

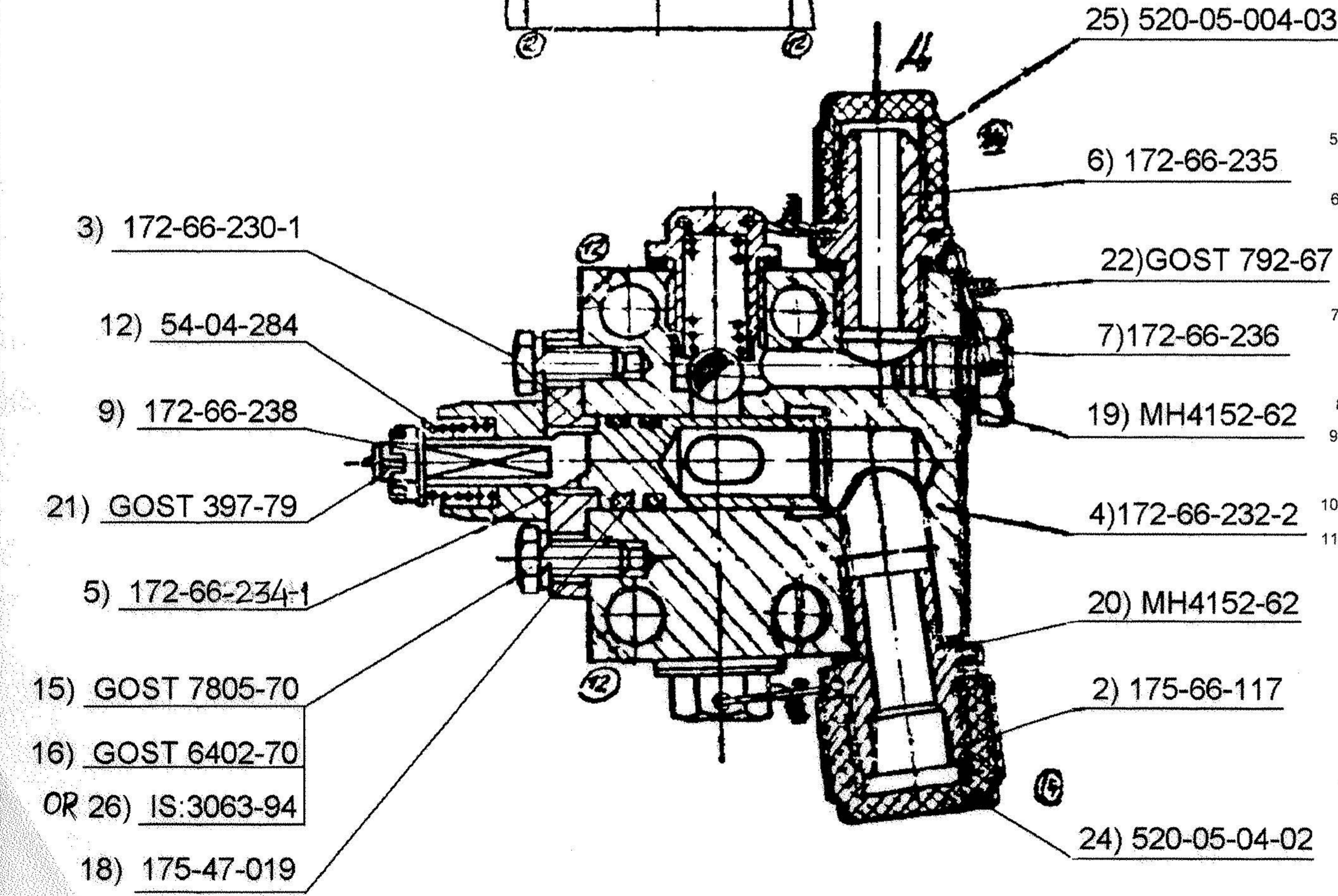
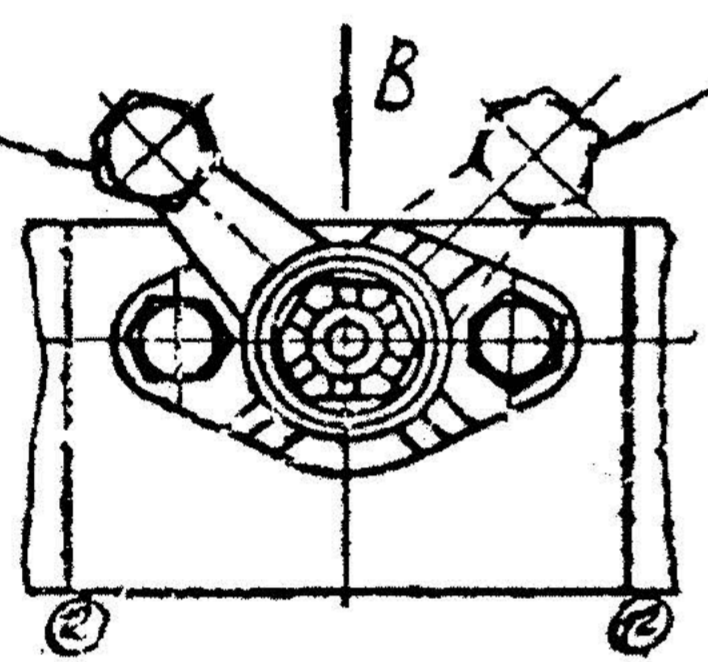
POSITION OF RETAINER WITH ENGINE STARTED BY STARTER GENERATOR

Положение фиксатора соответствует заводке стартером

VIEW B Вид Б

POSITION OF RETAINER WITH ENGINE STARTED BY TOWING

Положение фиксатора соответствует от заводке с буксира



- BEFORE ASSEMBLING, INNER SURFACES OF THE BODY AND THE WORKING SURFACES OF ALL COMPONENTS ARE TO BE WASHED WITH PETROL 5 TO 70 TY 38-101913-82 OR NEPHARS C2-80 \120 OR C3-80\120 GOST 443-76 OR GASOLINE OR DEHYDRATED KEROSENE, BELOWN WITH COMPRESSED AIR AND LUBRICATED WITH A THIN COAT OF OIL WHICH IS USED FOR THE GEAR BOX.
- SLIDE VALVE SHOULD EASILY TURN IN ITS SEAT WITHOUT JAMMING AND SEIZING.
- SLIDE VALVE 5 IS TO BE INSTALLED SO THAT HOLE 13A7x 8A5 IN SLIDE VALVE COINCIDES WITH THE BODY HOLE COMING OUT ON SURFACE "Г". IN THIS CASE, THE PIN OF THE RETAINER FITTED ON THE SQUARE END OF THE SLIDE VALVE SHOULD BE OPPOSITE TO LETTERS "SG" STAMPED ON THE BODY.
- BEFORE INSTALLING RETAINER 1, APPLY A THIN COAT OF LUBRICANT YCCA GOST 3333-55 OR COMPOUND CONSISTING OF 35 % OF GRAPHITE "П" GOST 8295-57 OR GRAPHITE GOST 4596-49 AND 65 % OF CUP GREASE "С" GOST 4366-64 TO THE FACES OF THE SQUARE END OF SLIDE VALVE 5 AND TO THE SLOTS OF COVER 3.
- AFTER THE FINAL ASSEMBLY, THE DISTRBUTING COCK IS TO BE CHECKED FOR EASE OF SWITCHING FROM POSITION "SG" TO POSITION "SBT" BACKWARDS.
- THE RELIEF VALVE (SEE SPRING 11) SHOULD BE OPEN AT A PRESSURE OF 6+0.5 Kgf /cm² (TO BE ADJUSTED WITH WASHERS 17); IN THIS CASE THE RETAINER SHOULD BE IN POSITION "SG". AT A PRESSURE OF 2 TO 3 Kgf/cm² LEAKAGE OF OIL THROUGH THE BALL MAY NOT EXCEED 300 cm³ /min.
- WHEN OIL IS APPLIED ALONG ARROW "Д" AT A PRESSURE OF 15 TO 16 Kgf /cm² AND THE RETAINER IS IN POSITION. LEAKAGE THROUGH THE REVERSE VALVE (SEE SPRING 13) MAY NOT EXCEED 300 cm³ /min.
- IT IS ALLOWED TO SUBJECT THE COCK TO A PRESSURE TEST WITH DIESEL FUEL.
- LETTERS ON THE BODY ARE TO BE PAINTED WITH RED ENAMEL П0-115 OR П0-223 REQUIREMENTS AS PER 520 TY5.
- THE PLUGS AND STOPPER SCREWS ARE TO BE TIED CUP IN PAIRS BY WIRE.
- WHILE CHECKING AS PER THE POINTS 6 & 7 EXTERNAL LEAKAGE IS NOT ALLOWED. IN THIS CASE HOLDING TIME OF SPECIFIED PRESSURE SHOULD BE MINIMUM 3 MINUTES.

NO.	QTY.	DRAWING NO.	DRG. SIZE	DESCRIPTION	ORIGINAL MATL.	ALT. MATL.	REMARKS
25	1	520-05-004-03	A3	PLUG	POLYETHYLENE 181 1st QLT.Y. GOST 16337-77		
24	1	520-05-004-02	A3	PLUG	POLYETHYLENE 209 1st QLT.Y. GOST 16338-85		
23	1	172-66-330	A3	RETAINER ALTERNATIVE TO ITEM NO.1	STEEL 40 П1 GOST 977-75		
22	3	GOST 792-67	A3	WIRE KO 1.2 - 1.6 x 100	STEEL 15 GOST 1050-60		
21	1	GOST 397-79	A3	SPLIT PIN 2 x 20-016	STEEL 20 GOST 1050-74		
20	4	MH 4152-62	A3	RING 16 x 20	SOFT COPPER BAND GRADE 'M3' GOST 859-78		
19	1	MH 4152-62	A3	RING 10 x 16	SOFT COPPER BAND GRADE 'M3' GOST 859-78		
18	2	175-47-019	A3	SEALING RING	RUBBER UPP-1078 TY 005 216 - 75		
17	-	GOST 11371-68	A3	WASHER 0 5.01.016	STEEL 10K П GOST 1050-74		
16	2	GOST 6402-70	A3	SPRING WASHER 6T- 65Г- 01-6	STEEL 65Г GOST 14959-79		
15	2	GOST 7805-70	A3	HEXAGON BOLT M6-6g x 14.66.016	STEEL 20 GOST 1050-74		
14	2	GOST 3722-81	A3	BALL 5 10.319 - 100	WХ15 GOST 801-78		
13	1	54-58-058	A3	SPRING	WIRE II-0.8 GOST 9389-75		
12	1	54-04-284	A3	SPRING	WIRE III-0.8 GOST 9389-75		
11	1	432-40-235-1	A3	SPRING	WIRE POLISHED 51XΦA П-ХН-1.2 GOST 14963-78		
10	1	172-66-242A	A3	PLUG	STEEL 38XC GOST 4543-71		
9	1	172-66-238	A3	NUT	OPEN HEARTH STEEL 15 GOST 1050-60		
8	1	172-66-237	A3	PLUG	STEEL 38XC GOST 4543-71		
7	1	172-66-236	A3	PLUG	OPEN HEARTH STEEL 40 GOST 1050-60		
6	1	172-66-235	A3	SCREW STOPPER	STEEL 38XC GOST 4543-71		
5	1	172-66-234-1	A3	VALVE, SLIDE	STEEL 20X2 GOST 4543-71		
4	1	172-66-232-2	A1	CASING	CASTING CY 15 GOST 1412-79		
3	1	172-66-230-1	A3	COVER	STEEL 30XTC A-3 GOST 11269-76		
2	1	175-66-117	A3	SCREW STOPPER	STEEL 38XC GOST 4543-71		
1	1	172-66-115CD-1/14	A4	RETAINER ASSY			

EST.MASS 1.12 kg.

P.NO.	QTY.	DRAWING NO.	DRG. SIZE	DESCRIPTION	ORIGINAL	REMARKS.
2	1	172-66-267	A3	PIN	STEEL 38XC GOST 4543-71	REFER DRG. NO. 172-66-115 CD-1
1	1	172-66-233-3	A3	RETAINER	STEEL 40 П1 GOST 977-75	

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NOTE:-Drg.no.172-66-101CD-1 was amended on 15/12/2016 as 172-66-101CB-1.

COCK DISTRIBUTING ASSY. INTERMEDIATE GEAR BOX CODE - 45 / T - 72

मशीन औजार आदिस्प फैक्टरी, अम्बरनाथ
MACHINE TOOL PROTOTYPE FACTORY, AMBERNATH

2007

172-66-101CB-1

This dwg. has been prepared based on AHSR dwg.

172 45 060 56 06

1 / L SEPARATELY CREATED BASED ON RUSSIAN ORIGINAL ISSUE - 14

175 47 05-1

ITEM	DRAWING NUMBER	D S CAT NUMBER	DESCRIPTION	OFF	REMARKS
	172 66 101 CB-1		COCK DISTRIBUTING ASSY.		
1	172 66 115 CB-1		RETAINER ASSY.	1	ALTERNATIVE TO ITEM 23
2	175 66 117		SCREW STOPPER	1	
3	172 66 230-1		COVER	1	
4	172 66 232-2		BODY	1	
5	172 66 234-1		VALVE, SLIDE	1	
6	172 66 235		SCREW STOPPER	1	
7	172 66 236		PLUG	1	
8	172 66 237		PLUG	1	
9	172 66 238		NUT	1	
10	172 66 242A		PLUG	1	
11	432 40 235-1		SPRING	1	
12	54 04 284		SPRING	1	
13	54 58 058		SPRING	1	
14	GOST 3722-68		BALL 5 II 10.319mm H	2	
15	GOST. 7805-70		BOLT M6-6g X 14.66.016	2	
16	GOST 6402-70		WASHER 665F016-6T65F016	2	ALTERNATE TO ITEM 26
17	GOST 11371-68		WASHER 5. 01. 016	AS REQUIRED	
18	175 47 019		RING	2	

15

20/16

MAINTENANCE COPY

20A	24.12.99	N OFA (RAGH)/63/003/SPECN.
20	19.9.91	Drawing Amended.
19	2.9.89	DRG. AMENDED.
17,18	26.12.88	DRG. AMENDED.
15,16	26.12.88	AMDT. LIST No. 6/II BOOK-9.

ISSUE	DATE	NATURE OF AMENDMENTS	ISSUE	DATE	NATURE OF AMENDMENTS
DRM		<i>C.P.P.</i>	CONTROLLERATE OF INSPECTION (HEAVY VEHICLES) AVADI. TITLE: COCK DISTRIBUTING ASSY.		
CHD		<i>Phattachya</i>			
TCD		<i>m. Omachandya</i>			
APPD		<i>K. S. S.</i>			
DATE		<i>30-6-86</i>			
		SHT. No. 1 OF 2	D S CAT NUMBER	ITEM LIST FOR	
				172 66 101CB-1	

USED ON

175 47 EB 1

172 45 060 CbCb

ITEM	DRAWING NUMBER	D S CAT NUMBER	DESCRIPTION	No. OFF	REMARKS
19	MH 4152-62		SEALING RING 10 X 16	1	
20	MH 4152-62		SEALING RING 16 X 20	4	
21	GOST 397-79		SPLIT PIN 2 X 20-016	1	
22	GOST 792-67		WIRE KO 1.2 - 1.6 X 100	3	
23	172 66 330		RETAINER	1	ALTERNATIVE TO ITEM 1.
24	520 05 004-02		CAP	1	TECHNOLOGICAL AS PER 98 GROUP
25	520 05 004-03		CAP	1	
14	GOST-3722-81		BALL 5 10.319-100	2	AS PER ETY 500
26	15:3063-94		SPRING WASHER - B 6 ZINC COATED	2	ALTERNATE TO ITEM 16

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20	19.9.91	Drawing Amended.			
19	2.9.89	Drawing Amended.			
17,18	26.12.88	DRG. AMENDED			
16	26.12.88	1/L SHEET 1 OF 2 AMENDED			
15	26.12.88	AMDT. LIST No. 6/II BOOK-9	20A	24-12-99	N OF A CQA(HV)/63/003/ SPECN.
ISSUE	DATE	NATURE OF AMENDMENTS	ISSUE	DATE	NATURE OF AMENDMENTS

DRN	<u>CPR</u>	CONTROLLERATE OF INSPECTION (HEAVY VEHICLES) AVADI.
CHD	<u>Bhattacharya</u>	
TCD	<u>m. Omachandran</u>	
APPD	<u>[Signature]</u>	
TITLE:	COCK DISTRIBUTING ASSY.	
DATE	30-6-86	SHT. No. 2 OF 2.
D S CAT NUMBER		
ITEM LIST FOR 172 66 101CB-1		

1 / 1 SEPARATELY CREATED BASED ON RUSSIAN ORIGINAL ISSUE -14

1	172 66 233 -3	RETAINER	1
2	172 66 267	PIN	1

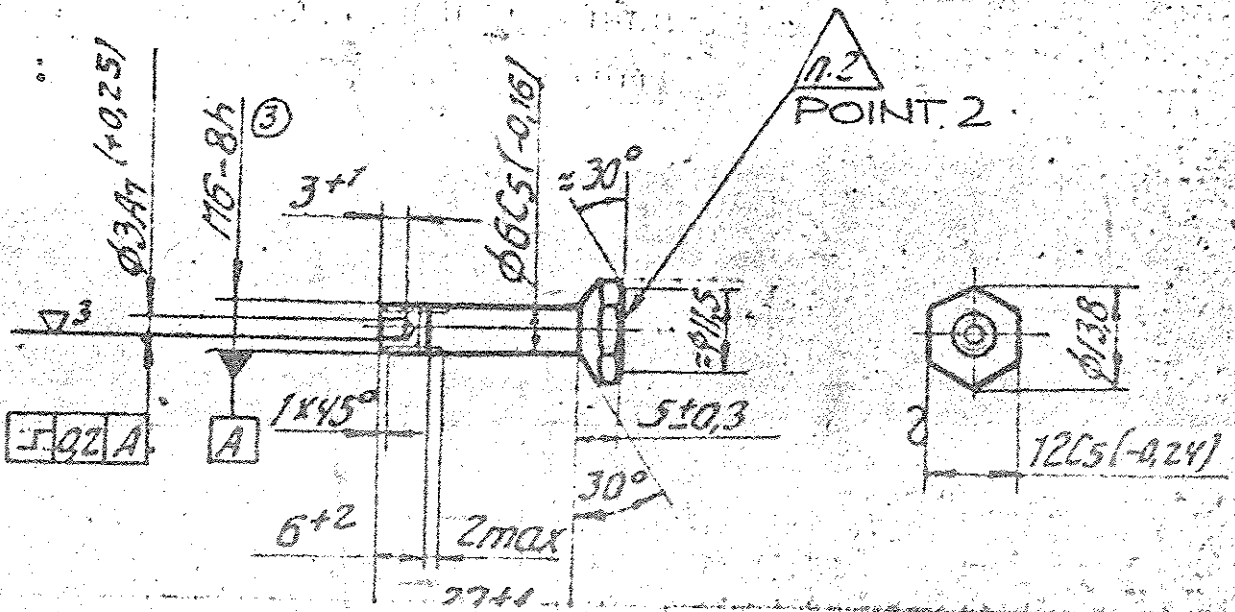
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ISSUE	DATE	NATURE OF AMENDMENTS	ISSUE	DATE	NATURE OF AMENDMENTS
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DRN	<u>C.P.R.</u>	CONTROLLERATE OF INSPECTION (HEAVY VEHICLES) AVADI.			
CHD	<u>Bhatnagar</u>	TITLE: RETAINER ASSY.			
TCO	<u>M. Chandrasekhar</u>	D S CAT NUMBER			
APPD	<u>K. S.</u>	SHT. No. 1 OF 1.		ITEM LIST FOR	
DATE	30-6-86	172 66 115 CB-1			

DRAWING NUMBER
172-66.267

▽4(▽)



1. BHN 302-255 (DIA OF INDENTATION 3.5 - 3.8) IS TO BE CHECKED IN BLANK.
2. TO BE MARKED, PUNCHING IS NOT ALLOWED.
3. COATING CHEMICAL OXIDIZING/PHOSPHATING, OIL FINISHING.

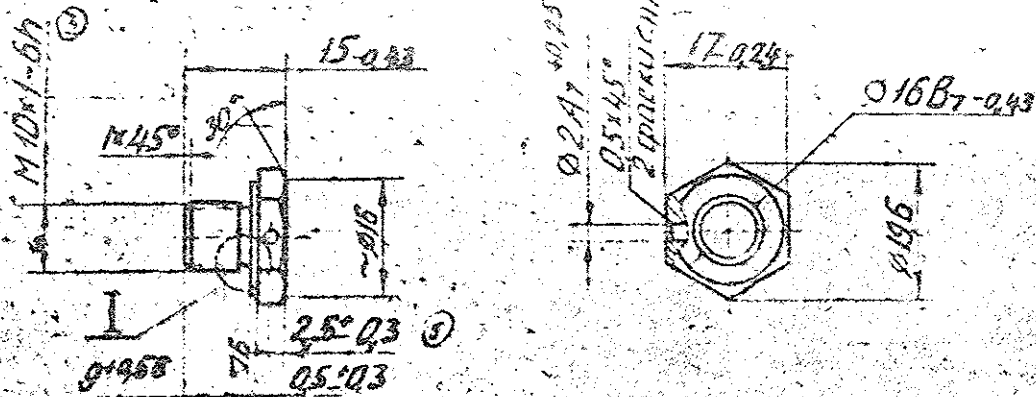
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			EST. MASS 0.009	TO BE STAMPED OR MARKED WHERE INDICATED THIS LETTERS
ISSUE	DATE	NATURE OF AMENDMENTS	ALL SHARP EDGES AND CORNERS TO BE REMOVED UNLESS OTHERWISE STATED MACHINED CORNERS TO HAVE R OUTSIDE R UNLESS EQUIVALENT CHAMFERS ARE PERMISSIBLE	
DRN C.P.L.		SCALE - 1:1	MATERIAL - STEEL 38 X C GOST 4543-71	USED ON:- 172.66.115 CB-1
ED Chattack		DIMENSIONS IN mm.	CONTROLLERATE OF INSPECTION (HEAVY VEHICLES) AVADI	
TCO V. Ram		TOLERANCE ON DIMS UNLESS OTHERWISE STATED	TITLE:- PIN	
APRO S. S.		ALL THREADS CONFORM TO	D S CAT NUMBER	DRAWING NUMBER 172.66.267
DATE 20/1/86				

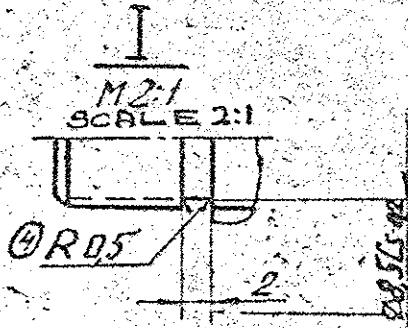
DRAWING NUMBER

172.66.236

UNLESS OTHERWISE SPECIFIED



A

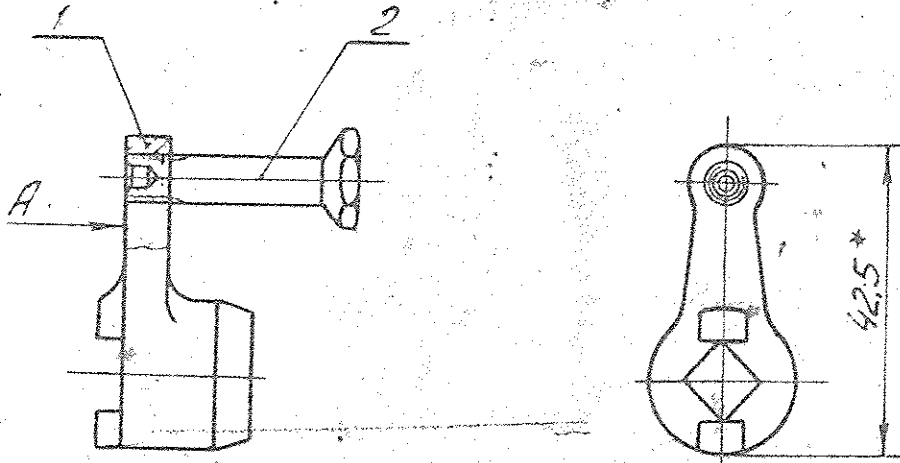


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1. MAY BE MANUFACTURED FROM OPEN-HEARTH STEEL 45 GOST 1050-60 AND STEEL 38xС GOST 4543-61.
2. PLAY OF FACE A IN RELATION TO THREAD IS NOT TO EXCEED 0.1mm.
3. TO BE PLATED WITH ZINC 6 TO 12 MICRONS. TO BE CHROMATIZED.
4. WHEN MANUFACTURING FROM STEEL 38xС, TO BE HORDENED IN BLANK. HARDNESS BHN 302-255 (DIA OF INDENTATION 3.5-3.8).

			EST. MASS 0.017	TO BE STAMPED OR MARKED WHERE INDICATED THIS \oplus LETTERS)
				ALL SHARP EDGES AND CORNERS TO BE REMOVED UNLESS OTHERWISE STATED MACHINED CORNERS TO HAVE R OUTSIDE R INSIDE EQUIVALENT CHAMFERS ARE PERMISSIBLE.
ISSUE	DATE	NATURE OF AMENDMENTS	MATERIAL - OPEN HEARTH STEEL 40 GOST 1050-60	USED ON: 172.66.101.C5
			SCALE - 1:1	CONTROLLERATE OF INSPECTION (HEAVY VEHICLES) AVADA
			DIMENSIONS IN mm.	TITLE: PLUG
			TOLERANCE ON DIMS UNLESS OTHERWISE STATED	DRAWING NUMBER 172.66.236
			ALL THREADS CONFORM TO	

DRAWING NUMBER
172 66 115 CB-1

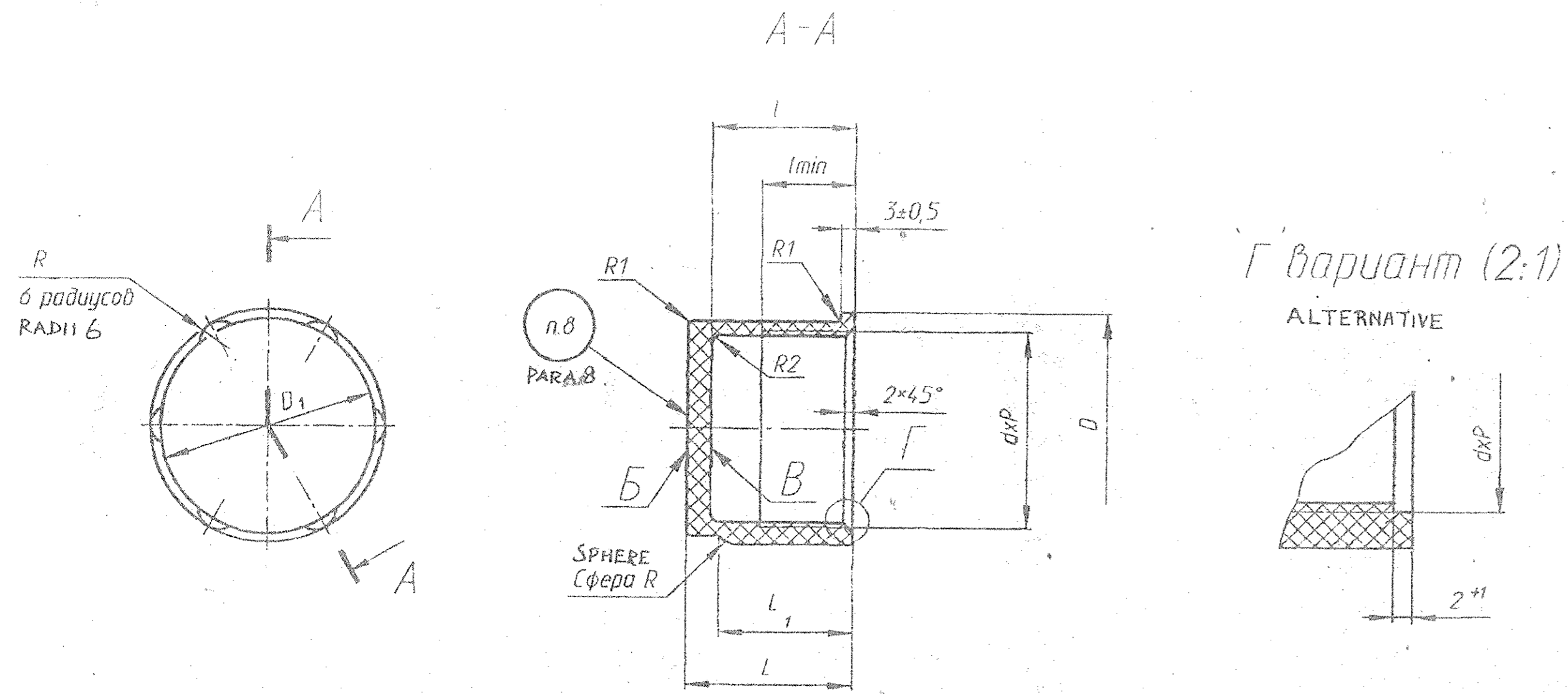


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- PIN IS TO BE SCREWED AGAINST THE STOP. AFTER THAT, THE THREADED END IS TO BE RIVETED. PROJECTION OF PIN BEYOND SURFACE "A" AND DAMAGED COATING ON PIN FACE CAUSED BY RIVETING IS ALLOWED.
- DIMENSION FOR REFERENCE.

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

		EST. MASS	TO BE STAMPED OR MARKED WHERE INDICATED THIS LETTERS
		0.06	
		ALL SHARP EDGES AND CORNERS TO BE REMOVED UNLESS OTHERWISE STATED MACHINED CORNERS TO HAVE R OUTSIDE R USED EQUIVALENT CHAMFERS ARE PERMISSIBLE	
ISSUE DATE	NATURE OF AMENDMENTS	MATERIAL :-	USED ON:-
DRN C.P.C.	SCALE - 1:1		172. 66. 101 CB-1
CHKD Chakraborty	DIMENSIONS IN mm.	CONTROLLERATE OF INSPECTION HEAVY VEHICLES I AVADL	
ILD V. Ram	TOLERANCE ON DIMS UNLESS OTHERWISE STATED	TITLE:-	RETAINER ASSY
APPD M...	ALL THREADS CONFORM TO	B S CAT NUMBER	DRAWING NUMBER
DATE 25/1/68			172. 66. 115 CB-1



1. Alternate material – polyethylene 209 or 210 GOST 16338-85.
2. Thread should be checked by free screwing-in of threaded component made with accuracy class 8g GOST 16093-81.
3. Dimensions are to be ensured by tool.
4. It is allowed to make 8 projections with radius R instead of six.
5. Spherical recess (shrinkage cavity) with depth 0.25 mm is allowed on surface B.
6. On surface B, projection is allowed in this case wall thickness should be not less than 2 mm.
7. To be marked (see table), type ПО-3 GOST 2930-82.
8. Other requirements should be as per specifications 520.TY1.

Обозначение DESIGNATION	ТРЕД										TO BE MARKED		D ₁ , MM	R, MM	WEIGHT Масса, кг Kg	Марки- ровка
	Резьба		L, MM		L ₁ , MM		L ₂ , MM		L ₃ , MM		D, MM					
	d	P	НОМИН. НОМИН.	ДЕВИАЦИЯ пред отк.	НОМИН. НОМИН.	ДЕВИАЦИЯ пред отк.	НОМИН. НОМИН.	ДЕВИАЦИЯ пред отк.	НОМИН. НОМИН.	ДЕВИАЦИЯ пред отк.	НОМИН. НОМИН.	ДЕВИАЦИЯ пред отк.				
520.05.004	36	2	29	-0.52	24		24		17		44		40	4.5	0.015	M36x2
-01	27	1.5	26	-0.52	21		22		16		35		31	4.5	0.009	M27x1.5
✓-02	20	1.5	21	-0.52	17		17		12		28		24	2	0.006	M20x1.5
✓-03	16	1	22	-0.52	17		18		12		24		20	1	0.004	M16x1
-04	14	1	15	-0.43	11	±1	11	±0.5	7		22	±2	18	2	0.003	M14x1
-05	12	1.25	15	-0.43	11		11		7		20		16	2	0.002	M12x1.25
-06	22	1.5	20	-0.52	16		16		11		30		26	2	0.007	M22x1.5
-07	18	1.5	20	-0.52	15		15		10		26		22	2	0.005	M18x1.5
-08	42	2	30	-0.52	25		25		20		50		46	4.5	0.018	M42x2
-09	16	1.5	22	-0.52	17		18		12		24		20	2	0.004	M16x1.5

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U-01-1.1
D90033

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SIZE A1

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

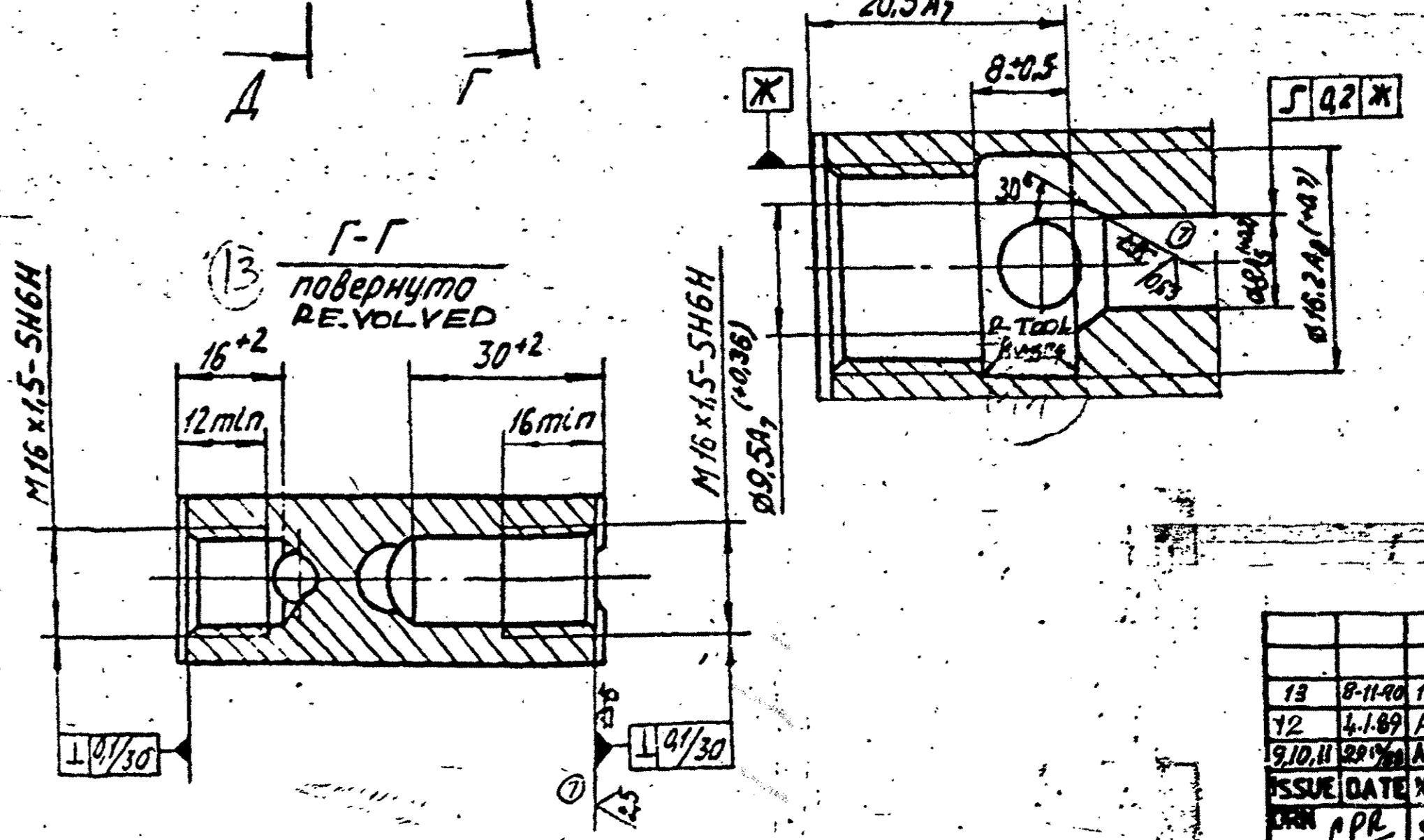
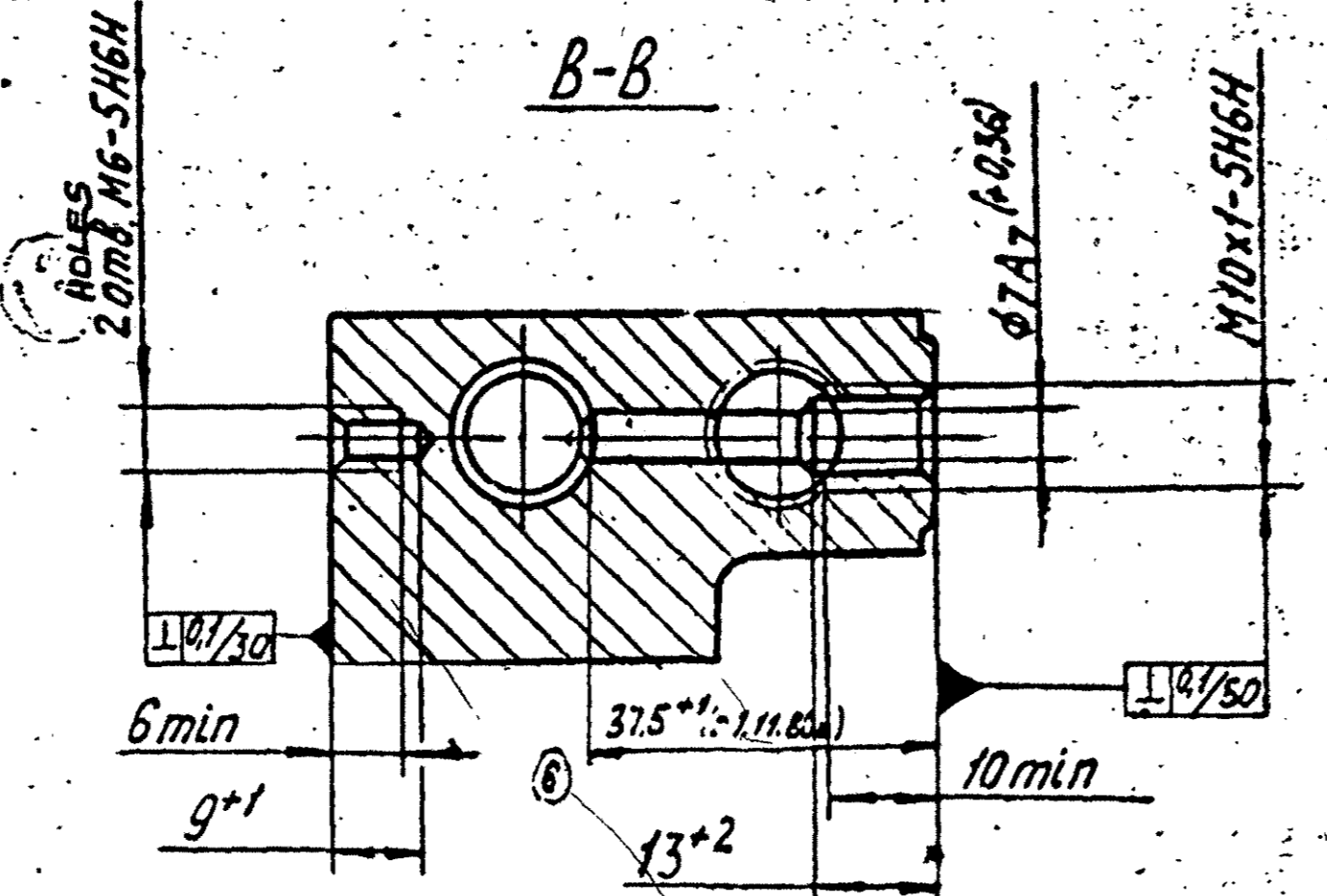
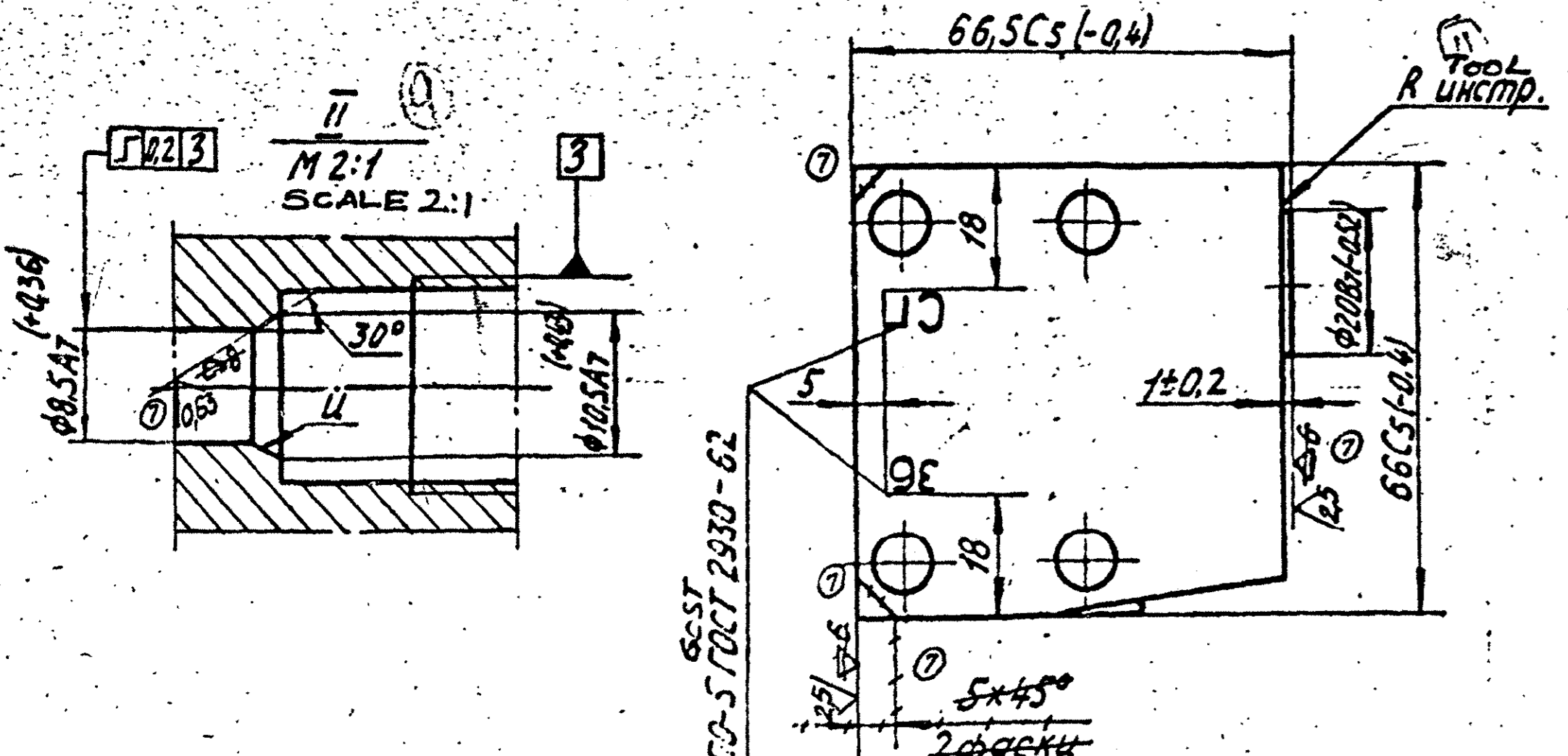
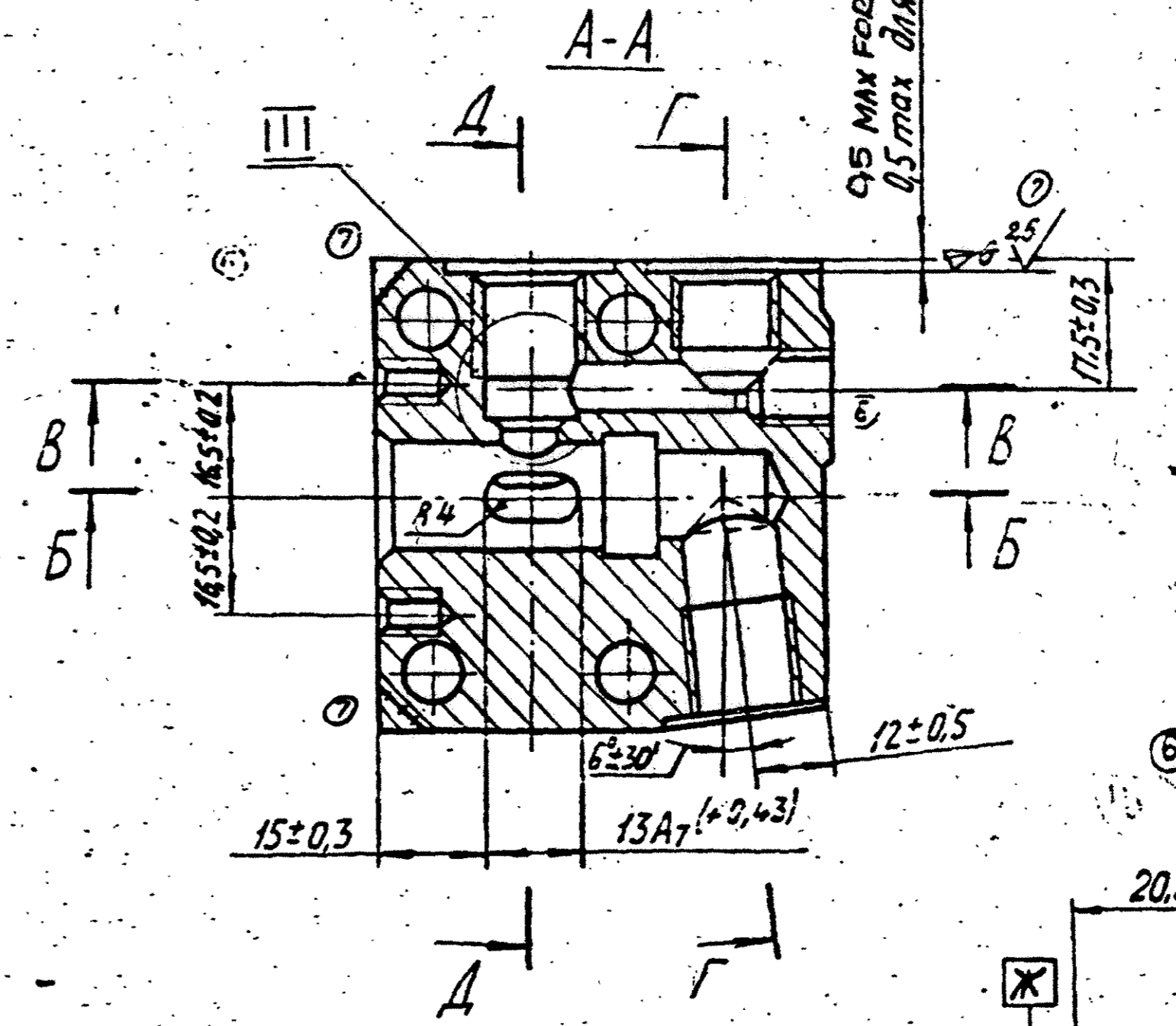
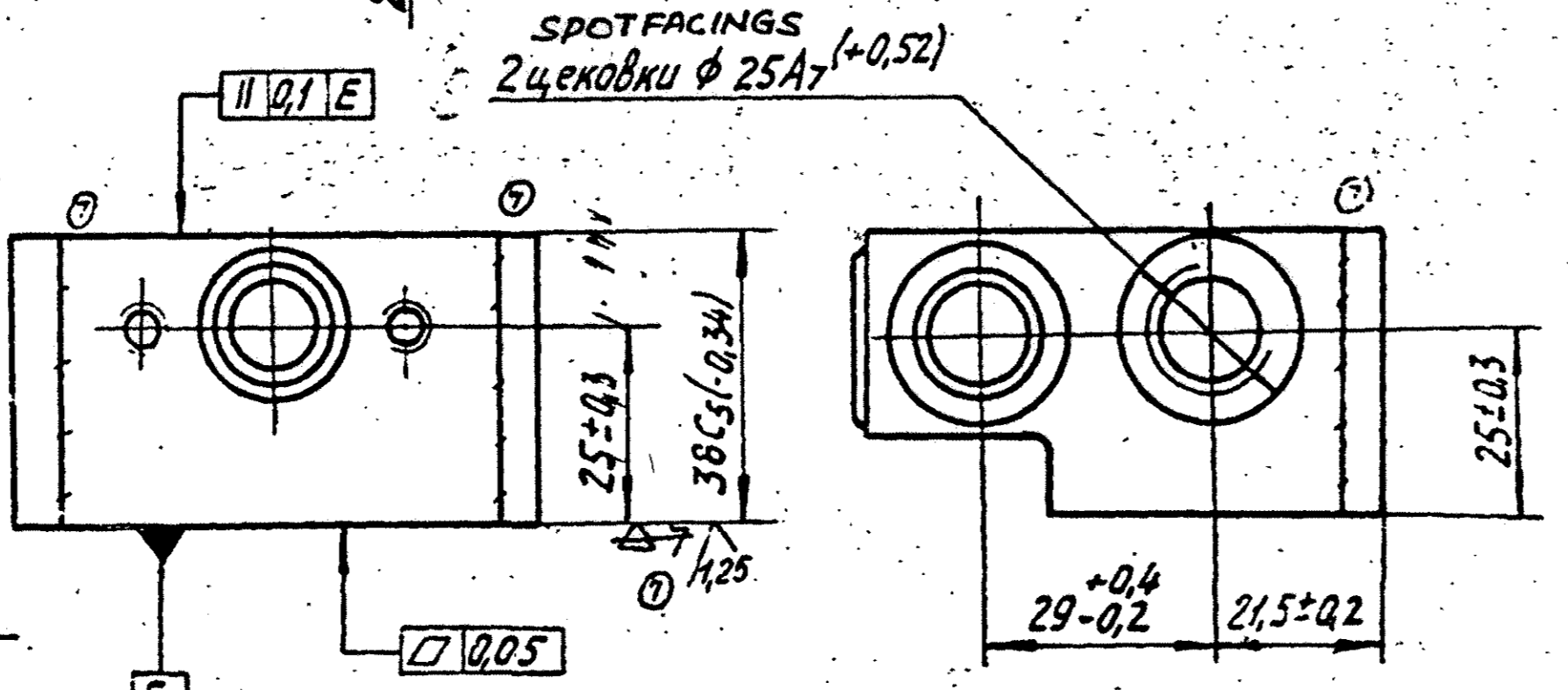
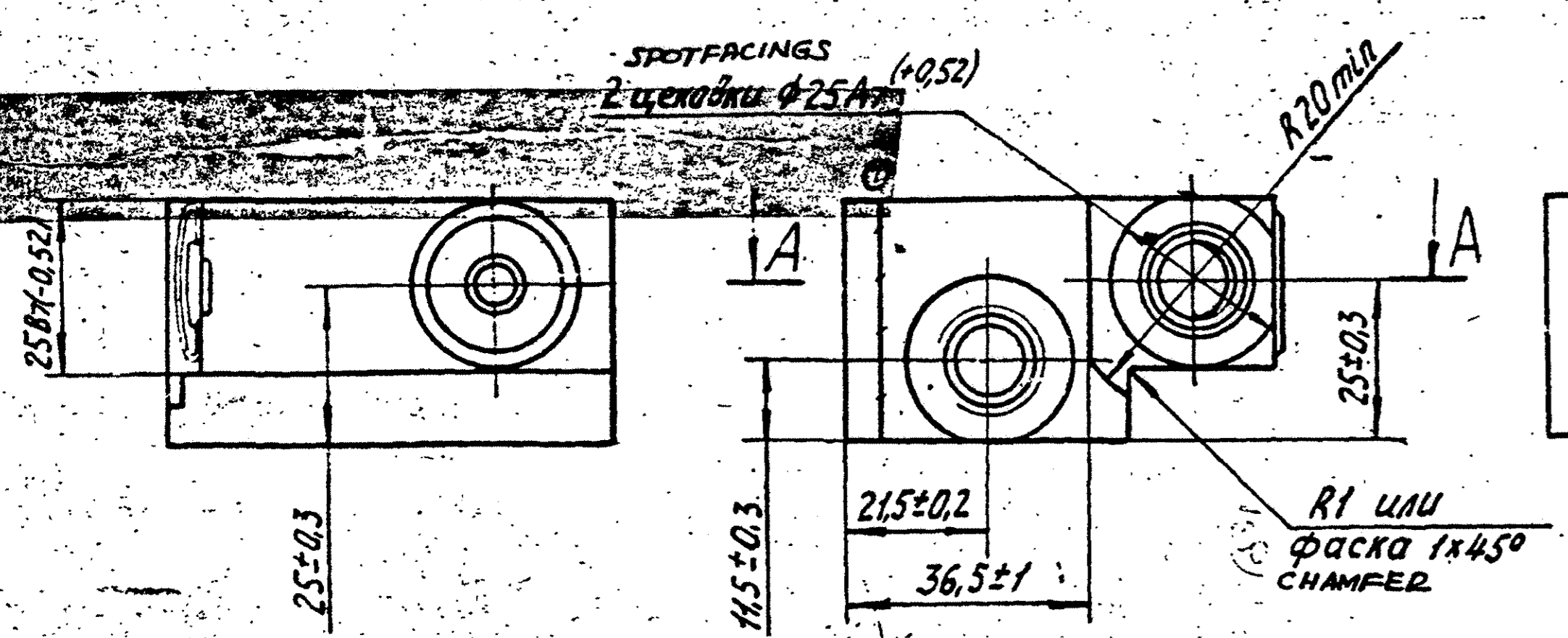
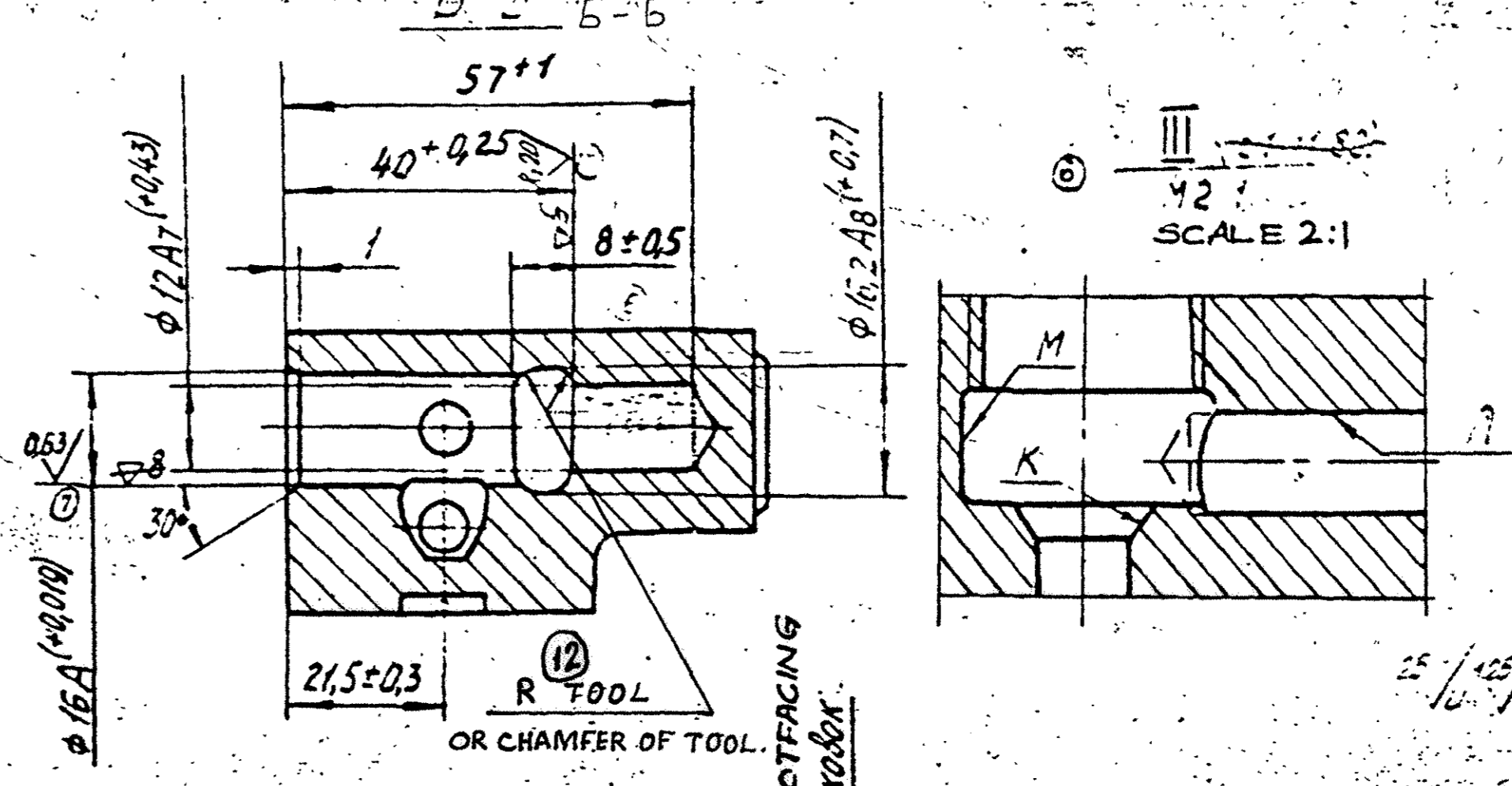
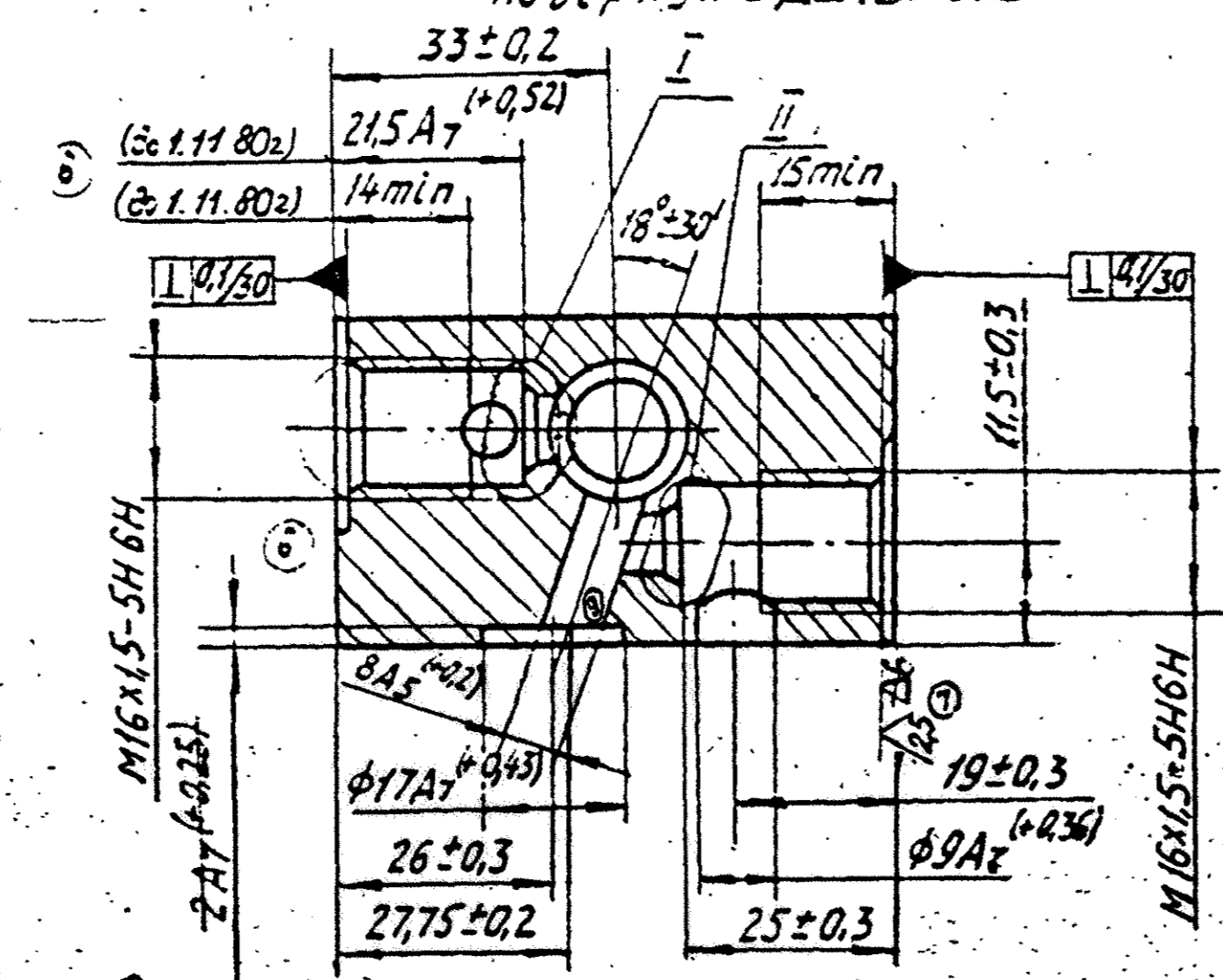
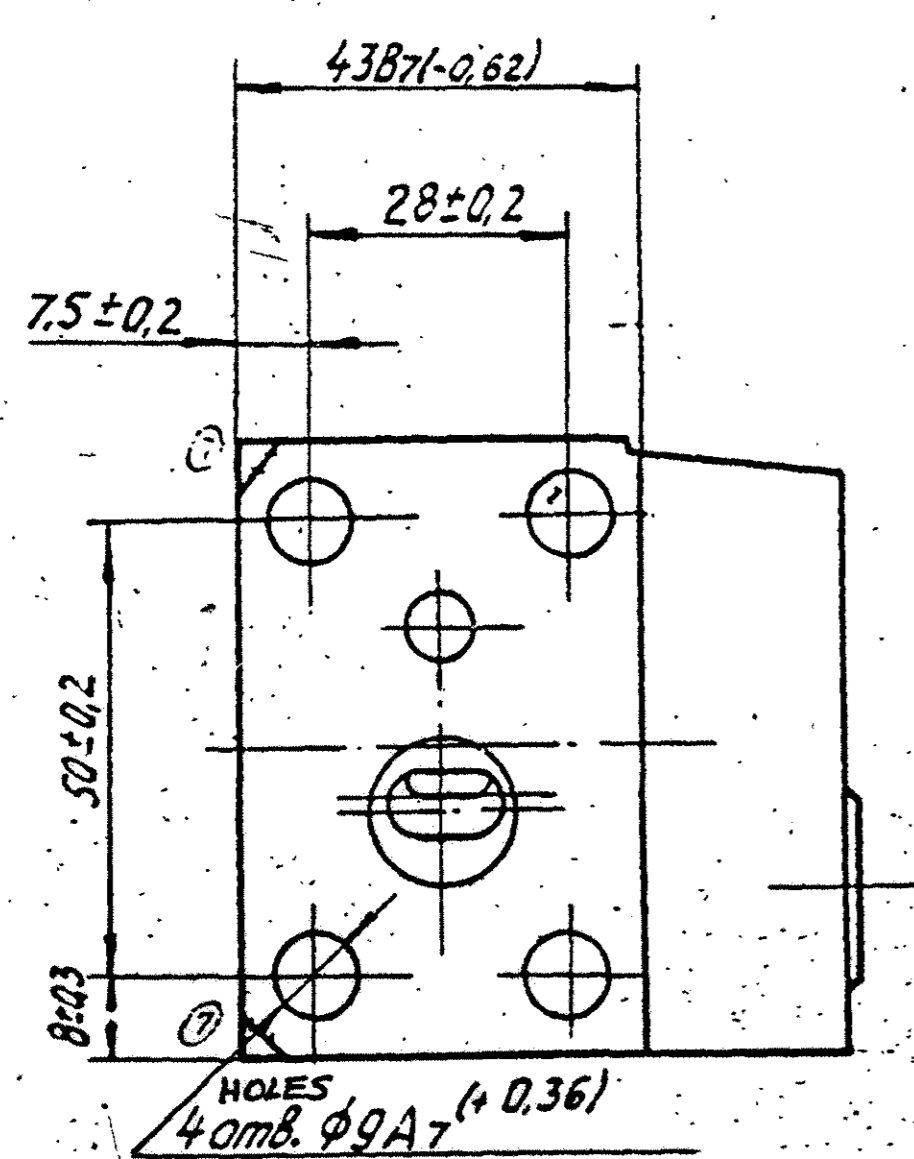
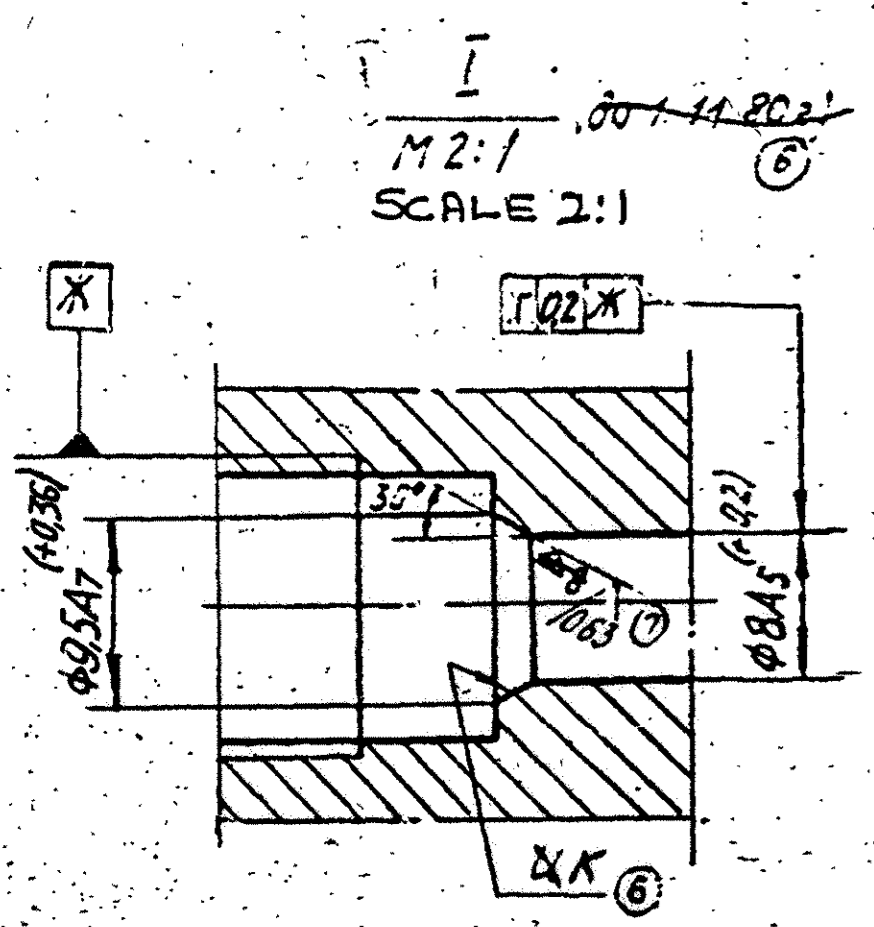
EST. WT. (KG) TO BE STAMPED OR MARKED WHERE INDICATED THIS # (LETTERS) SEE TABLE

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

DRN	APPROVED	MATERIAL:	USED ON:
CHD	APPROVED	POLYETHYLENE 181 1ST	
APPD	Checked	QUALITY GOST-16337-77	
DATE	17-02-04	CONTROLLERATE OF QUALITY ASSURANCE (HEAVY VEHICLES) AVADI	
SCALE:		TITLE: PLUG	
DIMENSIONS IN mm		D S CAT NUMBER	
TOLERANCE ON DIMNS UNLESS OTHERWISE STATED IS: 2102-69		DRAWING NUMBER	
ALL THREADS TO CONFORM TO		520.05.004	
ISSUE	DATE	NATURE OF AMENDMENTS	

DRAWING NUMBER
172.66.232-2

1:80 (V)



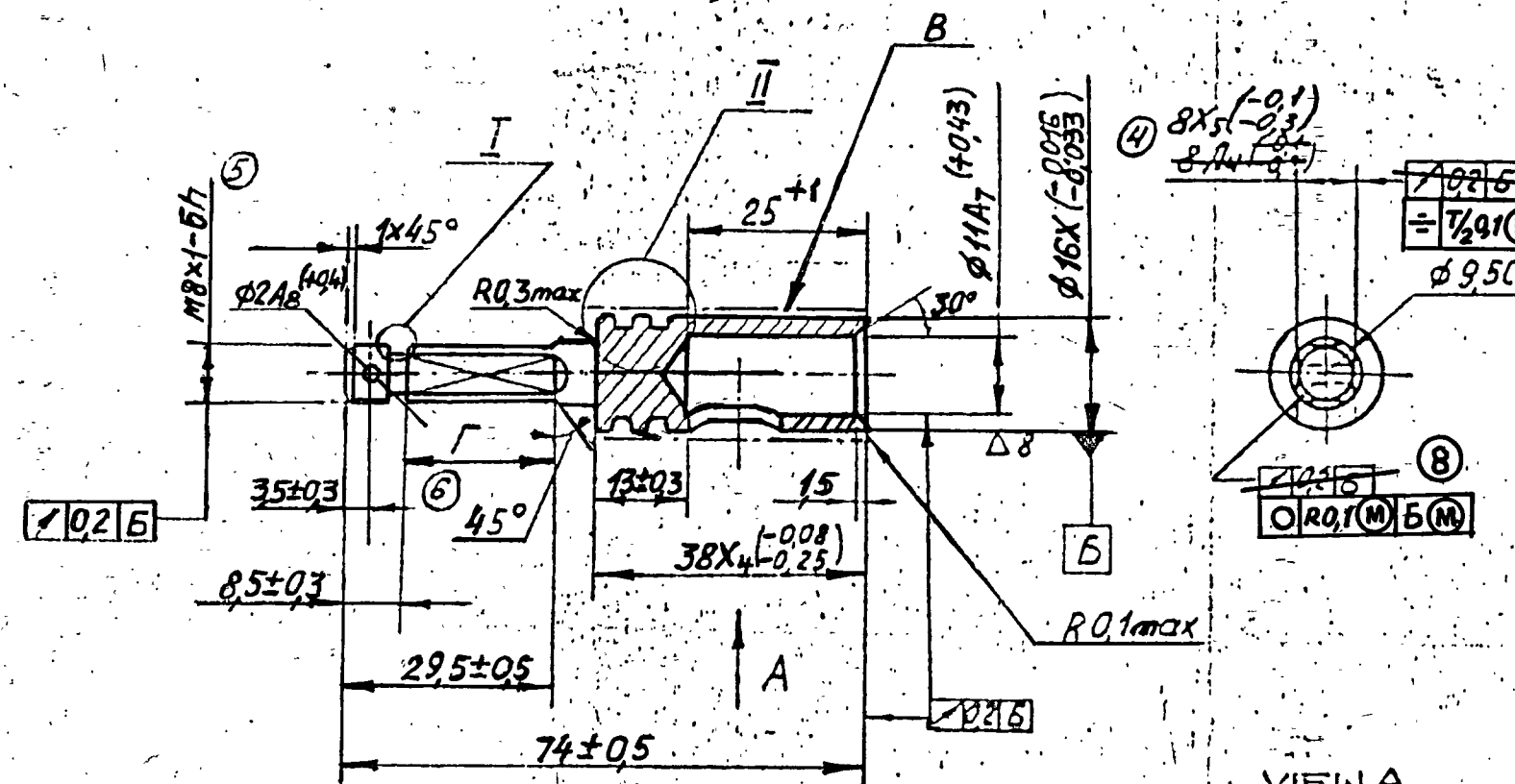
- ⑩ 1. ALTERNATE MATERIAL: CASTING 6418, GOST 1412-79, C420
 2. ALL THREADED HOLES ARE TO BE COUNTER SUNK AT AN ANGLE OF 90° TO 120° UP TO THE MAJOR DIAMETER OF THREAD.
 3. 4 SPOT FACING φ25A7, MAY NOT BE MADE IN THIS CASE, CORRESPONDING FACES ARE TO BE MACHINED TO 2.5.
 4. IN HOLES AND ON SURFACES WHICH ARE MACHINED TO 2.5 ALL 1.25, CAVITIES AND PITTING ARE NOT ALLOWED ON OTHER SURFACE CAVITIES NOT MORE THAN 2mm DEEP WITH A TOTAL AREA OF NOT MORE THAN 5mm² ARE ALLOWED.
 5. TAPER SURFACES 'U' AND 'K' ARE TO BE LAPPED: MISALIGNMENT OF TAPER SURFACES IN RELATION TO HOLES φ9A7 AND φ8.5A7, NOT EXCEEDING 0.15 mm IS ENSURED TECHNOLOGICALLY.
 6. COATING: CHEMICAL OXIDISING / PHOSPHATING. COATING IN THE HOLES NOT TO BE CHECKED.
 ⑪ 7. THE COMPONENT IS TO BE SUBJECTED TO A PRESSURE TEST AT A PRESSURE OF 20 kgf/cm² FOR 3 MIN. WITH OIL OR DIESEL OIL. LEAKAGE IS NOT ALLOWED.
 ⑬ 7.8. HOLE 11 SHOULD HAVE THROUGH OPENING IN HOLE M CUTTING IN OF TOOL INTO TAPER SURFACE K IS NOT ALLOWED. (SEE ENLARGED VIEW III).
 ⑬ 9. DIMENSION 27±0.2 MAY BE CARRIED OUT INSTEAD OF DIMENSION 27.75±0.2 (SEE SECTION I-I) FROM END FACE OF COMPONENT UP TO THE CROSS-SECTION POINT AXIS OF SLOT φ8A5 FROM SURFACE E.

DIN: INDIANISED BASED ON RUSSIAN ORIGINAL ISSUE 8

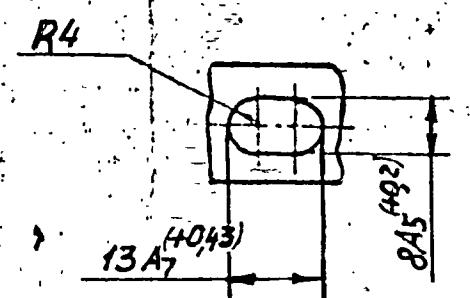
DATE: 20/11/72

TYPE: 66ST
GOST 10-57027 2930-62

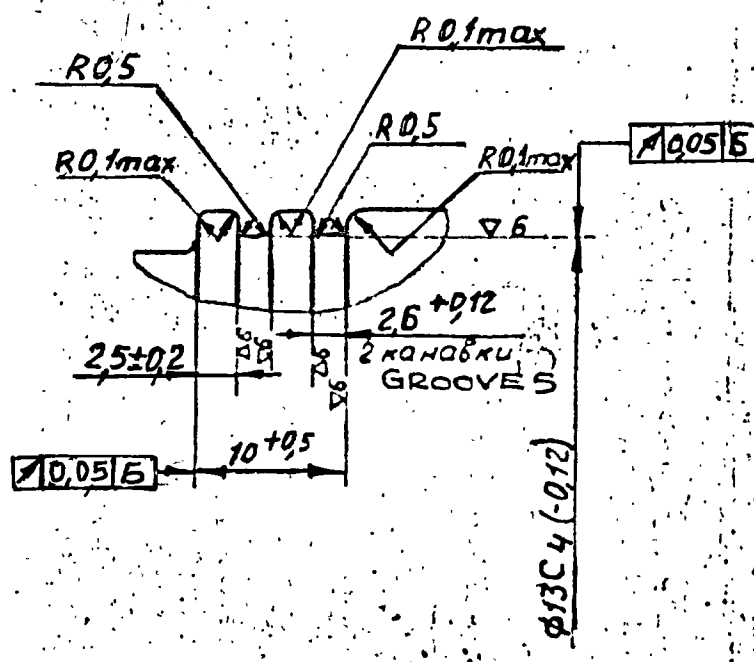
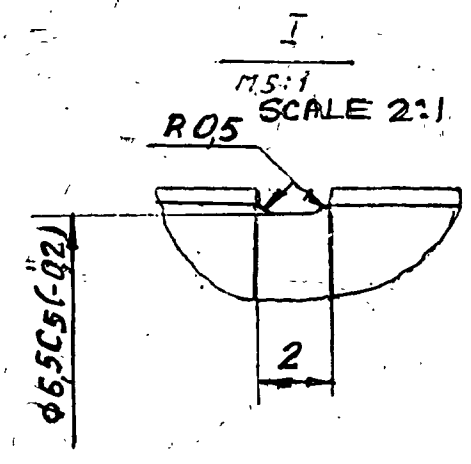
EST. MASS		TO BE STAMPED ON PARTS WHERE LOCATION MARKS ARE	
11 8-11-90 172M 765 N-88 A.L.1/2		LETTERS:	
12 4-1-69 AMDT. LIST No. 7		ALL SHARP EDGES AND CORNERS TO BE REMOVED UNLESS OTHERWISE STATED MACHINED CORNERS TO HAVE R OUTSIDE	
13 10-11-70 AMDT. LIST No. 6 II BOOK-9		INSIDE EQUIVALENT CHAMFERS ARE PERMISSIBLE.	
ISSUE (DATE NATURE OF AMENDMENTS)		MATERIAL - CASTING C420 USED ON - GOST 1412-79 172.66.101.C5	
SCALE - 1:1		CONTROLLER OF INSPECTION (HEAVY VEHICLES) AV-10	
DIMENSIONS IN mm.		TITLE - CASING	
TOLERANCE ON DIMS. UNLESS OTHERWISE STATED		B S CAT # 108	
ALL THREADS CONFORM TO		DRAWING MARK 172.66.232-2	



VIEW A
B u d A



SCALE 2:1



1. SURFACE B IS TO BE CORBURILED TO A DEPTH OF 1.4 mm. MAXIMUM CASE DEPTH AFTER GRINDING IS TOBE H 0.8 TO 12 mm. HARDNESS OF CASEHARDENED SURFACES SHOULD BE HRC 56. HARDNESS AND DEPTH OF CASEHARDENED LAYER IS TO BE CHECKED ACCORDING ON THE TEST PIECE. CARBURIZING ALLAOUND (EXCEPT HOLE $\phi 11$ A, THREADED SHANK AND CLEARANCE) IS ALLOWED .
2. CHAM'ER 0.1x45° MAY BE MADE INSTEAD OF BLUNTING SHARP EDGES TO R 0.1 MAX.
3. SHIFT OF HOLE 13 A, $\phi 8A5$ IN RELATION TOTHE AXIS OF SQUARE IS NOT TOEXCEED 0.3 mm. MMC TOLERANCE.
4. ON FINISHED COMPONENT, THREAD M8x1K 8H IS ALLOWED.
5. DIMENSIONS 8x5, 38x4 AND $\phi 9.5 C_4$ ARE TO BE CHECKED AFTER CHROMIUM PLATING.
6. COATING OF THE EDGES OF THE SQUARE AND $\phi 9.5 C_4$ CR HARD 15 ALONG LENGTH ' | '. TRACES OF CHROMIUM ON THE REST OF THE LENGTH OF $\phi 9.5C4$ AND ON THE ADJACENT FACE ARE ALLOWED OTHER SURFACES (EXCEPT $\phi 16x$) ARE TOBE OXIDISED /PHOSPHATED.

EXPLANATORY NOTE :

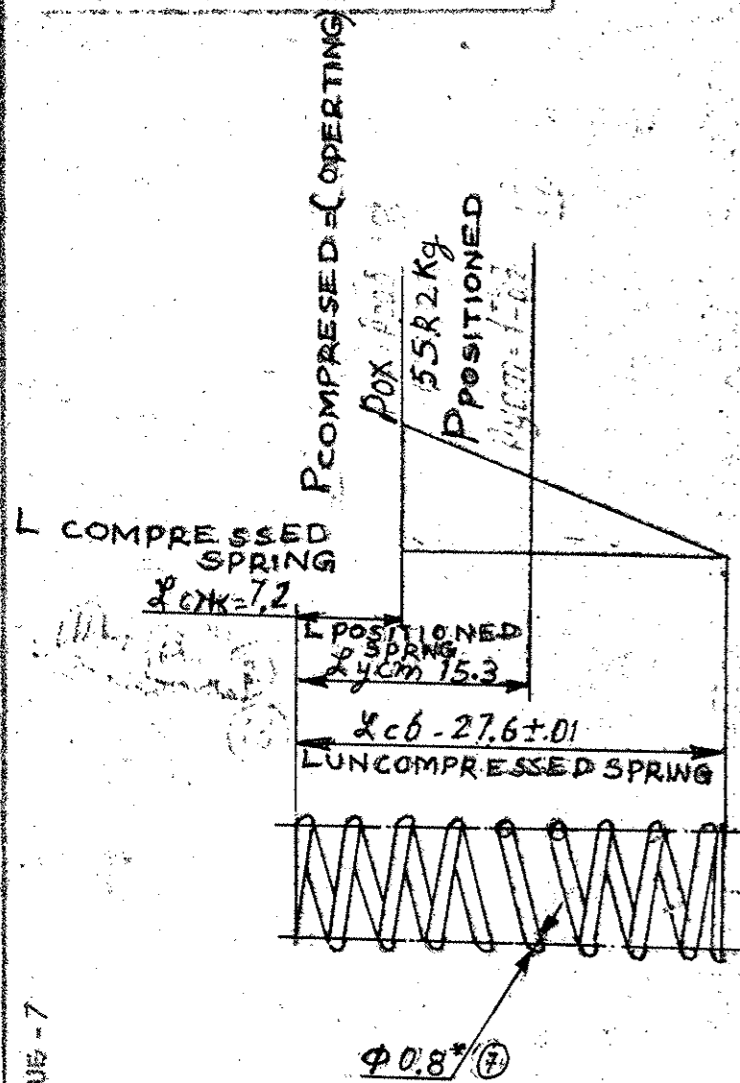
CHEMISTRY	PHYSICAL PROPERTIES AND HARDNESS
C : 0.16 - 0.22	TENSIL STRENGTH : 130 Kgf/mm ² (min)
Si : 0.17 - 0.37	YIELD POINT : 110 Kgf/mm ² (min)
Mn : 0.30 - 0.60	ELONGATION : 9 % (min)
Cr : 1.25 - 1.65	REDUCTION IN AREA : 45 % (min)
S&P (each) : 0.030 (max)	IMPACT STRENGTH : 8 Kgm/cm ² (min)
Ni : 3.25 - 3.65	

EST. MASS	0.05	TO BE STAMPED OR MARKED WHERE INDICATED THIS LETTERS)
DATE	8-11-90	172.66.234-1 A.L. 11/1
NATURE OF AMENDMENTS		
SCALE	1:1	
MATERIAL	STEEL 20X2	USED ON -
	H44-GOST 4543-71	172.66.101 CB-1
TOLERANCE ON DIMS	UNLESS OTHERWISE STATED	CONTROLLEATE OF INSPECTION (HEAVY VEHICLES) AVADL
ALL THREADS CONFORM TO		VALVE SLIDE
D & CAT NUMBER		DRAWING NUMBER
		172.66.234-1

KVD NO: 73005

17.00.00

DRAWING NUMBER
54.58.058



SCALE 1:1

Число рабочих витков NUMBER OF OPERATING COILS	8.5
Общее число витков TOTAL NUMBER OF COILS	10 ± 0.25
Длина проволоки LENGTH OF DEVELOPED WIRE	224
Навивка WINDING	левая

1. After three fold compression upto contact of coils, there should not be residual deformations.
2. The spring may be manufactured from wire I-0.8 GOST 9389-75.
3. To be subjected to nickel plating. Thickness of nickel layer should not be less than 20 micron.
4. *Dimension for reference.

MASTER COPY

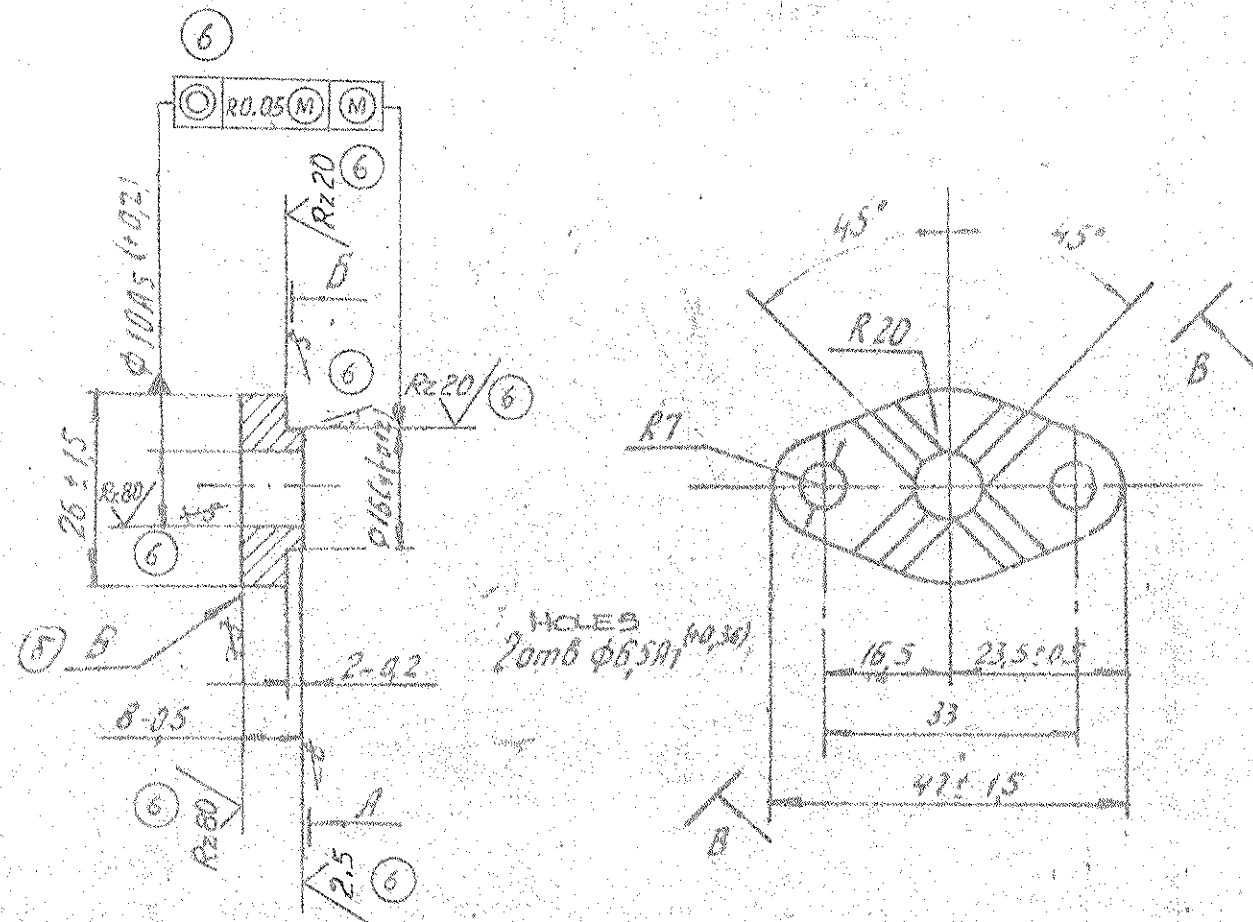
DRAWING INDIANISED BASED ON RUSSIAN ORIGINAL ISSUE - 7

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

EST. MASS. 0.001	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.	

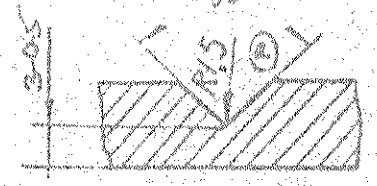
ORN	CPE.	MATERIAL:-	USED ON: 188.66.020cbcb.
CHD	Blatkiy	WIRE. I-0.8	172.66.101 C6 (7A)
TCD	Y.Pam	GOST 9389-75	
APPD	Kov	CONTROLLERATE OF INSPECTION (HEAVY VEHICLES)	
DATE	25/6/76	AVADI	
SCALE	2:1	TITLE:	
DIMENSIONS IN mm		SPRING	
TOLERANCE ON DIMNS UNLESS OTHERWISE STATED.		D S CAT NUMBER	
ALL THREADS CONFORM TO		DRAWING NUMBER	
7A	12.7.04	54.58.058	
ISSUE	DATE	NATURE OF AMENDMENTS	

187



HOLES
20mm $\phi 6.59 \pm 0.03$

REVOLVED
b-b повернуто
SCALE 1:1
20°



1. TO BE HEAT-TREATED IN BLANK. HARDNESS HRC 35-25.
2. IN RELATION TO $\phi 16.04$ AND FACE 'C' RUNOUT OF FACE 'A' AND $\phi 10$ NOT TO EXCEED 0.1mm.
3. SHIFT OF AXES OF HOLES FROM THE TRUE POSITION IS NOT TO EXCEED 0.2mm.
4. DRAFTS AND SHRINKAGE OF EDGES ARE ALLOWED.
6. FACE 'B' TO BE PLATED WITH CR.21 HARD, THICKNESS OF COATING IN GROOVES AT AN ANGLE OF 90° IS NOT TO BE CHECKED. OTHER SURFACES ARE TO BE OXIDISED/PHOSPHATED COMPONENT MAY BE PLATED WITH CHROMIUM OVER.

ENTER COPY

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

EST. MASS. 0.027 TO BE STAMPED OR MARKED WHERE INDICATED THUS * LETTERS)

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

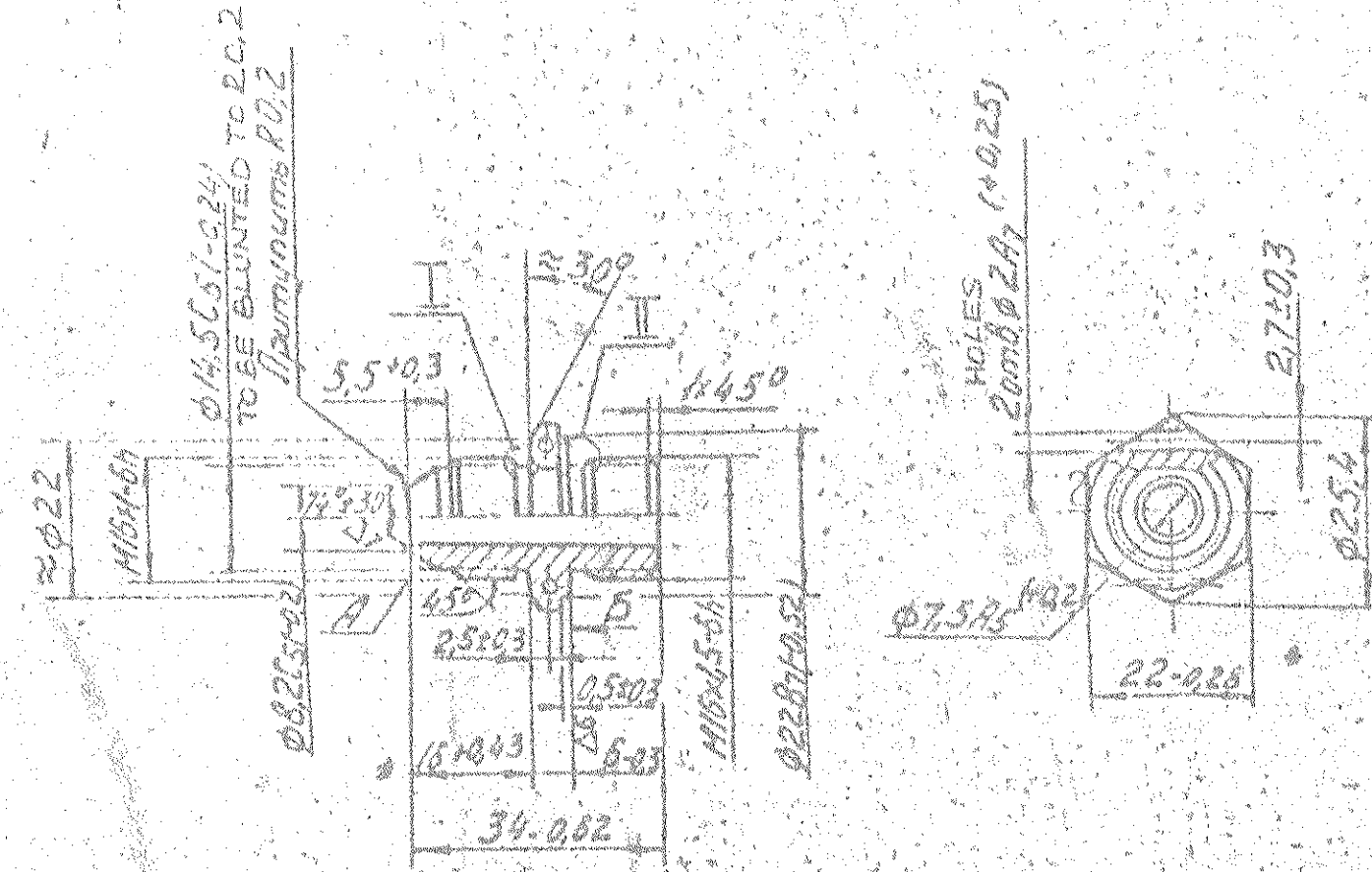
DRN	CPL	MATERIAL:-	USED ON:-
CHD	Chataev	STEEL 20 X TCA-3	172.66.101 CB-1
TCD	V. Raim	GOST 11269-76	
APPD	Kum	CONTROLLERATE OF INSPECTION HEAVY VEHICLES AVADI	
DATE	20-6-82	TITLE:	
SCALE	1:1	COVER	
DIMENSIONS IN mm		D S CAT NUMBER	
TOLERANCE ON DIMNS UNLESS OTHERWISE STATED.		DRAWING NUMBER	
ALL THREADS CONFORM TO		172.66.230-1	
ISSUE	DATE	NATURE OF AMENDMENTS	
6	2-5-82	Noln. 172M 3190 A-88. 0.2. 13/2	

DRG. INDICATED BASED ON RUSSIAN ORIGINAL ISSUE - 3

DRAWING NUMBER
172.66.235

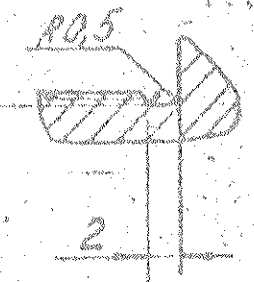
ВНЕШНЯЯ ПОДШИПНИК №1

23 (A)



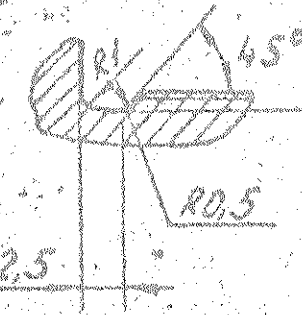
1. IN RELATION TO THREAD M16x1.5, THE FOLLOWING IS ALLOWED
 - a) PLAY OF FACE 'E' NOT MORE THAN 0.1mm;
 - b) RUN OUT OF Ø7.5 AND THREAD M 16x1 NOT MORE THAN 0.2mm;
 - c) SHIFT OF HEXAHEDRON NOT MORE THAN 0.5mm;
2. RUN-OUT OF SURFACE 'A' IN RELATION TO THREAD M16x1 IS 0.1mm, MAXIMUM.
3. TO BE HARDENED IN BLANK. HARDNESS DHN 302-255 (DIA OF INDENTATION 3.5-3.8).
4. TO BE PLATED WITH ZINC, 6 TO 12 MICRONS. COATING IN THE HOLES IS NOT TO BE CHECKED. TO BE CHROMATIZED.

I
M2:1
SCALE 2:1



φ14.5C5/-0.24

II
M2:1
SCALE 2:1



φ14.5C5/-0.24

MASTER COPY

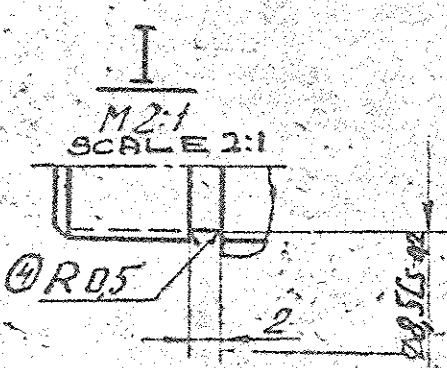
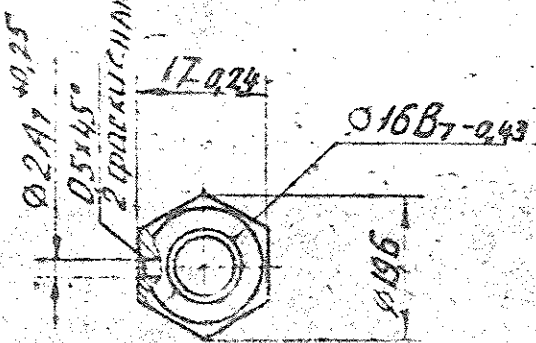
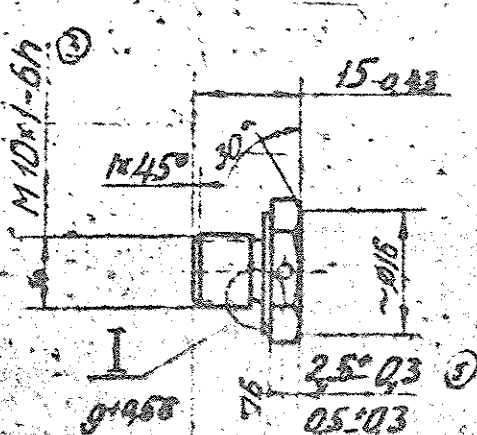
EST. MASS	0.031	TO BE STAMPED OR MARKED WHERE INDICATED THIS (LETTERS)
ALL SHARP EDGES AND CORNERS TO BE REMOVED UNLESS OTHERWISE STATED MACHINED CORNERS TO HAVE R OUTSIDE OR BISECT EQUIVALENT CHAMFERS ARE PERMISSIBLE.		
ISSUE DATE	NATURE OF AMENDMENTS	MATERIAL - STEEL 38 XC USED ON: 172.66.101 CB-1
DRN	SCALE - 1:1	GOST 4543-71
CHK	DIMENSIONS IN mm.	CONTROLLER OF INSPECTION (HEAVY VEHICLES) AVIA
TEL	TOLERANCE ON DIMS UNLESS OTHERWISE STATED	SCREW STOPPER
APPR	ALL THREADS CONFORM TO	Ø S CAT NUMBER
DATE	TO	DRAWING NUMBER 172.66.235

10130
 10130
 10130

DRAWING NUMBER

172. 66. 236

UNLESS OTHERWISE SPECIFIED



MASTER COPY

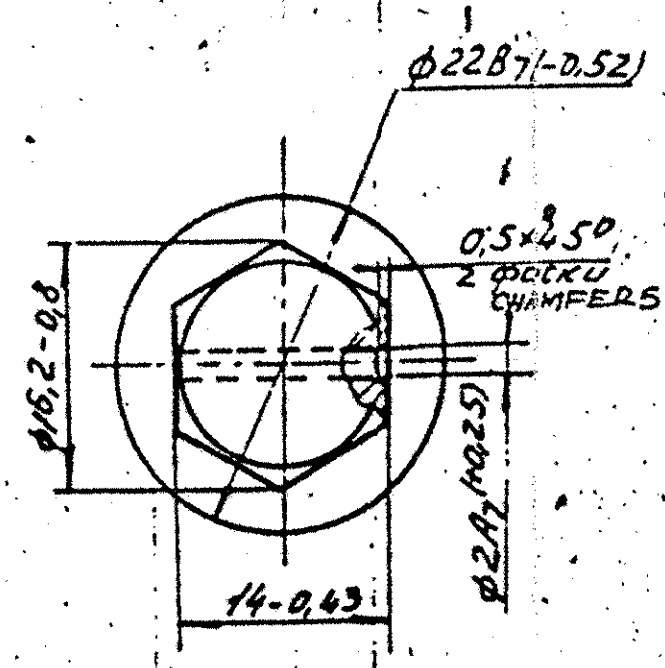
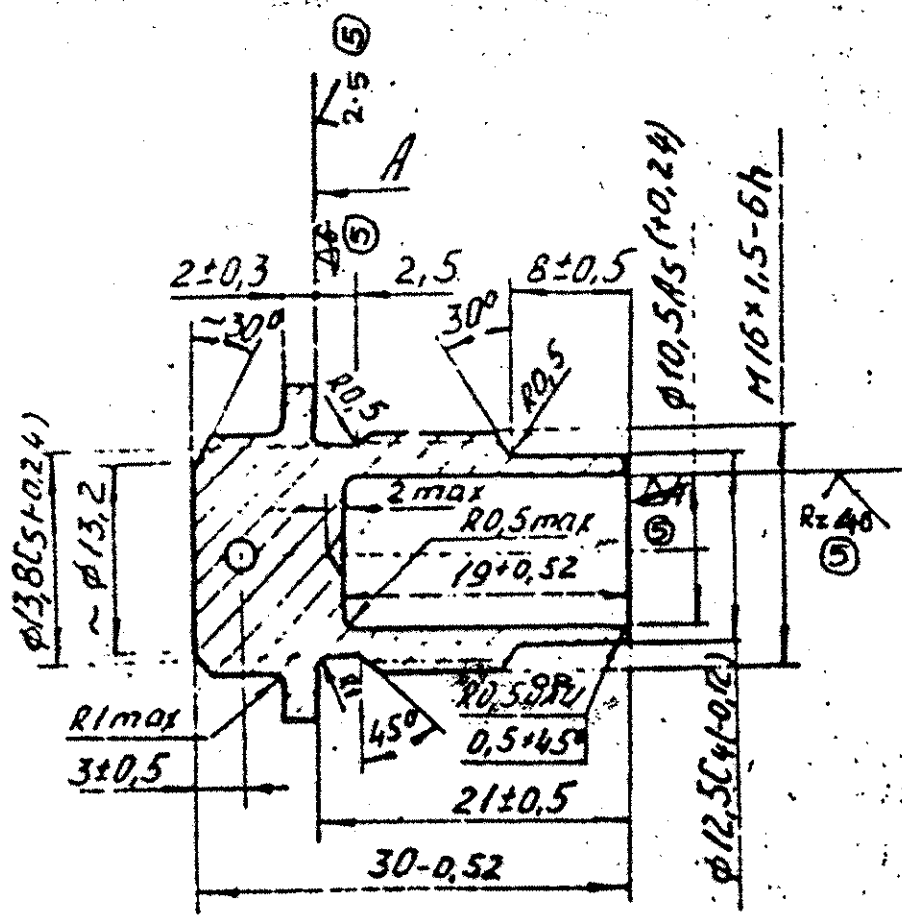
1. MAY BE MANUFACTURED FROM OPEN-HEARTH STEEL 45 GOST 1050-60 AND STEEL 38xC GOST 4543-61.
2. PLAY OF FACE A IN RELATION TO THREAD IS NOT TO EXCEED 0.1mm.
3. TO BE PLATED WITH ZINC 6 TO 12 MICRONS. TO BE CHROMATIZED.
4. WHEN MANUFACTURING FROM STEEL 38xC, TO BE HORDENED IN BLANK. HARDNESS BHN 302-255 (DIA OF INDENTATION 3.5-3.8).

		EST. MASS	TO BE STAMPED OR MARKED WHERE INDICATED THIS \oplus LETTERS)	
		0.017		
		ALL SHARP EDGES AND CORNERS TO BE REMOVED UNLESS OTHERWISE STATED MACHINED CORNERS TO HAVE R OUTSIDE R INSIDE EQUIVALENT CHAMFERS ARE PERMISSIBLE.		
ISSUE	DATE	NATURE OF AMENDMENTS	MATERIAL : OPEN HEARTH STEEL 40 GOST 1050-60	USED ON: 172.66.101.C5
DRN	CPI	SCALE - 1:1	CONTROLLERATE OF INSPECTION (HEAVY VEHICLES) AVADL	
CHKD	Shattay	DIMENSIONS IN mm.	TITLE: PLUG	
TD	V. Ramo	TOLERANCE ON DIMS UNLESS OTHERWISE STATED	B S CAT NUMBER	
APPR	W	ALL THREADS CONFORM TO	DRAWING NUMBER	
DATE	19/6		172.66.236	

DRAWING NUMBER
172. 66. 237

Восстановленный документ № 1. Rz 80

Rz 80 (✓)



1. BHN 302-255 (DIA OF INDENTATION 3.8-3.8) MAY BE CHECKED IN BLANK.
2. IN RELATION TO THREAD M 16x1.5 THE FOLLOWING IS ALLOWED.
 - a) PLAY OF FACE 'A' NOT MORE THAN 0.1 mm;
 - b) SHIFT OF HOLE φ10.5 NOT MORE THAN 0.2mm;
 - c) SHIFT OF HEXAHEDRON NOT MORE THAN 0.5mm;
3. SHIFT OF HOLE φ2 IN RELATION TO THE AXIS OF HEXAHEDRON IS NOT TO EXCEED 1mm.
4. WHEN MILLING THE HEXAHEDRON ACCORDING TO DIMENSIONS 14, SHOULDER UPTO 0.3mm. IS ALLOWED.
5. TO BE PLATED WITH ZINC 6 TO 12 MICRONS. TO BE CHROMATIZED. ZINC COATING IN THE HOLES AS NOT TO BE CHECKED.
6. HEAD MAY BE MANUFACTURED BY FORGING. IN SO. DOING ENSURE THE FOLLOWING:
 - a) SURFACE FINISH OF BOLT HEAD ✓
 - b) INTERNAL DRAFT OF HEAD EDGES UPTO 2° WIDTH ACROSS ATTS IS TO BE MEASURED AT THE BASE SURFACE OF HEAD.
7. OTHER REQUIREMENTS ARE ACCORDING TO 520 TY1.
8. COMPONENT MAY BE MANUFACTURED FROM ROUND BAR 22-4 GOST 7417-75 38XC-B-T GOST 4543-71 WITH SURFACE FINISH ✓ ALONG φ22.

MASTER COPY

ALTERNATE MATERIAL: - STEEL 817M40 (EN-24) BS: 970-83

AUTHORITY: - CQA (HV) LETTER NO. 091/IFD/IND-V/MTPF/OE DATE: 17-03-2005

FOR REFERENCE ONLY

DRG. CREATED BASED ON RUSSIAN ORIGINAL ISSUE-4

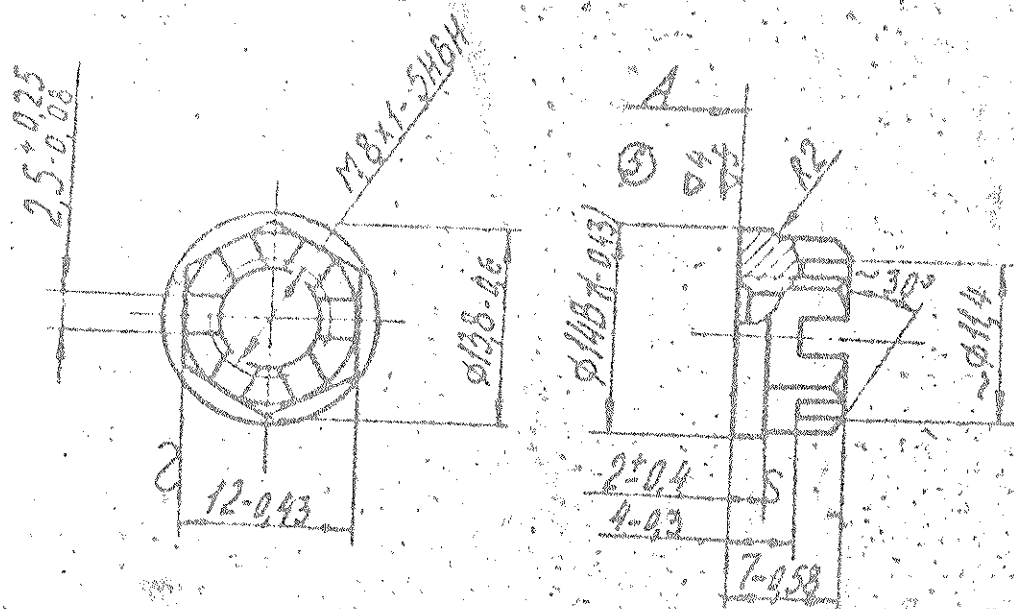
PILOT SAMPLE SHOULD BE APPROVED BY A H S P BEFORE BULK PRODUCTION.

EST. MASS. 0.03	TO BE STAMPED OR MARKED WHERE INDICATED THUS # LETTERS)
ALL SHARP EDGES AND CORNERS TO BE REMOVED UNLESS OTHERWISE STATED MACHINED CORNERS TO HAVE R OUTSIDE R INSIDE EQUIVALENT CHAMFERS ARE PERMISSIBLE.	

DRN	CPE.	MATERIAL:-	USED ON:
CHD	Bha Kishor	STEEL 38 X C	172. 66. 101 CB-1
TCD	V. Ram	GOST 4543-71	
APPD	Kms	CONTROLLERATE OF INSPECTION (HEAVY VEHICLES) AVADI	
DATE	30-6-86	TITLE: PLUG	
SCALE	2:1	D S CAT NUMBER	
DIMENSIONS IN mm		DRAWING NUMBER	
TOLERANCE ON DIMNS UNLESS OTHERWISE STATED.		172. 66. 237	
ALL THREADS CONFORM TO			
ISSUE	DATE	NATURE OF AMNDMENTS	
5	2.9.89	Notn. No. 572M-587 A-87-A19/5	
4A	3.8.89	D.O. CORRECTION	

DRAWING NUMBER
172.66.238

▽3(1)



1. IN RELATION TO THE AXIS OF THREAD THE FOLLOWING IS ALLOWED.
 - a) PLAY OF FACE 'A' NOT MORE THAN 0.25mm;
 - b) RUN-OUT OF $\phi 14$ NOT MORE THAN 0.2mm;
 - c) SHIFT OF FACETS NOT MORE THAN 0.3mm;
 - d) SHIFT OF SLOT NOT MORE THAN 0.3 mm.
2. THREAD IS TO BE COUNTED SUNK UP TO THE MAJOR DIAMETER ON SIDE OF FACE 'A' AT AN ANGLE OF 120° .
3. INTERNAL DRAFT OF FACES (MAY NOT EXCEED 2°).
4. TO BE PLATED WITH ZINC 6 TO 12 MICRONS TO BE CHROMATIZED. COATING IN THE HOLE IS NOT TO BE CHECKED.
5. HEXAHEDRON MAY BE MACHINED. IN THIS CASE R TOOL IS TO BE PROVIDED INSTEAD OF R₂.
6. ALTERNATE MATERIAL : STEEL 20 GOST 1050-74.

MASTER COPY

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

EST. MASS.
0.0032

TO BE STAMPED OR MARKED WHERE INDICATED THIS (LETTERS)

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

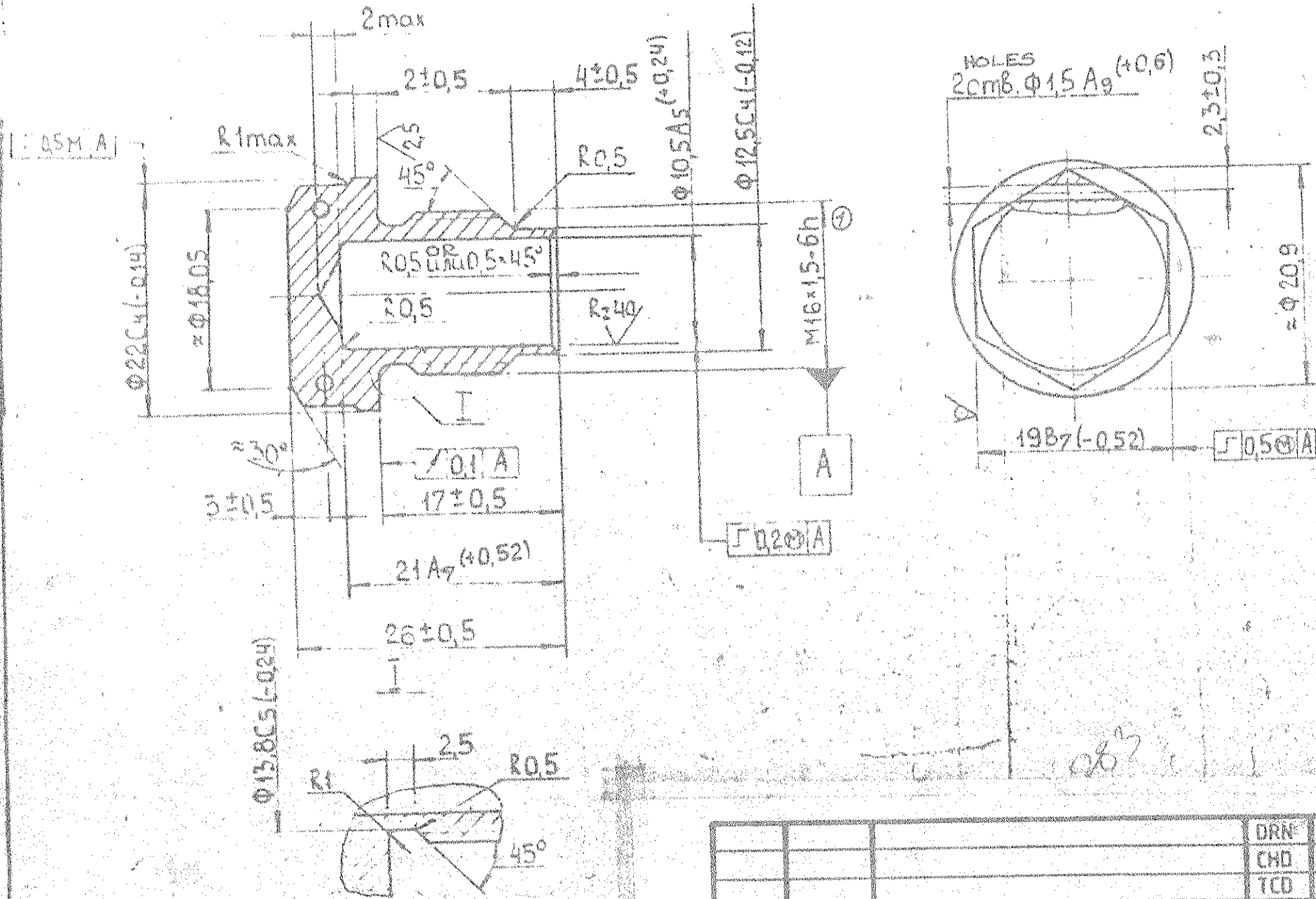
DRN	CPL	MATERIAL: OPEN HEARTH STEEL 15 GOST 1050-60	USED ON: 172.66.101 CB-1
CHD	<i>Chalkoboy</i>		
TCD	<i>v. R...</i>		
APPD	<i>K...</i>		
DATE	<i>30-6-76</i>		
	SCALE - 2:1	CONTROLLER OF INSPECTION (HEAVY VEHICLES) AVADI	
	DIMENSIONS IN mm	TITLE: NUT	
	TOLERANCE ON DIMNS UNLESS OTHERWISE STATED.	D.S. CAT NUMBER	
	ALL THREADS CONFORM TO	DRAWING NUMBER	
ISSUE	DATE	172.66.238	
	NATURE OF AMENDMENTS		

DRAWING NUMBER

172.66.242-A

R280 ✓ (✓)

1. MIN 302-255 (DIA OF INDENTATION 3.5-3.8) MAY BE CHECKED IN BLANK.
2. SHOULDER UP TO 0.3mm. ALONG DIMENSIONS 19 IS ALLOWED WHEN MILLING THE HEXAHEDRAN.
3. INTERNAL DRAFT OF FACETS UP TO 2° IS ALLOWED.
4. COATING ZN 6 CHROMATIZING COATING IN THE HOLES NOT TO BE CHECKED.
5. OTHER REQUIREMENTS ARE ACCORDING 520 TY 1.



MASTER COPY

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

EST. MASS. 0.035 TO BE STAMPED OR MARKED WHERE INDICATED THUS # (LETTERS)
 ALL SHARP EDGES AND CORNERS TO BE REMOVED UNLESS OTHERWISE STATED MACHINED CORNERS TO HAVE R OUTSIDE R INSIDE EQUIVALENT CHAMFERS ARE PERMISSIBLE.

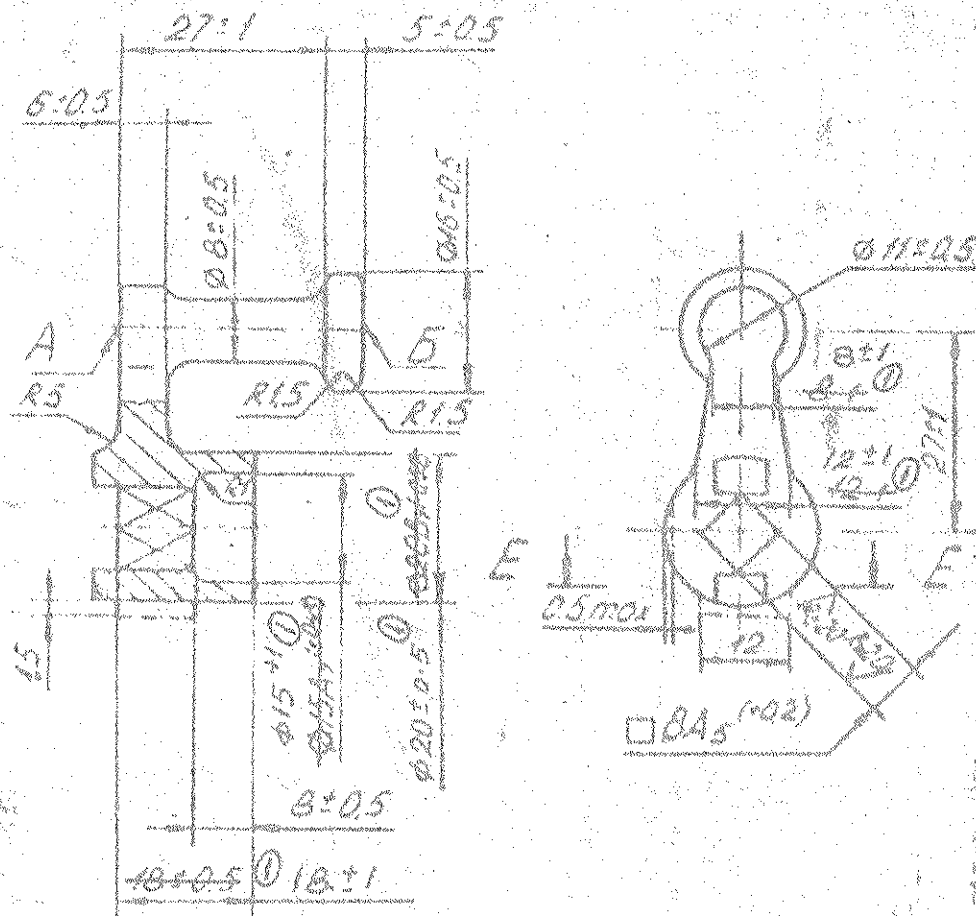
ISSUE	DATE	NATURE OF AMENDMENTS

DRN: <i>CPD</i>	MATERIAL: STEEL 38 X C GOST 4543-71	USED ON: 172.66.101C5-1
CHD: <i>Bhattacharya</i>	CONTROLLERATE OF INSPECTION(HEAVY VEHICLES) AVADI	TITLE: PLUG
TCD: <i>V. Ram</i>		
APPD: <i>K...</i>		
DATE: 30-6-86	D S CAT NUMBER	DRAWING NUMBER 172.66.242-A
SCALE: 2:1	DIMENSIONS IN mm	
TOLERANCE ON DIMNS UNLESS OTHERWISE STATED.		
ALL THREADS CONFORM TO		

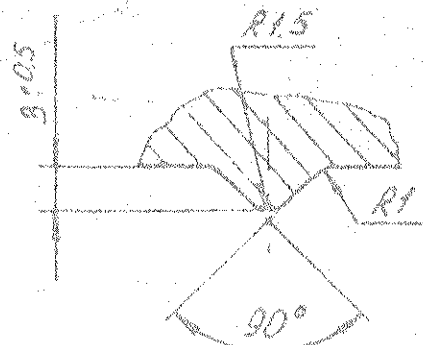
DRAWING NUMBER
172.66.330

(✓)

ORG. INDIANISED BASED ON RUSSIAN ORIGINAL. ISSUE - N/4



E-E
M2:1 SCALE 2:1



1. BHN 285-229 (DIA OF INDENTATION 3.6 - 4.0). TO BE CHECKED IN BLANK.
- ② 2. ALTERNATE MATERIAL - ~~STEEL 45 II GOST 977-75~~
3. REQUIREMENTS FOR CASTING ARE ACCORDING TO 172. TY 10.
4. LOCAL SHRINKAGE OF METAL UP TO 1mm. ON SURFACES A AND E IS ALLOWED.
5. TRACES FROM DRILLING NOT MORE THAN 0.1mm. DEEP ON THE SIDES OF THE SQUARE ARE ALLOWED, RADIUS UP TO 0.3mm IS ALLOWED IN THE CORNERS OF THE SQUARE.
6. TURNING OF SQUARE NOT TO EXCEED 1.5°.
7. SHIFT OF AXIS OF SQUARE IN RELATION TO THE COMMON AXIS OF SHOULDERS AT AN ANGLE OF 90° IS NOT TO EXCEED 0.2mm.
8. MAY BE MANUFACTURED ALONG THE CONTOUR SHOWN WITH THE DASH - DOT LINE.
9. COATING: CHEMICAL OXIDIZING (PHOSPHATING, OIL FINISHING OR CHEMICAL PHOSPHATING OIL FINISHING).
10. TO BE MARKED ON THE TAG.
11. OTHER REQUIREMENTS ARE ACCORDING TO 520 I
- ② 2. ALTERNATE MATERIAL: - STEEL 45 II, OR 40X GOST 977-75 OR 45X.I OST 3-4365-79.

MASTER COPY

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

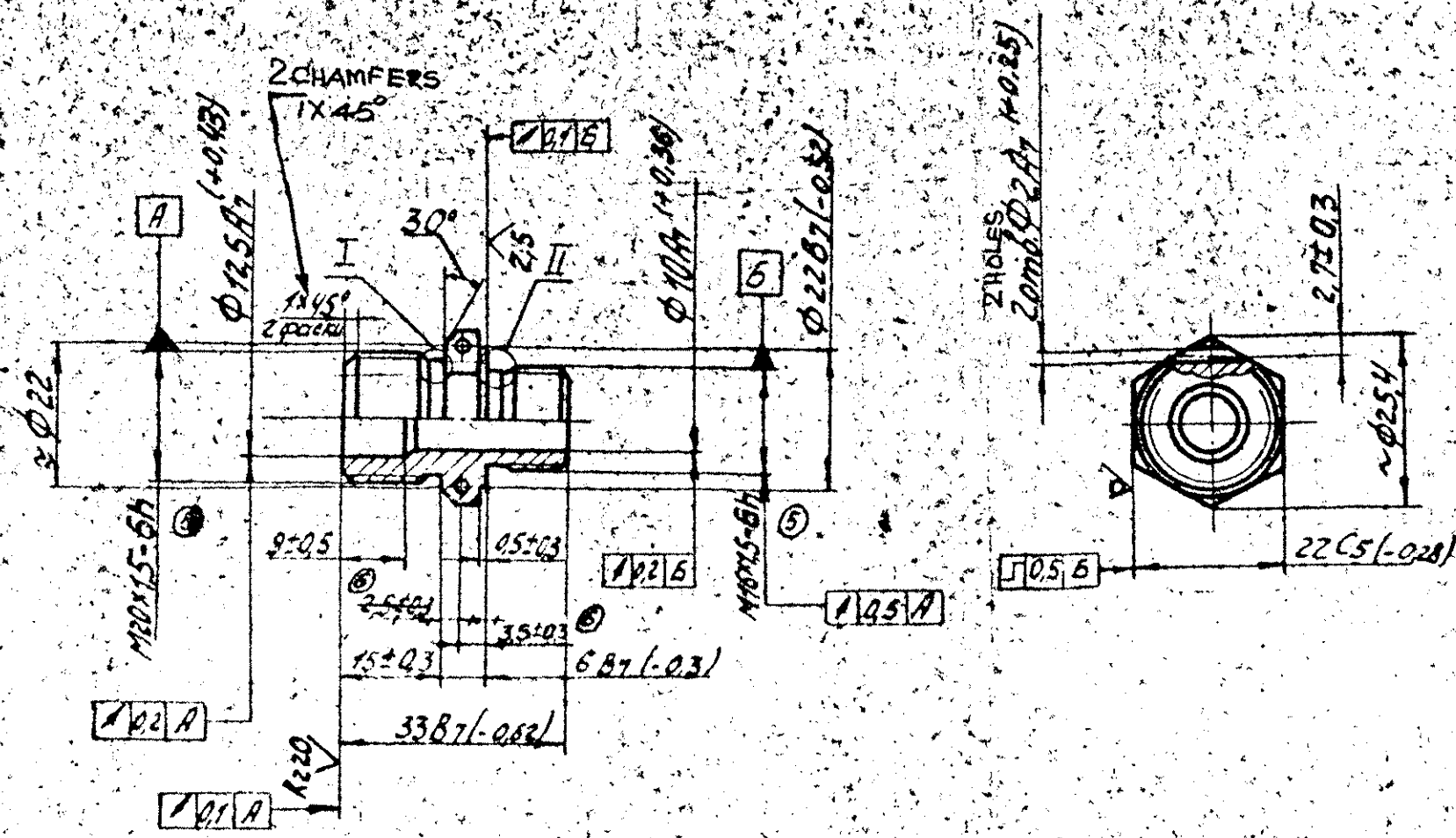
EST. MASS. 0.06	TO BE STAMPED OR MARKED WHERE INDICATED THIS * (LETTERS)
ALL SHARP EDGES AND CORNERS TO BE REMOVED UNLESS OTHERWISE STATED MACHINED CORNERS TO HAVE R OUTSIDE R INSIDE EQUIVALENT CHAMFERS ARE PERMISSIBLE.	

DRN	CPE	MATERIAL:-	USED ON
CHD	Bhattach	STEEL 40 II	172.66.101 C6-1
TCD	V.Ram	GOST 977-75	
APPD		CONTROLLERATE OF INSPECTION (HEAVY VEHICLES)	
DATE	30-6-88	AVADI	
SCALE	1:1	TITLE:	RETAINER
DIMENSIONS IN mm		D S CAT NUMBER	DRAWING NUMBER
TOLERANCE ON DIMNS UNLESS OTHERWISE STATED			172.66.330
ALL THREADS CONFORM TO			
ISSUE	DATE	NATURE OF AMENDMENTS	
2.	29.3.90	172M.187 "A"-88, Amdt. 10/2	
1	26.12.88	AMD. LIST No.6/II BOOK-9	

175.66.117

восстановленный подлинник №1

1:80



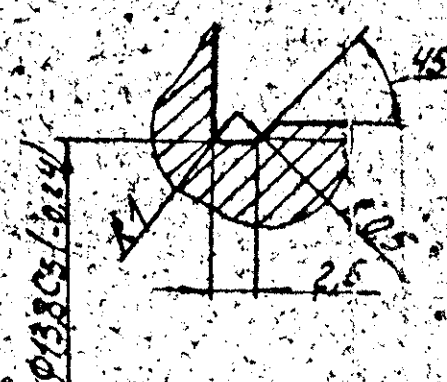
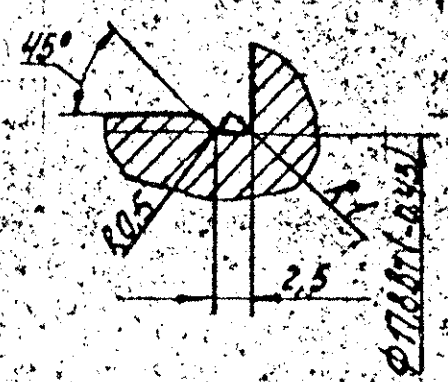
1. HB 302... 255 (d отн. 3.5... 3.8)
 Проверять в заготовке.
 2. Покрытие - хим. оксидофосфа-
 тирование ЛРМ.

1. BHN 302-255 (DIA. OF INDENTATION 3.5-3.8) TO BE CHECKED IN BLANK.
2. COATING CHEMICAL OXIDISING OIL FINISHING.

MASTER COPY

I
 M2:1
 SCALE 2:1

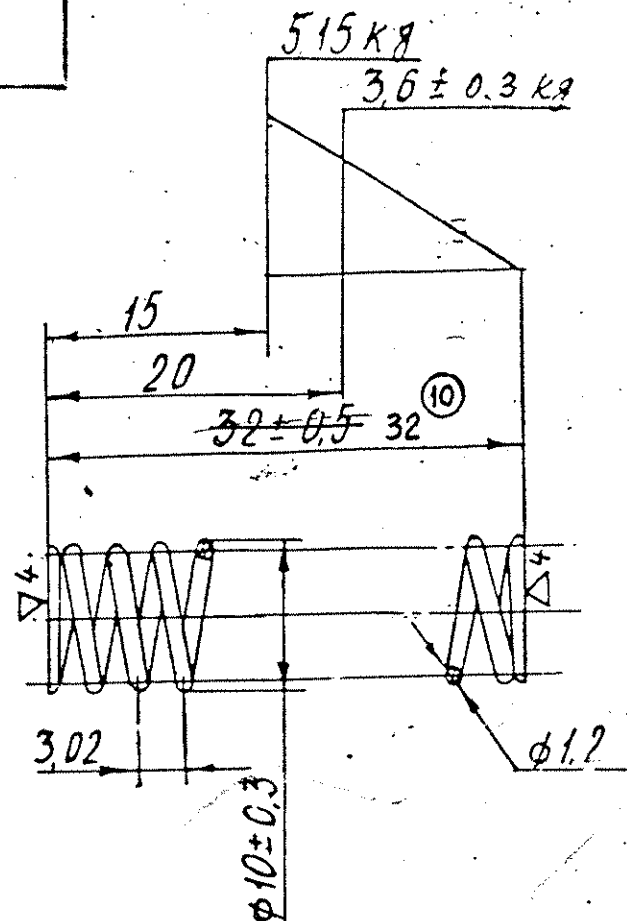
II
 M2:1
 SCALE 2:1



175.66.117			Group No		F108
			40001KQ		61
STOPPER, SCREW			SHEET	MASS	SCALE
			1 of 1	0.032	1:1
ISSUE	DATE	REFERENCE	MATERIAL:		
APPROVED		A11	STEEL 38XC		
CHECKED	11/11/85		GOST 4543-71		
DRAWN	10-10-85		HEAVY VEHICLES FACTORY		
			AVADI		

10.08.85

DRAWING NUMBER
432 40 235-1



NUMBER OF WORKING COILS	10
TOTAL NUMBER OF COILS	12-1
DIRECTION OF SPRING COILING	EITHER
DEVELOPED LENGTH OF SPRING	APPX = 330

EXPLANATORY NOTE :-

8. REFERENCE MATERIAL QUOTED :- WIRE POLISHED 51XΦ A-6-Π-XH-1,2 GOST 14963-78.
ALLOY STEEL SPRING WIRE GRADE 51XΦ A QUALITY OF SURFACE FINISH GROUP '6' GROUND ON POLISHED 0,63 μm COLD COILING "XH" HIGH ACCURACY "Π" ON DIAMETER 1,2 ± 0,02 AS PER GOST 14963-78 AND MANUFACTURED IN ACCORDANCE WITH GOST 14959-79.

9.a) CHEMICAL COMPOSITION AS PER SPRING STEEL WIRE GRADE 51XΦ A GOST 14959-79.

CONTENT OF ELEMENTS %								
C	Si	Mn	Cr	V	S	P	Cu	Ni
					MAXIMUM			
0,47	0,15	0,30	0,75	0,15	0,035	0,035	0,20	0,25
0,55	0,30	0,60	1,10	0,25				

b) MECHANICAL PROPERTIES AS PER GRADE 51XΦ A GOST 14959-79.

HEAT TREATMENT			MECHANICAL PROPERTIES			
HARDENING TEMPERATURE °C	HARDENING MEDIUM	TEMPERING TEMPERATURE °C	ULTIMATE TENSILE STRENGTH Kgf/mm²	YIELD POINT Kgf/mm²	ELONGATION %	REDUCTION IN AREA %
850	OIL	470	130	110	8	35
			MINIMUM			

1. EXTREME COILS SHOULD BE COMPRESSED BY ONE COIL AND AT LEAST 3/4 OF TURN SHOULD BE GROUND.
2. NON-SQUARENESS OF SPRING AXIS RELATIVE TO FACES SHOULD NOT EXCEED 1mm, WITHIN SPRING LENGTH.
3. AFTER SPRING IS COMPRESSED TO SIZE 14 mm TEN TIMES RESIDUAL DEFORMATION IS NOT ALLOWED.

4. TO BE HEAT TREATED. HARDNESS HRC (ROCKWELL) ~~40 TO 48~~ 41.5 ... 49.5 HRC ⇒. IT IS ALLOWED TO CHECK HARDNESS WITH THE HELP OF A TEST PIECE.
5. COATING - CHEM., OXID., OIL AS PER TY 16.
6. MAY BE MADE FROM WIRE 51XΦ A-W-5-1.2 TY 14-4-897-78. TY 14-4-1130-81
7. OTHER REQUIREMENTS ARE AS PER 60.018 TY.

MASTER COPY

FOR REFERENCE ONLY

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

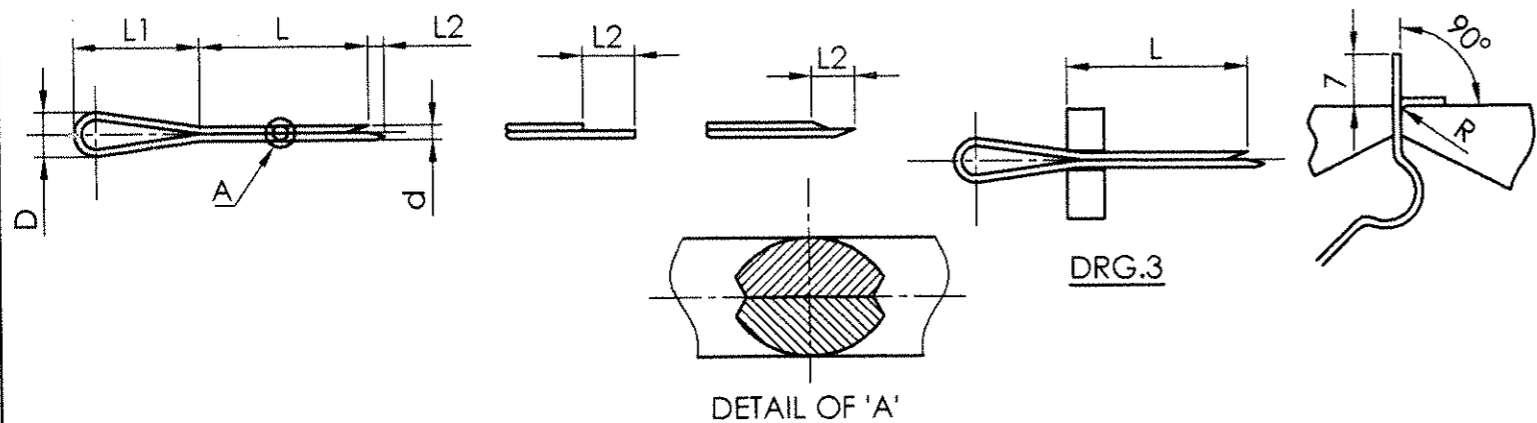
EST. WT. 0,0025 Kg TO BE STAMPED OR MARKED WHERE INDICATED THUS # (LETTERS)

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

DRN	<i>[Signature]</i>	MATERIAL :- WIRE POLISHED	USED ON 172 40 022 Cb
THU	<i>[Signature]</i>	51XΦ A-6-Π-XH-1,2	172 66 001 Cb 172 40 022 Cb
TEC	<i>[Signature]</i>	GOST 14963-78.	
APPD	<i>[Signature]</i>	CONTROLLERATE OF QUALITY ASSURANCE (HEAVY VEHICLES)	
DATE	06 - 07 - 89	AVADI	
SCALE :-	2 : 1	TITLE	
DIMENSIONS IN mm		SPRING	
TOLERANCE ON DIMNS UNLESS OTHERWISE STATED IS: 2102-69		D S C NUMBER	
ALL THREADS TO CONFORM TO		DRAWING NUMBER	
ISSUE	DATE	NATURE OF AMENDMENTS	
11	21-2-90	172 40 31-A-88 (AL 10/1)	
9, 10	17-11-89	Hand List 6/11, 800R-7	

F78
63
SIZE A3

432 40 235-1



CHEMICAL COMPOSITION (%)		MECHANICAL PROPERTIES	
ELEMENT	STEEL 20 GOST 1050-74	DESCRIPTION	STEEL 20 GOST 1050-74
C	0.17 - 0.24	TENSILE STRENGTH	42 Kgf/mm ² MIN.
Si	0.17 - 0.37	YIELD STRENGTH	25 Kgf/mm ² MIN.
Mn	0.35 - 0.65	RELATIVE ELONGATION	25 % MIN.
Cr	0.25 MAX.	REDUCTION OF AREA	55 % MIN.
S	0.040 MAX.	HARDNESS BHN	163 MAX.
P	0.035 MAX.		

DESIGNATION	d	L2	L1	D	L	USED ON.	QTY.
2.5 x 25.016	2.1 - 2.3	1.3 - 2.5	5	4.0 - 4.6	25	172-46-002CD-1 188-45-001CD-3	1
5 x 50.016	4.4 - 4.6	2.0 - 4.0	10	8.0 - 9.2	50	172-66-101CD-1	1
2 x 20.016	1.7 - 1.8	1.3 - 2.5	4	3.2 - 3.6	20	(CODE-45 / T-72 & T-90)	1

THIS SKETCH ALONG WITH ALL DETAILS IS AN ABSTRACT BASED ON GOST-397-79



- SPLIT PINS OF CONVENTIONAL DIAMETER UP TO 5mm. MUST WITHSTAND NOT LESS THAN 3 BENDINGS WITHOUT ANY SIGN OF RUPTURE OR CRACK, SPLIT PINS OF CONVENTIONAL DIAMETER OVER 5mm MUST WITHSTAND TWO BENDINGS.
- THE BEND TEST IS CARRIED OUT BY SEPARATING THE LEGS AND CLAMPING ONE OF THEM BETWEEN THE JAWS OF A VICE (DRG.3) SUCH THAT BENDING TAKES PLACE IN THE STRAIGHT PORTION OF THE LEG.
- THE EDGES OF THE JAWS MUST HAVE A ROUNDING OFF RADIUS R AS SHOWN IN TABLE GIVEN BELOW.
- THE EDGES OF THE SPLIT PIN IS BENT AT 90°, BROUGHT BACK TO ITS INITIAL POSITION AND BENT AGAIN IN THE SAME DIRECTION.

CONVENTIONAL DIAMETER d	ROUNDING OFF RADIUS R FOR EDGES OF JAWS OF VICE
UP TO 2	0.5
OVER 2 UP TO 5	0.8
OVER 5	1.2

EACH DISPLACEMENT OF THE END BY 90° IS TREATED AS ONE BEND.

TESTING IS DONE AT THE RATE OF NOT MORE THAN ONE BEND PER SECOND.

- PILOT SAMPLE TO BE APPROVED BEFORE BULK SUPPLY.

इन आरेखणों तथा इसके साथ की सम्पूर्ण सामग्री का स्वत्वाधिकार भारत सरकार रक्षा मंत्रालय की भारतीय आयुध निर्माणियों के पास है। भारतीय आयुध निर्माणियों के महानिदेशक की लिखित अनुमति के बिना इनकी नकल या किसी भी रूप में इनके उद्धरण या इनमें समाहित सूचना किसी अनधिकृत व्यक्ति को उपलब्ध नहीं कराई जानी चाहिए।

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मूलमाप व अन्वयोजन
NOMINAL SIZE & FIT

विचलन
DEVIATION

ALT. MATERIAL :- HALF ROUND MILD STEEL WIRE WITH LOW CARBON CONTENT, 0.2 % MAX. IS: 549-1974

AUTHORITY :- CQA(HV) LETTER No. 98704/04/ID-CO-ORD/ALT.COM DATED 03-05-2005

SPLIT PIN (COTTER PIN)		STEEL 20	GOST 1050-74				
संख्या NO. OFF	विवरण DESCRIPTION	पुर्जा क्र. PART NO.	पदार्थ MATERIAL	मानक STANDARD	परिमाण DIMENSIONS	अभ्यक्ति REMARKS	
	सामान्य सहिष्णुता GENERAL TOLERANCE				DRG. UP TO DATED SN. 31.5.01	31-511	
	रेखिक परिमाण LINEAR DIMENSION						
	0-6	±0.1					
	6-30	±0.2					
	30-120	±0.3					
	120-315	±0.5					
	315-1000	±0.8					
	1000-2000	±1.2					
	कोणिक परिमाण ANGULAR DIMENSION	संख्या NO. OFF	संबंधित पुर्जा क्र. DRG. NO. OF ASSOCIATED PART	सूचक INDEX	संशोधन ALTERATION	2006 दिनांक DATE	नाम NAME
	1-10	±1°				28/12	PROY
	10-50	±30'				28/12	VKJ
	50-100	±20'				28/12	
	> 100	±10'					
	मापक 'म्यू एस' में VALUE IN 'um'						
	-	>25					
	∇	8-25					
	∇∇	1.6-8					
	∇∇∇	0.025-1.6					
	∇∇∇∇	<0.025					
SPLIT PIN (COTTER PIN) TRANSMISSION GEAR UNIT CODE-45 / T-72 & T-90				मापमान SCALE	आरेखित DRAWN	28/12	PROY
				NTS	जाँचा CHECKED	28/12	VKJ
					अनुमोदित APPROVED	28/12	
				द्वारा बदला REPLACED BY	हेतु बदला REPLACED FOR		
मशीनी औजार आदिरूप फैक्टरी, अम्बरनाथ MACHINE TOOL PROTOTYPE FACTORY, AMBERNATH				कार्यालय OFFICE	D.O.	आरेखण क्र. DRAWING NO.	MPF/IGB/397

DESIGNATION	DIA. OF WIRE mm (ød)	TEST PROCEDURE			USED ON
		NUMBER OF BENDS TO 180°	NUMBER OF TWISTS TO 360°	DIA. OF ROLLERS IN mm	
KO 1.2	1.2 ^{+0.08} / _{-0.06}	6	25	5	CODE-45 CODE-94
KO 1.0	1.0 ^{+0.06} / _{-0.03}	7	25	5	CODE-94
KO 1.2 x 100Lg	1.2	6	25	5	CODE-45 (T-72)
KO 1.4 x 100Lg	1.4	14	20	10	172-66-101CD-1
KO 1.6 x 100Lg	1.6	13	20	10	

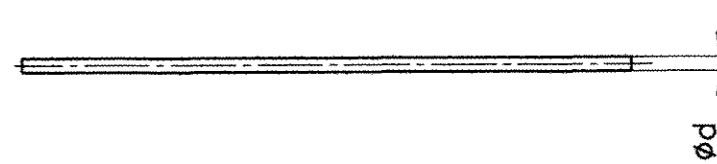
TECHNICAL REQUIREMENTS

- WIRE IS MADE FROM LOW CARBON STEEL WIRE AS PER GOST 1050-60.
- IN THE DESIGNATION KO INDICATES GALVANIZED (ZINC COATED) WIRE OF TENSILE STRENGTH 37kg/mm²
- THE FOLLOWING ARE NOT ALLOWED ON GALVANIZED SURFACE OR WIRE.
 - LOCAL EXCESSIVE ZINC, INCREASING THE ACTUAL DIAMETER OF WIRE TO A VALUE MORE THAN HALF THE DIAMETRICAL TOLERANCE.
 - WHITE DEPOSIT, IF AFTER ITS ELIMINATION WIRE DOES NOT WITHSTAND THE TESTING ON THE QUALITY OR ZINC COATING.
- ZINC COATING OF THE SURFACE OF WIRE SHOULD BE DURABLE, WHILE WINDING THE WIRE ON A CYLINDER HAVING A DIAMETER EQUAL TO FIVE TIMES THE DIAMETER OF WIRE, PEELING, CRACKING OF ZINC COATING SHOULD NOT BE THERE.
- ZINC COATING SHOULD WITH STAND'S THE NUMBER OF IMMERSIONS IN COPPER SULPHATE AS SHOWN BELOW.

CHEMICAL COMPOSITION (IN %)

MATERIAL	C	Si	Mn	Cr MAX.	S MAX.	P MAX.
LOW CARBON STEEL (STEEL GRADE 15 GOST-1050-88)	0.12-0.19	0.17-0.37	0.35-0.65	0.25	0.04	0.035
M.S WIRE GALVANIZED 1/4 HARD TO IS:280-78 REF. IS:7887-75	0.23 MAX.	---	---	---	0.055	0.055

DIA. OF WIRE IN mm	No. OF IMMERSIONS	DURATION OF HOLDING IN SOLUTION IN SECONDS.
FROM 1.0 TO 2.6	2	60



ALT. MATERIAL: COMMERCIAL QUALITY OF WIRE CAN BE USED WHICH IS SUITABLE FOR END USE. (M.S WIRE GALVANIZED 1/4 HARD TO IS:280-78)

AUTHORITY: CQA(HV) LETTER No. 98704/04/ID.CO-ORD/ALT. COM DTD. 03-05-2005.

MECHANICAL PROPERTIES:

MATERIAL	ULTIMATE STRENGTH kgf/mm ²
LOW CARBON STEEL (STEEL GRADE -15 GOST-1050-88. 'NORMALISING')	37 MIN.
M.S WIRE GALVANIZED 1/4 HARD TO IS:280-78 REF. IS:7887-75	55 MAX.

ALL DETAILS IS AN ABSTRACT BASED ON GOST-792-67



इन आरेखणों तथा इसके साथ की सम्पूर्ण सामग्री का स्वत्वाधिकार भारत सरकार रक्षा मंत्रालय की भारतीय आयुध निर्माणियों के पास है। भारतीय आयुध निर्माणियों के महानिदेशक की लिखित अनुमति के बिना इनकी नकल या किसी भी रूप में इनके उद्धरण या इनमें समाहित सूचना किसी अनधिकृत व्यक्ति को उपलब्ध नहीं कराई जानी चाहिए।

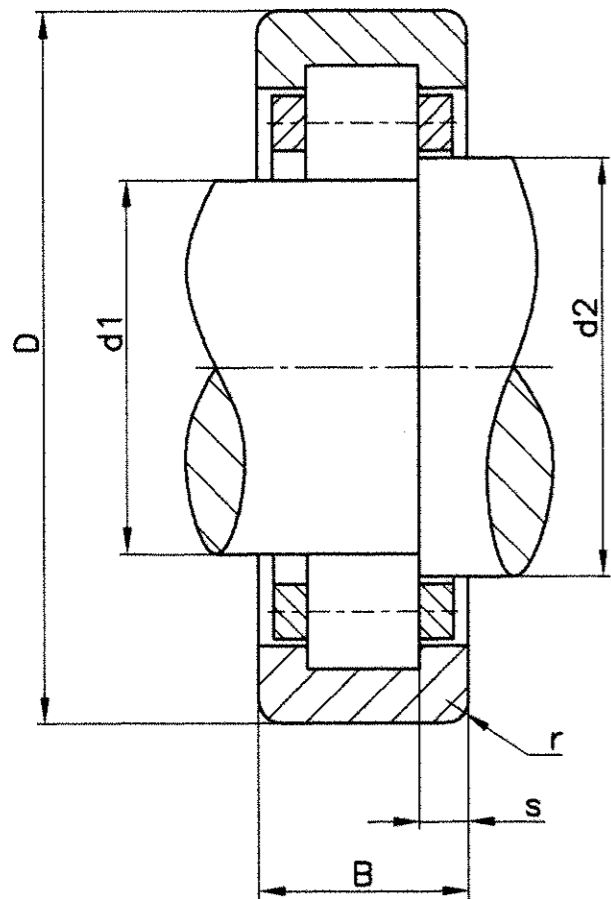
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मूलमाप व अन्वयोजन
NOMINAL SIZE & FIT

विचलन
DEVIATION

LOW CARBON QUALITY WIRE		LOW CARBON STEEL GRADE-15		GOST 1050-60		
संख्या NO.OFF	विवरण DESCRIPTION	पुर्जा क्र. PART NO.	पदार्थ MATERIAL	मानक STANDARD	परिमाणु DIMENSIONS	अभ्यक्ति REMARKS
	सामान्य सहिष्णुता GENERAL TOLERANCE					
	रेखक परिमाणु LINEAR DIMENSION					
	0-6 ±0.1					
	6-30 ±0.2					
	30-120 ±0.3					
	120-315 ±0.5					
	315-1000 ±0.8					
	1000-2000 ±1.2					
	कोणिक परिमाणु ANGULAR DIMENSION	संख्या NO.OFF	संबंधित पुर्जाक्र आरेखण क्र. DRG. NO. OF ASSOCIATED PART	सूचक INDEX	संशोधन ALTERATION	2006
	1-10 ±1°					दिनांक DATE
	10-50 ±30'					नाम NAME
	50-100 ±20'					
	>100 ±10'					
	मापक 'म्यू एम' में VALUE IN 'μm'	WIRE. LOW CARBON QUALITY CODE-45, CODE-94 / T-90				
	- >25					
	∇ 8-25					
	∇∇ 1.6-8					
	∇∇∇ 0.025-1.6					
	∇∇∇∇ <0.025					
मशीनी औजार आदिरूप फैक्टरी, अम्बरनाथ MACHINE TOOL PROTOTYPE FACTORY, AMBERNATH		कार्यालय OFFICE		DO		
मापमान SCALE		आरेखित DRAWN		08.06		
NTS		जाँचा CHECKED		7/6/05		
द्वारा बदला REPLACED BY		अनुमोदित APPROVED				
हेतु बदला REPLACED FOR		आरेखण क्र. DRAWING NO.		MPF/IGB/792		

BEARING DESIGNATION	øD	B	r	d1	d2	S	LIMIT DEVIATIONS IN MICRON AS PER GOST-520-71		CLASS OF ACCURACY (GOST ETY-500)	EQUIVALENT BEARING	
							NOMINAL OUTER DIAMETER 'D'.				RADIAL RUN OUT OF ROLLING TRACK Ra Max.
							UPPER	LOWER			
292124 л	180	28	3	135 ^{+0.055} / _{+0.040}	141	6.5	0	-25	45	0	--



CHEMICAL COMPOSITION

MATERIAL	C %	Si %	Mn %	Cr %	NOT MORE THAN				
					S %	P %	Ni %	Cu %	Ni+Cu %
ШХ15 GOST 801-78	0.95-1.05	0.17-0.37	0.20-0.40	1.30-1.65	0.02	0.027	0.30	0.25	0.50
SAE 52100	0.95-1.10	0.20-0.35	0.25-0.45	1.30-1.60	0.025	0.025	--	--	--

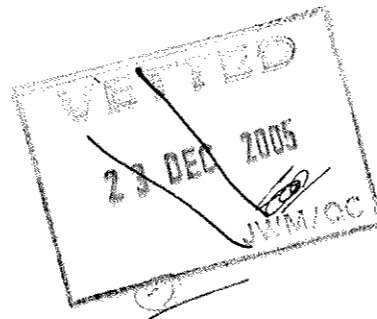
THIS SKETCH ALONG WITH ALL DETAILS IS AN ABSTRACT BASED ON GOST-5377-79

HARDNESS RC:61-65

ALTERNATE MATERIAL: SAE 52100

(AUTHORITY - CQA(HV), AVADI, LETTER NO. 98704/04/ID-CO-ORD/ALT COM, DATED 03/05/2005.)

WITH OUT INNER RING



NOTES:-

- BEARING SHOULD BE FREE FROM CRACKS, CORROSION AND ALSO GRINDING BURRS IN THE SHAPE OF SPOTS OF SECONDARY HARDENING AND SECONDARY TEMPERING.
- BEARING PARTS SHOULD BE DEMAGNETISED.
- SURFACE QUALITY IS INSPECTED BY NON-DESTRUCTIVE METHODS SURFACE QUALITY MAY BE CHECKED, WITHOUT THE USE OF MAGNIFYING DEVICES.
- ABSENCE OF SHRINK HOLES MAY BE CHECKED ON DISCS. CUT FROM TWO ENDS OF A ROD OR BUNDLE, BY MAGNETIC METHOD.

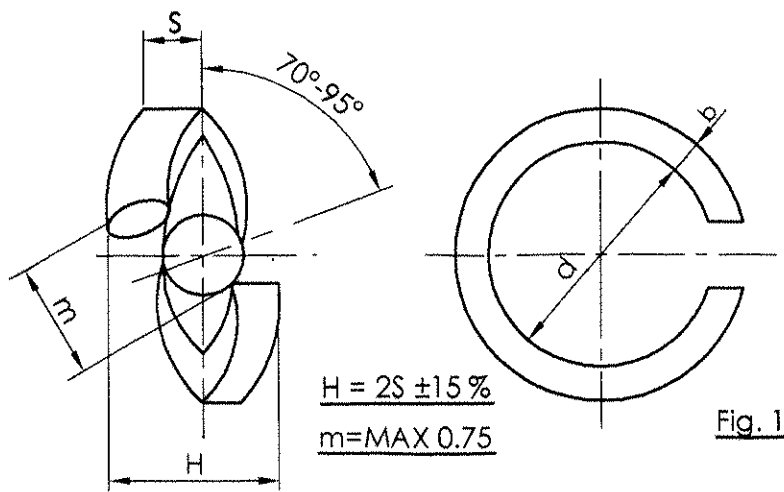
इन आरेखणों तथा इसके साथ की सम्पूर्ण सामग्री का स्वत्वाधिकार भारत सरकार रक्षा मंत्रालय की भारतीय आयुध निर्माणियों के पास है। भारतीय आयुध निर्माणियों के महानिदेशक की लिखित अनुमति के बिना इनकी नकल या किसी भी रूप में इनके उद्धरण या इनमें समाहित सूचना किसी अनधिकृत व्यक्ति को उपलब्ध नहीं कराई जानी चाहिए।

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मूलमाप व अन्वयोजन
NOMINAL SIZE & FIT

विचलन
DEVIATION

संख्या NO. OFF	विवरण DESCRIPTION	पुर्जा क्र. PART NO.	पदार्थ MATERIAL	मानक STANDARD	परिमाण DIMENSIONS	अभ्यक्ति REMARKS
	RADIAL ROLLER BEARING		ШХ15	GOST 801-78		
	सामान्य सहिष्णुता GENERAL TOLERANCE					@ DRG 4PT0 DATED ON. 8.6.2011
	रेखिक परिमाण LINEAR DIMENSION					
	0-6					±0.1
	6-30					±0.2
	30-120					±0.3
	120-315					±0.5
	315-1000					±0.8
	1000-2000					±1.2
	कोणिक परिमाण ANGULAR DIMENSION					
	1-10					±1'
	10-50					±30'
	50-100					±20'
	>100					±10'
	मापक 'म्यू एम' में VALUE IN 'um'					
	-					>25
	∇					8-25
	∇∇					1.6-8
	∇∇∇					0.025-1.6
	∇∇∇∇					<0.025
	RADIAL ROLLER BEARING TRANSMISSION GEAR UNIT CODE - 45 / T-72 & T-90				मापमान SCALE	आरेखित DRAWN
					NTS	20/09/05
					जाँचा CHECKED	23/12/06
					अनुमोदित APPROVED	23/12
					द्वारा बदला REPLACED BY	
					हेतु बदला REPLACED FOR	
					कार्यालय OFFICE	D.O.
					मशीनी औजार आदिरूप फैक्टरी, अम्बरनाथ MACHINE TOOL PROTOTYPE FACTORY, AMBERNATH	आरेखण क्र. DRAWING NO. MPF/IGB/5377.



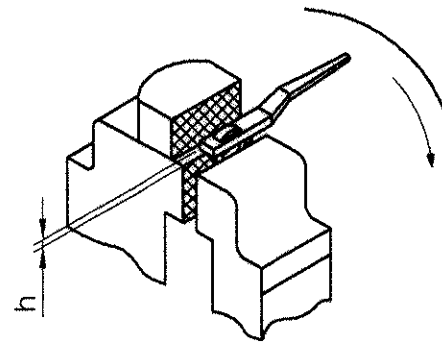
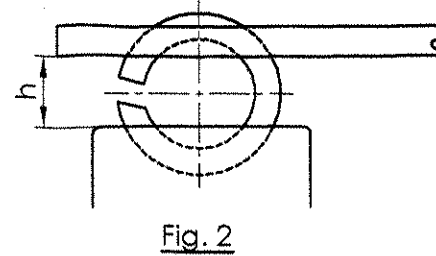
DESIGNATION EXAMPLE :-
 5T-65Γ-01-6
 5 --- THREAD DIAMETER
 T --- CONDITION
 65Γ - MATERIAL
 01- - TYPE OF FINISH
 6 -- THICKNESS OF PLATING IN MICRONS

CONDITION	DESCRIPTION
L	LIGHT
N	MEDIUM
T	HEAVY
OT	VERY HEAVY

CONVENTIONAL SYMBOL OF FINISH	TYPE OF FINISH
00	WITHOUT FINISH.
01	ZINC PLATING FOLLOWED BY CHROMATE PASSIVATION.
02	CADMIUM PLATING FOLLOWED BY CHROMATE PASSIVATION.
03	NICKEL PLATING MULTILAYER COPPER NICKEL PLATING
04	MULTILAYER NICKEL CHROME PLATING MULTILAYER COPPER NICKEL CHROME PLATING
05	OXIDE COATING
06	PARKERISING FOLLOWED BY OILING
09	ZINC PLATING
10	OXY ANODIZING FOLLOWED BY CHROMATE PASSIVATION.
11	PASSIVATION.

VETTED
 15 FEB 2006
 JWM/STD-CELL

SPRING WASHER DESIGNATION	NOMINAL DIA.	d	s	b
4-65Γ	4	4.1 ^{+0.30}	1.2 ^{±0.125}	1.2 ^{±0.125}
5-65Γ-05	5	5.1 ^{+0.30}	1.4 ^{±0.125}	1.4 ^{±0.125}
5T-65Γ-01-6	5	5.1 ^{+0.30}	1.6 ^{±0.125}	1.6 ^{±0.125}
6T-65Γ-01-6	6	6.1 ^{+0.58}	2.0 ^{±0.125}	2.0 ^{±0.125}
8-65Γ-01-6	8	8.1 ^{+0.58}	2.0 ^{±0.125}	2.0 ^{±0.125}
8T-65Γ-01-6	8	8.1 ^{+0.58}	2.5 ^{±0.125}	2.5 ^{±0.125}
10-65Γ-01-6	10	10.1 ^{+0.70}	2.5 ^{±0.125}	2.5 ^{±0.125}
12OT-65Γ-01-6	12	12.1 ^{+0.70}	4.0 ^{+0.24}	4.0 ^{+0.24}
3-65Γ-06	3	3.1 ^{+0.30}	1 ^{±0.125}	1 ^{±0.125}



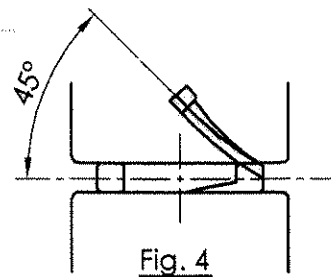
CHEMICAL COMPOSITION (%)			MECHANICAL PROPERTIES		
ELEMENT	STEEL 65Γ GOST 14959-79	STEEL 70C6 IS: 2507-75	DESCRIPTION	STEEL 65Γ GOST 14959-79	STEEL 70C6 IS: 2507-75
C	0.62 - 0.70	0.65 - 0.75	TENSILE STRENGTH	981 (MIN.) MPa	1180-1420 MPa
Si	0.17 - 0.37	0.10 - 0.35		YIELD STRENGTH	785 (MIN.) Mpa
Mn	0.90 - 1.20	0.50 - 0.80	RELATIVE ELONGATION		8 % MIN.
Cr	0.25 MAX.	-----	RELATIVE REDUCTION	30 % MIN.	-----
Ni	0.25 MAX.	-----	HARDNESS	40 - 50 HRC	350 - 425 VPN
Cu	0.20 MAX.	-----			
S	-----	0.05 MAX.			
P	-----	0.05 MAX.			

ALTERNATE MATERIAL :- STEEL GRADE 70C6 TO IS:2507-75
 AUTHORITY :- CQA(HV), AVADI, LETTER NO. 98704/04/ID-CO-ORD/ALT COM. DATED 03/05/2005

THIS SKETCH ALONG WITH ALL DETAILS IS AN ABSTRACT BASED ON GOST-6402-70

TESTING THE TENACITY:

ONE END OF THE WASHER IS CLAMPED IN VICE, IT'S OTHER END IS BENT WITH MONKEY WRENCH OR HANDLE HAVING A SLOT TO THE SIDE OF INCREASE OF DIMENSION 'H'. DURING THE TEST, DIMENSION 'h' SHOULD BE MAINTAINED (BETWEEN THE JAWS OF VISE AND WRENCH) EQUAL TO HALF THE INNER DIAMETER OF WASHER (SEE FIG. 2, 3, 4).



इन आरेखों तथा इसके साथ की सम्पूर्ण सामग्री का स्वत्वाधिकार भारत सरकार रक्षा मंत्रालय की भारतीय आयुध निर्माणियों के पास है। भारतीय आयुध निर्माणियों के महानिदेशक की लिखित अनुमति के बिना इनकी नकल या किसी भी रूप में इनके उद्धरण या इनमें समाहित सूचना किसी अनधिकृत व्यक्ति को उपलब्ध नहीं कराई जानी चाहिए।

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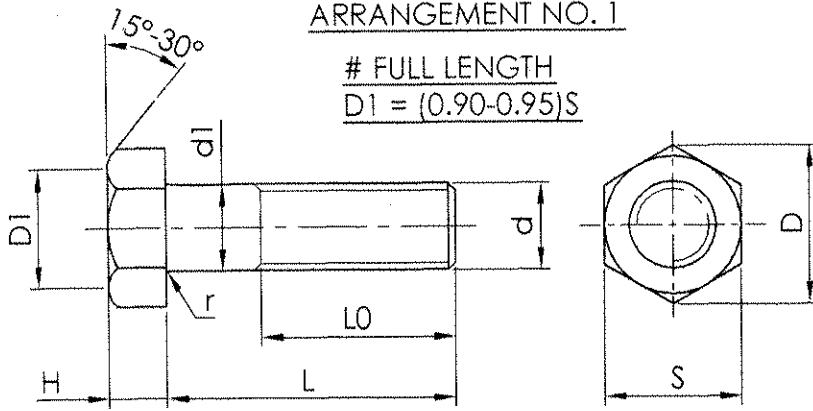
मूलमाप व अन्वायोजन
 NOMINAL SIZE & FIT

विचलन
 DEVIATION

SPRING WASHER		STEEL 65Γ	GOST 14959-79	HRD. & TEMP.		
संख्या NO.OFF	विवरण DESCRIPTION	पुर्जा क्र. PART NO.	पदार्थ MATERIAL	मानक STANDARD	परिमाणु DIMENSIONS	अभ्यक्ति REMARKS
	सामान्य सहिष्णुता GENERAL TOLERANCE		a)	Added as required.		5/11/07
	रेखिक परिमाण LINEAR DIMENSION		b)	DRG. UPTO, DATED ON. 31.5.01		
0-6	±0.1					
6-30	±0.2					
30-120	±0.3					
120-315	±0.5					
315-1000	±0.8					
1000-2000	±1.2					
	कोणिक परिमाण ANGULAR DIMENSION		c)	DIMN. 4.0 WAS 4.50, Ref. Letter No. B.5.08		
1-10	±1°					
10-50	±30'					
50-100	±20'					
>100	±10'					
	मापक 'म्यू एम' में VALUE IN 'μm'					
-	>25					
▽	8-25					
▽▽	1.6-8					
▽▽▽	0.025-1.6					
▽▽▽▽	<0.025					
संख्या NO.OFF	संबंधित पुर्जा का आरेखण क्र. DRG. NO. OF ASSOCIATED PART	सूचक INDEX	संशोधन ALTERATION	2006	दिनांक DATE	नाम NAME
					14.02.05	kb
SPRING WASHER TRANSMISSION GEAR UNIT CODE - 45 / T-72 & T-90				मापमान SCALE	आरेखित DRAWN	
				NTS	जाँचा CHECKED	16.02
					अनुमोदित APPROVED	
				द्वारा बदला REPLACED BY	हेतु बदला REASON FOR	
मशीनी औजार आदिरूप फैक्टरी, अम्बरनाथ MACHINE TOOL PROTOTYPE FACTORY, AMBERNATH				कार्यालय OFFICE	आरेखण क्र. DRAWING NO.	
				D.O.	MPF/IGB/6402	

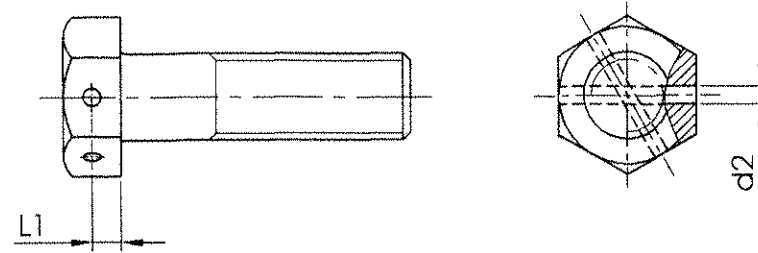
ARRANGEMENT NO. 1

FULL LENGTH
D1 = (0.90-0.95)S



ARRANGEMENT NO. 3

FULL LENGTH
D1 = (0.90-0.95)S



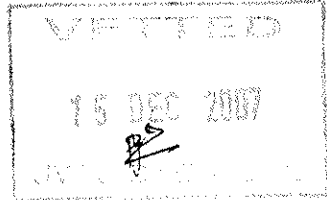
DESIGNATION	d	d1	H	L	L0	r	S	D	d2	L1	THREAD DETAILS		
											Major Ø	Eff. Ø	Minor Ø
M6-6gx14.66.016	M6	6.0 ^{-0.18}	4.0 ^{±0.15}	14 ^{±0.35}	#	0.25 0.40	10 ^{-0.22}	11	-	-	6.0 ^{-0.026 -0.206}	5.352 ^{-0.026 -0.138}	4.776 ^{0 -0.026}
3M6-6gx10.66.019	M6	6.0 ^{-0.18}	4.0 ^{±0.15}	10 ^{±0.29}	#	0.25 0.40	10 ^{-0.22}	11	2 ^{±0.40}	2 ^{±0.20}	6.0 ^{-0.026 -0.206}	5.352 ^{-0.026 -0.138}	4.776 ^{0 -0.026}

NATIONAL DESIGNATION OF PLATING		TYPE OF PLATING
NUMERICAL	ACCORDING TO GOST 9073-77	
01	Zn, Cr	ZINC CHROMATING
02	Cd, Cr	CADMIUM CHROMATING
03	Cu, Ni	MULTILAYER COPPER NICKEL
04	Cu Ni Cr	MULTILAYER COPPER NICKEL CHROMIUM
05	Chem. Oxid.	OXIDING
06	Chem. Phos. Oil Imp.	PHOSPHATING WITH OIL IMPREGNATION
07	Cu	COPPER
08	Zn	ZINC
09	Hot Zn (Galv.)	HOT ZINC (GALVANISING)
10	Anod. Oxid. Cr	OXIDING WITH POTASSIUM BICHROMATE SOLUTION
11	Chem. Pass.	OXIDING WITH ACID SOLUTION
13	Ni	NICKEL
14	Cd	CADMIUM

DESIGNATION EXAMPLE :-

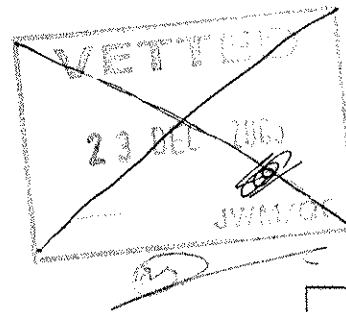
M6 - 6g x 14 - 66 - 01 - 6

- 1 ----- ARRANGEMENT NO.
- M6 x 1 --- THREAD DESIGNATION
- 6g ----- THREAD TOLERANCE ZONE AS PER GOST 16093-81
- 14 ----- LENGTH
- 66 ----- STRENGTH CLASS AS PER GOST-1759-70
- 01 ----- DESIGNATION OF PLATING
- 6 ----- THICKNESS OF COATING IN MICRONS



CHEMICAL PROPERTIES:

MATERIAL DESIGNATION	% C	% Si	% Mn	% Cr	% S	% P	% Cu	% Ni
STEEL 20 GOST 1050 - 74	0.17 0.24	0.17 0.37	0.35 0.65	0.25 max	0.040 max	0.035 max	0.25 max	0.25 max
080 M40 BS:970-83	0.36 0.44	-	0.60 1.00	-	0.050 max	0.050 max	-	-



ALT. MATERIAL : 080 M40 to BS:970-83

AUTHORITY : CQA(HV) LETTER NO. 98704/04/ID-CO-ORD/ALT COM DATED 03-05-2005

MECHANICAL PROPERTIES:

MATERIAL DESIGNATION	YIELD POINT	ULTIMATE TENSILE STRENGTH	ELONGATION % (Min)	IMPACT STRENGTH	HARDNESS
STEEL 20 GOST 1050 - 74	36 kg/mm ² (Min)	60 - 80 kgf/mm ²	16	4.0 kgf.m/cm ² (Min)	170 - 245 HB
080 M40 BS:970-83	385 N/mm ² (Min)	625 - 775 N/mm ²	16	-	179 - 229 HB

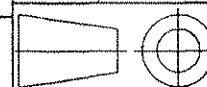
THIS SKETCH ALONG WITH ALL DETAILS IS AN ABSTRACT BASED ON GOST-7805

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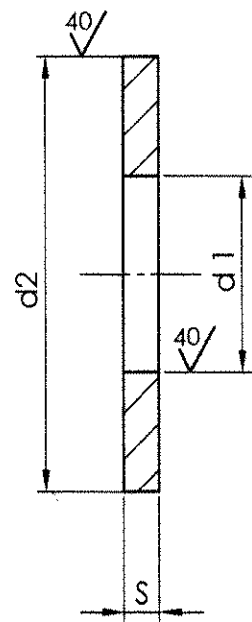
मूलमाप व अन्वयोजन
NOMINAL SIZE & FIT

विचलन
DEVIATION



BOLT		STEEL 20	GOST 1050 - 74			
संख्या NO. OFF	विवरण DESCRIPTION	पुर्जा क्र. PART NO.	पदार्थ MATERIAL	मानक STANDARD	परिमाण DIMENSIONS	अभ्यक्ति REMARKS
सामान्य सहिष्णुता GENERAL TOLERANCE		@ DRG UPTO DATED ON.19.7.11				
रेखिक परिमाण LINEAR DIMENSION						
0-6		±0.1				
6-30		±0.2				
30-120		±0.3				
120-315		±0.5				
315-1000		±0.8				
1000-2000		±1.2				
कोणिक परिमाण ANGULAR DIMENSION		संख्या NO. OFF	संबंधित पुर्जाका आरेखण क्र. DRG. NO. OF ASSOCIATED PART	सूचक INDEX	संशोधन ALTERATION	
1-10		±1°				
10-50		±30'				
50-100		±20'				
>100		±10'				
मापांक 'न्यू एम' में VALUE IN 'um'						
-		>25				
∇		8-25				
∇∇		1.6-8				
∇∇∇		0.025-1.6				
∇∇∇∇		<0.025				
		HEXAGON BOLT		मापमान SCALE		आरेखित DRAWN
		TRANSMISSION GEAR UNIT		NTS		04/09/05 GAK
		CODE - 45 / T-90 & T-72		जाँचा CHECKED		23.12.05 GAK
				अनुमोदित APPROVED		23.12 GAK
				द्वारा बदला REPLACED BY		
				हेतु बदला REPLACED FOR		
				आरेखण क्र. DRAWING NO.		MPF/IGB/7805
		मशीनी औजार आदिरूप फैक्टरी, अम्बरनाथ MACHINE TOOL PROTOTYPE FACTORY, AMBERNATH		कार्यालय OFFICE		D.O.

VARIANT 1



WASHER AS PER IS:2016-67, ACCEPTABLE

* MATERIAL: STEEL 10KN GOST 1050-74
 ALTERNATE MATERIAL: STEEL Gde. 'D' TO IS:513 - 94
 (AUTHORITY - CQA(HV), AVADI, LETTER NO. 98704/04/ID-CO-ORD/ALT COM, DATED 03/05/2005.)
 CHEMICAL COMPOSITION:

MATERIAL DESIGNATION	% C	% Si	% Mn	% Cr	% S	% P	% Cu	% Ni
STEEL 10KN GOST 1050 - 74	0.07 0.14	0.07 max	0.25 0.50	0.15 max	0.040 max	0.035 max	0.25 max	0.25 max
STEEL Gde.'D' IS:513 - 92	0.12 max	---	0.50 max	---	0.040 max	0.040 max	---	---

MECHANICAL PROPERTIES:

MATERIAL DESIGNATION	YIELD POINT kg/mm ² (min)	ULTIMATE TENSILE STRENGTH, kg/mm ²	ELONGATION, % (min)	REDUCTION OF AREA % (min)	HARDNESS
STEEL 10KN GOST 1050 - 74	21	34	31	55	143 HB max

	TENSILE STRENGTH MPa	YIELD STRESS MPa (max)	ELONGATION, % (min)	IMPACT STRENGTH ft.lb (min)	HARDNESS (max)
STEEL Gde.'D' IS:513 - 94	270 - 410	280	23	---	65 HRB

@ This sketch alongwith all details is an abstract of GAST 11371-78&68

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मूलमाप व अन्यायोजन
NOMINAL SIZE & FIT

विचलन
DEVIATION

DESIGNATION	NOMINAL DIA.	INTERNAL DIA. (d1)	EXTERNAL DIA. (d2)	THICKNESS S
4.01.016	4	4.3	9.0	0.8
05.01.016	5	5.3	10.0	1.0
C5.01.016	5	5.3	10.0	1.0
C6.01.016	6	6.4	12.5	1.6
C8.01.016	8	8.4	17.0	1.6

DESIGNATION EXAMPLE :-
C5.01.01.6

C----- TOLERANCE CLASS
 5----- NOMINAL DIA. OF
 THREAD
 01----- VARIANT 1
 01----- TYPE OF PLATING
 6----- THICKNESS OF
 PLATING IN MICRONS

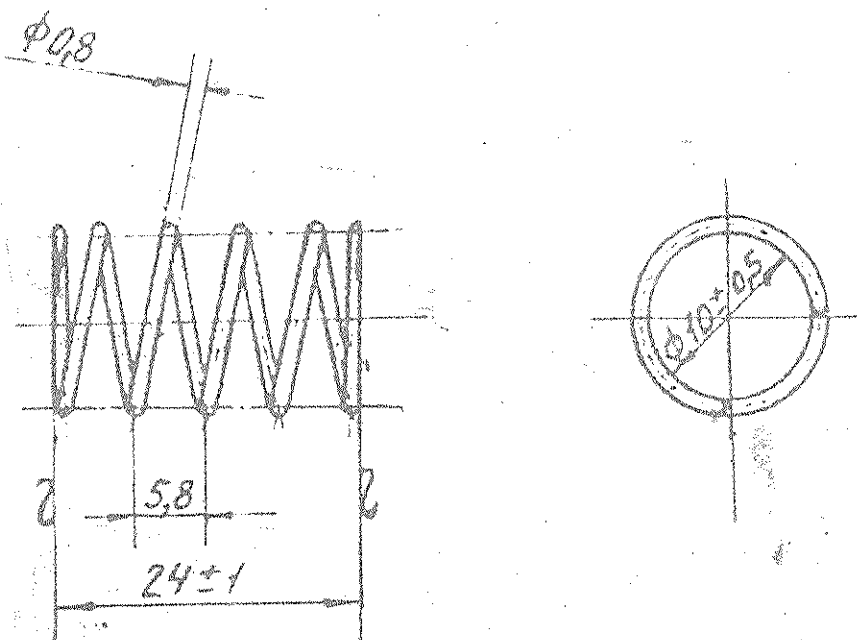
NATIONAL DESIGNATION OF PLATING		TYPE OF PLATING
NUMERICAL	ACCORDING TO GOST 9073-77	
01	Zn, Cr	ZINC CHROMATING
02	Cd, Cr	CADMIUM CHROMATING
03	Cu, Ni	MULTILAYER COPPER NICKEL
04	Cu Ni Cr	MULTILAYER COPPER NICKEL CHROMIUM
05	Chem. Oxid.	OXIDING
06	Chem. Phos. Oil Imp.	PHOSPHATING WITH OIL IMPREGNATION
07	Cu	COPPER
08	Zn	ZINC
09	Hot Zn (Galv.)	HOT ZINC (GALVANISING)
10	Anod. Oxid. Cr	OXIDING WITH POTASSIUM BICHROMATE SOLUTION
11	Chem. Pass.	OXIDING WITH ACID SOLUTION
13	Ni	NICKEL
14	Cd	CADMIUM



WASHER		*				
संख्या NO OFF	विवरण DESCRIPTION	पुर्जा क्र. PART NO.	पदार्थ MATERIAL	मानक STANDARD	परिमाण DIMENSIONS	अभ्यक्ति REMARKS
	सामान्य सहिष्णुता GENERAL TOLERANCE		@	Note added and dog. no amended		
	रेखिक परिमाण LINEAR DIMENSION					
	0-6					
	6-30					
	30-120					
	120-315					
	315-1000					
	1000-2000					
	कोणिक परिमाण ANGULAR DIMENSION					
	1-10					
	10-50					
	50-100					
	>100					
	मापक 'म्यू एम' में VALUE IN 'um'					
	-					
	>25					
	∇					
	8-25					
	∇∇					
	1.6-8					
	∇∇∇					
	0.025-1.6					
	∇∇∇∇					
	<0.025					
WASHER		TRANSMISSION GEAR UNIT		CODE - 45 / T-72 & T-90		
मशीनी औजार आदिरूप फैक्टरी, अम्बरनाथ		MACHINE TOOL PROTOTYPE FACTORY, AMBERNATH		D.O.		
मापमान SCALE		आरेखित DRAWN		06/09/05		RRK
NTS		जाँचा CHECKED		2-12-05		
		अनुमोदित APPROVED		05.12		
द्वारा बदला REPLACED BY		हेतु बदला REPLACED FOR		DRAWING NO.		
				MPF/1GB/11371		

54 04 284

NO. OF OPERATING COILS Количество раб. витков	4	LENGTH OF WIRE Длина проволоки	= 200mm
TOTAL NO. OF COILS Количество строп. витков	5,5±0,5	COILING Навивка	ENTIRE HEIGHT Плюс



1. DURING REPEATED COIL TO COIL COMPRESSION OF THE SPRING RESIDUAL DEFORMATION IS NOT ALLOWED.
2. DEVIATION FROM TRY SQUARE SHOULD NOT BE MORE THAN 1.5mm, FOR THE ENTIRE HEIGHT OF THE SPRING.
3. SUPPORTING SURFACE MUST BE NOT LESS THAN 0.75 OF THE LENGTH OF THE CIRCUMFERENCE.
4. MANUFACTURE FROM WIRE I OR II GOST 9389-75 IS ALLOWED.
5. TO BE ZINC PLATED THICKNESS OF ZINC LAYER NOT TO BE LESS THAN 0.01mm.
6. BULGING OF SEPERATE COILS IS NOT TO BE CHECKED.

EXPLANATORY NOTE

(L1)

- 7) REFERENCE MATERIAL QUOTED -
CARBON STEEL COLD DRAWN WIRE OF CATEGORY III WITH NORMAL ACCURACY ON DIAMETER $0.8^{+0.03}_{-0.02}$ mm GOST 9389-75 AND MANUFACTURED IN ACCORDANCE WITH GOST 1050-74.
- a) REFERENCE NOTE & ON ALTERNATIVE MATERIAL :-
CARBON STEEL COLD DRAWN WIRE OF CATEGORY I OR II WITH NORMAL ACCURACY ON DIAMETER $0.8^{+0.03}_{-0.02}$ mm GOST 9389-75 AND MANUFACTURED IN ACCORDANCE WITH GOST 1050-74.
- b) MECHANICAL PROPERTIES:-
AS PER CATEGORY III, II & I WIRE DIAMETER 0.8 mm GOST 9389-75

CATEGORY OF WIRE	TENSILE STRENGTH Kgf/mm ²	No. OF BENDS	NUMBER OF TWISTS MIN
III	170-215	12	17
II	215-260	12	17
I	260-295	11	16

MASTER COPY

F-25
132

EST. MASS	0.0078	TO BE STAMPED OR MARKED WHERE INDICATED THIS (LETTERS)
ISSUE DATE	11-1-89	EXPLANATORY NOTE ADDED
NATURE OF AMENDMENTS	SCALE - 2:1	DISPENSIONS IN mm
MATERIAL	WIRE III - 0.8	USED ON: 172 65 101 CB-1
POST	9389-75	176.34.001 06
TOLERANCE ON DIMS UNLESS OTHERWISE STATED	ALL DIMENSIONS TO BE TO 0.1mm UNLESS OTHERWISE STATED	CONTROLLERATE OF INSPECTION HEAVY VEHICLES AVADI
TITLE	SPRING	DRAWING NUMBER
DRAWING NUMBER	54.04.284	