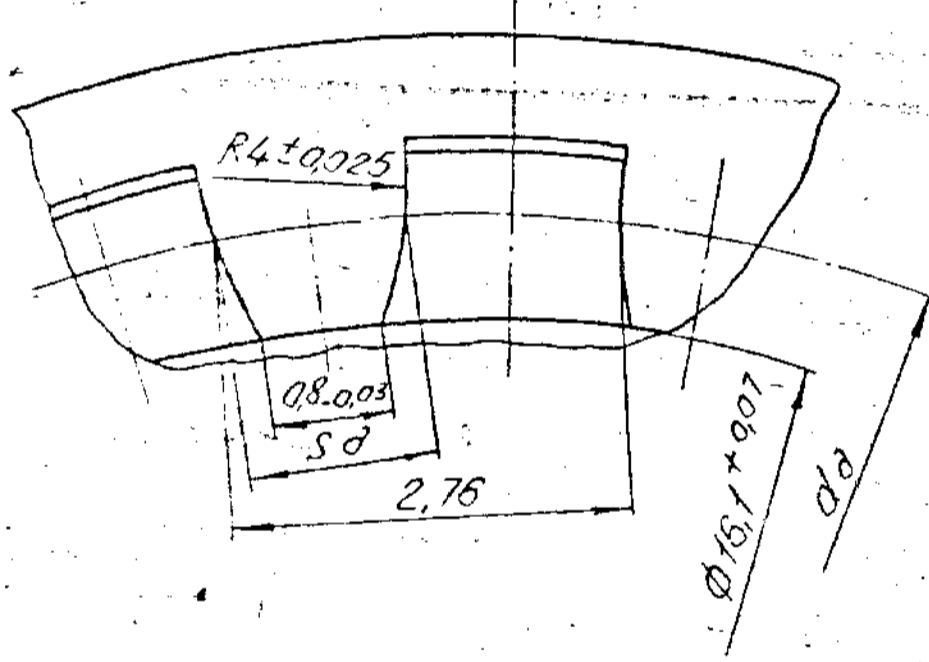
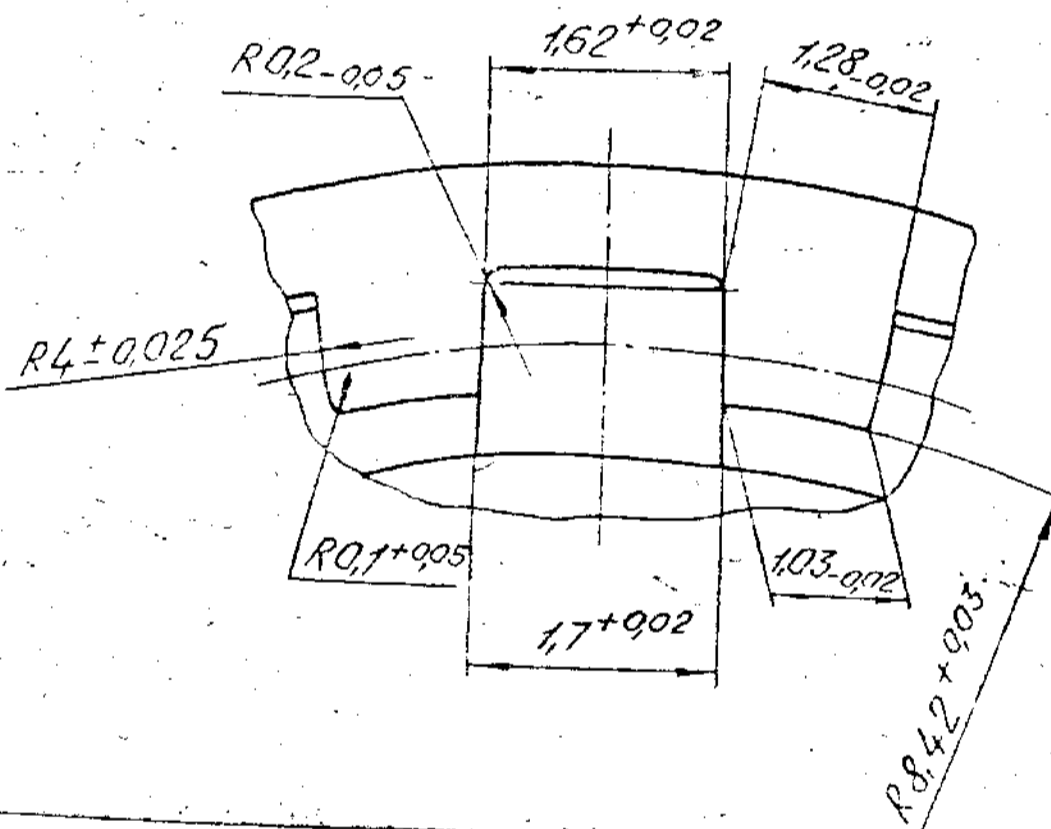


REVOLVED повернуто
M 20:1 SCALE 20:1

VIEW B Вид B
M 20:1 SCALE 20:1



1. PUSHER TRACES SHOULD BE LOCATED ON SURFACE B.
2. * DIMENSIONS FOR REFERENCE.
3. ** DIMENSIONS FOR COATED PART.
4. *** DISPLACEMENT OF AXIAL SPACE OF 2-TOOTH WHEEL RELATIVE TO CORRESPONDING AXIAL SPACE OF 20 TOOTH WHEEL, NOT EXCEEDING - 0,05 mm IN SPECIFIED DIRECTION, IS ENSURED BY TOOL.
5. A SYMMETRY OF DIGITS RELATIVE TO SYMMETRY AXIS OF SURFACE F NOT EXCEEDING 0,1mm, IS ENSURED BY TOOL.
6. UNSPECIFIED LIMIT DEVIATIONS OF DIMENSIONS AS PER B 5.
7. ALL DIGITS FROM 0 TO 9 SHOULD BE EVENLY POSITIONED AROUND THE ROLLER RIM.
8. APPEARANCE AS PER STANDARD PIECE.
9. USE SEAL H2.5 3802020 A, TO MARK SEAT NO OF THE MOULD, HEIGHT OF TYPE CHARACTERS, NOT EXCEEDING 0.3mm, IS ENSURED BY TOOL.
10. SEAT NO OF THE MOULD MAY BE MARKED ON SURFACE B.

CODE	DESIGNATION	MATERIAL	COATING AND ADDITIONAL REQUIREMENTS
45 7392 1929	СН102-412	PLASTIC ABC-2020C D02, WHITE-BEIGE HIGHEST GRADE, ТУ6-05-1587-79	DEGITS: H90-31, BLACK PAINT ТНКС-53, УТ37.453.079-74 IVT2
45 7392 3496	СН1215-412	ABC-2020 202 ORANGE, HIGHEST GRADE, ТУ6-05-1587-74	DEGITS: H90-29, WHITE PAINT ТУМС-851, ТУ 29-02, 890-79 IV Ж1
45 7392 1933	СН131-412	PLASTIC ABC 2020C 901, BLACK HIGHEST GRADE, ТУ6-05-1587-79	DEGITS: H90-29, WHITE PAINT ТУМС-851, ТУ 29-02, 890-79 IV Ж1

MODULE	m	0.88
NUMBER OF TEETH	Z	20
ADDENDUM MODIFICATION COEFFICIENT		0
REFERENCE DIAMETER		17,6
TOOTH THICKNESS ALONG REFERENCE CIRCLE		1.26-0.04

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

EST. MASS. 0.9g 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

MATERIAL	ALL SHARP EDGES & CORNERS TO BE REMOVED	ALL THREADS TO CONFORM TO SPECIFICATION	STAMP OR ETCH, PART NO. MANUFACTURERS NAME & YEAR OF MFG.
DRG. NOT TO BE SCALED	SCALE 1: 5:1	TOLERANCE ON DIMENSIONS UNLESS OTHERWISE SPECIFIED	USED ON:
DATE 22-7-97	DRN. [Signature]	WT 1.0g	СН 102 412
TCD. [Signature]	CHD. [Signature]	APD. [Signature]	ROLLER
CONTROLLERATE OF QUALITY ASSURANCE (INFANTRY COMBAT VEHICLES) 92/110			

ITEM	DRAWING NUMBER	D S. CAT. NUMBER	DESCRIPTION	NO. OFF	REMARKS
	Cn 102 430 C5		CHEEK ASSY		
1	Cn 102 431		CHEEK	1	
2	Cn 25 432 A		CHEEK	1	
3	Cn 25 433		STAR WHEEL	1	

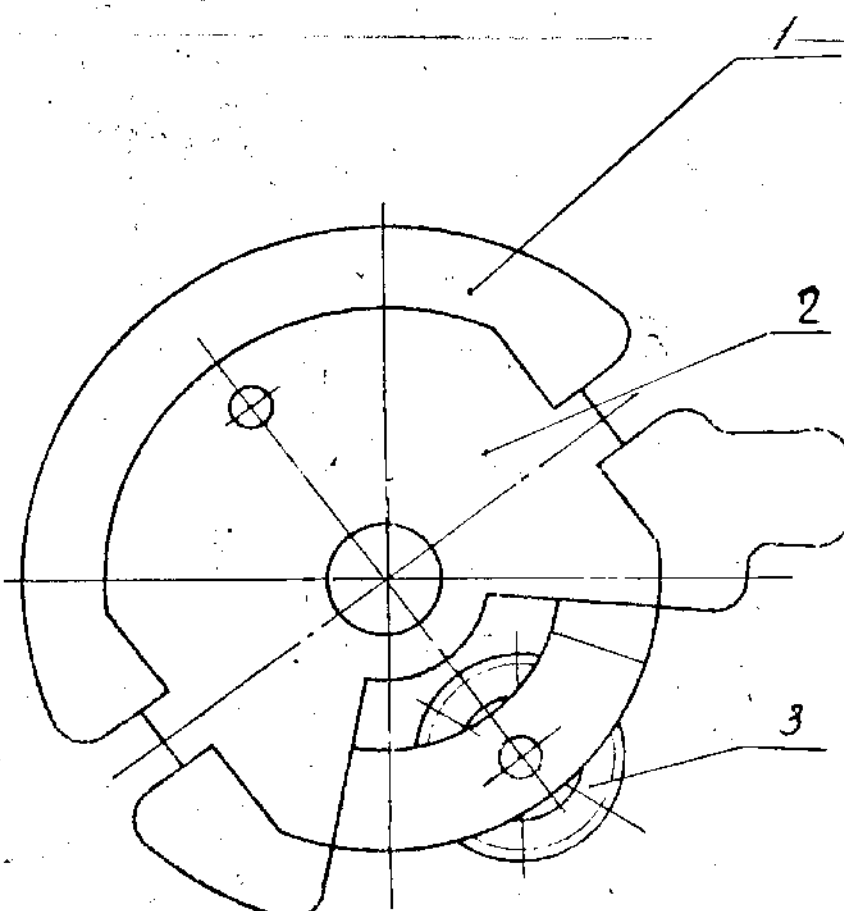
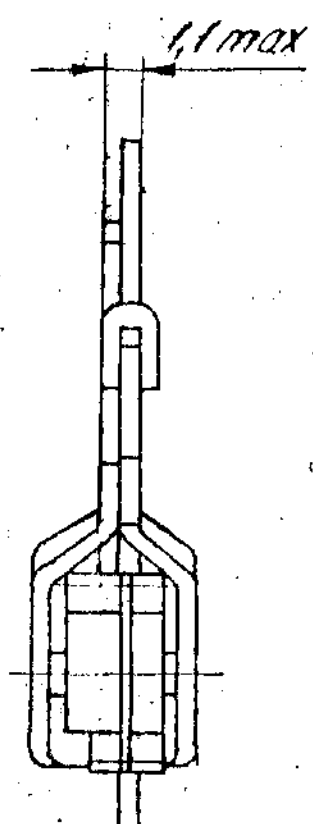
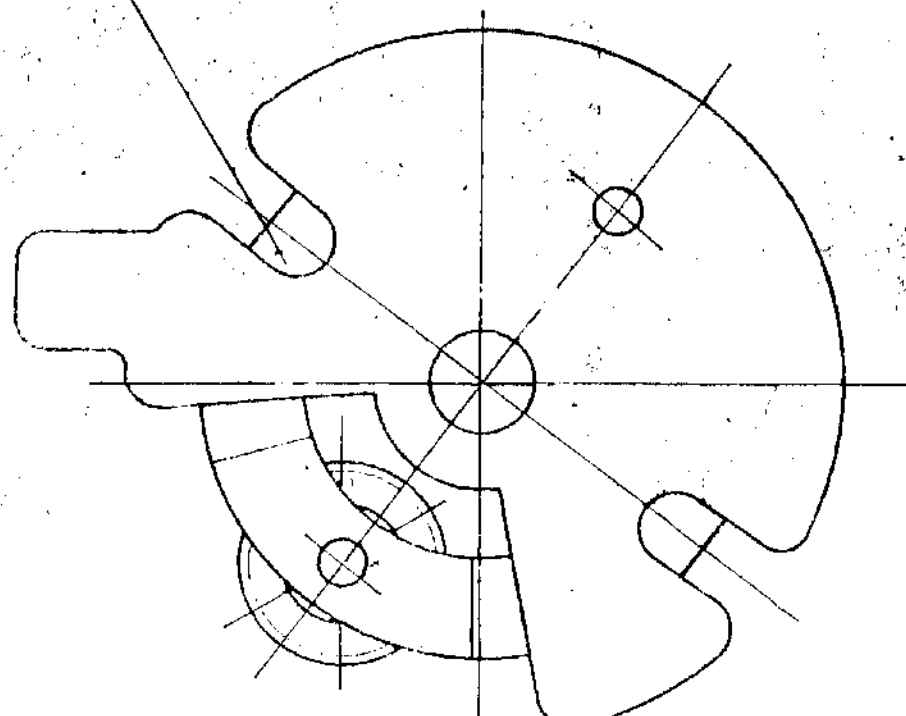
DC(1) NO DATE	ISSUE	NATURE OF AMENDMENTS	DC(1) NO DATE	ISSUE	NATURE OF AMENDMENTS
	<i>[Signature]</i>	CN 102 430 C5			DATE: - 23-7-97
					USED ON
		CHEEK ASSY.			SHEET 1 SHEETS
	<i>[Signature]</i>				OF 12/150

CONTROLLERATE OF QUALITY ASSURANCE (ICV)

DRAWING NUMBER

Сп 102 430СБ

BEND 2 LUGS
Загнуть 2 ушка



TIGHTLY PRESS CHECKS TO EACH OTHER, POSITION BY THE CENTRE HOLE AND TECHNOLOGICAL HOLE.

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

EST. MASS 2.13g	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

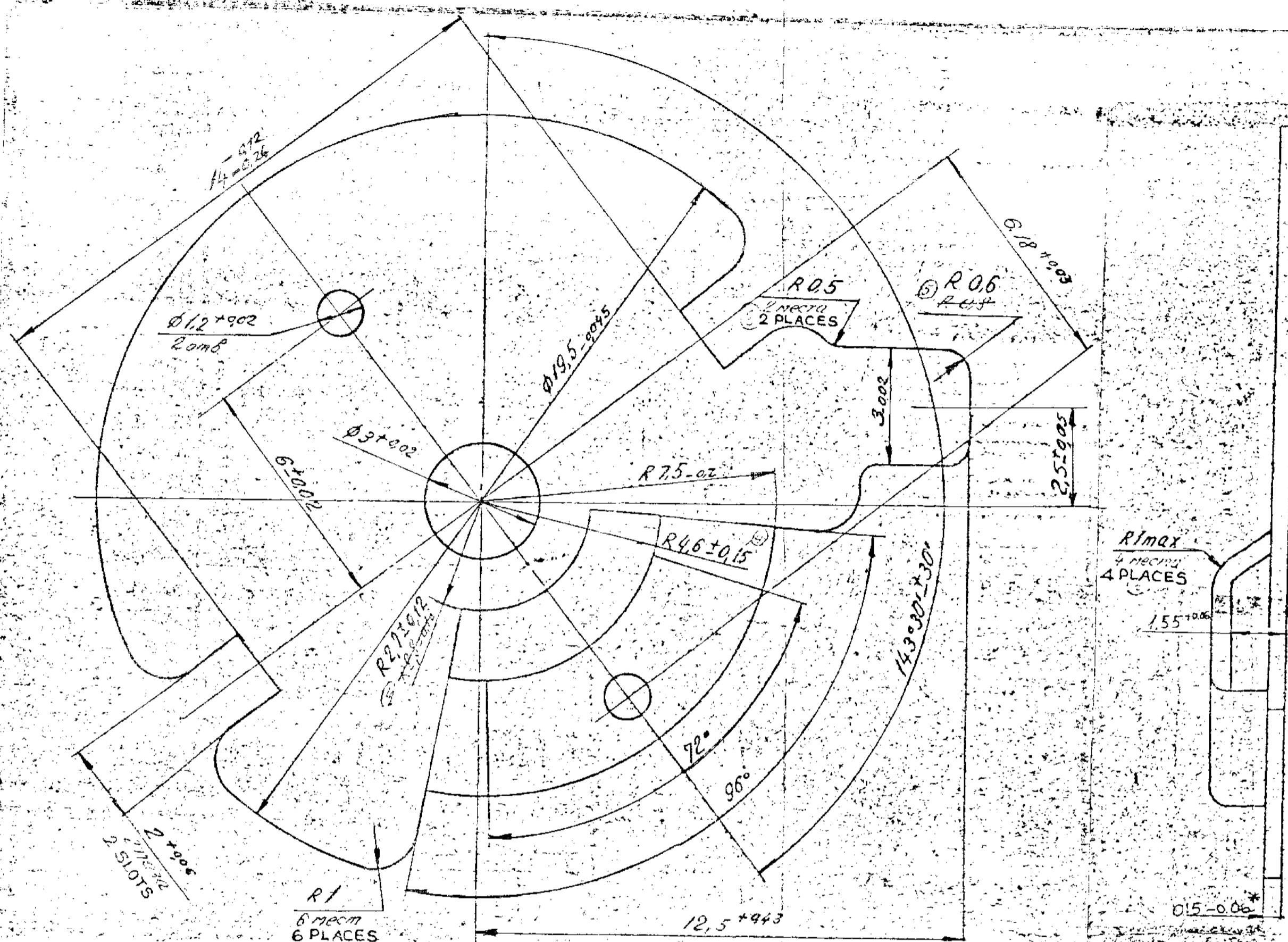
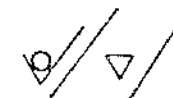
ISSUE	DATE	NATURE OF

MATERIAL		STAMP OR ETCH. PART NO. MANUFACTURERS NAME & YEAR OF MFR.
ALL SHARP EDGES & CORNERS TO BE ROUNDED OFF	ALL THREADS TO CONFORM TO SPECIFICATION	USED ON:-
DRG. NOT TO BE SCALED	TOLERANCE ON DIMENSIONS UNLESS OTHERWISE SPECIFIED	
SCALE :- 5:1	DATE :- 22-7-97.	СП 102 430 СБ
DRN	WT :- (Kg)	
TCD. <i>RK</i>		
CND		-CHEEK ASSY.
APD. <i>AS</i>		
CONTROLLERATE OF QUALITY ASSURANCE (INFANTRY COMBAT VEHICLES)		43/110

A1
56
44515K
A
SIZE A3

DRAWING NUMBER

Cn 102 431



EXPLANATORY NOTE:-

4. REFERENCE MATERIAL QUOTED:- COLD ROLLED, SEMI HARD NORMAL ACCURACY, 0.5 THICK BRASS STRIP GRADE Л63, GOST 2208-75. MANUFACTURED AS PER GOST 15527-70.

a) CHEMICAL COMPOSITION:- AS PER GOST 15527-70.

Gde. OF BRASS	BASIC ELEMENTS		ADMIX					TOTAL
	Cu	Zn	Pb	Fe	Sb	Bi	P	
Л63	62.0 65.0	REMAINING	MAXIMUM					0.5
			0.07	0.2	0.005	0.002	0.01	

b) MECHANICAL PROPERTIES:- AS PER GOST 2208-75.

Gde. OF BRASS	MATERIAL CONDITION	TENSILE STRENGTH Kgf/mm ²	ELONGATION % MIN
Л63	SEMI HARD	42-55	10

1. * DIMENSIONS FOR REFERENCE.

2. UNSPECIFIED LIMIT DEVIATIONS OF DIMENSIONS - AS PER PTM 37,453 001-71.

CODE	DESIGNATION	COATING
45 7392 2199	CA102-431	CHEMICAL PASSIVATION
45 7392 2201	CA102-431-T	Ni6 H6

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

EST. MASS 1.63g 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

MATERIAL - ВАНД АПРНН 0.5 НАЛ 63 GOST 2208-75.

ALL SHARP EDGES & CORNERS TO BE ROUNDOFF	ALL THREADS TO CONFORM TO SPECIFICATION	STAMP OR ETCH. PART NO. MANUFACTURERS NAME & YEAR OF MFR.
DRG. NOT TO BE SCALED	TOLERANCE ON DIMENSIONS UNLESS OTHERWISE SPECIFIED	USED ON:-
SCALE :- 10:1	DATE :- 22-7-97.	WT :- (Kg)
DRM. <input checked="" type="checkbox"/>	WT :- (Kg)	CN 102 431
TCD. <input checked="" type="checkbox"/>		CHEEK
CHD. <input checked="" type="checkbox"/>		
APD. <input checked="" type="checkbox"/>		

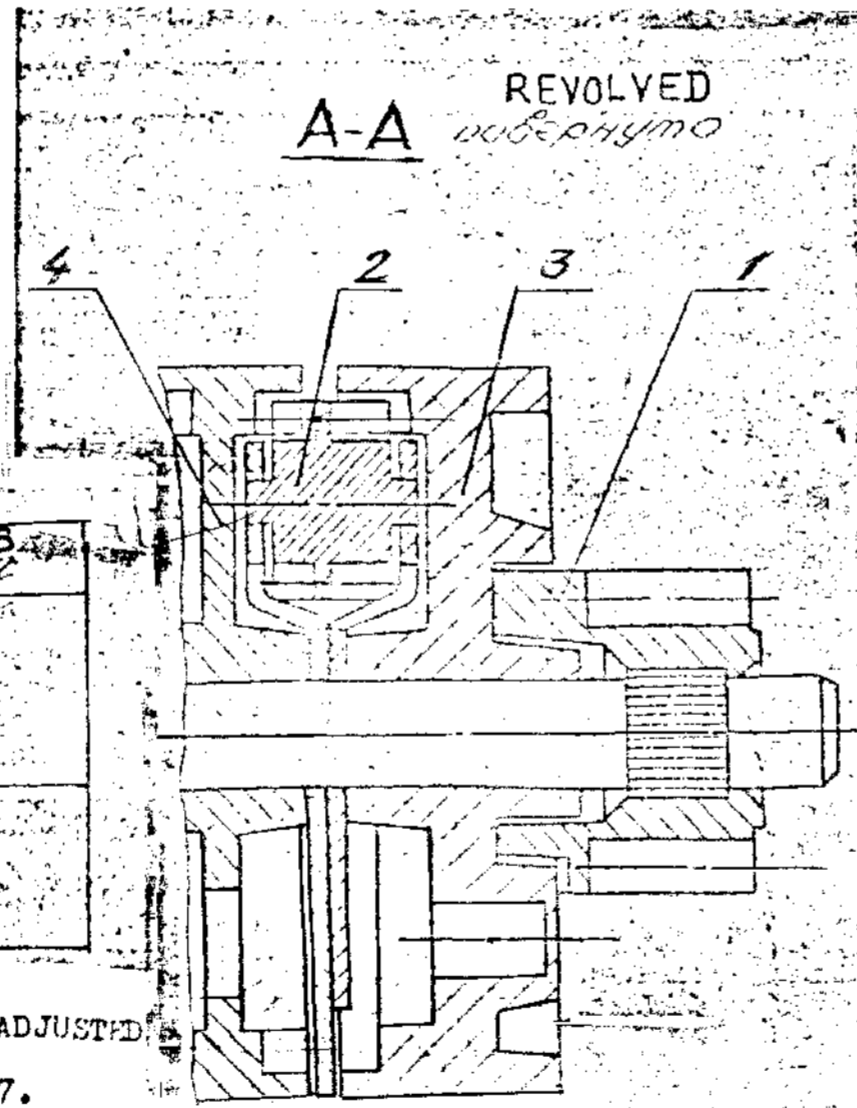
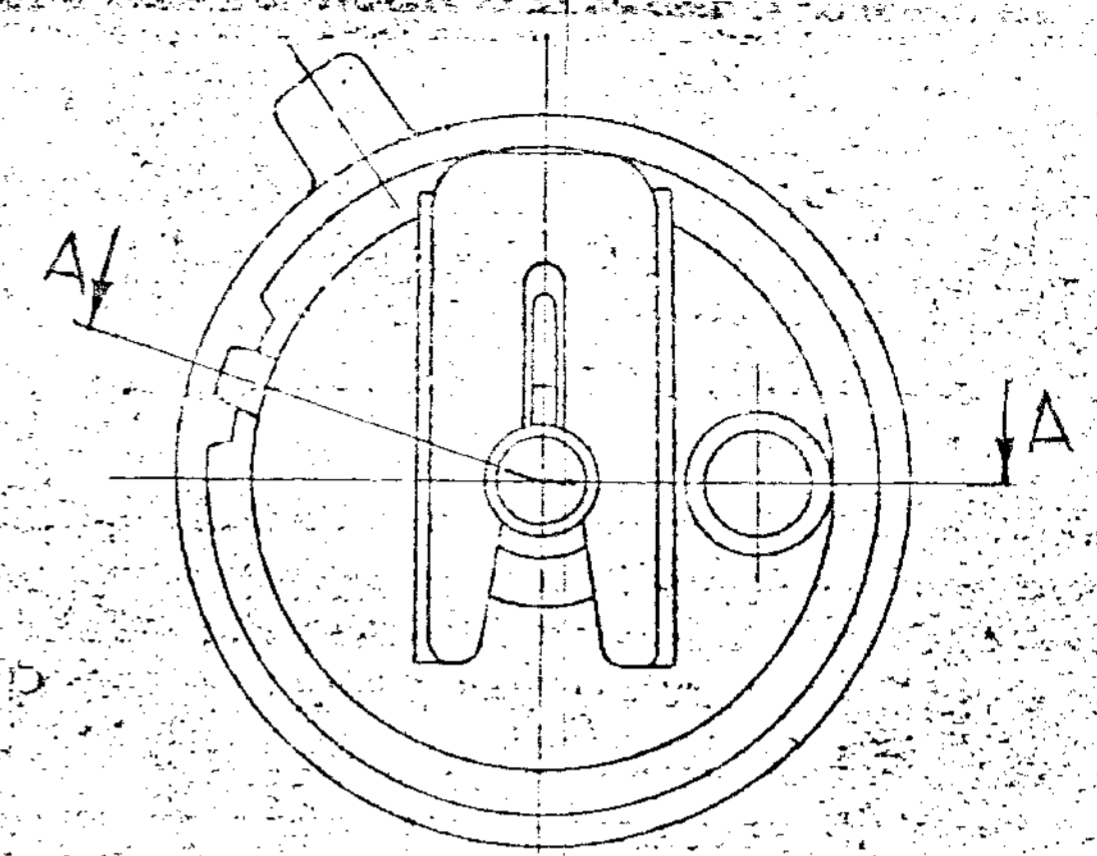
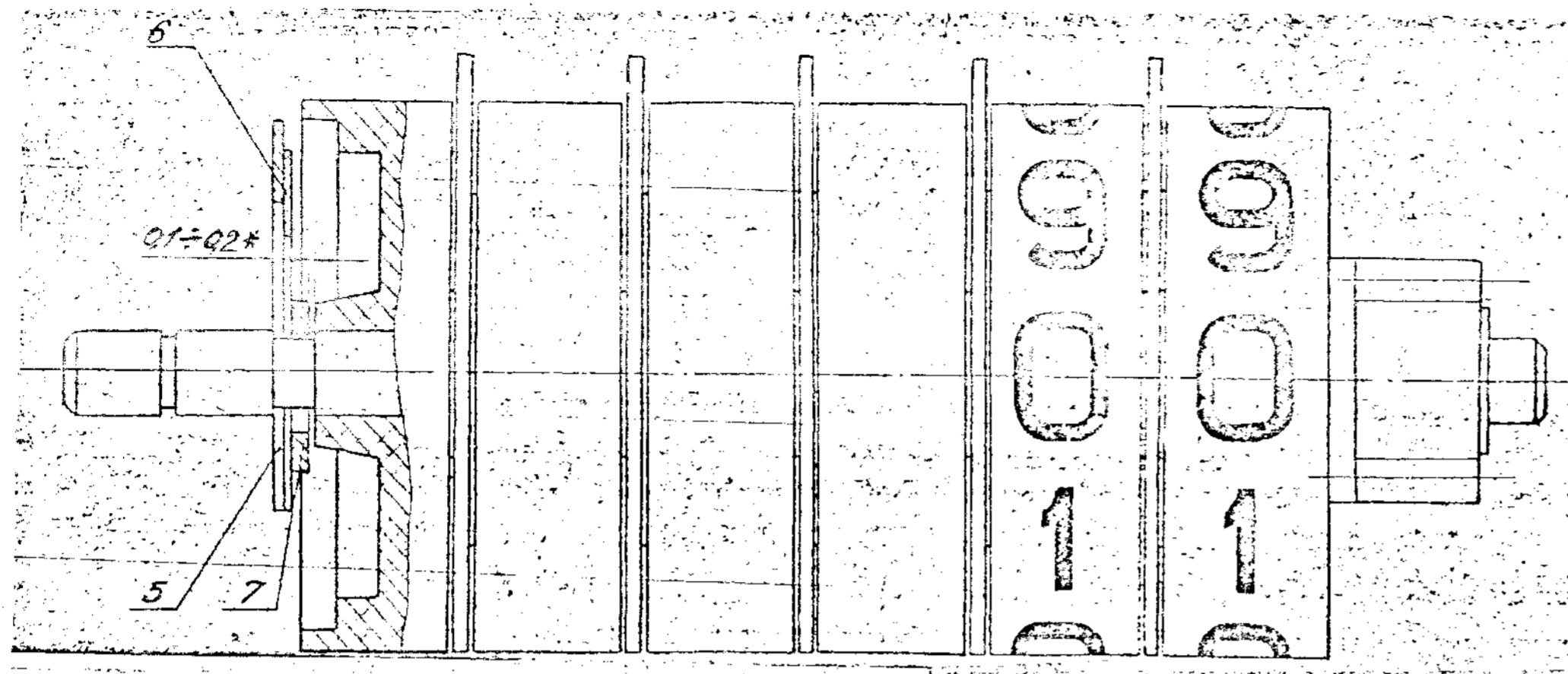
CONTROLLERATE OF QUALITY ASSURANCE (INFANTRY COMBAT VEHICLES) 96/110

ITEM	DRAWING NUMBER	D S CAT NUMBER	DESCRIPTION	No. OFF	REMARKS
	Cn 104 410 C6		COUNTING UNIT ASSY		
1	Cn 25 420 C6		ROLLER AXLE ASSY	1	
2	Cn 102 430 C6		CHEEK ASSY	5	
3	Cn 102 411		FIRST ROLLER	1	
4	Cn 102 412		ROLLER	5	
5	Cn 15A2 407 A		LOCK PLATE	1	
6	4KA 1/1 A		ADJUSTING PLATE	2	
7	-N .. D-		WASHER 3.5x6.11 H24-02-04	3	

DC(1) NO DATE	ISSUE	NATURE OF AMENDMENTS	DC(1) NO DATE	ISSUE	NATURE OF AMENDMENTS
DRN	ABP	C7-104-410C6	DATE	-23-7-97	USED ON-C7-119-400AC6
TCD	ABP				
CHD		COUNTING UNIT ASSY	SHEET		SHEETS
APPD			OF	38	110

CONTROLLERATE OF QUALITY ASSURANCE (ILV)

DRAWING NUMBER
Cn 104 410 C5



Обозначение DESIGNATION	MASS Масса
СН102-410, СН102-410-3, СН102-410-Т СН116-410, СН116-410-3, СН116-410-Т СН115-410, СН115-410-3, СН115-410-Т	42,5g
СН102-410А, СН102-410А-Т СН104-410, СН104-410-Т	22g

* REQUIRED PLAY OF THE COUNTING UNIT SHOULD BE ADJUSTED BY SELECTING THE NECESSARY AMOUNT OF PARTS 6 AND 7.

CODE КОД	DESIGNATION ОБОЗНАЧЕНИЕ	ADDITIONAL REQUIREMENTS ДОПОЛНИТЕЛЬНЫЕ ТРЕБОВАНИЯ
45 7392 2169	СН102-410	Шестизубки и ось барабаников
45 7392 2171	СН102-410-3	Смазка смазкой ГОИ-54П
45 7392 3209	СН102-410А	ГОСТ 3276-74
45 7392 2175	СН104-410	USE GREASE ГОИ-54П, GOST 3276-74, TO LUBRICATE STAR WHEELS AND ROLLER AXLE.
45 7392 2179	СН116-410	
45 7392 2181	СН115-410	
45 7392 2708	СН116-410-3	
45 7392 2109	СН115-410-Т	
45 7392 2172	СН102-410-Т	Шестизубки и ось барабаников
45 7392 32116	СН102-410А-Т	Смазка смазкой ЦИАТИМ 221
45 7392 2176	СН104-410-Т	ГОСТ 9433-80 или ОКБ-122-7
45 7392 2182	СН116-410-Т	ГОСТ 18179-72
45 7392 2181	СН115-410-Т	USE GREASE ЦИАТИМ-221 GOST 9433-80 OR ОКБ-122-7, GOST 18179-72, TO LUBRICATE STAR WHEELS AND ROLLER AXLE.
45 7392 2181	СН115-410	Шестизубки и ось барабаников
45 7392 2181	СН115-410-3	Смазка смазкой ЦИАТИМ 221
45 7392 2181	СН115-410-Т	ГОСТ 9433-80 или ОКБ-122-7

A1/50

4515KA

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

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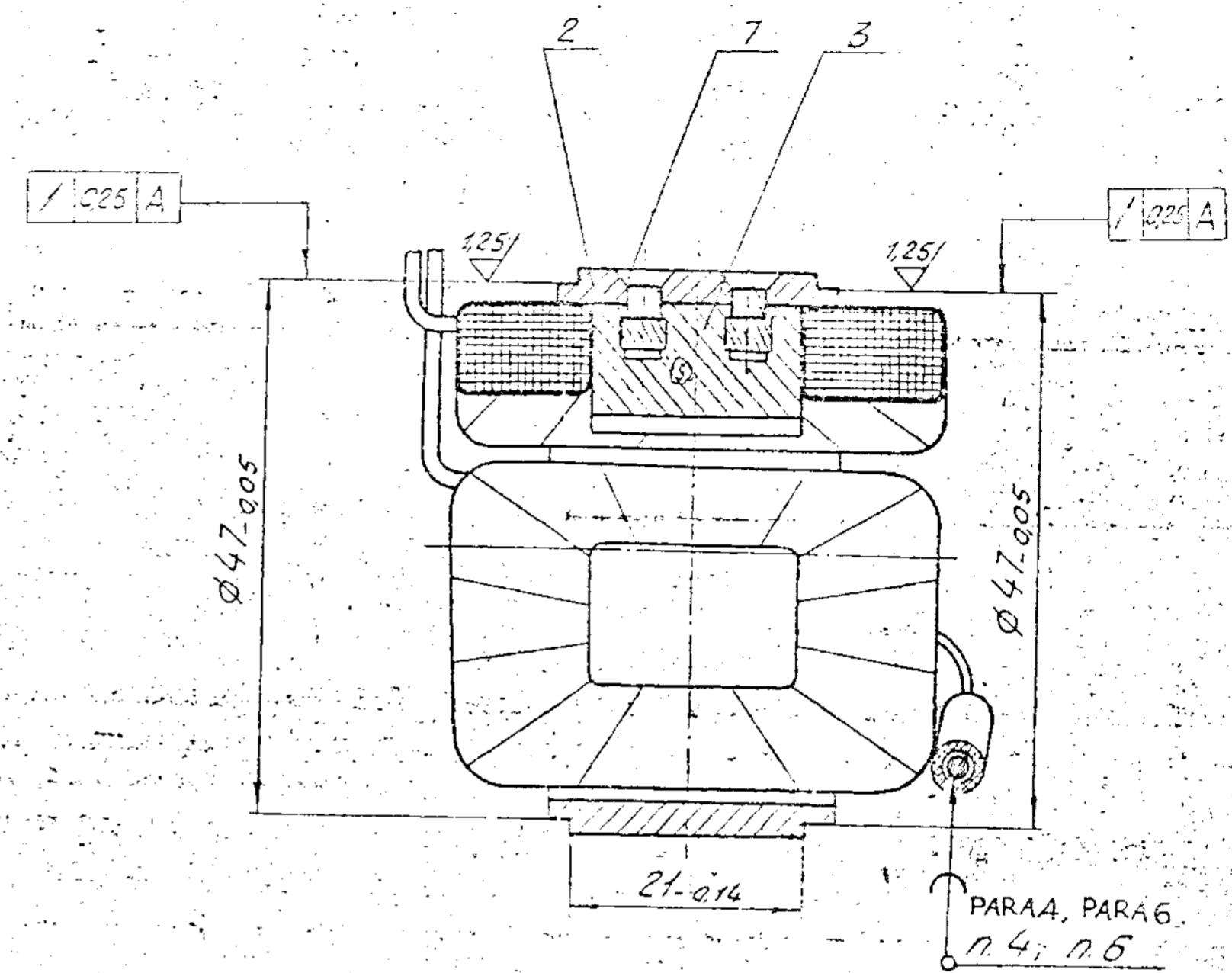
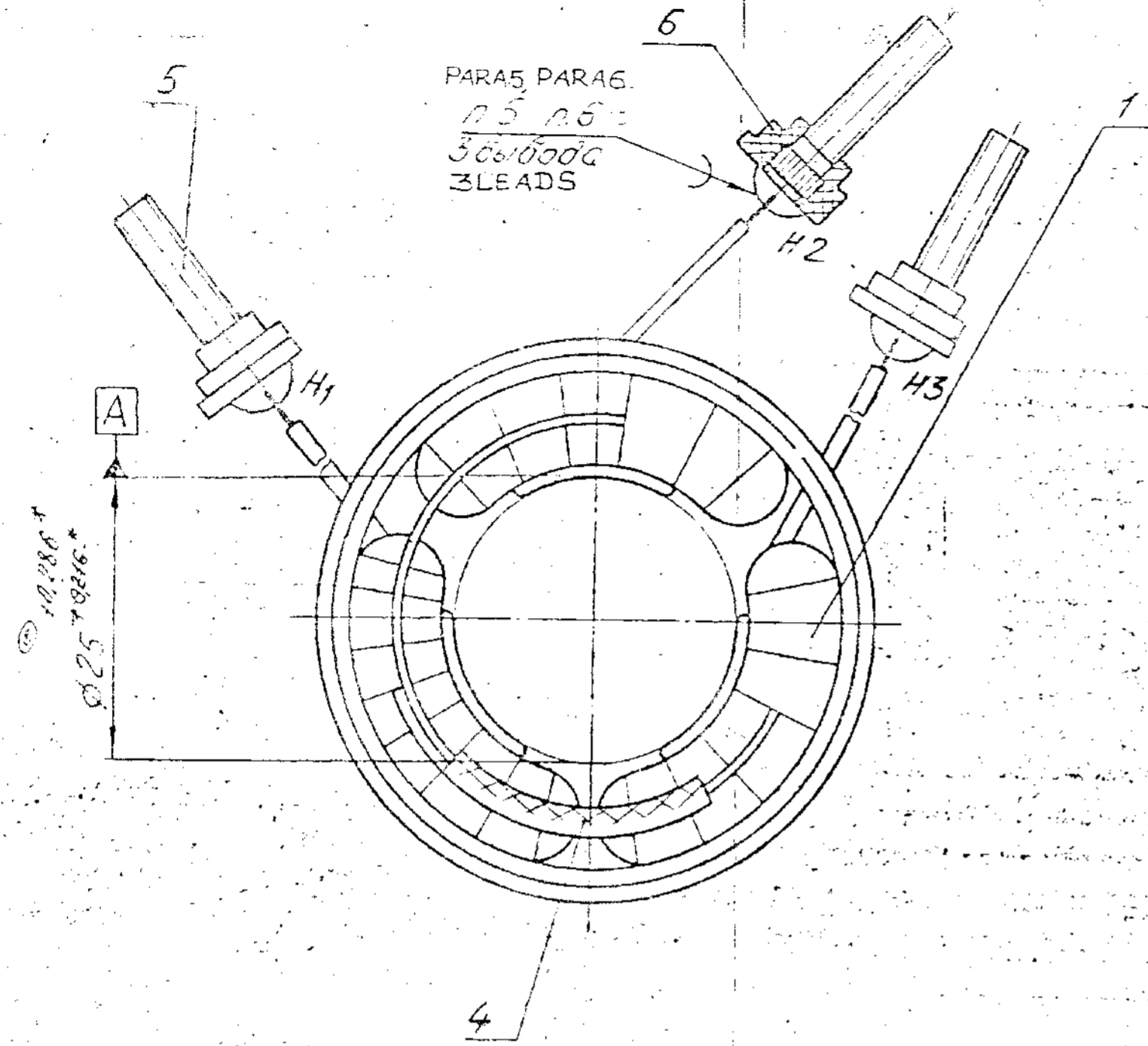
ALL SHARP EDGES AND CORNERS TO BE REMOVED UNLESS OTHERWISE STATED MACHINED CORNERS TO HAVE R OUTSIDE R INSIDE EQUIVALENT CHAMFERS ARE PERMISSIBLE.

ISSUE	DATE	NATURE OF A

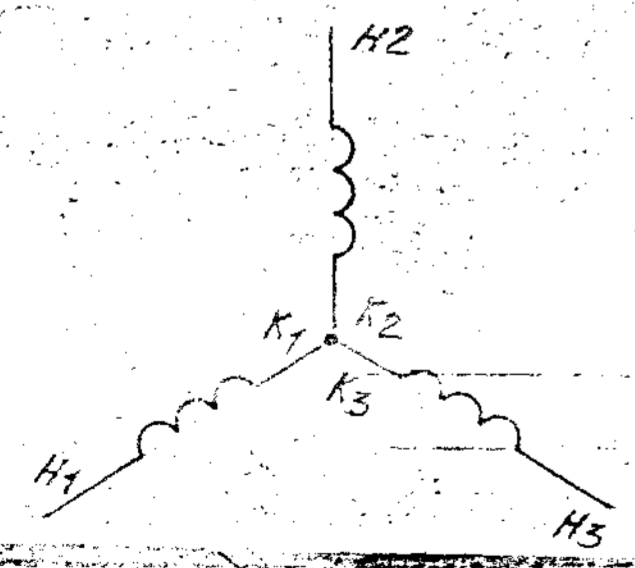
MATERIAL		
ALL SHARP EDGES & CORNERS TO BE ROUNDED OFF	ALL THREADS TO CONFORM TO SPECIFICATION	STAMP OR ETCH, PART NO. MANUFACTURERS NAME & YEAR OF MFR.
DRG. NOT TO BE SCALED	TOLERANCE ON DIMENSIONS UNLESS OTHERWISE SPECIFIED	USED ON:-
SCALE :- 5:1	DATE :- 22-7-97.	
DRN	WT :- (Kg)	
ГЧД		СН 104 410 С5
СНД		COUNTING UNIT ASSY.
APD		CONTROLLERATE OF QUALITY ASSURANCE (INFANTRY COMBAT VEHICLES)

39/110

DRAWING NUMBER
 ЦН 106 500СБ



COILS CONNECTION CIRCUIT
 Электрическая схема
 соединения катушек



CODE КОД	DESIGNATION Обозначение	ADDITIONAL REQUIREMENTS Дополнительные требования
45 7392 2322	СП 100-500	Припой Пр 2 по С-61 ГОСТ 21931-76. SOLDER ПОС-61, ПР 2, ГОСТ 21931-76
45 7392 2323	СП 100-500-3	
45 7392 2325	СП 106-500	
45 7392 2326	СП 106-500-3	
45 7392 2324	СП 100-500-Т	Припой олово ГОСТ 860-75. SOLDER-TIN, GOST 860-75
45 7392 2327	СП 106-500-Т	

- * DIMENSION IS ENSURED BY TOOL.
- USE TYPE ПС-3 TO MARK INSTRUMENT VOLTAGE "12V" ON THE STATOR BODY (FOR СП 100-500 СБ) AS PER GOST 2930-62. MARK PRIOR TO ASSEMBLY OF STATOR WITH COILS.
- TWIST TOGETHER AND SOLDER THE DRESSED OUTPUT LEADS OF COILS K1, K2, K3.
- SOLDER THE DRESSED INPUT LEADS OF COILS H1, H2, H3 TO HEADS OF SCREWS 5. COAT SOLDERED SPOTS WITH BROWN PRIMER ФЛ -03К, GOST 9109-81.
- TYPE OF SOLDER AS PER TABLE. USE ACID-FREE FLUX.
- DIFFERENCE IN RESISTANCE BETWEEN COILS BELONGING TO SAME STATOR SHOULD NOT EXCEED 1 OHM FOR СП 100-510 AND 3.5 OHM FOR СП 106-510 СБ.

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

EST. MASS. 250g 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

MATERIAL ALL SHARP EDGES & CORNERS TO BE BOUNDED OFF
 DRG. NOT TO BE SCALED
 SCALE 1: 2:1
 DATE 22-7-97.

ALL THREADS TO CONFORM TO SPECIFICATION
 TOLERANCE ON DIMENSIONS UNLESS OTHERWISE SPECIFIED

STAMP OR ETCH, PART NO. MANUFACTURERS NAME & YEAR OF MFG. USED ON:-
 СП 106 500 СБ
 STATOR ASSY.

CONTROLLED BY QUALITY ASSURANCE (INFANTRY COMBAT VEHICLES) 45/100

ITEM	DRAWING NUMBER	D S CAT NUMBER	DESCRIPTION	No. OFF	REMARKS
	Cn 106 500 CB		STATOR ASSY		
1	Cn 106 510 CB		COIL ASSY	3	
2	Cn 100 501 A		STATOR BODY	1	
3	M3 304 201		POLE	3	REFER FOR BLANK
4	Cn 100 503		SLEEVE WHITE IITB-40-230-3x0.4	1 =25mm	DRG. No. APP 637 242 COST 19034 -15 WITHOUT DRG.
5	M3 29 113		CONTACT SCREW	3	
6	Cn 120 016		BUSH	3	
7	Cn 100 502		RIVET	6	
	APP 637 242		POLE BLANK		THIS DRAWING RELATES TO M3 304 201

DC(1) NO DATE	ISSUE	NATURE OF AMENDMENTS	DC(1) NO DATE	ISSUE	NATURE OF AMENDMENTS
DRN	<i>K. K. K.</i>	Cn 106 500 CB STATOR ASSY.			DATE: - 23-7-97.
TED					USED ON
CHD					SHEET 1 SHEETS
APPD					OF 44/110

CONTROLLERATE OF QUALITY ASSURANCE (ICV)

ITEM	DRAWING NUMBER	D S CAT NUMBER	DESCRIPTION	No. QEE	REMARKS
	Cn 106 510 C6		COIL ASSY.		
1	Cn 106 511		WIRE ПЭТБ-2 0.200 OST 16 0.505 001-80. MASS 30g.	1	NO DRAWING MANUFACTURING DETAILS COVERED.
2	Cn 100 512A		LEAD WIRE HB-024 II 500 (OR) LEAD WIRE HB-026 II 500 l= 100mm. GOST 17515-72.	2	
3	Cn 100 514		INSULATION CABLE PAPER K120-700 GOST 23436-79 18-22X14-16mm.	2	
4	Cn 100 515		BRAIDING BAND Б-16-58 l= 500mm. GOST 4514-78.	1	

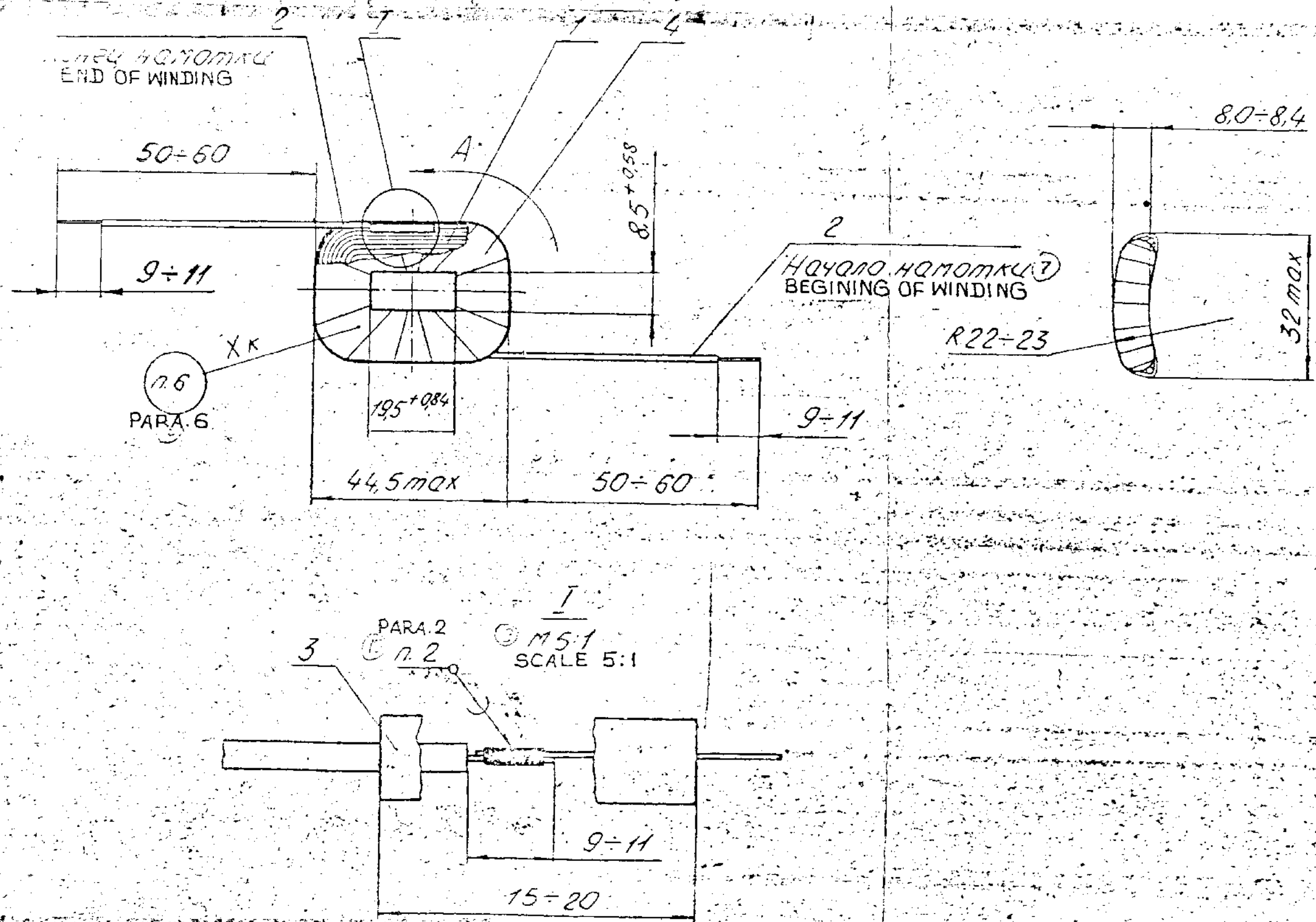
DC(1) NO DATE	ISSUE	NATURE OF AMENDMENTS	DC(1) NO DATE	ISSUE	NATURE OF AMENDMENTS
DRN		CП 106 510 C6	DATE: - 23-7-97.		
TCD			USED ON		
CHD			SHEET SHEETS		
APPD			OF 46 / 110		

CONTROLLERATE OF QUALITY ASSURANCE (ICV)

DRAWING NUMBER
Cn 106 510C5

TABLE-I

Обозначение- DESIGNATION HUE	Число NO. OF COILS ОУМКОО	Сопротивление- RESISTANCE OHM HUE, Ом	Маркировка MARKING КО
СН100-510	540±5	10-12*	12 В
СН100-510-Т	510±5	10,5 МОМ	12 В
СН106-510	1070±10	50-57*	24 В
СН106-510-Т	1200±25	50 МОМ	24 В



1. WINDING SHOULD BE DONE IN ONE LAYER AND TIGHTLY.
 2. DRESS THE INPUT AND OUTPUT LEADS OF WINDING, SOLDER THESE LEADS TO WIRES 2. USE ACID-FREE FLUX WHILE SOLDERING.
 3. DO NOT CUT CONDUCTORS WHILE DRESSING WIRES 2.
 4. TAPE THE COIL WITH BAND 4; BAND OVERLAP SHOULD BE 1/2 OF BAND WIDTH. LOOP THE FREE END.
 5. CHECK THE WINDING FOR SHORT - CIRCUITED COILS.
 6. MARK AS PER TABLE 1.
 7. "A" - DIRECTION OF COILING.
 8. * WINDING SHOULD BE DONE AS PER THE NUMBER OF COILS.
- RESISTANCE VALUES ARE APPROXIMATE AND SPECIFIED FOR REFERENCE.

NOTE:-
SOLDER ПОС-61, GOST 21931-76.
BEFORE TAPING THE COIL, IMPREGNATE THE BAND 4 WITH VARNISH AK-113, GOST 23832-79 AND DRY LOOP THE END OF TAPING BAND AND SECURE WITH ADHESIVE БФ-2 GOST 12172-74.

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

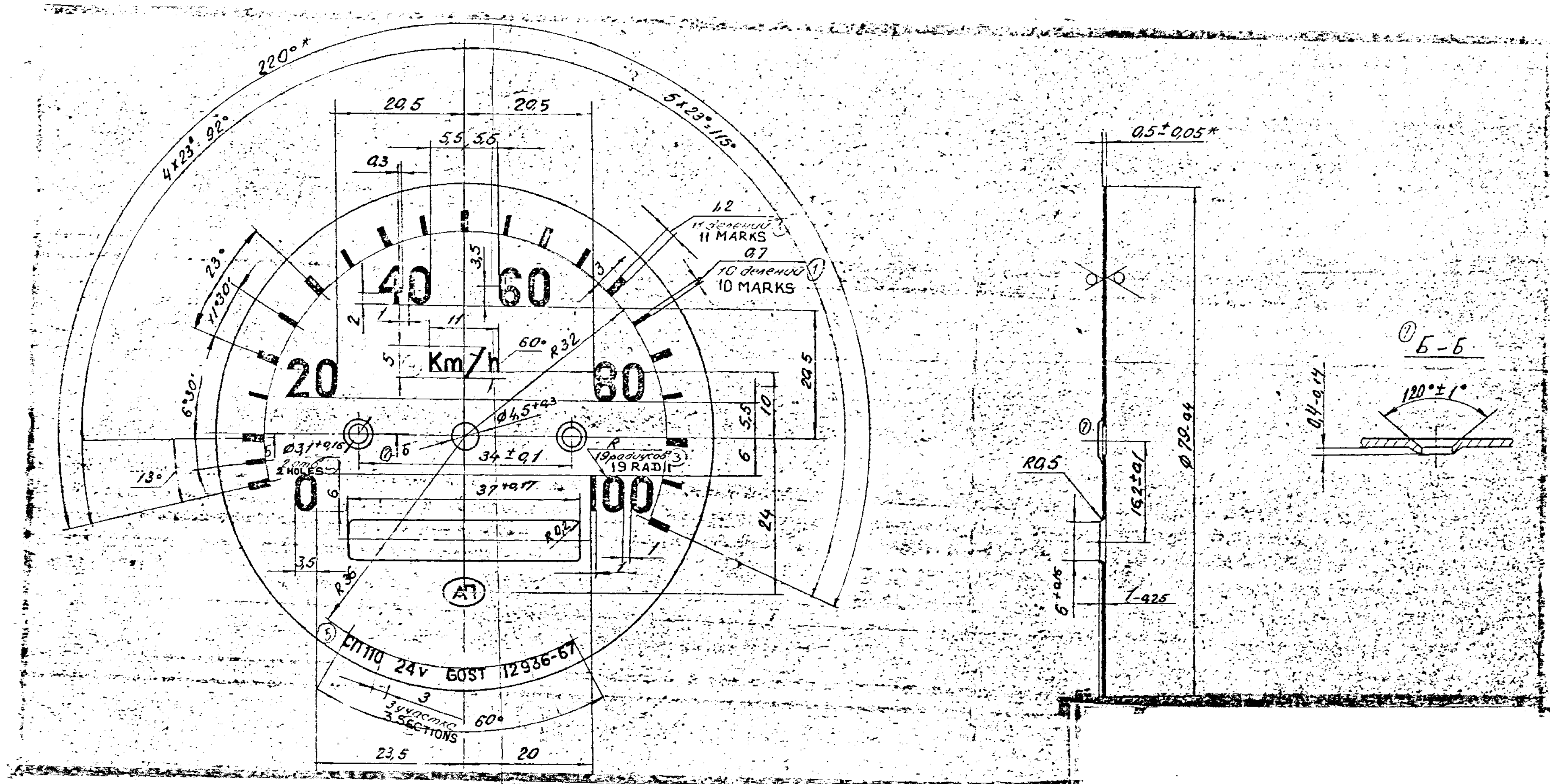
EST. MASS. 39.7g	TO BE STAMPED OR MARKED WHERE INDICATED THUS # LETTERS)
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ALL SHARP EDGES AND CORNERS TO BE REMOVED UNLESS OTHERWISE STATED MACHINED CORNERS TO HAVE R OUTSIDE R INSIDE EQUIVALENT CHAMFERS ARE PERMISSIBLE.

ISSUE	DATE	NATURE OF A

MATERIAL :-		STAMP OR ETCH, PART NO. MANUFACTURERS NAME & YEAR OF MFR.	
ALL SHARP EDGES & CORNERS TO BE ROUNDED OFF	ALL THREADS TO CONFORM TO SPECIFICATION	USED ON:-	
DRG. NOT TO BE SCALED	TOLERANCE ON DIMENSIONS UNLESS OTHERWISE SPECIFIED		
SCALE :- 1:1	DATE :- 22-7-97		
DRN. [Signature]	WT :- (kg)	Cn 106 510 C5	
TCO [Signature]		COIL ASSY.	
CHD [Signature]			
APD [Signature]			
CONTROLLERATE OF QUALITY ASSURANCE (INFANTRY COMBAT VEHICLES)			
47/110			

A1
72
44515KA
SIZE A2



EXPLANATORY NOTE :-

7. REFERENCE MATERIAL QUOTED: COLD ROLLED STEEL SHEET WITH STANDARD ACCURACY 0.5 ± 0.05 mm THICK ESPECIALLY HIGH FINISH I ORDINARY DRAWN TO GOST 16523-70 MANUFACTURED FROM STEEL GRADE 08K_n TO GOST 1050-74:

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

GRADE OF STEEL	CONTENT OF ELEMENTS %						
	C	Si	Mn	Cr	Ni	S	P
08K _n	0,05 - 0,11	0,03 (MAX)	0,25 - 0,50	0,10	0,25	0,04	0,035
	MAXIMUM						

b) MECHANICAL PROPERTIES AS PER GOST 16523-70:-

GRADE OF STEEL	TENSILE STRENGTH Kgf/mm ²	ELONGATION % (MIN)
08K _n	27 - 39	26

DESIGNATION	COATING AND ADDITIONAL REQUIREMENTS
СП110-0116	DIAL BACKGROUND - BLACK PAINT 4M, ТУ29-02-859-78, IV Y4. DIAL MARKS, SYMBOLS, DIGITS AND INSCRIPTIONS - WHITE ENAMEL AK-1102, ТУ6-10-1408-78, IV Y4. DIAL BACK - WHITE ENAMEL AK-1102 ТУ6-10-1408-78, V Y4.
СП110-0116-1	DIAL BACKGROUND - BLACK PAINT 4M, ТУ29-02-859-78, IV T3. DIAL MARKS, SYMBOLS, DIGITS AND INSCRIPTIONS - WHITE ENAMEL AK-1102, ТУ6-10-1408-78, IV T3. DIAL BACK - BROWN PRIMER -03K, GOST 9109-81, V T3. APPEARANCE AS PER STANDARD PIECE.
СП110-0116-3	DIAL BACKGROUND - BLACK PAINT 4M, ТУ29-02-859-78, IV Y4. DIAL MARKS, SYMBOLS, DIGITS AND INSCRIPTIONS - WHITE ENAMEL AK-1102, ТУ6-10-1408-78, IV Y4. DIAL BACK - WHITE ENAMEL AK-1102, ТУ6-10-1408-78, V Y4 APPEARANCE AS PER STANDARD PIECE.

- DIMENSIONS FOR REFERENCE.**
- UNSPECIFIED LIMIT DEVIATIONS OF DIMENSIONS FOR DIGITS, SCALE MARKS, DIAL SYMBOLS AND INSCRIPTIONS AND FOR THEIR RELATIVE POSITION UPTO ± 0.1 mm ARE TO BE ENSURED BY TOOL.
 - UNSPECIFIED LIMIT DEVIATIONS OF ANGULAR DIMENSIONS-AS PER DEGREE 10 OF GOST 8908-58.
 - USE TYPE П0.3 GOST 2930-62, FOR INSCRIPTION "KM/h" POSITION THIS INSCRIPTION SYMMETRICALLY ABOUT THE AXIS OF DIAL.
 - USE TYPE П0-2, GOST 2930-62, FOR INSCRIPTION "СП 110.24V, GOST 12936-67" EXCEPT FOR LETTER "V", FOR WHICH TYPE П0-1, GOST 2930-62, SHOULD BE USED. POSITION THE ENTIRE INSCRIPTION SYMMETRICALLY ABOUT THE DIAL AXIS.
 - MARK THE TRADE MARK OF MANUFACTURING PLANT AS PER H 1.9 3802226 MA

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

EST. MASS. 21g 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.

MATERIAL :- SHEET 50.5 GOST-19904-74. I-H-08X11 GOST-16523-70.	
ALL SHARP EDGES & CORNERS TO BE ROUNDED OFF.	ALL THREADS TO CONFORM TO SPECIFICATION
DRG. NOT TO BE SCALED	STAMP OR ETCH, PART NO. MANUFACTURERS NAME & YEAR OF MFG.
SCALE :- 2:1	TOLERANCE ON DIMENSIONS UNLESS OTHERWISE SPECIFIED
DATE :- 22-7-97	USED ON: СП110-380-2010С5
DRN. [Signature]	WT :- (Kg)
TRD. [Signature]	СП110-0116
CND. [Signature]	DIAL
APD. [Signature]	
CONTROLLERATE OF QUALITY ASSURANCE (INFANTRY COMBAT VEHICLES)	
ISSUE	DATE
61/110	

DESIGNATION	DESCRIPTION	PARENT UNIT	REMARKS
	<u>DOCUMENTS</u>		
GOST 12936-82	SPECIFICATION	СП 110-380-2010 СБ	GOST 12936-82 Spec
СП 110-380-2010 ГЧ	OUTLINE DRG.	СП 110-380-2010 СБ	Outline - 1/10/11
	<u>ASSY. UNITS.</u>		
СП 110-380-2010 СБ	ELECTRIC SPEEDO- METER INDICATOR (СП 106) ASSY.	675-82-СБ 4	
СП-120-100 СБ	BASE ASSY.	СП 110-380-2010 СБ	
СП 100-200 СБ	MAGNET AXLE ASSY.	СП 110-380-2010 СБ	
СП 100-210 СБ	MAGNET UNIT ASSY.	СП 100-200 СБ	
СП 100-300 Б СБ	RING ASSY.	СП 110-380-2010 СБ	
СП 15А2-3802-231 СБ	HAIR SPRING WITH SPLIT BUSHING ASSY.	СП 100-300 Б СБ	
СП 135-300 Б СБ	POINTER ASSY.	СП 110-380-2010 СБ	
СП 119-400 А СБ	BRIDGE UNIT ASSY.	СП 110-380-2010 СБ	
СП 104-410 СБ	COUNTING UNIT ASSY.	СП 119-400 А СБ	
СП 25-420 СБ	ROLLER AXLE ASSY.	СП 104-410 СБ	
СП 102-430 СБ	CHEEK ASSY.	СП 104-410 СБ	
СП 106-500 СБ	STATOR ASSY.	СП 110-380-2010 СБ	
СП 106-510 СБ	COIL ASSY.	СП 106 500 СБ	
СП 100 Б-600 СБ	ROTOR ASSY.	СП 110-380-2010 СБ	
СП 100 Б-700 СБ	COVER ASSY.	СП 110-380-2010 СБ	
СП 125-900 СБ	CASING ASSY.	СП-110-380-2010 СБ	
	<u>PARTS</u>		
СП 25-103	BRACKET	СП 110-380-2010 СБ	
СП 116-102	HORIZONTAL WORM	СП 110-380-2010 СБ	
СП-116-104	VERTICAL WORM	СП 110 380-2010 СБ	

APPROVED *[Signature]*
 CHECKED *[Signature]*

СП 110-380-2010 СБ

CONTROLLER OF
 QUALITY ASSURANCE
 (ICV)

ELECTRIC SPEEDOMETER
 INDICATOR (СП 106) ASSY.

SHT 1 SHTS 6

1/110

DESIGNATION	DESCRIPTION	PARENT UNIT	REMARKS
CP15A2-203	CENTERING SCREW	CP110-380-2010 CB	
CP15A2-204	NUT	CP-110-380-2010 CB	
CP152-015	SPRING	CP-110-380-2010 CB	
CP100-011B	LIMITER	CP110-380-2010 CB	
CP-110-011B	DIAL	CP110-380-2010 CB	
CP-14-11	DIAL RIM	CP110-380-2010 CB	
CP106-002	CLAMP	CP110-380-2010 CB	
CP-14-14	WELT	CP110-380-2010 CB	
CP14-13	GASKET	CP110-380-2010 CB	
CP100-014A	HAIR SPRING REGULATOR	CP110-380-2010 CB	
M3 29-115	WASHER	CP110-380-2010 CB M3 301B 200 CB	
CP14-12	GASKET	CP110-380-2010 CB	
CP100-023	COVER	CP110-380-2010 CB	
CP100-024	GASKET	CP110-380-2010 CB	
CP1005-026	OIL DEFLECTOR	CP110-380-2010 CB	
CP100-028	PIN	CP110-380-2010 CB	
CP120-031A	CLAMPING SCREW	CP110-380-2010 CB	
CP6/1-82	SCREW	CP110-380-2010 CB	
CP119-025	GASKET	CP110-380-2010 CB	
CP120-101	BASE	CP120-100 CB	
CP100-102A	SCREEN	CP120-100 CB	
M3 29-105	LOCK RING	CP120-100 CB & CP100-700 CB	
CP100-201B	AXLE	CP100-200 CB	
CP100-202	COMPENSATOR	CP100-200 CB	
CP100-203	BEARING	CP100-200 CB	
CP100-204	LOCK PLATE	CP100-200 CB	
CP138-232	THRUST PLATE	CP100-200 CB	

APPROVED	<i>[Signature]</i>
CHECKED	<i>[Signature]</i>

CP110-380-2010 CP

CONTROLLERATE OF
QUALITY ASSURANCE
(ICV)

ELECTRIC SPEEDOMETER
INDICATOR (CP106) ASSY.

SHT 2 SHTS 6

2/710

DESIGNATION	DESCRIPTION	PARENT UNIT	REMARKS
CP 100-211	MAGNET	CP 100-210 CB	
CP 100-302 B	RING AXLE	CP 100-300 B CB	
CP 25-222	BUSH	CP 100-300 B CB	
CP 100-301 B	RING	CP 100-300 B CB	
15A2-3802232	HAIR SPRING WIRE	CP 15A2-380-2231 CB	NO DRAWING.
CP 101 212	SPLIT BUSHING WIRE	CP 15A2-380-2231 CB	NO DRG.
CP 135-301	POINTER	CP 135-300 B CB	
CP 120-401 4KA-11A	BRIDGE ADJUSTING PLATE	CP 119 400 A CB	ET CP 104-410 CB
CP 102-411	FIRST ROLLER	CP 104-410 CB	
CP 102-412	ROLLER	CP 104-410 CB	
CP 15A2-407A	LOCK PLATE	CP 119-400 A CB CP 104-410 CB	
CP 25-421 B CP 15A2-405	ROLLER AXLE PINION	CP 25-420 CB	
CP 102-431	CHEEK	CP 102-430 CB	
CP 25-432.A	CHEEK	CP 102-430 CB	
CP 25-433	STAR WHEEL	CP 102-430 CB	
CP 100-501A	STATOR BODY	CP 106-500 CB	
M 304-201 CP 100-503	POLE SLEEVE WHITE IITB-40-230-300	CP 106-500 CB	W/D
M 29-113	CONTACT SCREW	CP 106-500 CB	
CP 120-016	BUSH	CP 106-500 CB	
CP 100-502	RIVET	CP 106-500 CB	
80 P 637-242	POLE BLANK	CP 106-500 CB	THIS DRG. RELATES TO M 304-201
CP 106-511	WIRE ПЭТБ-2 0.200	CP 106-510 CB	NO DRG.
	OST 16 0.505-001-80 MASS 309.		MANUFACTURING
CP 100-512 A	LEAD WIRE HB-024 II	CP 106-510 CB	DETAILS COVERED
	500 (OR)		
	LEAD WIRE HB-02 B II		
	500 I = 100 mm. GOST-17515-72		

APPROVED	<i>[Signature]</i>
CHECKED	<i>[Signature]</i>

CP 110-380-2010 CP

CONTROLLERATE OF
QUALITY ASSURANCE
(ICV)

ELECTRIC SPEEDOMETER
INDICATOR (CP 106) ASSY.

SHT 3 SHTS 6

3/110


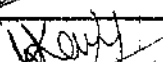
DESIGNATION	DESCRIPTION	PARENT UNIT	REMARKS
CP 100 - 514	INSULATION CABLE	CP 106-510 CB	NO DRG.
	PAPER K120-700		
	GOST-23436-79		MANUFACTURING
	18-22X14-16 m.m.		DETAILS COVERED
CP 100 - 515	BRAIDING BAND B-	CP 106-510 CB	
	16-58		
	l=500mm GOST 4514-78		
8P-610-285	MAGNET	CP 106 B 600 CB	
CP 100 B-602	BUSH	CP 100 B - 600 CB	
CP 100-701.	COVER	CP 100-700 CB	
CP 125-901	CASING	CP 125-900 CB	
CP 1-27	SCREW	CP 125-900 CB	
CP 100-212	BUSH ALLOY 4A4 GOST 19424-74	CP 100-210 CB	w/d
A ЖБ 01.1.1408	MAGNET (CASTING)	CP 100-210 CB	
	STANDARD ITEMS		
	BALL BEARING 6-	CP 120-100 CB ✓	
	60026 OR 60026	CP 100-700 CB	
	GOST 7242-70		
	LUBRICANT 132-21	CP 120-100 CB	
	TY6-02-897-74		
	WASHER 4.65 Г 0.5	CP-110-380-2010 CB	
	GOST 6402-70 OR		
	WASHER OST 4.		
	OST 37.001-115-75		
	WASHER 5.65 Г 0.5	CP-110-380-2010 CB	
	GOST 6402-70 OR		
	WASHER 5T. OST 37-		
	001-115-75.		

APPROVED *grk*
CHECKED *Kay*

CP 110-380-2010 CP
ELECTRIC SPEEDOMETER
INDICATOR (CP 106) ASSY.
SHT 4 SHIS 6
4/110

CONTROLLERATE OF
QUALITY ASSURANCE
(ICV)

DESIGNATION	DESCRIPTION	PARENT UNIT	REMARKS
	SCREW M3-6x4-016	CP 110-380-2010 CB	
	H21-28-01		
	SCREW M3-6x5 Zn6	CP 110-380-2010 CB	
	CHROMOTIZING H21-		
	30-01		
	SCREW M3-6x7-016,	CP 110-380-2010 CB	
	H21-28-04		
	SCREW M4-6x6-016,	CP 110-380-2010 CB	
	H21-28-09		
	SCREW M4 6x8-016,	CP 110-380-2010 CB	
	H21-28-11		
	NUT M4-7H-016,	CP 110-380-2010 CB	
	H22-15-03		
	NUT M5-7H-016,	CP 110-380-2010 CB	
	H22-15-04		
	GLASS, H46-01-7	CP 110-380-2010 CB	
	WASHER 4.5x8-016,	CP 110-380-2010 CB	
	H24-01-07		
	PIN, CHEMICAL PASSE-	CP 110-380-2010 CB	
	VATING H 20-05		
	BUSH H32-02-2	CP 135 300 B CB	
	WASHER 3.5x6-11	CP 119 400 A CB	
	H24-17-04	CP 104 410 CB	
	WASHER 3.5x6-11	CP 104-410 CB	
	H24-02-04		
	BEARING 6-60026	CP 100-700 CB	ALT-60026
	GOST-7242-70		GOST-7242-70

APPROVED 
CHECKED 

CP 110-380-2010 CP

CONTROLLERATE OF
QUALITY ASSURANCE
(ICV)

ELECTRIC SPEEDOMETER
INDICATOR (CP 106) ASSY.

SHT 5 SHTS 6

5/110

DESIGNATION	DESCRIPTION	PARENT UNIT	REMARKS
	GROUND INDUSTRIAL	СП 100 Б 600 СБ	NO DRG.
	NATURAL SULPHUR,		
	GLASS 2, GRADE 9950		
	AS PER GOST 127-76		
	MIXED WITH CONCE-		
	NTRATED QUARTZ		
	SAND, GRADE 00 1K		
	016 A AS PER GOST-		
	2138-74 ACCORDING		
	TO THE INSTRUCTIONS		
	ИТ 37 453 016-72.		

APPROVED *GAA*

CHECKED *Kov*

CONTROLLERATE OF
 QUALITY ASSURANCE
 (ICV)

СП 110-380-2010 СП

ELECTRIC SPEEDOMETER
 INDICATOR (СН 106) ASSY.
 SHT 5 SHTS 6
 6/110

ITEM	DRAWING No.	D.S CAT NO.	DESCRIPTION	NO OFF	REMARKS
	CP 110-380-2010 CB		ELECTRIC SPEEDOMETER INDICATOR (CP 110) ASSY.		
1	CP 120-100 CB		BASE ASSY.		
2	CP 100-200 CB		MAGNET AXLE ASSY.		
3	CP 100-300 B CB		RING ASSY.		
4	CP 135-300 B CB		POINTER ASSY.		
5	CP 119-400 A CB		BRIDGE UNIT ASSY.		
6	CP 106-500 CB		STATOR ASSY.		
7	CP 100 B-600 CB		ROTOR ASSY.		
8	CP 100 B-700 CB		COVER ASSY.		
9	CP 125-900 CB		CASING ASSY.		
10	CP 25-103		BRACKET		
11	CP 116-102		HORIZONTAL WORM		
12	CP 116-104		VERTICAL WORM		
13	CP 15 A2-203		CENTERING SCREW		
14	CP 15 A2-204		NUT		
15	CP 152-015		SPRING		

DC(I) NO DATE	ISSUE	NATURE OF AMENDMENTS	DC(I) NO DATE	ISSUE	NATURE OF AMENDMENTS
DRN		CP 110 380 2010 CB			DATE:- 23-7-97.
TCD	10/11				USED ON
CHD		ELECTRIC SPEDOMETER INDICATOR (CP 106) ASSY.			SHEET SHEETS
APPD	8/11				1 OF 3

20/110

CONTROLLERATE OF QUALITY ASSURANCE (ICV)

ITEM	DRAWING NUMBER	D S CAT NUMBER	DESCRIPTION	No. QEE	REMARKS
16	Cn 100 0115		LIMITER	1	
17	Cn 110 0115		DIAL	1	
18	Cn 14 11		DIAL RIM	1	
19	Cn 106 002		CLAMP	2	
20	Cn 14 14		WELT	1	
21	Cn 14 13		GASKET	1	
22	Cn 100 014A		HAIR SPRING REGULATOR	1	
23	Cn 14 12		GASKET	2	
24	Cn 100 023		COVER	1	
25	Cn 100 024		GASKET	1	
26	Cn 100b 026		OIL DEFLECTOR	1	
27	Cn 100 028		PIN	1	
28	Cn 120 031A		CLAMPING SCREW	3	
29	Cn 6/1-82		SCREW	2	
30	Cn 119 025		GASKET	1	
31	MЭ 29 115		WASHER	3	
32	- N. D -		WASHER 4.65Г.05 GOST 6402-70 ALT. WASHER 4. OST 37.001- 115-75.	15	
33	- N.D -		WASHER 5.65Г.05 GOST 6402-70 ALT. WASHER 5T. OST 37-001- 115-75.	15	

DC(1) NO DATE	ISSUE	NATURE OF AMENDMENTS	DC(1) NO DATE	ISSUE	NATURE OF AMENDMENTS
DRN	<i>ADD</i>	СП 110-380-2010 СБ	DATE: - 23-7-97		
TCD	<i>ADD</i>		USED ON-172-70-035СБ 12		
CHD		ELECTRIC SPEEDOMETER INDICATOR (CП106) ASSY.	SHEET 2 SHEETS 3		
APPD	<i>ADD</i>		21 OF 110		
CONTROLLERATE OF QUALITY ASSURANCE (ILV)					

ITEM	DRAWING NUMBER	D S CAT NUMBER	DESCRIPTION	No. OFF	REMARKS
34	- N.D -		SCREW M3-6ex4-016, H21-28-01	1	
35	- N.D -		SCREW M3-6ex5 Zn6, CHROMOTI-ZING. H21-30-01.	2	
36	- N.D -		SCREW M3-6ex7-016, H21-28-04	1	
37	- N.D -		SCREW M4-6ex6-016, H21-28-09	4	
38	- N.D -		SCREW M4-6ex8-016, H21-28-11	2	
39	- N.D -		NUT M4-7H-016, H22-15-03	6	
40	- N.D -		NUT M5-7H-016, H22-15-04	2	
41	- N.D -		GLASS, H46-01-7	1	
42					
43	- N.D -		WASHER 4.5x8-016 H24-01-07	9	
44	- N.D -		PIN, CHEMICAL PASSIVATING H26-05	1	

DC(I) NO	ISSUE	NATURE OF AMENDMENTS	DC(I) NO	ISSUE	NATURE OF AMENDMENTS
DRN	<i>BBB</i>	CP 110-380-2040C5			DATE:-23-7-97
TCD	<i>BBB</i>				USED ON
CHD					SHEET 3 SHEETS 3
APPD	<i>QAS</i>	ELECTRIC SPEEDOMETER INDICATOR (CP 106) ASSY.			22 OF 110

CONTROLLERATE OF QUALITY ASSURANCE (ILV)

DRAWING NUMBER

CN 110 38020100

20

21

18

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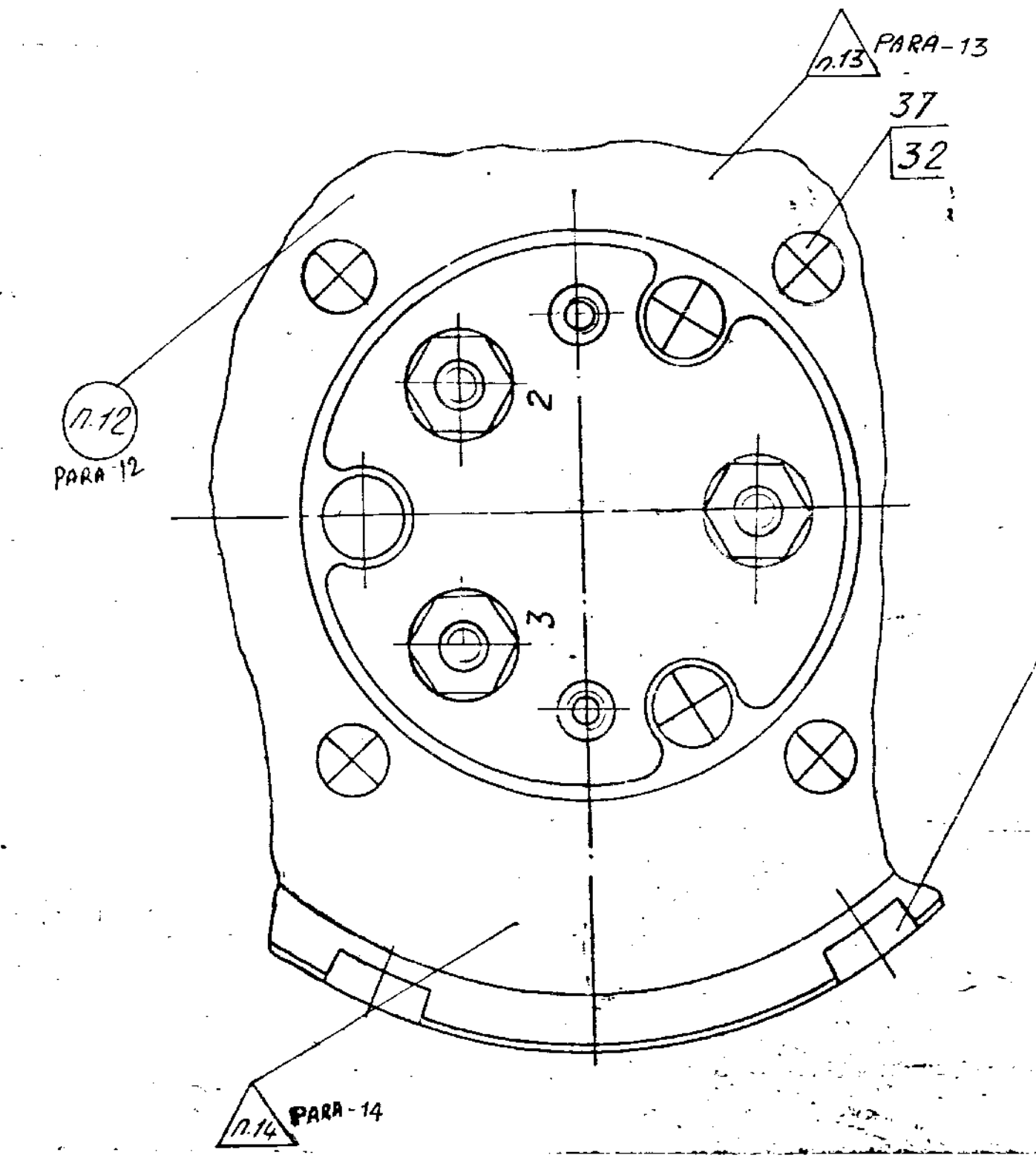
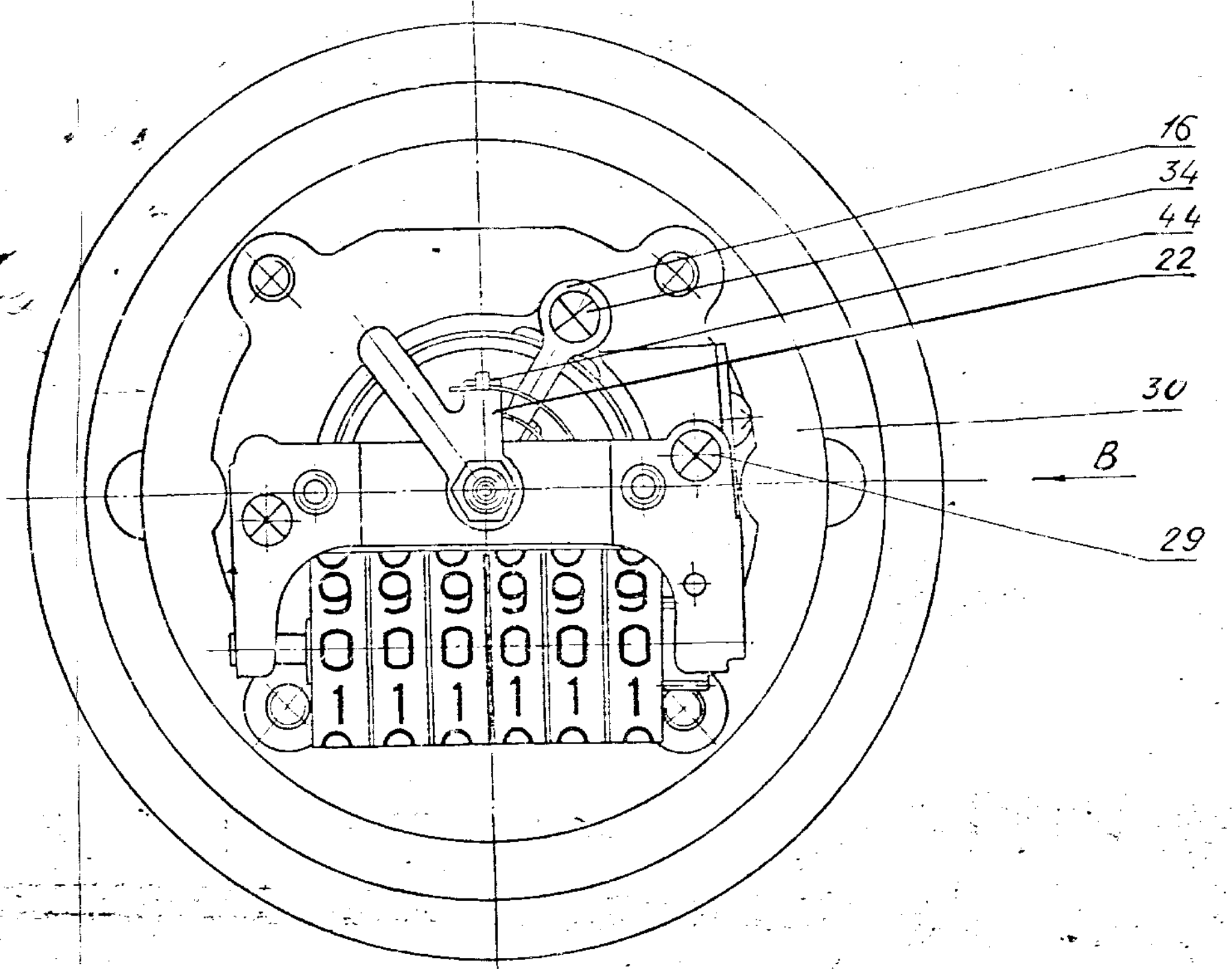
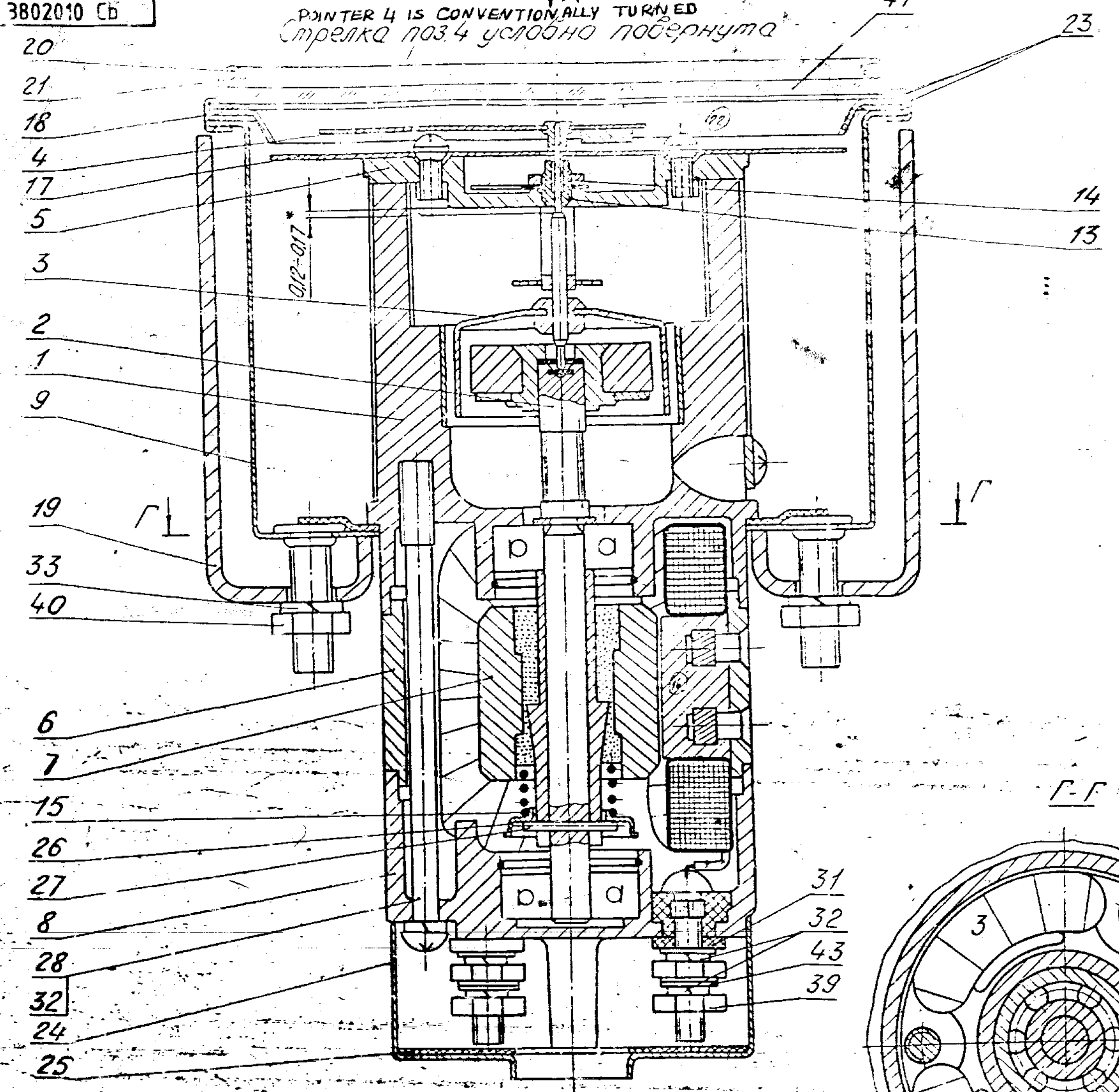
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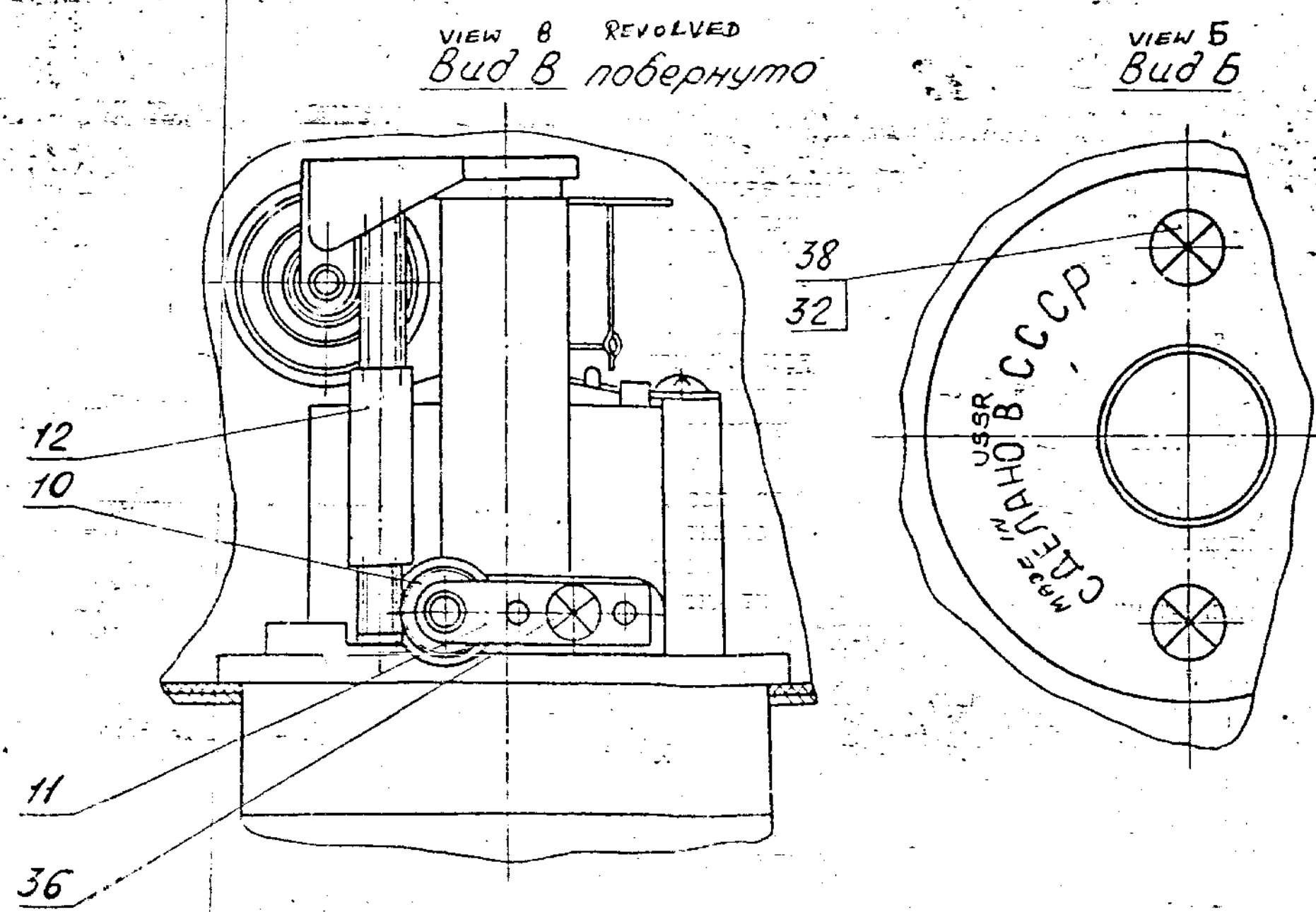
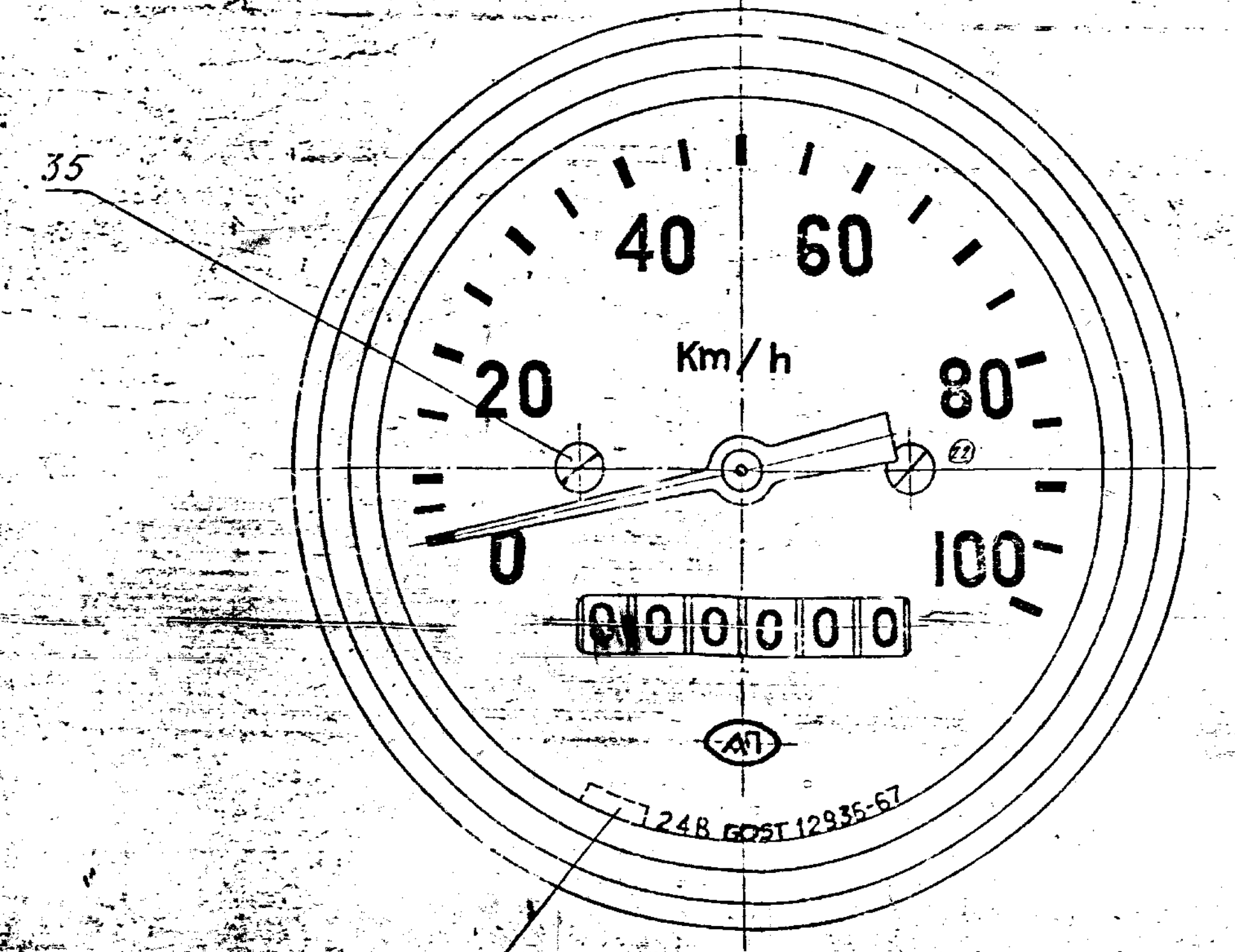
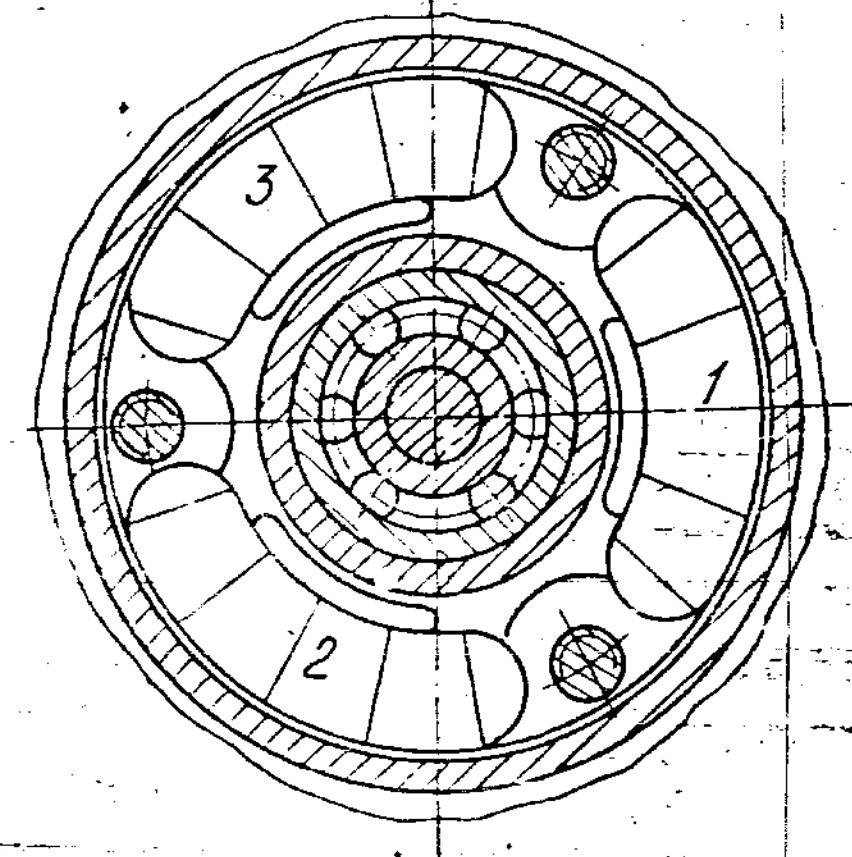
ПЯТЕР 4 IS CONVENTIONALLY TURNED
Стрелка поз 4 условно повернута

VIEW-A
Bud A
EXTERIOR PARTS ARE NOT SHOWN
Внешние наружного оформления не показаны

VIEW-B
Bud B
COVER 24 IS NOT SHOWN
Крышка 24 не показана



BEND 8 LUGS
Загнуть 8 ушко
П. 2
PARA 2



VIEW B REVOLVED
Bud B повернута

VIEW B
Bud B

CODE	DESIGNATION	COATING AND ADDITIONAL REQUIREMENTS
45 7381 3078 45 7381 3085	CN106-3802010-3 CN110-3802010-3	COAT HEADS OF FASTENING SCREWS 28 AND 37 WITH WHITE ENAMEL KФ-248, ТУ 6-10-637-79. INSTRUMENT MUST CONFORM TO OST 37.003-024-74. COAT THE MARKED DATE OF MANUFACTURE WITH ADHESIVE БФ-2, GOST 12172.
45 7381 3079 45 7381 3086	CN106-3802010-T CN110-3802010-T	COAT HEADS OF FASTENING SCREWS 28, 37 WITH WHITE ENAMEL AK-1102, ТУ 6-10-1408-78. WORMS, WORM GEARS AND WORM JOURNALS 10, 12 MAY BE COATED WITH GREASE ИУАТМ-221, GOST 9433-80. THE INSTRUMENT SHOULD CONFORM TO OST 37.003-008-74. COAT THE MARKED DATE OF MANUFACTURE WITH ADHESIVE БФ-2, GOST 12172-74.
45 7381 3077 45 7381 3084	CN106-3802010 CN110-3802010	COAT HEADS OF FASTENING SCREWS 28, 37 WITH WHITE ENAMEL KФ-248, ТУ 6-10-637-79.

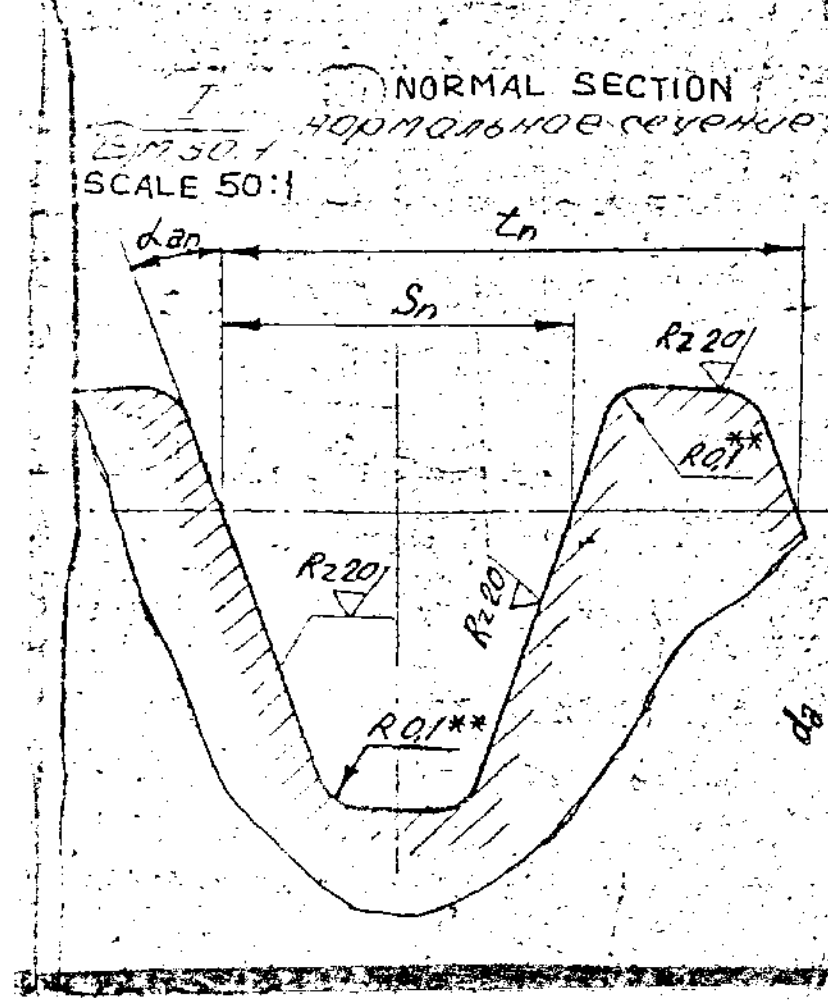
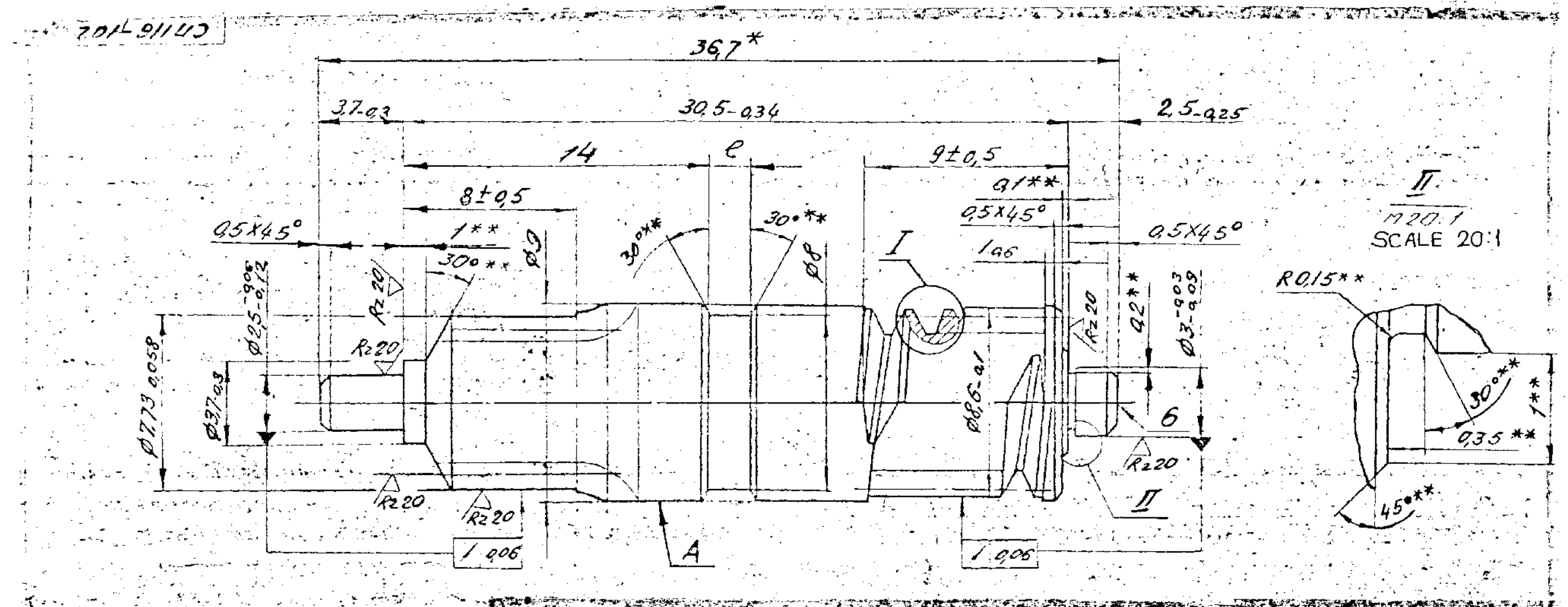
- 12. MARK DATE OF MANUFACTURE.
- 13. MARK THE MAKE (TROPICALIZED, EXPORT), PLACE QID STAMP.
- 15. INSTRUMENT MUST CONFORM TO GOST 12936-67.
- 16. SECURE SCREWS 35 BY ADHESIVE БФ-2, GOST 12172-74.

- 1. WASHER 465Г05, GOST 6402-70 (REF. NO 32), MAY BE SUBSTITUTED BY WASHER 465Г05, OST 37.001.115.75; WASHER 465Г026, GOST 6402-70 MAY BE SUBSTITUTED BY WASHER 465Г026, OST 37.001.115.75; WASHER 565Г05, GOST 6402-70 (REF. NO. 33,) MAY BE SUBSTITUTED BY WASHER 565Г05, OST 37.001.115.75-75; WASHER 565Г026, GOST 6402-70, MAY BE SUBSTITUTED BY WASHER 5Т65Г026, OST 37.001.115.75.
- 2. IF AFTER BENDING OF LUGS OR WELT (REF. NO. 20) COATING IS DAMAGED, RE-TOUCH WITH BLACK ENAMEL HУ, -11, GOST 9198-76, WHERE COATING IS STRIPPED.
- 3. USE PRIMER Ф1-03K, BROWN, GOST 9109-81, TO SECURE HAIR SPRING REGULATOR 22 (AFTER ADJUSTMENT), PIN 44, FASTENING SCRES 29, 34, 36.
- 4. INSCRIPTION "MADE IN ..." MAY BE RE-LOCATED BY 180°.
- 5. П - PLACE FOR MARKING THE DESIGNATION OF THE INSTRUMENT (CN106 OR CN110).
- 6. PRIOR TO FITTING OF POINTER 4, REAM BUSH HOLE TO TAPER OF 1:40 TO 1:50.
- 7. 2,5 TO 3,5mm MUST EXIST BETWEEN DIAL 17 AND POINTER 4.
- 8. SET DIGITS OF ODOMETER ROLLERS WITHIN DIAL 17 OPENING BY TURNING THE ROLLERS UPWARD AS FAR AS THEY WILL GO WITH ALL CLEARANCES TAKEN UP.
- 9. CONTACT SCREWS OF STATOR 6 COILS MUST BE FITTED INTO HOLES OF COVER 8 IN THE FOLLOWING SEQUENCE:
COIL SCREW 1 - INTO HOLE 1
COIL SCREW 2 - INTO HOLE 2
COIL SCREW 3 - INTO HOLE 3.
- 10. COIL NUMBERS, GIVEN ON THE DRAWING, ARE CONVENTIONAL.
- 11. * AXIAL PLAY OF RING 3 AXLE IS ADJUSTED BY CENTERING SCREW 13.
- 12. WORM GEARS AND WORM JOURNALS 10, 12 SHOULD BE COATED WITH GREASE O K Б 122-7, GOST 18179-72.

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

EST. MASS 1.1kg TO BE STAMPED OR MARKED WHERE INDICATED THIS # LETTERS)
ALL SHARP EDGES AND CORNERS TO BE REMOVED UNLESS OTHERWISE STATED. ROUNDED CORNERS TO HAVE R OUTSIDE R INSIDE EQUIVALENT CHAMFERS ARE THIS SAMPLE.

MATERIAL	ALL THREADS TO CONFORM TO SPECIFICATION	STAMP OR ETCH, PART NO. MANUFACTURERS NAME & YEAR OF MFG.
SCALE - 2:1	TOLERANCE ON DIMENSIONS UNLESS OTHERWISE SPECIFIED	USED ON 172 TO 035 45-172 TO 035 45-15
DATE - 22-7-77	CN 110 380 2010 Cb	
ELECTRIC SPEEDOMETER INDICATOR CN106		
CONTROLLERATE OF QUALITY ASSURANCE (INFANTRY COMBAT VEHICLES)		



WORM WHEEL	-	-	WORM	-	-
NORMAL MODULE	m _n	0.5	NORMAL MODULE	m _n	0.5
NUMBER OF TEETH	Z	13	NUMBER OF THREAD	Z	1
HELIX ANGLE	β _a	5° 6'	TYPE OF WORM	-	THREAD-SPACE CONVOLUTE WORM
HELIX DIRECTION	-	LEFT	HELIX ANGLE	λ _a	3° 37'
BASIC RACK	-	GOST 9587-68	HELIX DIRECTION	-	LEFT
ADDENDUM MODIFICATION COEFFICIENT	ξ	0.2	LEAD OF HELIX	t _b	1.574
REFERENCE DIAMETER	d _a	6.53	PROFILE PARAMETERS	PROFILE ANGLE λ _{pn}	20°
TOOTH THICKNESS ALONG REFERENCE CIRCLE	S _a	0.82-0.07	ROOT DIAMETER	D _i	6.35 MAX
ROOT DIAMETER	D _i	5.48 MAX.	REFERENCE DIAMETER	d _a	7.95
NORMAL PITCH	t _n	1.57 ± 0.02	TOOTH THICKNESS ALONG REFERENCE CIRCLE	S _n	0.95 ± 0.1
LEAD OF HELIX	t _b	229.7	NORMAL PITCH	t _n	1.57 ± 0.02
			LEAD OF HELIX	ξ	0.35

DESIGNATION	ROUGHNESS OF SURFACE "A"	COATING	LENGTH OF GROOVE "L"	CODE
CN 116-102	✓	CHEMICAL OXIDIZING WITH INHIBITION	2	45 7392 1077
CN 116-102T	Rz 40	CHEMICAL Ni 9	2	45 7392 1079

1. * DIMENSION FOR REFERENCE.
2. ** DIMENSIONS TO BE ENSURED BY TOOL.
3. UNSPECIFIED LIMIT DEVIATIONS OF DIMENSIONS - AS PER PTM 37.453.001-71.
4. MATERIAL REMAINDER IS ALLOWED ON SURFACE NOT HIGHER THAN 0.3mm.

EXPLANATORY NOTE:-

5. REFERENCE MATERIAL QUOTED:- 9-4 GOST 7417-75 / A 12H GOST 1414-75
ROUND SIZED STEEL COLD HARDEND SIZED Ø9 - 0.10mm

a) CHEMICAL COMPOSITION AS PER GOST 1414-75

Gde. OF STEEL	C	Si	Mn
A12	0.8 - 0.16	0.15 - 0.35	0.70 - 1.00

b) MECHANICAL PROPERTIES AS PER GOST 1414-75

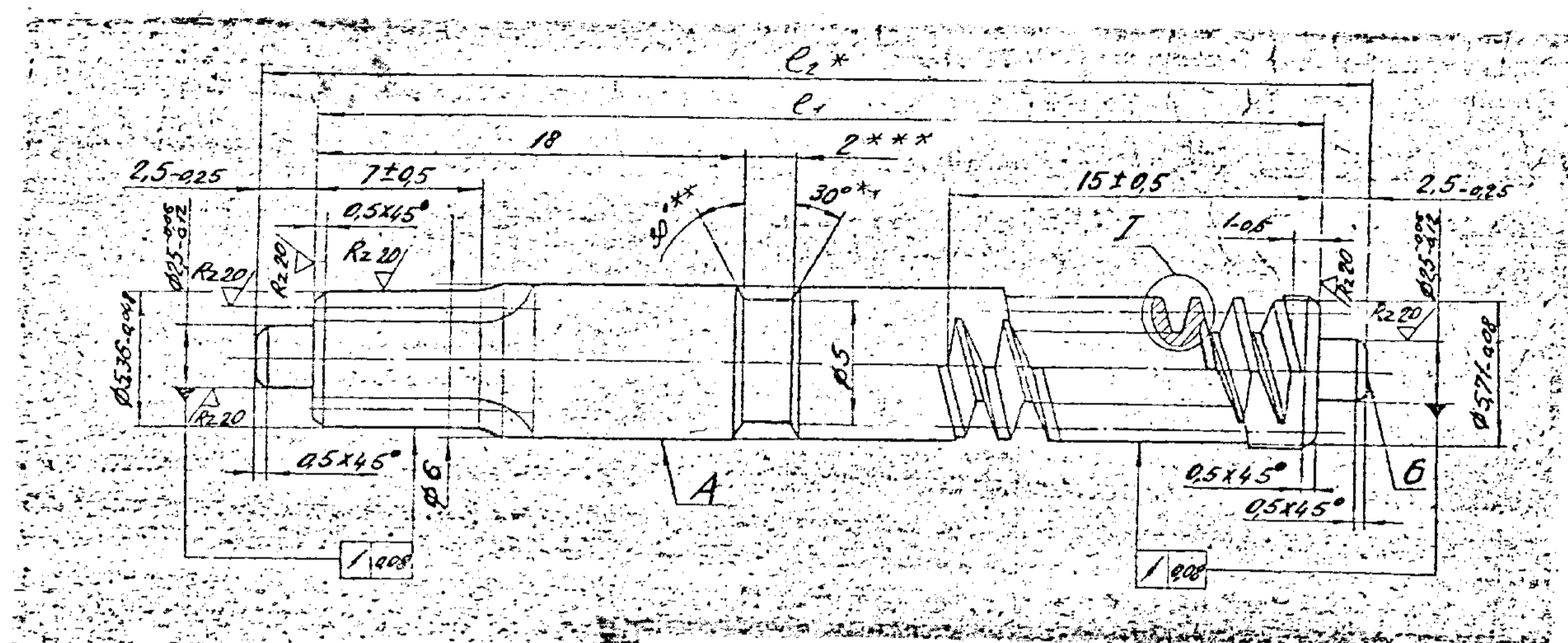
Gde. OF STEEL	YIELD POINT Kgf/mm ²	U T S Kgf/mm ²	% ELONGATION		BHN MAX
			MINIMUM		
A12	-	52	7		217

MATERIAL: 9-4 GOST 7417-75 / A12 H GOST 1414-75

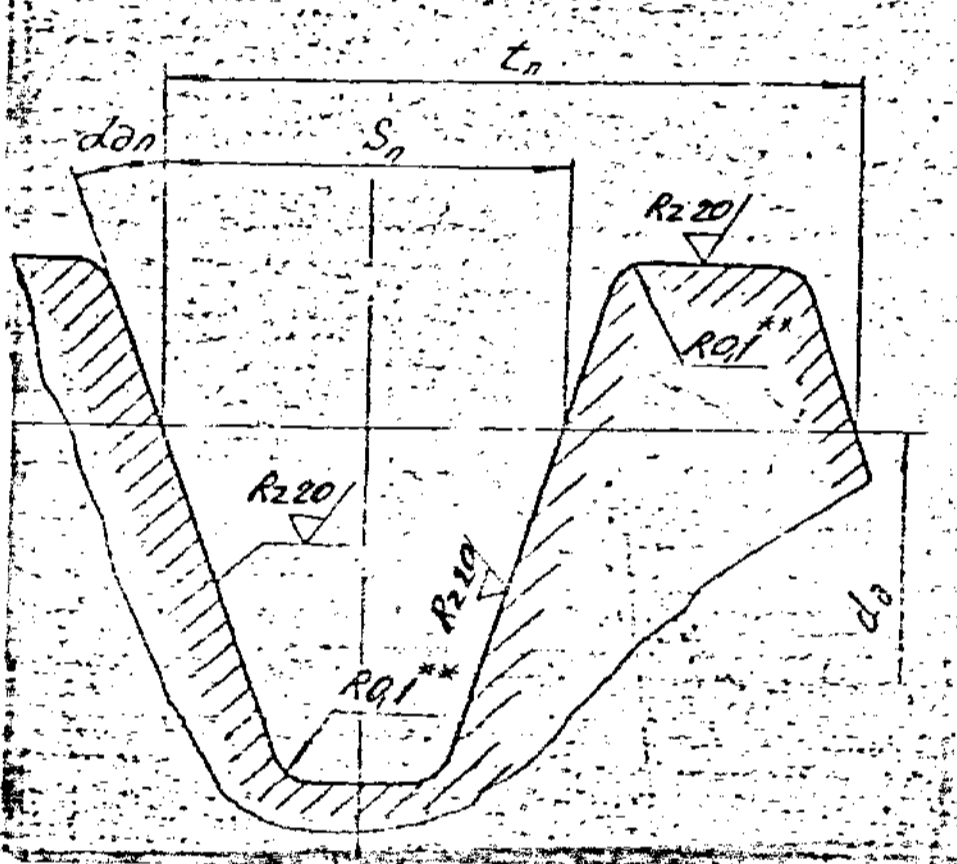
PILOT SAMPLE SHOULD BE APPROVED BY A H S P BEFORE BULK PRODUCTION.

EST. MASS. 10.5g	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.	

MATERIAL: 9-4 GOST 7417-75 / A12 H GOST 1414-75		STAMP OR ETCH, PART NO. MANUFACTURERS NAME & YEAR OF MFG.
ALL SHARP EDGES & CORNERS TO BE ROUNDED OFF. DRG. NOT TO BE SCALED.	ALL THREADS TO CONFORM TO SPECIFICATION	USED ON-
SCALE:- 5:1	TOLERANCE ON DIMENSIONS UNLESS OTHERWISE SPECIFIED	
DATE:- 22-7-97.		
DRN: [Signature]	WT:- (Kgf)	CN 116 102
TCI: [Signature]		HORIZONTAL WORM
CND: [Signature]		CONTROLLERATE OF QUALITY ASSURANCE (INFANTRY COMBAT VEHICLES)
APD: [Signature]		55110
ISSUE	DATE	NATURE OF



I NORMAL SECTION
нормальное сечение
SCALE 50:1



WORM WHEEL	-	-
NORMAL MODULE	mn	0.5
NUMBER OF TEETH	z	8
HELIX ANGLE	β	3° 37'
HELIX DIRECTION	-	LEFT
BASIC RACK	-	GOST 9587-68
ADDENDUM MODIFICATION COEFFICIENT	ξ	0.35
REFERENCE DIAMETER	da	4.01
TOOTH THICKNESS ALONG REFERENCE CIRCLE	sa	0.88-0.10
ROOT DIAMETER	Df	3.11 max.
NORMAL PITCH	tn	1.57 ± 0.02
LEAD OF HELIX	tb	199.2

WORM	-	-
NORMAL MODULE	mn	0.6
NUMBER OF THREADS	z	2
TYPE OF WORM	-	THREAD SPACE CONVOLUTE WORM
HELIX ANGLE	λβ	14° 19'
HELIX DIRECTION	-	RIGHT
LEAD OF HELIX	tn	3.88
PROFILE ANGLE	dan	20°
ROOT DIAMETER	Di	3.01 MAX.
REFERENCE DIAMETER	da	4.858
ROOT WIDTH IN NORMAL SECTION	Sn	1.1 ± 0.12
NORMAL PITCH	tn	1.885 ± 0.05
ADDENDUM MODIFICATION COEFFICIENT	ξ	0.29

EXPLANATORY NOTE:-

6. REFERENCE MATERIAL QUOTED:- 6-4 GOST 7417-75
A12-H GOST 1414-75
ROUND SIZED STEEL COLD HARDENED SIZED φ 6.0 ± 0.080 mm

a) CHEMICAL COMPOSITION:- AS PER GOST 1414-75.

Gde. OF STEEL	C	Si	Mn
A12	0.8 - 0.16	0.15 - 0.35	0.70 - 1.00

b) MECHANICAL PROPERTIES:- AS PER GOST 1414-75.

Gde. OF STEEL	YIELD Kgf/mm ²	U T S Kgf/mm ²	ELONGATION %	B H N MAX
A12	-	52	7	217

- * DIMENSION FOR REFERENCE.
- ** DIMENSIONS TO BE ENSURED BY TOOL.
- *** IDENTIFICATION GROOVE FOR MAKES Cn 138 103 AND Cn 138 103T ONLY.
- UNSPECIFIED LIMIT DEVIATIONS OF DIMENSIONS - AS PER PTM 37 453 001 -71.
- MATERIAL REMAINDER IS ALLOWED ON SURFACE B IF NOT HIGHER THAN 0.3mm.

Обозначение DESIGNATION	HEAT TREATMENT термообработка	ROUGHNESS OF SURFACE A шероховатость поверхности A	ПОКРЫТИЕ COATING	DIMENSIONS размеры	MASS масса
Cn 116-104	-	✓	CHEMICAL OXIDIZING WITH INHIBITION хим окс. ингиб. с ингибитором	41-034 46	7g
Cn 116-104-T	-	Rz 40	CHEMICAL, Ni 9 Хим. Н.9	41-034 46	7g
Cn 138-103	CYANIDING цианирование	✓	CHEMICAL OXIDIZING WITH INHIBITION хим окс. ингиб. с ингибитором	46-034 51	7.9g
Cn 138-103-T	CYANIDING цианирование	Rz 40	CHEMICAL, Ni 9 Хим. Н.9	46-034 51	7.9g

Kod CODE	DESIGNATION
45 7392 1081	Cn 116-104
45 7392 1083	Cn 116-104-T
45 7392 2533	Cn 138-103
45 7392 2534	Cn 138-103-T

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

EST. MASS. 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.

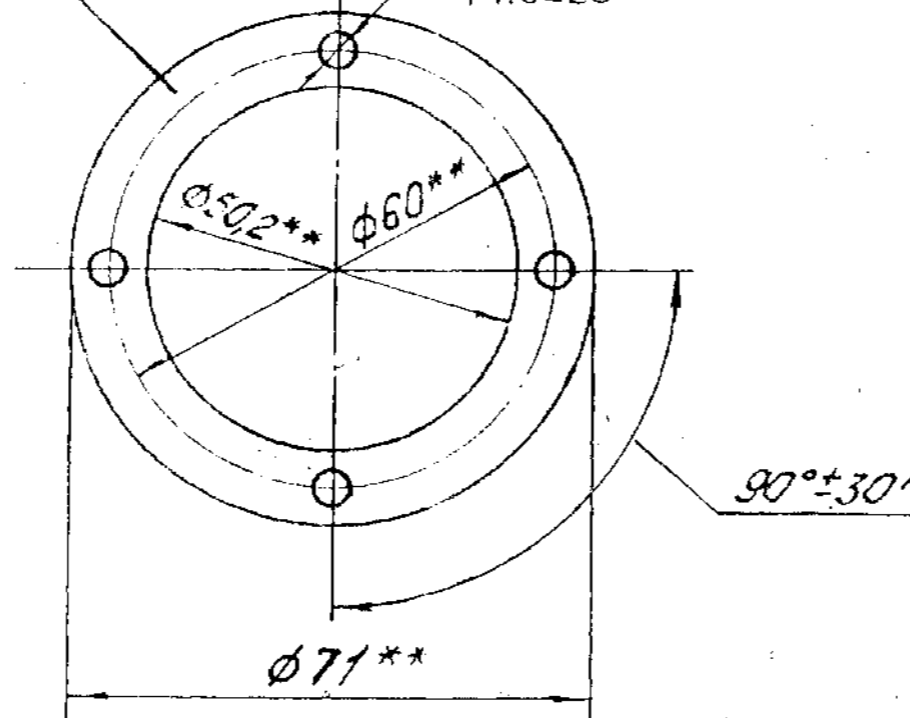
MATERIAL: - ROUND BAR 6-4 GOST-7417-75	ALL SHARP EDGES & CORNERS TO BE ROUNDED OFF	ALL THREADS TO CONFORM TO SPECIFICATION	STAMP OR ETCH PART NO. MANUFACTURERS NAME & YEAR OF MFG.
SCALE: - 5:1	DATE: - 22-7-97	TOLERANCE ON DIMENSIONS UNLESS OTHERWISE SPECIFIED	USED ON: - Cn 110-3802010
EST. MASS. SEE TABLE	WT: - (Kg)	Cn 116 - 104	
VERTICAL WORM			
CONTROLLERATE OF QUALITY ASSURANCE (INFANTRY COMBAT VEHICLES) 56/110			

DRAWING NUMBER

Cn 119 025

$S = 1 \pm 0,2^*$

$\phi 4,5^{**}$
4 отв
4 HOLES



1. * DIMENSION FOR REFERENCE.
2. ** DIMENSIONS ARE ENSURED BY TOOL.
3. UNSPECIFIED LIMIT DEVIATIONS OF DIMENSIONS: FOR DIAMETERS - AS PER A7, B7, OTHERS - AS PER CM 7.

CODE	DESIGNATION	MATERIAL
Код	Обозначение	Материал
457392 1324	СП119-025	PLATE I ROLL Пластина I рулон ТМКЦ-М-1 ГОСТ 7338-77 ГОСТ
457392 1325	СП119-025-T	PLATE I ROLL Пластина I рулон ТМКЦ-М-1 ГОСТ 7338-77 ТИП 100 ГОСТ 15152-69 ГОСТ

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

EST. MASS. 2.8g 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.

MATERIAL: - REFER TO TABLE		STAMP OR ETCH, PART NO. MANUFACTURERS NAME & YEAR OF MFR.
ALL SHARP EDGES & CORNERS TO BE ROUNDED OFF	ALL THREADS TO CONFORM TO SPECIFICATION	USED ON:- СП 110 380201045
ORG. NOT TO BE SCALED	TOLERANCE ON DIMENSIONS UNLESS OTHERWISE SPECIFIED	СП 119-025
SCALE :- 1:1		
DATE :- 22-7-97		GASKET
DRN. [Signature]	WT :- (Kg)	
TCD. [Signature]		
CHD.		
APD. [Signature]		

CONTROLLERATE OF QUALITY ASSURANCE (INFANTRY COMBAT VEHICLES)

15/110

ISSUE DATE NATURE OF AMEN

A1/100

4.4515KП

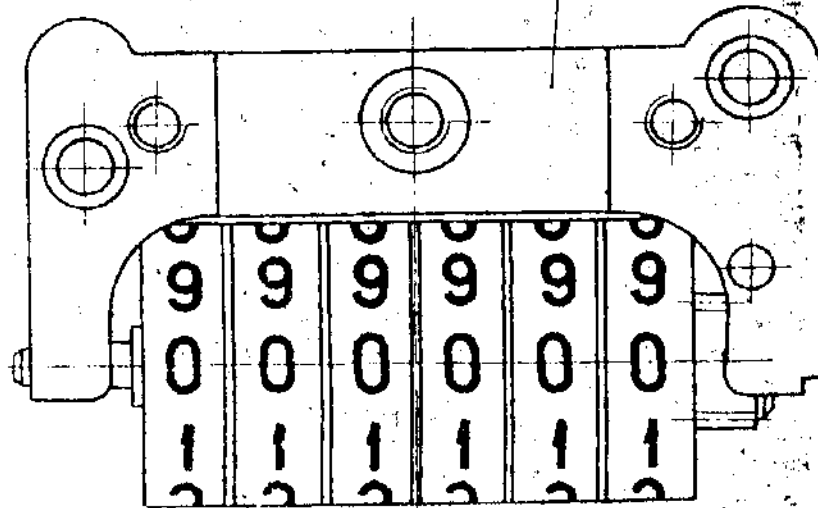
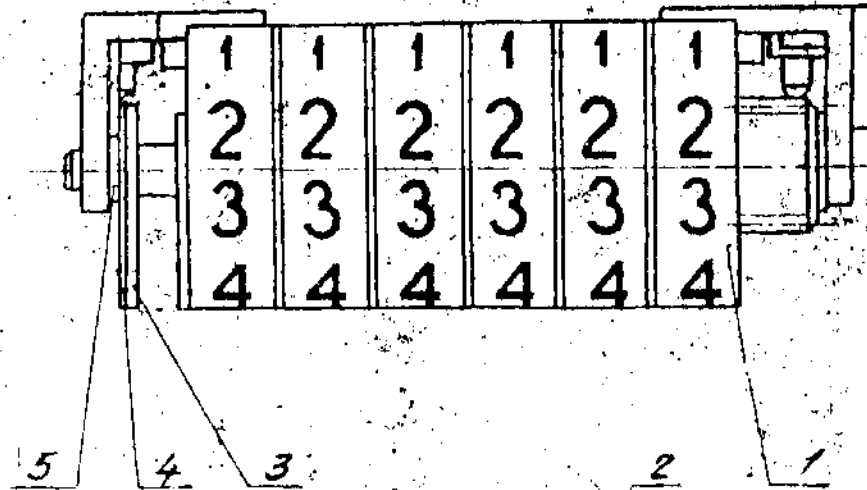
SIZE A3

ITEM	DRAWING NUMBER	D S CAT NUMBER	DESCRIPTION	No. OFF	REMARKS
	Cn 119 400 A Cб		BRIDGE UNIT ASSY		
1	Cn 104 410 Cб		COUNTING UNIT ASSY	1	
2	Cn 120 401		BRIDGE	1	
3	En 15A2 407 A		LOCK PLATE	1	
4	ЧКА 1/1 А		ADJUSTING PLATE	1	
5	- N . D -		WASHER 3.5x6-11 H24-17-04	2	MAX. QTY.

DC(I) NO DATE	ISSUE	NATURE OF AMENDMENTS	DC(I) NO DATE	ISSUE	NATURE OF AMENDMENTS
DRN		CП 119 400.A Cб			DATE - 23-7-97.
TCD	<i>Kov</i>				USED ON
CHD		BRIDGE UNIT ASSY			SHEET SHEETS
APPD	<i>Kov</i>				OF 36/110

DRAWING NUMBER

Cn 119 400ACB



NOTE:-

MAXIMUM PLAY OF THE COUNTING UNIT SHOULD NOT EXCEED 0.3mm,
USE ADJUSTING PLATE 4 TO TAKE UP EXCESSIVE CLEARANCE IF
SO REQUIRED.

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

EST. MASS
56.8g

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

ISSUE	DATE	NATURE

MATERIAL :-		STAMP OR ETCH, PART NO. MANUFACTURERS NAME & YEAR OF MFR.
ALL SHARP EDGES & CORNERS TO BE ROUNDED OFF	ALL THREADS TO CONFORM TO SPECIFICATION	USED ON:-
DRG. NOT TO BE SCALED	TOLERANCE ON DIMENSIONS UNLE -SS OTHERWISE SPECIFIED	
SCALE :- 2:1	DATE :- 22-7-97.	Cn 119 400ACB
DRN.	WT :- (Kg)	
TCD. <i>Kou</i>		BRIDGE UNIT ASSY.
CHD.		
APD.		
CONTROLLERATE OF QUALITY ASSURANCE (INFANTRY COMBAT VEHICLES)		
37/110		

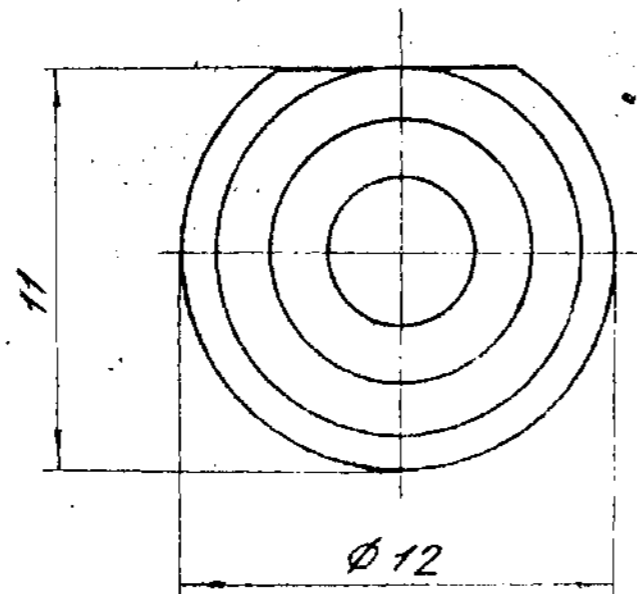
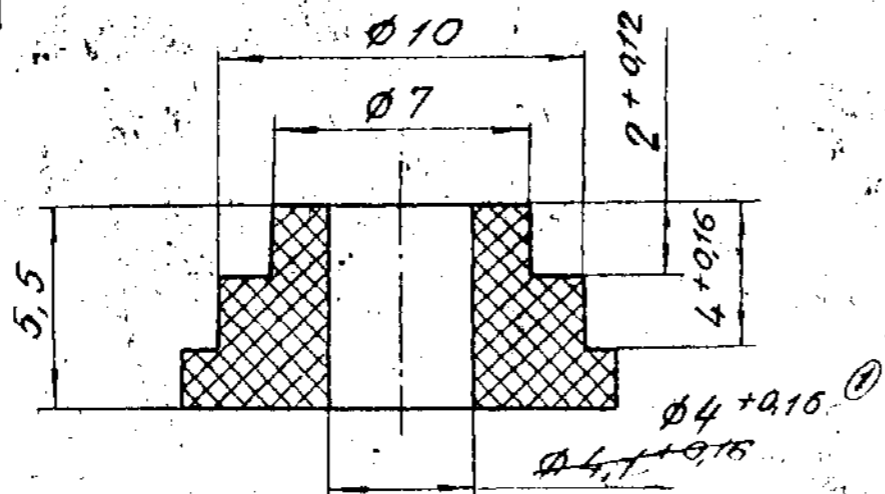
A1
47

44515KA

SIZE A3

DRAWING NUMBER

Cn 120 016



UNSPECIFIED LIMIT DEVIATIONS OF DIMENSIONS FOR:
 SHAFTS - AS PER B 7
 HOLES - AS PER A 7
 OTHERS - AS PER CM7.

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

EST. MASS. 0.4g 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

MATERIAL - POLYAMIDE PA6-210/310 OST 6-06-09-76		
ALL SHARP EDGES & CORNERS TO BE ROUNDED OFF	ALL THREADS TO CONFORM TO SPECIFICATION	STAMP OR ETCH, PART NO. MANUFACTURERS NAME & YEAR OF MFR.
ORG. NOT TO BE SCALED	TOLERANCE ON DIMENSIONS UNLESS OTHERWISE SPECIFIED	USED ON:-
SCALE :- 5 : 1	DATE :- 22-7-97.	WT :- (Kg)
DRN. <i>Kouli</i>	Cn 120 016	
TCD. <i>Kouli</i>	BUSH	
CHD. <i>Kouli</i>		
APD. <i>Kouli</i>		

CONTROLLERATE OF QUALITY ASSURANCE (INFANTRY COMBAT VEHICLES) 102/110

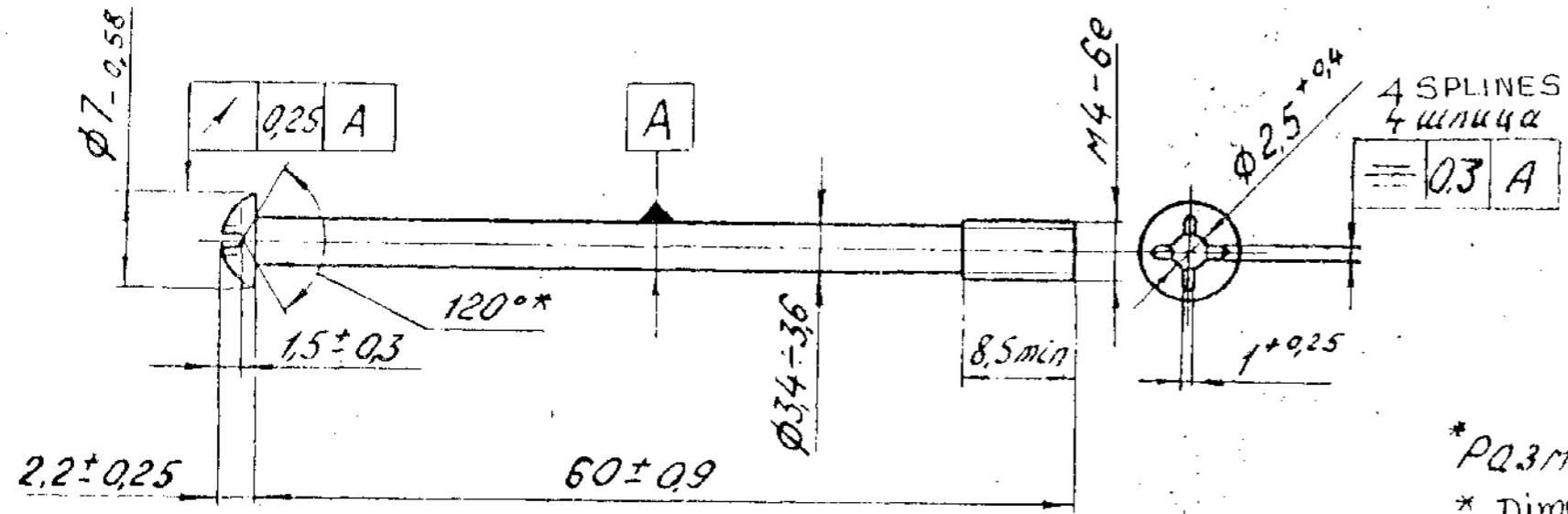
A1/69

44515KPa

SIZE A3

DRAWING NUMBER
Cn 120 031 A

R280/ ✓(✓)



* Размер обеспеч. инстру.
* Dimension is ensured by tool.

KOD CODE	DESIGNATION	COATING
45 7392 1667	0003404EHUE Cn120-031A	Zn6, CHROMATIZING, COLOURLESS FILM
45 7392 1668	Cn120-031A-T	Cd6, CHROMATIZING

A1
104

44515 KA

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

EST. MASS. 5g 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.

ISSUE	DATE	NATURE OF AMEN

MATERIAL: WIRE 3.5-10, GOST 5663-70		
ALL SHARP EDGES & CORNERS TO BE REMOVED OR	ALL THREADS TO CONFORM TO SPECIFICATION	STAMP OR ETCH, PART NO. MANUFACTURERS NAME & YEAR OF MFR.
ORG. NOT TO BE SCALED	TOLERANCE ON DIMENSIONS UNLESS OTHERWISE SPECIFIED	USED ON: Cn110 3802010c5
SCALE: 2:1	DATE: 22-7-97	Cn 120 031 A CLAMPING SCREW
DRN. <i>[Signature]</i>	WT: (Kg)	
TCD. <i>[Signature]</i>		
CHD. <i>[Signature]</i>		
APP. <i>[Signature]</i>		

CONTROLLERATE OF QUALITY ASSURANCE (INFANTRY COMBAT VEHICLES) 13/110

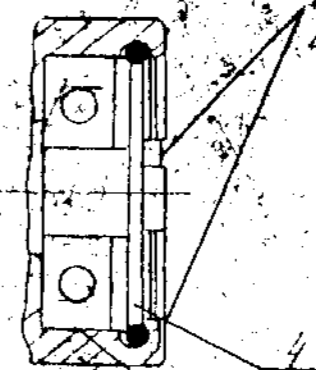
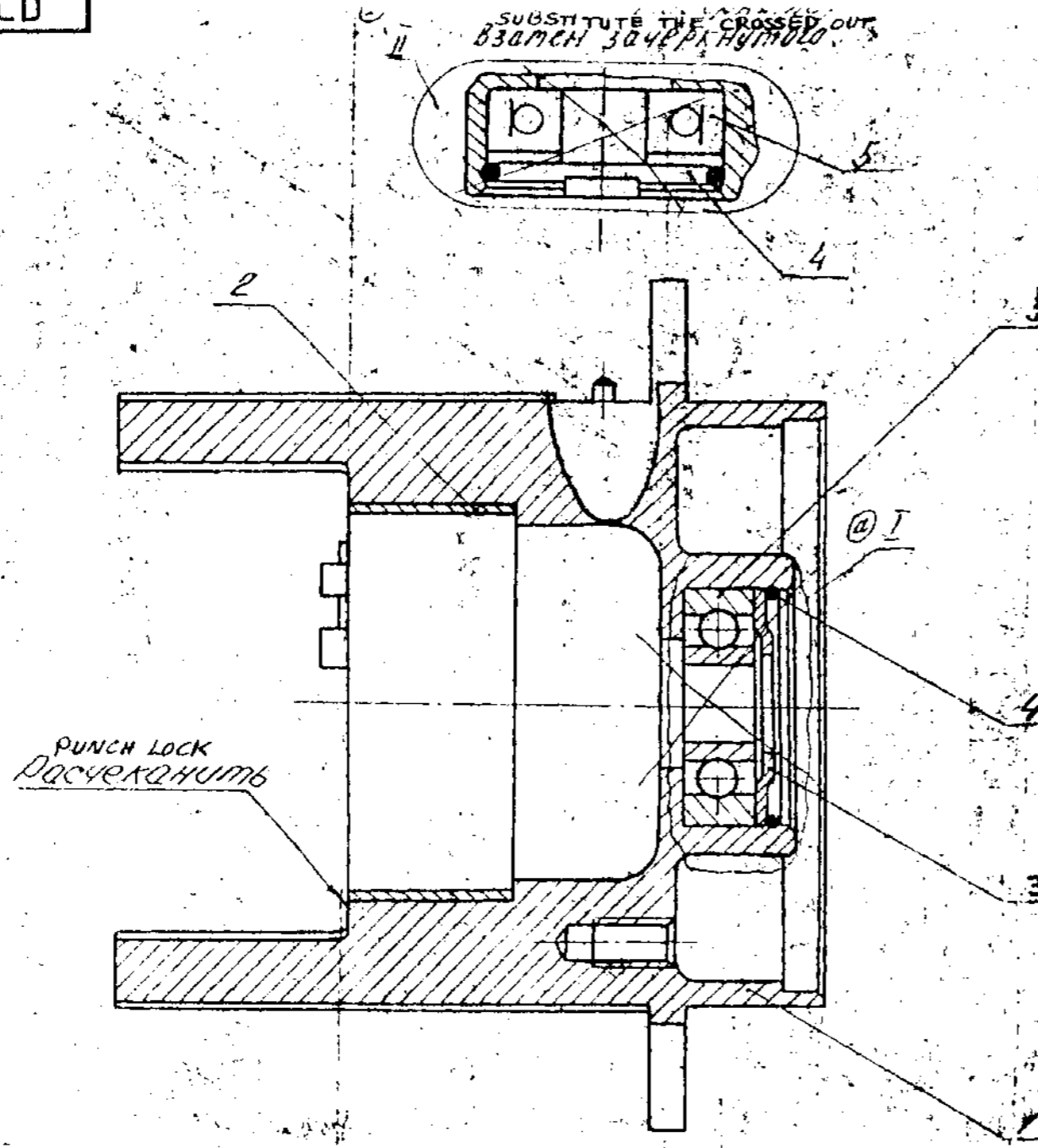
ITEM	DRAWING NUMBER	D S CAT NUMBER	DESCRIPTION	No. OFF	REMARKS
	Cn 120 100 CB		BASE ASSY		
1	Cn 120 101		BASE	1	
2	Cn 100 102 A		SCREEN	1	
3					
4	M3 29 105		LOCKING RING	1	
5	-N . D-		BALL BEARING 6-60026 (OR)	1	GOST 7242-70
			BALL BEARING 60026 .		
6	-N . D-		LUBRICANT 132-21.	1	TY6-02-897-74

DC(1)NO DATE	ISSUE	NATURE OF AMENDMENTS	DC(1) NO DATE	ISSUE	NATURE OF AMENDMENTS
DRN	<i>Howell</i>	CP 120 100 CB			DATE:- 23-7-97.
TCD					USED ON
CHD					SHEET SHEETS
APPD <i>Howell</i>					OF 24 110

CONTROLLERATE OF QUALITY ASSURANCE (ICV)

DRAWING NUMBER

Сп 120 100 СБ



FILL THE BEARING WITH LUBRICANT 132-21, TY6-02-897-74.

DESIGNATION	ADDITIONAL REQUIREMENTS
Сп 120 100 -Т	COAT PLACES OF PUNCH LOCKING WITH BROWN PRIMER ϕ П-03К, GOST 9109-81.

A1
17

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

EST. MASS. 179.3g 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 AME

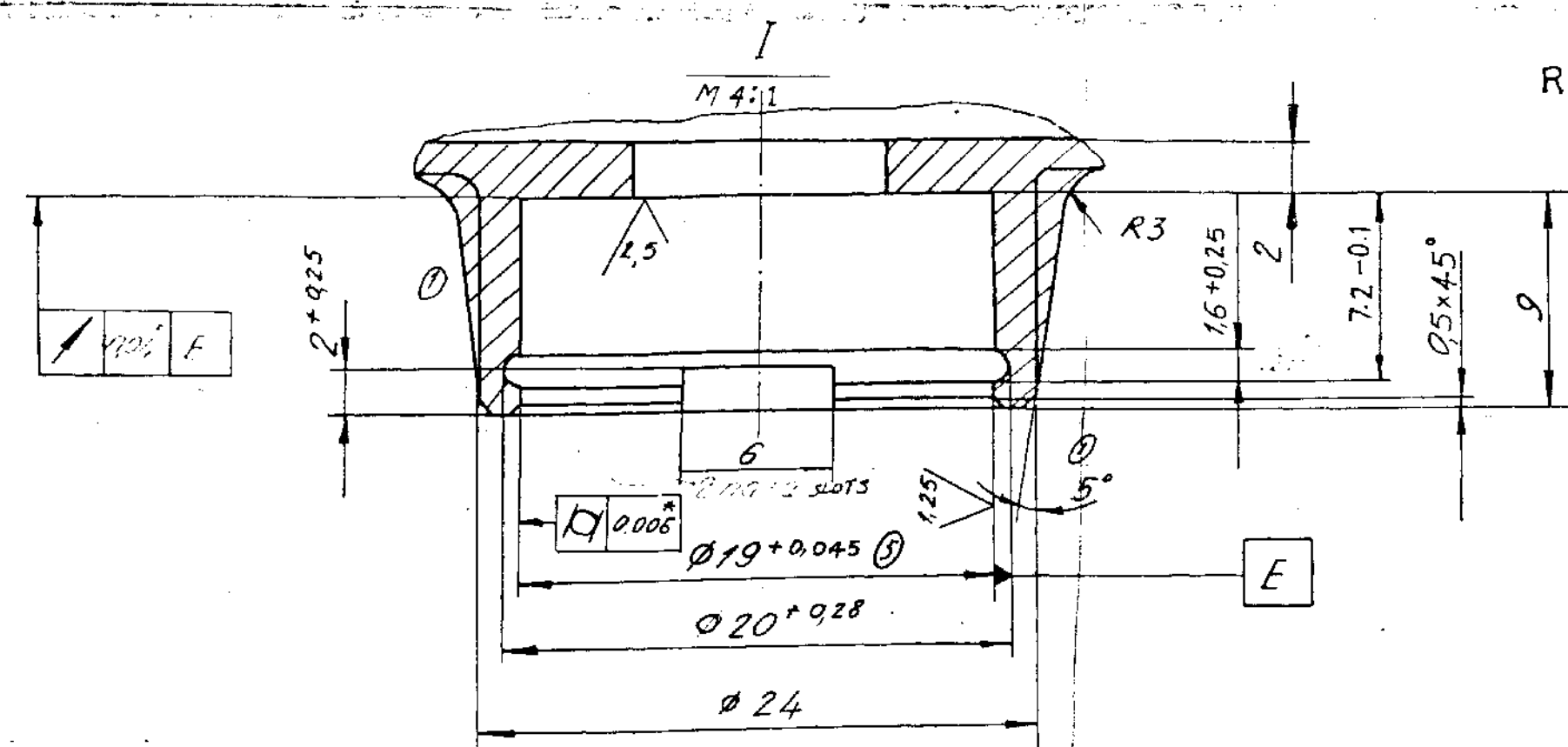
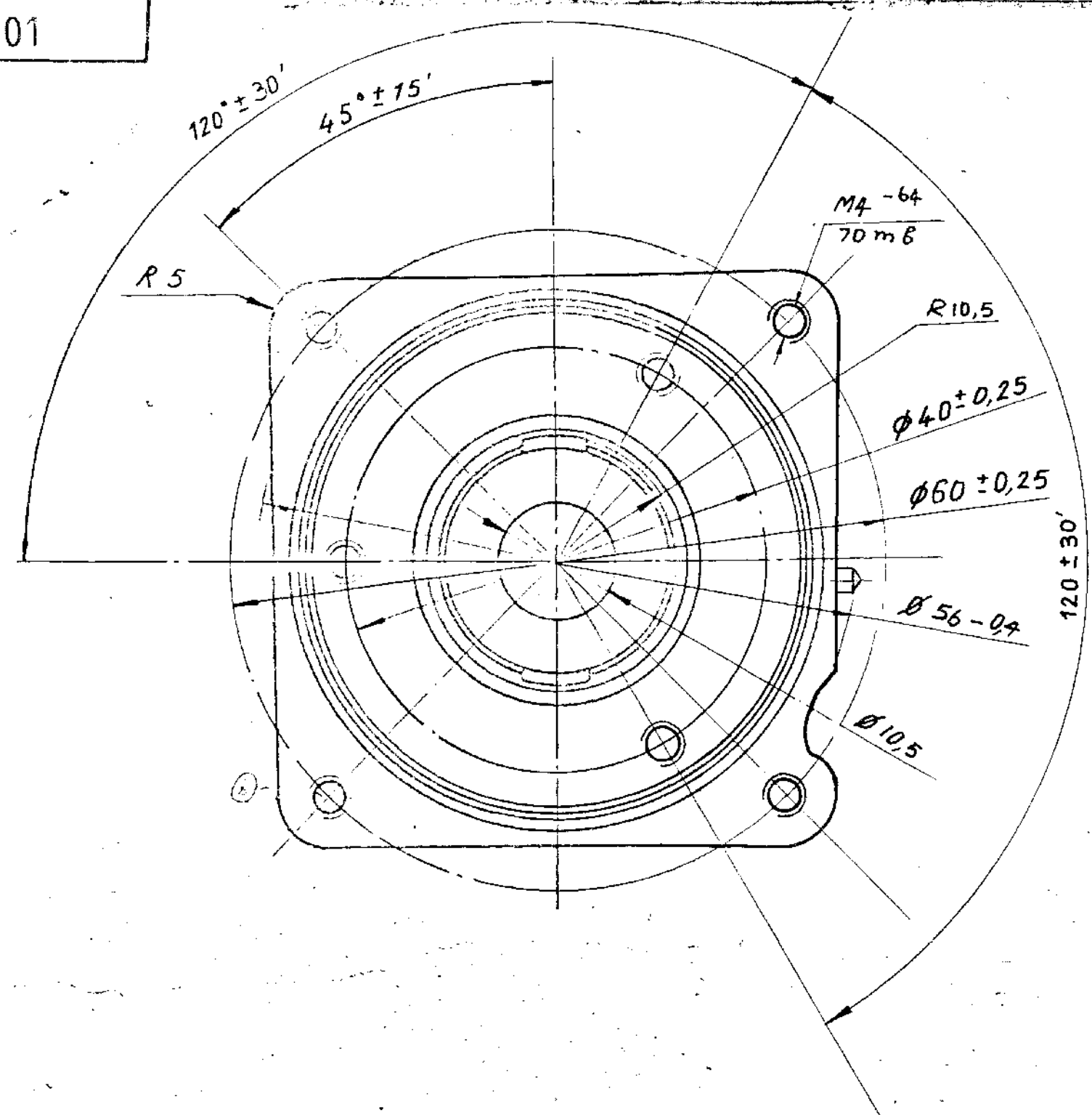
MATERIAL: —		
ALL SHARP EDGES & CORNERS TO BE ROUNDED OFF	ALL THREADS TO CONFORM TO SPECIFICATION	STAMP OR ETCH, PART NO. MANUFACTURERS NAME & YEAR OF MFR.
DRG. NOT TO BE SCALED	TOLERANCE ON DIMENSIONS UNLE -SS OTHERWISE SPECIFIED	USED ON: - СП110 380 2010 СБ
SCALE :- 2:1	WT :- (Kg)	СП 120 100 СБ
DATE :- 22-7-97		BASE ASSY
DRN. <i>[Signature]</i>		
TCD. <i>[Signature]</i>		
CHD. <i>[Signature]</i>		
APD. <i>[Signature]</i>		

CONTROLLERATE OF QUALITY ASSURANCE (INFANTRY COMBAT VEHICLES)

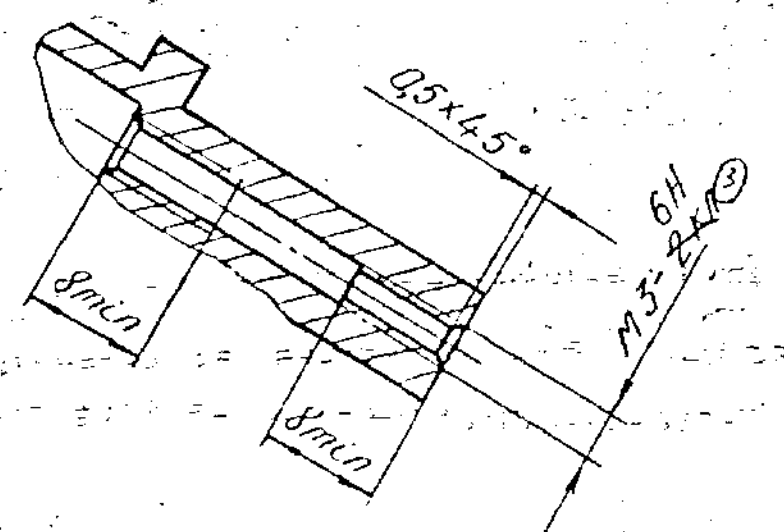
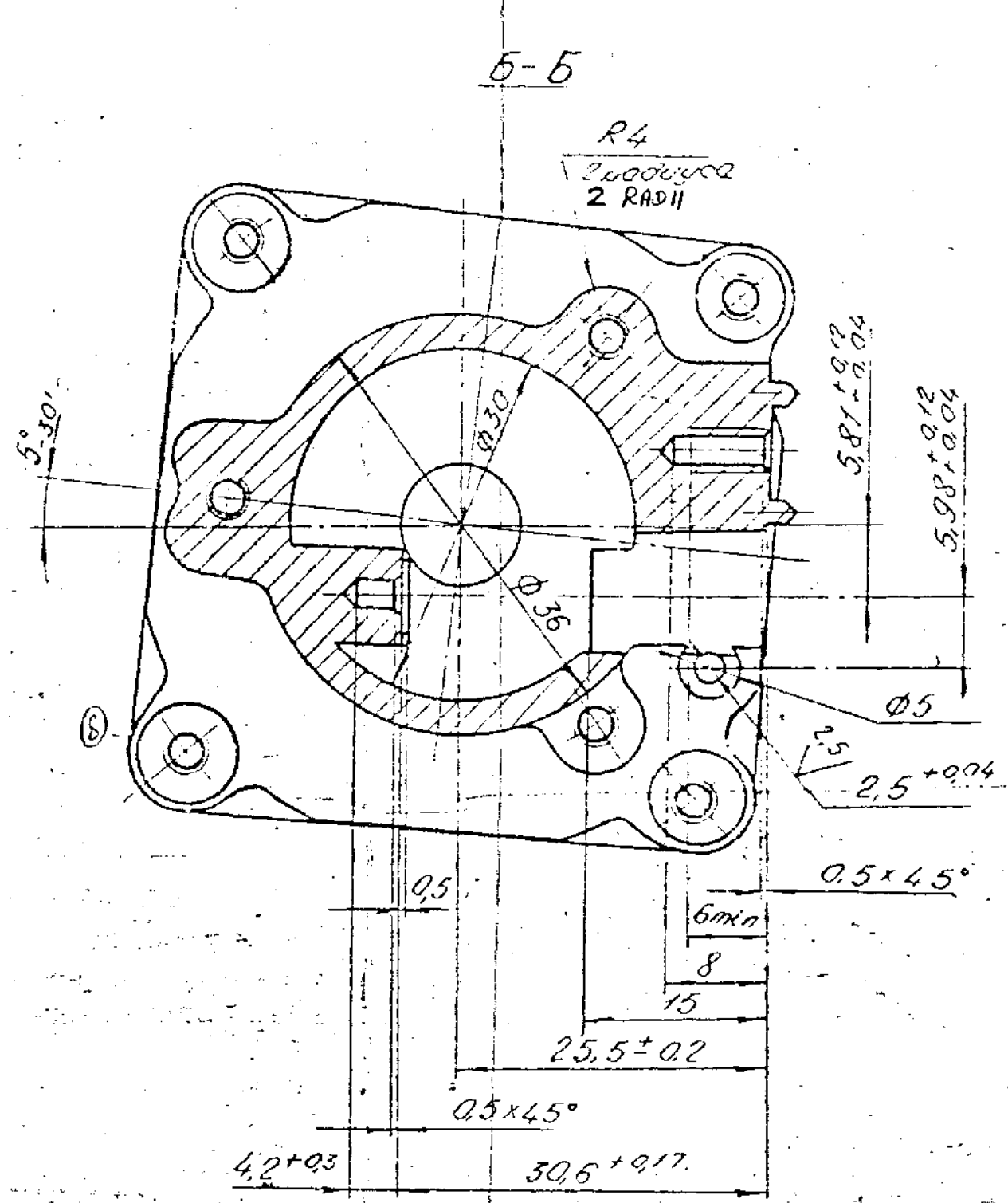
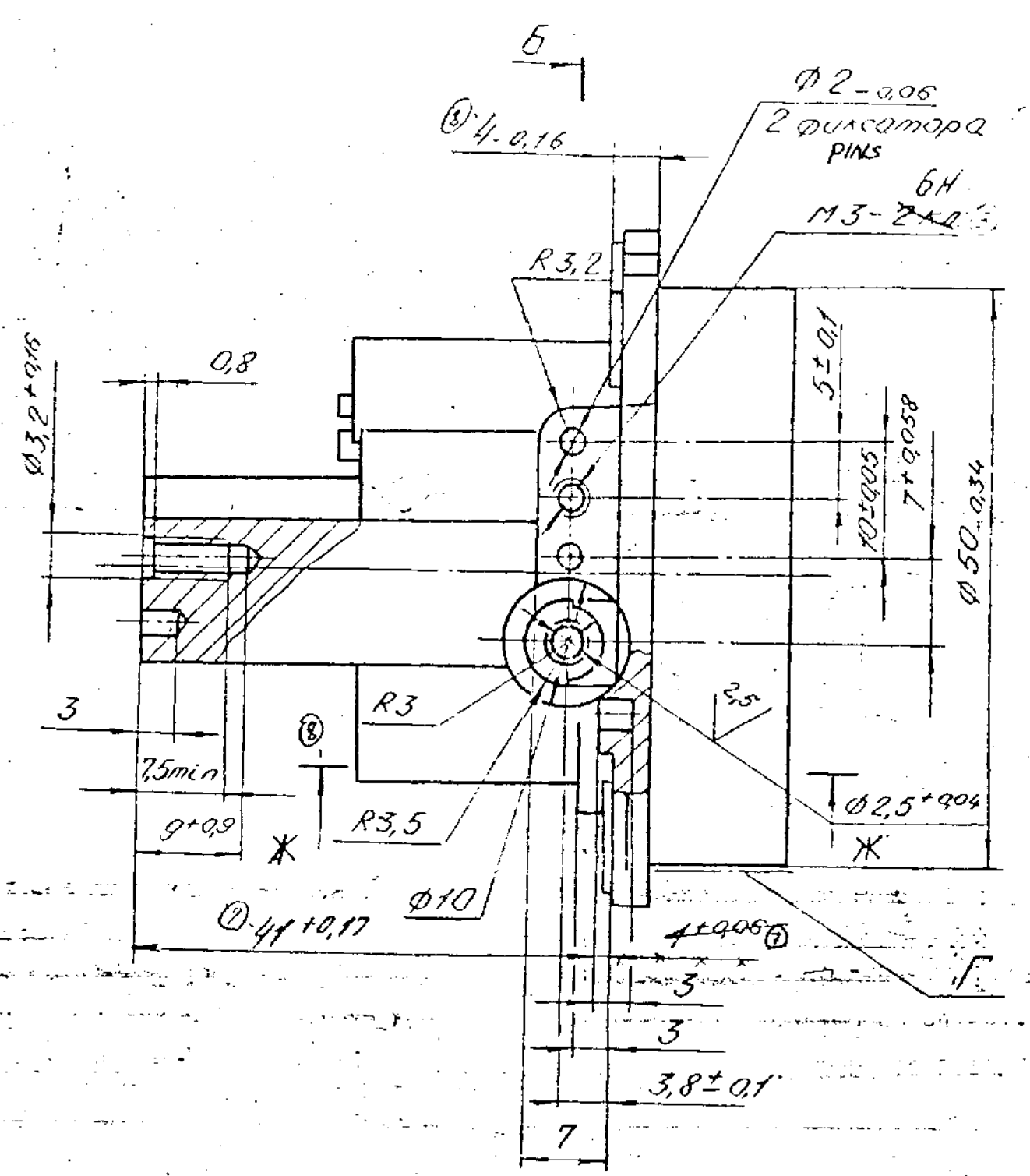
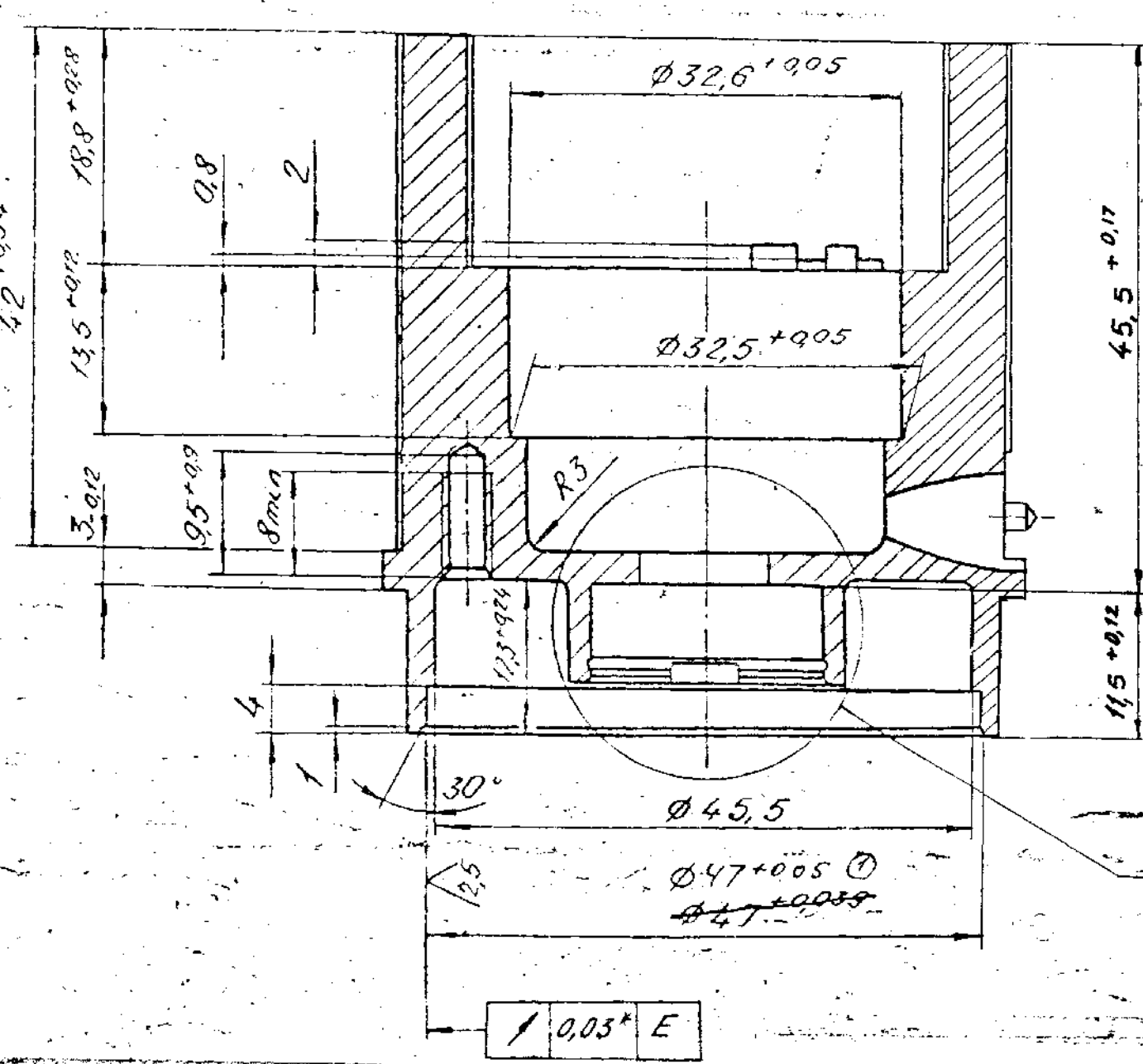
25/110

SIZE A3

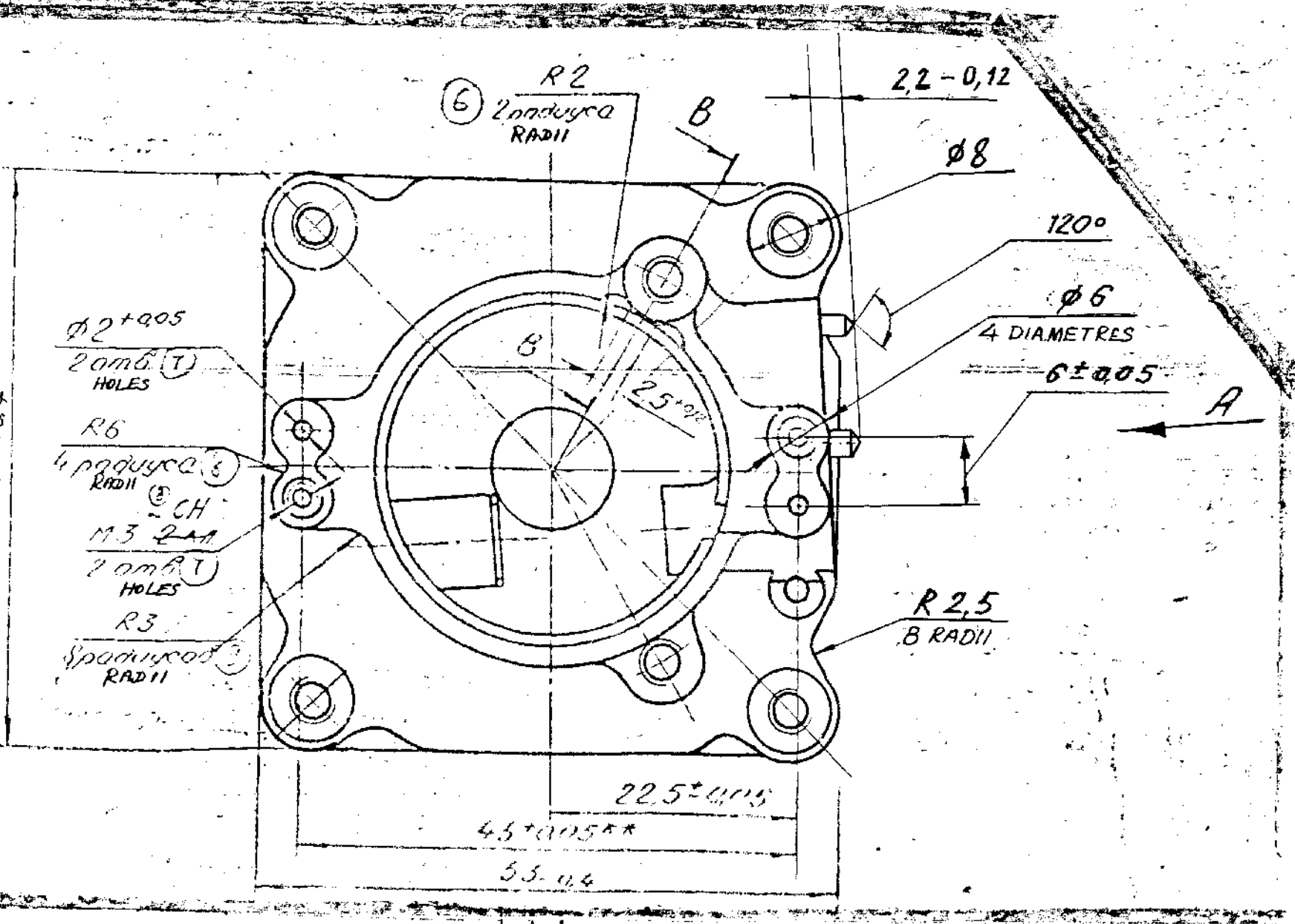
44515KPA



VJEN
BudA



- * REQUIREMENTS ARE ENSURED BY TOOL .
- ** DIMENSIONS FOR REFERENCE .
- UNSPECIFIED RADII - 1mm .
- UNSPECIFIED LIMIT DEVIATIONS OF DIMENSIONS FOR:
HOLES - AS PER A7
SHAFTS-AS PER B7
OTHER -AS PER CM7
- UNSPECIFIED LIMIT DEVIATIONS OF ANGULAR DIMENSIONS,
AS PER 10TH DEGREE OF ACCURACY, GOST 8908-58 .
- COATING: CHROMATIZING .
- ALTERNATIVE MATERIAL: ALLOY 4AM-4-1, GOST 19424-74 .



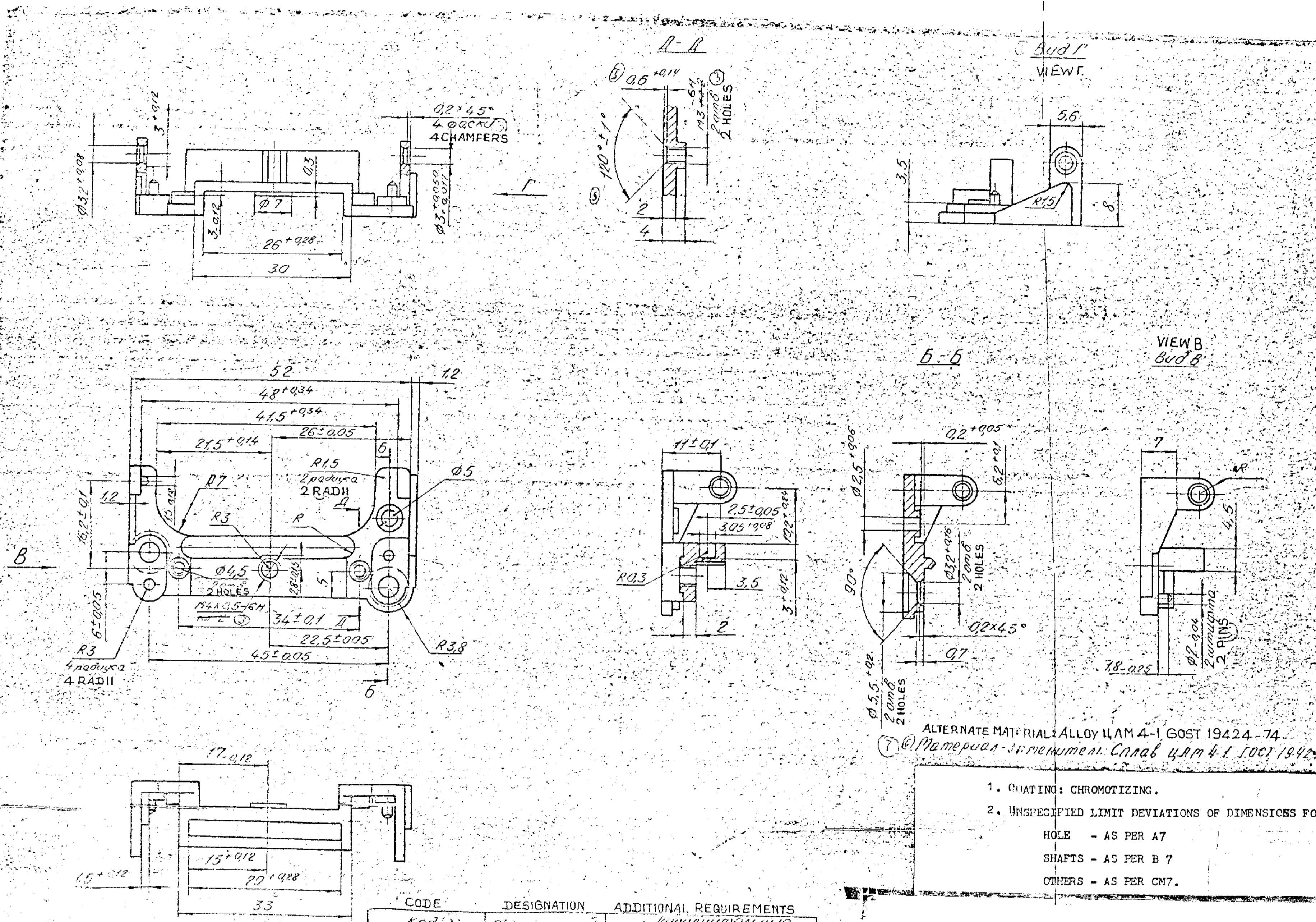
PILOT SAMPLE SHOULD BE APPROVED BY A H S P BEFORE BULK PRODUCTION.

EST. MASS 150g 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

MATERIAL - ALLOY 4A4 GOST 19424-74	ALL SHARP EDGES & CORNERS TO BE ROUNDED OFF	DRG. NOT TO BE SCALED	SCALE - 2:1	DATE - 22-7-97	DRN [Signature]	WT - (Kg)	STAMP OR ETCH, PART NO. MANUFACTURERS NAME & YEAR OF MFG.
ALL THREADS TO CONFORM TO SPECIFICATION	TOLERANCE ON DIMENSIONS UNLESS OTHERWISE SPECIFIED	USED ON -	Сп 120 101				
BASE							CONTROLLERATE OF QUALITY ASSURANCE (INFANTRY COMBAT VEHICLES)

DRAWING NUMBER
Cn 120 401



ALTERNATE MATERIAL: ALLOY ЦАМ 4-1 GOST 19424-74.
 (Т) Материал - материал. Сплав ЦАМ 4-1 ГОСТ 19424-74.

1. COATING: CHROMOTIZING.
2. UNSPECIFIED LIMIT DEVIATIONS OF DIMENSIONS FOR:
 HOLE - AS PER A7
 SHAFTS - AS PER B 7
 OTHERS - AS PER CM7.

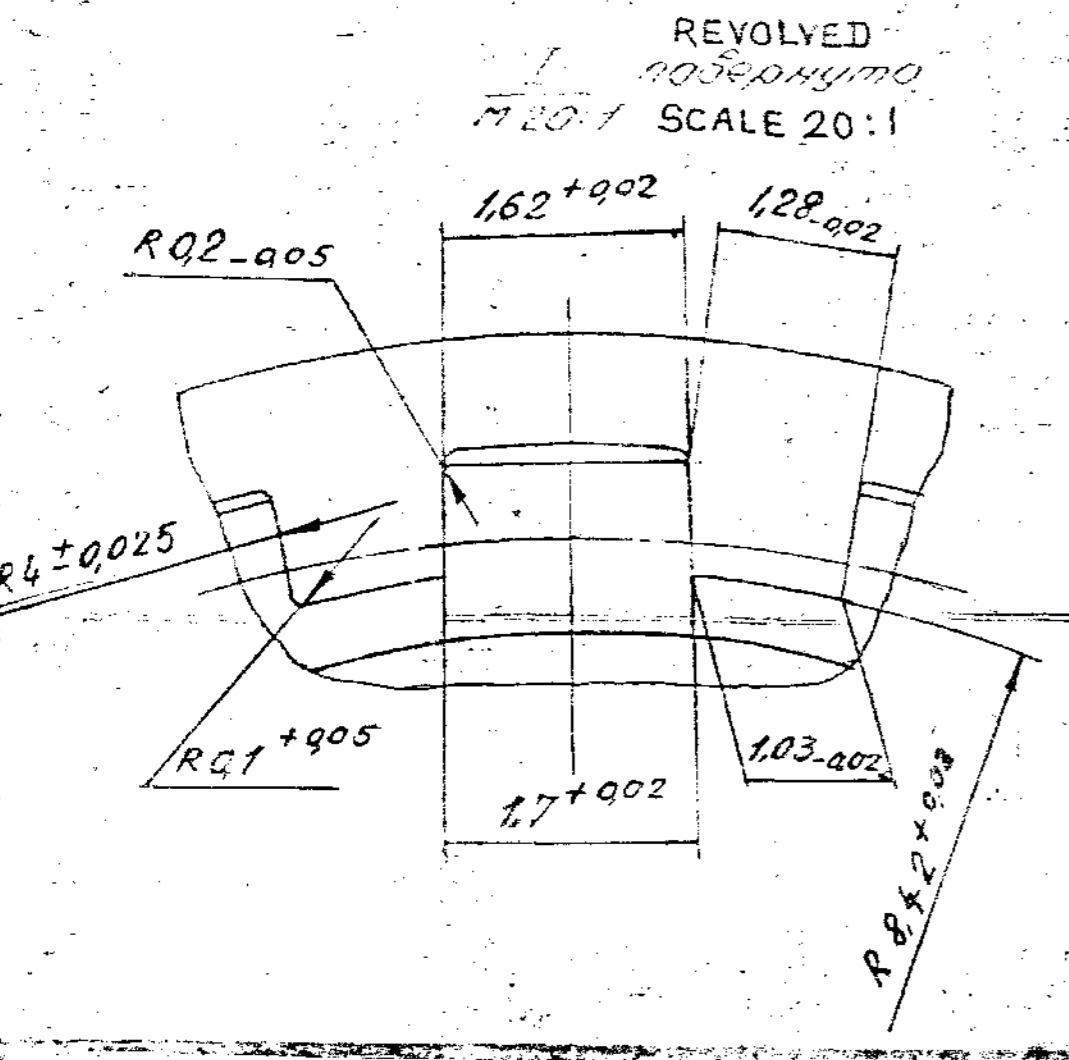
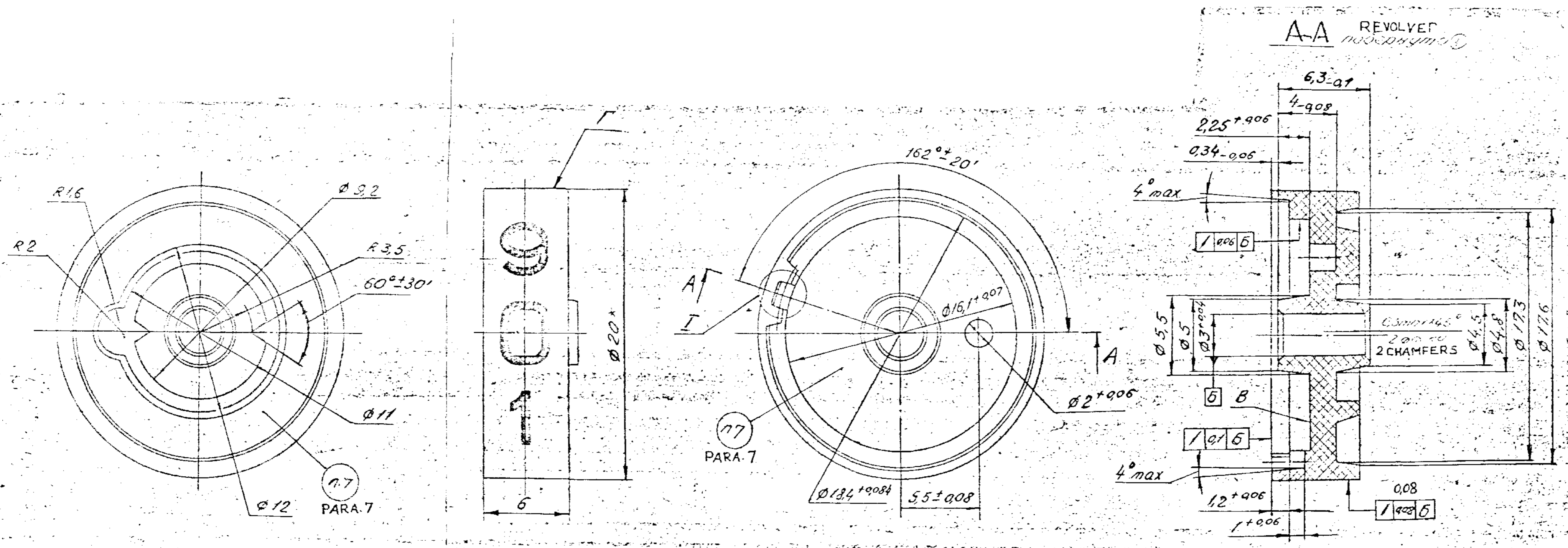
CODE	DESIGNATION	ADDITIONAL REQUIREMENTS
код: 2	Обозначение	Дополнительные требования
45 73.92 186.5	СН 120-401-3	Внешний вид по эталону APPEARANCE AS PER STANDARD PIECE

MATERIAL: ALLOY ЦАМ 4 GOST 19424-74

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

EST. MASS. 20g	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.	
ISSUE	DATE
NATURE OF AMENDMENT	

MATERIAL ALL SHARP EDGES & CORNERS TO BE CHAMFERED OR NOT TO BE SCALED	ALL THREADS TO CONFORM TO SPECIFICATION	STAMP OR ETCH, PART NO. MANUFACTURERS NAME & YEAR
SCALE - 2:1	TOLERANCE ON DIMENSIONS UNLESS OTHERWISE SPECIFIED	USED ON-
DATE - 22-7-97		
DRN.	WT - (kg)	CN 120 401
TCO		
CHD		BRIDGE
APD		CONTROLLERATE OF QUALITY ASSURANCE (INFANTRY COMBAT VEHICLES) 89/110



DESIGNATION	MATERIAL	COATING AND ADDITIONAL REQUIREMENTS
CP 102-411	PLASTIC ABC 2020-002, WHITE-BEIGE, HIGHEST GRADE, TY6-05-1587-79	DIGITS: H90-31, PAINT TRKC-251, RED, UT 37.453.079-74 IV T2
CP 131-411	PLASTIC ABC 2020-202, ORANGE, HIGHEST GRADE, TY6-05-1587-74	DIGITS: H90-29, WHITE PAINT TYMC-851, TY 29-02-890-79 IV X1

- PUSHER TRACES SHOULD BE LOCATED ON SURFACE B.
- * DIMENSION IS SPECIFIED FOR A COATED PART.
- ASYMMETRY OF DIGIT POSITION RELATIVE TO AXIS OF SYMMETRY OF SURFACE Γ, NOT EXCEEDING 0.1 mm, IS ENSURED BY TOOL.
- UNSPECIFIED LIMIT DEVIATIONS OF DIMENSIONS FOR:
HOLE AS PER A5
SHAFTS AS PER B 5.
- ALL DIGITS SHOULD BE EVENLY POSITIONED AROUND THE ROLLER RIM.
- APPEARANCE ACCORDING TO STANDARD PIECE.
- USE SEAL H 2.5, 3302020D TO MARK SEAT NO OF THE MOULD IN ONE OF THE SPECIFIED PLACES
HEIGHT OF TYPE CHARACTERS, NOT EXCEEDING 0.3mm, IS ENSURED BY TOOL.

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

EST. MASS. 1.15g 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	N

REFER TABLE

DATE: 22-7-97	SCALE: 5:1	DRW: [Signature]	TIC: [Signature]
CP 102-411		FIRST ROLLER	
CONTROLLERATE OF QUALITY ASSURANCE			
GARANTEE COMPLET VENTURES			

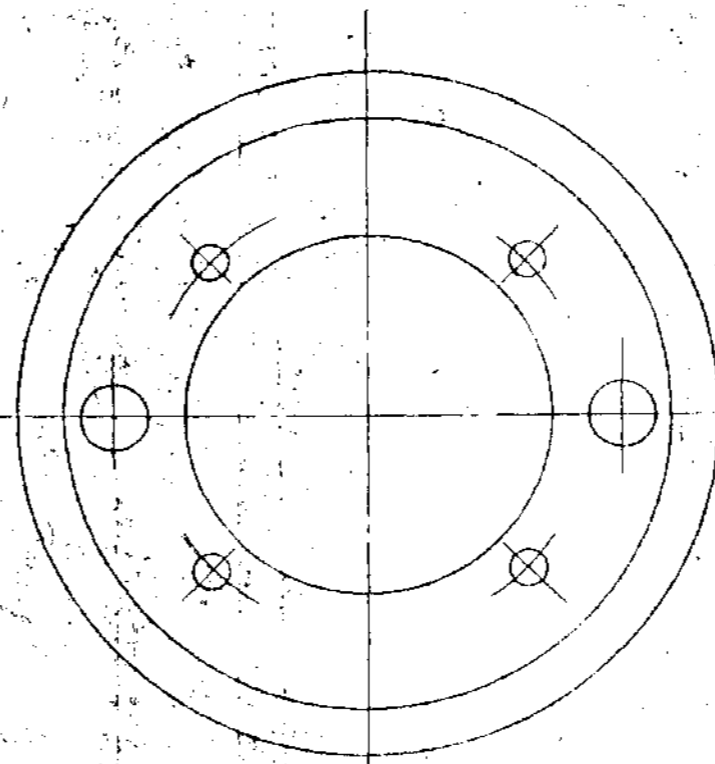
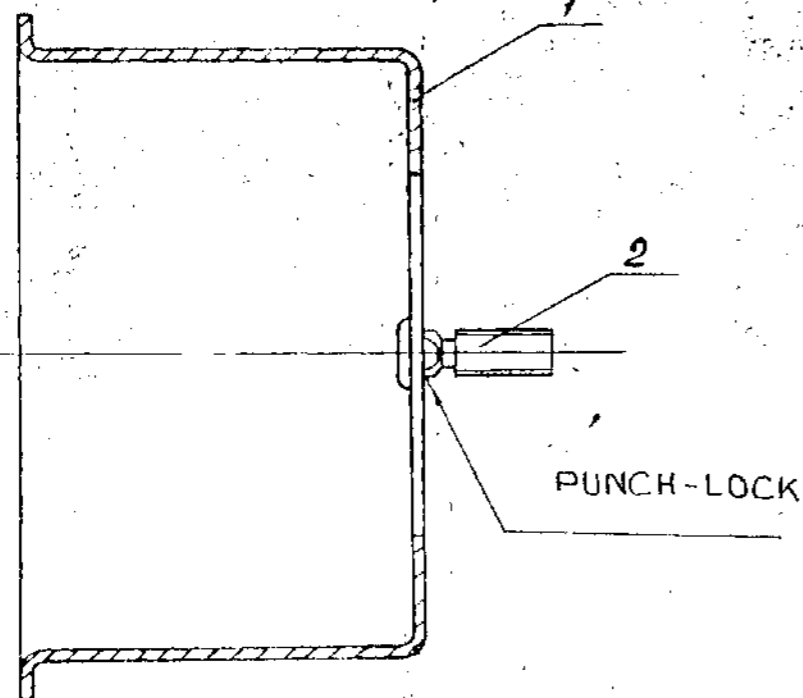
91/110

ITEM	DRAWING NUMBER	D S CAT NUMBER	DESCRIPTION	No. OFF	REMARKS
	Cn 125 900 Cb		CASING ASSY		
1	Cn 125 901		CASING	1	
2	C4 1-27		SCREW	2	

DC(1) NO DATE	ISSUE	NATURE OF AMENDMENTS	DC(1) NO DATE	ISSUE	NATURE OF AMENDMENTS	
DRN	<i>[Signature]</i>	Cn 125 900 Cb CASING ASSY.	DATE:-	23-7-97.		
TCD	<i>[Signature]</i>		USED ON			
CHD	<i>[Signature]</i>		SHEET	1	SHEETS	
APPD	<i>[Signature]</i>		OF	52	110	

DRAWING NUMBER

Сп 125 900 СБ



COAT PLACES OF PUNCH-LOCKING WITH ADHESIVE БФ2-ГОСТ 12172-74
 Места расчеканки покрыть клеем БФ-2 ГОСТ 12172-74

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

EST. MASS 122.7g
 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

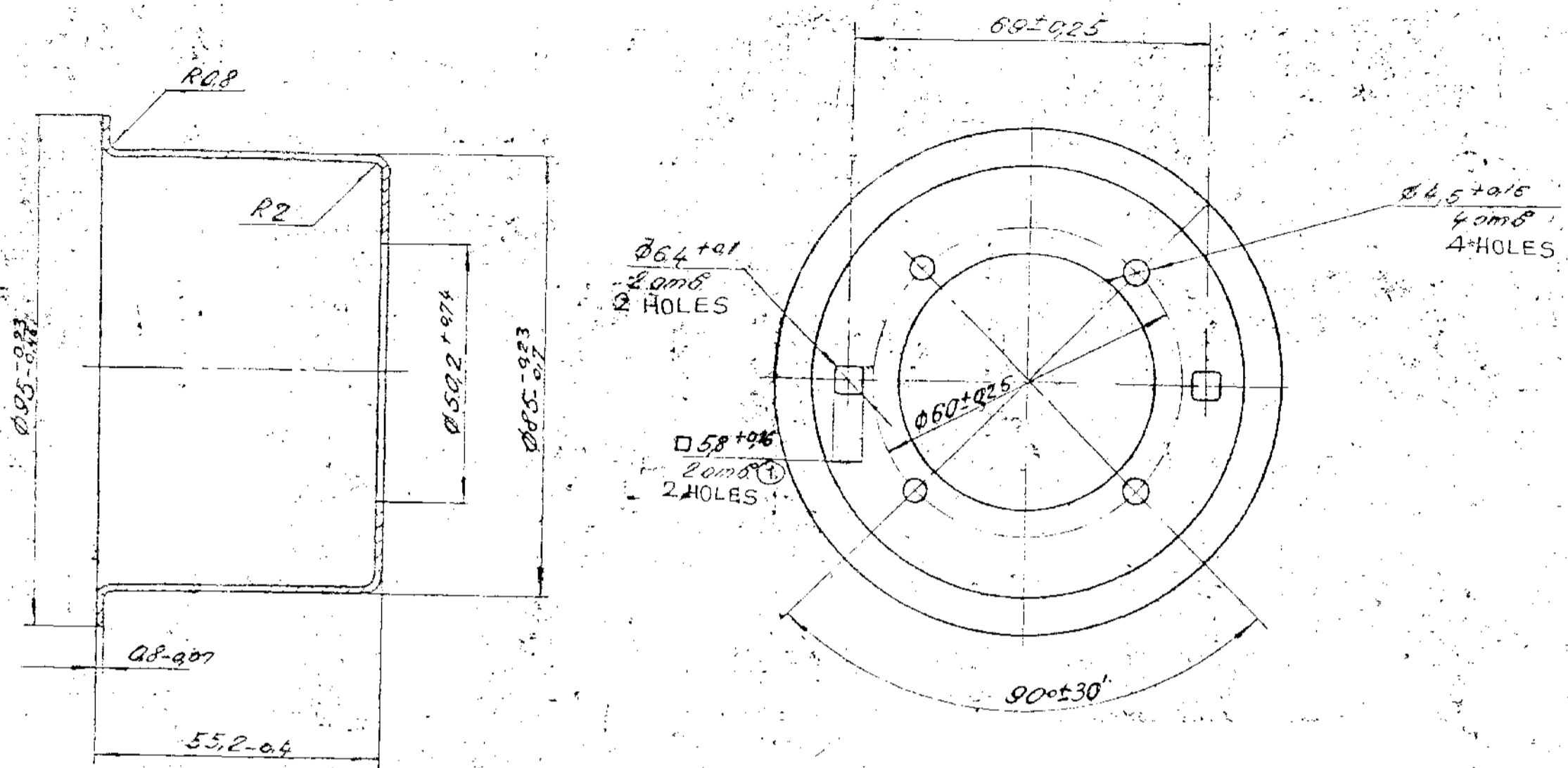
MATERIAL		ALL SHARP EDGES & CORNERS TO BE REMOVED	ALL THREADS TO CONFORM TO SPECIFICATION	STAMP OR ETCH, PART NO. MANUFACTURERS NAME & YEAR OF MFG.	
ORG. NOT TO BE SCALED		SCALE :- 1:1	TOLERANCE ON DIMENSIONS UNLESS OTHERWISE SPECIFIED	USED ON:- СП 110 300 2010 25	
DATE :- 22-7-07		DRG. [Signature]	WT :- (Kg)	СП 125 900 СБ	
TCD [Signature]		CHD [Signature]	APD [Signature]	CASING ASSY	
CONTROLLERATE OF QUALITY ASSURANCE (INFANTRY COMBAT VEHICLES) 53/110					
8	7	6	ISSUE	DATE	NATURE OF AMEND

A1/86

4 4515 KА
 SIZE A3

DRAWING NUMBER

Cn 125 901



EXPLANATORY NOTE:-

3. REFERENCE MATERIAL QUOTED:- COLD ROLLED LOW CARBON STEEL EXTRA SOFT GROUP, NORMAL ACCURACY STEEL GROUP 0.8 mm THICK GRADE 08Kn GOST 503-71.

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

Gde. OF STEEL	CONTENT OF ELEMENTS IN %						
	C	Si	Mn	Cr	Ni	S	P
08Kn	0.05 0.11	0.03 (Max)	0.25 0.50	0.10	0.25	0.04	0.035

b) MECHANICAL PROPERTIES:- AS PER GOST 503-71.

Gde. OF STEEL	CONDITION OF MATERIAL	U T S Kgf/mm ²
08Kn	OM EXTRA SOFT	(25 TO 40)

UNSPECIFIED LIMIT DEVIATIONS OF DIMENSIONS AS PER PTM 37 453 001 -71.

DESIGNATION	COATING AND ADDITIONAL REQUIREMENTS
CN125-901	Zn 15, CHROMATIZING
CN125-901-T	APPEARANCE AS PER STANDARD PIECE.
CN125-901-3	Zn 15, CHROMATIZING APPEARANCE AS PER STANDARD PIECE.

MATERIAL: BAND 08N-OM-HT-2-0-08 GOST 503-71

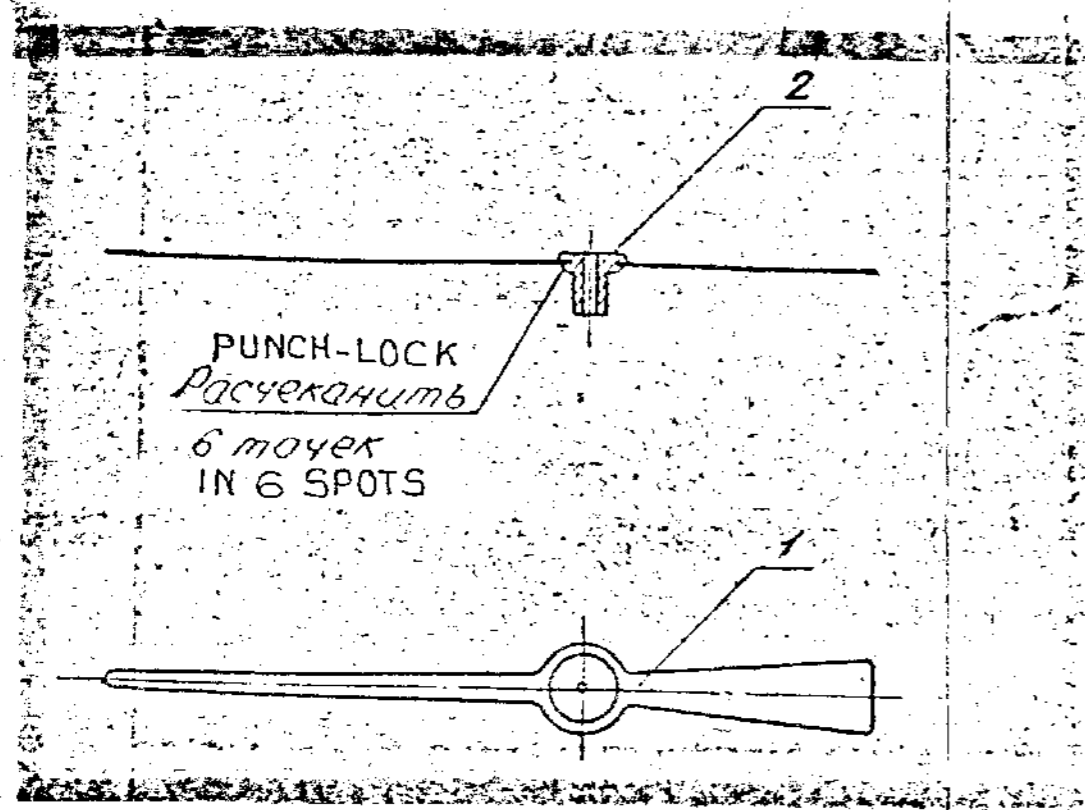
PILOT SAMPLE SHOULD BE APPROVED BY A H S P BEFORE BULK PRODUCTION.

EST. MASS. 180g 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.

MATERIAL		STAMP OR STCH. PART NO. MANUFACTURERS NAME & YEAR OF MFG.	
ALL SHARP EDGES & CORNERS TO BE ROUNDED	ORG. NOT TO BE SCALED	ALL THREADS TO CONFORM TO SPECIFICATION	TOLERANCE ON DIMENSIONS UNLESS OTHERWISE SPECIFIED
SCALE: 1:1	DATE: 22-7-97	CN 125 901	
WT: (Kg)		CASING	
CONTROLLERATE OF QUALITY ASSURANCE (INFANTRY COMBAT VEHICLES) 108/110			
ISSUE	DATE	NATURE OF AMENDMENT	

DRAWING NUMBER
Cn 135 3005 C6



CODE Код	DESIGNATION Обозначение	COATING AND ADDITIONAL REQUIREMENTS
* 457392 2991	СП135-3005	CHEMICAL PHOSPHATING/ FACE SIDE- WHITE ENAMEL AK1102, TY6-10-1408-78, IVC.
457392 2992	СП135-3005-T	CHEMICAL PHOSPHATING/ FACE SIDE- WHITE ENAMEL AK1102, TY6-10-1408-78, IVC. BACK SIDE - BROWN PRIMER фЛ- 03К, GOST 9109-81 VI Ж . APPEARANCE ACCORDING TO STANDARD PIECE.
457392 2974	СП14А-300	CHEMICAL PHOSPHATING/ FACE SIDE - LUMINOUS COMPOUND фКП - 03К, TY6-09-768-77 IV C1.
457392 2976	СП14А-300-T	CHEMICAL PHOSPHATING/ FACE SIDE - LUMINOUS COMPOUND фКП - 03К, TY6-09-768-77 IV C1 / BACK SIDE - BROWN PRIMER фЛ- 03К, GOST 9109-81 VI Ж . APPEARANCE ACCORDING TO STANDARD PIECE.
457392 2975	СП14А-300-2	CHEMICAL PHOSPHATING/ FACE SIDE - LUMINOUS COMPOUND фКП - 03К, TY6-09-768-77 IV C1 / APPEARANCE ACCORDING TO STANDARD PIECE.
457392 2986	СП24Г-3005-T	CHEMICAL PHOSPHATING/ FACE SIDE - LUMINOUS COMPOUND фКП - 03К, TY6-09-768-77 IV C1 / BACK SIDE - BROWN PRIMER фЛ- 03К, GOST 9109-81 . APPEARANCE ACCORDING TO STANDARD PIECE.

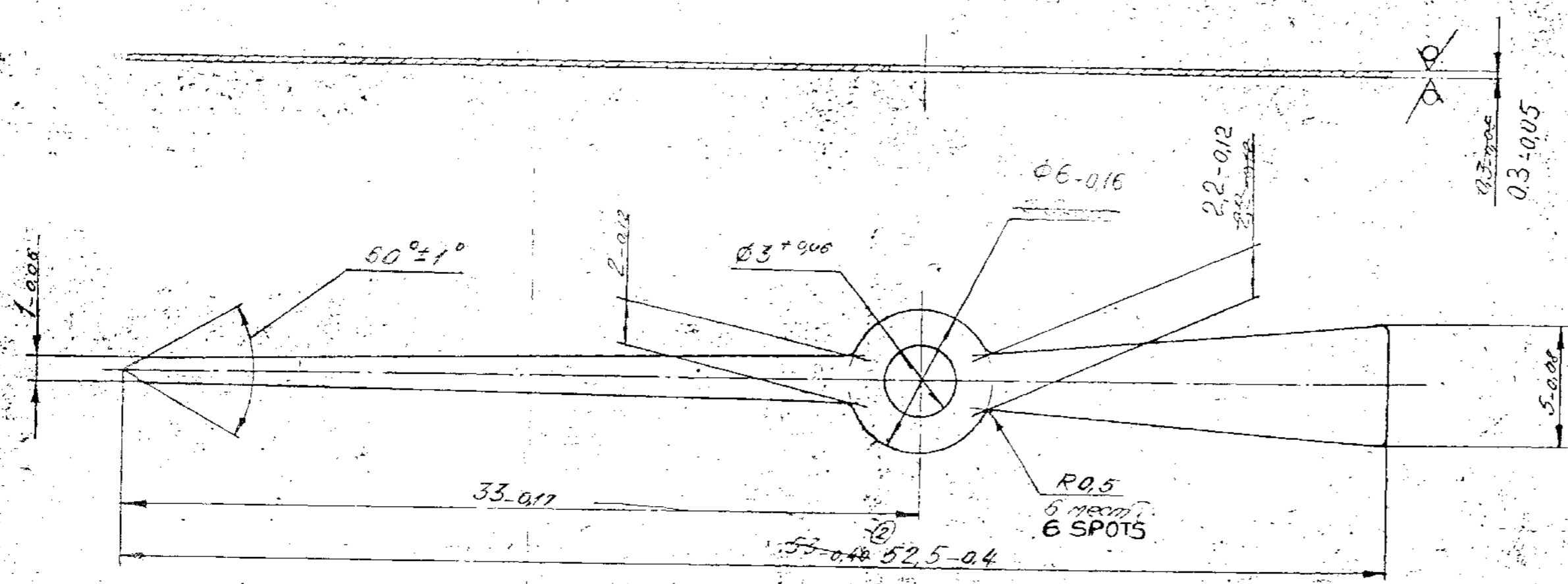
PILOT SAMPLE SHOULD BE APPROVED BY A H S P BEFORE BULK PRODUCTION.

EST. MASS. 0.42g	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 OUTSIDE R INSIDE EQUIVALENT CHAMFERS ARE PERMISSIBLE.

ORGL MATERIAL		DC(I) No. & DATE	ISSUE	AMENDMENTS
ALL SHARP EDGES & CORNERS TO BE ROUNDED OFF.	DRG. NOT TO BE SCALED	SCAL:- 2:1	DATE :- 22-7-97.	ALL THREADS TO CONFORM TO SPECIFICATION.
TOLERANCE ON DIMENSIONS UNLESS OTHERWISE SPECIFIED		STAMP OR ETCH, PART NO. MANUFACTURER'S NAME & YEAR OF MFR.		
DRN.	WT:-(Kg)	USED ON:-		
TCD.		POINTER ASSY.		
CHD.		DRAWING NO	PART NO	
AFD.		СП 135 3005 C6		
CONTROLLERATE OF QUALITY ASSURANCE (INFANTRY COMBAT VEHICLES) 35/110				

DRAWING NUMBER
Cn 135 301



1. TO BE ROLLED FROM MATERIAL 0,5 - 0,05 mm THICK.
2. UNSPECIFIED LIMIT DEVIATIONS OF DIMENSIONS-AS PER CMZ.

EXPLANATORY NOTE:-

3. REFERENCE MATERIAL QUOTED:- COLD ROLLED LOW CARBON STEEL EXTRA SOFT GROUP, NORMAL ACCURACY STEEL GROUP 0.5-0.05mm THICK GRADE 08Kн GOST 503-71.

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

Gde. OF STEEL	CONTENT OF ELEMENTS IN %						
	C	Si	Mn	Cr	Ni	S	P
08Kн	0.05 0.11	0.03 (Max)	0.25 0.50	0.10	0.25	0.04	0.035

b) MECHANICAL PROPERTIES:- AS PER GOST 503-71.

Gde. OF STEEL	CONDITION OF MATERIAL	U T S Kgf/mm ²
08Kн	0M EXTRA SOFT	(25 TO 40)

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

EST. MASS. 0.353 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

MATERIAL :- BAND 08Kн-0M-HT-2-0-0.5 GOST 503-71		
ALL SHARP EDGES & CORNERS TO BE ROUNDED OFF	ALL THREADS TO CONFORM TO SPECIFICATION	STAMP OR ETCH, PART NO. MANUFACTURERS NAME & YEAR OF MFR.
DRG. NOT TO BE SCALED	TOLERANCE ON DIMENSIONS UNLESS OTHERWISE SPECIFIED	USED ON:-
SCALE :- 5:1	DATE :- 22-7-97	
DRN. [Signature]	WT :- (Kg)	CN 135 301
TCO. [Signature]		POINTER
CHD. [Signature]		
APD. [Signature]		
CONTROLLERATE OF QUALITY ASSURANCE (INFANTRY COMBAT VEHICLES)		

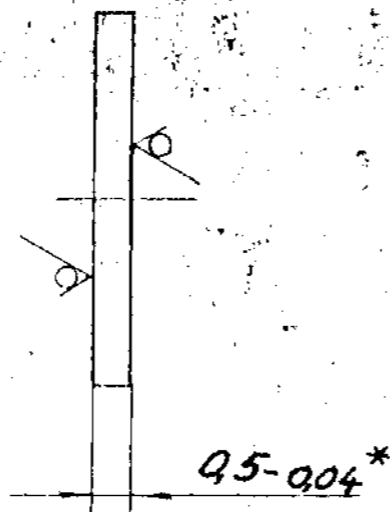
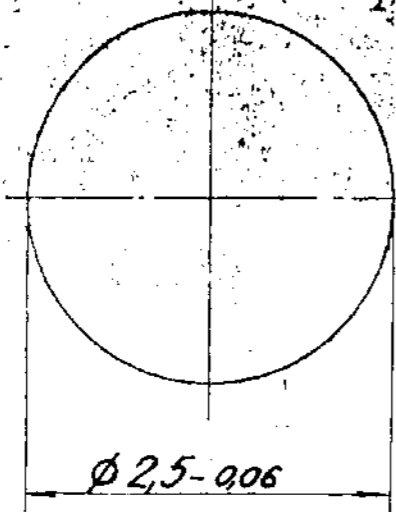
88/110

ITEM	DRAWING NUMBER	D S CAT NUMBER	DESCRIPTION	No. OFF	REMARKS
	Cn 135 300Б CB		POINTER ASSY		
1	Cn 135 301		POINTER	1	
2	-N . D-		BUSH H32-02-2	1	

ISSUE DATE	ISSUE NATURE OF AMENDMENTS	ISSUE DATE	ISSUE NATURE OF AMENDMENTS
DRN	Cn 135 300Б CB	DATE	23-7-97
TCD	POINTER ASSY	USED ON	CN110-3002010CB
CHD		SHEET	1 SHEETS 1
APPD		OF	34 / 110

DRAWING NUMBER

Cn 138 232



Код CODE	DESIGNATION Обозначение	COATING Покрытие
45 7392 3504	СН138-232-Т	CHEMICAL, Ni 6 Хим Н6

* Размер для справок.

* Dimension for reference.

© Материал:
Легма 3П-ПТ-К-0,5
ГОСТ 21986-76

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

EST. MASS. 0.02g	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 OUTSIDE R INSIDE EQUIVALENT CHAMFERS ARE PERMISSIBLE.

ISSUE	DATE	NATURE OF AME

MATERIAL : - BAND 3П-ПТ-К-0,5, ГОСТ 21986-76		
ALL SHARP EDGES & CORNERS TO BE ROUNDED OFF	ALL THREADS TO CONFORM TO SPECIFICATION	STAMP OR ETCH, PART NO. MANUFACTURERS NAME & YEAR OF MFR.
DRG. NOT TO BE SCALED	TOLERANCE ON DIMENSIONS UNLESS OTHERWISE SPECIFIED	USED ON:-
SCALE :- 20 : 1		СН 100 200 СБ
DATE :- 22-7-97		
DRN. <i>Edox</i>	WT :- (Kg)	СН 138 232
TCO. <i>Edox</i>		THRUST PLATE
CHD.		
APD. <i>Edox</i>		

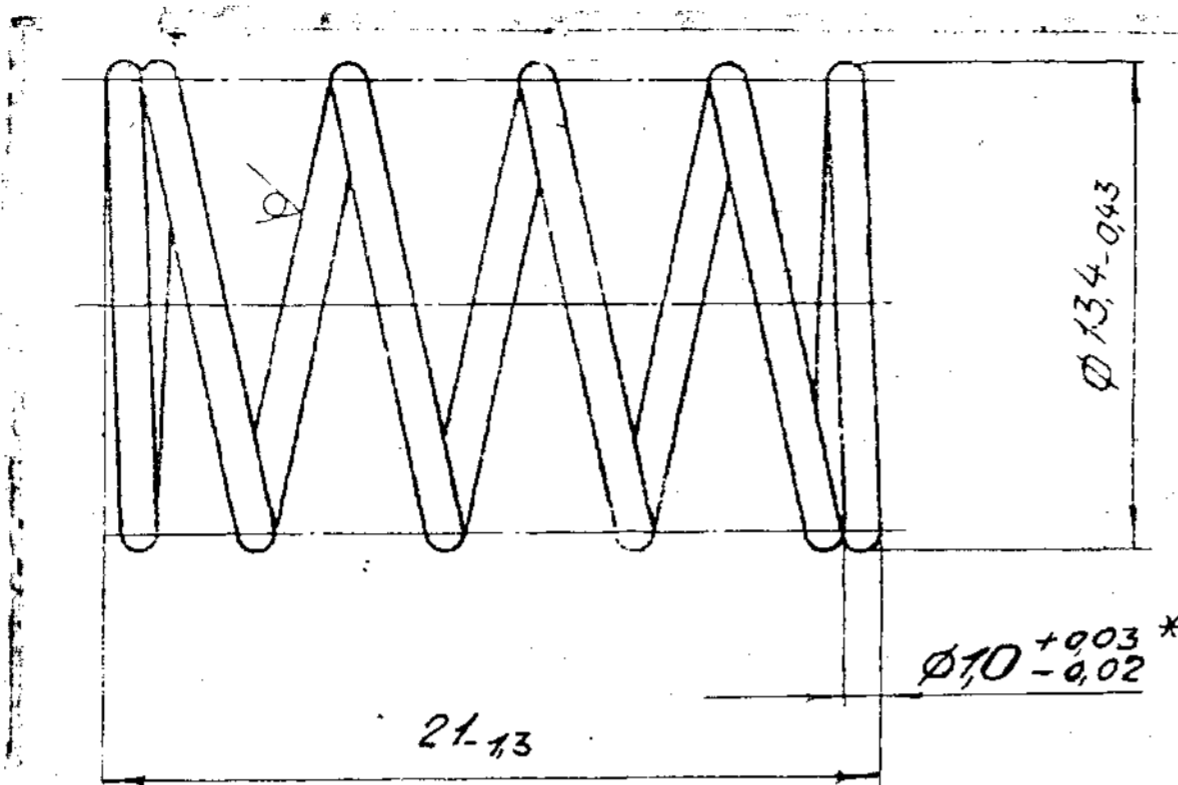
CONTROLLERATE OF QUALITY ASSURANCE (INFANTRY COMBAT VEHICLES) 83/110

A1 / 31

44515K4

SIZE A3

DRAWING NUMBER
Cn 152 015



1. LENGTH OF LOADED SPRING $H_2 = 8 \pm 0.05$ mm. AXIAL THRUST P_2 NOT LESS THAN 1,5 kgf.
2. COILING DIRECTION - ANY.
3. NUMBER OF WORKING COILS 3.
4. TOTAL NUMBER OF COILS 5 ± 0.5 .
5. POSITION THE EXTREME COILS SQUARE TO SPRING AXIS.
6. * DIMENSION FOR REFERENCE.
7. TO BE NORMALIZED.

CODE	DESIGNATION	COATING AND ADDITIONAL REQUIREMENTS
45 7392 3392	CN152-015	CHEMICAL OXIDATION WITH INHIBITION.
45 7392 3393	CN152-015-70	Cd TO BE DEHYDROGENATED, CHROMATIZING.

EXPLANATORY NOTE:-

4. CARBON STEEL COLD DRAWN SPRING WIRE 1.0 mm DIA TOLERANCE ± 0.03 (NORMAL ACCURACY) II CATEGORY TO GOST 9389-75

a) CHEMICAL COMPOSITION, IN %

Grade OF STEEL	C	Mn	Si	MAXIMUM				
				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
BK-7	0.68 0.76	0.50 0.80	0.17 0.37	0.030	0.020	0.05	0.05	0.04

b) MECHANICAL PROPERTIES :-

WIRE DIA	TENSILE STRENGTH Kgf/mm ²	MINIMUM	
		NO. OF BENDS	NO. OF TWIST
1.0 mm	165 - 190	5	13

MATERIAL :- WIRE II-1 GOST 9389-75
PILOT SAMPLE SHOULD BE APPROVED BY A.H.S.P. BEFORE BULK PRODUCTION.

EST. MASS. 1.5g
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.

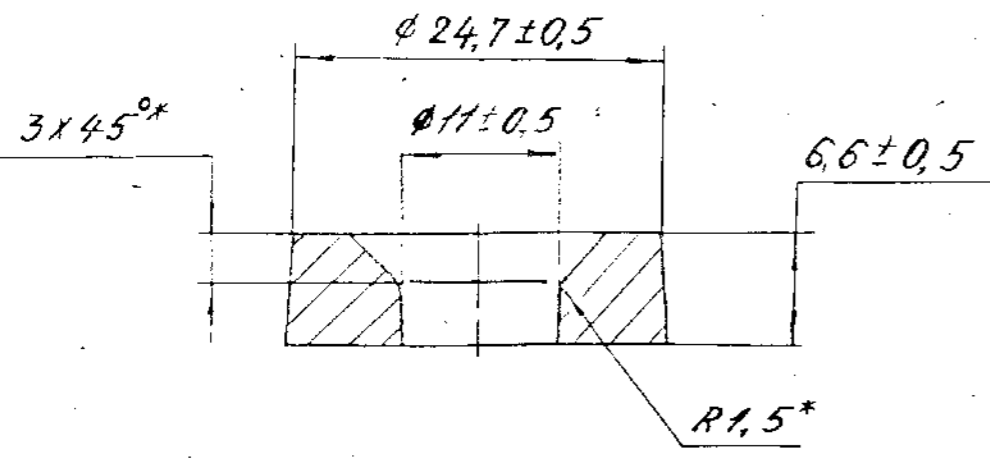
MATERIAL		STAMP OR MARKED WHERE INDICATED THUS # LETTERS)	
SCALE - 5:1		GOST 152 015	
DATE - 22-7-97		SPRING	
WT - (kg)		CONTROLLER OF QUALITY ASSURANCE (INFANTRY COMBAT VEHICLES)	

A1
97

44515K/P
SIZE A2

DRAWING NUMBER
ДЖБ 01 1 1408

Rz 630



10. MAGNETIC PROPERTIES OF THE ALLOY - AS PER GOST 17809-72
11. RESIDUAL MAGNETIC FLUX PROVIDED BY CASTING IN OPEN CIRCUIT SHOULD NOT BE LESS THAN OPEN CIRCUIT $0,18 \times 10^{-4} Wb$.
12. CASTINGS ARE NOT TO BE MARKED.
13. PACKAGE IS MARKED AS PER GOST 14192-71.

1. PATTERN DRAFT NOT MORE THAN 3°
2. TOLERANCES FOR DIMENSIONS AND ALLOWANCES FOR MACHINING ARE AS PER GOST 2009-55 CL.II.
3. ROUNDING OF SHARP EDGES TO R 1,5 MAX IS ALLOWED.
4. * DIMENSIONS ARE ENSURED BY TOOL
5. CASTINGS - SHOULD BE DRESSED WITHIN TOLERANCE LIMITS, SPECIFIED ON THE DRAWING.
6. CASTINGS ARE SUPPLIED WITH 10% MAX RESIDUAL MAGNETIZATION.
7. CASTINGS SHOULD BE FREE OF FROM THE FOLLOWING DEFECTS.
 - a) SHORT RUNS, COLD LAPS, THROUGH CRACKS;
 - b) GATE REMAINDER EXCEEDING 1,5 mm IN HEIGHT.
 - c) MECHANICAL DAMAGES DEEPER THAN 1mm.
 - d) NON-METALLIC INCLUSIONS, POTHOLES WITH AREA EXCEEDING 5 % FROM AREA OF CASTING.
 - e) SAND BUCKLE IN THE HOLE HIGHER THAN 1 mm TO ONE SIDE
 - f) HOLE SCAB THICKER THAN 1mm.
 - g) CASTING DEFECTS, REVEALED AFTER MACHINING, IF THEY EXCEED 5% OF THE TOTAL MACHINED SURFACE AREA.
8. CORRECTION OF DEFECTS (DRESSING, DRILLING, ETC). SPECIFIED IN PARA 7 IS ALLOWED PROVIDED THAT CASTING PROPERTIES ARE NOT AFFECTED.
9. TEARS ON THE SURFACE OF CASTING ARE NOT A REJECT FEATURE.

NOTE:-

REFER MACHINING DRAWING No. Cn 100 211.

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

EST. MASS. 0,017	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 OUTSIDE R INSIDE EQUIVALENT CHAMFERS ARE PERMISSIBLE.

ISSUE	DATE	NATURE OF AME

MATERIAL - ALLOY 10HP-4 GOST 17809-72		
ALL SHARP EDGES & CORNERS TO BE ROUNDED	ALL THREADS TO CONFORM TO SPECIFICATION	STAMP OR ETCH, PART NO. MANUFACTURERS NAME & YEAR OF MFR.
DRG. NOT TO BE SCALED	TOLERANCE ON DIMENSIONS UNLESS OTHERWISE SPECIFIED	USED ON:- REFER NOTE
SCALE :- 2:1		
DATE :- 22-7-97		
DRN. <i>[Signature]</i>	WT :- (Kg)	ДЖБ 01.1. 1408
TCO. <i>[Signature]</i>		
CHD. <i>[Signature]</i>		
APP. <i>[Signature]</i>		
MAGNET (CASTING)		
CONTROLLERATE OF QUALITY ASSURANCE (INFANTRY COMBAT VEHICLES)		

110/110

GOST 12936 - 82

NUMBER I - 472

SHEET 1 OF 13

SUPERSEDES..

STATE STANDARD, U S S R

AUTOMOBILE SPEEDOMETERS WITH ELECTRIC DRIVE

GENERAL TECHNICAL SPECIFICATIONS

GOST 12936 - 82

OFFICIAL PUBLICATION

7/110

TRANSLATED	Padnavati, V	<i>[Signature]</i>	11/82
AUTHENTICATED	G. JHA	<i>[Signature]</i>	13/82
TYPED	Kaladhar, S. Kaladhar	<i>[Signature]</i>	11/82
EDITED	Padnavati, V	<i>[Signature]</i>	11/82
	NAME	SIGNATURE	DATE

Ordnance Factory Project
Hyderabad.

APPROVED
G. JHA

[Signature]

Automobile Speedometers
with Electric Drive.

GOST

12936 - 82

General Technical specifications

Superseds GOST

OKn 457381

12936 - 67

The present standard relates to automobile speedometers (here in after referred to as speedometers) with electric drive and getting supply from vehicle mains, which consist of transducer and detector unit intended for measuring the speed of movement and also the distance covered.

1. Technical Requirements.

- 1.1. Speedometers must be manufactured in compliance with the requirements of the present standard, GOST 3940 - 71, as per technical specifications extended to particular type of speedometers and also working drawings approved in the established manner. External appearance of speedometers must ~~keep~~ comply with the model approved in the established manner.
- 1.2. Speedometers should be manufactured to work at rated D C voltage 12 or 24 v.
- 1.3. Range for measuring the speed of speedometers should be (selected from the following series: 80, 100, 120, 140, 160, 180, km/h).
- 1.4. Speedometer should be manufactured with summing-up counter for covered distance, capacity of which should be 99999.9 km. The readings of summing-up counter of speedometer manufactured by manufacturing factory should not exceed 15 km.
- 1.5. Transmission ratio of speedometer mechanism with respect to drive shaft should be 624:1
- 1.6. Torque required for putting the transducer shaft into action should not exceed 0.06 N.m (0.6 kgf.cm)

- 1.7. At constant angular velocity of speedmeter drive, the velocity reading pointer, at velocity exceeding 20 km/h, should not have fluctuations above $\pm 2\%$ of the measuring range.
- 1.8. Depending on the numerical marking of the scale to be checked, the basic error in counting the readings of speed indicator of speedometer at ambient temperature $(20 \pm 5)^\circ\text{C}$ should not exceed the value specified in the Table .1 .

Table - 1

km/h	
Numerical marking of scale	Basic error
Upto 60 (inclusively)	+ 4
80 + n 20 n = 0,1,2,3	+ (5+n)

- 1.9. Additional error of velocity indicator of the speedometer in the range of temperature from minus 20 to plus 40°C should not exceed $\pm 2\%$ of value of the velocity measured at $(20 \pm 5)^\circ\text{C}$, at each 10°C change of ambient temperature.
- 1.10. Speedometers should be manufactured as per climatic modification of GOST 3948 - 71.
- 1.11. Speedometers should be ~~serviceable~~ ^{serviceable} within the ambient temperature specified below :
 From minus 50 to plus 60°C - for detector unit, design yx1
 From minus 20 to plus 60°C - for detector unit, design T,
 from minus 50 to plus 30°C - for transducer, design yx1,
 from minus 20 to plus 30°C - for transducer, design T.
 for speedometers of climatic modification C, the

units of ambient temperature should be agreed upon with the ~~upon with the~~ customer.

- 1.12. Speedometers of design T and ~~and~~ must be serviceable at the effects of maximum relative humidity 98-3% at temperature $(35 \pm 3)^{\circ}\text{C}$, for design y and ~~x1~~ at the effects of maximum relative humidity 98-3% and temperature $(25 \pm 3)^{\circ}\text{C}$.
- 1.13. Speedometers must be serviceable after being in nonworking condition at ambient temperature: minus $60 \pm 3^{\circ}\text{C}$ for design ~~x1~~ and 0 and for y and T design, minus $45 \pm 3^{\circ}\text{C}$.
- 1.14. Speedometers must be vibration resistant at ~~xx~~ vibrations with frequency (50 ± 2) Hz and maximum acceleration 5 for detector units and 10 g for transducer.
- 1.15. Speedometers must be impact resistant at impact loads, with a frequency of 30 to 120 impacts per min. with acceleration of:
10 g - for detector units and 15 g for transducers.
Error of acceleration of vibrations and impacts may be $\pm 20\%$
- 1.16. Speedometers must be protected from dust and water as per GOST 14254 - 31 :
1 P5x - for detector unit
1 px7 - for transducer while ~~xxxxx~~ sealing the exit of automobile driveshaft.
- Remarks: Requirements of this clause do not pertain to detector units which are designed without body.
- 1.17. Glass as per GOST 10953-73 (or any other transparent material,) protecting the reading device of a detector unit, should be free from faults effecting the reading.

- 1.18. Parts of the speedometer should be protected from corrosion as per GOST 3940 - 71. Type of varnish paint coating should be as per GOST 9352_74. Adhesion of varnish paint coating to the surfaces of external face parts should not be below 2 points as per GOST 15140 - 73.
- 1.19. Operating life of speedometer should correspond to the mileage till the first over hauling of automobile on which it is installed.
- 1.20. Speedometer design itself should allow setting of cap screws, plug connections, and transducer with gear box.

The design of speedometer body of heavy automobile (excluding those speedometers which are without body) should be nonseparable while in operation condition.

Transducers and detector units of one type should be interchangeable.

2. ACCEPTANCE RULES.

- 2.1. Acceptance rules pertaining to speedometers should comply with GOST 3940 - 71 and present standard:
- 2.2. To check the speedometer for conformity with the requirements of present standard, state, acceptance, periodical and inspection tests and reliability should be carried out.
- 2.3. The procedure of conducting state tests should be as per GOST - 5.1.1 - 80.
- 2.4. During acceptance tests, each speedometer should be checked for conformity with the requirements of sub-clause 1.1. (appearance), 1.3, 1.4, 1.5, 1.17, and 4.1. 2% of speedometers from the batch but not less than 5 in number should be checked for conformity with overall dimensions.

2.5. At least 6 samples of speedometers base model should be taken from those which have undergone acceptance tests and then subjected to periodical tests to check for conformity with the requirement of clauses 1.1, 1.3, 1.4, 1.6 to 1.8 and 1.17 and also with electric insulation strength and change of supply voltage (GOST 3940 - 71), from these 6 samples 3 should be subjected to further tests so as to check for compliance with sub clauses 1.9, 1.11, to 1.13, 1.16 and the remaining 3 for compliance with subclauses 1.14 and 1.15.

Parts of speedometers selected from the production line (3 pcs of each nomenclature) should be checked for compliance with the requirements of clause 1.18.

Periodical tests should be conducted at least once in a year.

2.6. Speedometers are checked for compliance with the requirements of clause 1.19 during inspection tests on reliability (Operation life tests) which are conducted not less than once in three years. During tests, the number of samples should be indicated in the technical specifications for particular type of speedometers.

2.7. The consumer has right to check speedometers at random as per acceptance test programme, excluding the checking of subclauses 1.1 (appearance), 1.3, 1.4, and 1.17, which should be performed by complete control.

Maximum 200 speedometers should be subjected to random inspection. To this end 5 % of speedometers from a batch but at least 3 pcs. should be selected.

3. METHODS OF TESTING.

3.1. Test methods should be as per GOST 3940 - 71 and present standard.

3.2. External appearance of speedometers should be checked visually without using optical devices. The contents

and quality of marking should be set while checking the external appearance. The serviceability of summing up counter (meter) should be checked while assembling speedometers.

- 3.3. Torque (clause 1.6) should be determined at ambient temperature $(20 \pm 5)^{\circ}\text{C}$ by devices with error $\pm 0.002 \text{ N.m}$ (20 g.cm).
- 3.4. Moisture proof test (clause 1.127) of speedometers should be conducted as per GOST 3940-71.
- 3.5. Basic error (clause 1.8) should be determined at increasing speed by using synchronized equipments which are having stepwise speed reading system or by equipments with gradual speed changing system using frequency meter or checking device. In this case checking should be carried out by placing the scale to horizontal ~~axis~~ base to an angle equal to 70° to, 90° .

Error of the synchronized equipments or the checking devices should be 4 times lesser than the basic error of speedometers to be checked. Readings should be carried out by lightly tapping the speedometers or during the effects of vibrations with an acceleration of 0.15 to 0.3 gm. and at frequency of $50 \pm 2 \text{ Hz}$. After checking, the speed indicator (Pointer of speedometer should come back to its initial position and should not go beyond the limits of origin-making in the formation of clearance.

Basic error should be determined on digitized marks of the speedometer scale upto 80 km/hr inclusively. Speedometers should be checked at higher speeds if consumer requires so.

Basic error is not to be checked upto the first marking - inclusively.

3.6. Additional temperature error (cl. 1.9) should be determined by comparing the readings taken after holding the indicators in nonoperation condition for 1hr. at a temperature of minus $(20 \pm 3)^{\circ}\text{C}$ or at a temperature of plus $40 \pm 3^{\circ}\text{C}$ with the readings taken before the test at a temperature of $20 \pm 5^{\circ}\text{C}$ on the digital marks which is in the middle part of the scale.

After holding the indicators in heating and cooling chambers, readings should be taken either when the indicators are inside the chamber or within 5 min. after removing from there.

3.7. The effects of increased or decreased temperature (~~xxx~~ clause 1.11) should be determined by holding the non operating speedometers for 3 hrs at temperatures specified in clause 1.11. After which when the speedometers are placed in cooling chamber or 5 min. after their removal from the chamber, they should come into operation mode by gradually changing the readings of speed from zero to the middle part of the scale not later than three min. after switching them to rated voltage. After removing from heating chamber, the speedometers must come into operation mode, immediately after getting switched to rated voltage. In this case speedometers should perform their functions without changing the standardized parameters. Basic error after bringing the temperature of speedometers to $20 \pm 5^{\circ}\text{C}$, should comply with the value specified in cl. 1.8.

3.8. To check the effects of decreased temperature on serviceability (clause 1.13), of speedometers, they should be placed in cooling chamber where the temperature is set as per clause 1.13. They should be held in ~~xxxx~~ this chamber for 3 hrs. without load.

Serviceability of speedometers should be checked after removing from the cooling chamber and when the temperature is brought to $20 \pm 5^{\circ}\text{C}$. In this case error must comply with the measurement values specified in cl. 1.8.

114/110

3.9. Vibration strength (clause 1.14) and impact strength (clause 1.15) tests should be carried out as follows:

- One ~~by~~ by one in three mutually perpendicular directions on vibration stand generating harmonic sinusoidal vibrations in vertical direction. Duration of the tests is 2 hrs, 40 min in each direction;

- On impact stand with vertical impacts. The position of scale surface should be vertical while conducting impact strength test. Number of impacts is 10000.

detector units

The ~~indicators~~ and the transducers should be tightly fastened on the table of test stand.

The indicators should be tested in operating condition with number of rotations providing positioning of the reading pointer in the middle part of scale.

Transducers are tested in non-working condition by setting the drive shaft in horizontal position.

After conducting vibration strength and impact strength tests, the speedometers should not have mechanical damages. Error of speedometers should not exceed 1.5 fold value of the basic error.

3.10. Dust proof and water-proof tests (clause 1.16) should be conducted as follows:

Dust-proof - as per GOST 3940-71;

water-proof - as per the following procedure.

For testing, the transducer should be immersed in water heated upto a temperature of $(65 \pm 5)^{\circ}\text{C}$ and should be kept for 1 min. while doing so, intensive discharge of air bubbles from transducer should not be observed. Appearance of 10 bubbles max during the checking time. ~~7 is allowed.~~

While conducting water - proof test, the hole of outlet shaft of transducer should be closed with a plug.

Dust proof test on the indicators should be carried out by placing lamp holder inside the hole for panel light.

After dust - proof test, the error of speedometer readings should comply with the one, specified in clause 1.8.

3.11. Test protection of parts of speedometer (clause 1.18) from corrosion should be carried out as per GOST 9.302 - 79. Adhesion of vernish paint coating in points should be evaluated by the method of mesh type cutting as per GOST 15140 - 78.

3.12. Operation life of speedometers (clause 1.19) should be checked in operation conditions or on stand with confidence level $P^* = 0.8$ as per the quick method approved in the established manner. Results should be evaluated as per the first category of operation conditions for central climatic zone in the areas with temperate climate, GOST 16350 - 80. After the tests, speedometers should conform to the requirements of cl. 1.9 and 1.16.

While conducting reliability test after the guarantee period, as well as after 3 years of operation or storage, increase in basic error should not exceed the value specified in the Table .2

Table - 2

Scale marking	Increase in basic error
Upto 60 inclusively	+ 2 - 1

80 + n 20	+ (2+0,5.n)
n = 0,1,2,3. . . .	- 1

76/110

4. MARKING, PACKING, TRANSPORTATION AND STORAGE.

- 4.1. Each speedometer should be inscribed with on them;
- trade mark of manufacturing factory;
 - conventional abbreviated designation of speedometer (indicator and transducer);
 - year and month of manufacturing (conventional designation may be inscribed);
 - Designation of the present standard.

Marking may differ from the above indicated one if consumer agrees. Place, dimensions and method of marking should be indicated on working drawings and it should be preserved for the entire service life of the speedometer.

- 4.2. Each detector unit should be wrapped in moisture proof paper as per GOST 515 - 77 and placed in individual box. Transducers in few numbers should be placed in card board box.

Detector units and transducers in card board boxes should be packed in wooden boxes as per GOST 16536 - 78 or other container. The wooden box should be covered from inside with moisture proof paper.

While shifting speedometers in containers or in vans, boxes with detector units should be packed in corrugated board box as per GOST 9142 - 77 and transducers in common card board box.

The method of placing the boxes in containers or vans should exclude the possibility of their displacement during transportation.

- 4.3. The gross weight of the box with speedometers should not exceed 50 kg.
- 4.4. Manipulating signs or inscriptions as per GOST 14192-77 should be marked on each box with durable paint.
- 4.5. Accompanying certificate indicating name or trade mark of manufacturing factory, abbreviated conventional

designation of detector unit and transducers of speedometer, number of packed speedometers designation of the present standard, packer's Number, Packing date, TID stamp.

- 4.6. Conditions of preserving the speedometers in packing should be as per GOST 15150 - 69.

Speedometers should not be stored in a place along with the things which cause corrosion.

- 4.7. The speedometers may be transported by any means of closed transport as per the governing rules for the corresponding type of transport.

Transportation conditions for speedometers should be C as per GOST 15150 - 69.

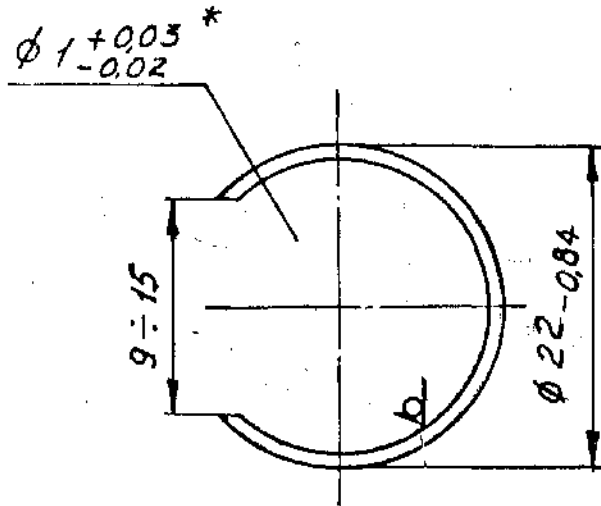
5. MANUFACTURER'S GUARANTEE.

- 5.1. The manufacturer guarantees conformity of the speedometers with the requirements of the present standard provided transportation, storage and operation, conditions are observed.

- 5.2. Guarantee period of speedometer operation should be equal to the guarantee period of automobile operation for which it is designed.

DRAWING NUMBER

M29 105



- 1. Subject to normalizing.
- 2. Coating : cd 9, Chromotizing.
- 3. * Dimensions for reference.

EXPLANATORY NOTE:-

4. CARBON STEEL COLD DRAWN SPRING WIRE 1 mm DIA TOLLRANCE +0.03
(NORMAL ACCURACY) II CATEGORY TO GOST 9389-75 -0.02

a) CHEMICAL COMPOSITION, IN %

Gde OF STEEL	C	Mn	Si	S	P	MAXIMUM		
						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 0.70	0.17 0.37	0.030	0.020	0.05	0.05	0.04

b) MECHANICAL PROPERTIES:-

WIRE DIA	TENSILE STRENGTH Kgf/mm ²	No. OF BENDS MIN	No. OF TWISTS MIN
1 mm	210 - 250	10	17

A2
12

44515KPa

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

EST. MASS: 0.4g
TO BE STAMPED OR MARKED WHERE INDICATED THIS # (LETTERS)

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

ISSUE	DATE	NATURE OF AIK

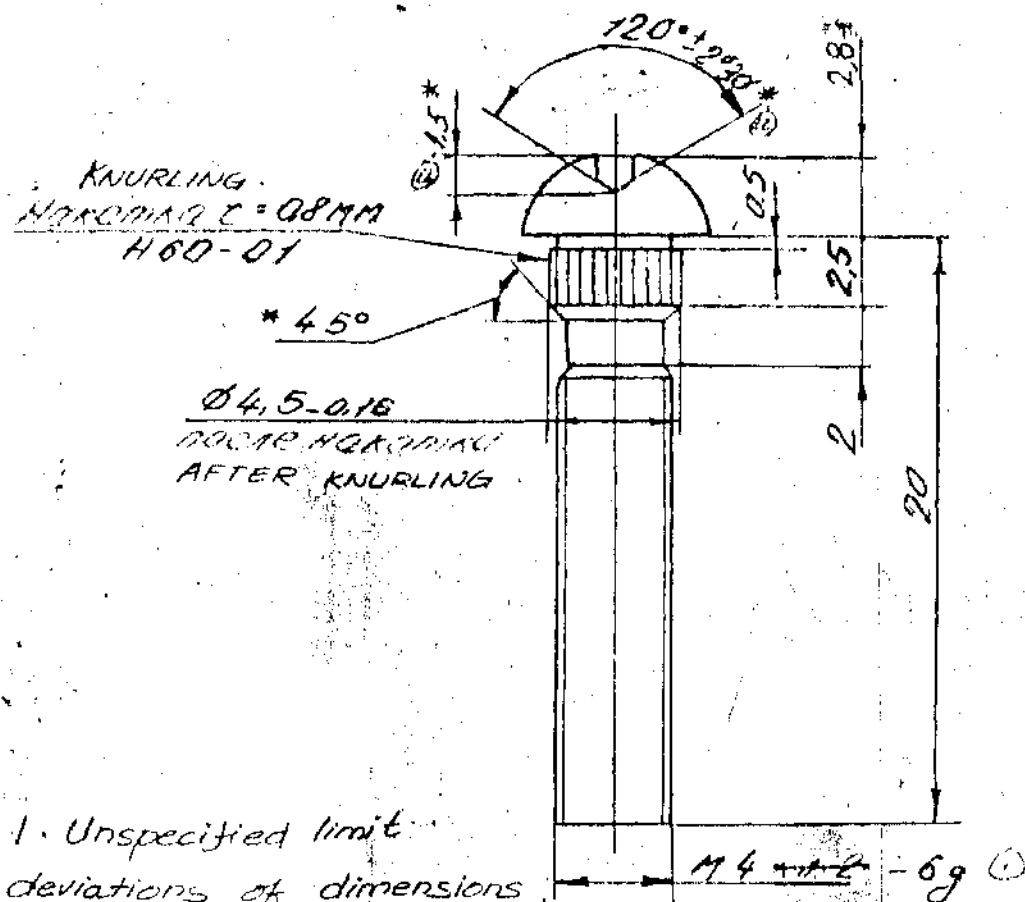
MATERIAL - WIRE II-1, GOST 9389-75		
ALL SHARP EDGES & CORNERS TO BE ROUNDED BY	ALL THREADS TO CONFORM TO SPECIFICATION	STAMP OR ETCH, PART NO. MANUFACTURERS NAME & YEAR OF MFR.
DRG. NOT TO BE SCALED	TOLERANCE ON DIMENSIONS UNLE -SS OTHERWISE SPECIFIED	USED ON:- M2300 40005 M23015 21045
SCALE :- 2:1		
DATE :- 22-7-97		
DRN. [Signature]	WT :- (Kg)	
TCD. [Signature]		
CHD.		
APD. [Signature]		
		M29 105
		LOCK RING

CONTROLLERATE OF QUALITY ASSURANCE
(INFANTRY COMBAT VEHICLES)

78/110

DRAWING NUMBER

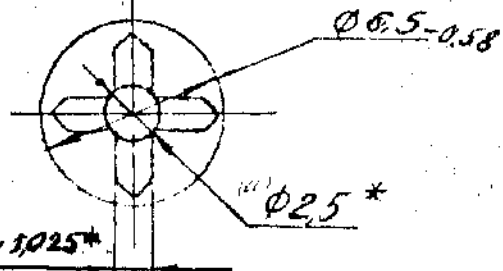
MЭ 29-113



1. Unspecified limit deviations of dimensions ±7 class of accuracy.

2* Dimensions are ensured by tool.

3. To be Pickled.



EXPLANATORY NOTE:-

4. REFERENCE MATERIAL QUOTED: BRASS WIRE DIA. 4.0mm GRADE Л 63, MANUFACTURED BY COLD UPSETTING OF GOST 12920-67.

A2
32

44515 KA

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

EST. MASS 2g	TO BE STAMPED OR MARKED WHERE INDICATED THUS # (LETTERS)
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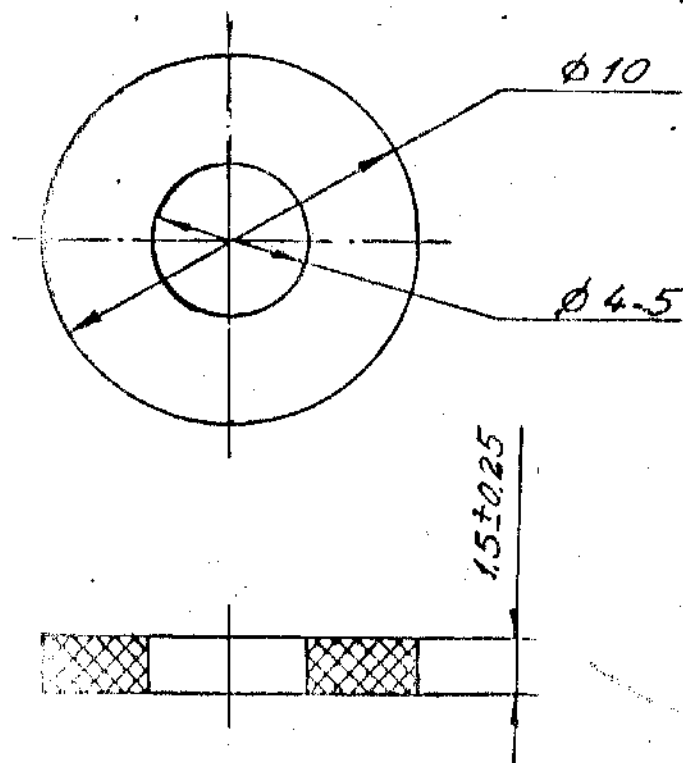
ALL SHARP EDGES AND CORNERS TO BE REMOVED UNLESS OTHERWISE STATED MACHINED CORNERS TO HAVE R OUTSIDE R INSIDE EQUIVALENT CHAMFERS ARE PERMISSIBLE

ISSUE	DATE	NATURE OF

MATERIAL :- WIRE Л 63-4 GOST 12920-67.		
ALL SHARP EDGES & CORNERS TO BE ROUNDED OFF	ALL THREADS TO CONFORM TO SPECIFICATION	STAMP OR ETCH, PART NO. MANUFACTURERS NAME & YEAR OF MFR.
DRG. NOT TO BE SCALED	TOLERANCE ON DIMENSIONS UNLESS OTHERWISE SPECIFIED	USED ON:-
SCALE :- 4:1	WT :- (Kg)	MЭ 29-113
DATE :- 22-7-97.		CONTACT SCREW
DRN. <i>[Signature]</i>		
TCD. <i>[Signature]</i>		
CMD. <i>[Signature]</i>		
APD. <i>[Signature]</i>		

CONTROLLERATE OF QUALITY ASSURANCE
(INFANTRY COMBAT VEHICLES)

101/110



1. Unspecified limit deviations of female dimensions are according to A7, those of male dimensions by A7.

EXPLANATORY NOTE:-

2. REFERENCE MATERIAL QUOTED: ELECTRICAL INSULATION GLASS TEXTOLITE SHEET GRADE CTЭ ϕ -I TO GOST. 12652-74

PARAMETERS

- DENSITY g/cm² ----- 1.60 TO 1.70
- RESISTANCE TO SHORT DURATION HEATING ----- 200°C (MIN)
- RESISTANCE ACTION OF OIL (TRANSFORMER OIL) --- 4 Hrs 130°C (MIN)
- WATER ABSORPTION ----- 1° (MAX)
- SURFACE RESISTIVITY ohms 1×10^3 (MIN) OF RELATIVE HUMIDITY 45 TO 75° AND TEMPERATURE 15 TO 35°C.
 1×10^{12} AFTER SOAKING FOR 24 HOURS IN A HUMIDITY CHAMBER AT RELATIVE HUMIDITY OF $95 \pm 2\%$ AND $20 \pm 2^\circ\text{C}$.
- VOLUME RESISTIVITY ohm cm (MIN).
 1×10^3 AT A RELATIVE HUMIDITY OF 45 TO 75% AND 15 TO 35°C.
 1×10^{12} AFTER SOAKING FOR 24 HOURS IN A HUMIDITY CHAMBER AT RELATIVE HUMIDITY $95 \pm 2\%$ AND $20 \pm 2^\circ\text{C}$.
- DISSIPATION FACTOR AT 50HZ RELATIVE HUMIDITY 45 TO 75% AND 15 TO 35°C MAX. 0.03.
- DIELECTRIC STRENGTH PERPENDICULAR TO THE LAYERS AT 50HZ IN TRANSFORMER OIL AT $90 \pm 2^\circ\text{C}$ (MIN) 27 KV. eff/mm.

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

EST. MASS 0.12 g TO BE STAMPED OR MARKED WHERE INDICATED (THUS THE LETTERS)

ALL SHARP EDGES AND CORNERS TO BE REMOVED UNLESS OTHERWISE STATED MACHINED CORNERS TO HAVE R OUTSIDE R INSIDE EQUIVALENT CHAMBERS ARE PERMISSIBLE

ISSUE	DATE	NATURE OF AMEND

MATERIAL :- GLASS CLOTH BASE LAMINATE CTЭ ϕ I-1.5, GOST 12652-74		
ALL SHARP EDGES & CORNERS TO BE ROUNDED OFF	ALL THREADS TO CONFORM TO SPECIFICATION	STAMP OR ETCH, PART NO. MANUFACTURERS NAME & YEAR OF MFR.
DRG. NOT TO BE SCALED	TOLERANCE ON DIMENSIONS UNLESS OTHERWISE SPECIFIED	USED ON:- MЭ 3016 200CB CН110 380 2010CB
SCALE :- 5:1	WT :- (Kg)	MЭ 29 - 115
DATE :- 22-7-97	DRN. <i>[Signature]</i>	WASHER
TCD. <i>[Signature]</i>	CHD. <i>[Signature]</i>	
APD. <i>[Signature]</i>		

CONTROLLERATE OF QUALITY ASSURANCE (INFANTRY COMBAT VEHICLES)

67/110°

A2/33

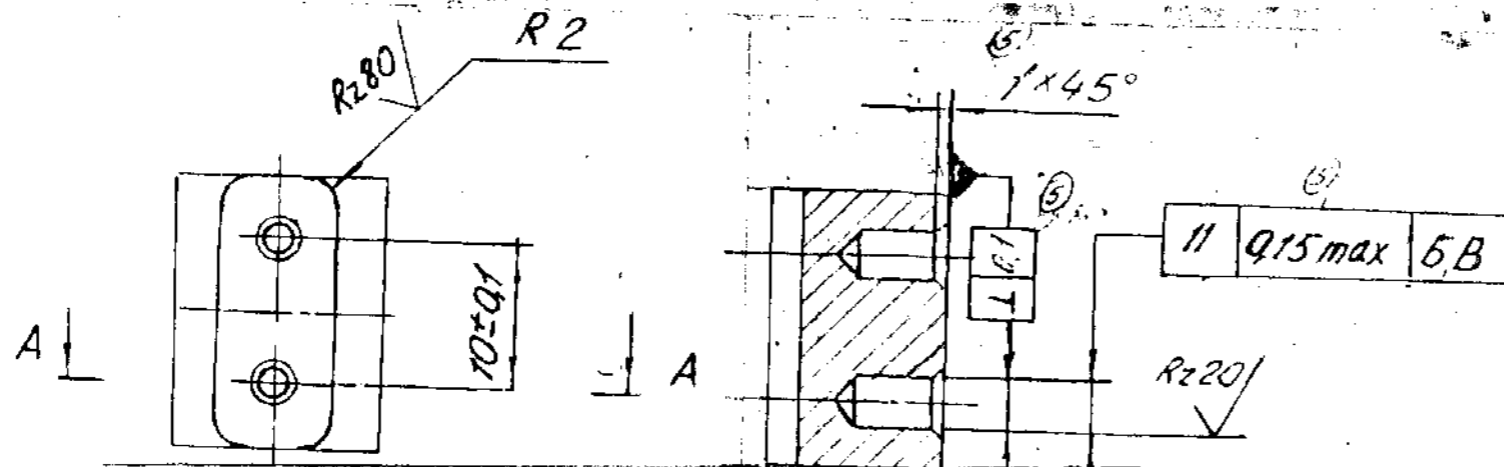
4-4515KPA

ZE A3.

DRAWING NUMBER

M3 304 201

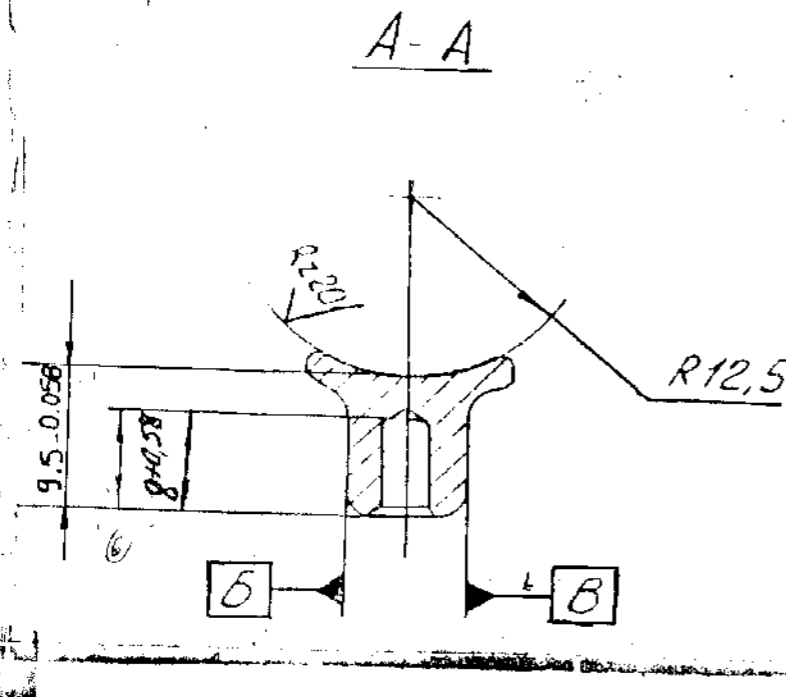
✓(✓)



1. UNSPECIFIED LIMIT DEVIATIONS OF DIMENSIONS FOR:
HOLES - AS PER A7 SHAFTS-AS PER B7.
OTHERS - AS PER CM7.
2. BURRS ARE NOT ALLOWED.

EXPLANATORY NOTE :-

FOLLOW SPECIFICATIONS.
SEE BLANK DRG. No. 8 P P 637 242.



DESIGNATION	COATING
M3 304 201 -1	GREY ENAMEL Γ#92ΓC GOST 9151-75.

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

EST. MASS. 10g 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.

ISSUE	DATE	NATURE

MATERIAL :- BLANK 8 P P 37242		
ALL SHARP EDGES & CORNERS TO BE ROUNDED OFF	ALL THREADS TO CONFORM TO SPECIFICATION	STAMP OR ETCH, PART NO. MANUFACTURERS NAME & YEAR OF MFR.
DRG. NOT TO BE SCALED	TOLERANCE ON DIMENSIONS UNLESS OTHERWISE SPECIFIED	USED ON:-
SCALE :- 2:1		C П 106 500 C5
DATE :- 22-7-97	WT :- (Kg)	M3 304 201
DRN. <i>Danz</i>		POLE
TCD. <i>Danz</i>		
CHD.		
APD. <i>Danz</i>		

CONTROLLERATE OF QUALITY ASSURANCE
(INFANTRY COMBAT VEHICLES)

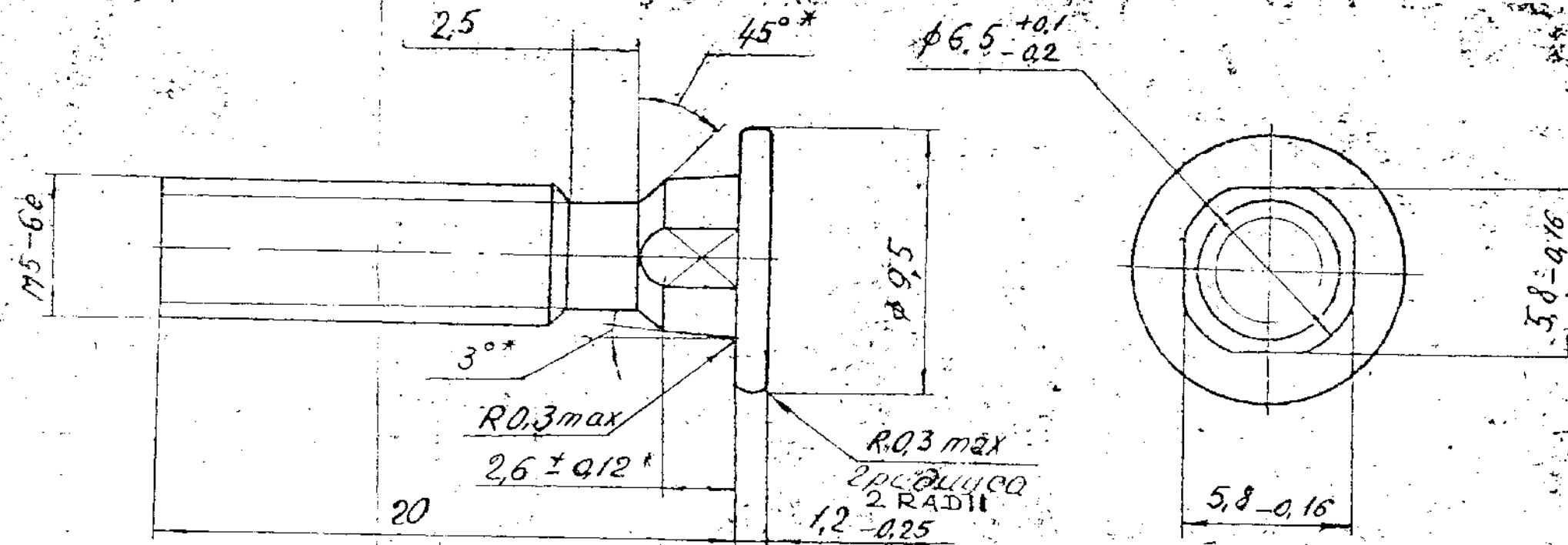
100/110

A1/75

44515K3

SIZE A3

DRAWING NUMBER
C4 1 - 27



EXPLANATORY NOTE :-

5. REFERENCE MATERIAL QUOTED:- COLD UPSETTING CARBON STEEL
WIRE DIA 4.5mm TO TY 14-4-711-75. MANUFACTURED FROM GRADE
08Kn TO GOST 1050-74.

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

Gde. OF STEEL	CONTENT OF ELEMENTS IN %						
	C	Si	Mn	Cr	Ni	S	P
08Kn	0.05-0.11	0.03 Max.	0.25-0.50	0.10	0.25	0.04	0.035

b) MECHANICAL PROPERTIES AS PER TY 14-4-711-75

Gde. OF STEEL	U T S	RELATIVE ELONGATION %
	Kgf/mm ²	
08Kn	33 - 55	33

CODE 100 ②	DESIGNATION Обозначение	MATERIAL Материал	COATING Покрытие	MASS Масса
45 7388 1094	C4 1-27	WIRE Проволока Х-4.5-08Kn TY 14-4-711-75	④ 4.6xp Zn6 CHROMATIZING	31
45 7388 1355	C4 1-27-TC	WIRE Проволока А 6.5-4.5 GOST 12920-67	④ 4.6 Ni 6	346
45 7388 1095	C4 1-27-3	WIRE Проволока Х-4.5-08Kn TY 14-4-711-75	④ 4.6xp Cd 6, CHROMATIZING	31

- * DIMENSIONS ARE ENSURED BY TOOL.
- UNSPECIFIED LIMIT DEVIATIONS OF DIMENSIONS -AS PER CM9.
- UNSPECIFIED LIMIT DEVIATIONS OF ANGULAR DIMENSIONS - ±1°.
- SCREWS OF MAKES C41-27 AND C41-27Э SHOULD BE ANNEALED.

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

EST. MASS. 3.1g 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

MATERIAL :- WIRE H-4.5-08Kn TY 14-4-711-75		
ALL SHARP EDGES & CORNERS TO BE ROUNDED OFF	ALL THREADS TO CONFORM TO SPECIFICATION	STAMP OR ETCH, PART NO. MANUFACTURERS NAME & YEAR OF MFR.
DRG. NOT TO BE SCALED	SCALE :- 5:1	TOLERANCE ON DIMENSIONS UNLESS OTHERWISE SPECIFIED
DATE :- 22-7-97	DRN. TO: [Signature]	WT :- (Kg)
CHD. [Signature]	APD. [Signature]	C41-27
CONTROLLERATE OF QUALITY ASSURANCE (INFANTRY COMBAT VEHICLES)		SCREW

109/100