

Group (category) I
 Number of working coils n=7₋₂
 Total number of coils n=9₋₂
 Total length l=230
 Winding clockwise

The spring should be in compressed state to a length of 10mm at 150⁺²⁰°C for 2 hours

Non-perpendicularity of the axis and outer inoperative coils should not exceed 3°

Grind outer coils of not less than 3/4 of the coil length.

For ensuring force electro-polishing may be used

Normalize Cadmium 6 micron thickness chromated.

Печать-614 40760
 2-3K-015

00926-1cv (A)
 DS CAT PART NO. ADDED AND DESCRIPTION VALVE SPRING AMENDED AS SPRING HELICAL COMPRESSION

ISSUE AMENDMENTS

APPROVED M VASU
 CHECKED MSG

1-1

DS CAT PART NO (A)
 LV2/ICVS 5360-00785.8

CONTROLLERATE
 OF
 QUALITY ASSURANCE
 (ICV)

**(A) VALVE SPRING
 SPRING HELICAL
 COMPRESSION**

WEIGHT SCALE

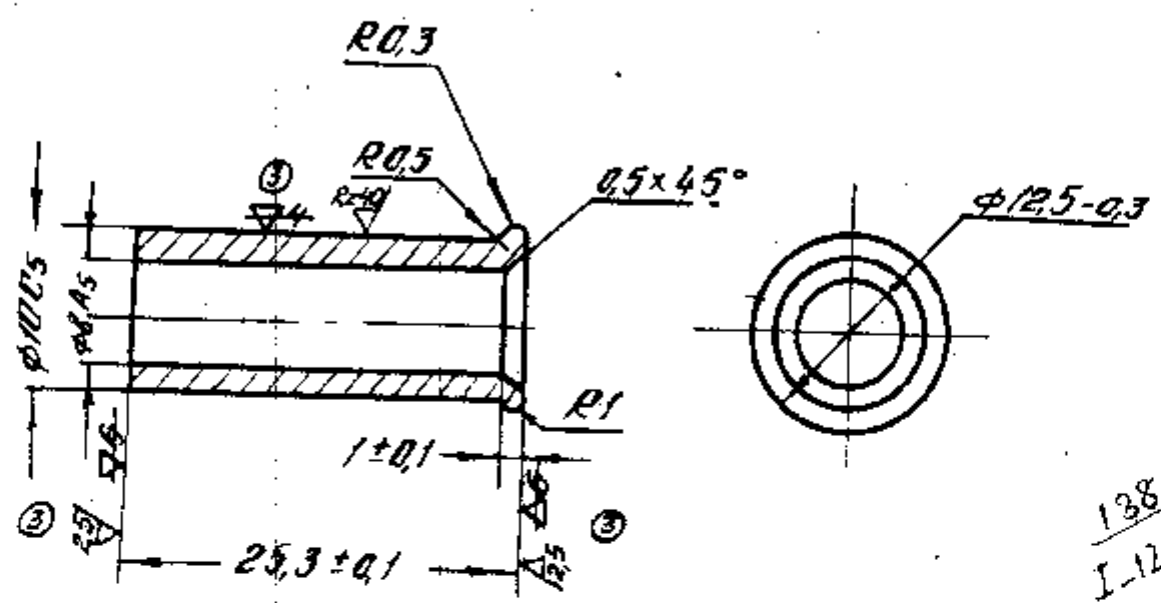
0.002 2:1

SHT 61 SHTS 109

Wire II A-1.2
 GOST 9389-75

2-1

50 мм
Rz20 (✓)

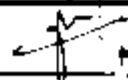


138
I-1224

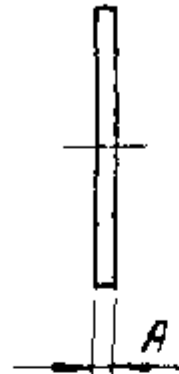
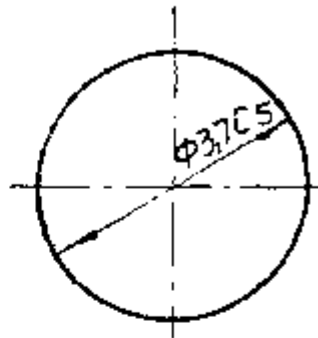
1. Buttend play of $\phi 10$ and $\phi 12.5-0.3$ with respect to the hole $\phi 8$ should not exceed 0.05.
2. Tolerances on free dimensions are as per 722AT.
3. Sharp edges should be blunted to $R 0.3 \pm 0.2$.
4. Tool trace is allowed over $\phi 10$.

Coating: Anodic oxidation, chromating

Исполн.	Перв. прим.
Спроб. в.	Эк-48
Проверен.	
Упр. и тех. эк.	
Матери.	

APPROVED	 M. VASÓ	1-2
CHECKED	H. M. Shaike	
CONTROLLERATE OF INSPECTION (ICV)	DISTANCE SLEEVE	WEIGHT SCALE
		0.00092 2:1
	Aluminium alloy A16T GOST 21489-76	SHT SHTS
		62 OF 109

1-3



A	P
0,1	0 00001
0,3	0 00003
0,4	0 00004
0,5	0 00005

00396-ICV 27-06-05 ISSUE NO. & DATE	(A) ISSUE	DS CAT PART NO. ADDED.
		NATURE OF AMENDMENT

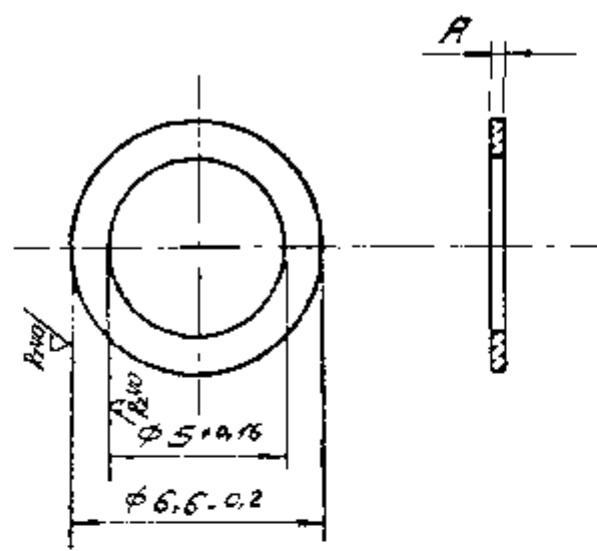
Passivative

2-3K-015

APPROVED	M VASU	1-3	DS CAT PART No (A)
CHECKED			LV2/ICVs 5365-011268
CONTROLLERATE OF QUALITY ASSURANCE (ICV)		SHIM	WEIGHT SCALE
			SEE TABLE 10:1
			SHT 1 SHTS 1
		BAND <i>ANPHT HA163</i> GOST 2208-75	

1-4

✓



A	P
0.1	0.00001
0.3	0.00003

Passivate

Material: Band PHT see table HAJ 63 GOST 2208-75.

ISSUE NO. 2K-48

Исполнитель номер
2-ЭК-015

00996-ICV
Handwritten signature
27-06-05
DECISION DATE ISSUE

DS CAT PART NO. ADDED.

NATURE OF AMENDMENT

APPROVED
CHECKED

M. VASU
Handwritten signature

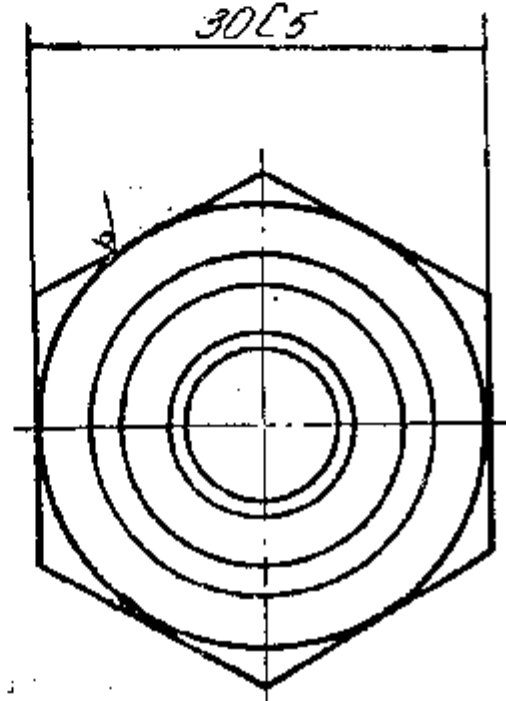
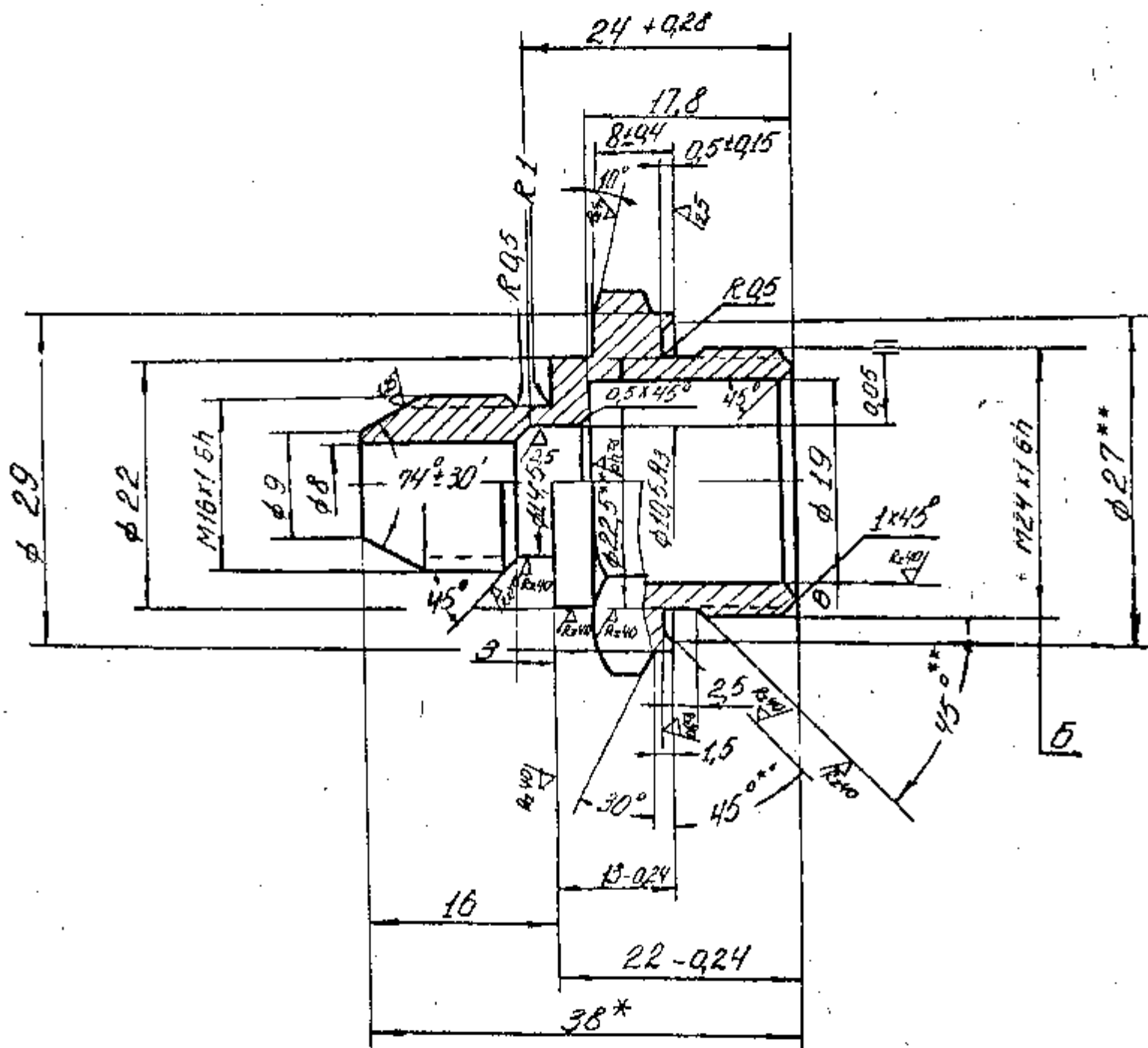
1-4

DS CAT PART NO.
LV2/ICVS 5365-011267 (A)

CONTROLLERATE
OF
QUALITY ASSURANCE
(ICV)

SHIM

WEIGHT SCALE
SEE TABLE 5:1
SHT 64 SHTS 109



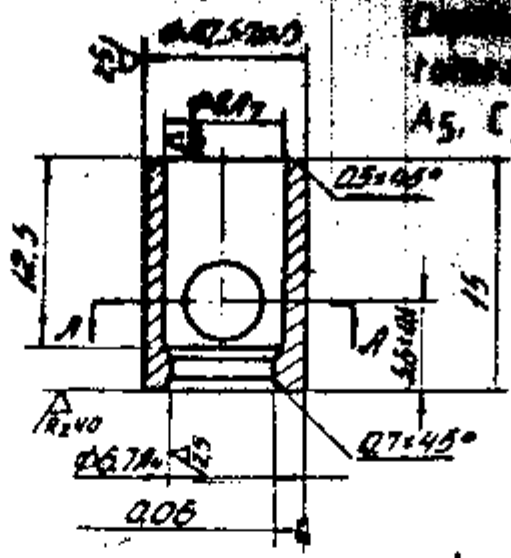
1. Non-perpendicularity of the axis of the thread B to the plane of impermeable face projection $\phi 27$, $\phi 29$ should not exceed 0.007mm. check by combination gauge.
2. Tolerances on free dimensions- as per 722AT.
- *Dimension for references.
- 3.**Dimensions for tool.
4. Step not exceeding 0.5mm may be present on the surface.

141
I-1224

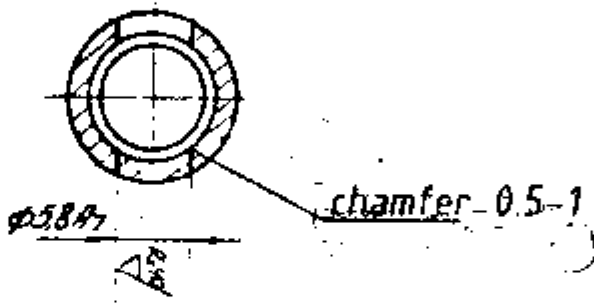
APPROVED		M VASU		1-7	
CHECKED				WEIGHT SCALE	
CONTROLLERATE OF INSPECTION (IC VI)		CONNECTION		2:1	
				SHY SHTS	
		Hexachetron		65 of 107	
		30-5 GOST 8560-78			
		45 GOST 1051-73			

Coating: Cadmium 9 micron thickness, chromated.

8-f



Section A-A




Tolerances on free dimensions for chamfers and radii are as per 722AT.

Blunt the sharp edges to R0.1- 0.3,

142
I.1224

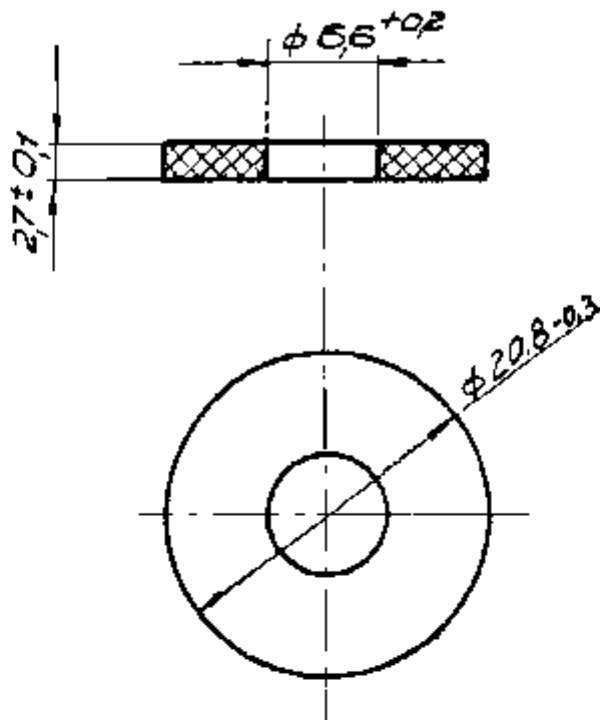
Coating: Cadmium, 3 micron thickness, chromated.

200805
3K-48

		10	Первичный номер 2-3K-015		
APPROVED	 M. YASU	1-8	№ 50002	№ 5000000	
CHECKED	H.M. Shorikh	INSERT		WEIGHT	SCALE
CONTROLLERATE OF INSPECTION (ICV)				STEEL 45-B, GOST 1051-73	
				SHT	SHTS
				66 OF 104	

01-1

Rz 20μ



Trim the fin.

Material: Rubber stock TC-B14-1
Ty38 005 1166-73

СЕРИЯ И №
ЭК-48

Идентификационный номер

2-ЭК-015

ИД(И)№
& DATE

ISSUE

AMENDMENT'S

APPROVED

M. VASU

CHECKED

M. Vasu

1-10

CONTROLLERATE
OF
QUALITY ASSURANCE
(ICV)

SEAL OF THE
VALVE

WEIGHT SCALE

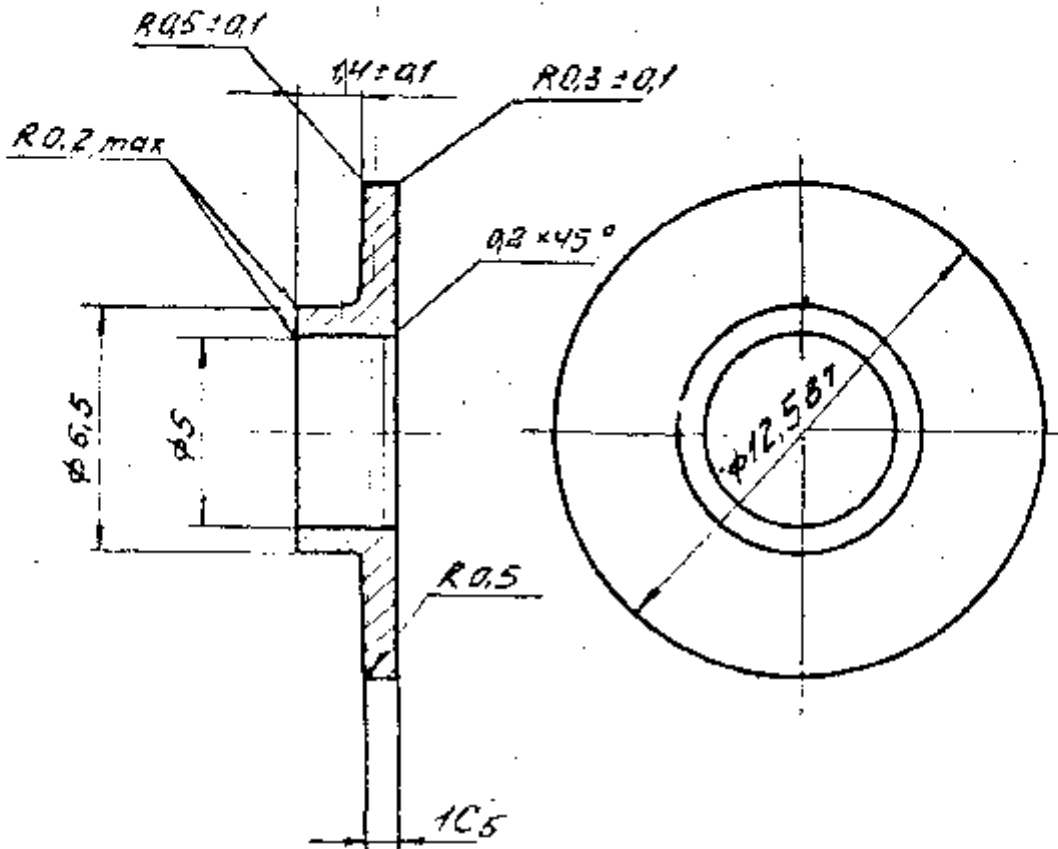
0.0011 2:1

SHT 68 SHTS 109

11-1

R200

Dimensions without tolerances are as per A5C5



147
I.1224

Play of butt-ends $\phi 12.5B7$ and $\phi 6.5$ with respect to the axis should not exceed 0.05.

Blunt the sharp edges to R 0,3

Material: Aluminium alloy A16T GOST 21488-76.

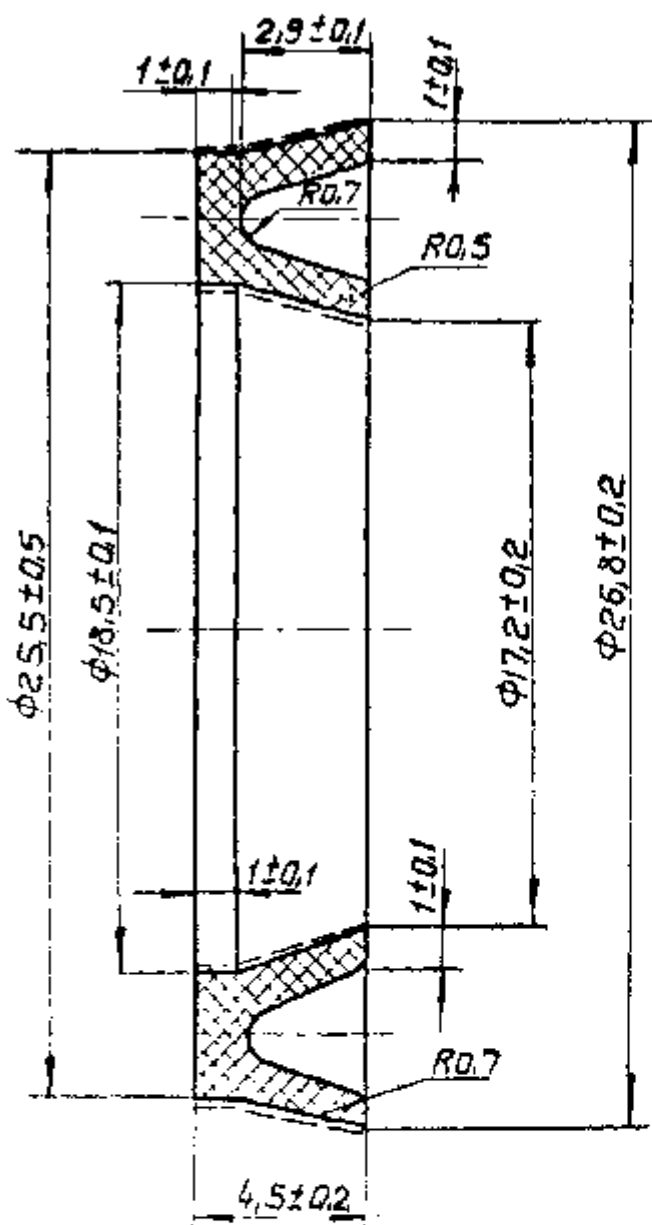
И.И.ВАСУ
3K-48

APPROVED		1-11		Первичный номер 2-3K-015	
CHECKED				№ 43/10 № 067/11	
CONTROLLERATE OF INSPECTION (ICV)		BUSH		WEIGHT	SCALE
				90003	5:1
				SHT	SHTS
				69 OF 100	

1-14

BO936-ICV	ISSUE	D S CAT PART NO. ADDED AND DESCRIPTION 'SEALING RING' AMENDED AS 'RETAINER RING'
27-06-05	(A)	
DCO NO. & DATE	NATURE OF AMENDMENT	

84-2E	Исправления номер
2-ЭК-015	



- 1 Surface enclosed within dashed line should be smooth and should not have burrs, marks & other defects & conform to the standard
 - 2 Shore hardness 55--65
 - 3 Dimensions $\phi 17.2 \pm 0.2$, $\phi 18.5 \pm 0.1$ are given for the tool
 - 4 Surface finish in places of trimming of the fin $Rz \sqrt{20}$
- Material Rubber TC98-1
Ty38-005 1166-73

APPROVED	M. VASU
CHECKED	H. M. Shankh

1-14

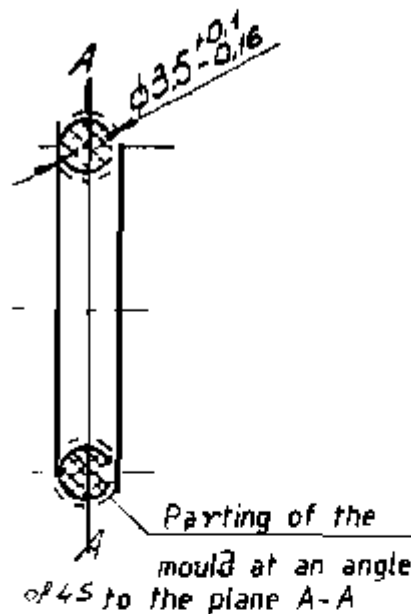
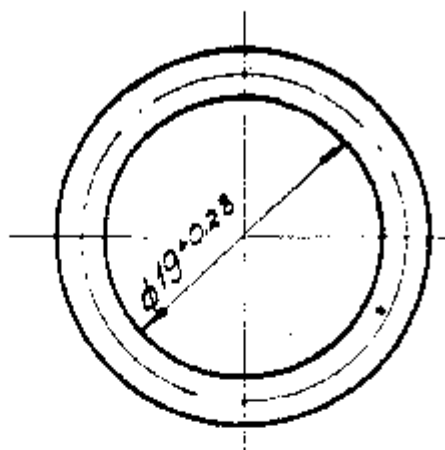
D S CAT PART NO. (A)
LV2/ICV3 5330-026526

CONTROLLERATE
OF
QUALITY ASSURANCE
(ICV)

~~SEALING RING~~
(A)
RETAINER RING
RUBBER TC - 98-1
TY 38-005.1166-73

WEIGHT	SCALE
0.00098	5:1
SHT 70	SHTS 109

1-16



1. $\phi 19^{+0.28}$ is given for the tool
2. Surface finish in places of fin trimming is $Rz \frac{20}{\surd}$
3. External appearance as per Ty38-005-838-70.
4. Surface within dashed line should be smooth and should not have burrs, marks and other defects.

Material: Rubber stock TC B-14-1
Ty38005 1166-73.

3K-48
 3K-48

2-3K-015

00996-1CV
 27-06-05
 DCU No. & DATE

Ⓐ
 ISSUE

DS CAT PART NO. ADDED AND DESCRIPTION 'RING' AMENDED AS 'RETAINER PACKING'
 NATURE OF AMENDMENT

APPROVED
 M. VASU
 CHECKED

1-16

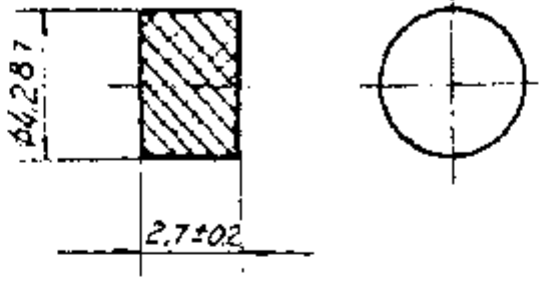
DS CAT PART NO. LY2/ICV3 5330-026327 Ⓐ

CONTROLLERATE OF QUALITY ASSURANCE (ICV)

Ⓐ RETAINER PACKING RING

WEIGHT	SCALE
0.008	2:1
SHT	SHTS

81-1



Parts should have even and smooth surface without burrs, holes, crack, marks, and traces of fallout of mechanical inclusions

Shore hardness should not be less than 86.

Material: Rubber stock 14K-22
Ty38 005 1166-73

ИИ ТЕ КС
2K-48

Первичный номер

2-ЭК-015

01013-ICV	DS CAT PT No. ADDED AND DESCRIPTION
<i>[Signature]</i> (A)	"SEAL RUBBER ROUND SECTION" WAS "SEAL OF SERVO VALVE"
19-01-06	AMENDMENT'S
IXC(I) No. & DATE	ISSUE

APPROVED *[Signature]* M. VASU
CHECKED *[Signature]*

1-18

DS CAT PART No: (A)
LV2/ICVS 5330-01653074

CONTROLLERATE OF QUALITY ASSURANCE (ICV)

SEAL RUBBER ROUND SECTION
~~SEAL OF SERVO VALVE~~
(A) VALVE

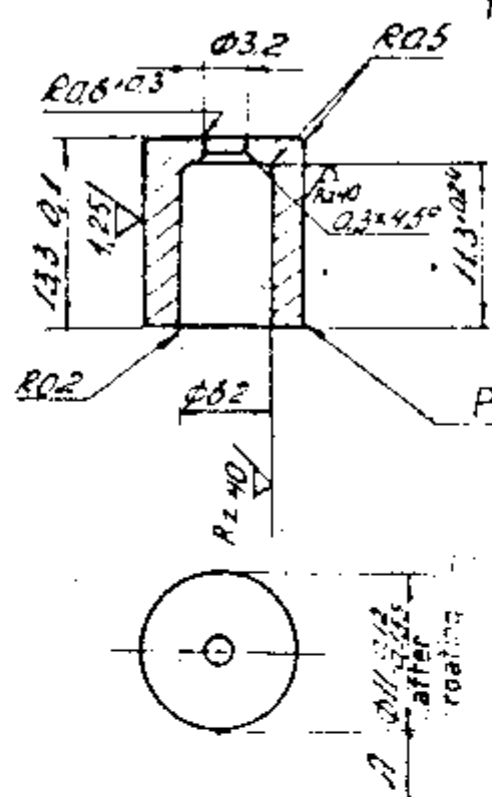
WEIGHT	SCALE
0.00005	5:1
SHT 74	SHTS 109

ВООТМОДНОБЛЕННЫМ ПОСЛАММЛК

61-1

Rz 20 / (√)

Dimensions without tolerances are as per 722AT.



Dimensions 13,3_{-0.1} is given considering the coating.
 Carryout heat treatment as per instructions UТ-11-63.
 All surfaces, except ΦA may be free from chromium.
 Coating: Chemically nickel coating 9 micron thickness, chrome plated 1 micron thickness.
 Appearance is as per standard.

Tool trace is allowed on the butt-end from the side of hole; $\Phi 6,2$
 Material: Steel 20895-B GOST 11035-75.

DS CAT PART NO ADDED AND DESCRIPTION "BUSH" WAS "ARMATURE"	NATURE OF AMENDMENT
(A)	ISSUE
01023-1CV 26-6-05	DCIU NO DATE

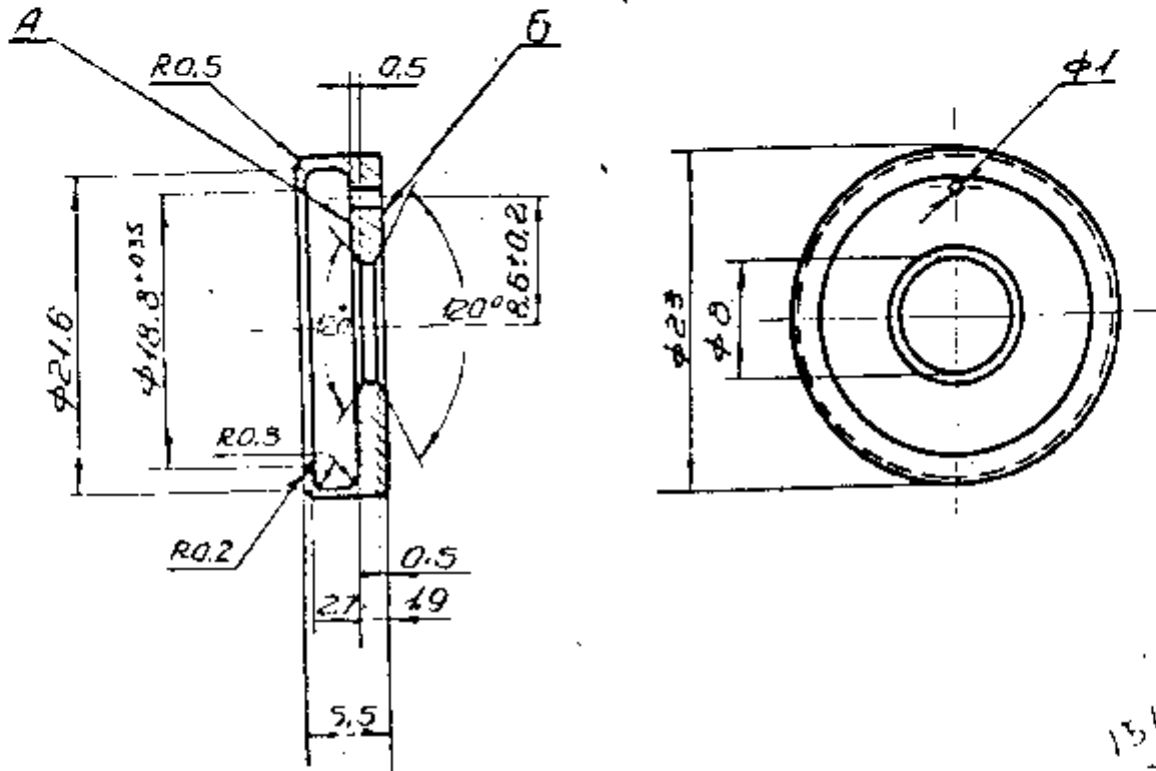
2.5K-015

APPROVED	<i>[Signature]</i> M VASU	(A) 1-19	DS CAT PART NO: LV2/ICVS 4730-007424	WEIGHT	SCALE
CHECKED	<i>[Signature]</i>	(A) BUSH		0.0068	2:1
CONTROLLERATE OF INSPECTION (ICV)		ARMATURE		SMT	SMTS
				75 OF 109	

1-21

Rz20

Dimensions without tolerances are as per A5 C5



136
I-1224

1 Round off the sharp edges to R 0.2.



2. Non-perpendicularity of planes A and B should not exceed 0.05.

Material: Aluminium alloy A16T GOST 21488-76.

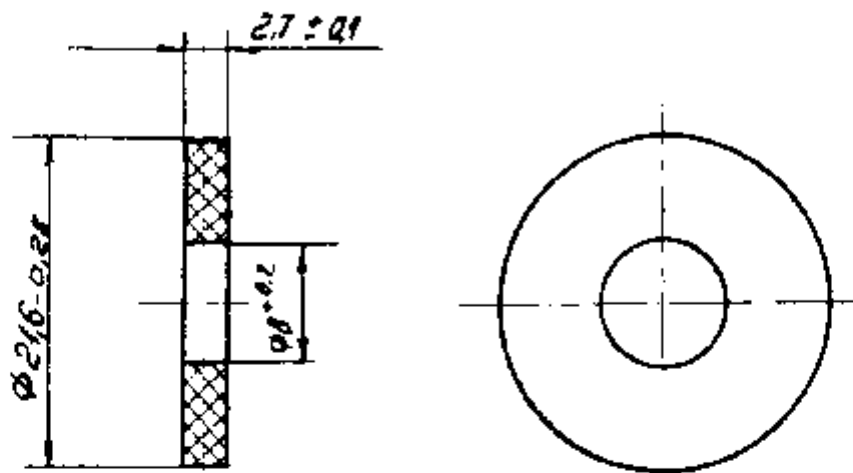
Anodic oxidation, chromating

Первичный номер

2-3K-015

APPROVED	 M VASU	1-21		
CHECKED		VALVE	WEIGHT	SCALE
CONTROLLERATE OF INSPECTION (IC V)			0.0023	2:1
		SHT	SHTS	77 OF 109

1-22



Material: Rubber stock TL B-14-1
 Ty38 005 1166-73.

ИЗДЕЛИЕ
 ЭК-48

Иерархический номер

2-ЭК-015

ИСО(И) No. & DATE

ISSUE

AMENDMENT'S

APPROVED

M. VASU

CHECKED

MV

1-22

CONTROLLERATE
 OF
 QUALITY ASSURANCE
 (ICV)

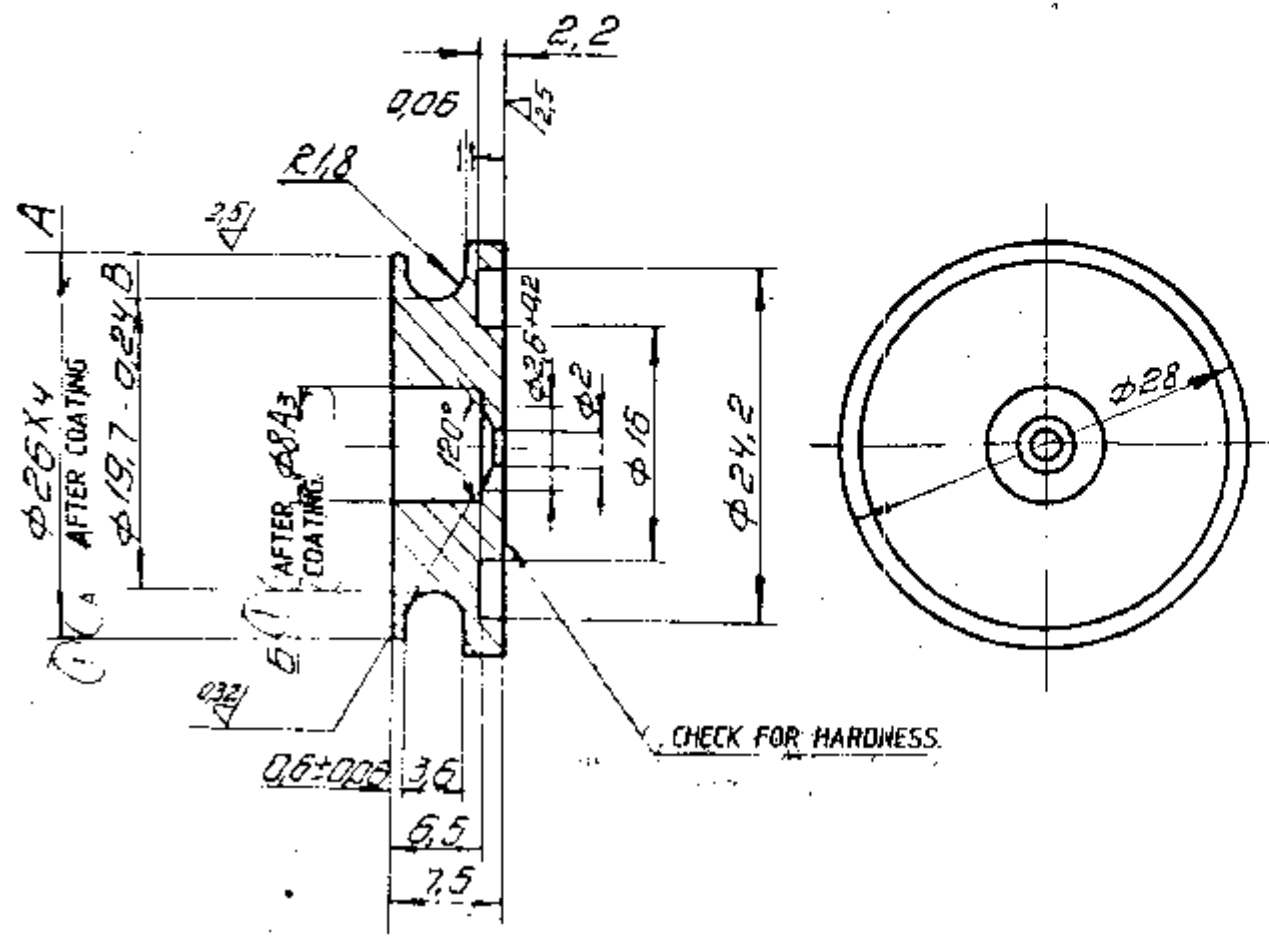
SEAL OF VALVE

WEIGHT SCALE

0.0012 2:1

SHT 1 SHTS 1

Dimensions without tolerances are as per A5C5.



ON the diameter B coating may be partially absent in places of contact of the part with fixture and subsequently these parts are coated with liquid, type 132-25, GOST 10957-74.

Displacement of the axis, $\phi 2,0$ and taper 120° with respect to axis $\phi 8A3$ not exceeding $0,03$ mm is to be provided technologically.

Blunt the sharp edges to $0,1 - 0,3$.

Galvanizing may be done in the unit Assy. 1-7 zinc, 6 micron thickness, chromitized.

Tolerances on free dimensions for chamfers and radii are as per 722AT.

Carryout heat treatment HRC = 22-30.
Zinc coating, 6 microns thickness, chromitized.

Radial run-out of the surface B should not exceed $0,06$ mm (qualified tolerance).

Check the external appearance of diameter B as per the standard.

Контр. 3К-48
Время 253232
Дата 10/20
Руч. 1000

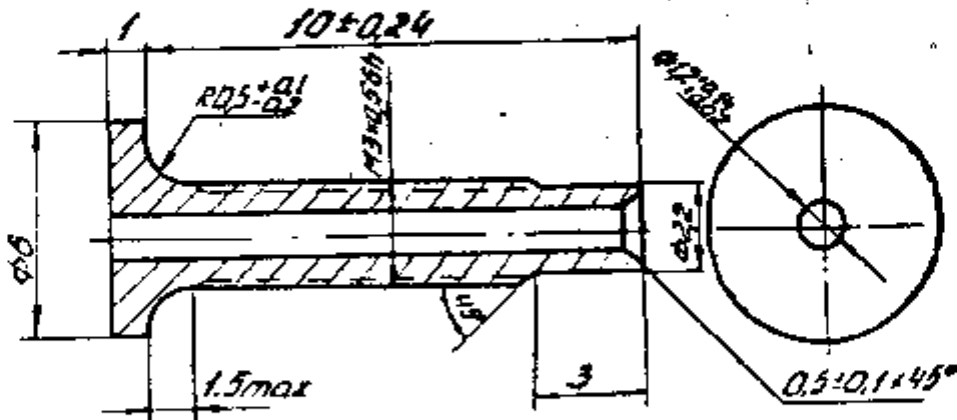
158, 159
I.1224

		Первичный номер 23K-015	
--	--	----------------------------	--

APPROVED	<i>M VASU</i>	1-23	WEIGHT	SCALE
CHECKED	<i>H.M. Shripal</i>	SLEEVE	0,01971	2:1
CONTROLLERATE OF INSPECTION (IC VI)			SH1	SHTS
		STEEL 45-B GOST 1051-73	79 OF 109	

1-24

Dimension without tolerances
as per A5 C5



160
I-1224

1. Dimension 1 is given considering the coating.
2. Tool trace on $\phi 22$ is allowed.
3. Blunt the sharp edges to 0.1 to 0.3.
4. Surface $\phi 12$ may be free of coating.
5. Tolerances on free dimensions for chamfers, angles radii are as per 722AT.
6. Galvanizing may be done in the nut, Assy.1-7, zinc-plated 6 micron thickness, chromating

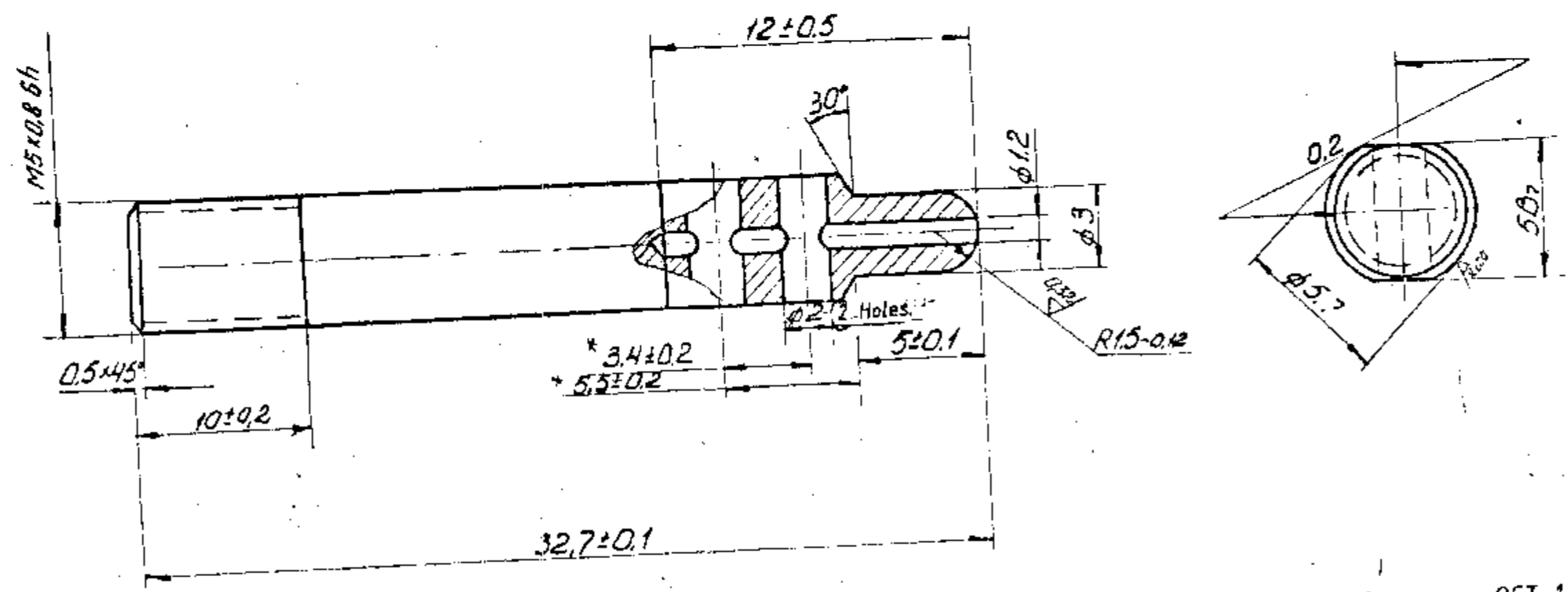
zinc plated, 3 micron thickness chromating

48					Первичный номер
					23K-0.15

APPROVED	<i>M. Vasu</i> M. VASU	1-24	85
CHECKED	<i>M. Vasu</i>	BUSH	WEIGHT
CONTROLLERATE OF INSPECTION (ICV)			SCALE
		Callibrated steel A12 GOST 1414-75	0.007
			5:1
			SHT
			SHTS
			30 OF 109

Dimensions without tolerances are as per ASC5.

1-25



161
I-1224

- 1) * Dimensions are given for the tool.
- 2) Central seats are not allowed.
- 3) There may be any position of hole, $\phi 2,0$ with respect to flats.
- 4) Play of the thread 5Mx0,8 6h with respect to surface $\phi 5,7$ should not exceed 0,1 mm.
- 5) Play of sphere R1,5 with respect to surface 1,2 should not exceed 0,15 provide technologically.
- 6) Tolerances on free dimensions for chamfers, angles and radii are as per 722AT.
- 7) Normal under cutting of the thread is as per OCT 1.000.10-81
- 8) Carryout unspecified bluntings to 0,1 - 0,4 mm.
Carryout heat treatment HRC = 35-42.

84-48
253294

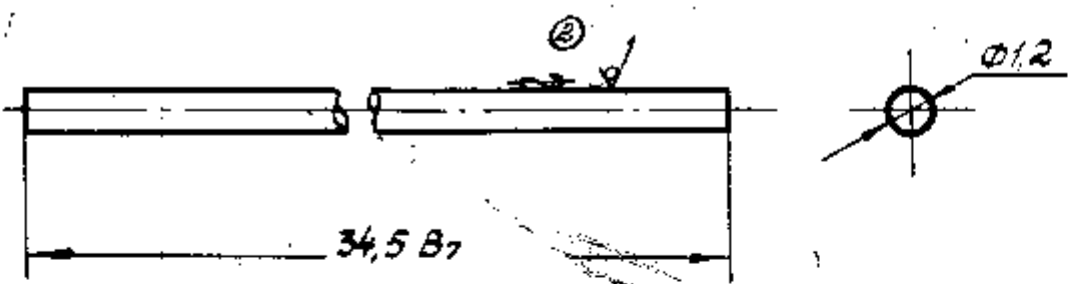
APPROVED		M VASU		1-25	
CHECKED				WEIGHT SCALE	
CONTROLLERATE OF INSPECTION (ICV)		SERVO VALVE		0.0030 5:1	
				SHT SHTS	
		steel 30 chrome-plated XPCA GDST 4543-74		81 OF 109	

2-3K-015

92-1

В.20/ 275/00/ ②

[Redacted]



Chamfers at butt ends are allowed.

162
I-1224

УЧЕТ
ЭК-48

Первичный номер

2-ЭК-015

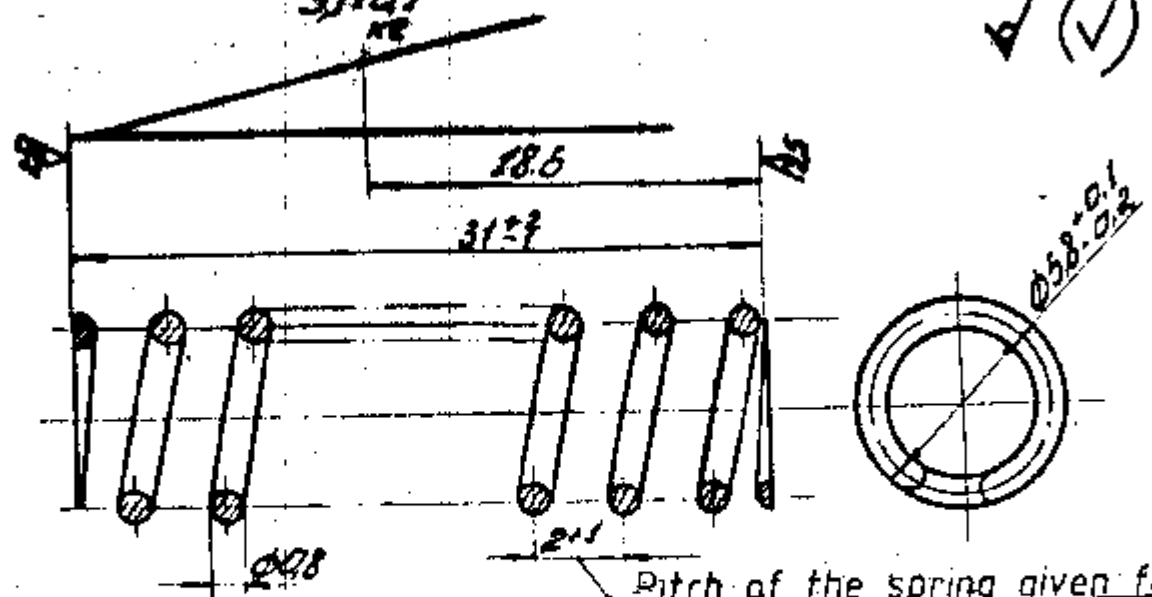
номер

APPROVE		M VASL	1-26
CHECKED			
CONTROLLERATE OF INSPECTION (IC)	NEEDLE		WEIGHT SCALE
	Wire Ia-12		0.00013 5:1
	GOST 9389-75		SHT SHTS
			32 OF 109

132-12
I-1224

31±9
18.6

✓ (✓)



Pitch of the spring given for the adjustment of machine

- 1. Group (category) 1
- 2. Number of working coils $n=13\pm 2$
- 3. Total number of coils $n=15\pm 2$
- 4. Winding Right
- 5. Total length $L = 242 \text{ mm}$

6. Non-perpendicularity of the axis and outer inoperative coils should not exceed 3° .

7. The spring should be in compressed state to a length of 17mm. at $t=150\pm 2^\circ\text{C}$ for 2 hours.

8. Grind outer coils of not less than $3/4$ of the coil length.

9. For ensuring force, electro-polishing may be used.

Cadmium 6 micron thickness chromated.

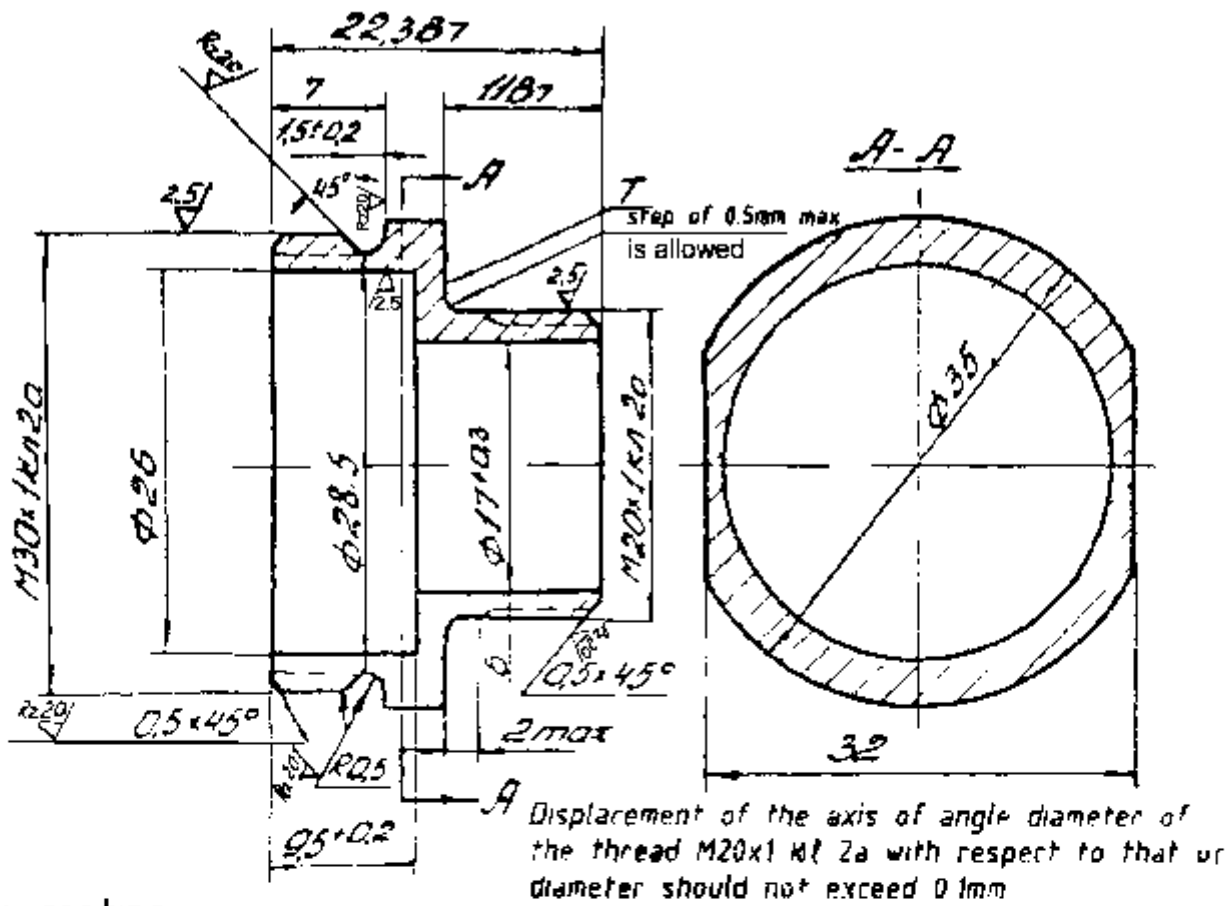
Normalize.

85-VE

Первичный номер
2-3K-015

APPROVED	<i>[Signature]</i> M VASU	2	
CHECKED	<i>[Signature]</i>		
CONTROLLER OF INSPECTION (ICV)	MAGNET SPRING		WEIGHT SCALE
	Wire II A-0.8 Gost 9389-75		0.00093 5:1
			SHT SHTS
		Field of 109	

① Machinable dimensions without tolerances are as per 722AT



Die casting

Tolerance on free dimensions are as per IT-3 OCT141154-72

Technical specifications on casting are as per OCT190021-79 Group of checking -3

Unspecified casting radii-up to R1mm

Draft angle 1°

Taper along $\phi 6$ towards increase of dimension

Blunt the sharp edges with chamfer $0.3 \times 45^\circ$

Note: Last thread of the screw M20x1k1.2a

may be cut to a distance not more than 2mm from the butt end & T.

The appearance of the thread is as per the standard

Anodic oxidation, chromating

81-26
11/11/11

00996-ICV 27-06-05 IX(I)No. & DATE	DS CAT PT No. ADDED AND DESCRIPTION PLUG AMENDED AS UNION PIPE
2-3K-015	AMENDMENTS

APPROVED	M VASU
CHECKED	H.M. Shan 10L

2-4

DS CAT PART NO. LV2|CVS 4730-0074 22

CONTROLLERATE OF QUALITY ASSURANCE (ICV)

UNION PIPE PLUG

WEIGHT SCALE

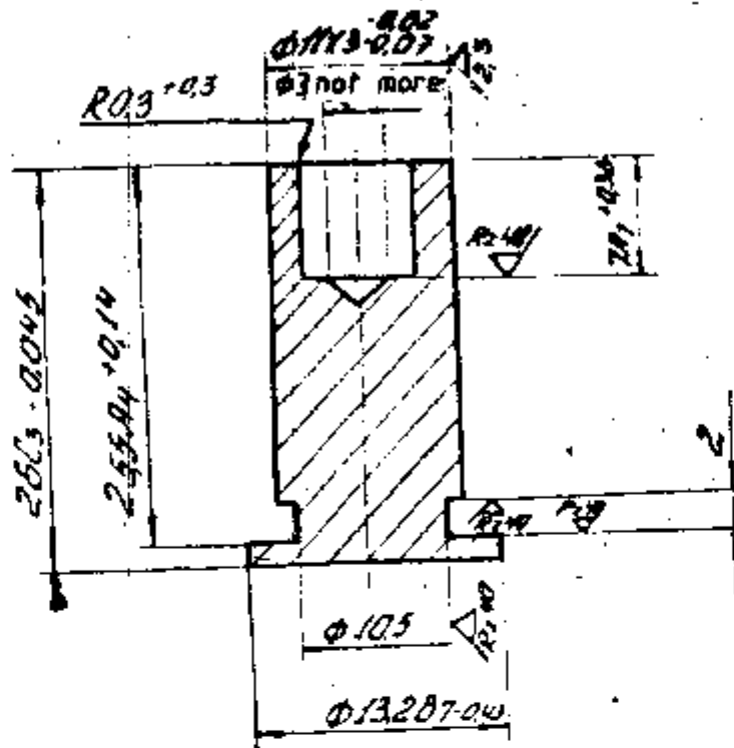
0.00985 2:1

SHT 84 SHTS 109

Aluminium alloy Ad1+11 GOST 2685-75

2-5

Tolerances on free dimensions are as per 722 AT



167
I.1224


The hole may be coated at places of contact with the fixture as per the standard.

Coating: Cadmium 9 micron thickness parkerized.

Coating Cadmium 9 micron thickness chromating

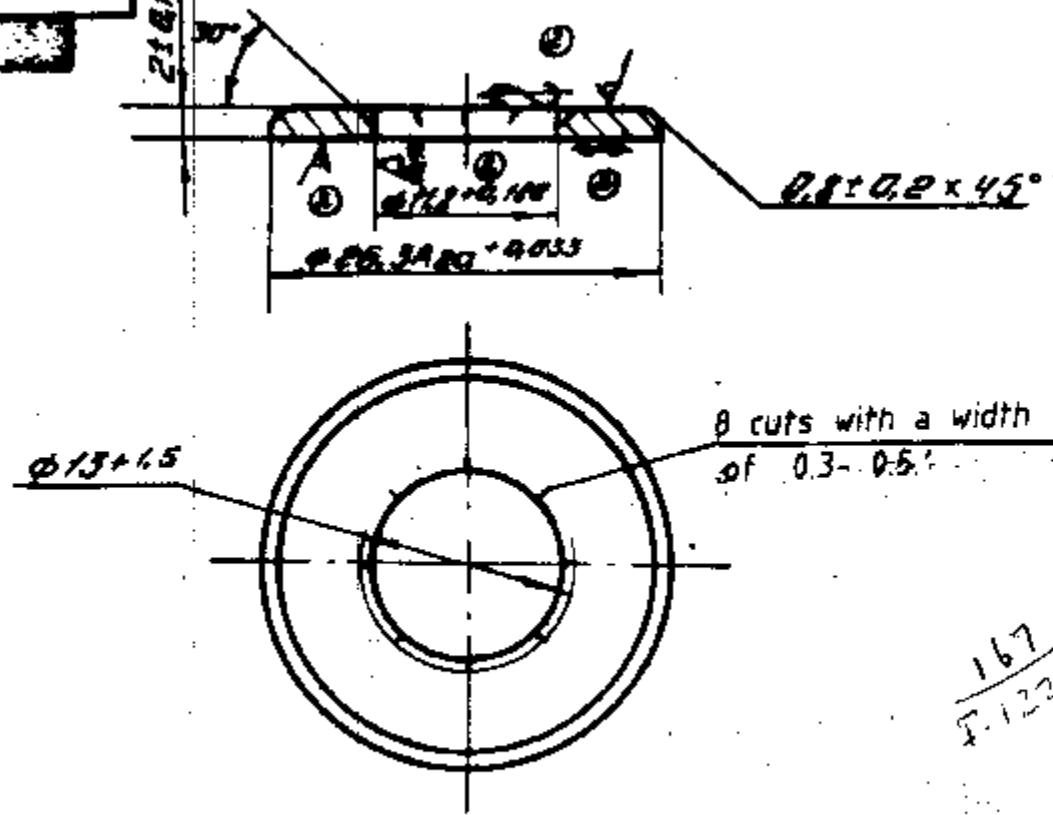
Carryout heat treatment as per the instructions UT-11-63



APPROVED	 H VASU	2-5		
CHECKED	H. M. Shaitch		WEIGHT	SCALE
CONTROLLERATE OF INSPECTION (ICVI)		STOP	0.0128	2:1
			SHT	SHTS
			85 OF 109.	
		STEEL 20895-B, GOST 11035-75		

9-2

by DIMENSIONS



Carryout heat treatment as per the instructions UT-11-63.
 Play of the surface $\phi 26.3^{+0.033}$ with respect to that of the surface $\phi 11.8$ should not exceed 0.05.

Check (control) using complex gauge.

Tolerance on free dimensions for chamfers are as per 722 AT

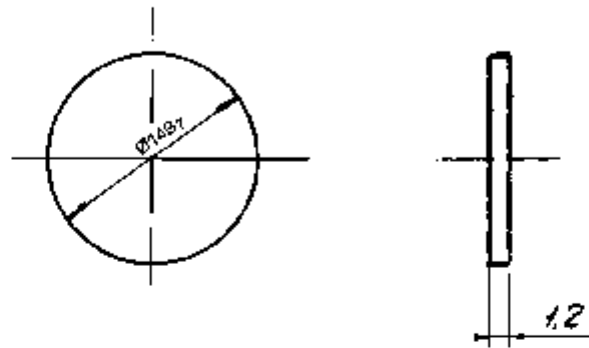
Dimension $\phi 26.3^{+0.033}$ is given after coating.

On $\phi 11.8^{-0.180}$ tearouts are allowed as per standard

Cadmium, 9 micron thickness, chromating.

Индекс		№ 48		Первичный номер		2-3K-015	
APPROVED		M VASU		2-6		К узла К детали	
CHECKED		MPL		WASHER		WEIGHT SCALE	
CONTROLLERATE OF INSPECTION (ICV)		Sheet		Б-ПН-0-2GOST 19904-74 20895 3836-73		0,0068 2:1	
						SHT SHTS	
						85 OF 109	

2-7



00993-ICV <i>to hand</i> 12-04-05	Ⓐ <i>[Signature]</i>	DS CAT NO ADDED AND NOMENCLATURE WAS "GASKET"
DS(3) NO DATE	ISSUE	AMENDMENT

2-3K-015

APPROVED *[Signature]* M. VASU
 CHECKED *[Signature]*

2-7

Ⓐ DS CAT NO: LV2/RCV 5330-02 6178

CONTROLLERATE
 OF
 QUALITY ASSURANCE
 (ICV)

Ⓐ GASKET
 FELT MECHANICAL
 PREFORMED

WEIGHT SCALE

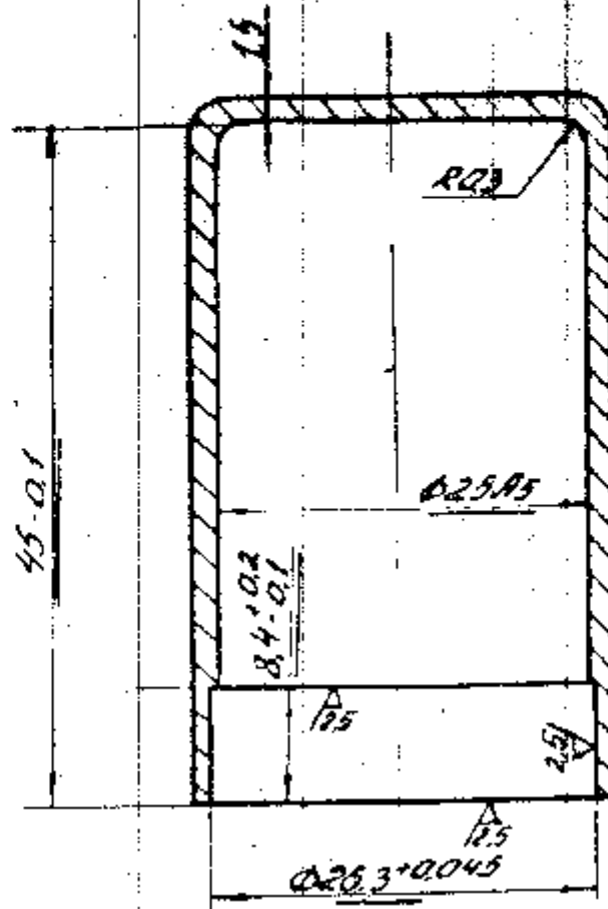
0.0003 2:1

SHT 87 SHTS 109

TEXTOLITE A-10
 GOST 2910-74

2-8

(✓)



состоятелен с подлинника

1. Underlined dimensions-after coating
2. Underlined dimensions may be performed in the unit Assy2-2. Permissible ovality $\phi 26.3^{+0.045}$ should not exceed 0.14mm.
3. Blunt the sharp edges to $\leq R0.3$.
4. The part is coated with cadmium 6 micron thickness chromating, in the unit Assy 2-2.
6. Increase of $\phi 25A_5$ to $\phi 25^{+0.4}$ to a length not exceeding 5mm from the base is allowed.

Tolerance on free dimensions are as per 722AT.

Material Plate Б-МН-0-15 GOST 19904-74
20895 GOST 3836-73

2-3K-015

169

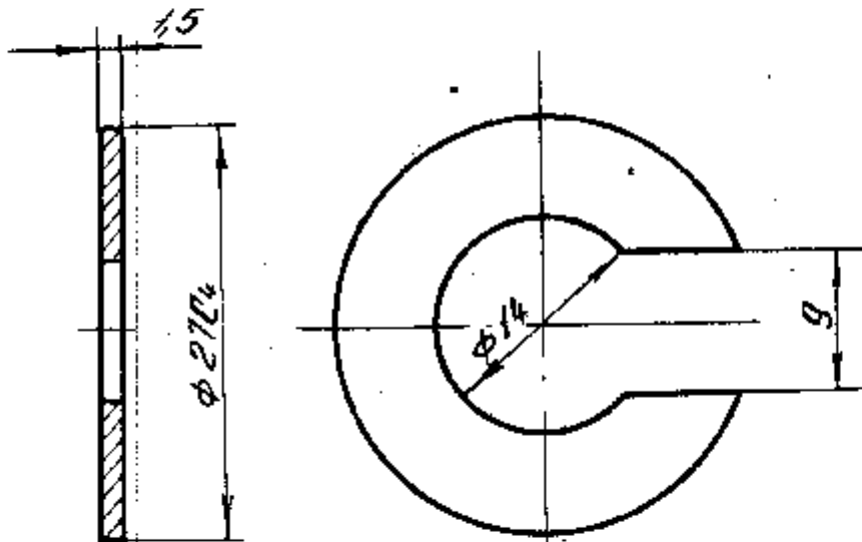
APPROVED		2-8		WEIGHT	SCALE
CHECKED		BODY		90432	2:1
CONTROLLERATE OF INSPECTION (ICV)				SHT	SHTS
				88 OF 109	

Добавлено в чертёж по чертежу № 3

Б-2

100

Dimensions without tolerances are as per A5 C5.



Carryout heat treatment as per the instructions UГ-11-63.

170
I.1224

48

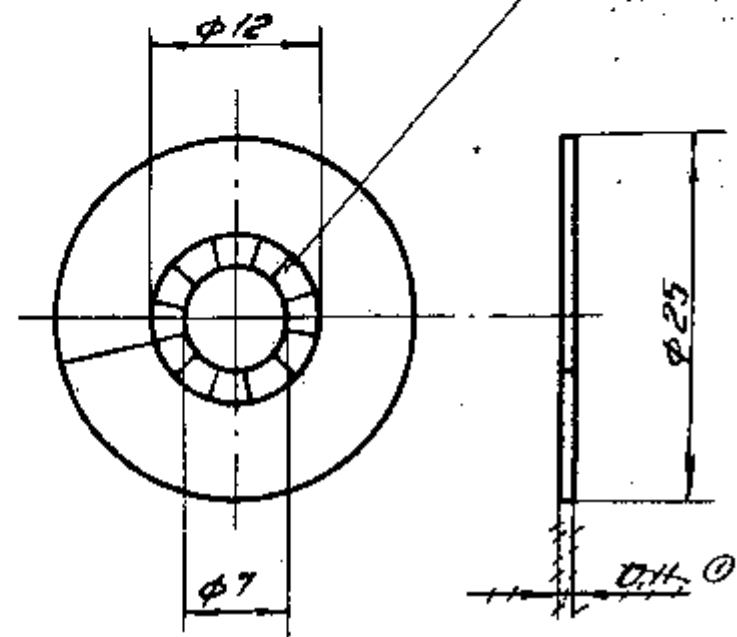
2-3K-015

APPROVED	<i>[Signature]</i>	IN YASKI	2-9	WEIGHT	SCALE
CHECKED	<i>[Signature]</i>			5.80443	2:1
CONTROLLERATE OF INSPECTION (ICV)			CLAMP	SMT	SMTS
			Plate	Б-ПН-0-1.5 GOST 19904-74 20895 GOST 3836-73	89 OF 109

01-2

Dimensions without tolerances - as per A7 B7

Make uniformly 10-12 cuttings, located along the circumference.



171
I-1224

The washer may made of varnished cloth ЛКМ-105 0.12 GOST 2214-78.

Material. Varnished glass cloth ЛКК-155/180-0.12 GOST 10156-78

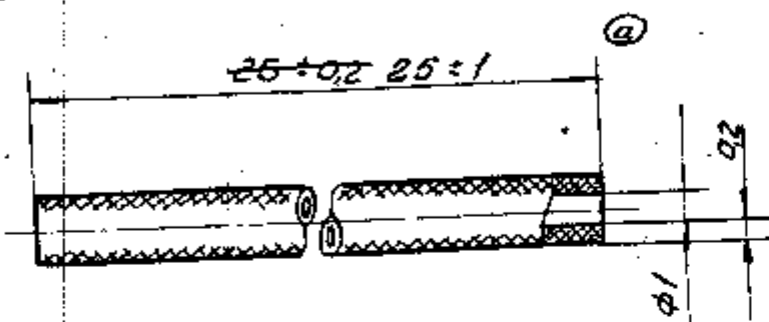
ЛКК-48

Вармен

2-ЗК-015

APPROVED	<i>[Signature]</i> M VASU	2-10	
CHECKED	<i>[Signature]</i>		
CONTROLLERATE OF INSPECTION (ICV)	INSULATING WASHER	WEIGHT	SCALE
		900009	2:1
		SHT	SHTS
		90	0 109

11-2



172
I-1224

Material: Tube ϕ -4,0 31,0
Grade 1, white
GOST 22056-76

11-2

316-48



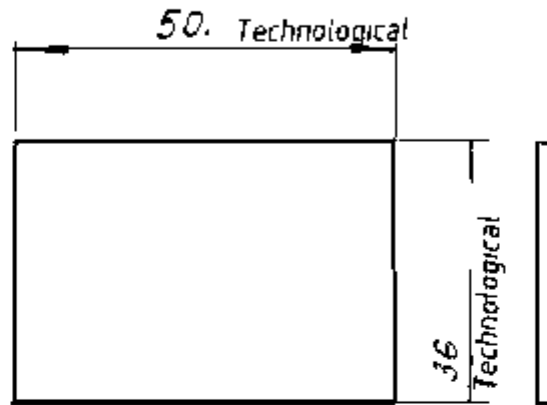
2-11

CENTROSTATE
OF
INSPECTION
(ICVI)

INSULATION

WEIGHT	SCALE
0,000056	5:1
SHT	SHTS
	91 OF 109

2 - 13



Gasket may be made of varnished cloth $\mathcal{N}KC$ with a thickness of 0.12mm

Material Varnished cloth $\mathcal{N}WMC-105$ 0 12
GOST 2214-78

00993-ICV

(A)

12-04-05

Handwritten signature

DS CAT PART No. ADDED

2-3K-015

ICV No. & DATE

ISSUE

AMENDMENTS

APPROVED

M. VASU

CHECKED

M. S. K...

2 - 13

(A)

DS CAT NO: LV2 / RCV 5330-026179

CONTROLLERATE
OF
QUALITY ASSURANCE
(ICV)

GASKET

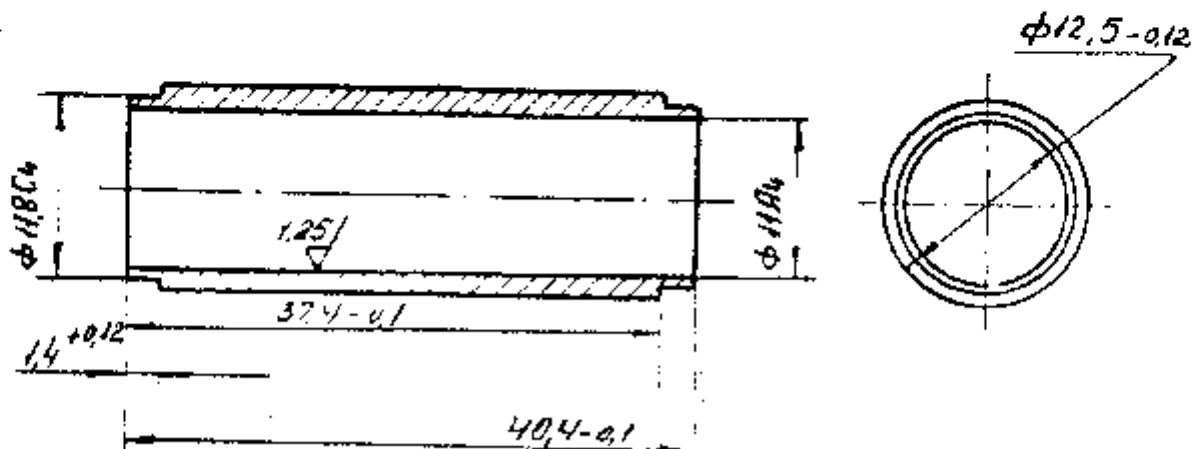
WEIGHT SCALE

0.0004 2:1

SHT 92 SHTS 109

2-14

R_a 20 (✓)





174
I-1224

Coating: Chemically passivated.

Material: Tube $\Delta KpH // 14 \times 2 \Delta 63$
GOST 494-76.

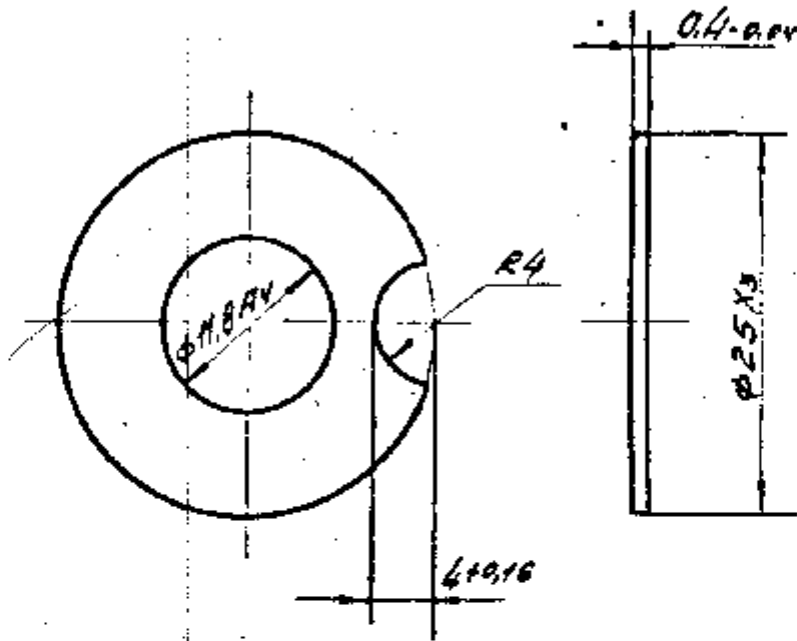
ИДЕНТ
K-48

2-3K-015

APPROVED	 N. VASU	2-14		
CHECKED		BUSH	WEIGHT	SCALE
CONTROLLERATE OF INSPECTION (IC V)			0,008	2:1
		SHT	SHTS	

2-15

P



Tolerances on free dimensions are as per 722 AT.

175

Coating: Chemically passivated.

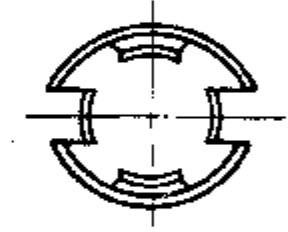
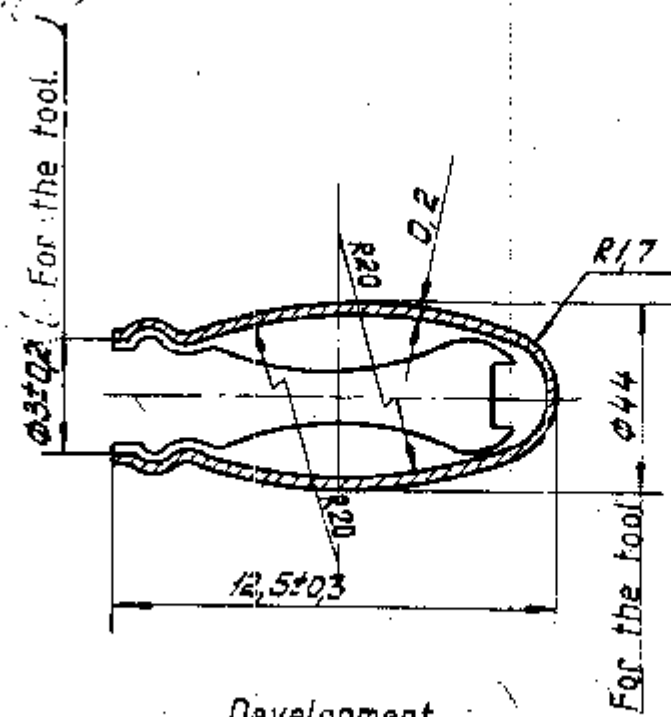
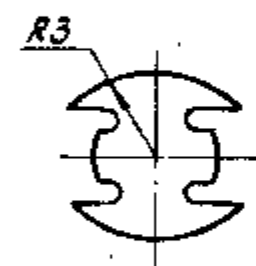
Material: Band АПРHT 0.4 Бр 0φ6.5-0.15
GOST 1761-79.

APPROVED	M VASU	2-15	
CHECKED	MV	SPECIAL WASHER	
CONTROLLERATE OF INSPECTION (ICV)		WEIGHT	SCALE
		0,0012	2:1
		SHT	SHTS:
		94 OF 109	

2-16

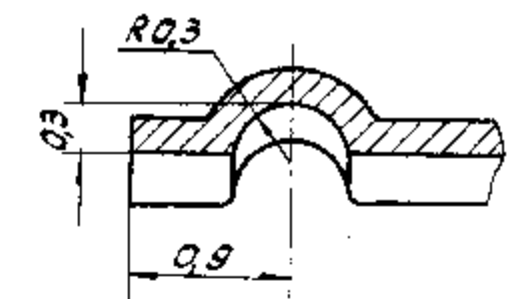
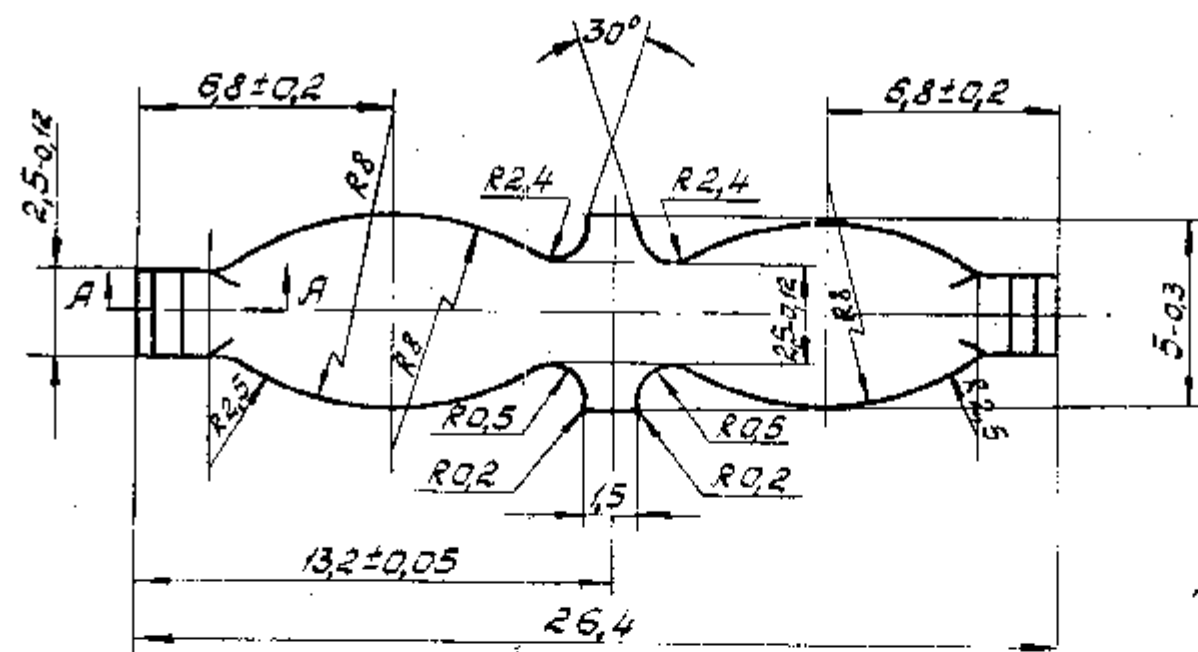
Восстановленной подлинник №2

КРИВОТ



Development

A-A
Scale 25:1



176
I.1224

Coating : Silver, 9 micron thickness.

Blunt the sharp edges to R 0,3 mm.

Tolerances on free dimensions are as per 722AT.

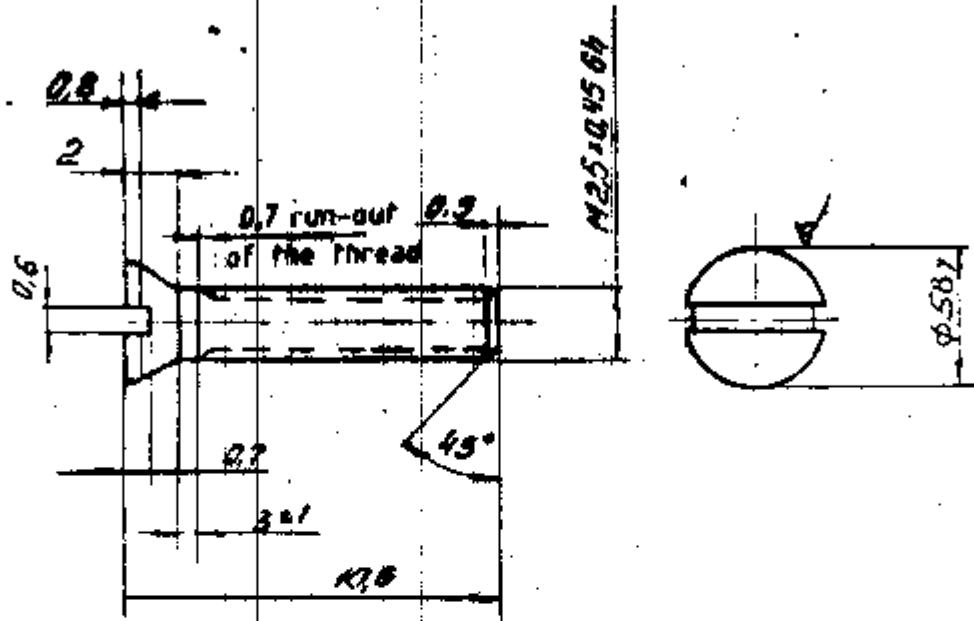
Dimensions 26.4 and R3, R20, R1,7 are given for the tool.

УНБ № 3К-48
 УНБ № 253309
 Дата Подп. 29.12.74г. (подп.)

APPROVED	<i>[Signature]</i> M VASU	2-3K-015	
CHECKED	<i>[Signature]</i>	2-16	
CONTROLLERATE OF INSPECTION (IC V)		SPRING OF THE PLUG	
		WEIGHT	SCALE
		0.00016	5:1
		SHT	SHTS
		95 OF 109	

2-18

Rz20 (✓)



Perform dimensions without tolerances as per 722AT.

Eccentricity of the slot to the axis of the screw should not exceed 0.2.

Coating: Cadmium, 3 micron thickness, chromating.

Material: Disc 5-4GOST7417-75
45-B GOST 1051-73

178
I-1224

1704240112 178 20

1-3K-015

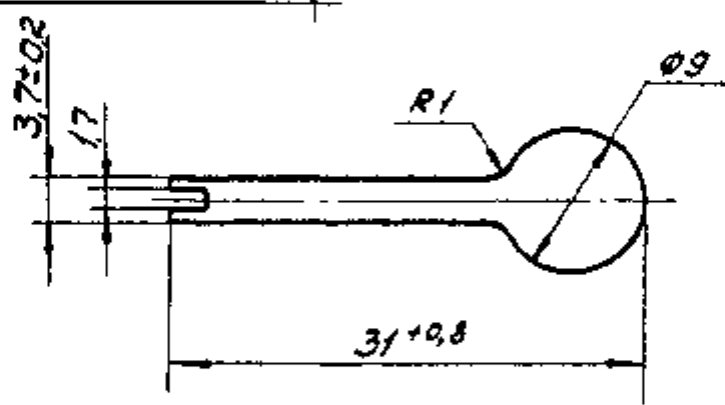
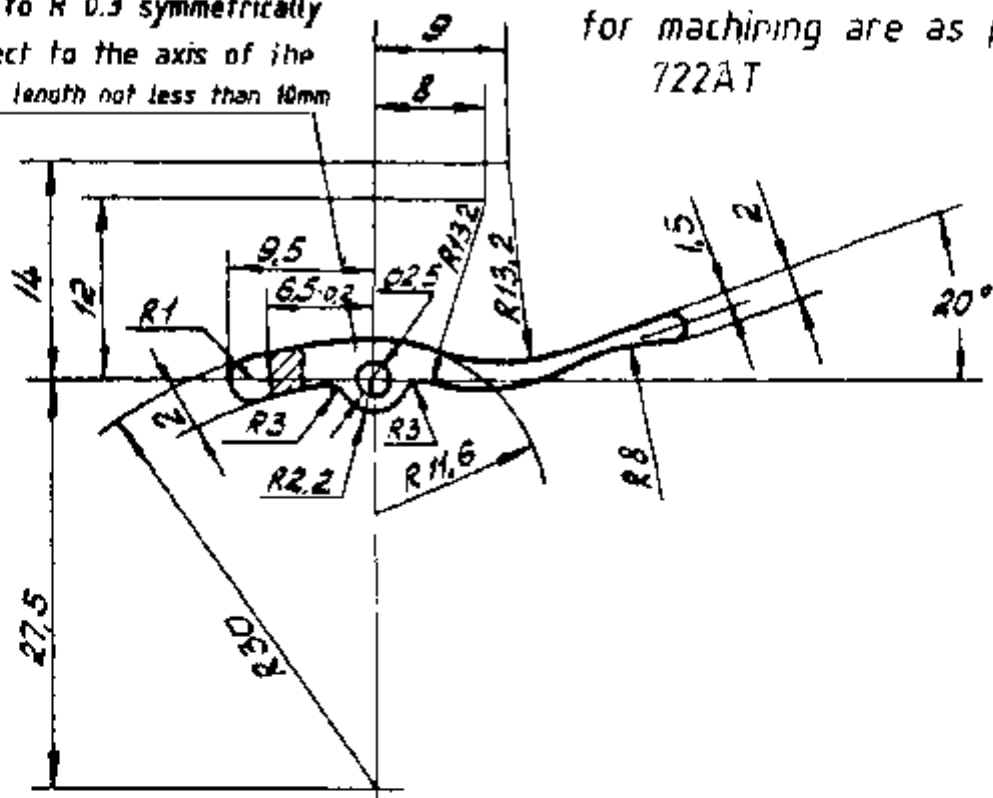
APPROVED	(IICA) <i>[Signature]</i>	M VASU	2-18	
CHECKED	<i>[Signature]</i>		SCREW	
CONTROLLERATE OF INSPECTION (IC V)			WEIGHT	SCALE
			SHT	SHTS
			97 OF 109	

8

R_z 10

Round off to R 0.3 symmetrically with respect to the axis of the hole over a length not less than 10mm

Tolerances on free dimensions for machining are as per 722AT



Precision casting may be made from steel 35xTCJ OCT190093-73 or steel 35 GOST 977-75 hole Ø25 and slot-R_z 40

Cadmium 15 micron thickness chromitized.

00996-ICV <i>[Signature]</i> 21-06-05 IX(I)No. & DATE	Ⓐ <i>[Signature]</i> ISSUE	DS CAT PT No. ADDED AND DESCRIPTION 'LEVER' AMENDED AS LEVER RELEASE
2-3K-015		
AMENDMENTS		

APPROVED *[Signature]* M. VASU
 CHECKED *[Signature]*

3

Ⓐ DS CAT PART No. 254B-003065

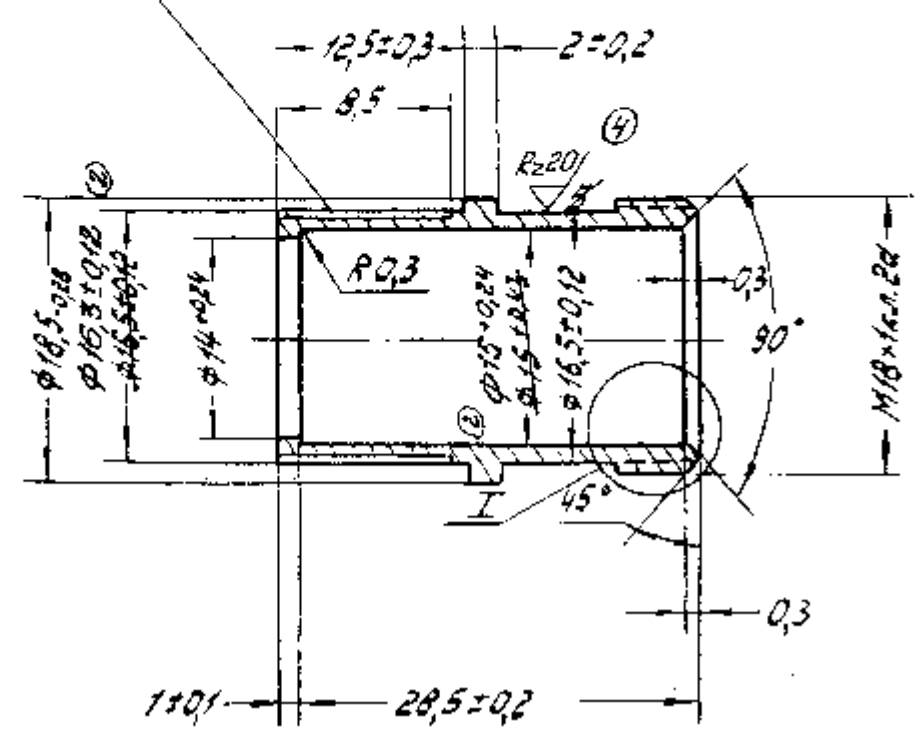
CONTROLLERATE OF QUALITY ASSURANCE (ICV)

Ⓐ LEVER LEVER RELEASE
Steel 25 GOST 1050-74

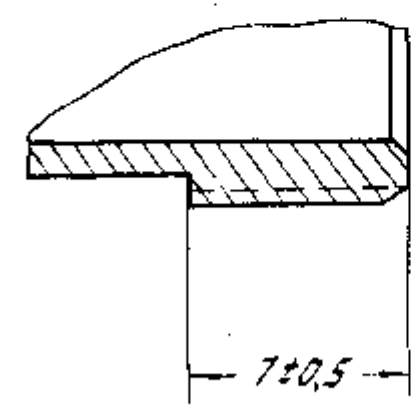
WEIGHT	SCALE
0.00198	2:1
SHT 59	SHTS 109

1-1

Straight knurling 0,6 GOST 21474-75.



Scale $\frac{I}{5:1}$



Tolerances on free dimensions are as per 722 AT.

Body 4-1 may be made of the material Д16Т АМГ 6М GOST 21488-76.

Coating : Anodic oxidation, chromating.

171
L-1224

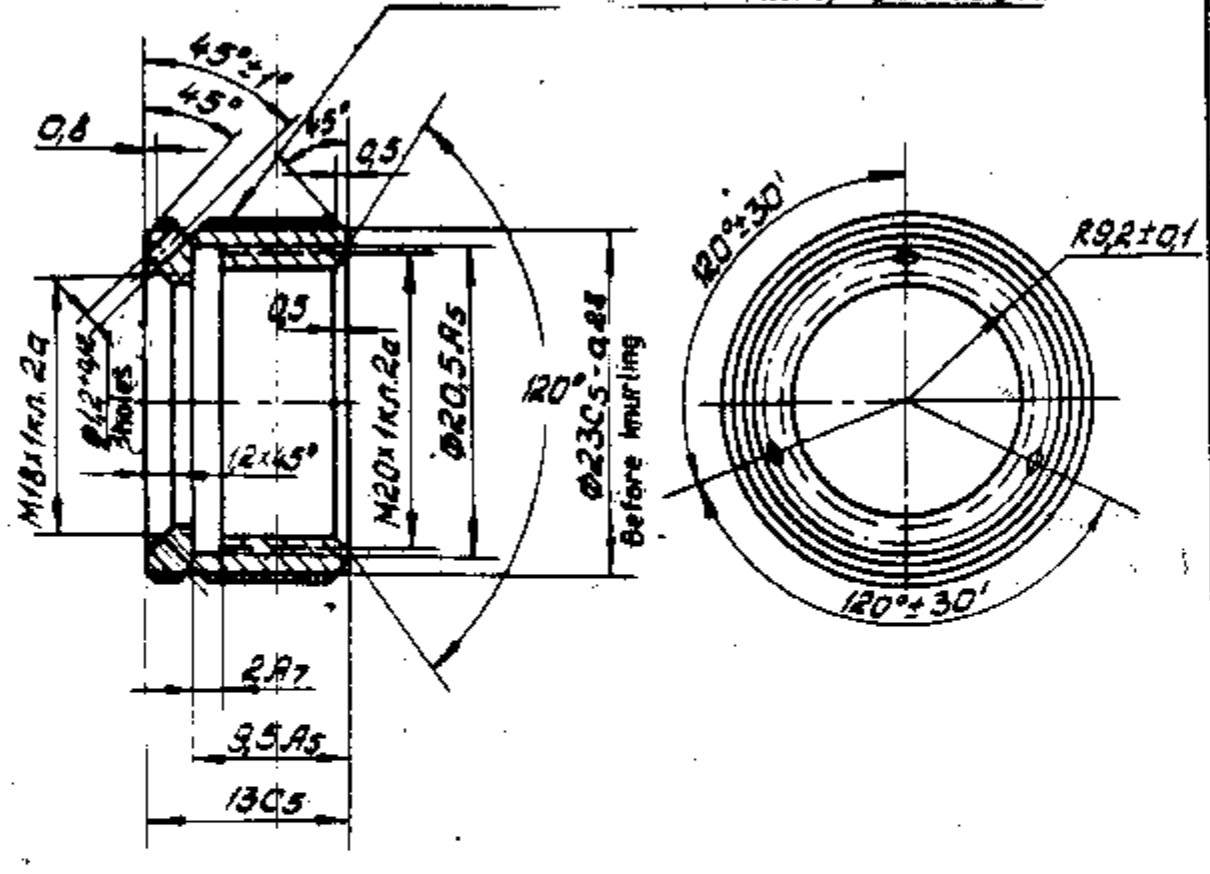
241.067
19.11.69
19.11.69
19.11.69

APPROVED	<i>[Signature]</i> M VASU	4-1	
CHECKED	<i>[Signature]</i>	BODY	WEIGHT SCALE
CONTROLLERATE OF INSPECTION (ICV)			2.5g 2:1
		SHT SHTS	
Aluminium alloy А1Т GOST 21488-76		98 OF 109	

4-3

▽5 R200

Straight knurling 00 GOST 21674-75



Tolerance on free dimensions are as per 722AT.

Anodic oxidation chromating.

Material: Aluminium alloy 16T GOST 21488-76.

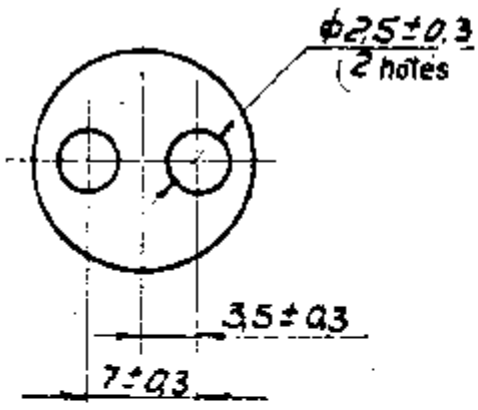
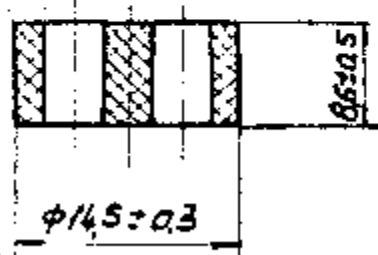
180

2-3K-015

APPROVED	<i>M. VASU</i>	4-3	WEIGHT	SCALE
CHECKED	<i>MVA</i>		0.0044	2:1
CONTROLLERATE OF INSPECTION (ICV)		NUT	SHT	SHTS
			99	OF 109

4-4

181




Surface finish in places of fin trimming is $R_z \frac{20}{\sqrt{}}$

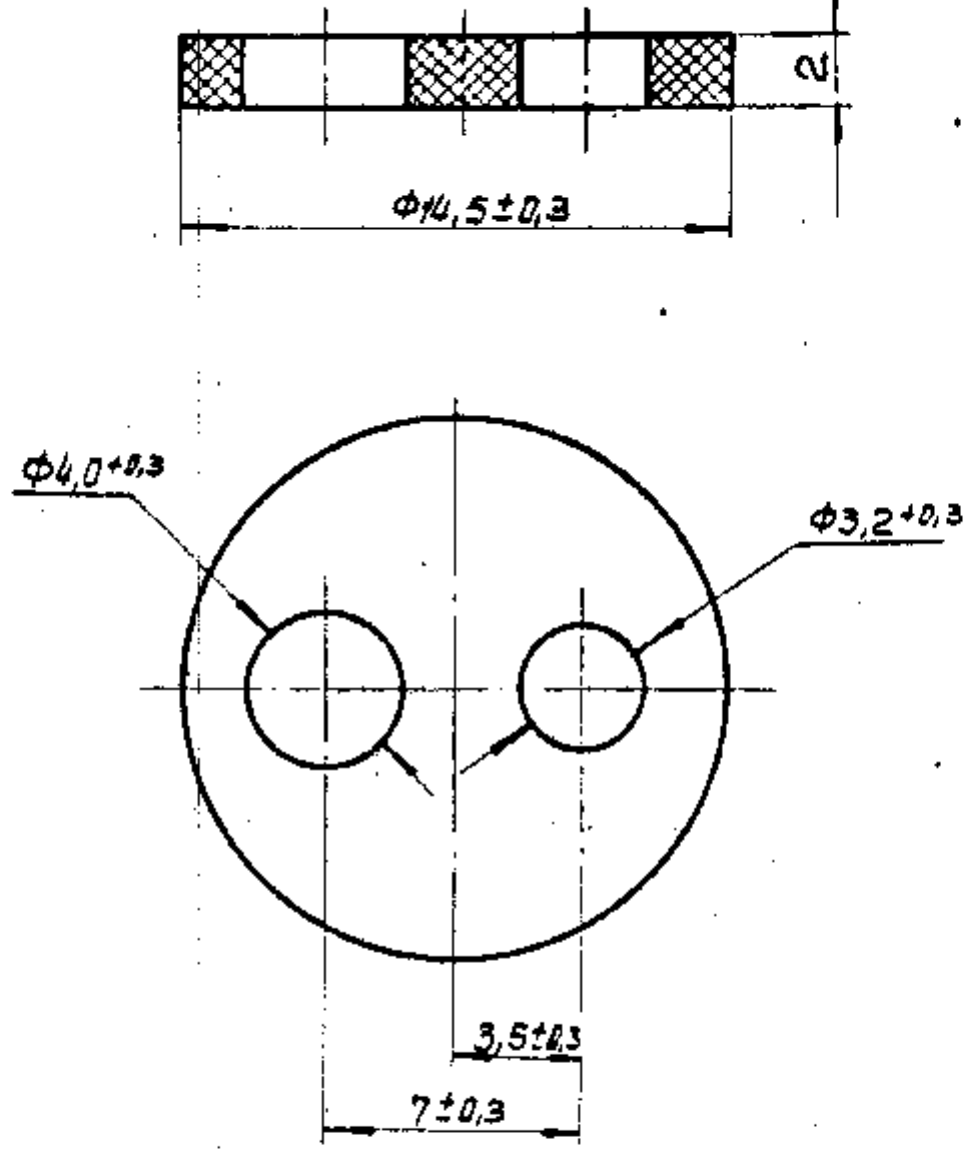
Material: Rubber stock TC98-1
Ty38 005 1166-73

Технический чертёж

2-3K-015

APPROVED	 M. VASU	4-4		
CHECKED	H. M. Shaukch			
CONTROLLERATE OF INSPECTION (ICV)	PACKING	WEIGHT	SCALE	
		0.00175	Z:1	
		SHT	SH15	
				100 OF 109

5-7



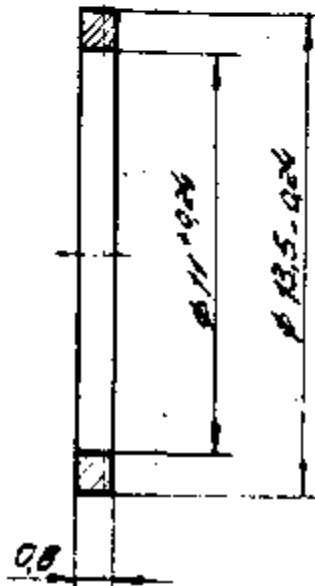
182
I.1224

Tolerances on free dimensions are as per 722AT.

		ПОДПИСЬ №1		2-ЭК-015	
		№ узла		№ детали	
APPROVED	<i>M. VASU</i>	4-5		WEIGHT	SCALE
CHECKED	<i>M. V.</i>	GASKET		0,00037	5:1
CONTROLLERATE OF INSPECTION (ICV)		Textolite A-20 GOST 2910-74		SHT	SHTS
				101	OF 109

9-4

✓



183
I-1224

Coating: Tin, 9 micron thickness

ЭК-48

Восстановленный
подшипник №1.

Первичный номер

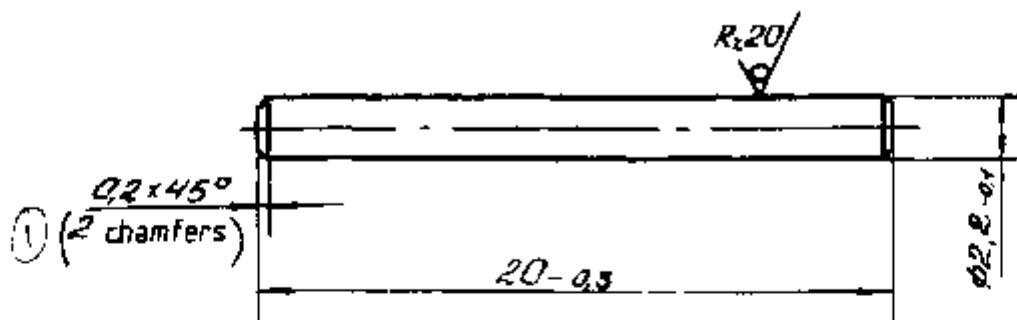
2-ЭК-015

№ 4310 № 7604

APPROVED	<i>M. VASU</i>	4-6	
CHECKED	<i>M. V.</i>	RING	
CONTROLLERATE OF INSPECTION (ICV)	BAND А ПР ПТО,8 Л63 GOST 2208-75		WEIGHT 0,00027
			SCALE 5:1
			SHT SHTS 102 OF 109


748 300 017


Rz40/ (✓)



1. Dimensions without tolerances are as per 722AT.
2. Coating: Cadmium 6 microns thickness chromated.

DCI)No. & DATE	ISSUE	AMENDMENT'S

APPROVED  M VASU

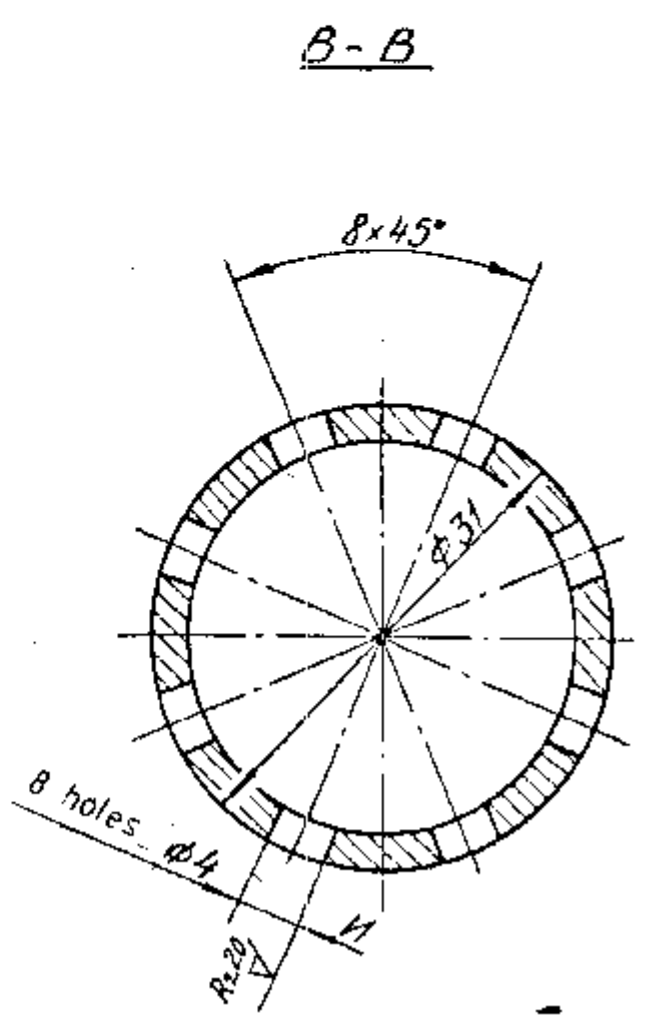
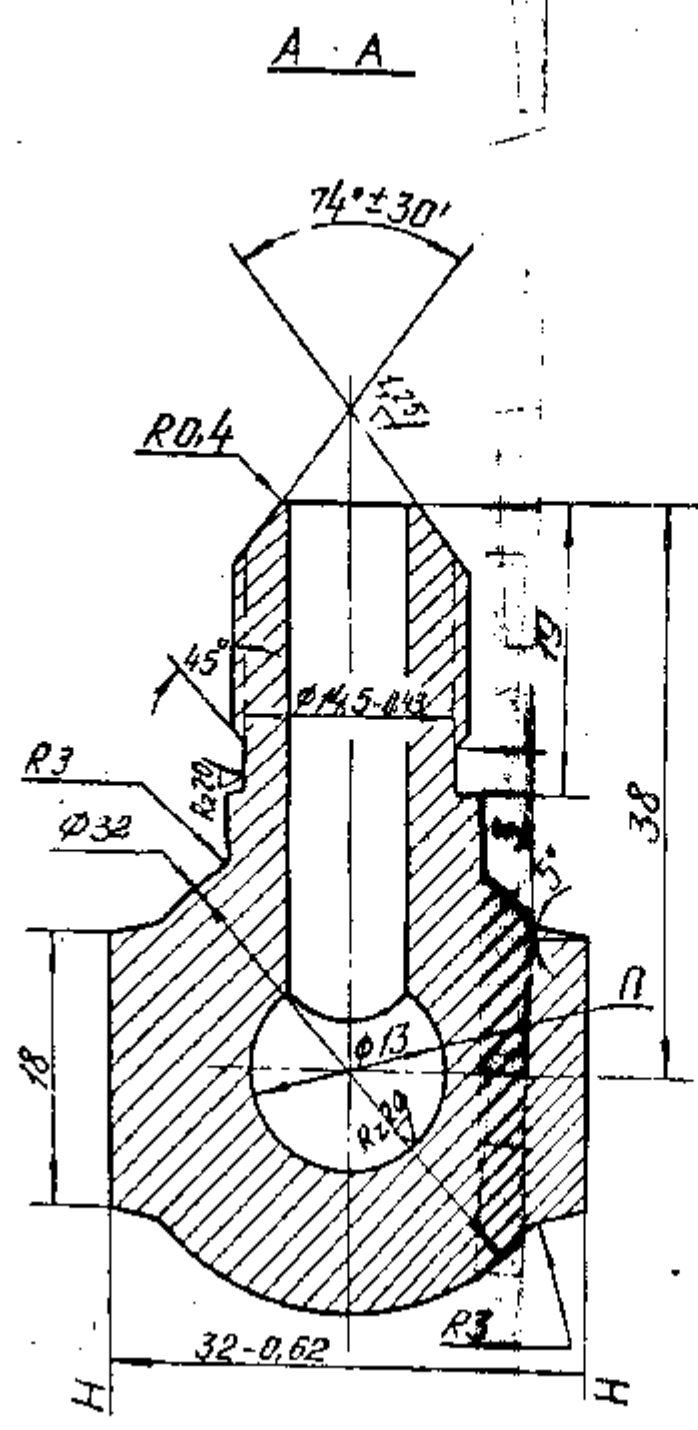
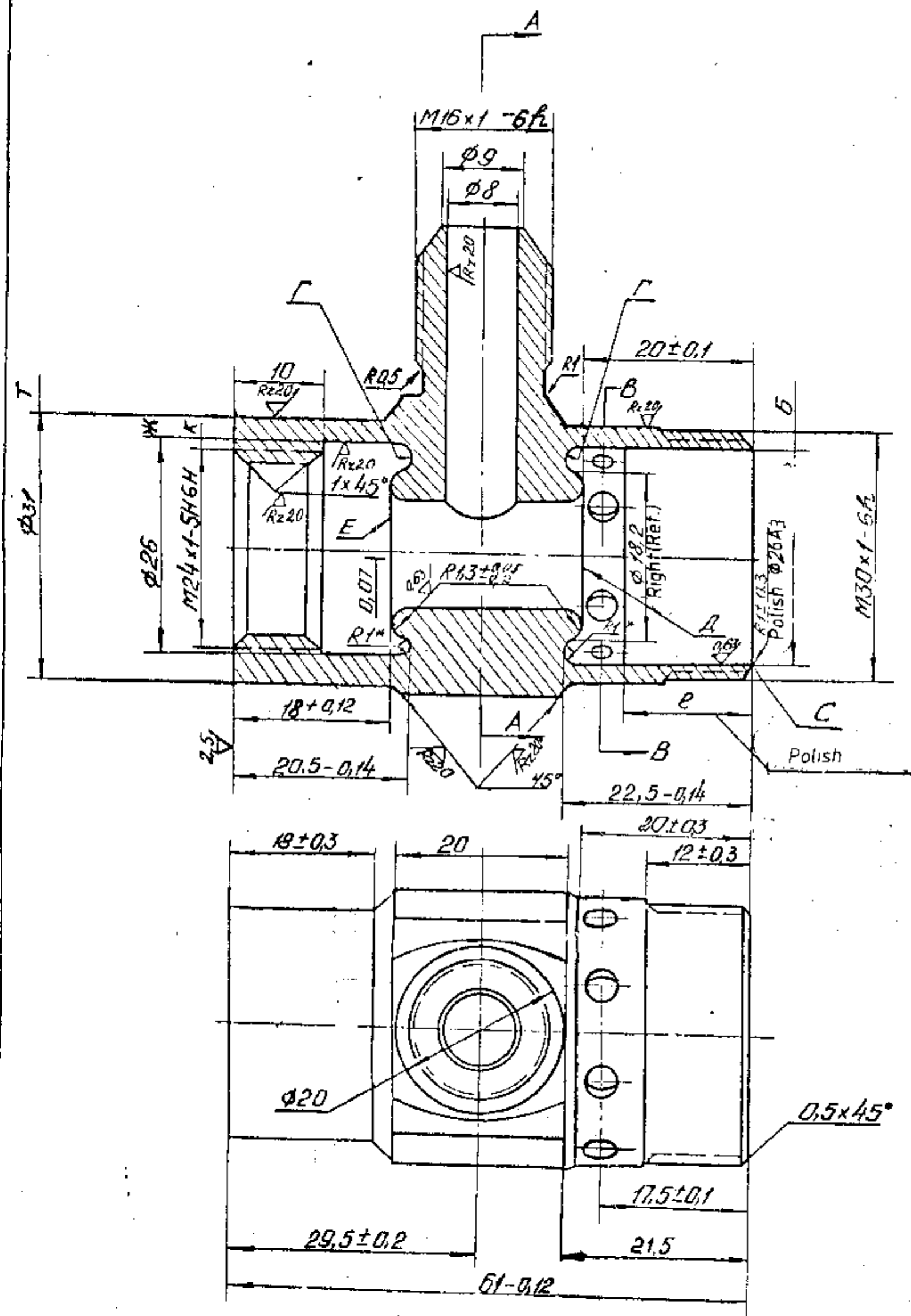
CHECKED 

CONTROLLERATE
OF
QUALITY ASSURANCE
(ICV)

748 300 017

PIN	WEIGHT	SCALE
	0.0006	4:1
	SHT	SHTS
WIRE 2.55-10 GOST 5663-79		

✓(V)



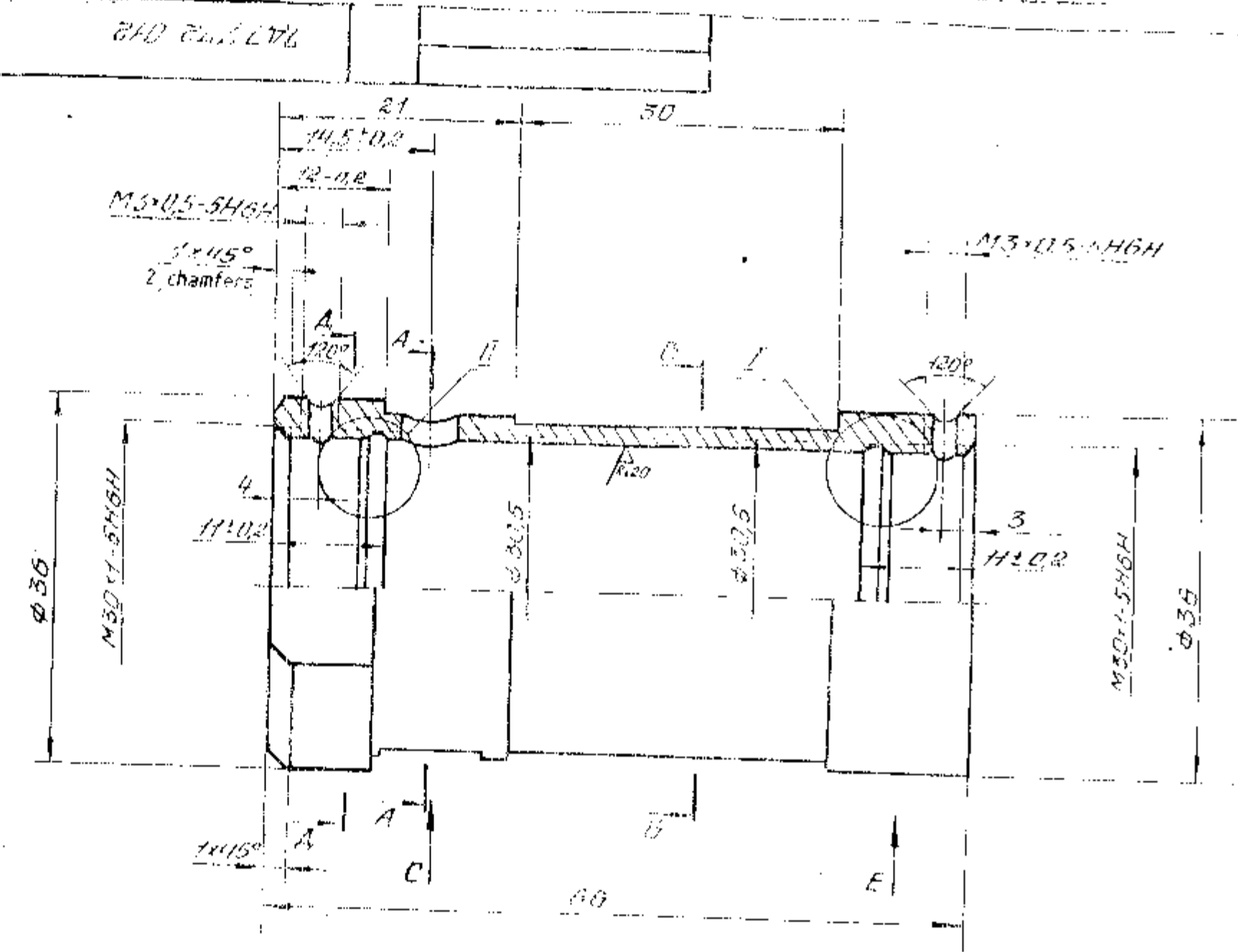
- 1 Tolerances on unmachined surfaces are as per OCT 141187-78-6 grade.
- 2 Tolerances on surfaces to be machined are as per 722AT.
- 3 Buttend play of ends D and E with respect to the axis of the surface φ6 should not exceed 0.05mm.
- 4 Play of the surface B with respect to the thread K should not exceed 0.05mm.
- 5 After anodic oxidation, polish the seat R1.3 of surface B over a length not less than 15mm.
- 6 Depression of one of the buttenis r and surface * may be free of coating as per the standard.
- 7 Holes and radii designated by the sign * may be free of coating.
- 8 Blunt the sharp edges to ≈R0.3.
- 9 Permissible remainder of the fin all along the perimeter in places of complex contour with thickness upto 0.5mm and width upto 6mm.
- 10 Displacement along the parting plane of die is allowed upto 0.4mm.

- 11 Swaging. Technical requirements on die-forging are as per OCT 1.90073-72 inspection group 3 (for samples of the batch).
- 12 Make hardening and natural ageing. Hardness HB ≥ 100.
- 13 Portion of holes φ4 with respect to the axis is arbitrary.
- 14 On the surface "f" step may be within the tolerance limits.
- 15 While machining the surface "T" local unfinished sections are allowed.
- 16 Machining of surface "H" is allowed.
- 17 After polishing buttend "C" may be free of coating.
- 18 External appearance is as per standard.

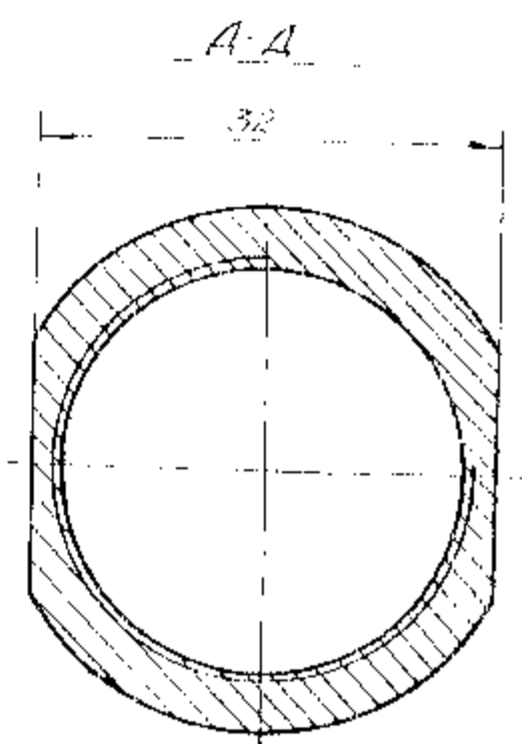
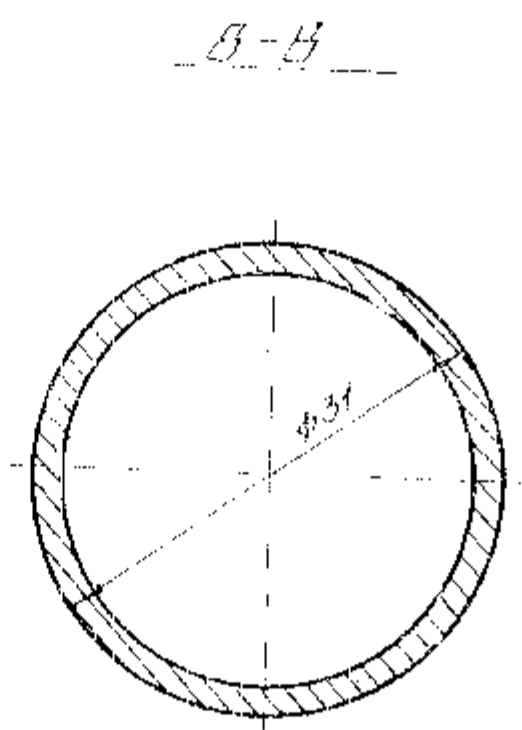
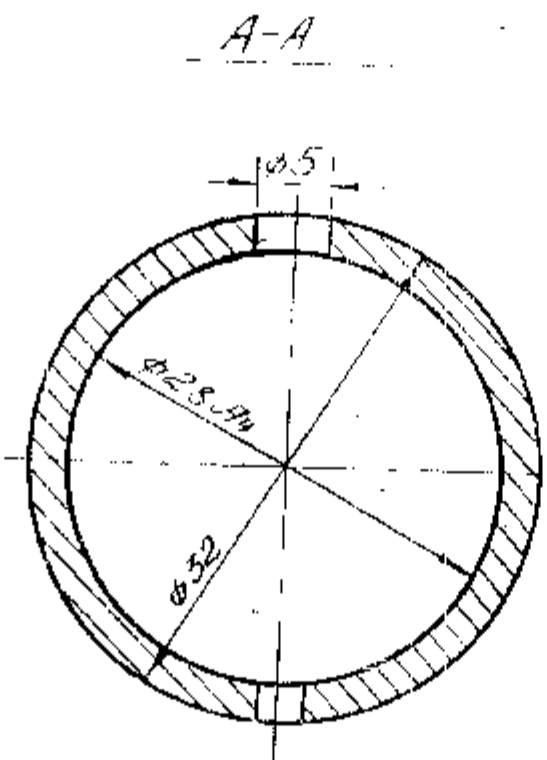
188 189/190
I-1224

Material: Aluminium alloy-AK6 GOST 21488-76

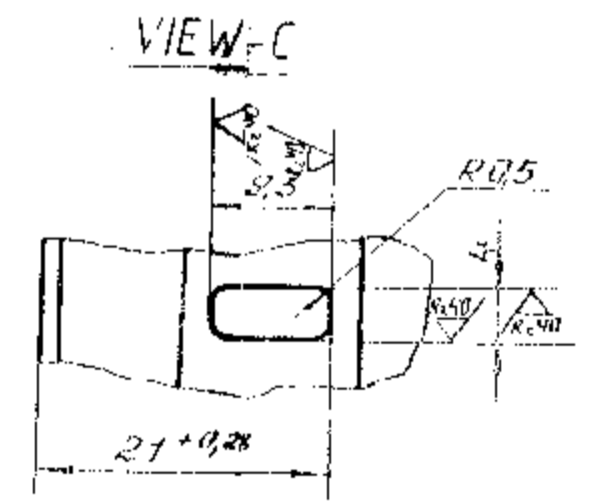
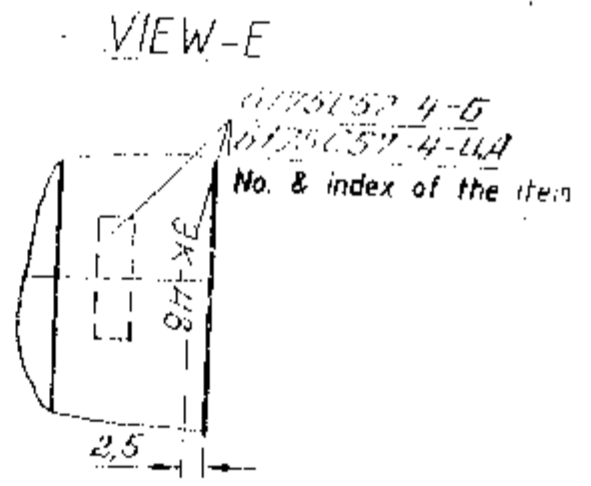
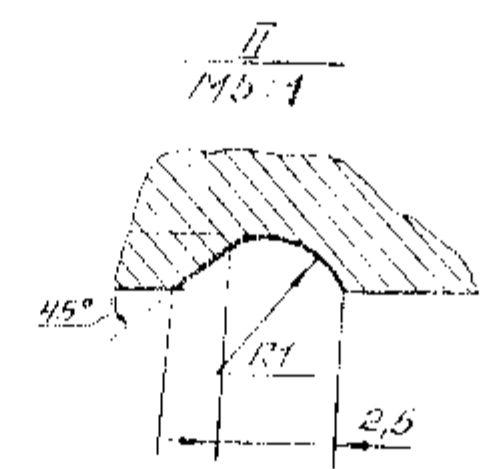
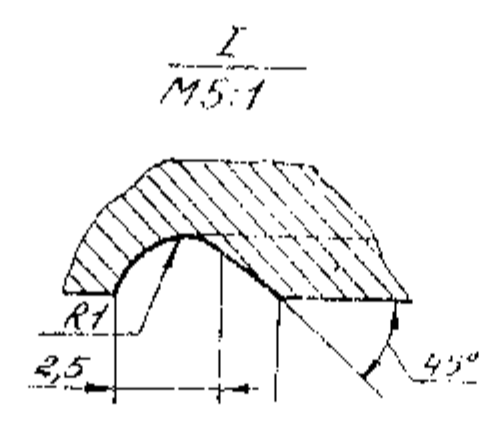
APPROVED	M VASU	7.47.772.009	
CHECKED		VALVE BODY	
CONTROLLERATE OF INSPECTION (ICV)		WEIGHT	SCALE
		0.082	2.7
		SHT	SHTS
		107 OF 108	



- 1 Tolerances on free dimensions are as per 722AT.
- 2 Position of flats is arbitrary, in this case threaded hole M3x0.5-5H6H is not allowed to be made on flats.
- 3 Flats may be made without grooves at the exit of the thread M30x1-5H6H with length of the thread as $11^{+0.10}_{-0.3}$ mm
4. After coating engraving is allowed. Coat the engraving with varnish yp-231 Ty6-10-863-76
- 5 During knurling, the distance between letters and figures is allowed upto 1.2mm and the distance between adjacent figures and figure "1" should not exceed 2.2mm.
- 6 Before coating to a depth of 0.02- 0.2mm, knurl the figures and letters
7. Assymetry of position of rectangular hole 4x9.3 with respect to $\phi 5$ should not exceed $\pm 2^\circ$
8. Coating. Anodic oxidation chromating.

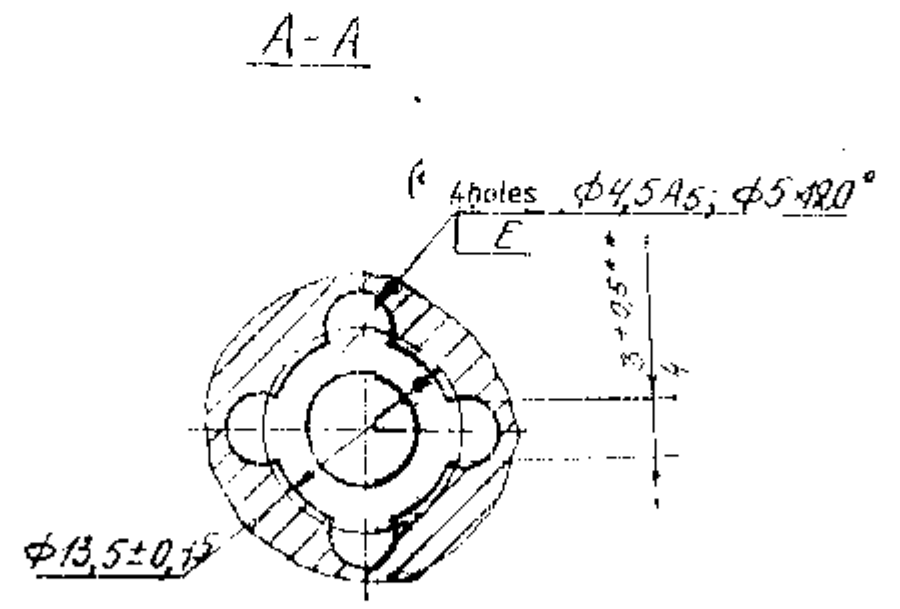
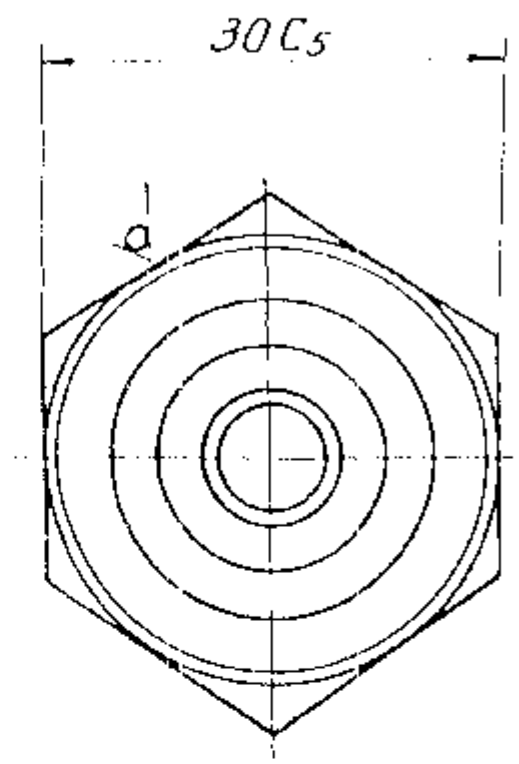
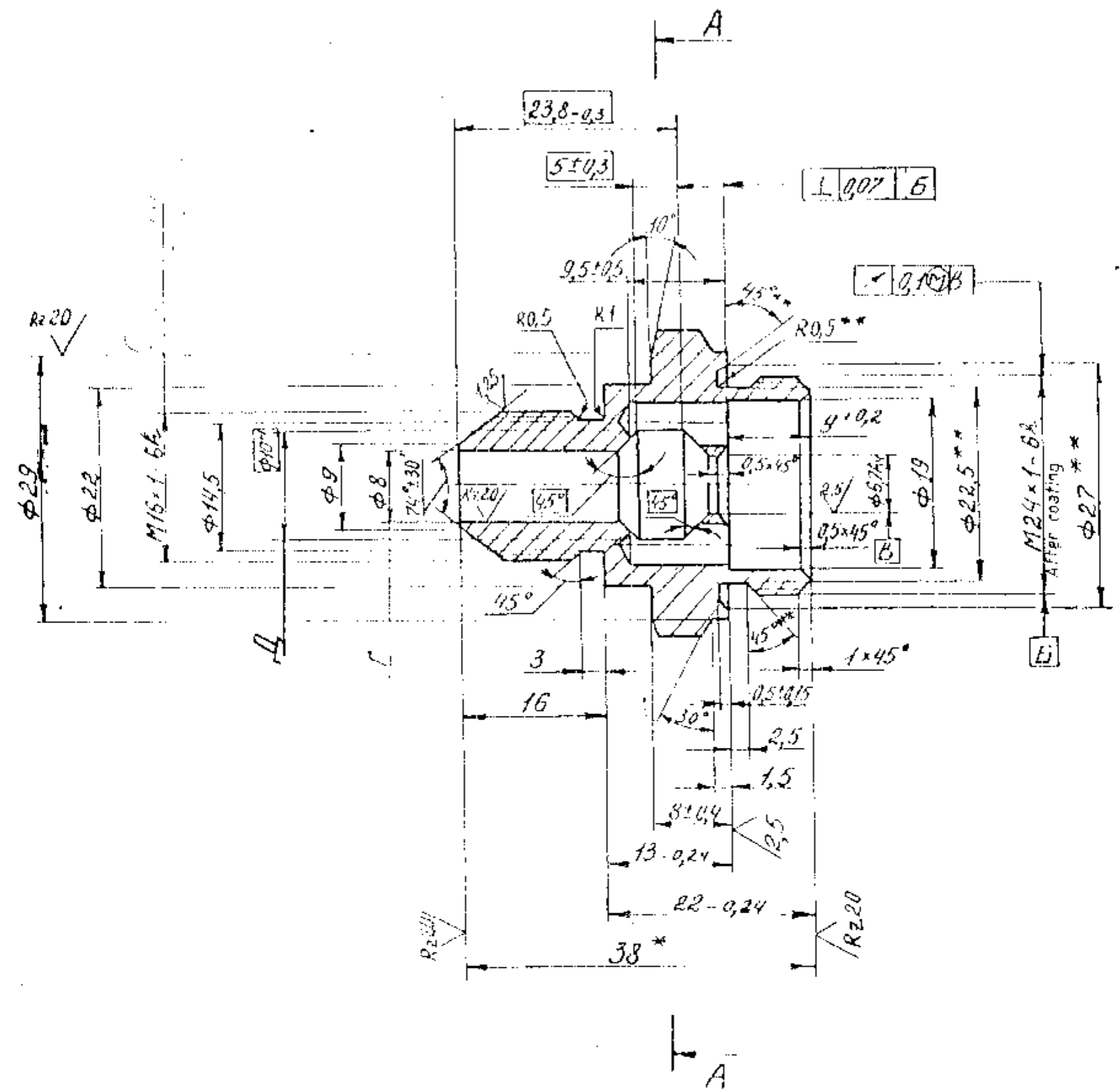


Design as per the engraving
1 K-48



163,164
E.1224

APPROVED		747.77E-012	
CHECKED		BODY	WEIGHT SCALE
CONTROLLERATE OF INSPECTION (ICVI)			0.036 2:1
		Tube 38x7 A16T GOST 18482-79	SHT SHTS
			83 of 109.

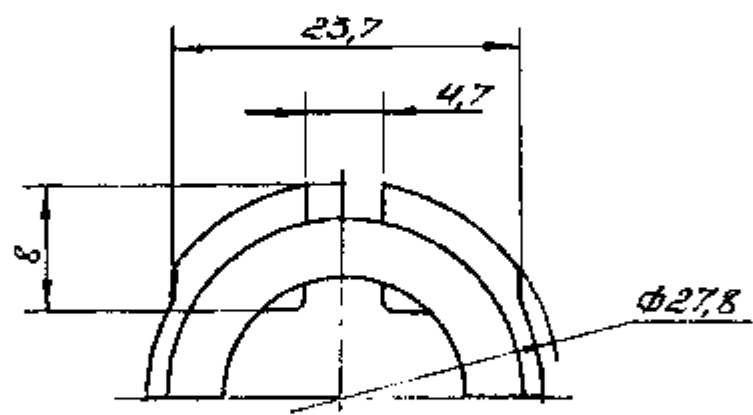
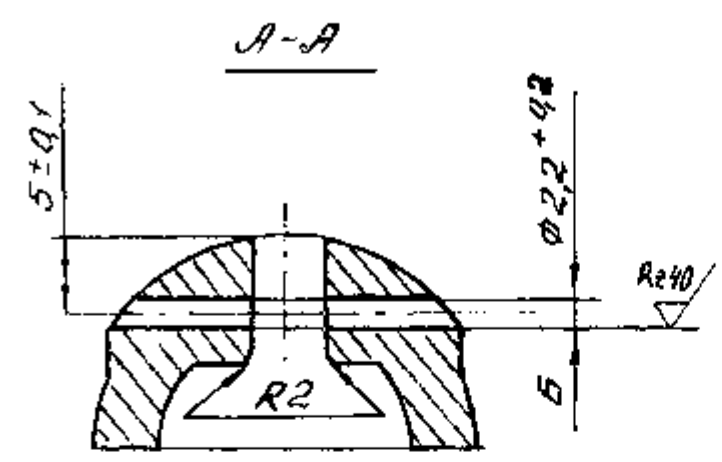
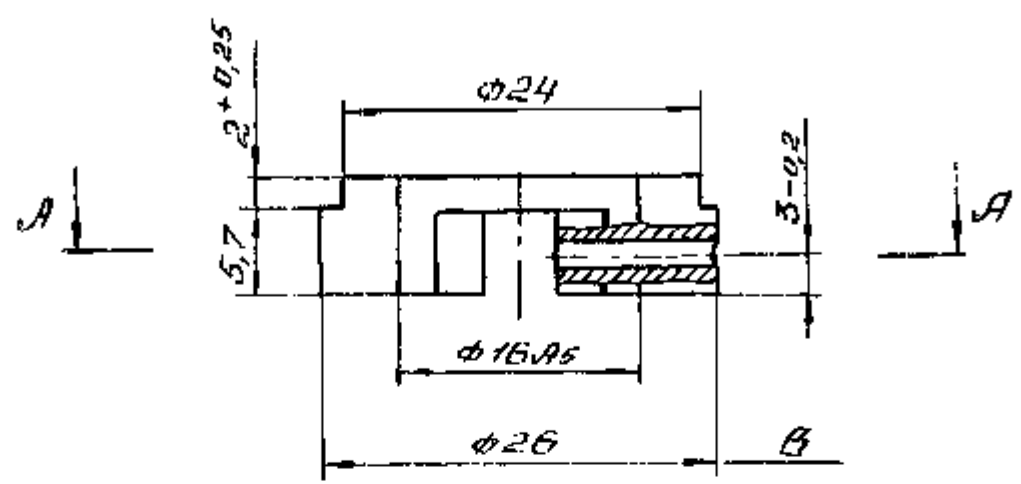


- 1.*Dimension is for reference
- 2.**Dimensions are provided by tool.
- 3 Unspecified limit deviations of dimensions are as per 72 2AT.
4. Coating layer in the holes E/A should not be less than 4 MKM.
- 5 Hold dimensions in frames by electrochemical machining. Increase of diameter r upto $\phi 8.3$ mm is allowed on the diameter r in length not exceeding 4mm from face of the taper
- 6.Coating Cadmium, 9 micron thickness, chromated
On the surface of diameter r coating layer may be reduced upto 5 MKM.
- 7 Tool traces on diameter $\phi 19$ are allowed.

APPROVED	RECEIVED	708.652-018	EIGHT	SCA
		CONTROL RATE	0,070	2:1
		OF		
		INSPECTION	SHTS	
		(ICV)		
		Hexahedron		
		30-5 GOST 8560-78		
		45 GOST 1051-73		

748.126.030

✓ (✓)

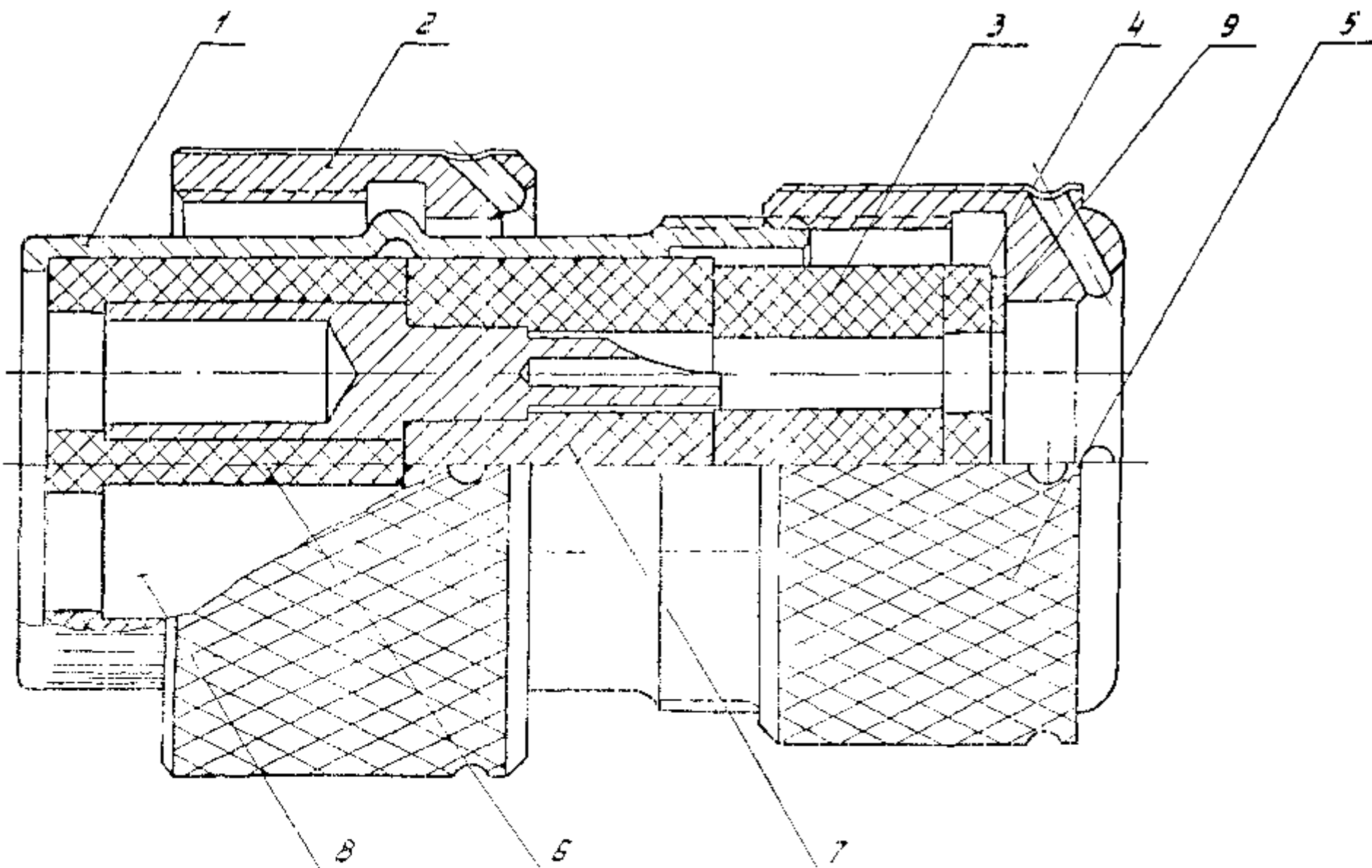


1. Tolerances on casting dimensions are as per AT-3 OCT 1.41154-72.
2. Unspecified casting radii should not exceed 1mm.
3. Unspecified draft angles upto 1°.
4. On the surface B perform taper to the increased side.
5. Surface may be unfinished in the hole B.

DCO) No. & DATE	ISSUE	AMENDMENTS

APPROVED		748.126.030	
CHECKED			
CONTROLLERATE OF QUALITY ASSURANCE (ICV)		HOLDER	
		Alloy U.AMA-1 ГОСТ 19424-	
		WEIGHT	SCALE
		0.0065	2:1
		SHT 108 SHTS 109	

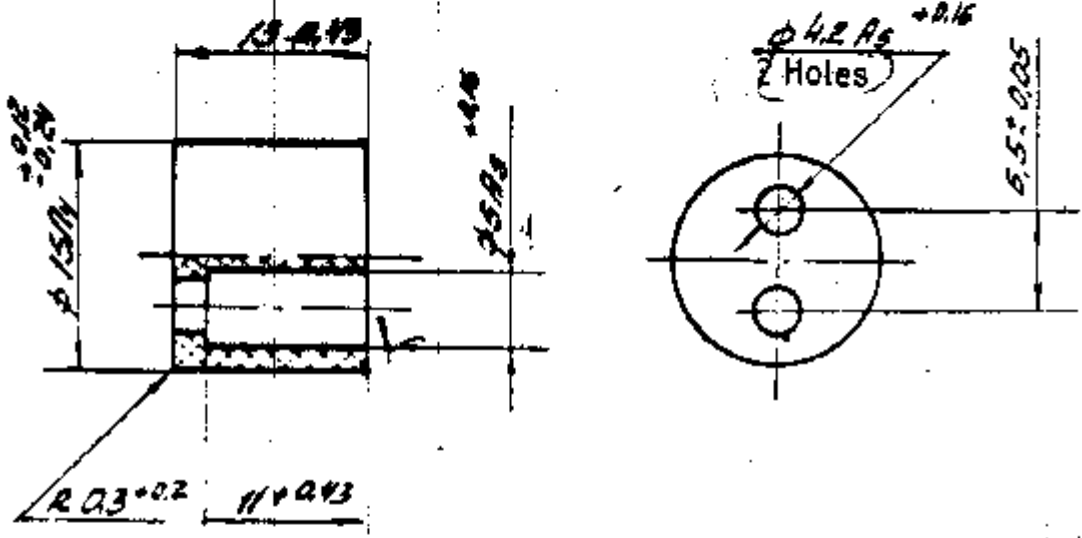
910-920



Before the assembly of the body 4 - 1 clean the thread with chamois impregnated with lubricant U, UATUM-221, OCT 38.011.80-80 and squeezed

R NO	DESIGNATION	DESCRIPTION	QTY.	REMARKS
9	4-6	Ring	1	
8	910923	Jack	2	
7	910 927	Insulator	1	
6	910 921	Insulator	1	
5	4-7	Nut	1	
4	4-5	Gasket	1	
3	4-4	Seal	1	
2	4-3	Nut	1	
1	4 1	Body	1	

APPROVED		910-920	
CHECKED			
CONTROLLERATE OF QUALITY ASSURANCE (ICV)		PLUG SOCKET	WEIGHT SCALE
			20gm 5:1
		SHT 56 SHTS 109	



Moulding drafts 90° .

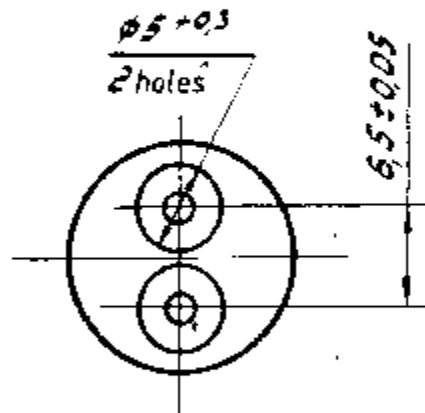
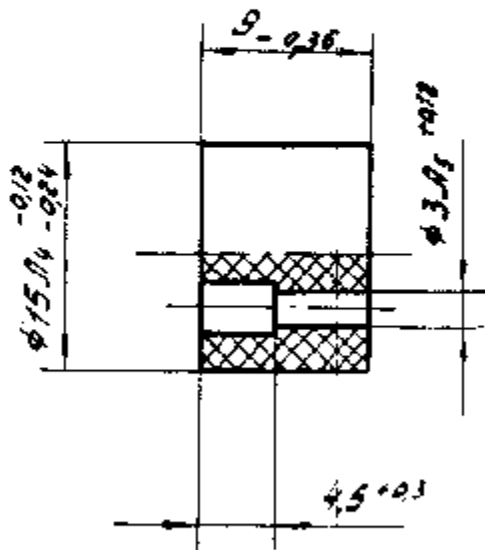
All dimensions are given for the tool.

185
I-122

APPROVED	<i>M. VASU</i>	910 921	
CHECKED	<i>M. Vasu</i>	INSULATOR	WEIGHT SCALE
CONTROLLERATE OF INSPECTION (ICV)			2.9 g 2:1
		SHT SHTS	
		AMINO PLAST M ϕ 81, GRADE 1 GREY GOST 9359-80	104 OF 109

660 UPO

8 ✓ ⑦



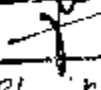
Moulding drafts 90°

All dimensions are given for ^{the} tool.

186
7 1224

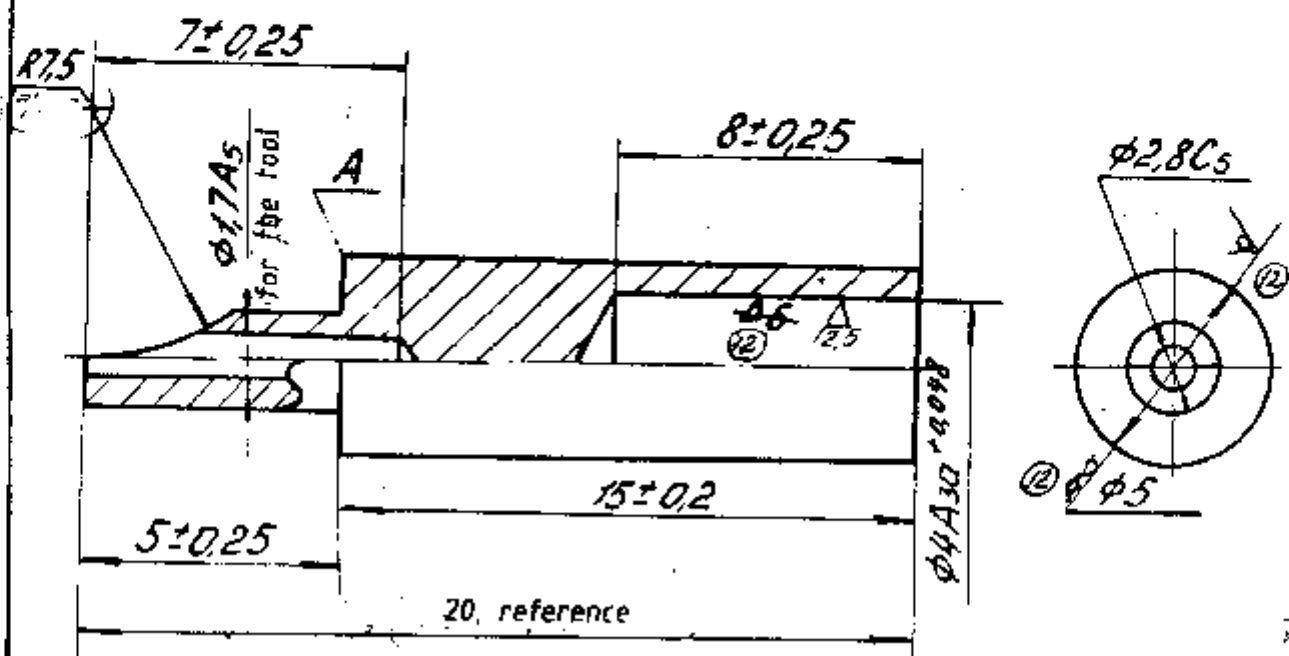
Material: Aminoplast M^oB1, grade 1,
grey GOST 9359-80

275
 30ma 03. UNB.N UNB 13/13a 1000. u. 087

APPROVED	 M VASU	910922	WEIGHT	SCALE
CHECKED	H.M. Shankh	INSULATOR	2.2	2:1
CONTROLLERATE OF INSPECTION (ICV)			SHT	SHT'S
				105 OF 109

910923

15 октября
Rz20 (✓)



Cutting on the surface A is allowed during milling of the radius, R7.5.

External surface may be coated to a thickness not exceeding 15 microns

Blind holes may be partially free of coating.

Silver 9 micron thickness.

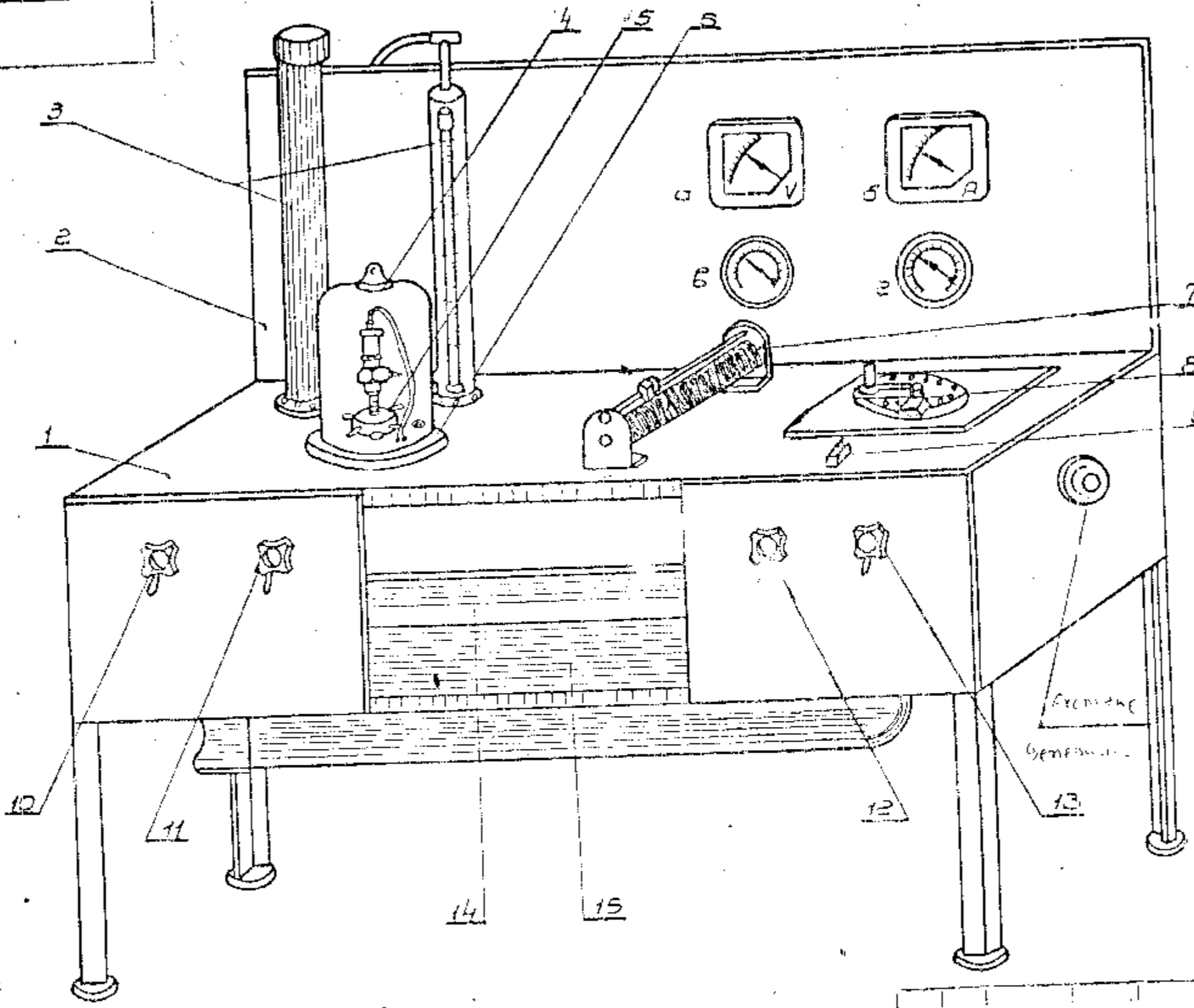
Material: Brass C59-1T//T
GOST 2060-73.

187
I.12.74

30
48

APPROVED		910.923	
CHECKED		SOCKET	
CONTROLLERATE OF INSPECTION (ICV)		WEIGHT	SCALE
		1.5g	5:1
		SHT	SHTS
		106 OF 109	

80 11
I-1224



15	Servo cylinder at 10 atmospheres	1	
14	Servo cylinder at 10 atmospheres	1	
13	Inlet valve at 70 atmospheres	1	
12	Inlet valve at 10 atmospheres	1	
11	Operating valve at 70 atmospheres	1	
10	Operating valve at 10 atmospheres	1	
9	Switch	1	
8	Contact breaker	1	
7	Rheostat	1	
6	Plate	1	
5	Connection	1	
4	Pressure gauge	1	
3	Spirometer or differential pressure gauge	1	
d/c 25	Manometer at 70 atmospheres	1	
d/c 125	Manometer at 10 atmospheres	1	
d/M340/15	Ammeter	1	
d/M340/15	Voltsmeter	1	
2	Instrument panel	1	
1	Testing table	1	
Sl. No.	Type	Description	Qty. drawn

OK-48

Approved
Checked
Controllerate of Inspection

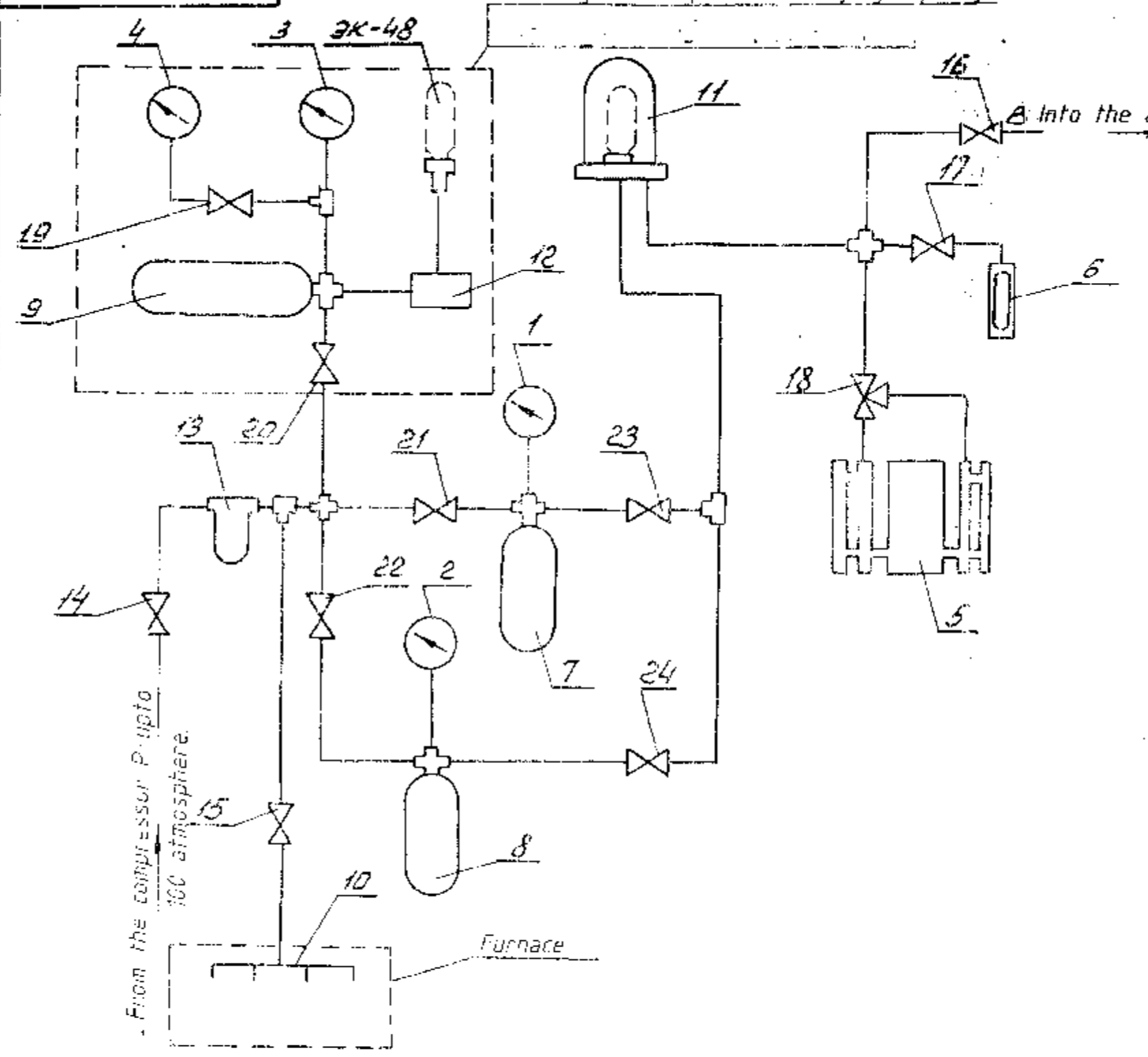
APPROVED
CHECKED
CONTROLLERATE OF INSPECTION (ICV)

DIAGRAM No 1
(Schematic drawing No 1, 086 534)

STAND FOR TEST OF ELECT. PNEUMATIC VALVE		WEIGHT	SCALE
SHT	SHTS		
32	1		

2-3K-015

Checking of out. put. and carrying capacity.



- 1. Manometer $P = 0 \text{ to } 25 \frac{\text{kgf}}{\text{cm}^2}$ 2,5
- 2 to 3 Manometer $P = 0 \text{ to } 160 \frac{\text{kgf}}{\text{cm}^2}$ 2,5
- 4. Manometer $P = 0 \text{ to } 160 \frac{\text{kgf}}{\text{cm}^2}$ 0,6
- 5 Spirometer $V = 0 \text{ to } 25 \text{ cm}^3$ $V = 0 \text{ to } 1000 \text{ cm}^3$
- 6 Indicator of leakage.
- 7 to 8 Cylinder $V = 10 \text{ to } 15 \text{ л}$, $P = 150 \frac{\text{kgf}}{\text{cm}^2}$
- 9. Cylinder $V = 40 \text{ л}$, $P = 150 \frac{\text{kgf}}{\text{cm}^2}$
- 10. Rake.
- 11. Cap.
- 12. Electric pneumatic valve.
- 13. Filter.
- 14. Cock of mains
- 15. Cock to a thermo chamber.
- 16. Cock of air release.
- 17. Cock of leakage indicator.
- 18. Three way cock.
- 19 to 24. Operating cocks.

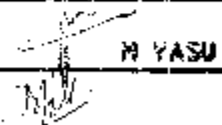
It is allowed to use manometer with other upper limits not degrading accuracy of measurements. Accuracy class of manometers should not be less than 2,5

During the measurement of value of air release stop watch may be used.

APPROVED :	<i>[Signature]</i>	DIAGRAM No 2	
CHECKED :	<i>[Signature]</i>	PNEUMATIC SYSTEM FOR TEST OF ЭК-48	
CONTROLLER OF INSPECTION (ICV)		WEIGHT	SCALE
		SHT	SHTS
		33 OF 109.	

... P. ... (подпись)

FORMAT	DESIGNATION	DESCRIPTION	Incorporated in DESIGNATION	QTY	TOTAL No	REMARKS
		Documents				
11	TY	Technical specifications for the manufacture and acceptance of electric pneumatic valves 3K-48				
22	CD	Electric pneumatic valve 3K-48 Assembly Drawing				
12	CD F	Electric pneumatic valve 3K-48 Out-line drawing				
11	CD 4 F	Socket out-line drawing				
12	Diagram No. 1	Circuit drawing for testing 3K-48				7

CHECKED	 H. YASU	3K-48-015 cn	
CONTROLLERATE OF INSPECTION ICVI		ELECTRIC PNEUMATIC VALVE	WEIGHT SCALE
		SHT 7 SHTS 3	7 3
		1 - OF 109	

FORMAT	DESIGNATION	DESCRIPTION	Incorporated in		REMARKS
			DESIGNATION	QTY	
12	Diagram NO.2	pneumatic circuit for testing 3K-48			
11	086.534	instructions to use stand for testing electric pneumatic valve.			
11	086.535	Production instruction checking of out put and capa- city of electric pneumatic valve 2 3K 015			
	08.3T	Electric pneumatic valve 3K-48 label			

APPROVED		3K-48-015-CN	WEIGHT SCALE	
CHECKED				Kgr
CONTROLLERATE OF INSPECTION (ICV)		ELECTRIC PNEUMATIC VALVE	SHT 2 SHTS 2	
			2 OF 104	

FORMAT	DESIGNATION	DESCRIPTION	Incorporated in	QTY	TOTAL No.	REMARKS
			DESIGNATION			
		<u>Units</u>				
12	CB 1-	Pneumatic valve			1	
11	CB 1-2	Connection	CB 1	1	1	
22	7A 8-652.018	Connection	CB 1	1	1	Alternate I
11	CB 1-3	Inlet valve INLET VALVE VALVE PNEUMATIC	CB 1	1	1	Alternate II REF. DC (I) 01071-1CV
	DS CAT NO: LV2/ICVS 2605-002720					
11	CB 1-4	Piston	CB 1	1	1	
11	CB 1-5	Servo valve	CB 1	1	1	
11	LV2/ICVS 4820-004384 CB 1-6	Inlet valve DISC	CB 1	1	1	REF. DC (I) 01000-1CV
11	CB 1-7	Servo valve	CB 1-5	1	1	
11	CB 1-8	Servo valve	CB 1-7	1	1	
12	CB 2	Electric system		1	1	
12	CB 2-1	Electro magnet	CB 2	1	1	
12	CB 2-2	Body of the electromagnet	CB 2-1	1	1	
12	CB 2-3	Coil	CB 2-1	1	1	



APPROVED	<i>[Signature]</i> M VASU	3K-48-015-CN	WEIGHT	SCALE
CHECKED	H.M. Shaikh		ELECTRIC PNEUMATIC VALVE	SHT 3
CONTROLLERATE OF INSPECTION (ICM)			3 OF 109	

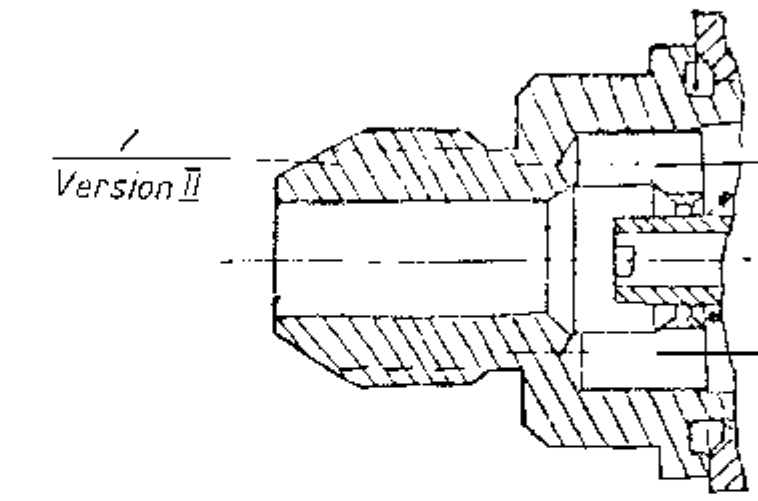
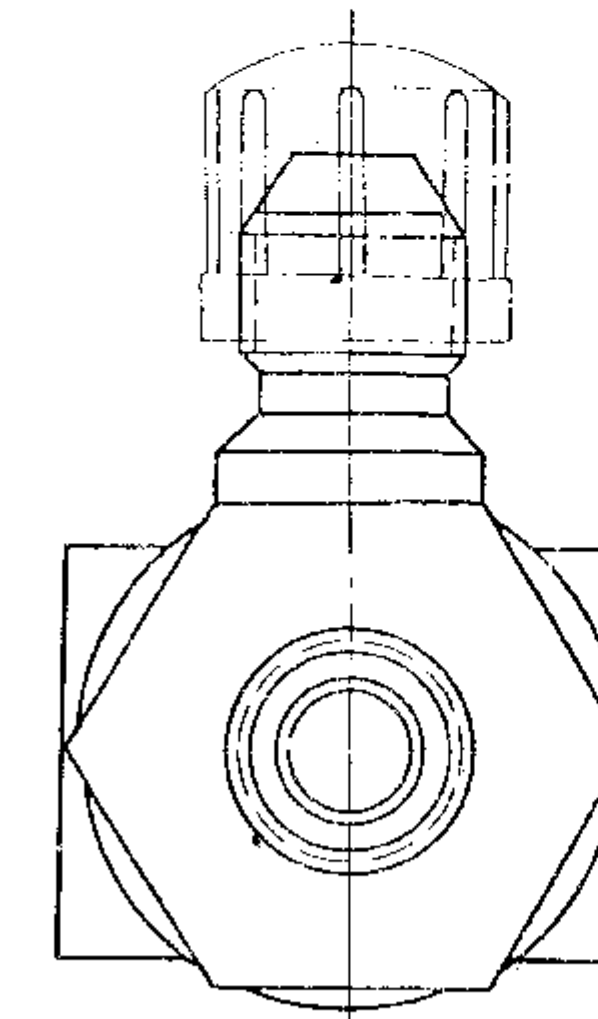
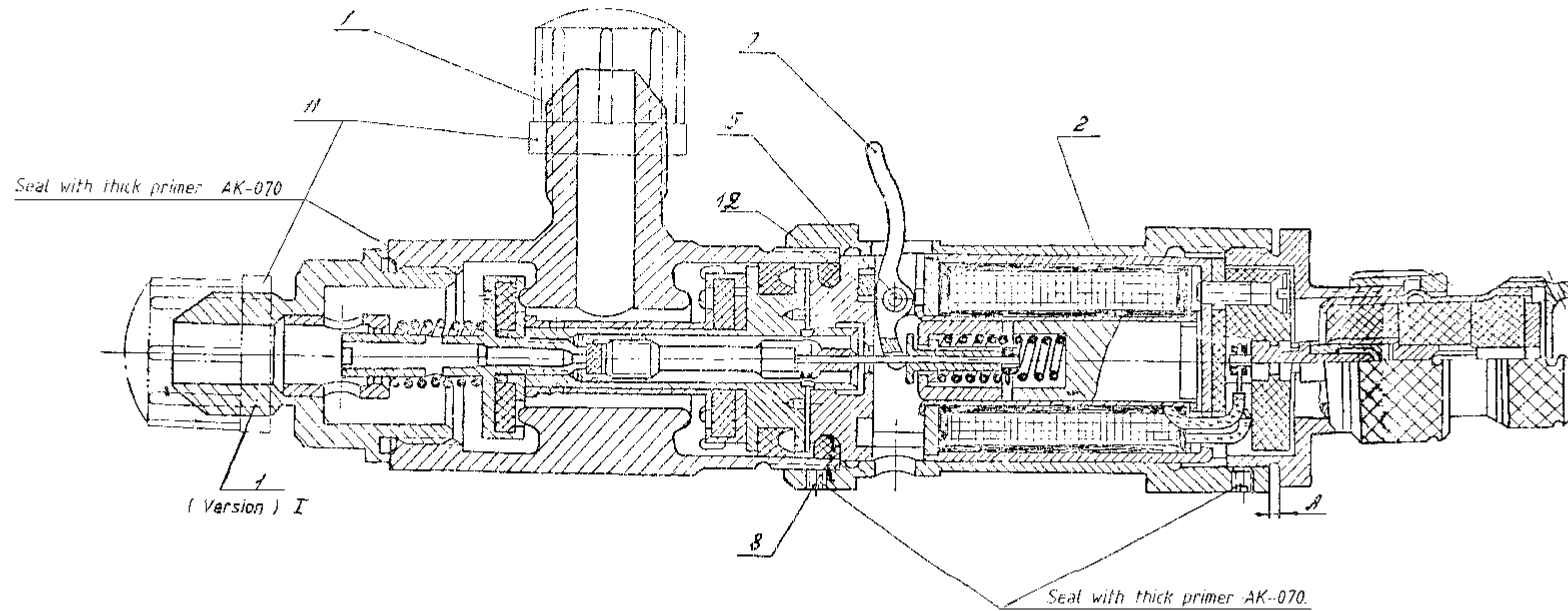
FC-MAT	DESIGNATION	DESCRIPTION	DESIGNATION	QTY	TOTAL No.	REMARKS
		Parts				
11	1/A8.300.017	Roller		1		
11	2	Magnet spring		1		
11	LV2/icvs 2540-003064 3	Lever release		1		
11	LV2/icvs 5305-018917 4	Screw grub		2		REF. DC(D) 00996-1CV
11	LV2/icvs 5360-007858 1-1	SPRING HELICAL COMPRESSION Valve spring	Cb 1	1	1	REF. DC(D) 00996-1CV
11	1-2	Distance sleeve	Cb 1	1	1	
11	LV2/icv 5365-011268 1-3	Shim	Cb 1	1 to 3	1 to 3	REF. DC(D) 00996-1CV
11	LV2/icv 5365-011267 1-4	Shim	Cb 1	1 to 3	1 to 3	REF. DC(D) 00996-1CV
22	1-7	Connection	Cb 1-2	1	1	version I
11	1-8	Insert	Cb 1-2	1	1	version I
22	1-9	Inlet valve	Cb 1-3	1	1	

APPROVED	<i>[Signature]</i> M VASU	EK-48-015-CN		
CHECKED	<i>[Signature]</i>	ELECTRIC PNEUMATIC VALVE	WEIGHT	SCALE
CONTROLLERATE OF INSPECTION (ICV)			SHT 5	SHTS 9
		5 OF 109		

Incorporated in.

Sl. No.	FORMAT.	DESIGNATION.	DESCRIPTION.	DESIGNATION	Qty	Total Qty	Remarks
			<u>Material</u>				
			Black phenolic plastic 03-010-02				
			GOST 5689-79			4.5g.	
			Wire n3 n - 0,4				
			GOST 2773-78			70g	
			Varnished cloth 105				
			0.12 GOST 2214-78			0.7M	
			silk threads				
			N13 GOST 22665-77			1M	
			Rubber stock TC98-1				
			TY38 005 1166 - 73				
			Rubber stock TCB14-1				
			TY38 005 1166 - 73				
			Primer AK-070				
			GOST-6-10-401-76				
			Pigmented with Green colour				
			TY6-09-4278-76				
			Lubricant QUATUM-				
			221 c OCT 3.801180-80.				

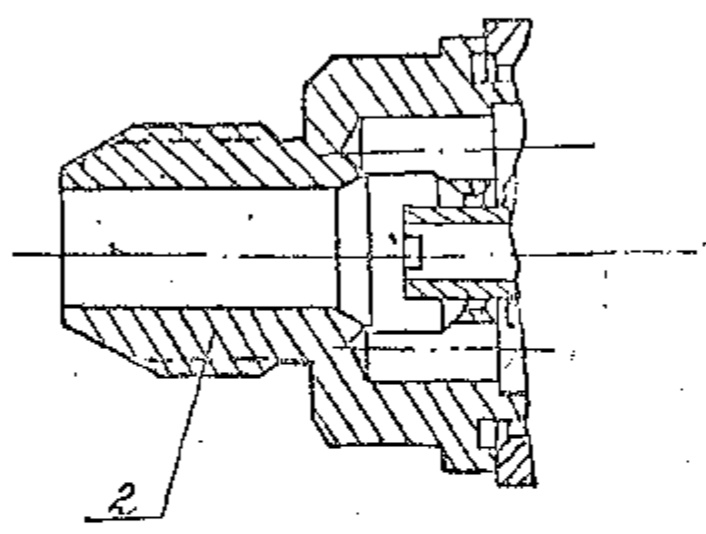
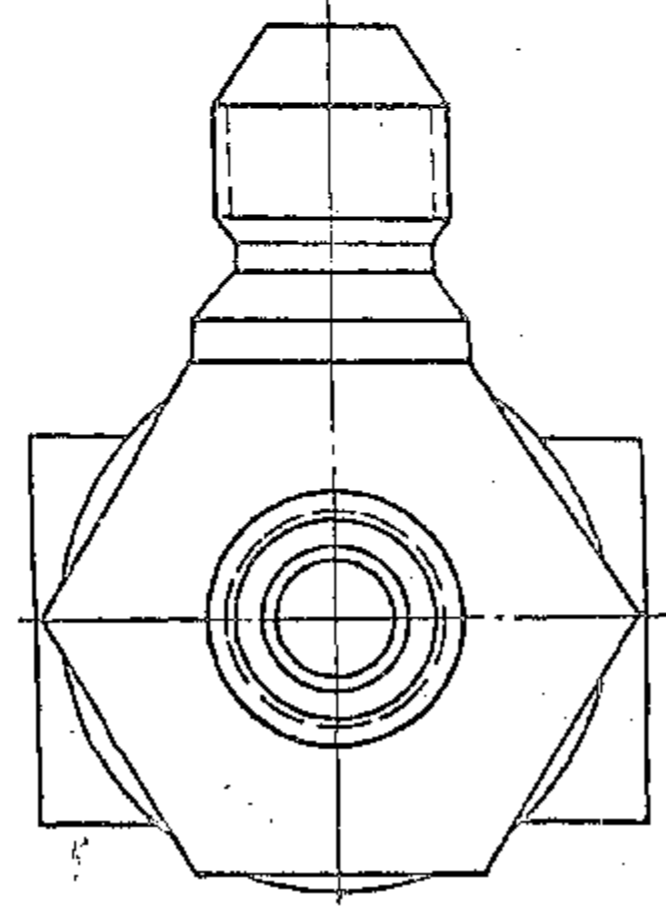
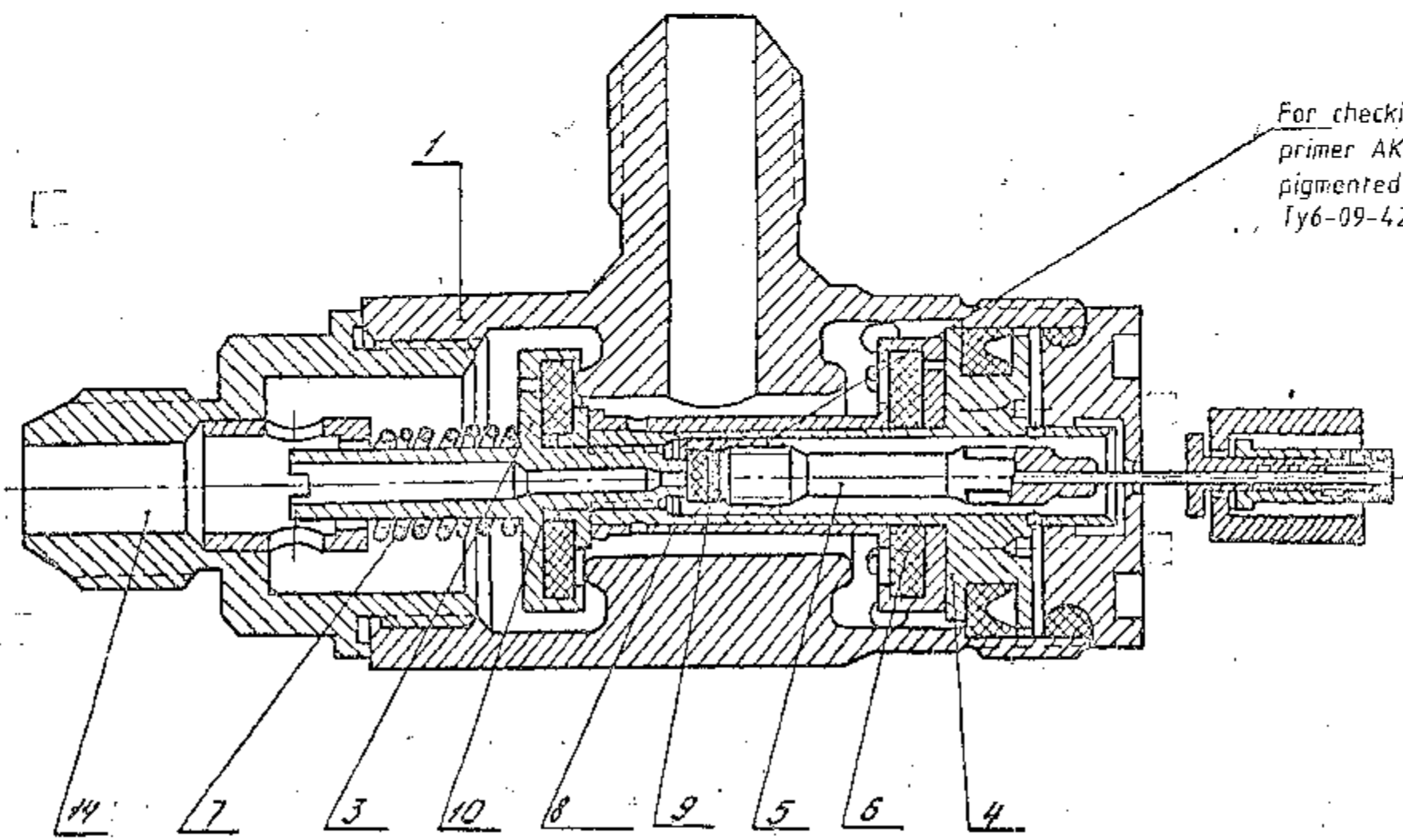
APPROVED	 M. YASU	ЭК - 48 - 015 Cn	
CHECKED		ELECTRIC PNEUMATIC VALVE	WEIGHT SCALE
CONTROLLERATE OF INSPECTION (ICVI)			SHT 9 SHTS 9
		9 OF 109	



- 1) In the assembly, secure the roller (part 7D8.300.017) on both sides with thick primer AK-070 OCT 6-10-401-76.
- 2) Position of lever (part No. 3) should be in symmetry plane of the valve. Admissible plane deviation is $\pm 15^\circ$.
- 3) Secure the screw (part No.4) with thick primer AK-070.
- 4) Before assembly of electric system **cb.2** wipe thread of body (7D7.772.009) with suede soaked squeezed in lubricant UUM-221 OCT 38C.180-80.
- 5) Check assembled valves in joint between inlet connection and body for air-tightness in the following sequence.
 - a) Electric pneumatic valve is connected with the pneumatic system by inlet connection. The technological stopper is screwed on to the outlet connection.
 - b) Vessel with transparent walls and reflector is filled with fluid TC-1 upto the closure of inlet connection by 5-10 mm.
 - c) Inspection-visually, airtightness should be full.
 - d) At pressure of 90 atmospheres, checking time is to be 1 minute. Before installation of socket wipe thread M20x1kx2a of the stopper and thread M16x1kx 3a of outlet connection 2-4 with suede soaked in lubricant UUM-221 OCT 38C.180-80 and squeezed.
- 6) During installation of article 3K-4b in the metered unit tightening torque of the nut should not exceed 1,0 kg.m.
- 7) Ensure the required clearance "A" not more than 0,5mm between case 7D7.772.012 and stopper 2-4.
- 8) Primer AK-070 OCT 6-10-401-76 - thick, pigmented with green dye technical specifications Ty 6-07-4278-76.
- 9) Assembly and production of articles with units **cb 1-** or **II** versions are allowed.
- 10) Wrench trace is allowed on parts 7D7.772.012, 2-4, 7D7.772.-009, **cb1-2** or 7D8.652.018. Coat the wrench trace using primer AK-070, OCT 6-10-401-76.

R.NO.	DESIGNATION	DESCRIPTION	Q.TY.	REMARKS
1	cb1- Version II	Pneumatic valve	1	
2	cb.2	Electric system	1	
3	710,920	Socket	1	
4	7D8.300.017	Roller	1,01	
5	2	Magnet (spring)	1	
6	LV21CVS 2540-005066 3	Lever Release	1	REF. DC0 00936-ICV
7	LV21CVS 2305-018917 4	Screw qwb	2,02	REF. DC0 00936-ICV
8		Primer AK-070 OCT 6-10-401-76.		
9	7D8632028	Stopper	2	
10	7D6.126.030	Holder	1	

APPROVED		CD ELECTRIC PNEUMATIC VALVE	WEIGHT	SCALE
CHECKED			0.47	2:1
CONTROLLERATE OF QUALITY ASSURANCE (ICV)			SHT	SHTS



108-111

Sl. No	No. of the pneumatic valve	No. of the incoming unit & part	Remarks
1	Assembly 1-I version	CS 1-2	
2	Assy.1-II version	7A8.652.018	

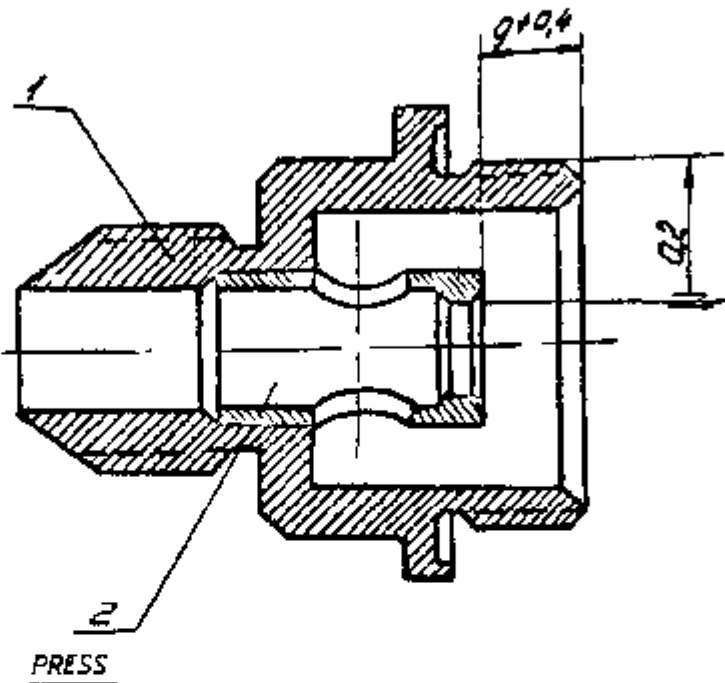
- After setting the travel bushing part 1-20 to be centred-punched at four spots each (each spot on every face) at a distance of 2mm. from the back face.
Increase of diameter of the bush in the place of centre punching is allowed from $\phi 6C_3$ to 6.07.
- Free running of servo valve in the assembly cb.1 should be 0.6- 0.1.
While assembling stroke of valves should be 1.3 ± 0.1
- Stroke of servo valve is adjusted by choosing the thickness of shims (parts 1-3)
- Stroke of valve is adjusted by selecting the shims (parts 1-4).
- After acceptance tests, stroke of servo valve should not exceed 1.1. and the stroke of valves should not exceed 1.5.
- Lubricate sealing ring 1-14 and packing of servo valve 1-18, while assembling with a thin layer of liquid of grade 132-25 GOST 10957-74. Before setting up connection 7A8.652.018 clean the thread with chamois impregnated with lubricant QUATUM-221 with OCT 3801180-80 and squeezed.

- Screw bush 1-20 so that the working surface of packing 1-18 contacted with base of the bush ensuring absence of gap between base of the bush and working face of packing 1-18, then make a tension by revolving bush 1-20 by $90^\circ - 20^\circ$ to the side of screwing (clock-wise).
Coating on part 1-11 may be absent in the place of contact with part 1-2.
- Traces on internal diameter of part 7A7.772.009 is allowed in the place of its contact with part 1-23 (unit cb 1-5) as per the standard piece.

Sl. No	Designation	Description	Qty	Remarks
14	cb.1-2	connection	1	Version I
2	7A8.652.018	Connection	1	Version II
13				
11				
10	1-4	Shim		REF. DCU
9	1-3	shim		00956-1cv
8	1-2	Distance sleeve	1	
7	1-1	SPRING HELICAL COMPRESSION VALVE SPRING		REF. DCU 00956-1cv
6	cb.1-6	DISC Discharge valve	1	REF. DCU 01071-1cv
5	cb.1-5	Servo valve	1	
4	cb.1-4	Piston	1	
3	cb.1-3	Inlet valve (INLET VALVE 1 PNEUMATIC)	1	REF. DCU 01071-1cv
2	7A7.772.009	Valve body		
1	7A7.772.009	Valve body		

APPROVED	M. VASU	CS-1	
CHECKED			
CONTROLLERATE OF INSPECTION (ICVI)		PNEUMATIC VALVE	
		WEIGHT	SCALE
		0.1796	2:1
		SHT	SHTS
		40 OF 1094	

C8 1-2



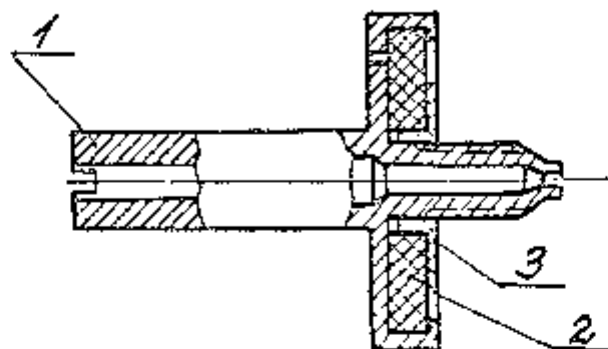
R NO	DESIGNATION	DESCRIPTION	QTY	REMARKS
1	1-7	Connection	1	
2	1-8	Insert	1	

5-118

2-3K-015


APPROVED		M. VASU	C8 1-2	
CHECKED			CONNECTION	WEIGHT SCALE
CONTROLLERATE OF INSPECTION (ICV)				6,0510
			SHT	SHTS
			41 OF 109	

Sb1-3



3	1-11	Bush	1	
2	1-10	Packing of the valve	1	
1	1-9	Inlet valve	1	
Sl. No.	Designation	Description	Qty	Remarks
2-3K-015				

H28K	K-48	3037- ICV 40/07/10	(A)	DS CAT No. LV2/ICVS 2805-002720 ADDED & NOMS. INLET VALVE AMEN- DED AS INLET VALVE PNEUMATIC
		IX(I)No. & DATE	ISSUE	AMENDMENTS

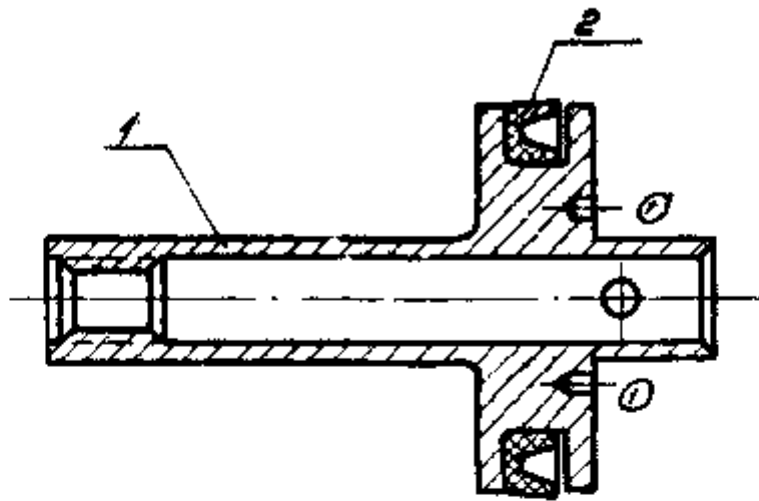
APPROVED  M. VASU

CHECKED

Sb1-3 DS CAT NO: LV2/ICVS
2805-002720 (A)

CONTROLLERATE OF QUALITY ASSURANCE (ICV)	(A) INLET VALVE INLET VALVE PNEUMATIC	WEIGHT SCALE
		0.01134 2:1
		SHT 43 SHTS 109

Sb 1-4



2	5330-026526 1-14	EUB RETAINER PACKING	1	REF. DC(1) 026526-14V
1	1-15	Special bush	1	
Sl No.	Designation	Description	Qty	Remarks

2-ЭК-015

Поршневый штифт

2-ЭК-015

DC(1) No. & DATE

ISSUE

AMENDMENTS

APPROVED

M. VASU

CHECKED

M.V.

Sb 1-4

CONTROLLERATE
OF
QUALITY ASSURANCE
(ICV)

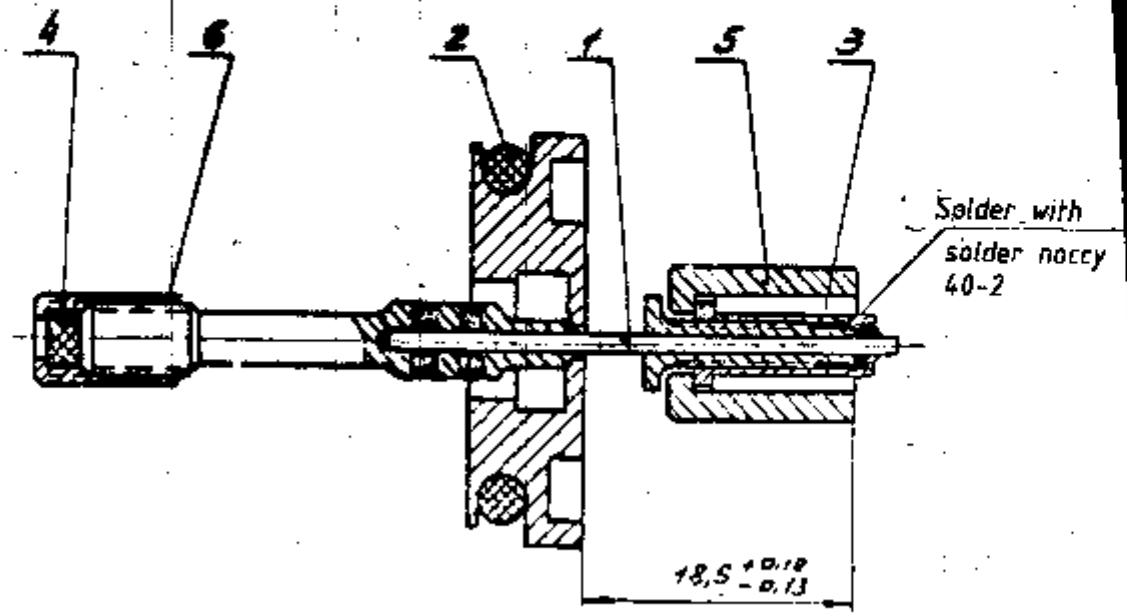
PISTON

WEIGHT SCALE

0.0210 2:1

SHT 44 SHTS 109

5493



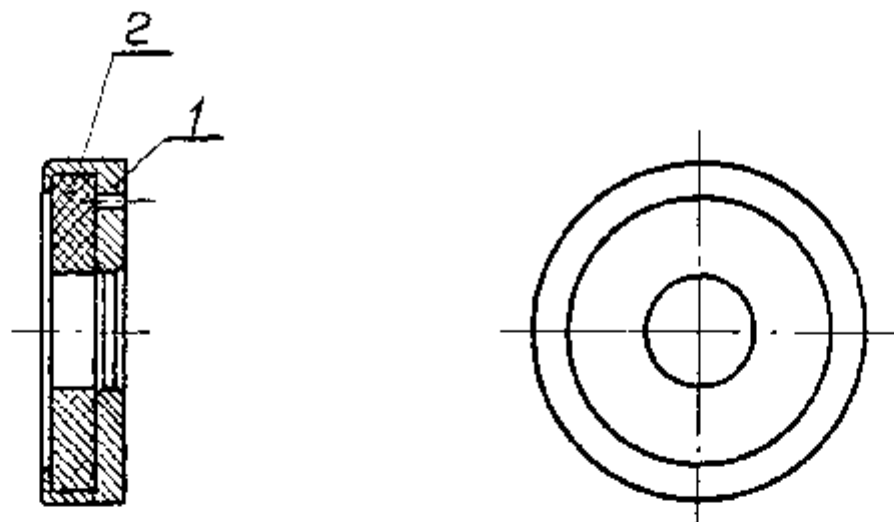
117

While assembling set backlash between the armature part 1-19 & bushings part 1-24 in the range of 0.04-0.06 It is allowed to reduce the backlash upto 0.03-0.06mm in the sector 120°.

8		Solder nocy 40-2 GOST 21931-76		
6	1-20	BUSH-PACKING NUT	1	REF-DCD NO. 00095-1CV
5	1-19	Armature	1	
4	1-18	SEAL RUBBER RING SECTION Packing of the servo-valve ON GROOVE INTERNALLY	1,1	REF-DCD NO. 01013-1CV
3	1-17	BUSH THREADED	1	REF-DCD NO. 01013-1CV
2	1-16	RETAINER PACKING RING	1	REF-DCD NO. 00095-1CV
1	1-7	Servo valve	1	
SI No	Designation	Description	Qty	Remarks

APPROVED	M. VASU	CD 1-5	REVISION SCALE	
CHECKED	H. M. Shantik		0.0300	2:1
CONTROLLERATE OF INSPECTION (ICV)		SERVO VALVE	SMT DOTS	
			45 OF 109	

9-1-9S



R.NO.	DESIGNATION	DESCRIPTION	QTY	REMARKS
1	1-21	Valve	1	
2	1-22	Seal of the valve	1	

ИЛЛЕТ-АТ
ЭК-48

Первичный номер

2-ЭК-015

01000-100

16-08-05

DS CAT NO & DATE

(A)

Issue

ISSUE

DS CAT NO. ADDED AND DESCRIPTION AMENDED AS DISC VALVE.

NATURE OF AMENDMENTS

APPROVED

M. VASU

CHECKED

MVA

Sb-1-6

DS CAT PART NO
LV2/KVS 4820-004384

CONTROLLERATE
OF
QUALITY ASSURANCE
(ICV)

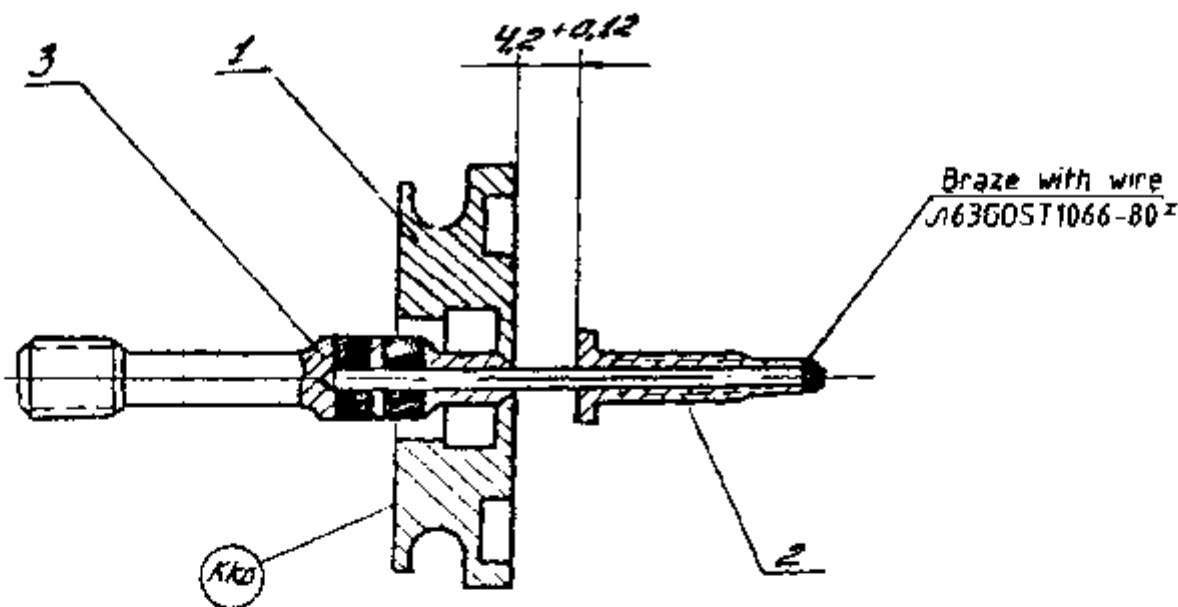
DISCHARGE
DISC VALVE

WEIGHT SCALE

0.0035 2:1

SHT 46 SHTS 109

2-1 QS



Check the air tightness of the servo valve.
 When the pressure is 20-70kg/cm² air release may be not exceeding 50cm³/second
 To obtain specified airtightness combined grinding of the sphere of unit Assy 1-8 and taper of the part 1-23 is allowed
 Dress the place of soldering to a length not exceeding 5mm. from face of the bush
 After coating calibration of threads is permissible.
 Coating may be removed in places of dressing, calibration of thread and grinding

3	Cd 1-8	Servo valve	1	
2	1-24	Bush	1	
1	1-23	Sleeve	1	
Sl. No.	Designation	Description	Qty.	Remarks

84-76
 2-ЭК-015

Исполнение номер

2-ЭК-015

DCI No. & DATE

ISSUE

AMENDMENTS

APPROVED

M. Vasu
M. VASU

CHECKED

H.M. Shaikh
H.M. Shaikh

Sb 1-7

CONTROLLERATE
 OF
 QUALITY ASSURANCE
 (ICV)

SERVO VALVE

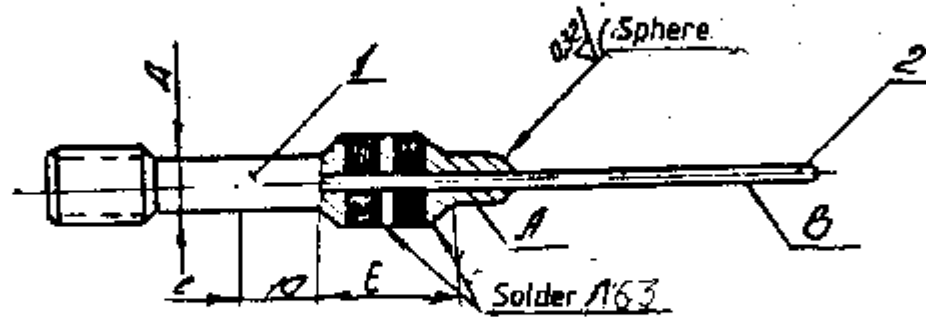
WEIGHT SCALE

0.0210 2:1

SHT 47 SHTS 109

8-1 97

128
I-1224



After soldering in section E hardness may be increased upto HRC 52.

External appearance of soldering places are as per the standard.

Before coating dress the welded place .

It is allowed to galvanize in the unit Assy 1-7 .

Zinc-coated ,6 micron thickness, chromitized.

Play of surface "B" with respect to surface "A" should not exceed 0.15mm qualified tolerance.

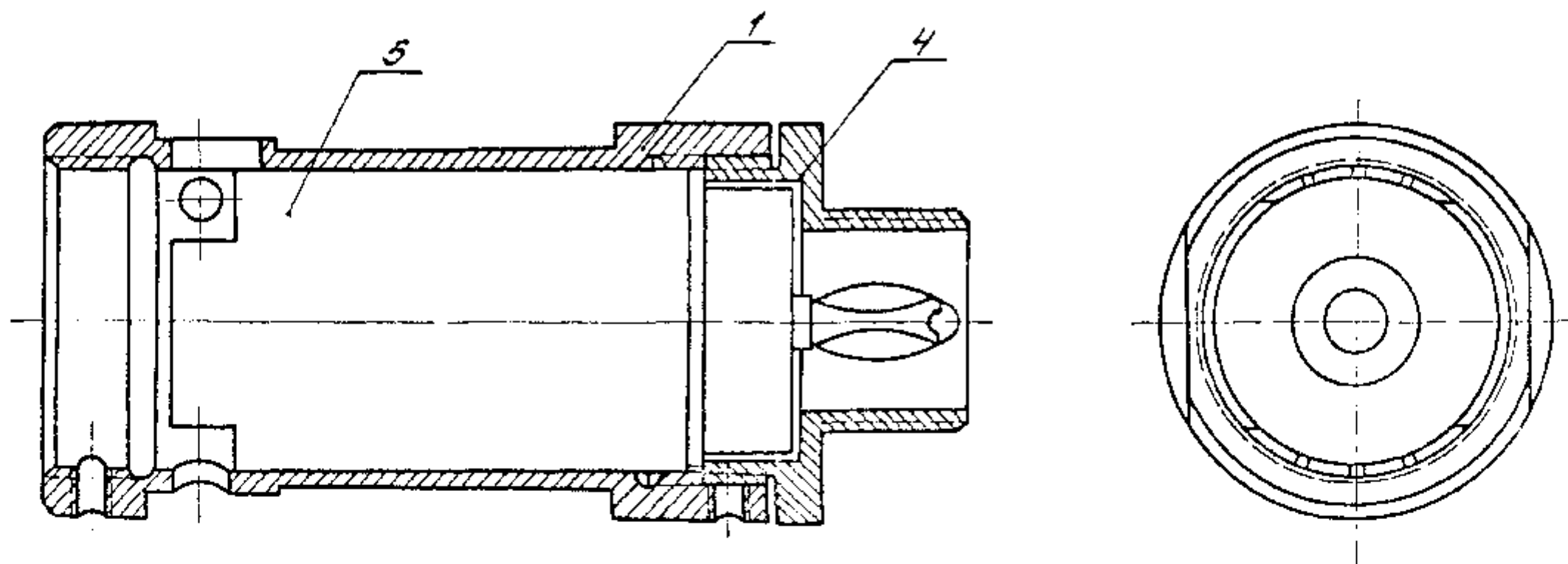
While trimming the fin, cutting in to ϕ is allowed upto 0.2mm and not more over length 4.

3		Wire 163 GOST 1066-80		
2	1-26	Needle	1	
1	1-25	Servo valve	1	
Sl. No	Designation	Description	Qty	Remarks

2-3K-015

APPROVED	<i>[Signature]</i>	C8 1-8	WEIGHT	SCALE
CHECKED	<i>[Signature]</i>		Kgf	2:1
CONTROLLERATE OF INSPECTION (ICV)		SERVO VALVE	5HT	5HTS
			48 OF 1000	

Sb 2



Before setting up plug 2-4 clean the thread with chamois, impregnated with lubricant QUATUM-221 as per OCT 3801180-80 and squeezed

DISCAT PART NO. LV21cv2 4730-807422
(REF. DCU) 00996-1CV)

5	cb 2-1	Electro magnet	1	
4	2-4	Plug UNION PIPE	1	
3				
2				
1	7A7 772 012	Body	1	
Sl No	Designation	Description	Qty	Remark

ИЗМЕН
2К-48

Первичный номер

2-ЭК-015

DCU No. & DATE

ISSUE

AMENDMENTS

APPROVED

[Signature]
M VASU

CHECKED

[Signature]

CONTROLLERATE
OF
QUALITY ASSURANCE
(ICV)

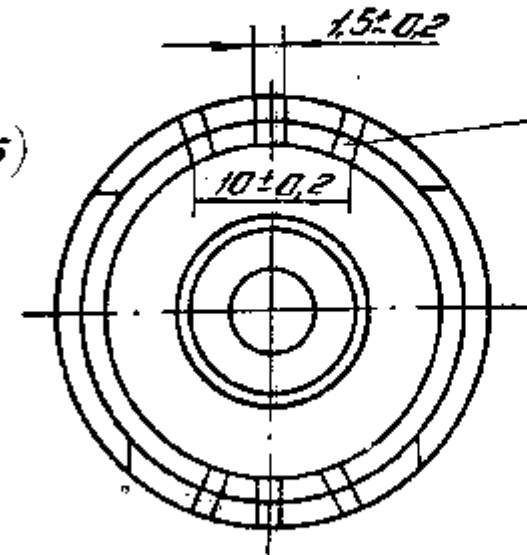
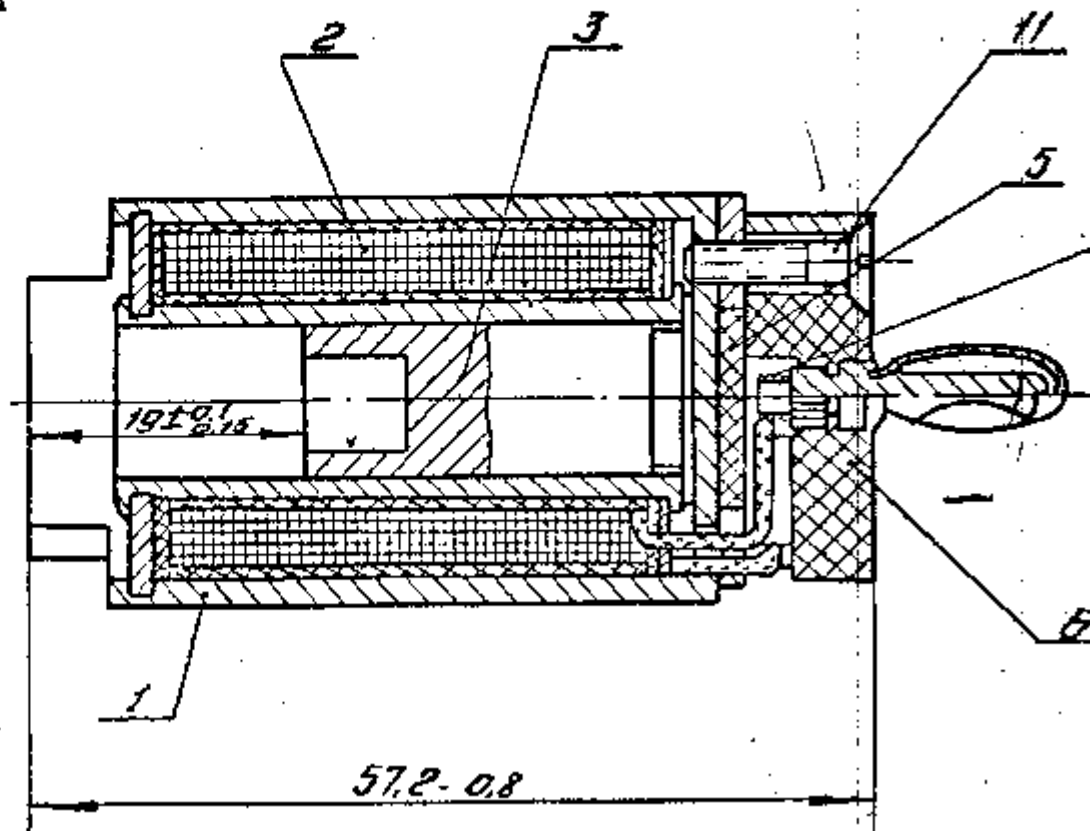
Sb 2

ELECTRIC SYSTEM

WEIGHT SCALE

SHT 49 SHTS 109

1-2 82



122
I-1224

Install part 2-18 using primer AK-070.

Install part 2-7 using glue БФ-2.

Coat the place of log punch with thick primer AK-070 pigmented with green colour Ty6-09-4278-76.

Underlying dimensions are for tool.

Coating on the surface $\phi 26.3^{+0.045}$ of the body 2-8 (Assy2-2) may be partially removed.

12		Solder nocy61-0.5 GOST 21931-76		
11	2 - 18	Screw	3	
10		Primer AK-070 OCT6-10-401-76		
9		Glue БФ-2 GOST 12172-74		
7				
6	СБ 2-4	Block	1	
5	2-7	Gasket FELT MECHANICAL PERFORMED	1	Ref. Doc. No: 80993-10V
3	2-5	Table	1	
2	СБ 2-3	Coil	1	
1	СБ 2-2	Body electromagnet	1	
Sl. No.	Designation	Description	Qty.	Remarks

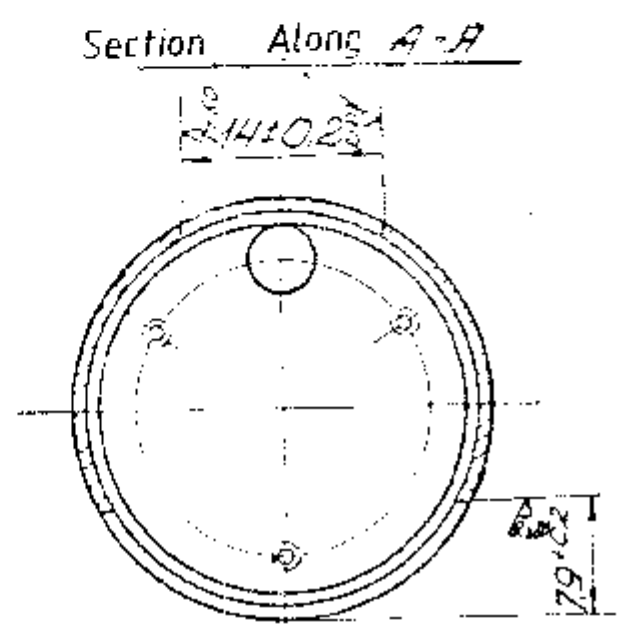
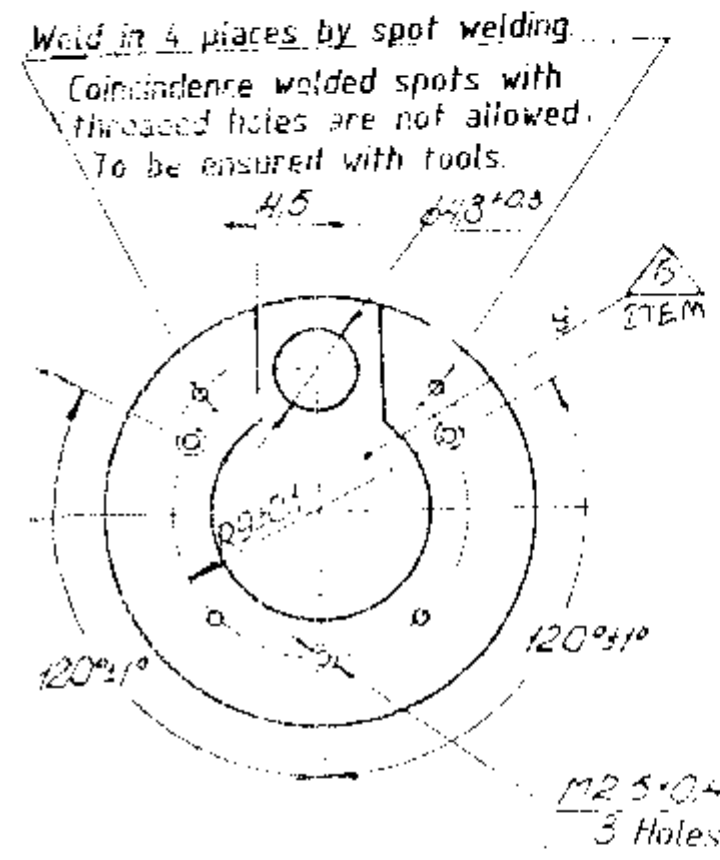
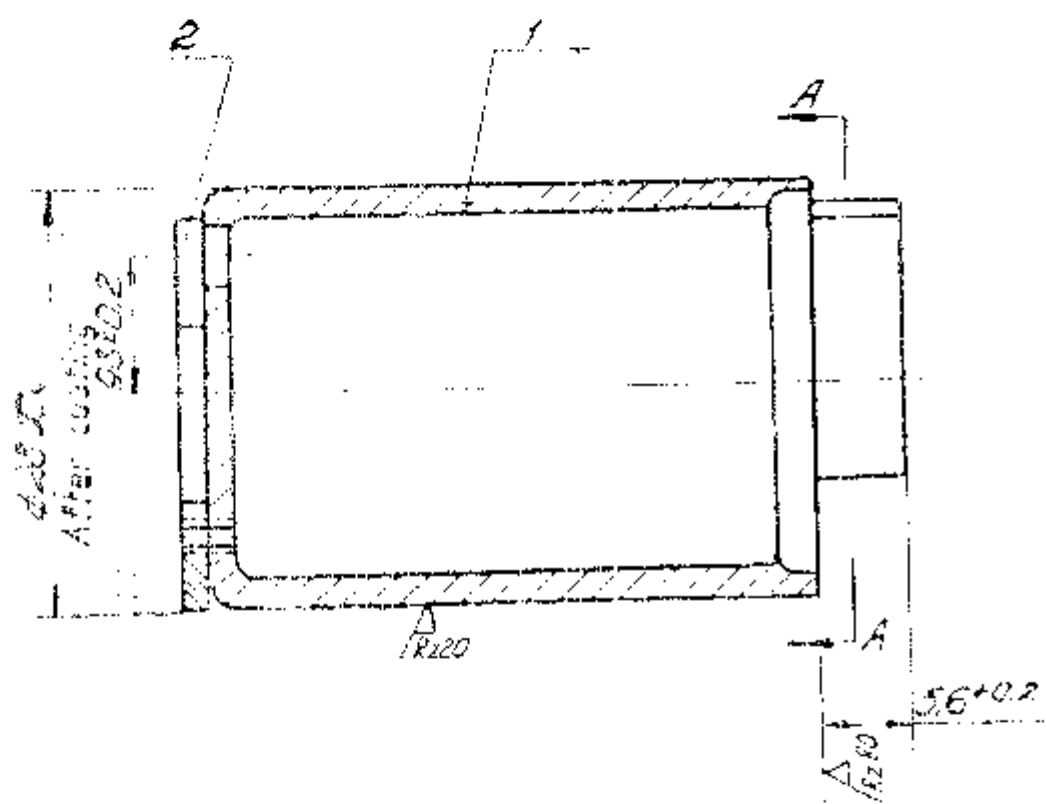
3157
Взамен
инв. номер
инв. номер
Дата
14/11

Первичный номер
2-3K-015

APPROVED	M VASU	СБ 2-1	WEIGHT	SCALE
CHECKED			0.155	2:1
CONTROLLERATE OF INSPECTION (IC V)		ELECTROMAGNET	SHT	SHTS
			50 OF 109	

12.3.124
I-1224

СБ 2-2



- Fill the gap between the body of part 2-8 and clamp of part 2-9 along the perimeter of the clamp with adhesive, 50-2.
- Tolerances in free dimensions are as per 722AT.
- threading die of the thread and chamfering upto outer diameter is allowed.
- Concurrence of dimensions $\phi 28 \times 4$ to $\phi 28 \times 5$ is allowed over a length of 24 mm from the base of the part.
- Cadmium coating, 6 microns thickness, chromated.

6. Mark- as required by the standard. G175 (57-3-U A.

Coating : Cadmium coating, 6 micron thickness, oxidized, parkerized.

R.NO.	DESIGNATION	DESCRIPTION	QTY.	REMARKS.
1	2-8	Body (case)	1	
2	2-9	Clamp	1	
3		Glue 50-2 Gost 12172-74		

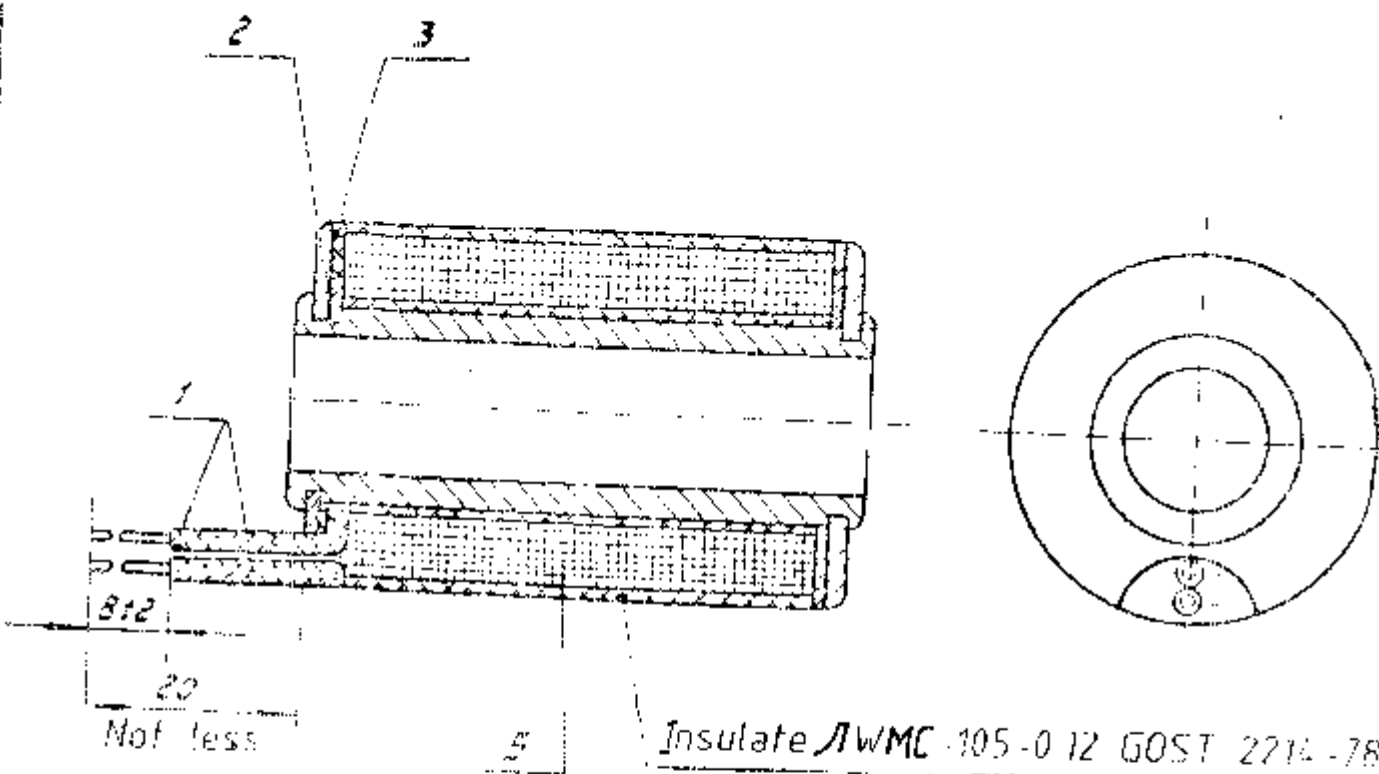
2-3K-015

APPROVED	[Signature]	СБ 2-2	WEIGHT : SCALE	
CHECKED	H.M. Shaikh		0.0454	2:1
CONTROLLERATE OF INSPECTION (ICV)		ELECTROMAGNET BODY	SHT	SHTS
			51 OF 104	

330784
4889802
2084000
2084000

Б-233

Восстановленный подлинник №1



Insulate ЛВМС-105-0.12 GOST 2714-78 to semi-overlap and secure the end with adhesive, БФ-2 GOST 12172-74

1. Series winding Non-series winding along the edges is allowed. External appearance of winding is as per the standard Resistance of winding $R=7.3 \pm 0.2$ ohms at $+20^\circ\text{C}$.

Number of turns of wire is 900 ± 20

Fasten the end of winding using a silk filament (item 7)

Secure gasket, part 2-13 and washers, part 2-10 using adhesive БФ-2

Diameter of the coil along the binding should not exceed beyond $\phi 25$ (check in mock-up body).

If necessary single soldering of winding may be used for finishing winding of new spool of wire

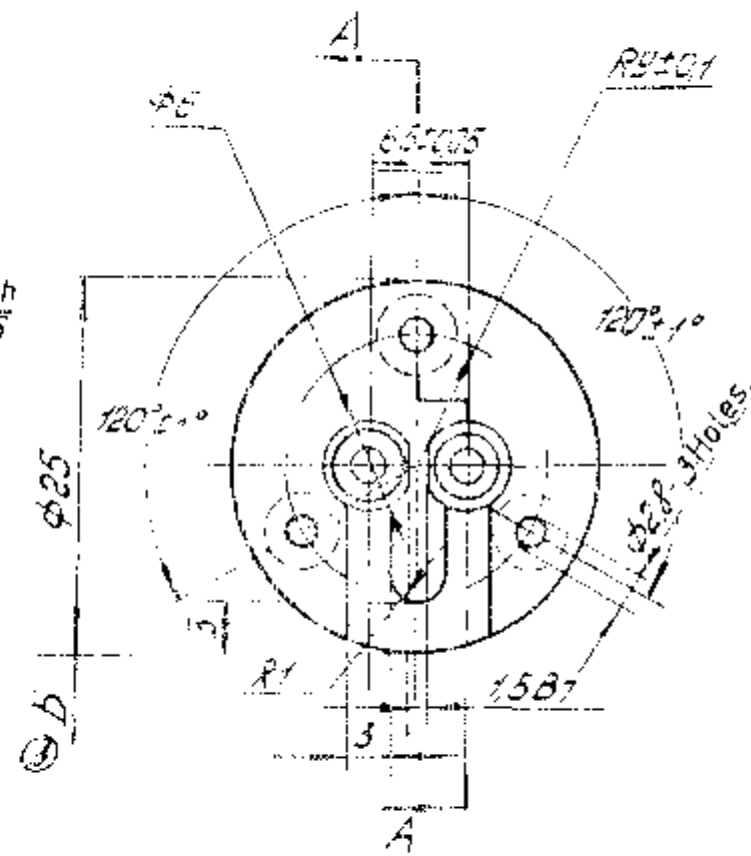
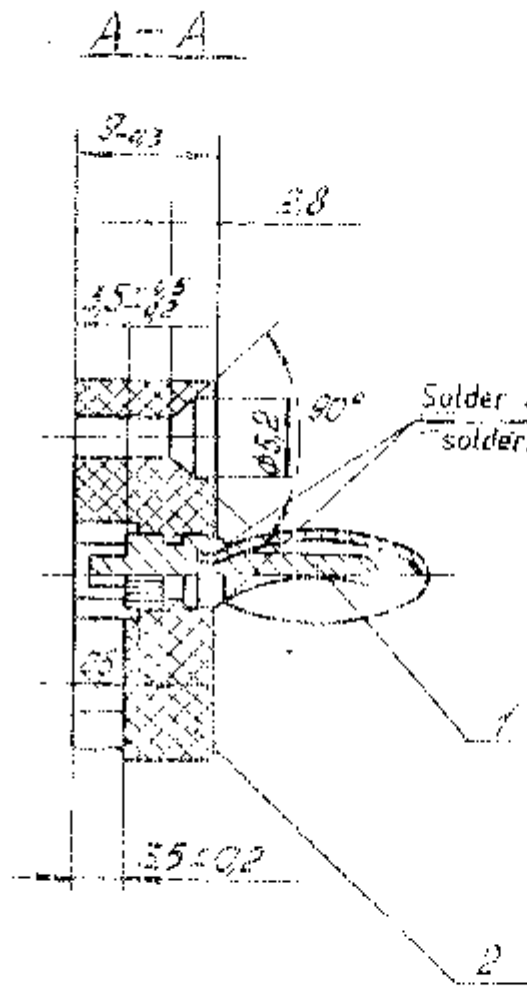
In the place of soldering strip the wire over a length of 2-12mm twist it and solder with пocco61-0.5 GOST 1219.31-76. Insulate the place of soldering with varnished glass cloth ЛСК-105 (180-0.12 $(15 \pm 2 \times 30 \pm 2)$ GOST 10156-78

1		Silk thread №13 GOST 22665-77		
2		Wire ПЭЛQ.4 GOST 2773-78	70g	
2-13	65-1111-1121 R07 5339-026178	Gasket		Ref DC (G) No: 00993-1CV
2-10		Insulating washer	4	
сб 2-5		Chassis of coil	1	
2-11		Insulation	2	
St No.	Designation	Description	Qty	Remarks
				Проверено по черт 2-30-015

I 1224

APPROVED		
DESIGNED		
CONTROLLER		
INSPECTION		
(ICV)		
	сб 2-3	
	COIL	
		WEIGHT 10.0/2 2:1
		52 OF 107

1-330



Dimensions without tolerances are as per A5C5 for the tool.
 Blunt the sharp edges to R 0.5
 Fin may be present on the part cδ2-6 from the knurling side.
 External appearance is as per the standard.
 Underlying dimension is for the tool.
 After trimming of the fin on the clamp coating may be absent partially.
 Surface finish in places of trimming of fin Rz 20/
 Draft angle of surface B should not exceed 45' towards the increased dimension.
 Diametric position of springs 2-16 in the unit assy 2-6 is arbitrary.

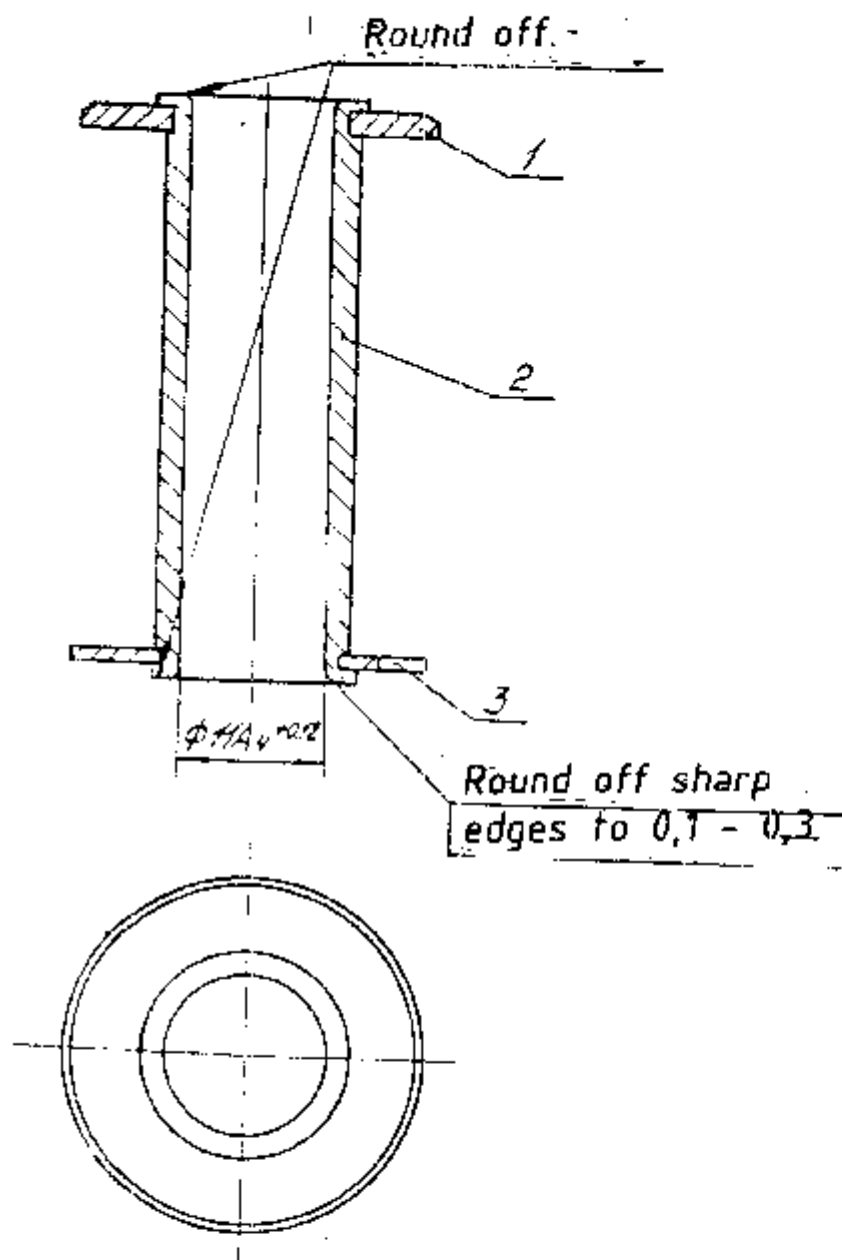
4		Solder ПССС-6705 ГОСТ 21931-76			
2		Phenoplast 03-010-02 black: ГОСТ 5680-79	4.50		
1	cδ2-6	Plug.	2		
SL NO	Designation	Description	Qty	Rem	ks
ПРОВЕРИТЕЛЬ ИМЕНИ					
2-3K-015					

ИМЕРКО
 25-48
 ЭЛЕМЕНТЫ
 СБОРКИ
 48-48000
 53257
 23.03.79

APPROVED	<i>[Signature]</i> M VASU	cδ 2-4		
CHECKED	<i>[Signature]</i>	BLOCK	WEIGHT	SCALE
CONTROLLERATE OF INSPECTION (ICV)			90079	2:1
		SHT	SHTS	
		53 OF 107		

5-2 92

Восстановленный подлинник №4.



Circumferential play of washer 2-6 not exceeding 0,5mm is allowed.

While rounding off coating may be partially removed.

Partial absence of coating in holes $\phi 11A_4$ is allowed.

At a distance not exceeding 26mm from the face, from the side of washer 2-15, machine finishing over $\phi 11A_4$

is Rz 20/

External appearance is as per the standard

3	2-15	Special washer.	1	
2	2-14	Bush.	1	
1	2-6.	Washer.	1	
NO.	Designatin.	Description.	Qty	Res. ts.

ПЕРВУЧНЫЙ НОМЕР

2-9K-015

APPROVED
 CHECKED H.M. Shaikh
 CONTROLLERATE
 OF
 INSPECTION
 (ICV)

СД 2-5
 COIL FORM

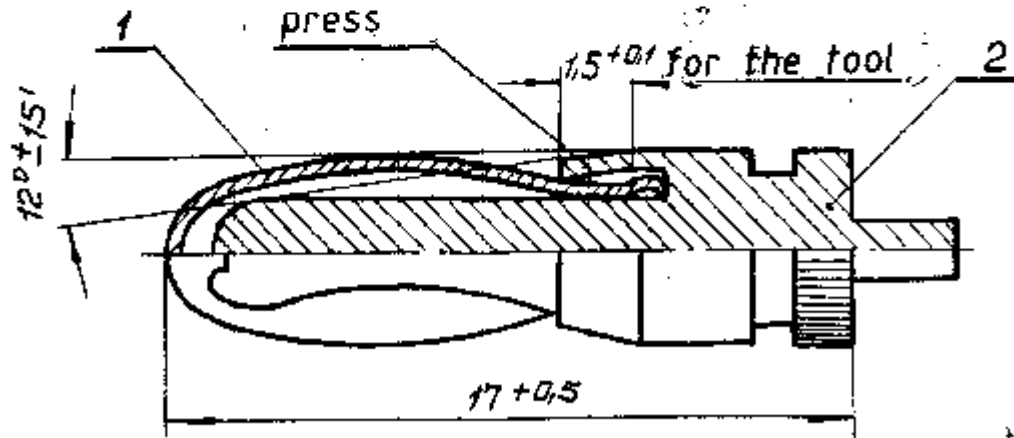
WEIGHT	SCALE
10,5g	2:1
SMT	SHTS
54 OF 109	

I-1224

2K-48
 253252
 2412
 712

9-2 00

12.9
E.1224



Angle $12^{\circ} \pm 15'$ is given for the tool.

Sl. No.	Designation	Description	Qty	Remarks
2	2-17	Spring of the plug	1	
1	2-16	Rod of the plug	1	

2K-48

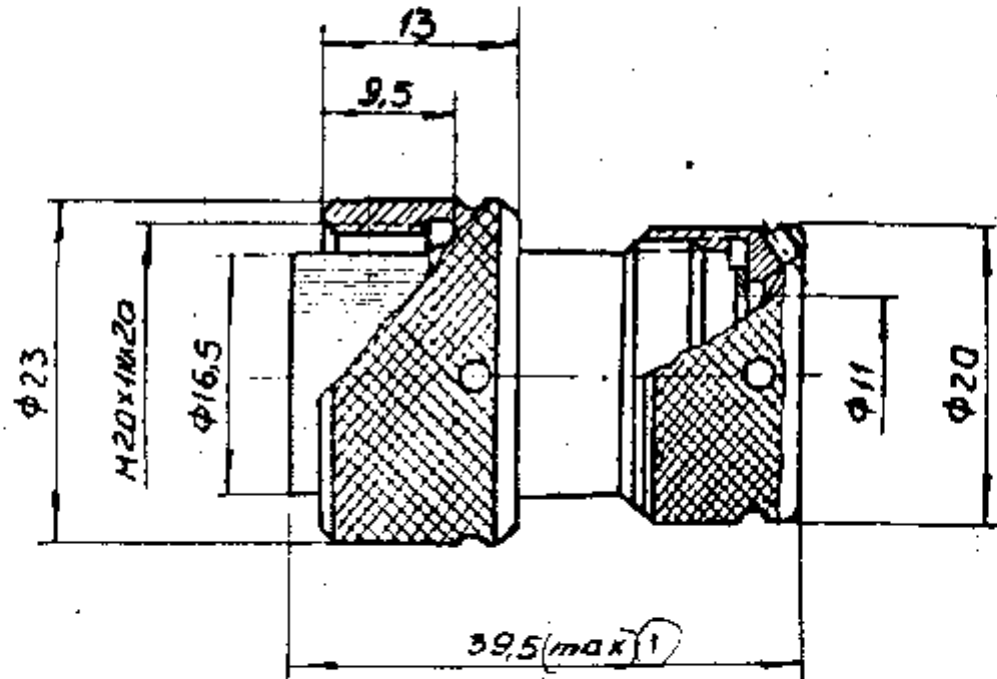
Восстановленный
подлинник №1

Первичный номер

2-ЭК-015

APPROVED		СЭ 2-6		
CHECKED				
CONTROLLERATE OF INSPECTION (ICV)		PLUG		
		WEIGHT	SCALE	
		0.007	5:1	
		SHT	SHTS	
		55 OF 100		

СБ 4Г



1) Dimensions without tolerances are given for reference.

84
I.1224

Первый номер

2-3K-015


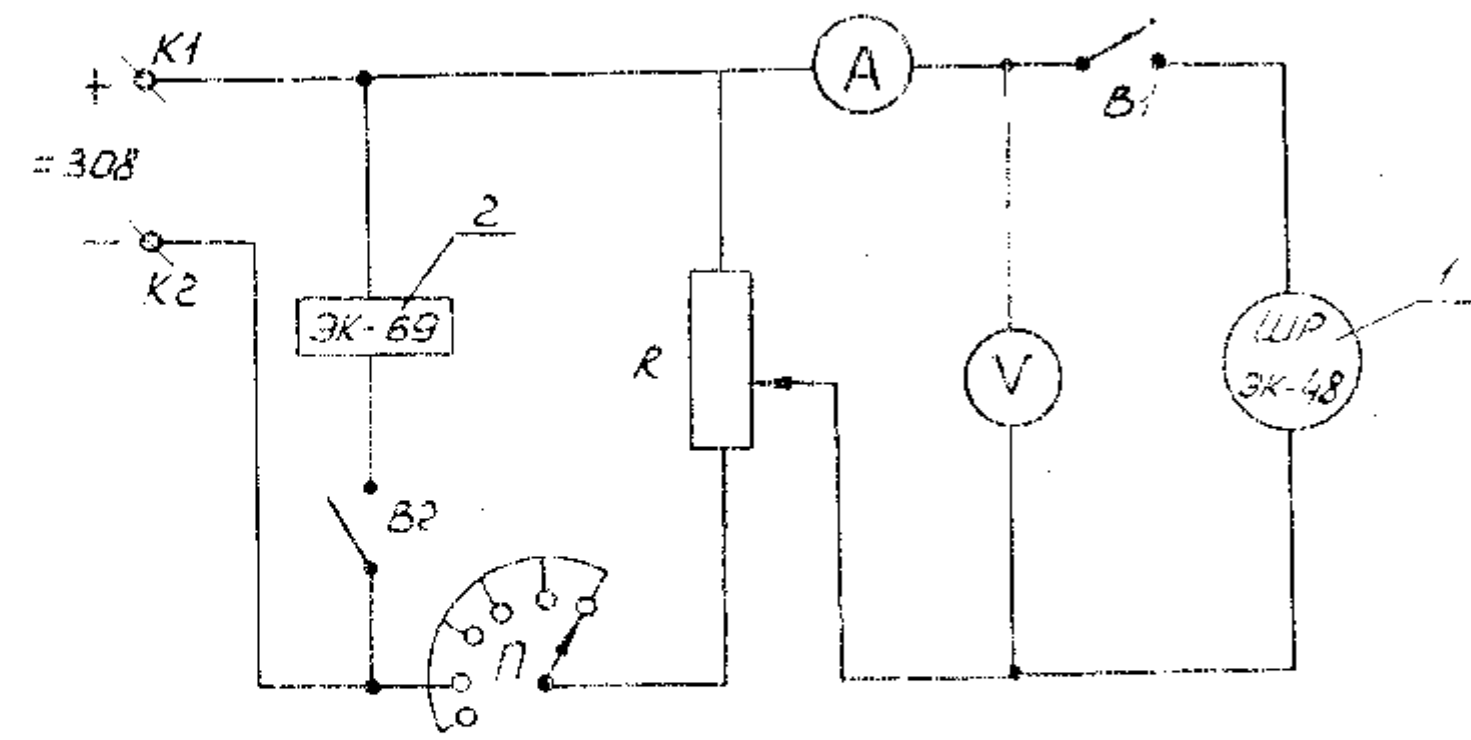
APPROVED	 M. VASU	СБ 4Г		
CHECKED	H.M. Shaikh			
CONTROLLERATE OF INSPECTION (ICVI)	SOCKET	WEIGHT	SCALE	
			2:1	
		SHT	SHTS	
	outline	37	OF 109	

Схема №1



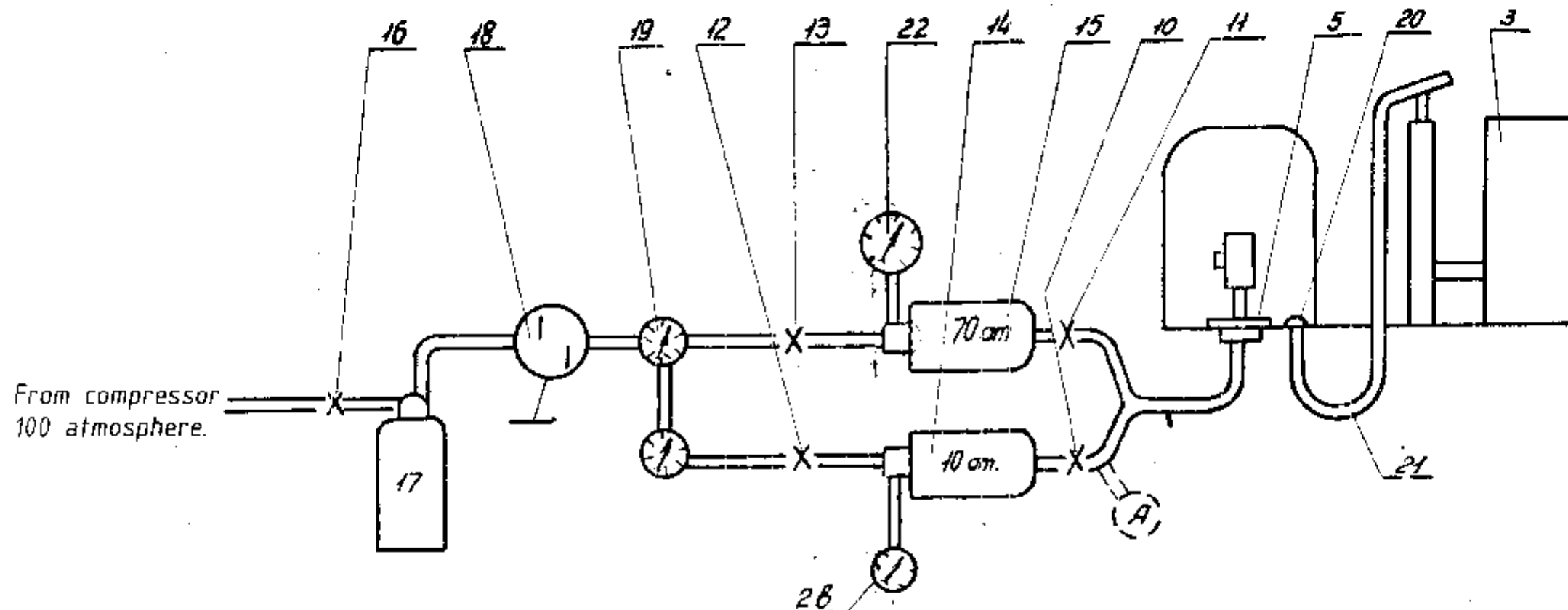
- B₁B₂ :- Circuit breaker of type B-45.
- R :- Reostat of type PCП-12.50hms. 5a.
- A :- Am meter of type.
- V :- Voltmeter of type.
- П :- Breaker
- K₁, K₂ :- Terminal.
- 1 :- Plug for connection of the article.
- 2 :- Electric pneumatic valve.

Schematic drawing No. 1.

УИВ №24/633 М/К 69: (подпись)

SCHEMATIC DRAWING No 1		WEIGHT	
CIRCUIT DIAGRAM		SHT	
FOR TESTS OF 3K-48		38 OF 100	
CONTROLERATE OF INSPECTION (ICV)			

СХЕМА № 3



If it is necessary to install cylinder having a capacity of 2 liters with manometer rating upto 15 atmosphere at "A" position, for checking the air release in off position from 0 to 10 atmospheres.

Schematic Drawing No. 3.

2-3K-015

ИМЛКС
84-2/С

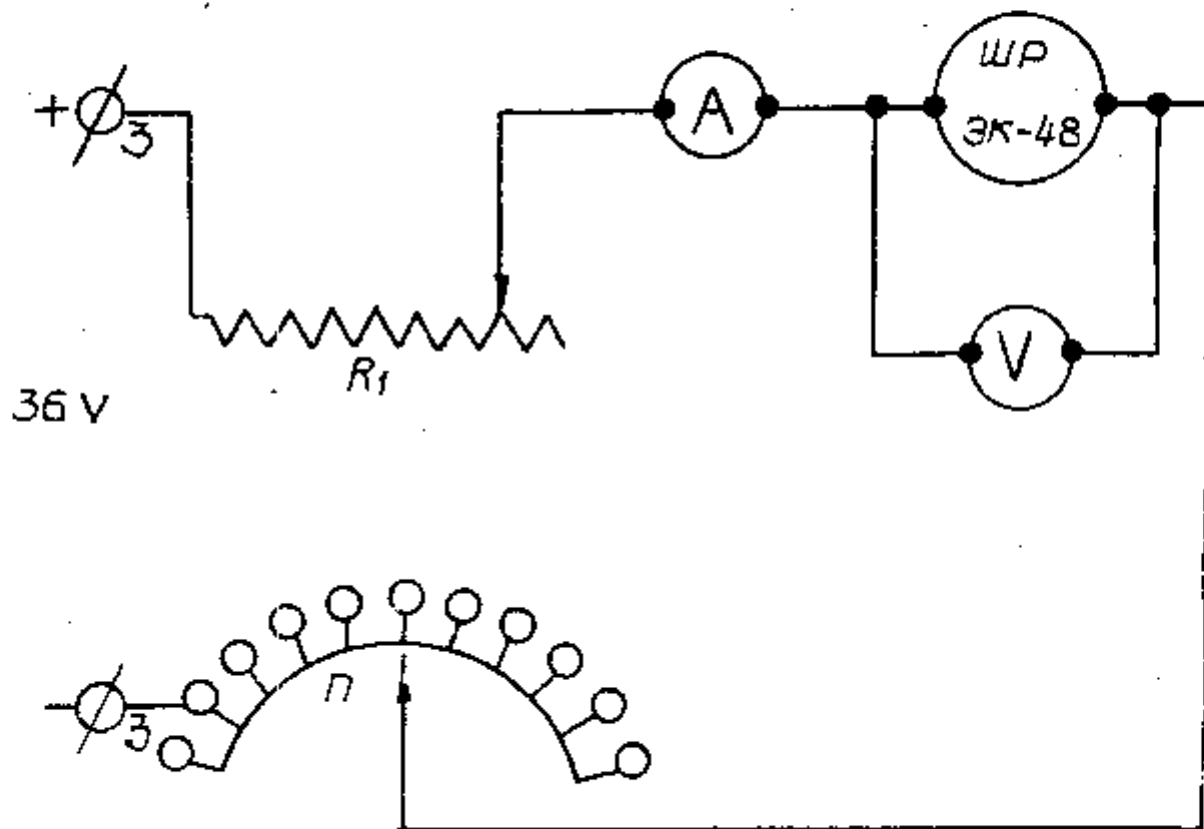
Владелец
Л. ПОДЛИН

Ж. ПОДЛИН

Подпись

APPROVED	SCHMATIC DRAWING No 3	38
CONTROLLED	PNEUMATIC CIRCUIT OF THE STAND FOR TESTING 3K-48	34 104

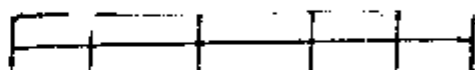
Cx. No 2



I-1224

Первичный номер

2-3К-015



APPROVED	<i>[Signature]</i>	Cx. No 2 (Diagram No 2) ⁰⁹⁶⁵³⁴	
CHECKED	<i>[Signature]</i>	CIRCUIT DIAGRAM OF	WEIGHT SCALE
CONTROLLERATE OF INSPECTION (ICV)		STAND FOR TESTING	
		ЭК-48	SHT SHTS
		39 OF 109	