SEV 377-76.
 Extruded round bar grade = СВА19 Fe4
 Chemical composition: (as per GOST 18175-78)

Aluminium = 8.0 - 10.0
 Iron = 2.0 - 4.0
 Copper = Rest
 Parts of impurities (by weight) maximum:
 Tin = 0.1 ; Lead = 0.01 ; Manganese = 0.5 ; Phosphorus = 0.01 ;
 Silicon = 0.1 ; Zinc = 1.0 ; Total = 1.7

By mutual agreement between manufactures and customer content of impurities of arsenic and antimony may be standardized. Nickel up to 0.5% (part by weight) without considering it in total impurities.

Properties: High mechanical properties excellent anti-friction properties; corrosion-resistant.

Mechanical properties: (as per GOST 1628-78)

Ultimate tensile strength kgf/mm^2 = 55 (min)
 Relative elongation % = 15 (min)
 Brinell hardness HB = 110-180.

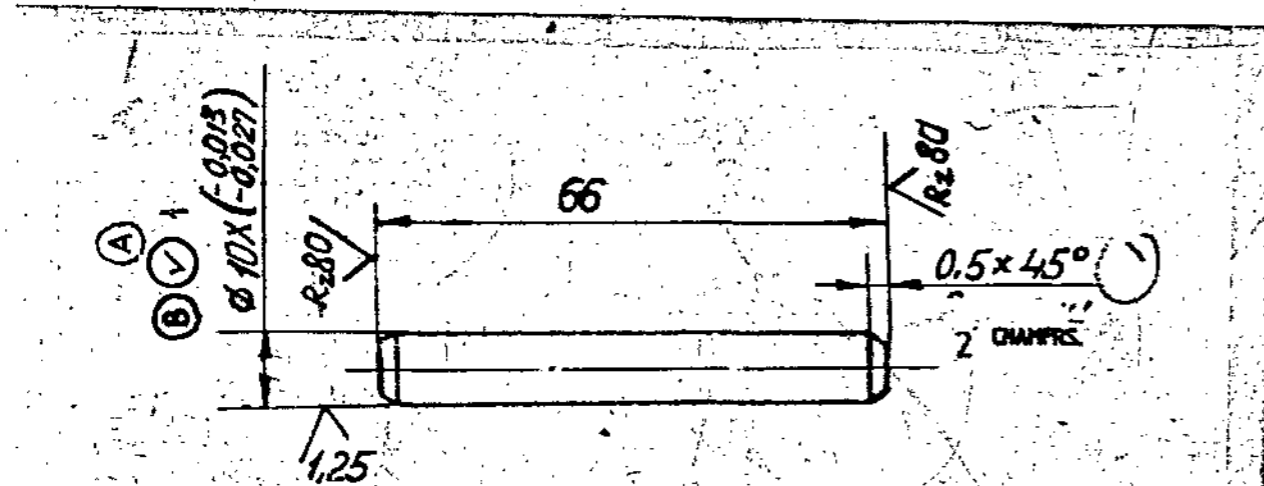
110 / 167 108 / 100

DRN	DRN	MATERIAL - BRONZE BAR	USED ON :-
CD	CD	БРАЖ 9.4 GOST 1628-78	СБ 315-644-2
TC	TC	CONTROLLERATE OF QUALITY ASSURANCE (HEAVY VEHICLES)	
APPD	APPD	AVADI	
DATE	DATE	TITLE	
SCALE :- 1:1	SCALE :- 1:1	BUSH	
DIMENSIONS IN mm		TOLERANCE ON DIMS UNLESS OTHERWISE STATED IS 2102-69	
ALL THREADS TO CONFORM TO		IS CAT NUMBER	DRAWING NUMBER
ISSUE	DATE	NATURE OF AMENDMENTS	315-616-4

DRAWING NUMBER
315-618A

EXPLANATORY NOTE :

Rz40 ✓



6. MATERIAL QUOTED : 45X GOST 4543-71.

ALTERNATE MATERIAL QUOTED : 38XC GOST 4543-71.

CHEMICAL COMPOSITION :

GRADE OF STEEL	C O N T E N T O F E L E M E N T S %							
	C	Si	Mn	Cr	P	S	Cu	Ni
	M A X I M U M							
45X	0.41-0.49	0.17-0.37	0.50-0.80	0.80-1.10	0.035	0.035	0.30	0.30
38XC	0.34-0.42	1.00-1.40	0.30-0.60	1.30-1.60	0.035	0.035	0.30	0.30

MECHANICAL PROPERTIES :

GRADE OF STEEL	YIELD POINT Kg/mm ² (min)	ULTIMATE TENSILE STRENGTH Kg/mm ² (min)	RELATIVE ELONGATION % (min)	RELATIVE REDUCTION ALONG CROSS SECTION % (min)	IMPACT STRENGTH Kgfm/cm (min)
45X	85	105	9	45	5
38XC	75	95	12	50	7

1. INSPECTION GROUP III AS PER TECHNICAL REQUIREMENTS IT-11.

- 2. HRC ~~44 TO 52~~ HRC₃ 45 53
- 3. UNSPECIFIED LIMIT DEVIATIONS OF DIMENSIONS ARE AS PER B7
- 4. COATING: CHEMICALLY OXIDIZED, OILED.
- 5. ALTERNATE MATERIAL IS 38XC GOST 4543-71.

7. REPAIR SIZE DIMENSIONS ARE ADDED BASED ON LETTER NO: 82847/04/

QAS/ED DT: 27 MAR '95 AS FOLLOWS:

REPAIR SIZE DIMENSIONS ARE ADDED WHERE INDICATED THUS ✓

Sl. No	R	REMARKS
1	10.2 ^{-0.013/-0.027}	ALL OTHER CONDITION AS PER STD DRG. MARK REPAIR SIZE

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

EST. WT. 0.04 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 OUT SIDE INSIDE EQUIVALENT CHAMFERS ARE PERMISSIBLE

DRM
CHD
TCD
APPD
DATE 25-04-87
SCALE: - 1 : 1
DIMENSIONS IN mm - TOLERANCE ON DIMNS UNLESS OTHERWISE STATED IS: 2102-69
ALL THREADS TO CONFORM TO

MATERIAL:- STEEL 45X GOST 4543-71
USED ON: CB 327.00 45 CB 20-27-00-4

CONTROLLERATE OF QUALITY ASSURANCE (HEAVY VEHICLES) AVAD!

TITLE VARIABLE SPEED GOVERNOR LEVER AXLE

D S CAT NUMBER DRAWING NUMBER 315-618A

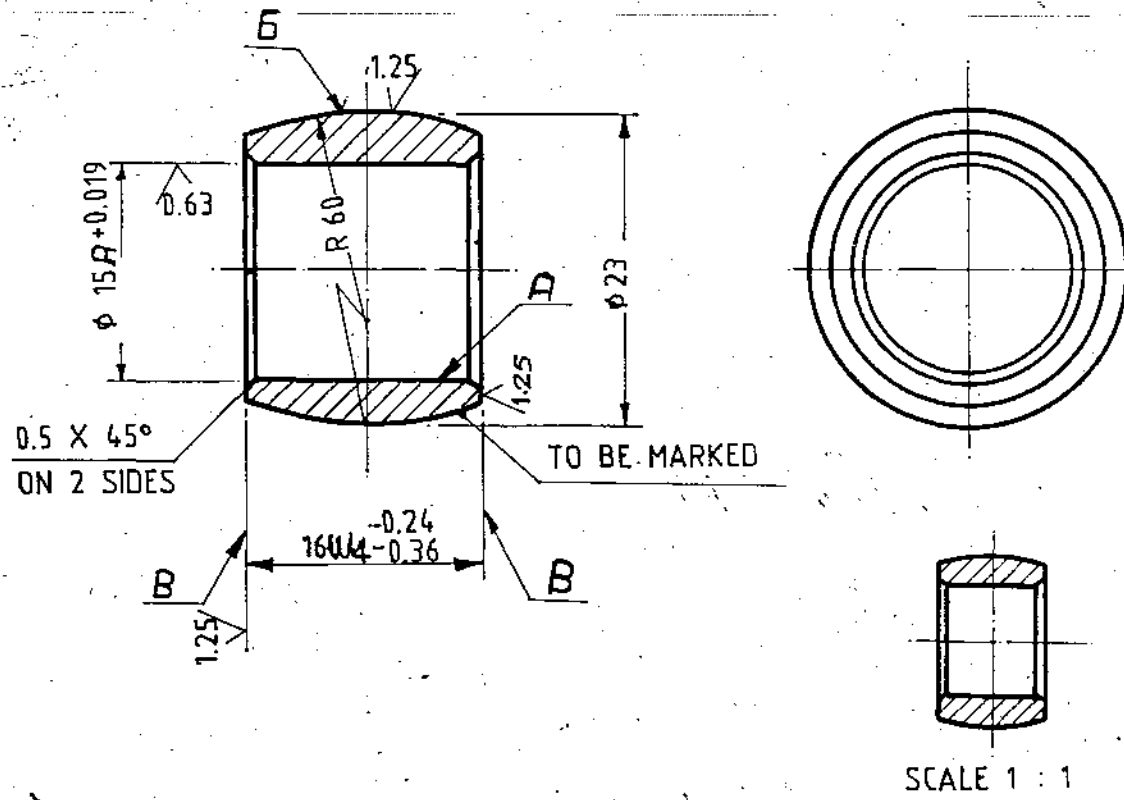
B 20-5-95 REPAIR SIZES ADDED
A 20-6-87 AUTHY. B.K 82-394
ISSUE DATE NATURE OF AMENDMENTS

A-6
SIZE A3

DRG. INDIANISED BASED ON ISSUE-3

DRAWING NUMBER
315-622-2

✓(✓)



1. INSPECTION GROUP III, TT-11.
2. DIMENSIONS WITH UNSPECIFIED TOLERANCES SHOULD BE OBTAINED AS PER A7 OR B7 OST 1010.
HRC ≥ 61..... 64
3. ~~HRC = 60-63~~
4. RUN-OUT OF SURFACES "B" RELATIVE TO SURFACE "A" SHOULD NOT EXCEED AT DIA. 18mm.
5. RUN-OUT OF SURFACE "B" RELATIVE TO SURFACE "A" SHOULD NOT EXCEED 0.05mm.
6. SHIFT OF SPHERE CENTRE FROM THE AXIS OF SYMMETRY OF SURFACES "B" SHOULD NOT EXCEED 0.3mm.
7. SHARP EDGES SHOULD BE BLUNTED.
8. COATING :-CHEMICAL OXIDIZING, OIL FINISHING.

EXPLANATORY NOTE :

(B) MATERIAL QUOTED: STEEL U_X15 GOST 801-78.
BALL BEARING STEEL WITH CHROMIUM (X) CONTENT 15% BY WEIGHT.

a) CHEMICAL COMPOSITION :

CARBON	= 0.95 - 1.05	COPPER	= 0.25 (max)
SILICON	= 0.17 - 0.37	NICKEL & COPPER	= 0.50 (max)
MANGANESE	= 0.20 - 0.40		
CHROMIUM	= 1.30 - 1.65		
SULPHUR	= 0.02 (max)		
PHOSPHORUS	= 0.02 (max)		
NICKEL	= 0.30 (max)		

* ROUND BLANK 25.5-Γ-4 GOST 14955-77
U_X 15-0-XB GOST 801-78

(C) EQUIVALENT MATERIAL
STEEL 535A 99 (EN31) TO BS: 970/103
CR 2 TO IS 4399-72

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

EST WT 0.0267 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 OUT-SIDE R INSIDE EQUIVALENT CHAMFERS ARE PERMISSIBLE

DRN	CHD	TCD	APPD	DATE	MATERIAL	USED ON
				08-5-86	SEE ABOVE * U_X 15 GOST 801-78	CG 315-662-3
SCALE 2 : 1					CONTROLLERATE OF INSPECTION (HEAVY VEHICLES) AVADI	
DIMENSION IN mm					TITLE	
TOLERANCE ON DIMNS UNLESS OTHERWISE STATED					ROLLER	
ALL THREADS TO CONFORM TO					DRAWING NUMBER	
ISSUE DATE NATURE OF AMENDMENTS					315-622-2	

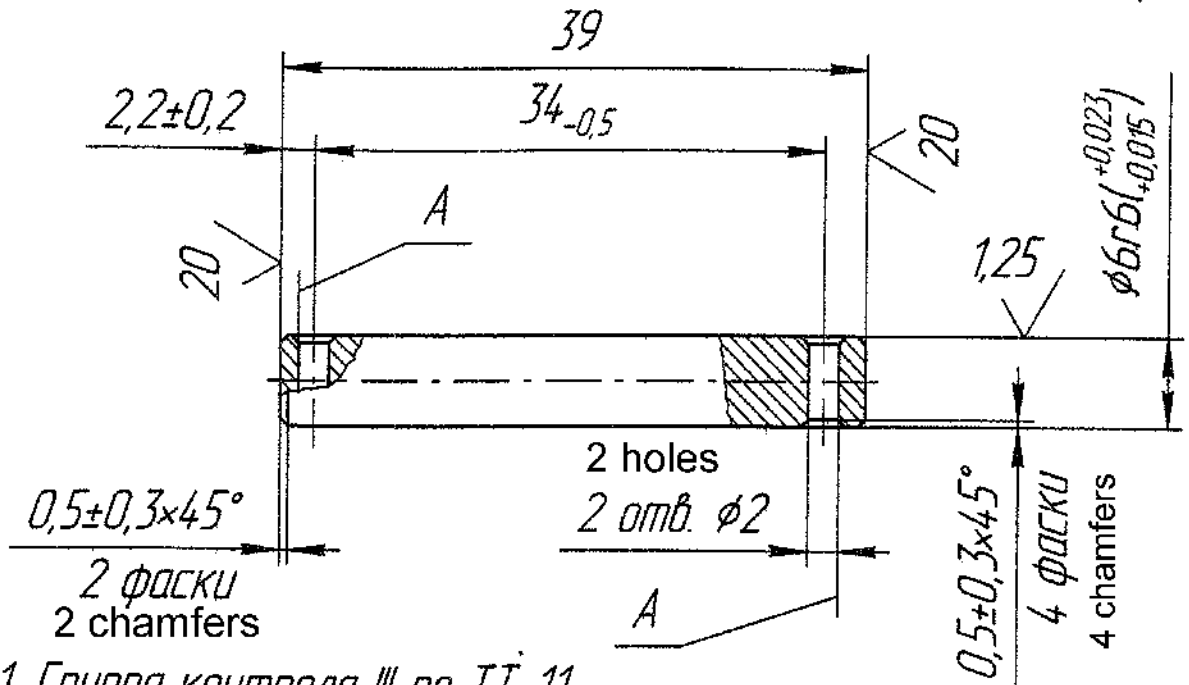
DRAWING INDIANISED BASED ON ISSUE 3

KVD NO 78288

(A 6)

SIZE A3

315-632-6



1. Группа контроля III по ТТ-11.

2. Цементировать h 0,4...0,7 мм. HRC₃ ≥ 55. Поверхности A от цементации предохранить.

3. Неуказанные предельные отклонения размеров: H14, h14, ± IT14/2.

4. Допускается выполнять отверстия φ2^{+0.3}_{-0.1}.

5. Покрытие Хим. Окс. прм по ИЛ-681-87.

1. Group of inspection III as per TT-11.

2. Case harden : h 0.4 ... 0.7 mm; HRCe >= 55. Protect surface A from case hardening.

3. Unspecified limit deviations of dimensions : H14, h14, ± IT14/2.

4. It is permitted to make hole dia. 2 (+0.3)(-0.1)

5. Coating : chemical oxidation and oil finished as per ИЛ 681-87.

Инд. № подл.	Взам. инв. №	Инд. № дубл.	Подп. и дата
444445			

4	-	2001-298		
Изм./Лист	№ докум.	Подп.	Дата	
Trans. & Ckd. by : M/s SWYAZ				
Authenticated by :				
Approved by :				
Engine Factory, Avadi				

SPRING PIN

315-632-6

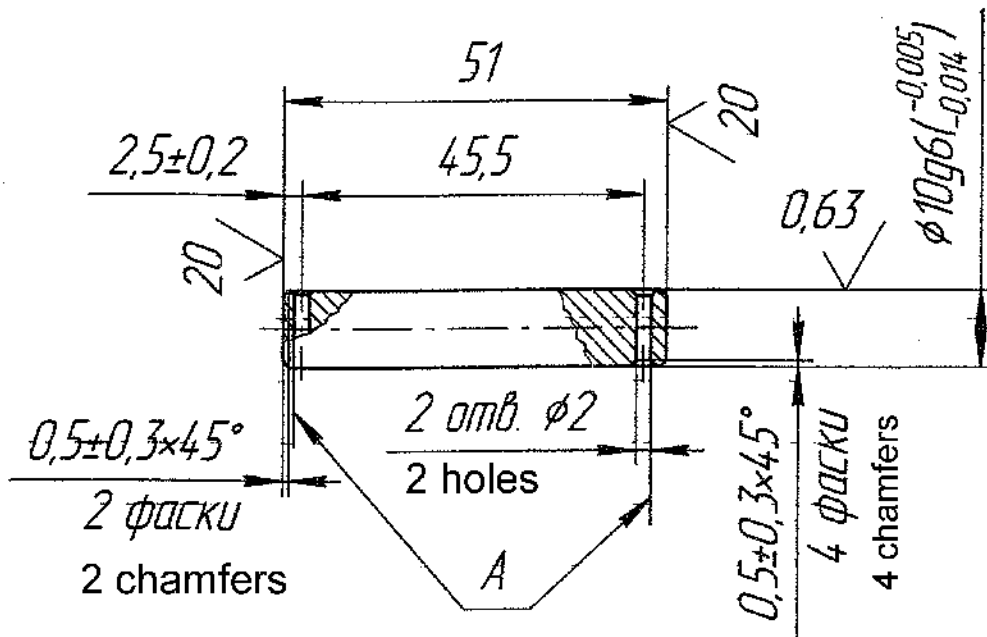
Палец
пружин
ГОСТ

Лист	Масса	Масштаб
01	Weight 0,008	Scale 2:1
Лист	Листов	1
Sheet	Sheets	F 5/70

Round 6,3-н11 ГОСТ 7417-75
Круг 12ХН3А-В-Т ТУ 14-1-381-72

315-635-4

10 / (M)



1. Группа контроля III по ТТ-11.
 2. Цементировать h 0,7...1,2 мм. HRC₃ ≥ 59. Поверхности А от цементации предохранить.

3. Неуказанные предельные отклонения размеров: H14, h14, $\frac{IT14}{2}$.

4. Допускается выполнять отверстия $\phi 2^{+0,3}_{-0,1}$.

5. Покрытие Хим. Окс. прм по ИЛ-681-87.

1. Group of inspection III as per TT-11.
2. Case harden : h 0.7 ... 1,2 mm; HRCe >= 59. Protect surface A from case hardening.
3. Unspecified limit deviations of dimensions : H14, h14, ± IT14/2.
4. It is permitted to make hole dia. 2 (+0.3)(-0.1)
5. Coating : chemical oxidation and oil finished as per ИЛ 681-87.

Подп. и дата

Взам инв. №

Подп. и дата

Инв. № подл.

SPRING PIN

315-635-4

4	-	2001-298		
Изм./Лист		№ докум.	Подп.	Дата
Trans. & Ckd. by: M/s SWYAZ				
Authenticated by:				
Approved by:				
Engine Factory, Avadi				

Палец
рычагов
GOST

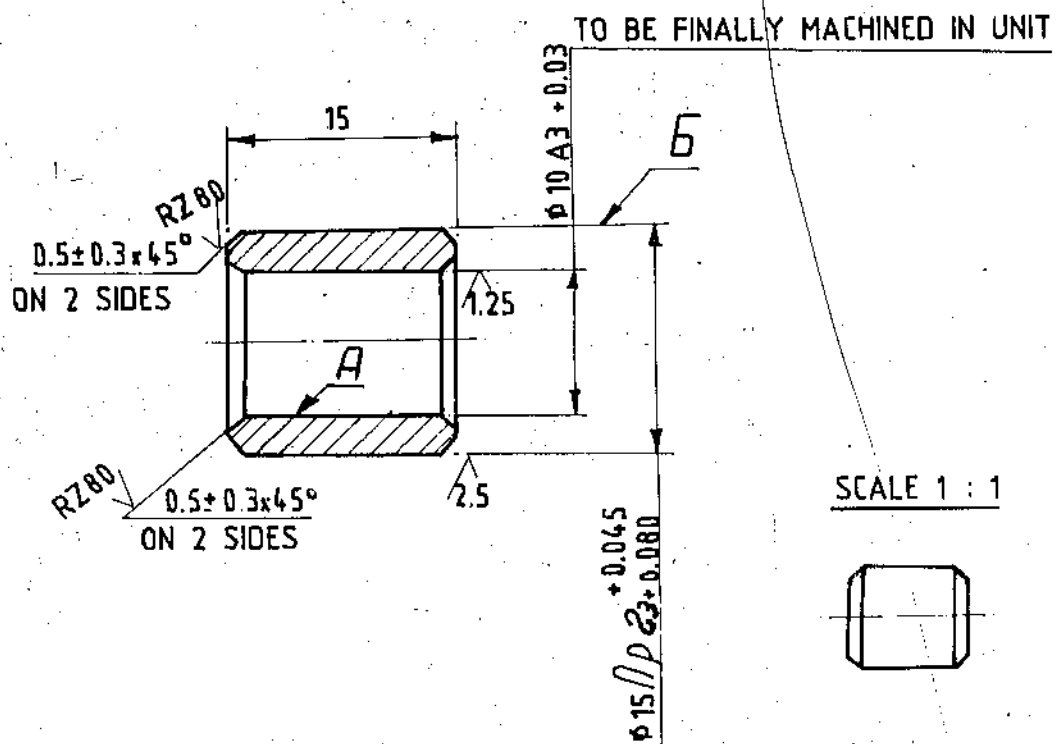
Лист	Масса	Масштаб
0,1	Weight 0,03	Scale 1:1
Лист	Листов	1
Sheet	Sheets	5/71

Round 11-h12 ГОСТ 7417-75
 Круг 12ХНЗА-В-Т ТУ 14-1-381-72

DRAWING NUMBER

315-636-1

Rz20 (✓)



1. DIMENSIONS WITH UNSPECIFIED DEVIATIONS SHOULD BE OBTAINED AS PER ACCURACY CLASS 7 OST 1010.
2. RUN-OUT OF SURFACE B RELATIVE TO SURFACE A SHOULD NOT EXCEED 0.05mm.

EXPLANATORY NOTE:

MATERIAL QUOTED: AC 59-1 GOST 15527-70
AC 59-1 GRADE OF BRASS

CHEMICAL COMPOSITION (AS PER GOST 15527-70) %

COPPER : 57.0 - 60.0
LEAD : 0.8 - 1.5
ZINC : REMAINDER

ADMIXTURES

IRON : 0.5 (MAX) ANTIMONY : 0.010 (MAX)
BISMUTH : 0.003 (MAX) PHOSPHORUS : 0.02 (MAX)
TIN : 0.30 (MAX) TOTAL : 0.75 (MAX)

KVD No. 63490

A6
SIZE A3

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

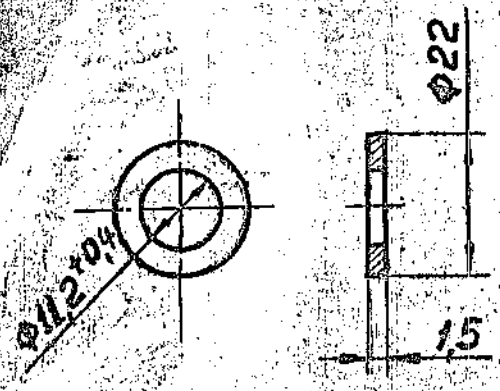
EST WT 0.012 Kg TO BE STAMPED OR MARKED WHERE INDICATED THUS # LETTERS)

ALL SHARP EDGES AND CORNERS TO BE REMOVED UNLESS OTHERWISE STATED MACHINED CORNERS TO HAVE R OUT-SIDE R INSIDE EQUIVALENT CHAMFERS ARE PERMISSIBLE

			DRN <i>None</i>	MATERIAL BRASS AC 59-1 GOST 15527-70	USED ON: CB 20-15-665-5 CB 315-665
			CHD <i>None</i>	CONTROLLERATE OF INSPECTION (HEAVY VEHICLES) AVADI	
			TCD <i>None</i>		
			APPD <i>None</i>	TITLE VARIABLE SPEED GOVERNOR LEVER BUSHING	
			DATE 08-5-'86		
			SCALE 1:1	D S CAT NUMBER	
			DIMENSIONS IN mm		
			TOLERANCE ON DIMNS UNLESS OTHERWISE STATED	DRAWING NUMBER 315-636-1	
			ALL THREADS TO CONFORM TO		
8	7	6	ISSUE	DATE	NATURE OF AMENDMENTS

315-639

2 A



1. Группа контроля У по ТУ Н 0
 2. Требования, предъявляемые к штамповке, по нормам 82050-16.
 3. Непопукость не более 0,2 мм.
 4. Завалены и острые кромки не допускаются.
 5. Покрытие Ц.13-25. Хр по ИИИ-154.

1. REQUIREMENTS FOR STAMPING AS PER STANDARD 82050-16.
 2. NONFLATNESS SHOULD NOT EXCEED 0.2 MM.
 3. BEVELS AND SHARP EDGES ARE NOT ALLOWED.
 5. COATING: ZN 13-25 CHROMATIZING AS PER INSTRUCTIONS, ЦН-483-82

A-6

		EST. MASS	TO BE STAMPED OR MARKED WHERE INDICATED THUS *	
		0.003 Kg	LETTERS)	
A. 15 2 60	AUTHY EX 63-126	ALL SHARP EDGES AND CORNERS TO BE REMOVED UNLESS OTHERWISE STATED MACHINED CORNERS TO HAVE R OUTSIDE R INSIDE EQUIVALENT CHAMFERS ARE PERMISSIBLE.		
ISSUE	DATE	NATURE OF AMENDMENTS	MATERIAL:- 10-BH-2-0-15 GOST 503-71	USED ON:- C6 315 663 21
DRN	SCALE - 1 : 1		CONTROLLERATE OF INSPECTION (HEAVY VEHICLES) AVADI	
CHD	DIMENSIONS IN mm.		TITLE:- WASHER	
TCD	TOLERANCE ON DIMNS UNLESS OTHERWISE STATED.		D S CAT NUMBER	
APD	ALL THREADS CONFORM TO		DRAWING NUMBER	
DATE	03-5-86		315 639	

DRAWING NUMBER

315-639-1

EXPLANATORY NOTE:-

MATERIAL QUOTED : 10-BH-2-HO-15 GOST 503 - 71. STEEL STRIP

ALT. MATERIAL QUOTED : STEEL A 1.5 GOST 19904-74
II - BГ - 08KП GOST 9045-80.

LOW CARBON STEEL, COLD ROLLED STRIPS.

- 10 = GRADE OF MATERIAL TO GOST 1050-74.
- BH = HIGHLY COLD WORKED.
- 2 = SURFACE QUALITY GROUP TO GOST 503 - 71.
- HO = UN-TRIMMED EDGES.
- 15 = THICKNESS IN mm.
- A = HIGH ACCURACY OF ROLLING TO GOST 19904-74.
- II = HIGH SURFACE FINISH TO GOST 9045-80.
- BГ = EXTREMELY DEEP DRAWN.
- 08KП = GRADE OF MATERIAL TO GOST 9045-80.

a) CHEMICAL COMPOSITION % AS PER GOST 1050-74.

GRADE	C	Si	Mn	Cr		P		S		Cu		Ni	
				M	A	X	I	M	U	M	U	M	
10	0.07 - 0.14	0.17 - 0.37	0.35 - 0.65	0.15		0.035		0.040		0.25		0.25	

b) MECHANICAL PROPERTIES.

GRADE	ULTIMATE TENSILE STRENGTH Kg f/m ² (Min)	YIELD POINT Kgf/mm ² (Min)	PERCENTAGE ELONGATION % (Min)	HARDNESS B H N (Max)
10	35	21	24	137

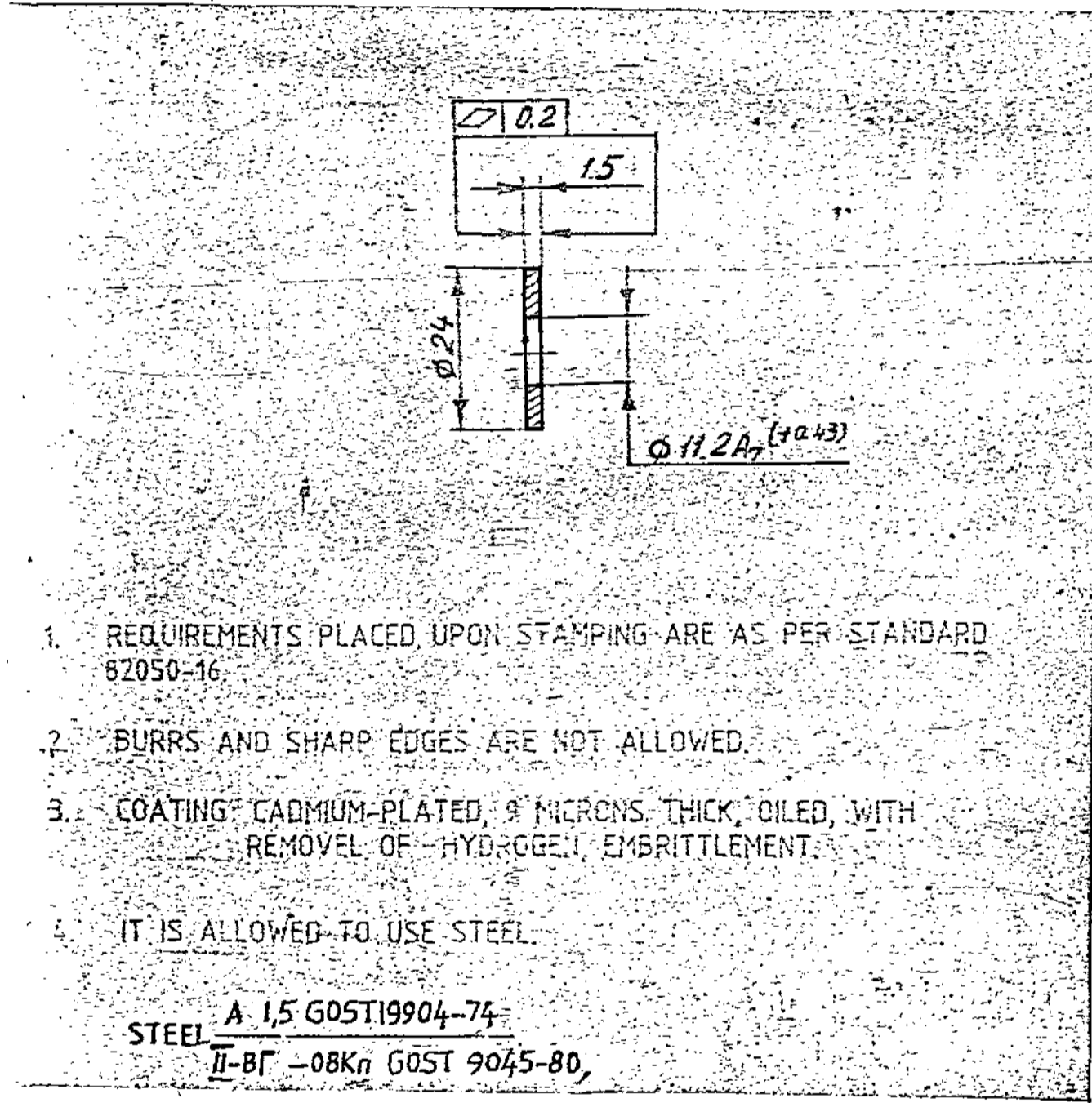
c) CHEMICAL COMPOSITION % AS PER GOST 9045 - 80

GRADE	C (Max)	Mn	S	P	Si	Cr		Ni	Cu	ARSENIC	NITROGEN
						M	A				
08KП	0.10	0.20 - 0.40	0.030	0.025	0.03	0.10		0.10	0.15	0.08	0.008

d) MECHANICAL PROPERTIES

GRADE	ULTIMATE TENSILE STRENGTH Kgf / mm ²	RELATIVE ELONGATION % (Min)
08KП	26 - 37	28

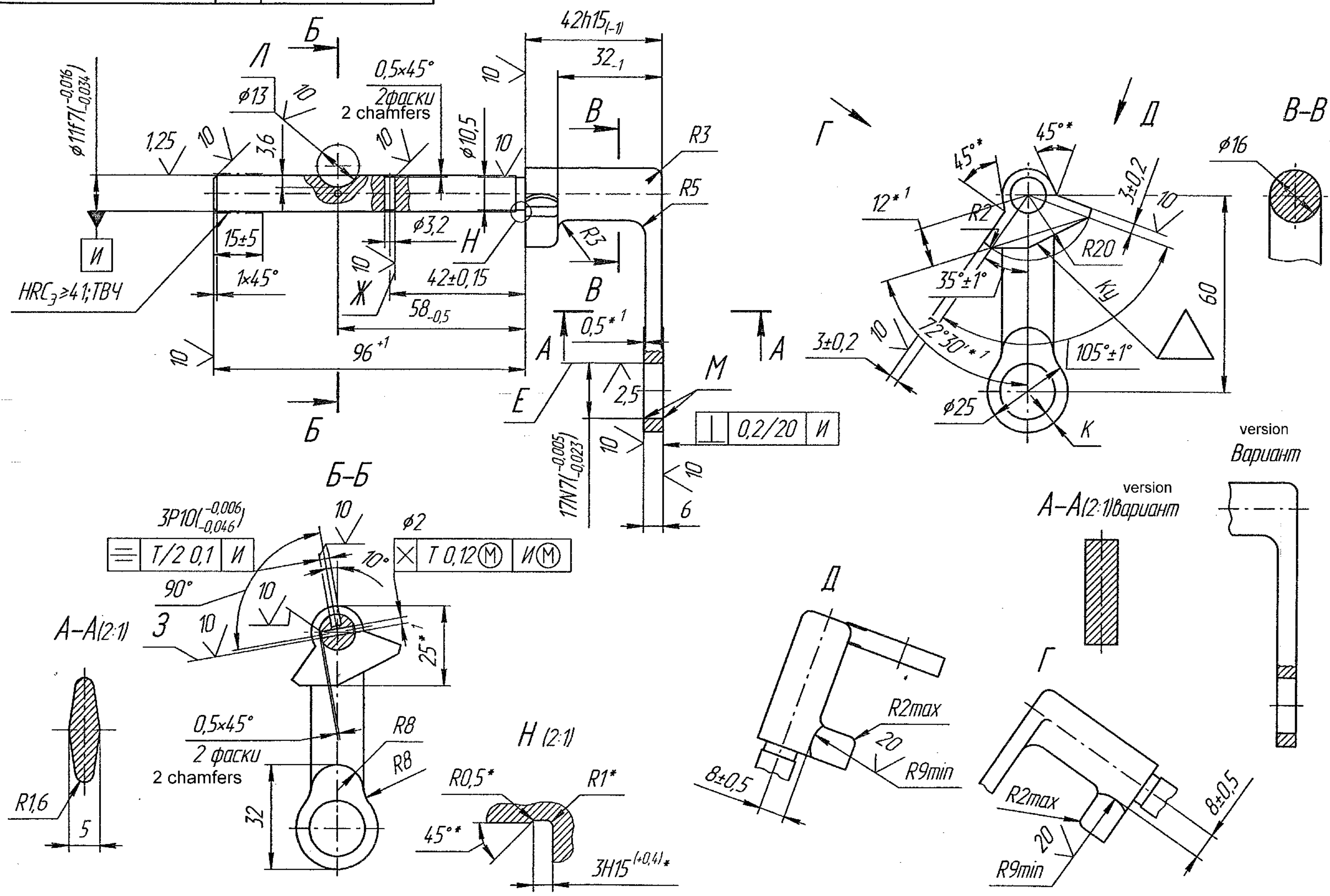
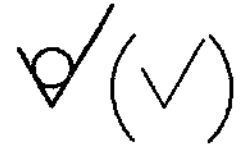
Ⓐ EQUIVALENT MATERIAL
Gr. 0 IS:513-1994



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

EST. WT. 0.004 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	W. J. ...	MATERIAL :-	USED ON :-
CHD	...	STRIP 10-BH-2-HO15	CE 20-39-00-3
TEC	N. D. ...	GOST 503-71	CE 20-15-663-6
APPD	...	CONTROLLERATE OF QUALITY ASSURANCE (HEAVY VEHICLES)	
DATE	24-6-86	A V A O I	
SCALE	1:1	TITLE	
DIMENSIONS IN mm		WASHER 11	
TOLERANCE ON DIMS UNLESS OTHERWISE STATED IS 202-69		D S CAT NUMBER	
ISSUE	A	DATE	1-7-10
NATURE OF AMENDMENTS		DRAWING NUMBER	
4 th ALT. COMM. Mtg. MINUTES POINT No 2 DATE 26-10-09		315-639-1	



1. Group of inspection III as per TT-11.
2. 28...35 HRCe, except specially specified place.
3. Blank: Forging steel die forged as per GOST 7505-89. Local deepening not more than 0.5 mm is permitted on unmachined surfaces.
4. Unspecified limit deviations of dimensions : H14, h14, ± IT14/2.
5. Round off edges M to radius or chamfer not more than 0.2 mm. Sharp edges are permitted without burrs.
6. Coating: zinc coating followed by chrome plating having thickness 6 micron as per ИЛ-749-88 with removal of acid brittleness.
7. Absence of coating on surfaces И, in keyway, holes E,Ж,З and partially in center holes is permitted.
8. Local external coating during clamping the part in fixture is permitted.
9. It is permitted to drill hole 3 during assembly.
10. It is permitted to increase the dimension Л-14 mm max.
11. Dimension K minimum 2.8 mm is permitted.
12. It is permitted to manufacture part by machining with surface finish Rz20.
13. * Dimensions are ensured by tools.
14. * Dimensions for reference

1. Группа контроля III по ТТ-11.
2. 28...35 HRC_э, кроме места, обозначенного особа.
3. Заготовка: поковка стальная штампованная по ГОСТ 7505-89. На необработанных поверхностях допускаются местные углубления 0,5 мм, не более.
4. Неуказанные предельные отклонения размеров H14, h14, ± IT14/2.
5. Кромки M притупить радиусом или фаской не более 0,2 мм. Допускаются острые кромки без заусенцев.
6. Покрытие Цб. хр по ИЛ 749-88 с удалением водородной хрупкости.
7. Допускается отсутствие покрытия на поверхности И, в шпоночном пазу, отверстиях E,Ж,З и частично в центральных отверстиях.
8. Допускаются местные нарушения покрытия при зажиме детали в приспособлении.
9. Допускается отверстие 3 сверлить в сборе.
10. Допускается увеличение размера Л-14 мм, не более.
11. Допускается размер K не менее 2,8 мм.
12. Допускается изготовление детали механической обработкой с шероховатостью Rz20.
13. *Размеры обеспеч. инстр.
14. *Размеры для справок.

SHAFT WITH LEVER				315-640-11	
Steel 45X GOST 4543-71					
Лист 01		Масса 0,16		Масштаб 1:1	
Лист 01		Листов 1		Sheets 5	
Сталь 45X ГОСТ 4543-71				Формат А4x3	

Изд. № подл. 4462-Н
 Взам. инв. №
 Подп. и дата
 2001-298
 № докум. 315-640-11
 Подп. Дата
 М/с SWYAZ
 Engine Factory, Avadi

DRAWING NUMBER

315-644

✓ (✓)

EXPLANATORY NOTE

3 REFERENCE MATERIAL QUOTED

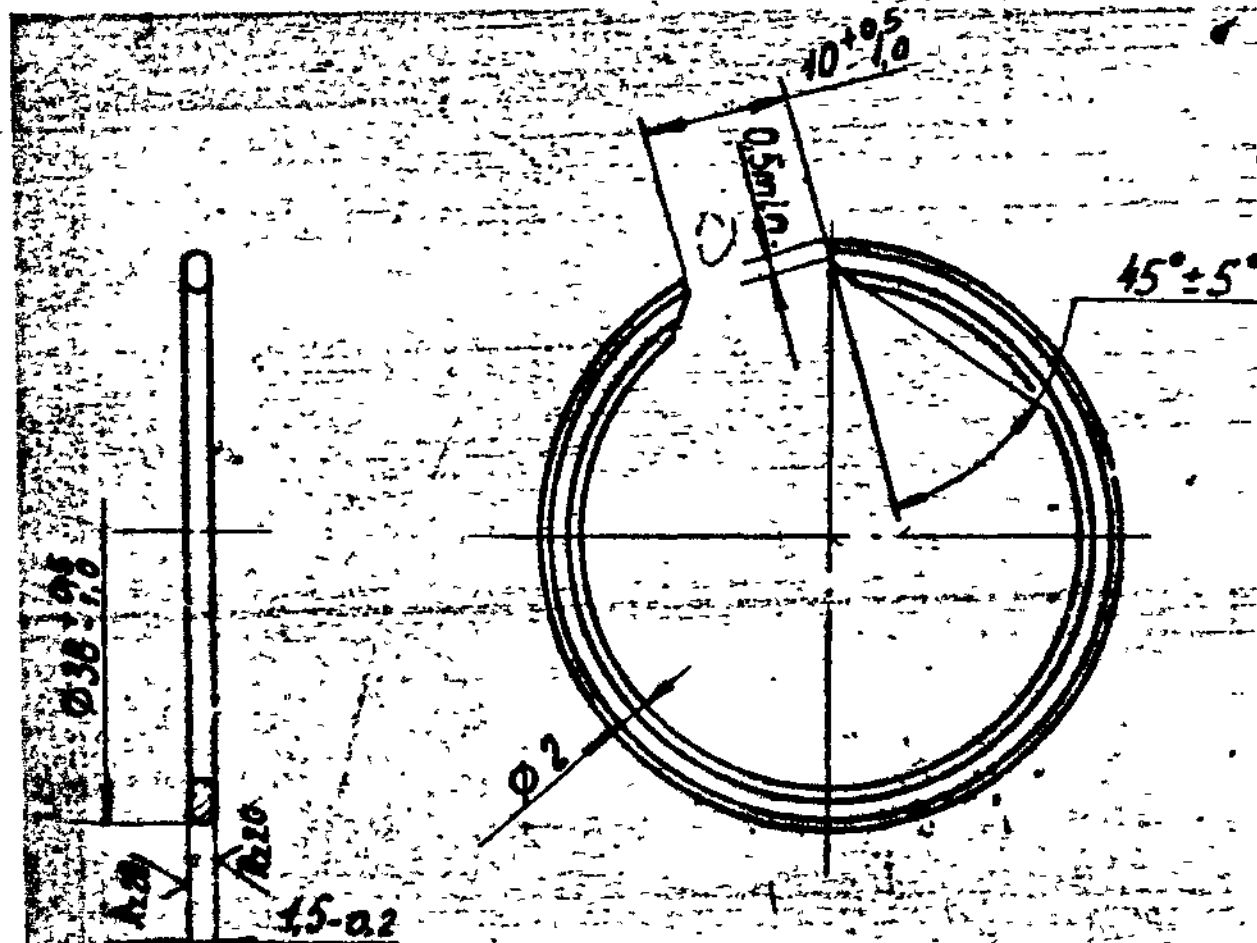
(a) CARBON STEEL COLD-DRAWN WIRE, SECOND CATEGORY, (II), DIAMETER 2.0mm WITH NORMAL ACCURACY OF TOLERANCE $\pm \begin{matrix} 0.020 \\ 0.015 \end{matrix}$ TO EITHER OF GRADES KT-2 AND SK-7

(b) CHEMICAL COMPOSITION

CONTENTS %	GRADES	
	KT-2	SK-7
CARBON	0.86-0.91	0.68-0.76
MANGANESE	0.20-0.40	0.50-0.80
SILICON	0.17-0.37	0.17-0.37
SULPHUR (max)	0.020	0.030
PHOSPHORUS(max)	0.020	0.030
CHROMIUM	0.05	0.05
NICKEL	0.05	0.05
COPPER	0.10	0.04

MECHANICAL PROPERTIES

TENSILE STRENGTH - 180-205 Kg/mm²
 NO OF BENDS (min) - 9
 NO OF TWISTS - (min) 16



1. BLANK LENGTH (L) APPROXIMATELY 105 mm.

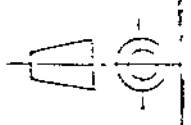
2. COATING: CHEMICALLY OXIDIZED, OILED.

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

EST. WT 0.002 Kg TO BE STAMPED OR MARKED WHERE INDICATED THUS $\frac{0.002}{1}$ LETTERS!

ALL SHARP EDGES AND CORNERS TO BE REMOVED UNLESS OTHERWISE STATED MACHINED CORNERS TO HAVE R OUT SIDE R SIDE EQUIVALENT CHAMFERS ARE PERMISSIBLE

DRN	9 Nov 87	MATERIAL - WIRE - II-2	USED ON: CB 315 664 2
CHK	18 March	GOST 9389-75	Cb 20-15-664-1
TEC	17 March	CONTROL RATE OF QUALITY ASSURANCE (HEAVY VE-CLES)	
APPR	17		
DATE	14-5-87		
SCALE	2.1		
DIMENSIONS IN mm			
TOLERANCE ON DIM'S UNLESS OTHERWISE STATED IS 200-69			
ALL THREADS TO CONFORM TO			
D, S CAT NUMBER		DRAWING NUMBER	315-644

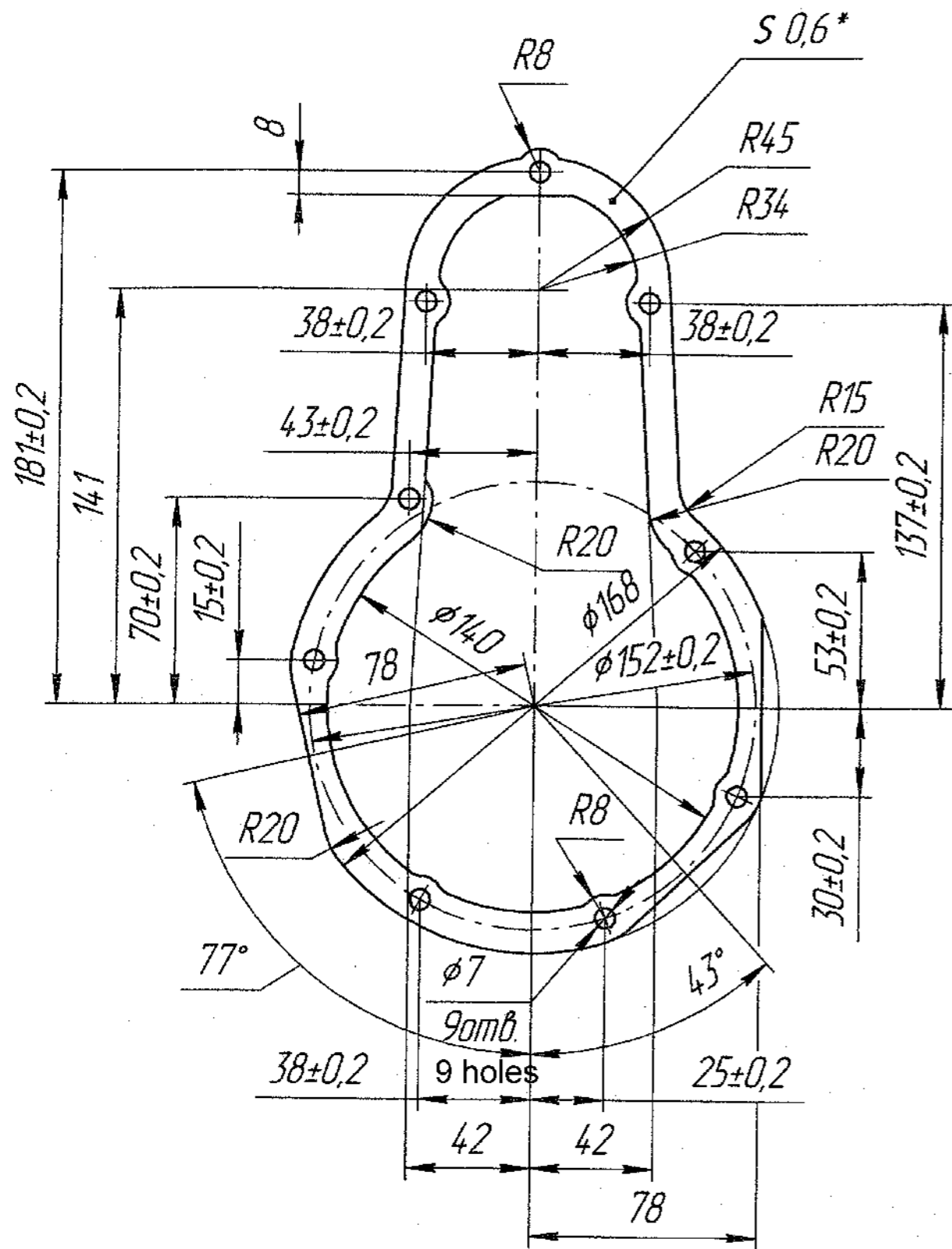


RETAINING RING

A6

SIZE 43

315-645-3



1. Заменитель материала паронит ПОН-Б 1,0, ПМБ 0,6 ГОСТ 481-80.
2. Требования, предъявляемые к штамповке, по нормали 82050-16.
3. Неуказанные радиусы 5 мм.
4. *Размер для справок.

1. Substitute material paronite ПОН-Б 1.0, ПМБ 0.6 GOST 481-80.
2. Requirments given for forging as per standard 82050-16.
3. Unspcified radius 5 mm.
4. * Dimensions for reference.

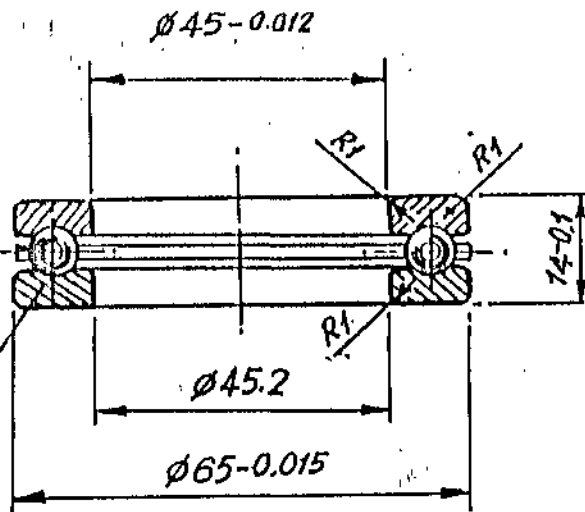
Инд. № подл. 44570	Взам. инд. №	Инд. № докум.	Подп. и дата

				315-645-3				
5	-	2000-146A		GASKET Прокладка		Лист	Масса	Масштаб
Изм.	Лист	№ докум.	Подп.	Дата		0,1	0,0095	Scale 1:2
Trans. & Ckd. by: M/s SWYAZ						Лист	Листов	1
Authenticated by:						Sheet	Sheets	5 75
Approved by:						Paronite GOST Паронит ПОН-Б 0,6 ГОСТ 481-80		
Engine Factory, Avadi								

DRAWING NUMBER

315-646-1

IT IS PERMITTED TO SUPPLY BEARINGS WITHOUT ONE RING WITH INTERNAL DIAMETER 45.2-NO 308109 AS PER GOST 6874-75 AND ETY 500-65 (A)



DRAWING INDIANISED
BASED ON ISSUE 1

KVD NO 63493

EXPLANATORY NOTE:

MATERIAL QUOTED: NO 8109 GOST 6874-75 AND ETY 500

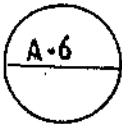
SINGLE DIRECTION THRUST BALL BEARING TO Specn. ETY 500

8109 = CODE OF BEARING .

INDIAN EQUIVALENT:

FAG }
SKF } 51109

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



EST. WT. (0.095 WITH 1 YOKE) 0.15 Kg	TO BE STAMPED OR MARKED WHERE INDICATED THUS ≡ (LETTERS)
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ALL SHARP EDGES AND CORNERS TO BE REMOVED UNLESS OTHERWISE STATED MACHINED CORNERS TO HAVE R OUT-SIDE R INSIDE EQUIVALENT CHAMFERS ARE PERMISSIBLE.

MATERIAL:- NO 8109 GOST 6874-75 & ETY 500-65 (A)	USED ON CB 315.664.2
--	-----------------------------

CONTROLLERATE OF QUALITY ASSURANCE (HEAVY VEHICLES) AVADI.

	TITLE BEARING
--	-------------------------

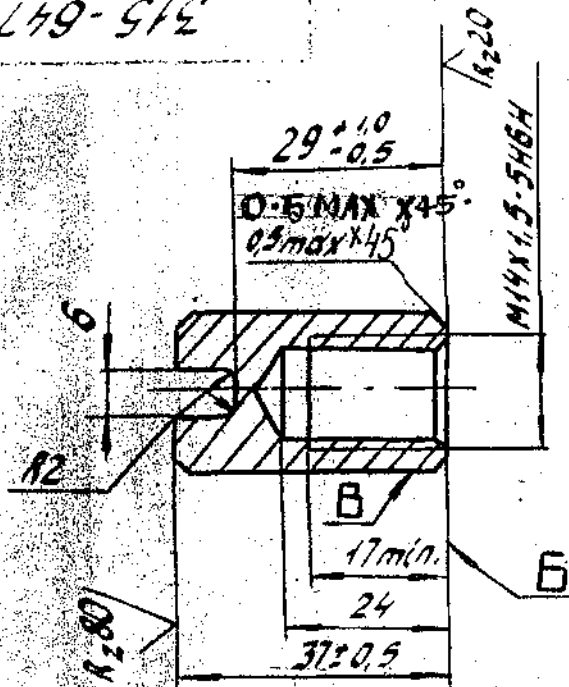
D S CAT NUMBER	DRAWING NUMBER 315-646-1
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A	7-12-87	AUTHY BK 83-297
ISSUE	DATE	NATURE OF AMENDMENTS
DRN	<i>[Signature]</i>	SCALE:- 1:1 DIMENSIONS IN mm
CHD	<i>[Signature]</i>	TOLERANCE ON DIMENSIONS UNLESS OTHERWISE STATED IS 2102-69
TCD	<i>[Signature]</i>	ALL THREADS CONFORM TO
APPD	<i>[Signature]</i>	
DATE	8-5-86	

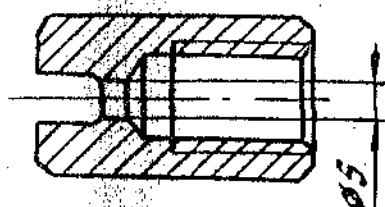
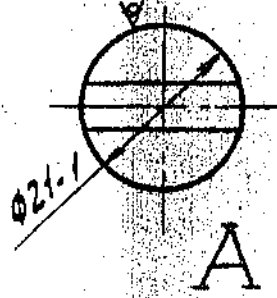
DRAWING INDIANISED BASED ON ISSUE 5

315-647

8240



Восстановленный подлинник № 4



1. Inspection group IV, TT - 11.
2. ~~HRC 24 ± 30~~ HRC₃ 26-32
3. Dimensions with unspecified tolerances should be obtained as per accuracy class 7 OST 1010.
4. Technical requirements for thread as per standard 82021-00.
5. During slotting for wrench, radius from milling cutter 50 mm, min, is allowed.
6. Non-squareness of thread with face B should not exceed 0.1 mm at dia. 20 mm.
7. Run out of thread relative to surface "B" should not exceed 0.4 mm. Sharp edges should be blunted.
8. May be manufactured from steel 45 X Gost 4543-71.
9. Coating: Chemical oxidizing, oil finishing.
10. May be manufactured as per sketch A.

A-6

			EST. MASS 0.055 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.	
A	23-11-87	AUTHY BK 82-394	MATERIAL: 21-4 GOST 7417-75 USED ON:- ROUND BAR 45 GOST 1051-77 СБ 327 00 45	
ISSUE	DATE	NATURE OF AMENDMENTS	CONTROLLER RATE OF INSPECTION (HEAVY VEHICLES) AVADI	
DRN	SCALE - 1 : 1		TITLE:- NUT	
CHKD	DIMENSIONS IN mm.		D S CAT NUMBER	
TLD	TOLERANCE ON DIMNS UNLESS OTHERWISE STATED.		DRAWING NUMBER 315-647	
APPD	ALL THREADS CONFORM TO			
DATE	11-5-86			