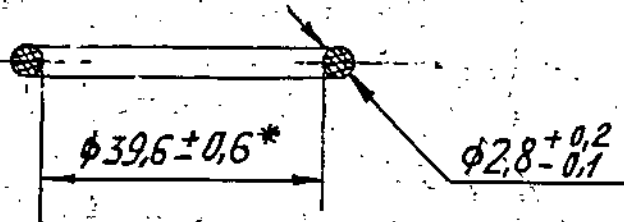


DRAWING NUMBER
20-12-90



- 1* PROVIDE DIMENSION WITH TOOLS.
- 2. MARK ON THE TAG.
- 3. OTHER REQUIREMENTS ARE AS PER TECHNICAL SPECIFICATION STY 005 216-75 FOR ARTICLES CODE 25 3111 HP.

EXPLANATORY NOTE:-

MATERIAL QUOTED:

RUBBER H.O 68-1 TY 005-216-75
H068-1-GRADE OF RUBBER

PARAMETERS:

- 1. WORKING MEDIUM = AIR, FUELS, OILS AND GASOLINE
- 2. WORKING TEMPERATURE = - 50°C TO + 100°C
- 3. ULTIMATE STRENGTH ^{AT} RUPTURE Kgf/cm² (MIN) = 90
- 4. ELONGATION AT RUPTURE % (MIN) = 250
- 5. HARDNESS AGAINST HARDNESS GAUGE TYP UNITS = 55-70
- 6. DENSITY g/cm³ = 1.24 ± 0.05
- 7. RESIDUAL ELONGATION AFTER RUPTURE (MAX) = 12

EXP NOTE ADDED QN 3-5-71 KVD NO. 63280

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

EST. WT. TO BE STAMPED OR MARKED WHERE INDICATED THUS # (LETTERS)

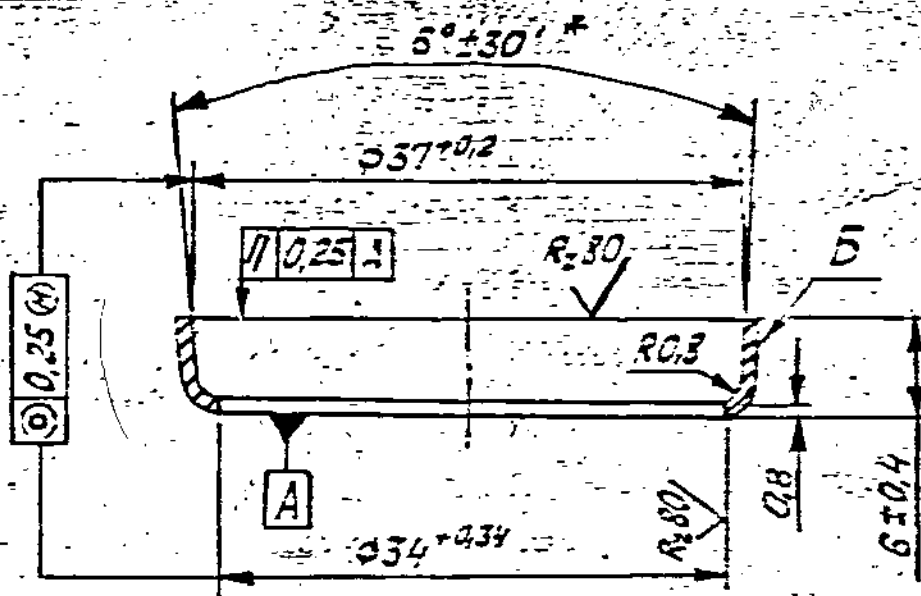
ALL SHARP EDGES AND CORNERS TO BE REMOVED UNLESS OTHERWISE STATED MACHINED CORNERS TO HAVE R OUT SIDE INSIDE EQUIVALENT CHAMFERS ARE PERMISSIBLE

DRN		MATERIAL:-RUBBER	USED ON CB 20-13-01-8
CHK	<i>[Signature]</i>	H0-68-TTY 005 216-75.	CB 20-12-00-13, CB 20-12-01-13.
TCD	<i>[Signature]</i>	CONTROLLERATE OF QUALITY ASSURANCE(HEAVY VEHICLES)	
APPD	<i>[Signature]</i>	AVADI	
DATE	11-11-87	TITLE	
SCALE:-	1:1	RING	
DIMENSIONS IN mm TOLERANCE ON DIMNS UNLESS OTHERWISE STATED IS:2102-69		D S CAT NUMBER	
ALL THREADS TO CONFORM TO		DRAWING NUMBER	
ISSUE DATE	NATURE OF AMENDMENTS	20-12-90	



SIZE A3

DRAWING NUMBER
20-12-91-1



- 1 * DIMENSION IS GIVEN FOR REFERENCE
- 2 A DIE TRACE TO A DEPTH OF 0,25mm AND WIDTH 3mm IS ALLOWED ON SURFACE B.
- 3 SHOT BLAST OR SAND BLAST.
- 4 OTHER REQUIREMENTS ARE AS PER TECHNICAL SPECIFICATIONS TY 005 216-75, APPENDIX, 1.

EXPLANATORY NOTE :-

5. MATERIAL QUOTED : 08K GOST 1050-74.

08 K_n = GRADE OF STEEL.

(a) CHEMICAL COMPOSITION :

C = 0,05 - 0,11	Cr = 0,10
Si = 0,037 (max)	P = 0,035
Mn = 0,25 - 0,50	S = 0,040
	Ni = 0,25
	Cu = 0,25

(b) MECHANICAL PROPERTIES :

YIELD POINT Kgf/mm² = 28 (min)
 ULTIMATE TENSILE STRENGTH Kgf/mm² = 33 (min)
 % ELONGATION = 33 (min)
 % REDUCTION IN AREA = 60 (min)

(A) EQUIVALENT MATERIAL
Gr. D IS: 513-1994

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

EST. WT. TO BE STAMPED OR MARKED WHERE INDICATED THIS \equiv 1 LETTERS!
0.006 Kg.

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

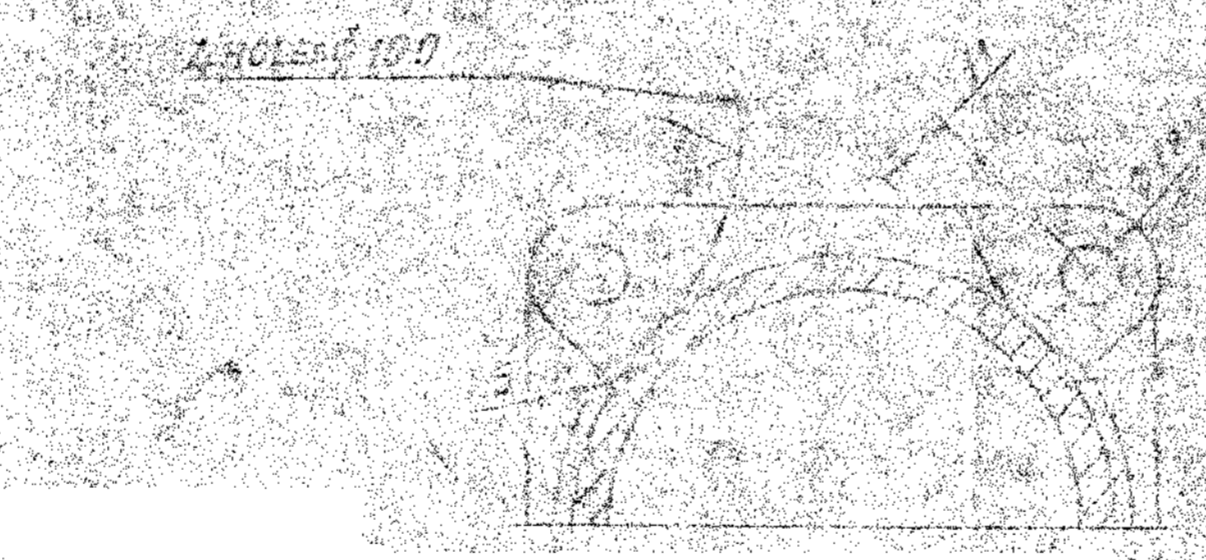
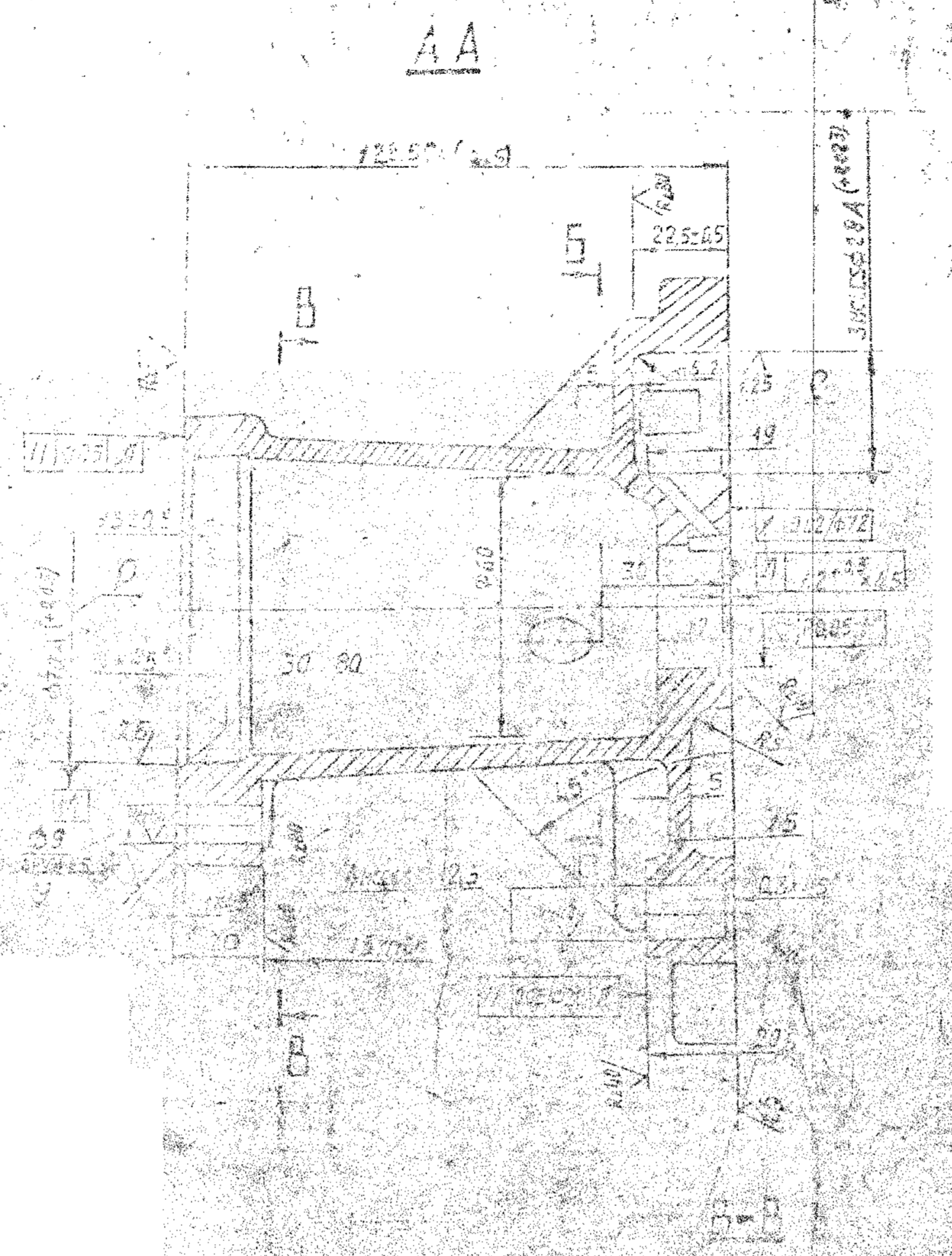
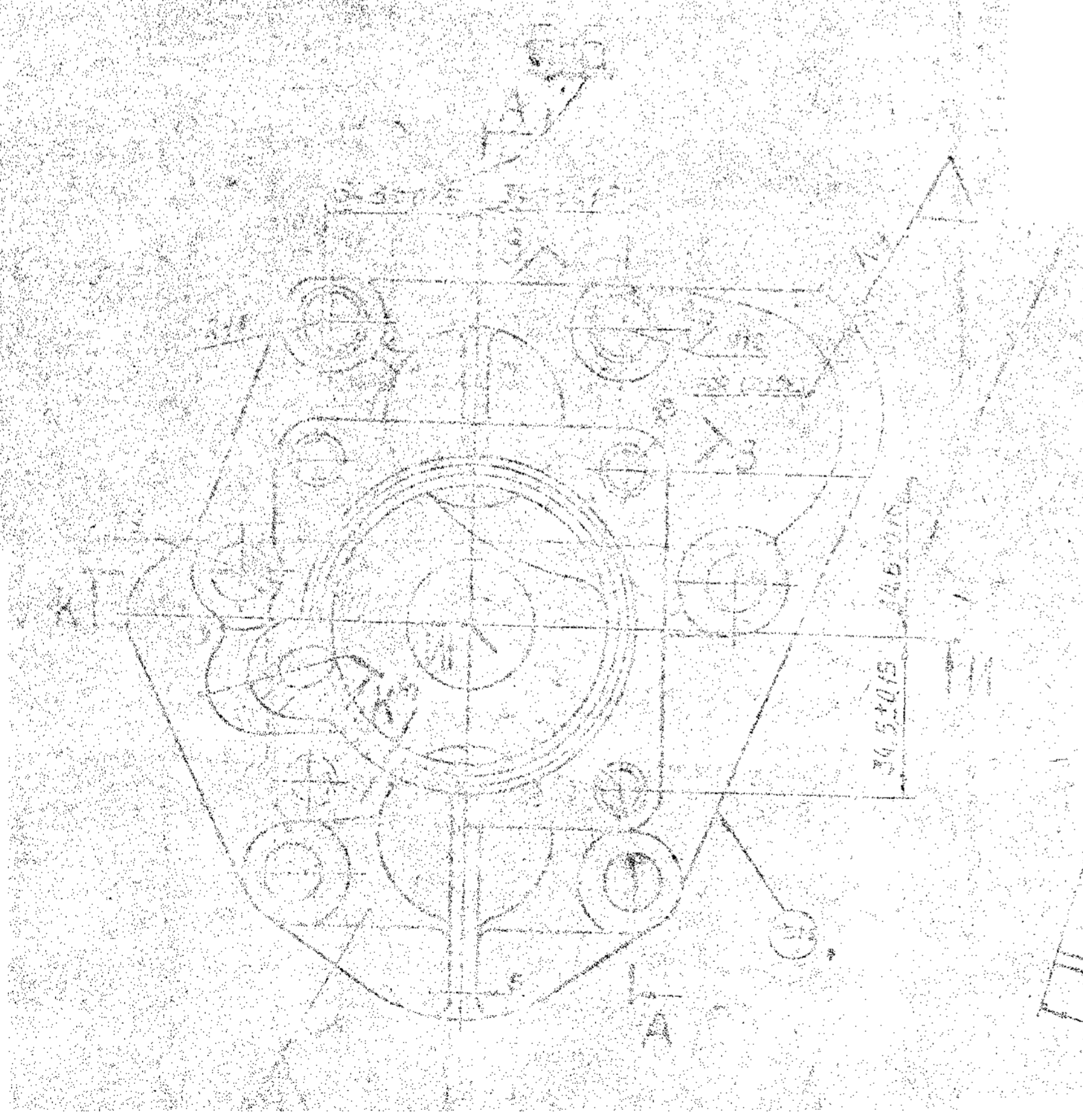
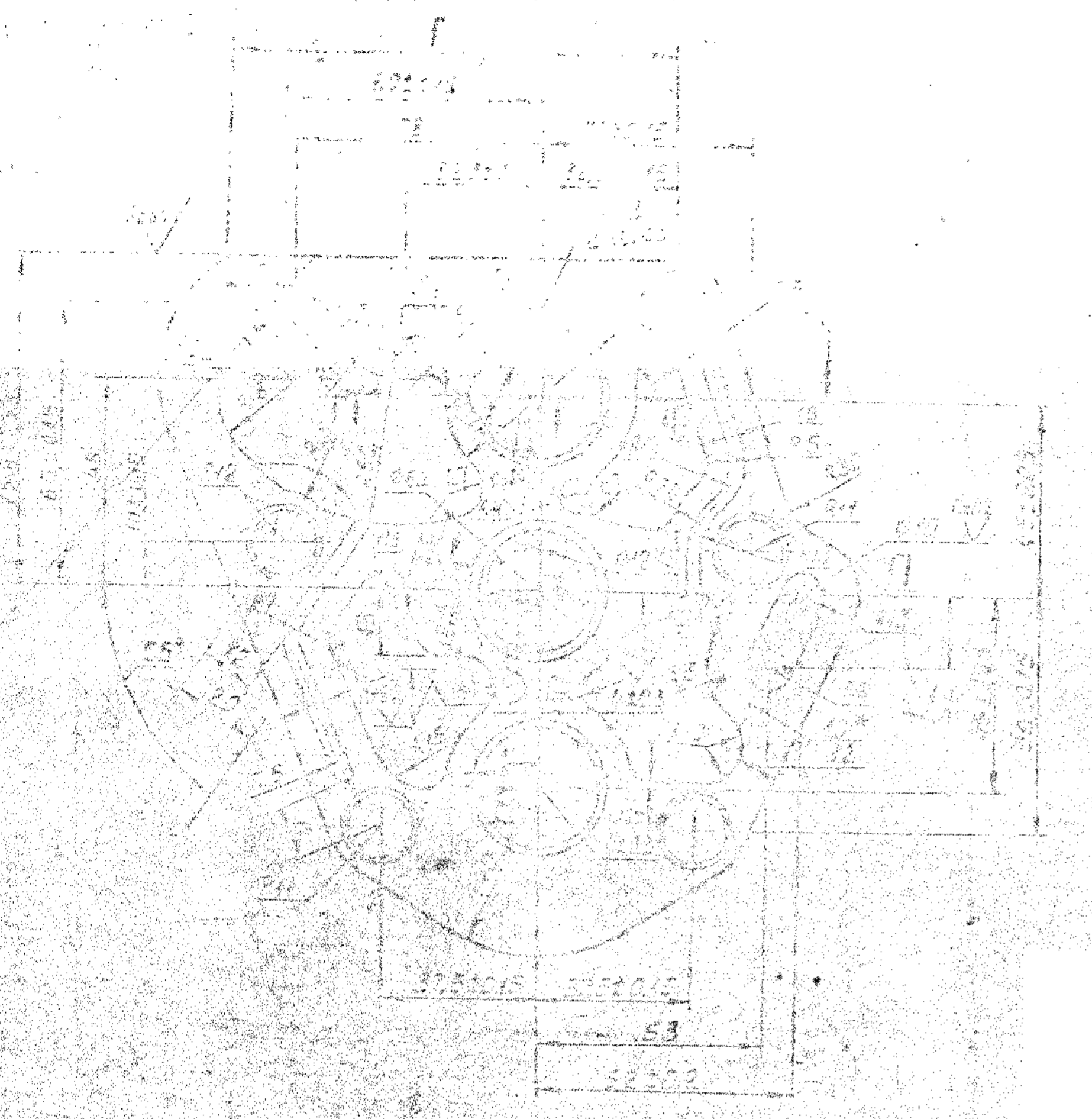
ERN	10.03.10	MATERIAL:- 08K _n	USED ON
RE	10.03.10	GOST 1050-74	CE 20-12-10-1
TE	10.03.10	CONTROLLERATE OF QUALITY ASSURANCEHEAVY VEHICLES	
APPR	10.03.10	AVAZE	
DATE	6-2-90	TITLE	
SCALE	2:1	FRAME	
DIMENSIONS IN mm		D S CAT NUMBER	
TOLERANCE ON DIMNS UNLESS OTHERWISE STATED IS:2112-55		DRAWING NUMBER	
ALL TREADS TO CONFORM TO		20-12-91-1	
ISSUE DATE	NATURE OF AMENDMENTS		



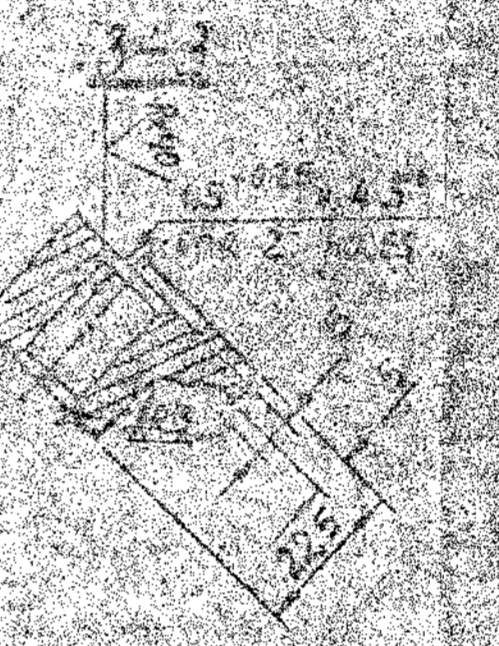
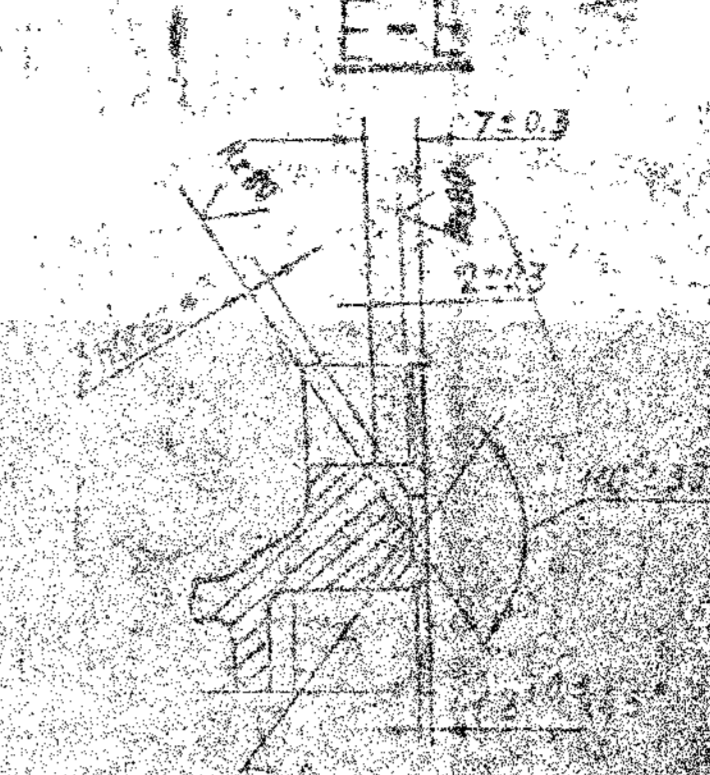
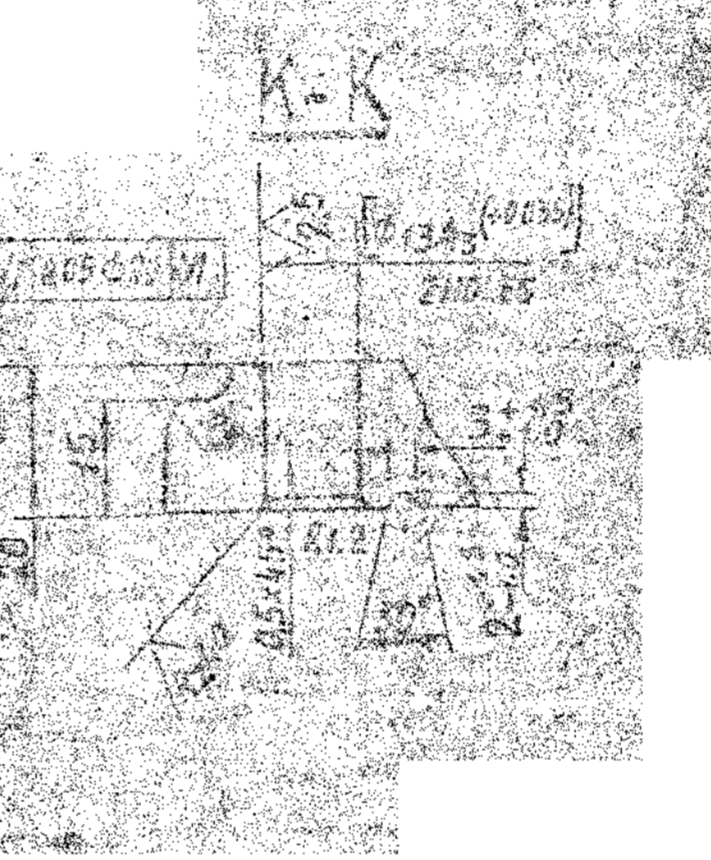
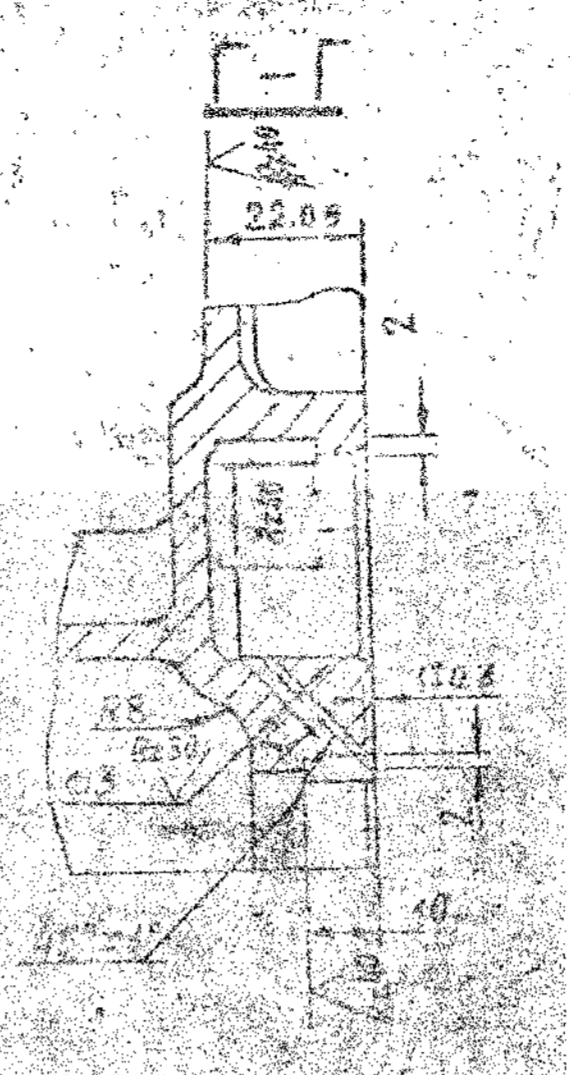
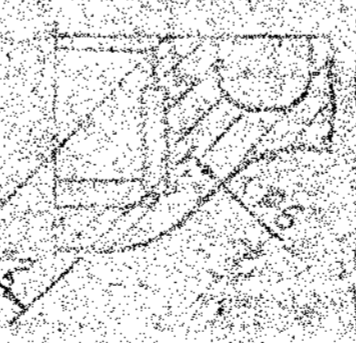
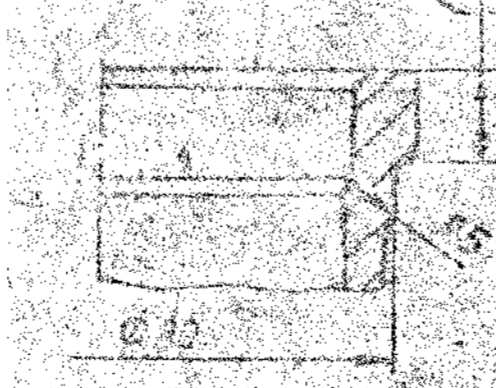
SIZE A3



01-01-06



II-II



1. H 87 00
2. REQUIREMENTS PLACED UPON EXISTING ARE AS PER TECHNICAL REQUIREMENTS FOR AIRFIELD AND STANDARD 42054-15
3. PATTERN OF PATTERN 2 UNSUBMIT LASTING PATTERN PATTERN
4. PATTERN OF PATTERN 2 UNSUBMIT LASTING PATTERN PATTERN
5. PATTERN OF PATTERN 2 UNSUBMIT LASTING PATTERN PATTERN
6. PATTERN OF PATTERN 2 UNSUBMIT LASTING PATTERN PATTERN
7. PATTERN OF PATTERN 2 UNSUBMIT LASTING PATTERN PATTERN
8. PATTERN OF PATTERN 2 UNSUBMIT LASTING PATTERN PATTERN
9. PATTERN OF PATTERN 2 UNSUBMIT LASTING PATTERN PATTERN
10. PATTERN OF PATTERN 2 UNSUBMIT LASTING PATTERN PATTERN
11. PATTERN OF PATTERN 2 UNSUBMIT LASTING PATTERN PATTERN
12. PATTERN OF PATTERN 2 UNSUBMIT LASTING PATTERN PATTERN
13. PATTERN OF PATTERN 2 UNSUBMIT LASTING PATTERN PATTERN
14. PATTERN OF PATTERN 2 UNSUBMIT LASTING PATTERN PATTERN
15. PATTERN OF PATTERN 2 UNSUBMIT LASTING PATTERN PATTERN
16. PATTERN OF PATTERN 2 UNSUBMIT LASTING PATTERN PATTERN
17. PATTERN OF PATTERN 2 UNSUBMIT LASTING PATTERN PATTERN
18. PATTERN OF PATTERN 2 UNSUBMIT LASTING PATTERN PATTERN
19. PATTERN OF PATTERN 2 UNSUBMIT LASTING PATTERN PATTERN
20. PATTERN OF PATTERN 2 UNSUBMIT LASTING PATTERN PATTERN

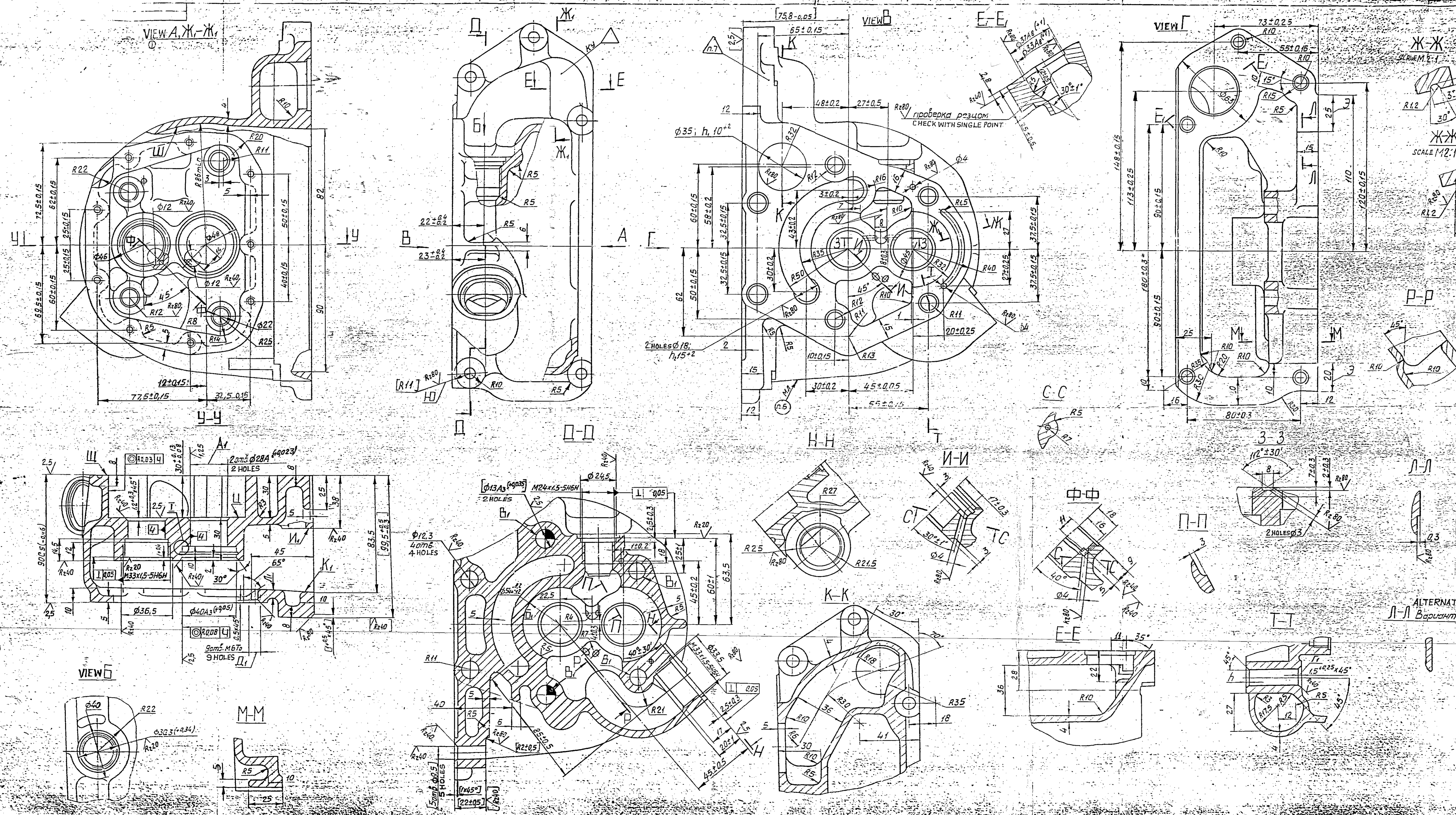


Таблица
TABLE

DIAMETER OF HOLES	h MM
Ø 12,3	0,3
Ø 13,43	0,5

- HB ≥ 80
- REQUIREMENTS PLACED UPON CASTING ARE AS PER TECHNICAL REQUIREMENTS ТТ А1310-5) 65 AND STANDARD 82050-15.
- PATTERN DRAFTS ARE 2°
- UNSPECIFIED CASTING RADI ARE R 3 TO 5 mm.
- SURFACE U₁ SHOULD BE CAST CLEAN.
- MARK THE GRADE OF MATERIAL AS PER GOST 2171-79 TYPE П0-8 GOST 2930-62.
- PERFORM HARDNESS TEST AND STAMP.
- COATING OF THE UNMACHINED SURFACES IS BAKELITE VARNISH 15C-1 GOST 901-78 V 61-C1.
- UNSPECIFIED LIMIT DEVIATIONS OF MACHINED DIMENSIONS ARE AS FOLLOWS:
FOR HOLES AS PER A1.
SHAFTS AS PER B1.
OTHERS AS PER CM1.
UNSPECIFIED TOLERANCES FOR MACHINED ANGULAR DIMENSIONS ARE ± 4.5°
- NON-PARALLELITY OF SURFACES H₁ WITH RESPECT TO SURFACE U₁ IS 0.05 mm OVER Ø 20 mm.
- TOLERANCE FOR END PLAY WITH RESPECT SURFACES 4 SURFACE U₁ IS 0.03 mm OVER Ø 45 mm.
SURFACE U₁ IS 0.02 mm OVER Ø 72 mm.
- NON-PARALLELITY OF SURFACE U₁ AND U₂ IS 0.02 mm WITHIN ONE CHAMFER.
- MACHINE DIMENSIONS GIVEN IN BRACKETS IN ASSY 820-12-50-15.
- MAINTAIN DIMENSION F₁ FOR 4 HOLES B1.
- LEAVE SHARP EDGES ON PARTS 3
- NOTCHES, SCRATCHES AND TRACES OF TOOL REMOVAL WHICH REACH THE EXTERNAL OUTLINE OF SURFACE U₁ ARE NOT PERMITTED.
- TRACES OF SINGLE POINT TOOL REMOVAL ARE ALLOWED OVER DIAMETERS A1 AND B1.
- TRACES FROM SINGLE POINT TOOL ARE ALLOWED ON SURFACE U₁ WHERE MACHINING LINES ARE CROSSED.
- FACE H₀ BY COUNTER-BORE TOOL Ø 60 FOR ALL THE FASTENING HOLES.
- MAKE THREAD A1 AS PER STANDARD 82020-12 IS SUE 7.
- TO MAKE DIMENSION h, REFER TO THE TABLE.
- TRACES OF MACHINING WITH A FINISHNESS OF R₂₀ / DUE TO CUTTING OF THE GATES ARE ALLOWED ON SURFACE K1. A STEP OF UP TO 1.0 mm IS ALLOWED PROVIDED DIMENSION S₁ OF AT LEAST 3 mm IS SECURED.
- *DIMENSION IS GIVEN FOR REFERENCE.
- CHECK SURFACE BY PRUSSIAN BLUE. THE BEARING PATTERN BE AT LEAST 80%.

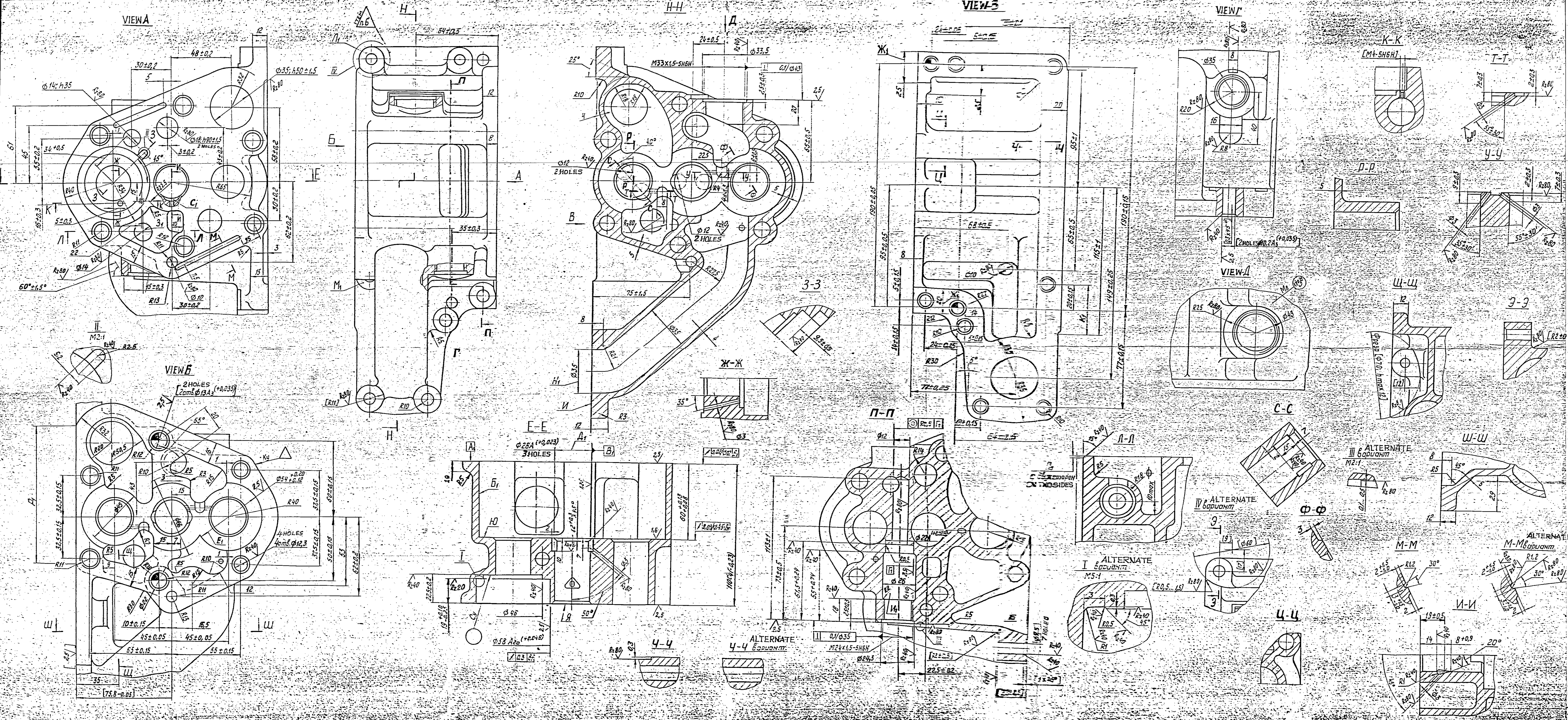
EXPLANATORY NOTE:
 MATERIAL QUOTED: А19 GOST 2685-75
 А19 = GRADE OF MATERIAL (ALUMINIUM ALLOY)
 CHEMICAL COMPOSITION %:
 ALUMINIUM BASE
 Mg = 0.2-0.4 ; Si = 6.0-8.0
 ADMIXTURES % MAX
 IRON = 1.00 ; Mn = 0.50 ; Cu = 0.20 ; Zn = 0.30 ;
 Ti = 0.01 ; Pb = 0.05 ; Be = 0.10 ; Zr = 0.15.
 TOTAL OF CALCULATED ADMIXTURES = 1.30
 MECHANICAL PROPERTIES (CHILL MOULD CASTING)
 PARTIAL RESISTANCE K_gf/mm² = 21 (MAX)
 SPECIFIC ELONGATION % = 2 (MAX)

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

EST. WT. 2.430 kg TO BE STAMPED OR MARKED WHERE INDICATED THUS (LETTERS)

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

DRN	CHD	TRD	APPD	DATE	SCALE	DIMENSIONS IN mm	TOLERANCE ON DIMS UNLESS OTHERWISE STATED IS 0.05	ALL THREADS TO CONFORM TO
					1:1			
MATERIAL - А19 GOST 2685-75		USED ON - СБ 20-12-05-2		CONTROLLER OF QUALITY ASSURANCE (HEAVY) (VEMLES)		TITLE - OIL PUMP HOUSING		
D S CAT NUMBER		DRAWING NUMBER 20-12-121-11						



1. $H_1 \geq 80$
2. Requirements placed upon casting are as per TTA.31 310-5/65 and as per standard 82050-15.
3. Pattern draft is 2°
4. Unspecified casting radii are R_3 to 5 mm .
5. Mark the grade of material as per GOST 2171-79, type $\Pi 0.8$ GOST 2930-62.
6. Perform hardness test and stamp.
7. Coating of unmachined surfaces bakelite varnish 16C-1 GOST 901-78 V 6/1-C1.
8. Unspecified limit deviations of machined dimensions are as follows:
For Holes as per A1,
shafts as per B1,
Others as per CM1.

TABLE	
DIAMETER OF HOLE	Π_1
12.5 mm	0.5
1343 (+0.055) mm	0.5

9. Dimension H_1 should comply with the table.
10. Non-parallelity of surfaces A_1 and A_2 is 0.016 mm within one chamber.
11. Non-parallelity of surfaces A_1 and A_2 is 0.02 mm .
12. Axial misalignment of surfaces B_1 and B_2 is 0.03 mm .
13. Machining as per dimensions given in square brackets is carried out in assemblies.
14. Diameter ϕ_1 should be drilled upto chamber M_1 .
15. Leave sharp edges in section K_1 .
16. Notches, scratches traces of tool removal which appear on external out line of surfaces A_1 and A_2 are not permitted.
17. Traces from single point tool removal are allowed on diameter M_1 and E_1 .
18. Traces from single point tool are allowed on surfaces \rightarrow at point of intersection of machining lines.
19. Carry out counter bore $\phi 50$ on all fastening holes except for holes S_1, M_1 . Distance from fastening hole centre to cylindrical surfaces of counter-bore should be 11 ± 0.5 .
20. Facing off $\phi 22.0\text{ mm}$ for hole M_1 is allowed.
21. Remove C_1 with tapered milling cutter, major diameter of taper is 12.0 mm .
22. Check dimension H_1 with a single point tool to depth of 12 mm from surface H surface finish $R_2 \text{ } \mu\text{m}$ is permitted.
23. Leave sharp edges on dimension P_1 .
24. Check surfaces A_1 and A_2 by Prussian blue. The bearing pattern should be at least 80% . Accept it against standard.
25. Absence of bearing pattern is allowed on section K_1 .

EXPLANATORY NOTE:
 MATERIAL QUOTED: A19: GOST 2685-75
 A19 = GRADE OF MATERIAL (ALUMINIUM ALLOY)
 CHEMICAL COMPOSITION %:
 ALUMINIUM - BASE
 Mg = 0.2 - 0.4
 Si = 6.0 - 8.0
 ADMIXTURES % MAX:
 IRON = 1.00
 MANGANESE = 0.50
 COPPER = 0.20
 ZINC = 0.30
 TITANIUM = 0.01
 LEAD = 0.05
 BERYLLIUM = 0.10
 ZIRCONIUM = 0.15
 TOTAL OF CALCULATED ADMIXTURES = 1.50
 MECHANICAL PROPERTIES (CHILL MOULD CASTING)
 PARTIAL RESISTANCE $\text{kgf/mm}^2 = 21$ (MAX)
 SPECIFIC ELONGATION $\epsilon = 2$ (MAX)

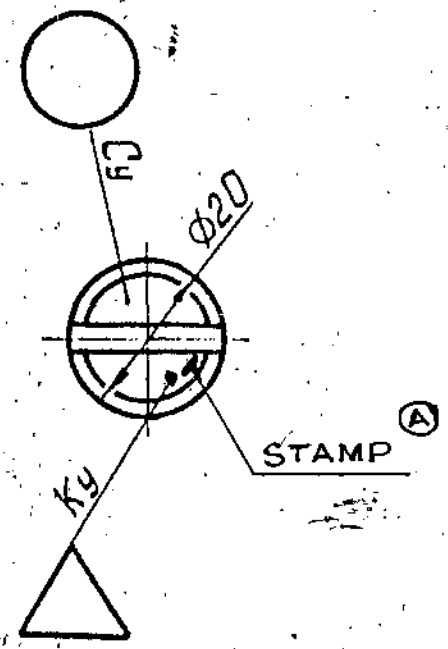
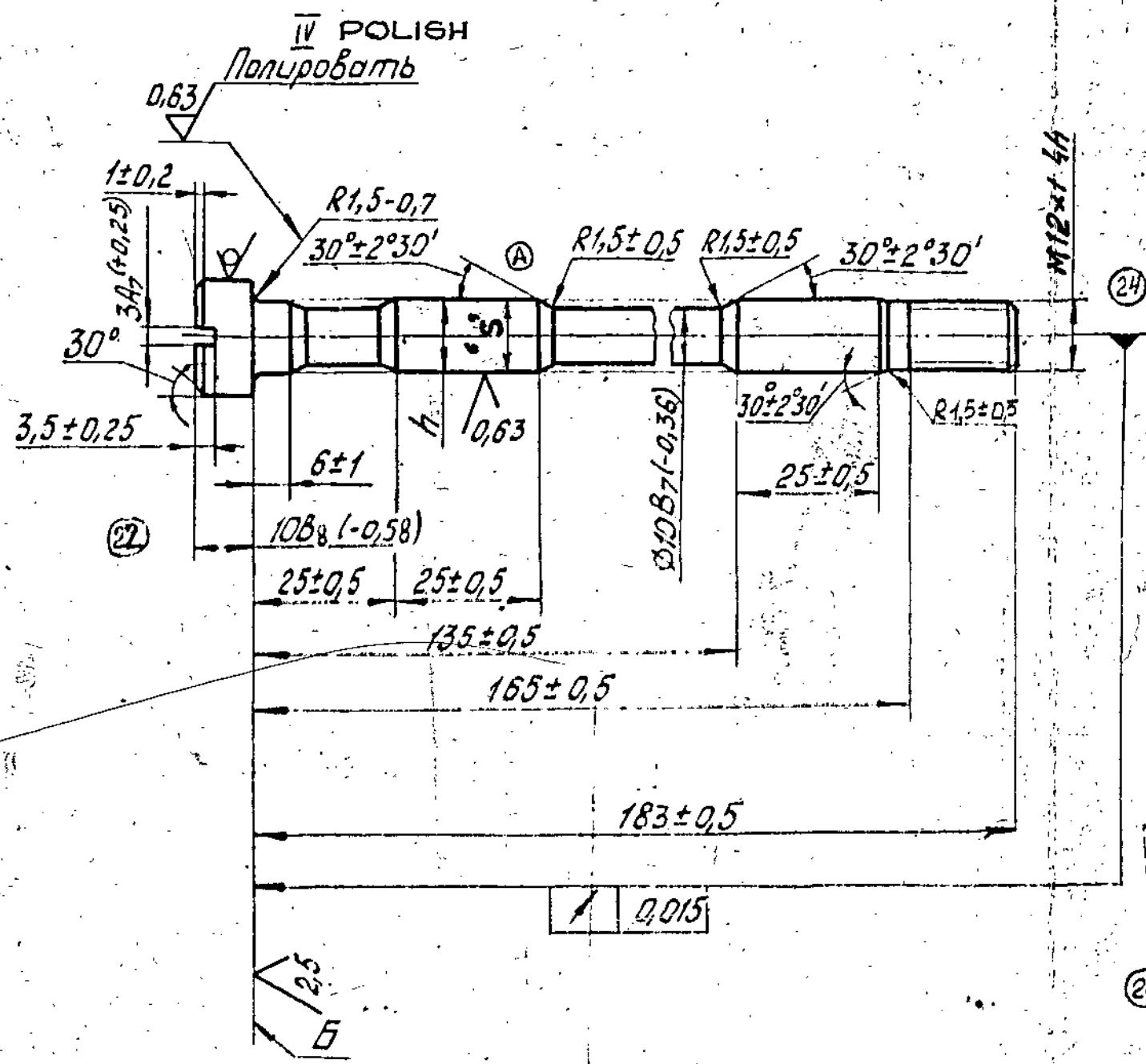
PILOT SAMPLE SHOULD BE APPROVED BY A H S P BEFORE BULK PRODUCTION.

EST. MASS TO BE STAMPED OR MARKED WHERE INDICATED THIS IS 3.230 kg (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	APPD	DATE	SCALE	MATERIAL	USED ON
10	10	30.12.68	1:1	A19 GOST 2685-75	C520-12-04
CONTROLLER OF QUALITY ASSURANCE			HEAVY VEHICLE		
SCALE			TITLE		
			OIL PUMP BODY		
ISSUE DATE			D S CAT NUMBER		
NATURE OF AMENDMENTS			DRAWING NUMBER		
			20-12-24-8		

THIS DRG SUPERSEDES THE DRG NO 20-12-125-4
 AUTHY. NOTN. No. 06-86
 DRG. INDIANISED BASED ON ORIGINAL ISSUE 25
 50334

20-12-125-4



R240
✓(✓)

Группа	h
I	Φ13H (+0,014 +0,002)
II	Φ13,02H (+0,014 +0,002)

25A TECHNICAL REQUIREMENTS

- INSPECTION GROUP III AS PER TT - 11 HRC₃ 35 39.
- IT IS ALLOWED TO MAKE THREADS IN THREAD ROLLING BY MAINTAINING THE BLANK DIAMETER (UNTHREADED PORTION) WITHIN THE LIMITS OF THREAD PITCH DIA.
- REDUCTION OF DIA 13 mm BY 0.1 mm IS ALLOWED TO A LENGTH OF 2 mm FROM FACE 'Б'.
- COATING : CHEMICAL OXIDIZING AND OIL FINISHING.

25A TECHNICAL REQUIREMENTS - TRANSLATED

- III
- Control group III to TT-11 HRC 35.....39.
 - It is allowed to cut a thread by rolling. Unthreaded section diameter is limited on the average thread diameter.
 - It is allowed to loose 13 diameter by 0.1mm on 2 mm section from Б end face.
 - Coating ХЦМ. Окс. ППМ.

III TECHNICAL REQUIREMENTS-IN RUSSIAN

- Группа контроля III по ТТ-11, HRC₃ 35...39.
- Допускается изготовление резьбы накаткой с диаметром ненарезанной части в пределах среднего диаметра резьбы.
- На участке 2мм от торца Б допускается послабление Φ13 на 0,1мм.
- Покрытие ХЦМ. Окс. прм.

A REPAIR SIZE DIMENSIONS

CATEGORY	DIMENSION 'S'
20-12-125-4 R1	Φ 13-2 ± 0.006
20-12-125-4 R2	Φ 13-22 ± 0.006

STAMP R1 OR R2 WHERE MARKED THUS

25	1	382-84	82	13118
24	4	1267-80	82	23118

23	1	614-82	82	2283
22	2	75-81	82	18182
21		1310-81		
20		2101-75		
25	1	382-84	82	13118
24	4	1267-80	82	23118

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

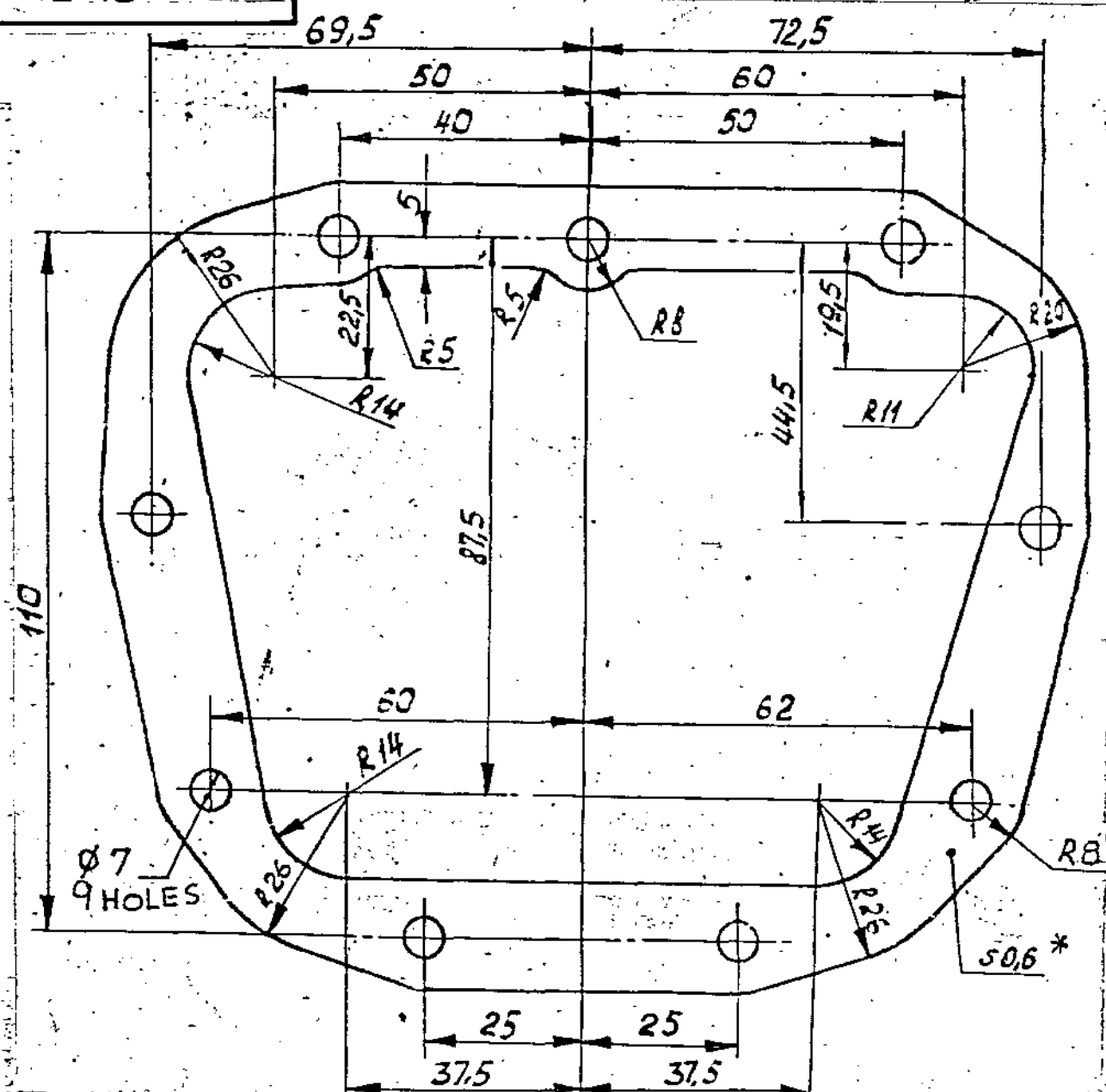
* MATERIAL 20-5 GOST 7417-75
18x2H4MA GOST 4543-71

A	23-39	Authy: Specn For	EST. MASS	TO BE STAMPED OR MARKED WHERE INDICATED THIS *
25A	4.11.99	Repair Size Drngs Part	0.157 Kg.	LETTERS!
ISSUE DATE	NATURE OF AMENDMENTS	DRN	MATERIAL	USED ON
10-8-87		SCALE - 1 : 1	*(SEE ABOVE)	СБ 20-12-50-13
		DIMENSIONS IN mm	CONTROLLERATE OF INSPECTION (HEAVY VEHICLES) AVADI-	
		TOLERANCE ON DIMNS UNLESS OTHERWISE STATED	TITLE	BOLT M12x1x183
		ALL THREADS CONFORM TO	D S CAT NUMBER	DRAWING NUMBER
				20-12-125-4

Калишова, К. В. Р. И. О. В. А.

Формат 12

DRAWING NUMBER
20-12-130-6



EXPLANATORY NOTE ADDED ON 20-5-91

EXPLANATORY NOTE :-

MATERIAL QUOTED: PARONITE ПМБ 0.6 GOST 481-80
 ПМБ = RUBBERIZED ASBESTOS FABRIC GRADE ПМБ(РМБ)
 0.6 = THICKNESS WITH TOLERANCE ±0.10

PHYSICAL, MECHANICAL AND TECHNICAL REQUIREMENTS:

1. WORKING MEDIUM = OIL FRACTION (DIESEL AUTOMOBILES AVIATION, INDUSTRIAL TURBINES AND TRANSFORMER OILS)
2. LIMITING PRESSURE $\text{kgf/cm}^2 = 25$
3. LIMITING TEMPERATURE $^{\circ}\text{C} = 150$
4. DENSITY $\text{g/cm}^3 = 1.5 - 2.0$
5. CONVENTIONAL BREAKING POINT TRANSVERSE DIRECTION $\text{kgf/cm}^2 (\text{MIN}) = 130$
 - (a) AFTER SOAKING IN KEROSENE AT 23°C FOR 12 Hrs = 70 (MIN)
 - (b) AFTER SOAKING IN OIL MS-20 OR MK-22 AT 150°C FOR 12 Hrs. = 100 (MIN)
6. INCREASE IN WEIGHT IN LIQUID MEDIA %
 - (a) IN KEROSENE AT 23°C FOR 12 Hrs. = 10-24
 - (b) IN OILS MS-20 OR MK-22 = 23 (MAX)
7. COMPRESSIBILITY AT 350 kgf/cm^2 % = 5-16
8. RECOVERY AFTER REMOVAL OF PRESSURE $350 \text{ kgf/cm}^2 = 35 (\text{MIN})$

1. REQUIREMENTS PLACED UPON STAMPING ARE AS PER STANDARD 82050-16.
2. * DIMENSIONS ARE GIVEN FOR REFERENCE
3. STAMP FINAL ACCEPTANCE ON TAG (PART 540-551) FOR A BATCH OF PARTS AND SEAL.

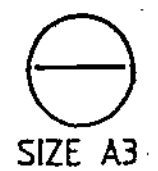
PILOT SAMPLE SHOULD BE APPROVED BY A H S P BEFORE BULK PRODUCTION

EST. WT. TO BE STAMPED OR MARKED - WHERE INDICATED THIS # 1 LETTERS)

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

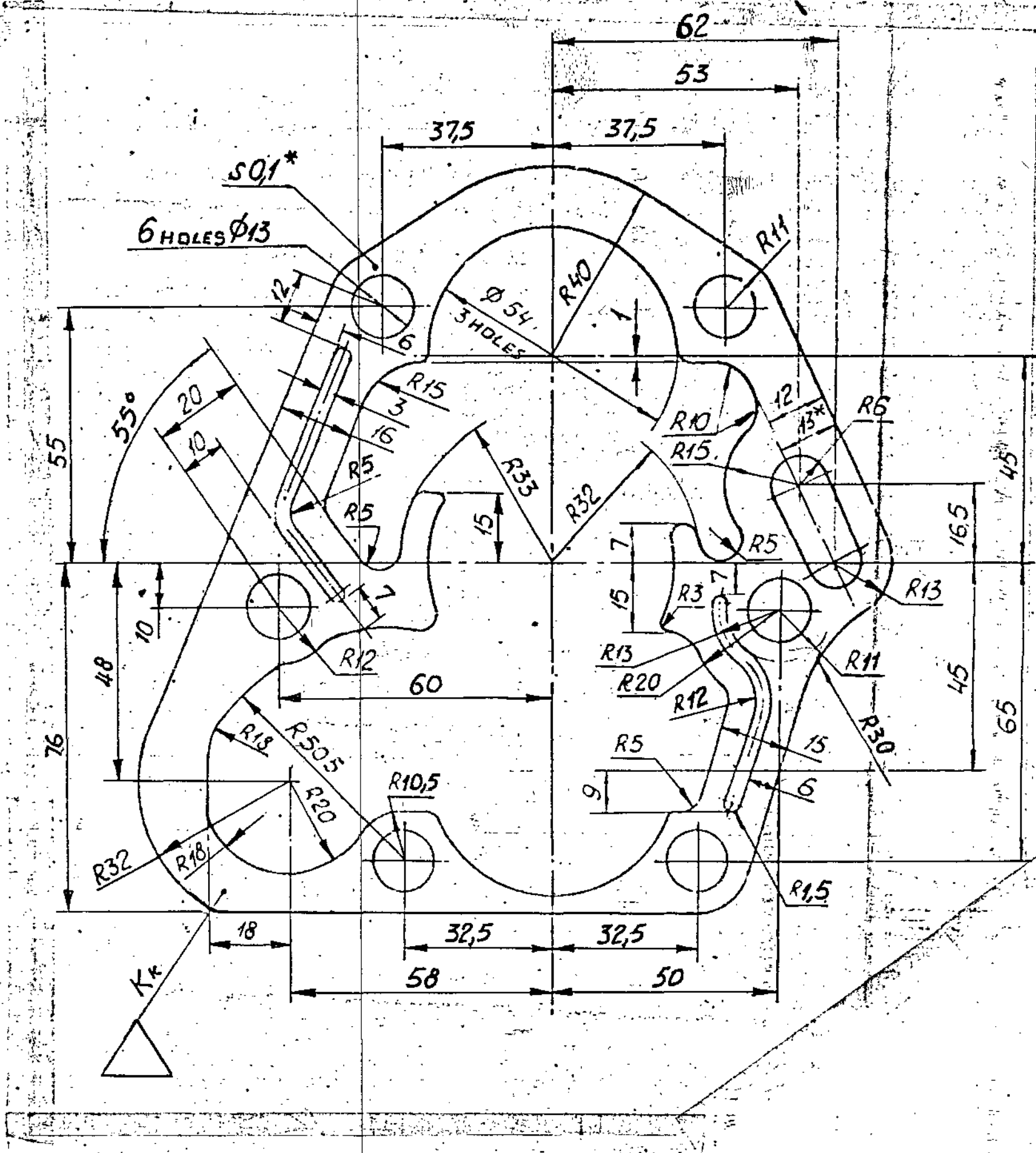
DRN	
CHKD	<i>[Signature]</i>
TCD	<i>[Signature]</i>
APPD	<i>[Signature]</i>
DATE	19-8-87
SCALE	1:1
DIMENSIONS IN mm	
TOLERANCE ON DIMS	
UNLESS OTHERWISE STATED IS: 2102-69	
ALL THREADS TO CONFORM TO	
ISSUE DATE	
NATURE OF AMENDMENTS	

MATERIAL: PARONITE ПМБ 0.6 GOST 481-80	USED ON CS 20-12-01-13
CONTROLLERATE OF QUALITY ASSURANCE (HEAVY VEHICLES) AVADI	
TITLE	GASKET
D S CAT NUMBER	DRAWING NUMBER 20-12-130-6



SIZE A3

DRAWING NUMBER
20-12-131-5



1. REQUIREMENTS PLACED UPON STAMPING ARE AS PER STANDARD 82050-16.
2. EDGES SHOULD BE CUT UNIFORMLY AND NEATLY.
3. THE EXTERNAL SURFACE SHOULD BE SMOOTH, WITHOUT WRINKLES, FOLDS, RUNS OF VARNISH BASE, VISIBLE PORES AND FOREIGN IMPURITIES.
4. UNSPECIFIED ROUNDING RADII ARE MADE AS PER R 2.
5. * DIMENSION ARE GIVEN FOR REFERENCE.

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

EST. WT. 0.0003 kg.
TO BE STAMPED OR MARKED WHERE INDICATED THUS # (LETTERS)
ALL SHARP EDGES AND CORNERS TO BE REMOVED UNLESS OTHERWISE STATED MACHINED CORNERS TO HAVE R OUTSIDE R INSIDE-EQUIVALENT CHAMFERS ARE PERMISSIBLE.

EXPLANATORY NOTE:

MATERIAL QUOTED: ШУМС 105-0.1 GOST 2214-78.

VARNISH CAMBRIC (COTTON, SILK OR CAPRONE) USED AS AN ELECTRICAL INSULATION MATERIAL FOR CONTINUOUS DUTY AT TEMPERATURE UP TO 105°C.

ШУМС = GRADE OF CAMBRIC CLOTH ; C = SPECIAL ; 0.1 = THICKNESS ; Ш = CAMBRIC CLOTH ; У = SILK ; M = OIL BASED VARNISH

105 = TEMPERATURE IN °C DEFINING THE HEAT RESISTANT QUALITY OF THE CAMBRIC.

CAMBRIC CLOTH MUST BE UNIFORMLY IMPREGNATED AND HAVE AN EVEN SMOOTH SURFACE FREE FROM LEAKS OF VARNISH BASE. IT MUST NOT HAVE ANY VISIBLE PORES OR EXTRANEIOUS IMPURITIES.

TECHNICAL REQUIREMENTS:

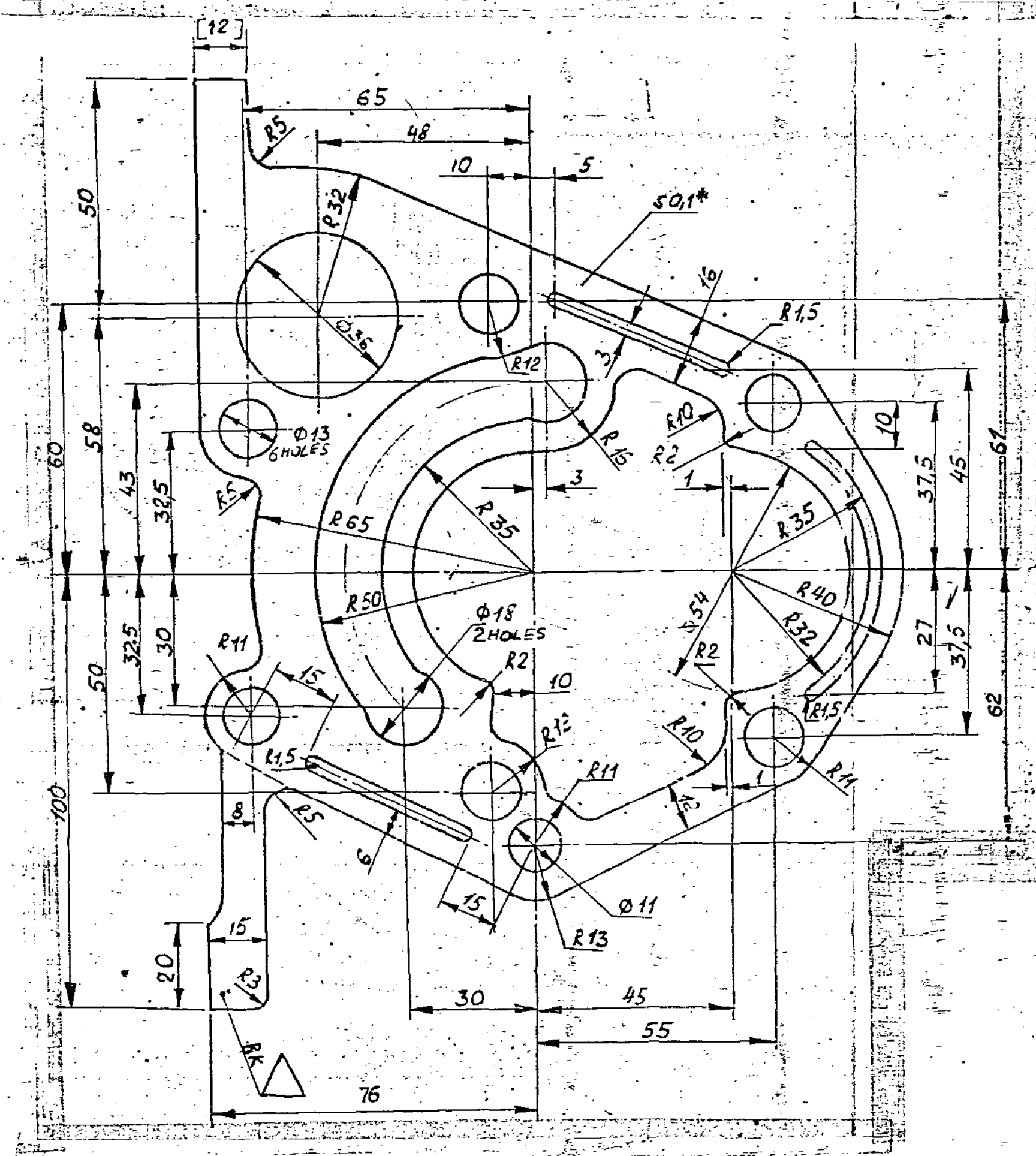
1. THE SURFACE OF THE CAMBRIC CLOTH AS IT IS UNWOUND FROM THE ROLL MUST BE SMOOTH AND INTACT
2. VOLUME RESISTIVITY (OHM.CM) (MIN):
 - a) AT A TEMPERATURE OF 15-35°C AND A RELATIVE HUMIDITY OF 45 TO 75 % = 1×10^{13}
 - b) AT A TEMPERATURE OF $105 \pm 2^\circ\text{C}$ = 1×10^9
 - c) AFTER 24 HOURS OF SOAKING IN WATER AT A TEMPERATURE $20 \pm 2^\circ\text{C}$ AND $95 \pm 2\%$ RELATIVE HUMIDITY = 1×10^{10}
3. BREAKDOWN VOLTAGE FOR 6mm DIA ELECTRODES... KV (MIN)

AT A TEMP. OF 15 TO 35°C AND 45 TO 75 % RELATIVE HUMIDITY		AT A TEMP. OF 105 ± 2°C		AVERAGE	AT ISOLATED POINTS
BEFORE BENDING	AFTER BENDING	AVERAGE	AT ISOLATED POINTS		
6.0	3.6	5.0	2.7	4.4	2.4

DRN	CHD	TCD	APPD	DATE	SCALE	DIMENSIONS IN mm.	TOLERANCE ON DIMS UNLESS OTHERWISE STATED IS 2102-69	ALL THREADS TO CONFORM TO	ISSUE	DATE	NATURE OF AMENDMENTS
				19-9-87	1:1						
MATERIAL: VARNISHED CAMBRIC ШУМС 105-0.1 GOST 2214-78					USED ON: CB 20-12-01-13			CONTROLLER OF QUALITY ASSURANCE (HEAVY VEHICLES) AVADI			
							TITLE: GASKET		DRAWING NUMBER: 20-12-131-5		

AMDT No: 1510-81
 EXPLANATORY NOTE ADDED ON 25-5-91
 KVD NO. 63283

DRAWING NUMBER
20-12-132-4



EXPLANATORY NOTE:

MATERIAL QUOTED: ШШМС 105-0.1 ГОСТ 2214-78.
VARNISH CAMBRIC (COTTON, SILK OR CAPRONE)
 USED AS AN ELECTRICAL INSULATION MATERIAL FOR
 CONTINUOUS DUTY AT TEMPERATURE UPTO 105°C.
 ШШМС = GRADE OF CAMBRIC CLOTH ; С = SPECIAL ;
 0.1 = THICKNESS ; Ш = CAMBRIC CLOTH ; Ш = SILK ;
 М = OIL BASED VARNISH
 105 = TEMPERATURE IN °C DEFINING THE HEAT
 RESISTANT QUALITY OF THE CAMBRIC.

CAMBRIC CLOTH MUST BE UNIFORMLY IMPREGNATED
 AND HAVE AN EVEN SMOOTH SURFACE FREE FROM
 LEAKS OF VARNISH BASE. IT MUST NOT HAVE ANY VISIBLE
 PORES OR EXTRANEIOUS IMPURITIES.

TECHNICAL REQUIREMENTS:

1. THE SURFACE OF THE CAMBRIC CLOTH AS IT IS UNWOUND FROM THE ROLL MUST BE SMOOTH AND INTACT
2. VOLUME RESISTIVITY (OHM.CM) (MIN):-
 - a) AT A TEMPERATURE OF 15-35°C AND A RELATIVE HUMIDITY OF 45 TO 75 % = 1×10^{13}
 - b) AT A TEMPERATURE OF $105 \pm 2^\circ\text{C} = 1 \times 10^9$
 - c) AFTER 24 HOURS OF SOAKING IN WATER AT A TEMPERATURE $20 \pm 2^\circ\text{C}$ AND $95 \pm 2\%$ RELATIVE HUMIDITY = 1×10^{10}
3. BREAKDOWN VOLTAGE FOR 6mm DIA ELECTRODES KV (MIN)

AT A TEMP. OF 15 TO 35°C AND 45 TO 75 % RELATIVE HUMIDITY				AT A TEMP. OF 105 ± 2°C	
BEFORE BENDING		AFTER BENDING		AVERAGE	AT ISOLATED POINTS
AVERAGE	AT ISOLATED POINTS	AVERAGE	AT ISOLATED POINTS		
6.0	3.6	5.0	2.7	4.4	2.4

EXPLANATORY NOTE ADDED ON 20-5-91.

1. REQUIREMENTS, PLACED UPON STAMPING, ARE AS PER STANDARD 82050-16.
2. EDGES SHOULD BE CUT UNIFORMLY AND NEATLY.
3. THE EXTERNAL SURFACE SHOULD BE SMOOTH. WITHOUT WRINKLES, FOLDS, RUNS OF VARNISH BASE, VISIBLE PORES AND FOREIGN IMPURITIES.
4. MAKE UNSPECIFIED ROUNDING RADII AS PER R 5.
5. MACHINE DIMENSIONS GIVEN IN SQUARE BRACKETS IN ASSEMBLY 20-12-01-13.
6. * DIMENSION IS GIVEN FOR REFERENCE.

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

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

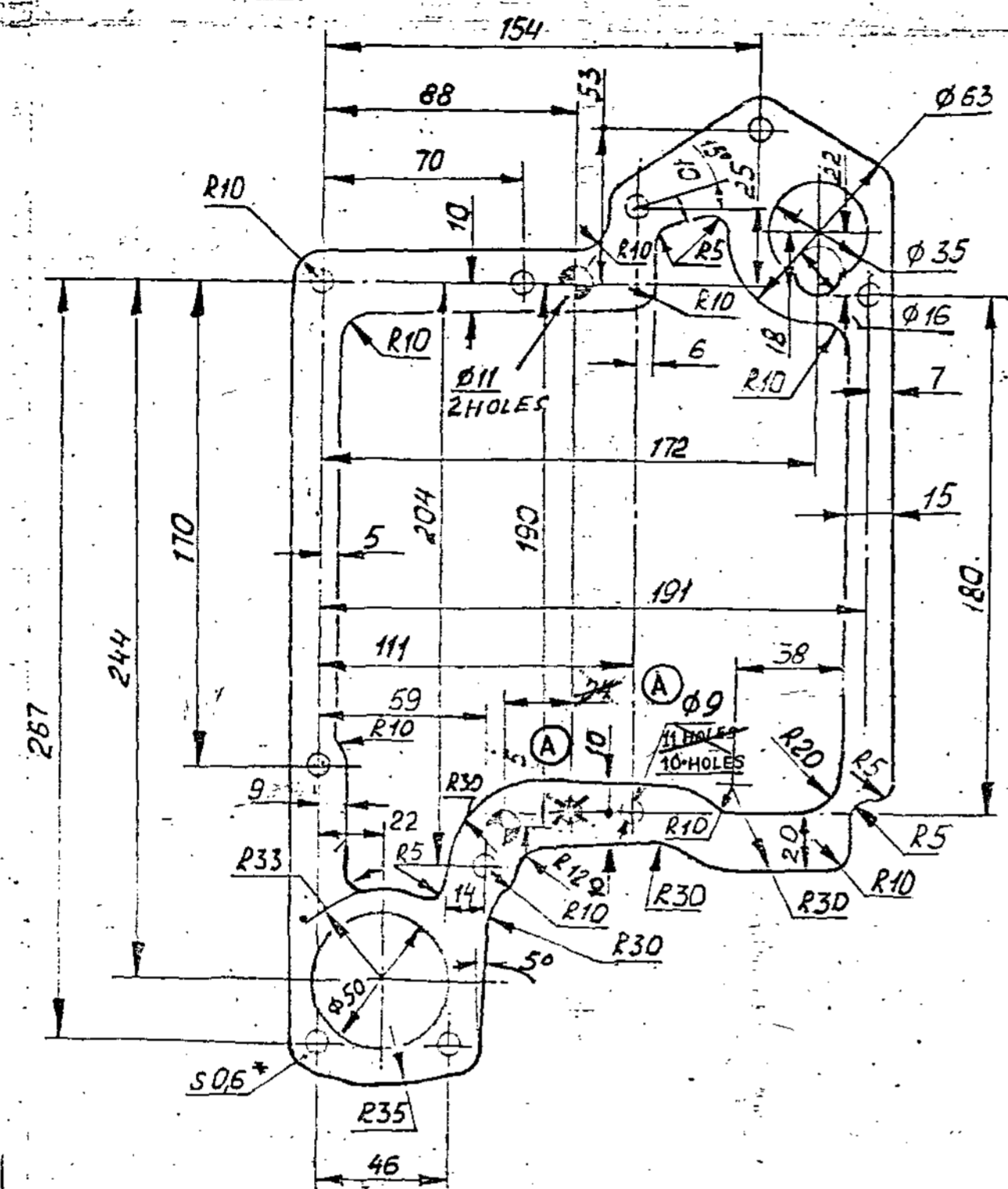
EST. WT. 0.0004 kg. TO BE STAMPED OR MARKED WHERE INDICATED THUS # (LETTERS)

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

DRN	EHD	TCD	APPD	DATE	MATERIAL :- VARNISHED CAMBRIC ШШМС 105-0.1 ГОСТ 2214-78	USED ON :- CE 20-12-01-13
				19-8-87	CONTROLLERATE OF QUALITY ASSURANCE (HEAVY VEHICLES)	
SCALE :- 1:1					A V A D I	
DIMENSIONS IN mm.					TITLE	
TOLERANCE ON DIMNS UNLESS OTHERWISE STATED IS 2102-69					GASKET	
ALL THREADS TO CONFORM TO					D S CAT NUMBER	
ISSUE	DATE	NATURE OF AMENDMENTS			DRAWING NUMBER	
					20-12-132-4	

SIZE A2

DRAWING NUMBER
20-12-135-7



EXPLANATORY NOTE :-

MATERIAL QUOTED: PARONITE ПМБ 0.6 GOST 481-80
 ПМБ = RUBBERIZED ASBESTOS FABRIC GRADE ПМБ (PMB)
 0.6 = THICKNESS WITH TOLERANCE ±0.10

PHYSICAL, MECHANICAL AND TECHNICAL REQUIREMENTS:

1. WORKING MEDIUM = OIL, FRACTION (DIESEL AUTOMOBILES AVIATION, INDUSTRIAL TURBINES AND TRANSFORMER OILS).
2. LIMITING PRESSURE $\text{kgf/cm}^2 = 25$ (MIN)
3. LIMITING TEMPERATURE $^{\circ}\text{C} = 150$ (MIN)
4. DENSITY $\text{g/cm}^3 = 1.5 - 2.0$
5. CONVENTIONAL BREAKING POINT TRANSVERSE DIRECTION kgf/cm^2 (MIN) = 150
 - (a) AFTER SOAKING IN KEROSENE AT 23°C FOR 12 Hrs = 70 (MIN).
 - (b) AFTER SOAKING IN OIL MS-20 OR MK-22 AT 150°C FOR 12 Hrs. = 100 (MIN).
6. INCREASE IN WEIGHT IN LIQUID MEDIA % (MAX)
 - (a) IN KEROSENE AT 23°C FOR 12 Hrs. = 10-24.
 - (b) IN OILS MS-20 OR MK-22 = 23 (MIN)
7. COMPRESSIBILITY AT 350 kgf/cm^2 % = 5-16
8. RECOVERY AFTER REMOVAL OF PRESSURE 350 kgf/cm^2 % = 35 (MIN)

1. REQUIREMENTS PLACED UPON STAMPING ARE AS PER STANDARD 82050-16.
2. * DIMENSION IS GIVEN FOR REFERENCE.
3. COATING: VARNISH K0-815 GOST 11066-74 IV C₁ FOREIGN INCLUSIONS IN COATING ARE NOT PERMITTED. MINOR VARNISH RUNS ARE ACCEPTABLE. ACCEPT AGAINST STANDARD.
4. COATING: WITH VARNISH K0-075 TY 6-02-567-75 IS ALLOWED.
5. MARK AND STAMP FINAL ACCEPTANCE ON TAG (PART 540-551) FOR A BATCH OF PARTS AND SEAL.

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

EST. WT. 0.008 kg. TO BE STAMPED OR MARKED WHERE INDICATED THIS # LETTERS)
 ALL SHARP EDGES AND CORNERS TO BE REMOVED UNLESS OTHERWISE STATED MACHINED CORNERS TO HAVE R OUTSIDE R INSIDE EQUIVALENT CHAMFERS ARE PERMISSIBLE.

DRN	CHD	TCD	APPD	DATE	SCALE :- 1:2	MATERIAL :- PARONITE ПМБ 0.6 GOST 481-80	USED ON :- C620-12.00-13
					DIMENSIONS IN mm	CONTROLLERATE OF QUALITY ASSURANCE (HEAVY VEHICLES) AVADI	
					TOLERANCE ON DIMNS UNLESS OTHERWISE STATED IS 2102-69	TITLE GASKET	
A	07.8.07	Authy. ALT. No: 22. 2nd. Alt. Com. Meet. Dated. 07.02.2007			ALL THREADS TO CONFORM TO	D S CAT NUMBER	DRAWING NUMBER 20-12-135-7
ISSUE	DATE	NATURE OF AMENDMENTS					

EXPLANATORY NOTE ADDED ON 29-5-91

DRAWING NUMBER
20-12-140-1

Rz 40/ (✓)

EXPLANATORY NOTE:

MATERIAL QUOTED:

PIPE A1 45x4 GOST 18482-79
A1 = GROUP OF ALUMINIUM ALLOY; 4 = WALL THICKNESS IN mm.
45 = EXTERNAL DIA IN mm.

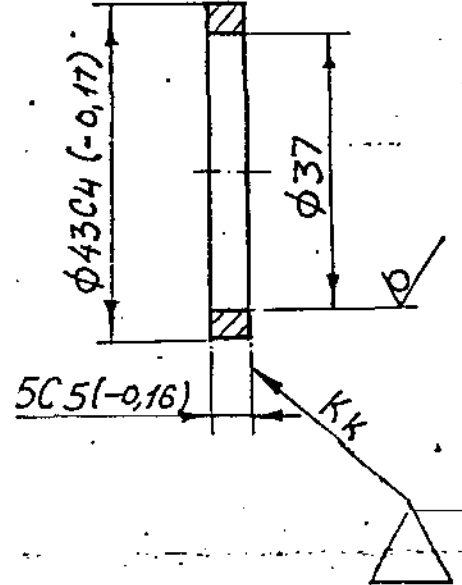
CHEMICAL COMPOSITION % (AS PER GOST 4784-74)

BASIC CONSTITUENT = ALUMINIUM.
COPPER = 3.8 - 4.8; MAGNESIUM = 0.4 - 0.8; MANGANESE = 0.4 - 0.8
IMPURITIES % (MAXIMUM)

IRON = 0.7; SILICON = 0.7; NICKEL = 0.1;
ZINC = 0.3; TITANIUM = 0.1;
OTHER IMPURITIES INDIVIDUALLY = 0.05

MECHANICAL PROPERTIES (AS PER GOST 18482-79)

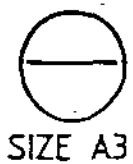
ULTIMATE STRENGTH $\text{kgf/mm}^2 = 40.0$ (MIN)
YIELD LIMIT $\text{kgf/mm}^2 = 26.0$ (MIN)
RELATIVE ELONGATION % = 12.0 (MIN)



ALTERNATE MATERIAL IS ALUMINIUM ALLOY OF ANY GRADE, GOST 4784-74.

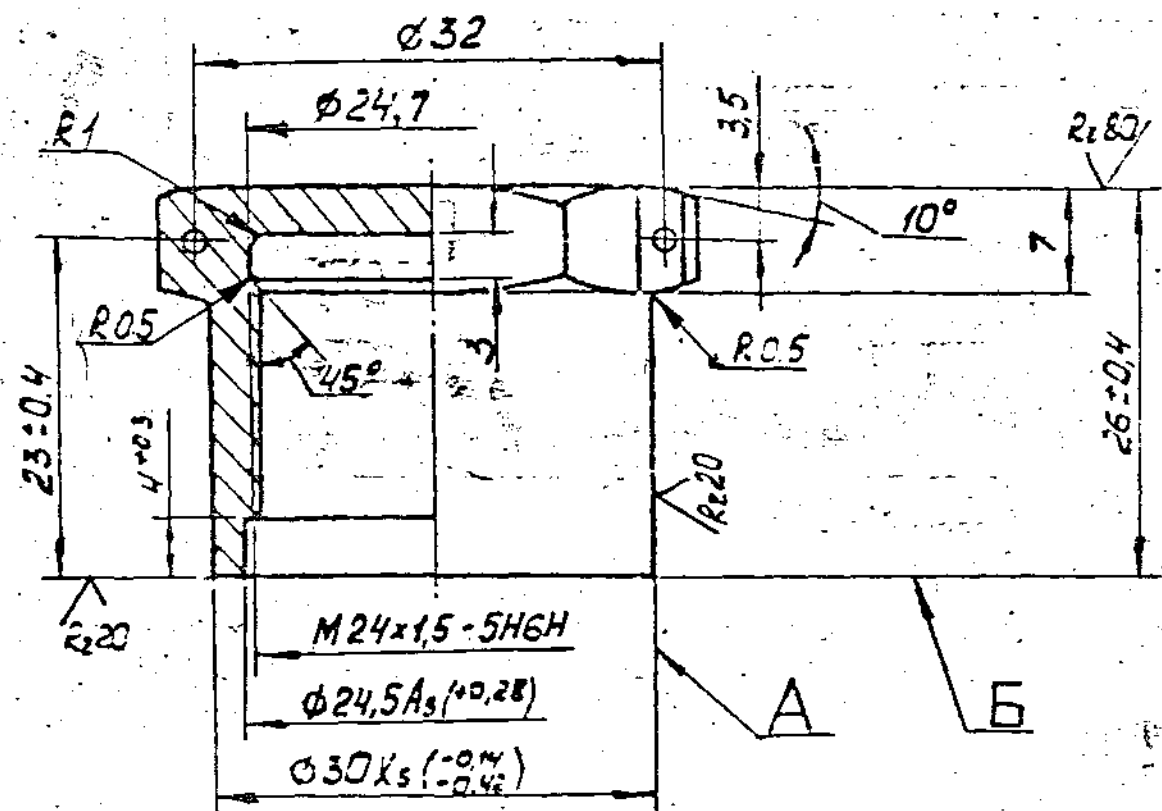
EXPLANATORY NOTE ADDED ON 20-5-91

PILOT SAMPLE SHOULD BE APPROVED BY A H S P BEFORE BULK PRODUCTION		DRN		MATERIAL:- PIPE A1	USED ON
EST. WT.	TO BE STAMPED OR MARKED WHERE INDICATED THIS # (LETTERS)	CHK	<i>[Signature]</i>	45x4 GOST 18482-79	CE 20-12-00-13
0.005 kg		TCD	<i>[Signature]</i>	CONTROLLERATE OF QUALITY ASSURANCE (HEAVY VEHICLES)	
ALL SHARP EDGES AND CORNERS TO BE REMOVED UNLESS OTHERWISE STATED MACHINED CORNERS TO HAVE R OUT SIDE R INSIDE EQUIVALENT CHAMFERS ARE PERMISSIBLE.		APPD	<i>[Signature]</i>	AVADI	
		DATE	21-7-87	TITLE	
		SCALE:-	1:1	INSERTION	
		DIMENSIONS IN mm		D S CAT NUMBER	
		TOLERANCE ON DIMNS UNLESS OTHERWISE STATED IS: 2102-69		DRAWING NUMBER	
		ALL THREADS TO CONFORM TO		20-12-140-1	
		ISSUE DATE	NATURE OF AMENDMENTS		



SIZE A3

DRAWING NUMBER
20-12-142-1



EXPLANATORY NOTE :-

9. MATERIAL QUOTED : 32-5 GOST 8560-78
45 GOST 1050-74

BRIGHT STEEL HEXAGONAL BAR.
32 mm ACROSS FLAT, CLASS OF ACCURACY 5, TO GOST 8560-78.
GRADE 45 TO GOST 1050-74.

a) CHEMICAL COMPOSITION :- %

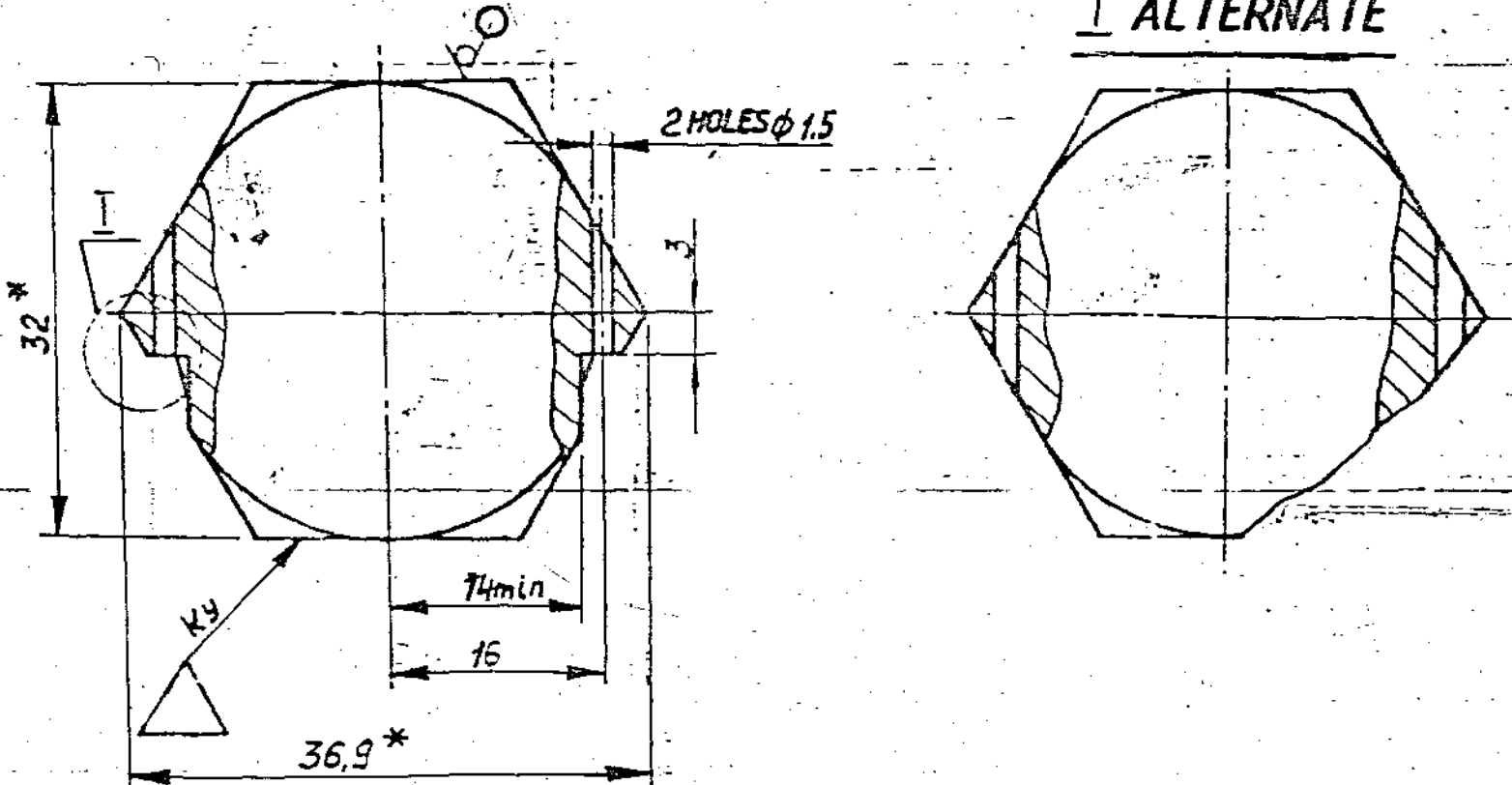
ALTERNATE MATERIAL :- 40, 50 GOST 1050-74.

CARBON	= 0.42 - 0.50	CARBON	= 0.37 - 0.45	= 0.47 - 0.55
SILICON	= 0.17 - 0.37	SILICON	= 0.17 - 0.37	= 0.17 - 0.37
MANGANESE	= 0.50 - 0.80	MANGANESE	= 0.50 - 0.80	= 0.50 - 0.80
CHROMIUM	= 0.25 (max)	CHROMIUM	= 0.25 (max)	= 0.25 (max)
SULPHUR	= 0.040 (max)	SULPHUR	= 0.040 (max)	= 0.040 (max)
PHOSPHORUS	= 0.035 (max)	PHOSPHORUS	= 0.035 (max)	= 0.035 (max)
COPPER	= 0.25 (max)	COPPER	= 0.25 (max)	= 0.25 (max)
NICKEL	= 0.25 (max)	NICKEL	= 0.25 (max)	= 0.25 (max)

b) MECHANICAL PROPERTIES :-

YIELD POINT Kgf/mm ² (min)	= 36	YIELD POINT	= 34 Kgf/mm ² (min)	= 38 Kgf/mm ² (min)
ULTIMATE TENSILE STRENGTH Kgf/mm ² (min)	= 61	ULTIMATE TENSILE STRENGTH Kgf/mm ²	= 58 Kgf/mm ² (min)	= 64 Kgf/mm ² (min)
PERCENTAGE OF ELONGATION %	= 16	PERCENTAGE OF ELONGATION	= 19 % (min)	= 14 % (min)
REDUCTION IN AREA % (min)	= 40	REDUCTION IN AREA	= 45% (min)	= 40 % (min)
IMPACT STRENGTH Kgm/cm ² (min)	= 5	IMPACT STRENGTH	= 6 Kgm/cm ² (min)	= 4 Kgm/cm ² (min)
HARDNESS B H N (max)	= 229	HARDNESS B H N	= 217 (max)	= 241 (max)

ALTERNATE



- 1 ALTERNATE MATERIAL IS STEEL 40, 50, GOST 1050-74.
- 2 UNSPECIFIED LIMIT DEVIATIONS OF MACHINED DIMENSIONS ARE AS FOLLOWS :-
FOR HOLES - AS PER A7,
SHAFTS - AS PER B7,
OTHERS - AS PER CM7.
- 3 TOLERANCE FOR RADIAL PLAY OF SURFACE A WITH RESPECT TO THE ANGLE DIAMETER OF THREAD IS 0,08mm (QUALIFIED TOLERANCE).
- 4 TOLERANCE FOR END PLAY OF SURFACE B WITH RESPECT TO THE ANGLE DIAMETER OF THREAD IS 0,05mm.
- 5 EDGE ROUNDING UPTO ϕ 36mm IS ALLOWED.
- 6 COATING :- CADMIUM PLATED, 9 MICRONS THICK, OILED.
- 7 ABSENCE OF COATING ON INTERNAL SURFACES IS ALLOWED.
- 8 * DIMENSIONS ARE GIVEN FOR REFERENCE.

(A) MATERIAL : STEEL 709 MAD (EN19)
TO BS: 970- P1- 1983

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

EST. WT. 0.025 Kg TO BE STAMPED OR MARKED WHERE INDICATED THUS # LETTERS)

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

DRN	32-5 GOST 8560-74	(A) USED ON :-	CB 20-12-01-13
CHD	45 GOST 1050-74	CONTROLLERATE OF QUALITY ASSURANCE (HEAVY VEHICLES)	
TCD		A V A D I	
APPD		TITLE	
DATE	19-08-87	BLIND NUT	
SCALE	2 : 1	DIMENSIONS IN mm.	
TOLERANCE ON DIMS UNLESS OTHERWISE STATED IS 2102-69		TOLERANCE ON DIMS UNLESS OTHERWISE STATED IS 2102-69	
ISSUE	A - 9-6-09	ALL THREADS TO CONFORM TO	D S CAT NUMBER
DATE	3 RD ALT.N. COMM. MINUTES POINT 5 DATE 27-2-09	DRAWING NUMBER	
NATURE OF AMENDMENTS		20-12-142-1	

KVD No: 63287

20-04-18

Rz40 (W)

EXPLANATORY NOTE :

11. REFERENCE MATERIAL QUOTED :-

a) GAUGED HEXAGONAL STEEL BAR OF DIAMETER OF INSCRIBED CIRCLE 17mm, CLASS OF ACCURACY - 5 (TOLERANCE MINUS 0.24) MADE OF CHROMIUM NICKEL MOLYBDENUM STEEL OF HIGH QUALITY (A) OF GRADE 18X2H4MA.

b) CHEMICAL COMPOSITION :

GRADE OF STEEL	CONTENT OF ELEMENTS %							REMARKS
	CARBON	SILICON	MANGANESE	CHROMIUM	NICKEL	MOLYBDENUM	TITANIUM	
18X2H4MA	0.14-0.20	0.17-0.37	0.25-0.55	1.35-1.65	4.00-4.40	0.30-0.40	0.06	
40 X	0.26-0.44	0.17-0.37	0.50-0.80	0.80-1.10	-	-	-	QUALITY STEEL APPLICABLE TO ALL MATL (Refer Note No. 7)
45 X	0.41-0.49	0.17-0.37	0.50-0.80	0.80-1.10	-	-	-	DO

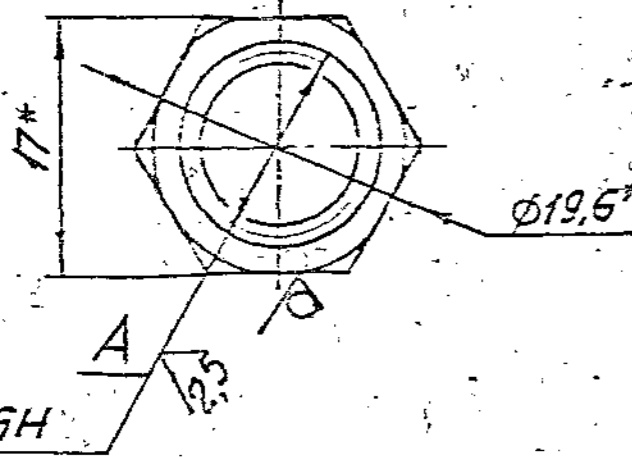
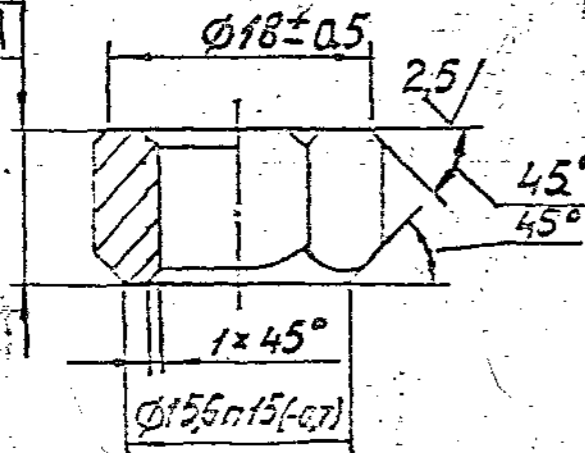
c) PHYSICAL PROPERTIES :

GRADE OF STEEL	YIELD POINT Kgf/mm ² (min)	U T S (min)	RELATIVE ELONGATION % (min)	RELATIVE REDUCTION ALONG CROSS SECTION (min)	IMPACT STRENGTH Kgf/cm ² min
18X2H4MA	85	115	12	50	12
40 X	80	100	10	45	6
45 X	85	105	9	45	5

d) PROPORTION OF ELEMENTS SHOULD NOT EXCEED THE NORMS INDICATED BELOW :

STEEL GRADE	PROPORTION OF ELEMENTS %			
	PHOSPHORUS	SULPHUR	COPPER	NICKEL
40 X	0.035	0.035	0.30	0.30
45 X	0.035	0.035	0.30	0.30
18X2H4MA	0.025	0.025	0.30	

10h15 (-0.58) / 0.05/0.16/A



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

- HRC₃ 32 -- 37
- NON-INDICATED LIMIT DEVIATIONS OF DIMENSIONS ARE OF HOLES BY H14, SHAFTS BY h14, THE REST - ± $\frac{IT 14}{2}$
- ADJOINING OF NUT-SUPPORTING SURFACE TO CONTROL PLATE SURFACE IS 75 % Min.
- NON-UNIFORM THICKNESS OF NUT WALLS IS 0.4mm MAX.
- CRACKS, FLAWS, BACKFINS, ROLLING LAPS, FLAKES, SCALE, BLACK DEPRESSIONS, BARBS AND SCORES ARE NOT ALLOWED ON NUT SURFACE.
- * DIMENSIONS FOR INFORMATION.
- ~~MATERIAL SUBSTITUTE IS 45X, 40X GOST 4543-71~~
- ACCEPTANCE RULES, TESTING METHODS, PACKING, TRANSPORTATION, AND STORAGE ARE ACC. TO OST 24.050:30-78.
- COATING: K0 6.Xp. WITH ELIMINATION OF HYDROGEN EMBRITTLEMENT. COATING ABSENCE IS ALLOWED ON ONE OF NUT FACETS.
- BRAND THE FINAL ACCEPTANCE FOR A SET OF PARTS ON TAG.

** 17-5 GOST 8560-78

★ CE 20-12-50-13

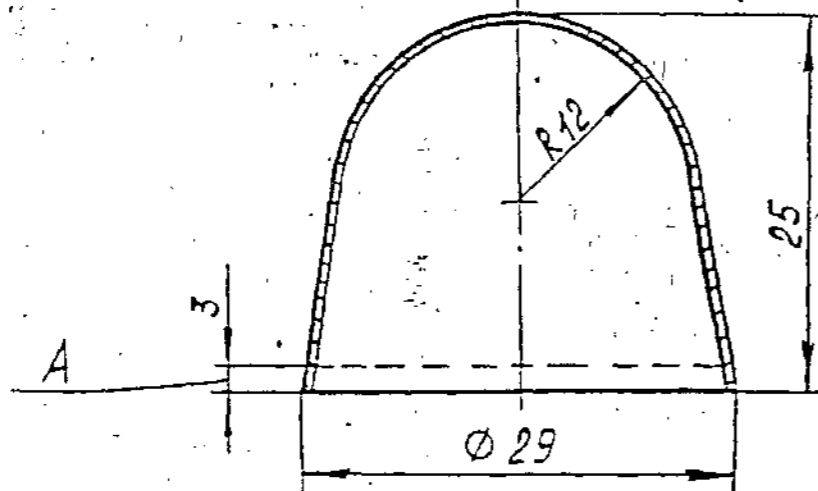
18 X2.H4MA GOST 4543-71

EST. MASS	0.008 Kg	TO BE STAMPED OR MARKED WHERE INDICATED THIS LETTERS
A	7.203 Lt No. EFA/P/PDO/023 1st 21.1.03	ALL SHARP EDGES AND CORNERS TO BE REMOVED UNLESS OTHERWISE STATED. ROUNDED CORNERS TO HAVE R CUTS. R DISSE EQUIVALENT CHANGES ARE PERMISSIBLE.
ISSUE DATE	21.1.03	
SCALE	2:1	MATERIAL: ** SEE ABOVE USED ON: ★ CE 20-04-02
CONTROLLER	OF INSPECTION	HEAVY VEHICLES AND
TOLERANCE	ON DIMENSIONS UNLESS OTHERWISE STATED	TITLE: NUT M12x1
DATE	20-04-18	D S CAT NUMBER
		DRAWING NUMBER 20-04-18-3

SUPERSEEDS 20-12-08 VIDE Notn. No. 708-82

DRG. INDIAINISED BASED ON RUSSIAN ORIGINAL ISSUE-1 (Notn. No. 755-88)

DRAWING NUMBER
20-12-08-1



1. Requirements for the die forging are according to OCT3-4343-79.
2. Tin by П1000у 30-2 solder, GOST 21930-76 or GOST 21931-76 according to A dimension.

1. Требования, предъявляемые к штамповке, - по OCT 3-4343-79.

2. По размеру A облудить припоем ПОССУ 30-2 ГОСТ 21930-76 или ГОСТ 21931-76.

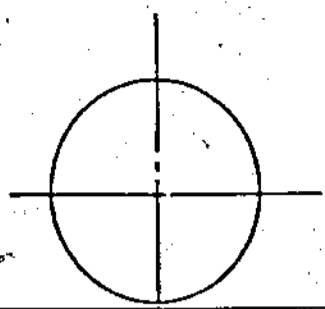
PILOT SAMPLE SHOULD BE APPROVED BY A H S P BEFORE BULK PRODUCTION

EST. WT. 0.0045 Kg TO BE STAMPED OR MARKED WHERE INDICATED THIS # (LETTERS)

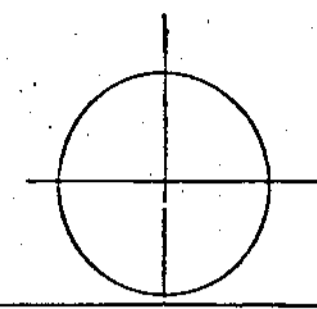
ALL SHARP EDGES AND CORNERS TO BE REMOVED UNLESS OTHERWISE STATED MACHINED CORNERS TO HAVE R OUT SIDE R INSIDE EQUIVALENT CHAMFERS ARE PERMISSIBLE

DRN	DESIGNED	MATERIAL	NET LOW BRASS	USED ON	Ob 20-12-03
CD	CHANGED	1H	GOST 5613-86		
TRD	TRAVEL				
APPD	APPROVED	CONTROLLERATE OF QUALITY ASSURANCE (HEAVY VEHICLES)			
DATE	3-2-90	AVAT			
SCALE	2:1				
DIMENSIONS IN mm		TOLERANCE ON DIMS UNLESS OTHERWISE STATED IS: 2102-69		TITLE	
ALL THREADS TO CONFORM TO		D S CAT NUMBER		NET	
ISSUE DATE		NATURE OF AMENDMENTS		DRAWING NUMBER	
				20-12-08-1	

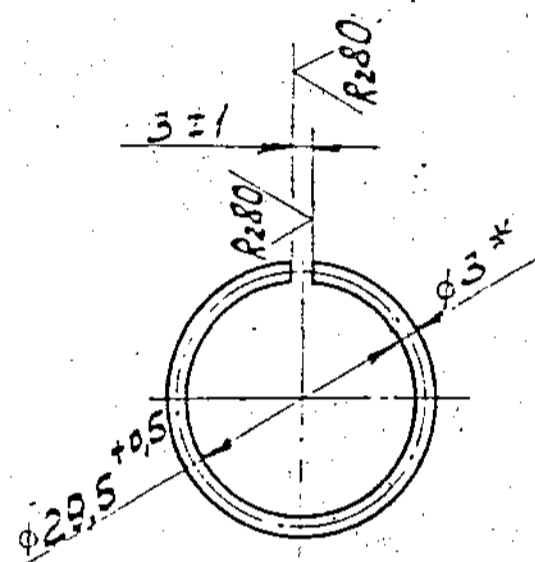
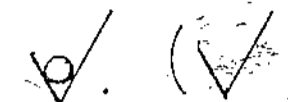
47
SIZE A3



20-12-11-1



DRAWING NUMBER
20-12-11-1



1. Developed length \approx 103 mm.
2. * Dimension for references.
3. Do not check the configuration of a cut of ends.
4. Coat 06.

1. Развернутая длина \approx 103 мм.
2. * Размер для справок.
3. Конфигурацию среза концов не контролировать.
4. Покрытие 06.

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

SUPERSEEDS 20-12-11 VIDE Notn. no. 708-82
DRG. INDIANISED BASED ON RUSSIAN ORIGINAL ISSUE-NIL

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

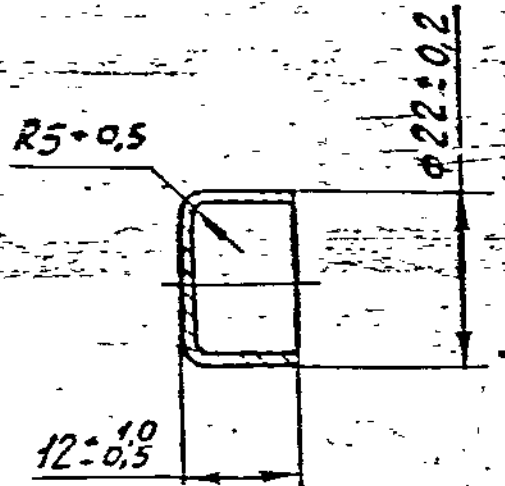
EST. WT. 0.006 Kg TO BE STAMPED OR MARKED WHERE INDICATED THUS # 1 LETTERS)

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

DRN	DESIGN	MATERIAL:-	USED ON
CD	CHANGED	WIRE II-3 GOST 9389-75	CB 20-12-03
TCD	TECHNICAL CHANGED		
APPD	APPROVED		
DATE	6-4-88	CONTROLLERATE OF QUALITY ASSURANCE(HEAVY VEHICLES)	
SCALE	1:1	AVAD	
DIMENSIONS IN mm		TITLE	RING
TOLERANCE ON DIMS UNLESS OTHERWISE STATED IS:2102-69			
ALL THREADS TO CONFORM TO		D S CAT NUMBER	DRAWING NUMBER
ISSUE DATE	NATURE OF AMENDMENTS		20-12-11-1

47
SIZE A3

DRAWING NUMBER
20-12-23-1



- 1 REQUIREMENTS, PLACED UPON STAMPING ARE AS PER STANDARD 82050-16.
- 2 ANNEAL.

EXPLANATORY NOTE:-

MATERIAL QUOTED:

SHEET (COPPER) 1 - M3 GOST 495-77.

M3 = GRADE OF MATERIAL.

NORMAL ACCURACY ; SOFT ; 1.0 = THICKNESS.

CHEMICAL COMPOSITION: % (AS PER GOST 859-78 GRADE M3)

Cu. + Ag = 99.5 (MIN)

IMPURITIES: (MAX) %

BISMUTH = 0.003 ; NICKEL = 0.2 ; OXYGEN = 0.08

ANTIMONY = 0.05 ; LEAD = 0.05 ;

ARSENIC = 0.01 ; TIN = 0.05 ;

IRON = 0.05 ; SULPHUR = 0.01 ;

MECHANICAL PROPERTIES:

ULTIMATE STRENGTH OF RUPTURE $\text{kgf/mm}^2 = 20-27$.

% ELONGATION = 36. (min)

BHN = 55. (max)

EXPLANATORY NOTE ADDED ON 1-8-91

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

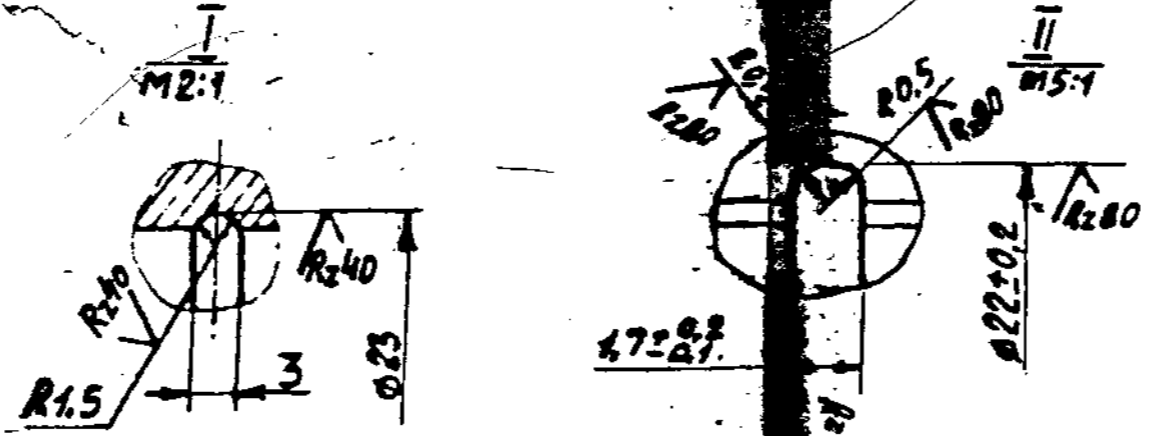
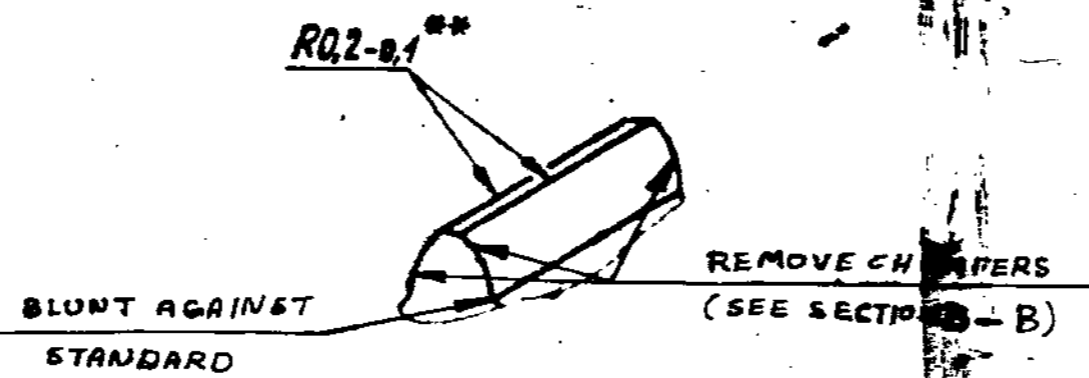
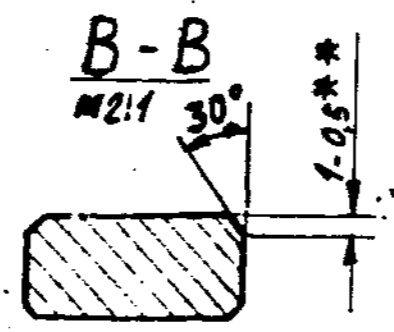
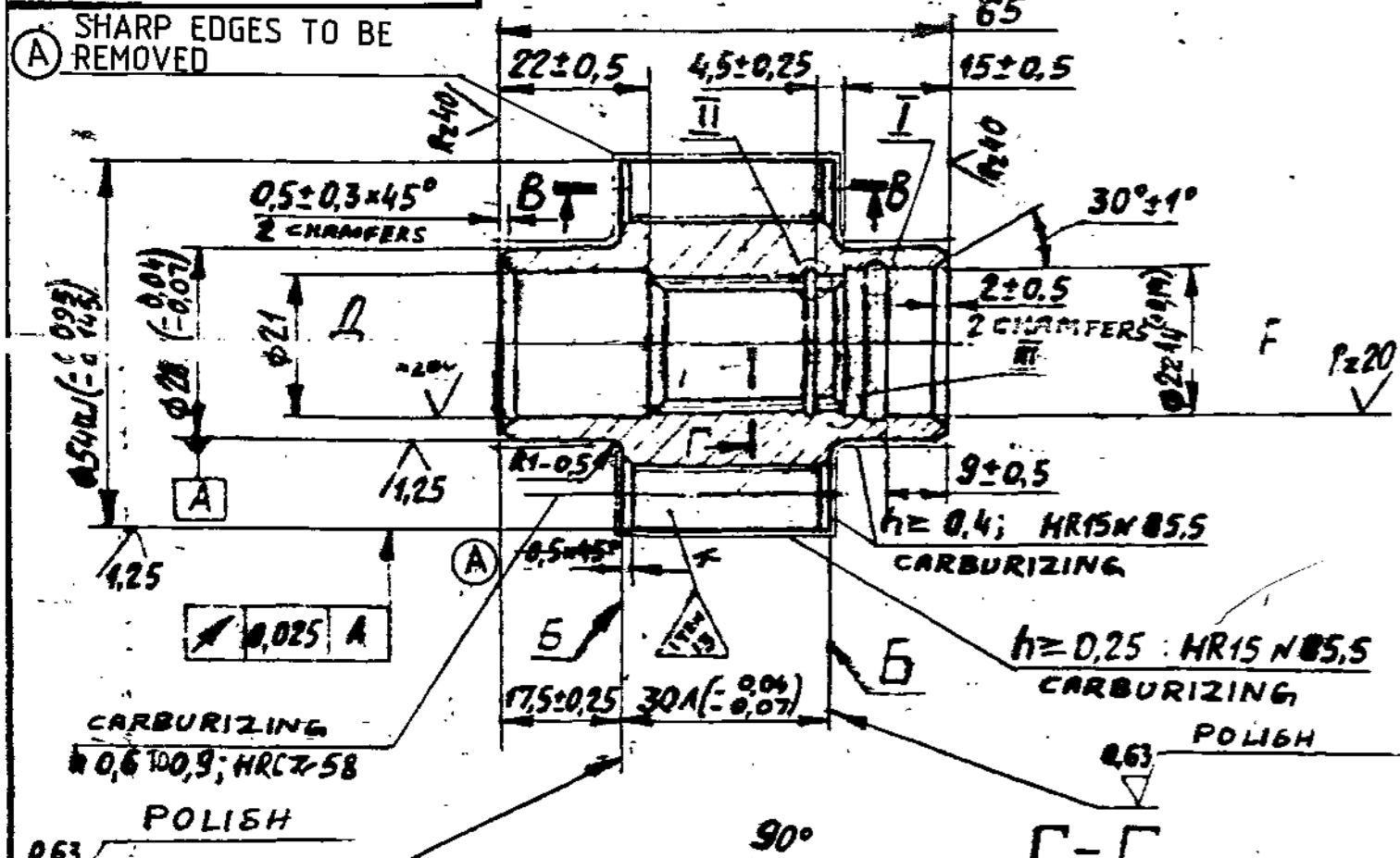
EST. WT. TO BE STAMPED OR MARKED WHERE INDICATED THIS # 1 LETTERS

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

DRN	CHKD	TED	APPD	DATE	SCALE	DIMENSIONS IN mm	TOLERANCE ON DIMS UNLESS OTHERWISE STATED IS: 2102-69	ALL THREADS TO CONFORM TO	MATERIAL - SHEET	USED ON	
				18-9-87	1:1				1-M3 GOST 495-77	C6 20-12-24-1	
								CONTROLLERATE OF QUALITY ASSURANCE (HEAVY VEHICLES) AVADI			
								TITLE		PLUG	
								D S CAT NUMBER		DRAWING NUMBER	
										20-12-23-1	
				ISSUE DATE	NATURE OF AMENDMENTS						

SIZE A3

1-92-21-20



NUMBER OF TEETH	Z	24
PIN DIAMETER	dp	14.47
DISTANCE OVER PINS	MF	16.87±0.22
TOOTH SPACE WIDTH ALONG PITCH CIRCLE CHORD	Sd	-
DIAMETER OF PITCH CIRCLE	da	19.02

OF MATED PARTS TO THIS END DIRECT THE GAUGE ALONG SURFACES A.

7. TOLERANCE FOR PARALLELISM OF SURFACES B IS 0.025mm.

8. **MAY BE BLUNTED AGAINST STANDARD.

9. MEASURING GEAR AS PER GOST 6512-74.

10. CHECK THE TEETH FOR PROPER MASHING BY PRUSSIAN BLUE, TO THIS END, RUN THEM IN WITH STANDARD IN THE ABSENCE OF CLEARANCE AS PER INSTRUCTIONS UB-42; THE BEARING PATTERN OVER FACE WIDTH AND HEIGHT OF TEETH SHOULD CORRESPOND TO THAT INDICATED IN THE TABLE. TWO TO THREE ADJOINING TEETH OF THE GEARS MAY FIT EACH OTHER OVER 30% TO 50% OF THE FACE WIDTH AS CHECKED BY PRUSSIAN BLUE.

11. CHECK SURFACES B BY PRUSSIAN BLUE WITH SPECIAL GAUGE, MADE AS PER MINIMUM DIAMETER OF THE MATED PART. BEARING PATTERN IS ANNULAR WITH A WIDTH OF AT LEAST 2mm.

12. CHECK THE PART WITH A MAGNETIC FLAW DETECTOR AS PER INSTRUCTION UB 20-17.

13. ELECTROCHEMICAL STAMPING. ELECTRO CHEMICAL STAMPING ON JOURNAL IS ALLOWED.

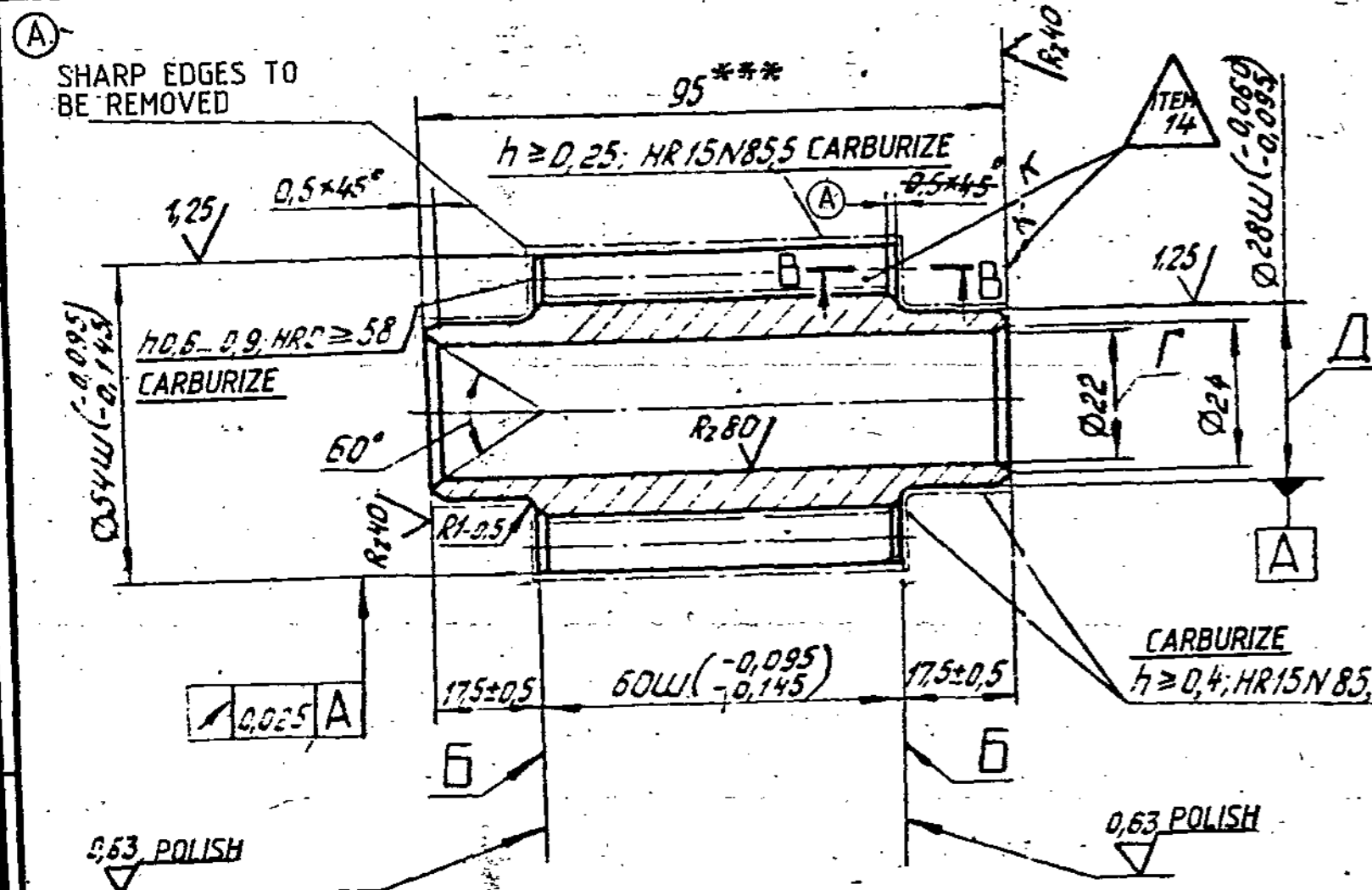
- INSPECTION GROUP III AS PER TECHNICAL REQUIREMENTS TT-11. HRC 26 TO 40, IF NOT SPECIFIED OTHERWISE. HARDNESS TEST OF NONCARBURIZED SURFACE IS CARRIED OUT ON 5% PARTS OF THE BATCH. ADDITIONAL CARBURIZING OF HOLES D, AND E, BUTT ENDS AND JOURNALS, EXCEPT CENTRE CHAMFER IS ALLOWED. ADDITIONAL LIGHT CARBURIZING OF SPLINES TO A DEPTH UP TO 0.1mm IS ALLOWED.
- ALTERNATE MATERIAL IS STEEL 12XH3A, TY 14-1-381-72.
- UNSPECIFIED LIMIT DEVIATIONS FOR DIMENSIONS ARE AS FOLLOWS: FOR HOLES - AS PER A₇, SHAFTS - AS PER B₇, OTHERS AS PER C₆.
- TOLERANCE FOR END PLAY OF SURFACE B WITH RESPECT TO AXIS OF SURFACES A IS 0.025mm OVER φ 50mm.
- TOLERANCE FOR RADIAL RUNOUT OF TEETH PITCH CIRCLE WITH RESPECT TO SURFACES A IS 0.1mm, CHECK WHEN NO RUN-IN WITH STANDARD IS PERFORMED.
- TOLERANCE FOR RADIAL RUNOUT OF SPLINE TEETH ALONG THE PITCH CIRCLE IS 0.1mm AND TOLERANCE FOR INTERSECTION OF THEIR AXES OVER A LENGTH OF 100mm IS 0.2mm; CHECK WITH SPECIAL GAUGE, MADE AS PER MAXIMUM DIMENSION OF SPLINES

MODULE	m	4.5
NUMBER OF TEETH	Z	10
PROFILE ANGLE	α	25°
ADDENDUM COEFFICIENT	ha*	1
RADIAL CLEARANCE COEFFICIENT	c*	0.2
ADDENDUM MODIFICATION COEFFICIENT	X	0
DEGREE OF ACCURACY AS PER GOST 1643-72		
BASE TANGENT LENGTH	W	20.43±0.11
TOLERANCE FOR BASE TANGENT LENGTH VARIATION	ΔW	0.1
COMPOSITE ERROR	F _T	-0.130
DOUBLE BLANK	F _T	0.07
TOLERANCE FOR RADIAL RUNOUT OF TOOTHED RIM	F _r	0.065
BASE PITCH	pn	13.254
BASE PITCH	Δpn	±0.010
TOTAL BEARING PATTERN OF STANDARD GEAR TEETH	IN FACE WIDTH	% AT LEAST 50
	IN HEIGHT	% AT LEAST 60
TOLERANCE FOR TOOTH PROFILE ERROR	f _f	0.020
TOLERANCE FOR TOTAL ERROR OF DISTORTION	F _d	0.019
BASE CIRCLE DIAMETER	da	40.78
RADIUS OF INVOLUTE CURVATURE AT THE BEGINNING OF CONTACT PROFILE	ρ _b	0
RADIUS OF INVOLUTE CURVATURE AT THE END OF CONTACT PROFILE	ρ _e	36.681
INVOLUTE DEVELOPMENT ANGLE	φ	51°32'

*** 12XH3A GOST 4543-71

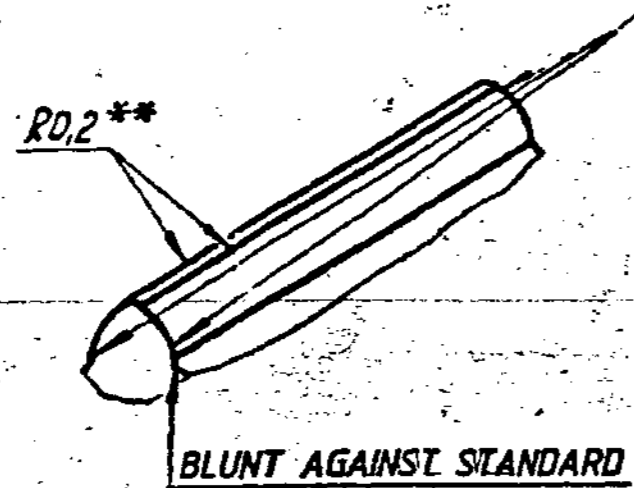
EST. MASS	0.600 Kg	TO BE STAMPED OR MARKED WHERE INDICATED THIS # (LETTERS)
ALL SHARP EDGES AND CORNERS TO BE REMOVED UNLESS OTHERWISE STATED MACHINED CORNERS TO HAVE R OUTSIDE R INSIDE EQUIVALENT CHAMFERS ARE PERMISSIBLE		
ISSUE DATE	12-11-07 TC/GEN/IND-III DT. 02-11-07	NATURE OF CHANGES
DATE	12-11-07	MATERIAL: *** SEE ABOVE USED ON: C6 20-12-24-1
SCALE	1:1	CONTROLLER OF QUALITY ASSURANCE (HEAVY VEHICLES) A V A D I
TOLERANCE ON DIMENSIONS UNLESS OTHERWISE STATED	ALL THREADS TO CONFORM TO	TITLE: GEAR
DRAWING NUMBER	20-12-26-1	D.S.C.T. NUMBER

20-12-53-1

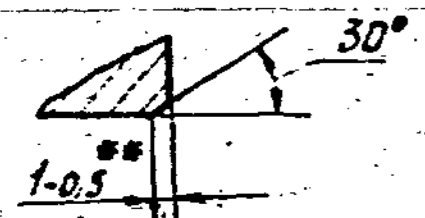


- INSPECTION GROUP III AS PER TECHNICAL REQUIREMENTS TT-11 H R C 26 TO 40, IF NOT SPECIFIED OTHERWISE. ADDITIONAL LIGHT CARBURIZING OF HOLE Γ IS ALLOWED AT SEPARATE POINTS TO A DEPTH OF UP TO 0.5 mm. HARDNESS TEST OF NON-CARBURIZED SURFACE IS CARRIED OUT ON 5% OF PARTS FROM THE BATCH.
- ALTERNATE MATERIAL IS STEEL 12XH3A, TY 14-1-381-72.
- UNSPECIFIED LIMIT DEVIATIONS OF DIMENSIONS ARE AS FOLLOWS:
FOR HOLES - AS PER A7.
SHAFTS - AS PER B7.
OTHERS - AS PER CM7.
- TOLERANCE FOR END PLAY OF SURFACE B WITH RESPECT TO AXIS OF SURFACE A IS 0.025 mm OVER ϕ 50 mm.
- TOLERANCE OF RADIAL RUN-OUT OF THE TEETH PITCH CIRCLE WITH RESPECT TO SURFACES A IS 0.1 mm, CHECK WHEN NO RUNIN WITH STANDARD IS PERFORMED.
- TOLERANCE FOR PARALLELISM OF SURFACE B IS 0.025 mm.
- STEP ALONG Γ OF UP TO 0.5 mm IS ALLOWED; PROVIDED IT IS OUTSIDE ZONE Δ AND THE JOURNAL THICKNESS OF AT LEAST 2.5 mm.
- ** BLUNT AGAINST STAND.
- *** DIMENSION IS GIVEN FOR REFERENCE.
- MEASURING GEAR IS AS PER GOST 6512-74.
- CHECK THE TEETH FOR PROPER MESHING BY PRUSSIAN BLUE BY RUNNING-IN WITH STANDARD IN THE ABSENCE OF CLEARANCE AS PER INSTRUCTIONS U B - 42. BEARING PATTERN ALONG THE SPACE WIDTH AND HEIGHT OF TEETH SHOULD CORRESPOND TO THAT INDICATED IN THE TABLE. TWO TO THREE ADJOINING TEETH OF THE

REMOVE CHAMFERS (SEE SECTION B-B)



B-B
SCALE-2:1



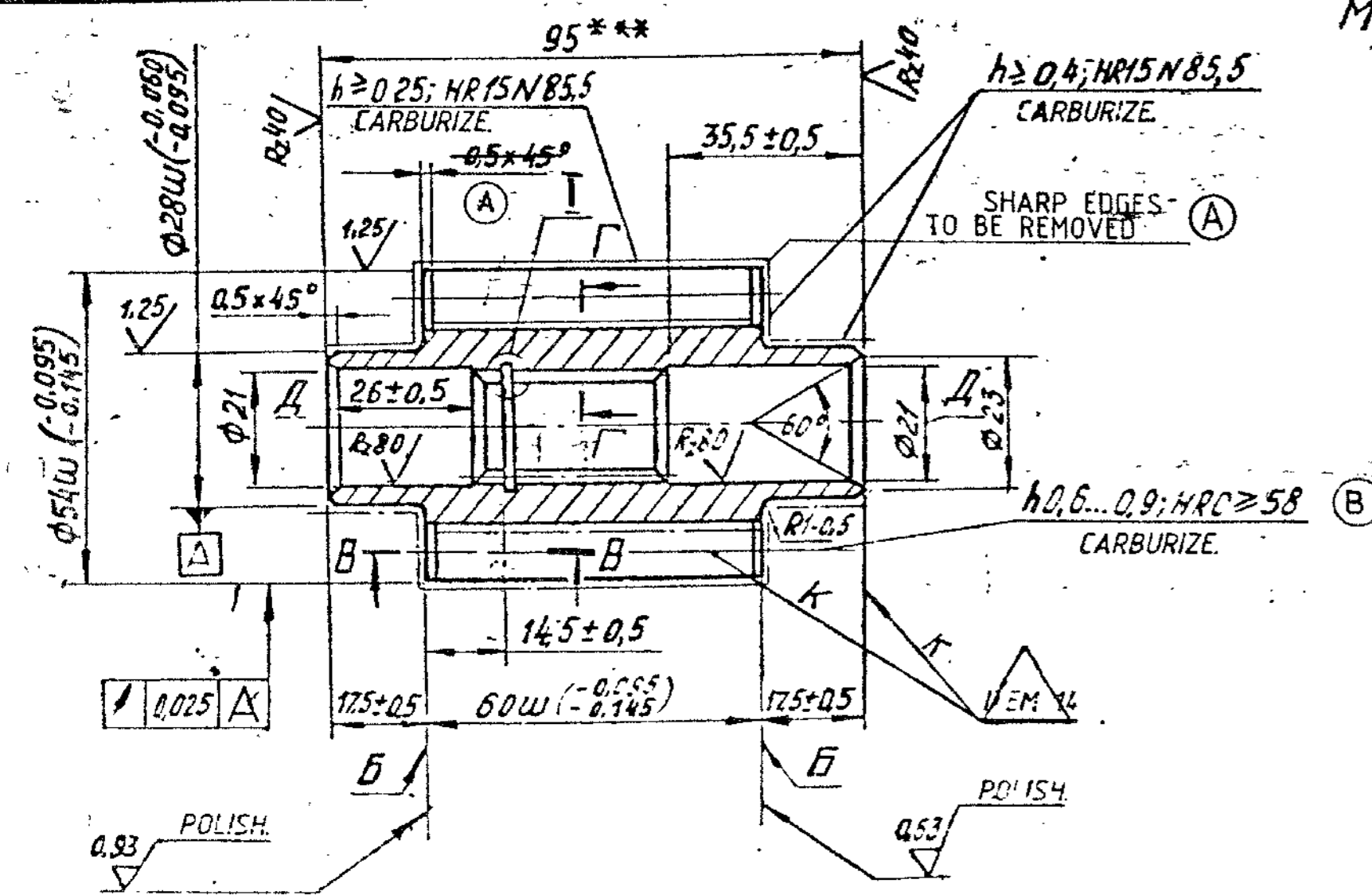
- GEARS MAY FIT EACH OTHER BY 30 TO 50% OF THE TOOTH SPACE WIDTH AS CHECKED BY PRUSSIAN BLUE.
- CHECK SURFACES B BY PRUSSIAN BLUE WITH SPECIAL GAUGE, MADE AS PER MINIMUM DIAMETER OF MATED PARTS. THE ANNULAR BEARING PATTERN SHOULD HAVE A WIDTH OF AT LEAST 2.0 mm.
 - CHECK THE PART ON MAGNETIC FLAW DETECTOR AS PER INSTRUCTIONS U B 20 - 17.
 - APPLY ELECTROCHEMICAL STAMPING ON THE PROFILE OF TOOTH ON THE BUTT END OF JOURNAL. ELECTROCHEMICAL STAMP IS ALLOWED ON THE JOURNAL.

MODULE		m	4.5
NUMBER OF TEETH		Z	10
BASE RACK	PROFILE ANGLE	α_a	25°
	ADDENDUM COEFFICIENT	h_a^*	1
	RADIAL CLEARANCE COEFFICIENT	c^*	0.2
ADDENDUM MODIFICATION COEFFICIENT		X	0
DEGREE OF ACCURACY AS PER GOST 1643-72		-	-
BASE TANGENT LENGTH		W	20.43-0.07
TOLERANCE FOR BASE TANGENT LENGTH VARIATION		V_w	0.1
COMPOSITE ERROR DOUBLE FLANK	TOTAL	F''_i	0.13
	TOOTH-TO-TOOTH	f''_i	0.07
TOLERANCE FOR RADIAL RUN-OUT OF TOOTHED RIM		FZ	0.065
BASE PITCH	NOMINAL VALUE		13.254
	LIMIT DEVIATIONS	$\pm f_{pb}$	± 0.018
TOTAL BEARING PATTERN OF STANDARD GEAR TEETH	IN FACE WIDTH	%	AT LEAST 50
	IN HEIGHT	%	AT LEAST 40
TOLERANCE FOR TOOTH PROFILE ERROR		ff	0.020
TOLERANCE FOR TOTAL ERROR OF DISTORTION		F β	0.019
BASE CIRCLE DIAMETER		d_0	40.78
RADIUS OF INVOLUTE CURVATURE AT THE BEGINNING OF CONTACT PROFILE		ρ_0	0
RADIUS OF INVOLUTE CURVATURE AT THE END OF CONTACT PROFILE		ρ_c	36.681
INVOLUTE DEVELOPMENT ANGLE		φ	51° 32'

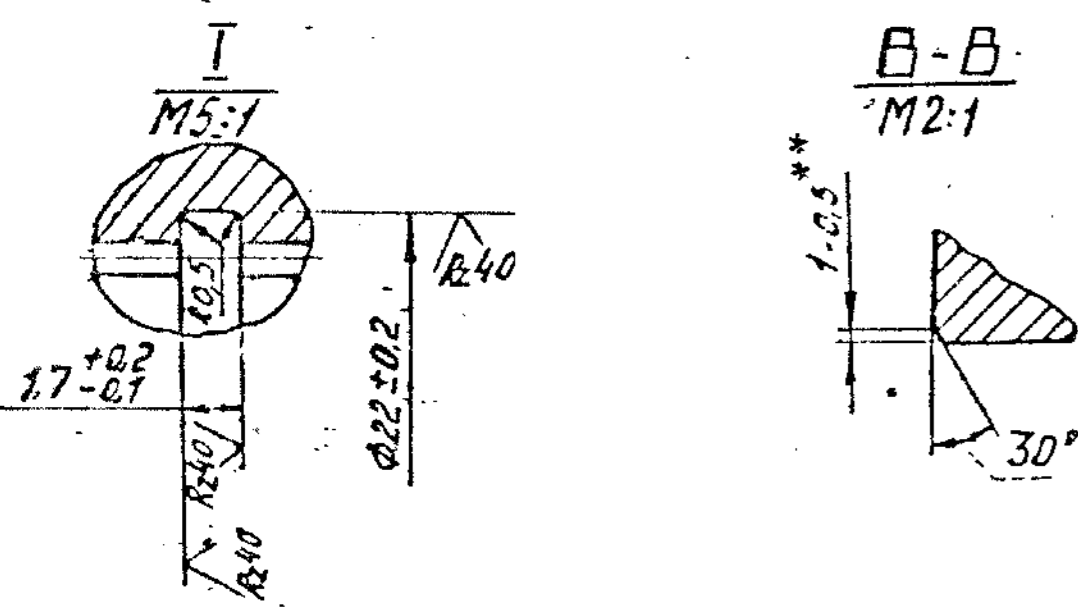
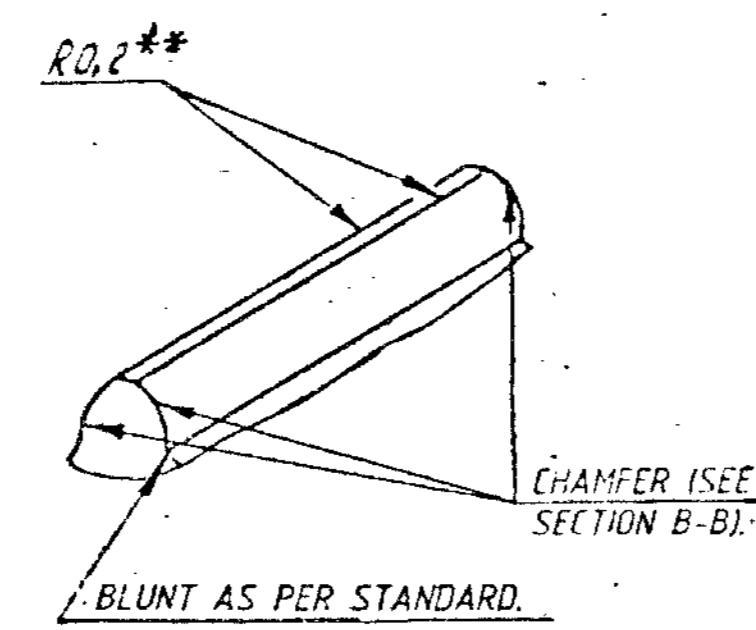
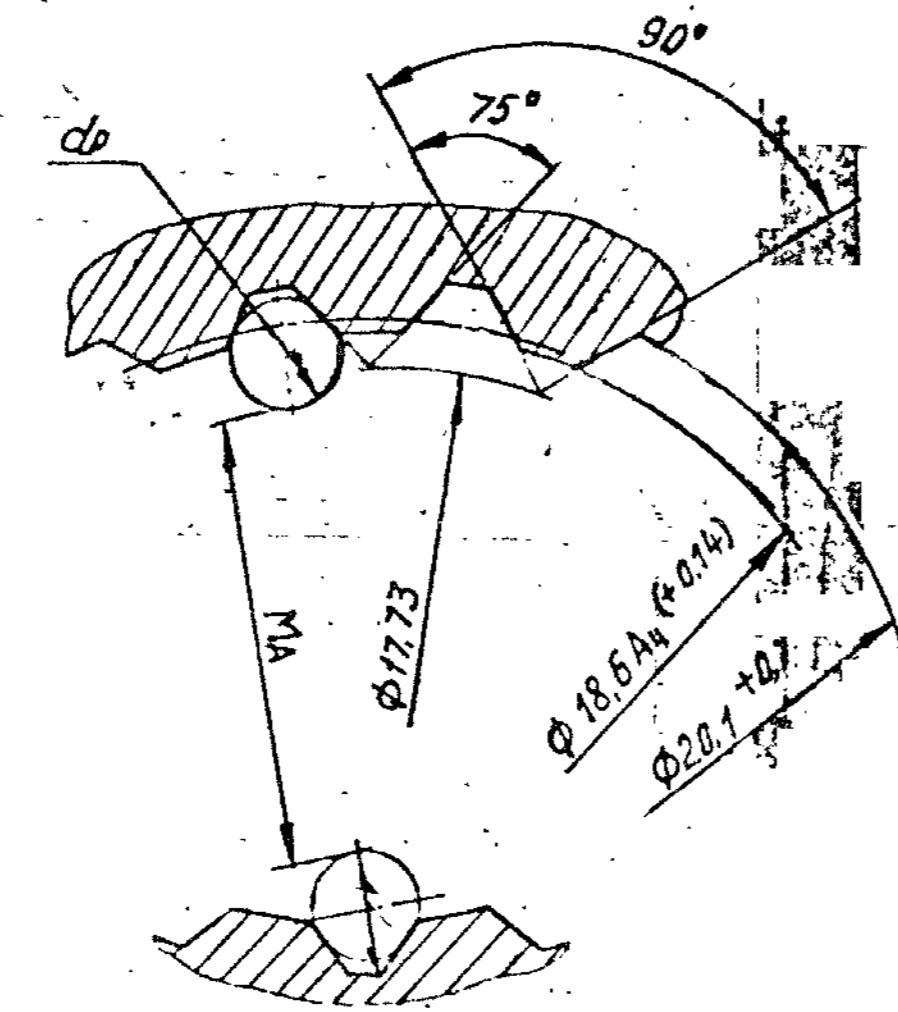
PILOT SAMPLE SHOULD BE APPROVED BY AHS BEFORE BULK PRODUCTION

EST. MASS	0.590 Kg	TO BE STAMPED OR MARKED WHERE REPLICATED THIS	[LETTERS]
ISSUE DATE	18-11-07	NATURE OF AMENDMENTS	TC/BEN/IND-III DT. 02-11-07
SCALE	1:1	MATERIAL	12XH3A GOST 4543-71
DIMENSIONS IN mm		USED ON	CB 20-12-01-13
TOLERANCE ON DIMS UNLESS OTHERWISE STATED		CONTROL RATE OF INSPECTION (HEAVY VEHICLES) AVAD	
ALL THREADS TO COMPLY TO		TITLE	GEAR
		DRAWING NUMBER	20-12-53-1

20-12-54-2



Г-Г
M10:1



- INSPECTION GROUP III AS PER TECHNICAL REQUIREMENTS TT-11. HRC 26 TO 40, IF NOT SPECIFIED OTHERWISE. SPOT CARBURIZING TO A DEPTH OF UPTO 0.5 MM IS ALLOWED FOR SPLINE BY LOW CARBON SATURATION. ADDITIONAL CARBURIZING IS ALLOWED FOR HOLES, BUTT-ENDS OF JOURNAL WITH AN EXCEPTION OF CENTRE CHAMFERS. INCARBURIZED SURFACE 5% OF THE PARTS FROM A BATCH ARE SUBJECTED TO HARDNESS TEST
- ALTERNATE MATERIALS STEEL 12XH3A, Ty14-1-381-72.
- UNSPECIFIED LIMIT DEVIATIONS OF DIMENSIONS ARE AS FOLLOWS:- FOR HOLES - AS PER A7, SHAFTS - AS PER B7, OTHERS - AS PER CM7.
- TOLERANCE FOR END PLAY OF SURFACES B WITH RESPECT TO THE AXIS OF SURFACE A SHOULD BE 0.025 MM OVER DIAMETER φ 50 MM.
- RADIAL RUN-OUT OF TEETH PITCH CIRCLE WITH RESPECT TO SURFACES A SHOULD NOT EXCEED 0.1 MM. CHECK WHEN THE PART IS NOT SUBJECTED TO RIN-IN WITH STANDARD.
- TOLERANCE FOR RADIAL RUN-OUT OF SPLINE TEETH ALONG PITCH CIRCLE IS 0.1 MM AND TOLERANCE FOR AXES INTERSECTION OVER A LENGTH OF 100 MM IS 0.2 MM. CHECK AGAINST SPECIAL GAUGE MADE ACCORDING TO THE MAXIMUM DIMENSIONS OF SPLINES IN CONJUGATED PARTS. THE GAUGE IS DIRECTED ALONG SURFACE A.
- NON-PARALLELITY OF SURFACES B IS 0.025 mm.
- ** BLUNTING IS PERMITTED AS PER STANDARD.
- *** DIMENSION IS GIVEN FOR REFERENCE.
- MEASURING GEAR IS AS PER GOST 6512-74.

- CHECK THE TEETH FOR PROPER MESHING BY PRUSSIAN BLUE DURING RUNNING-IN WITH THE STANDARD IN THE ABSENCE OF CLEARANCE AS SPECIFIED IN INSTRUCTIONS UB-42. THE BEARING PATTERN SHOULD COMPLY WITH THE VALUES GIVEN IN TABLE 2, AS TO THE FACE WIDTH AND TOOTH HEIGHT. TWO OR THREE ADJACENT GEAR TEETH MAY FIT LAST PART OF THE FACE WIDTH AS INDICATED BY PRUSSIAN BLUE.
- CHECK SURFACES B BY PRUSSIAN BLUE WITH SPECIAL GAUGE MADE TO SUIT. MINIMUM DIAMETER OF CONJUGATED PART. A CIRCULAR BEARING PATTERN SHOULD NOT BE LESS THAN 2 MM IN WIDTH.
- CHECK THE PART ON MAGNETIC FLAW DETECTOR AS PER INSTRUCTIONS UB 20-17.
- APPLY ELECTRO-CHEMICAL STAMP ON TEETH PROFILE OR METALLIC STAMP ON THE BUTT-END. ELECTRO CHEMICAL STAMP IS ALLOWED ON JOURNAL.

NUMBER OF TEETH	Z	24
DIAMETER OF ROLLER	dp	1.441
DIMENSION AS PER ROLLER	MA	16.8 ± 0.35 ± 0.22
SPACE WIDTH ALONG PITCH CIRCLE CHORD	sa	-
DIAMETER OF PITCH CIRCLE	da	19.62

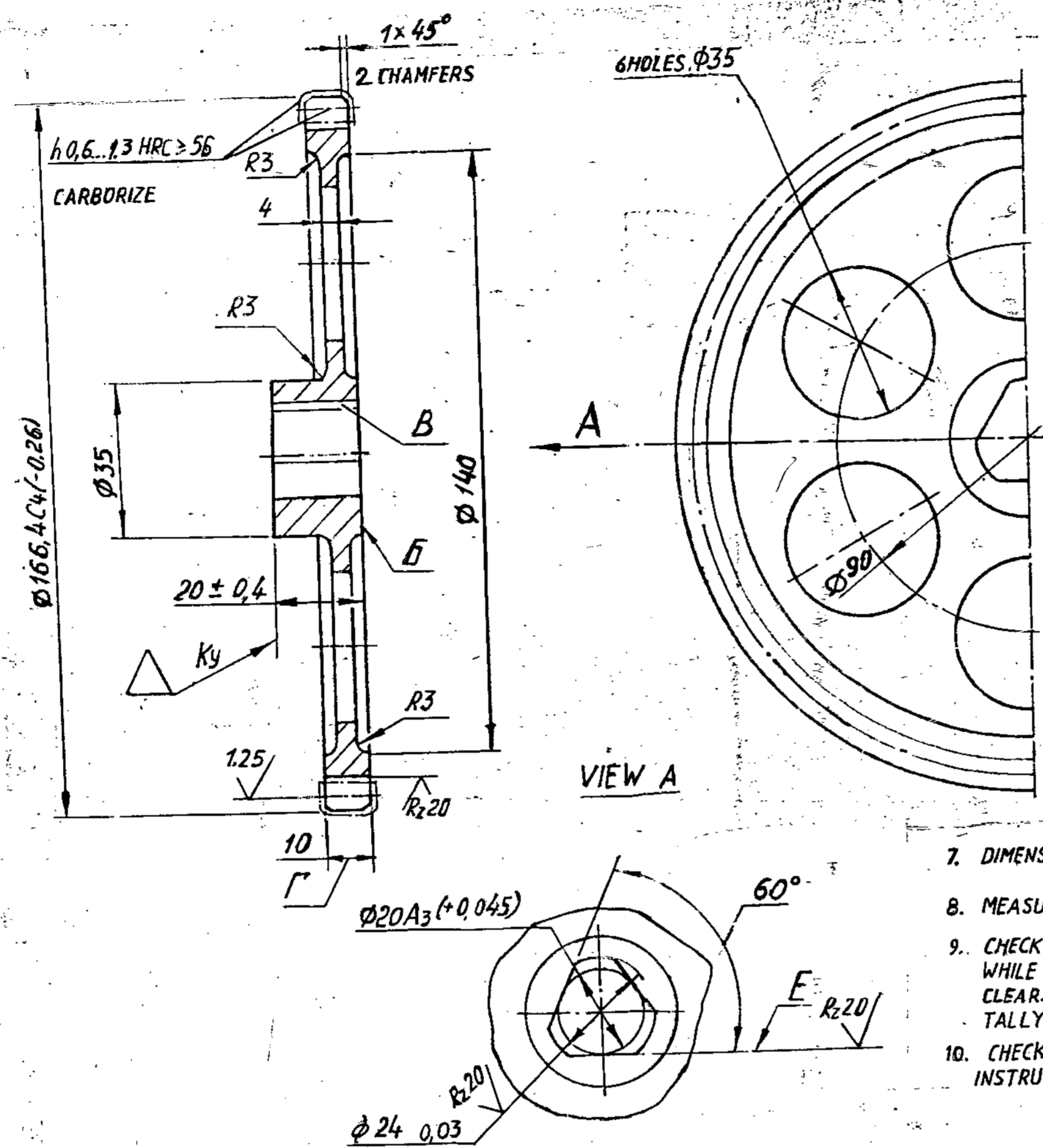
TABLE 1

MODULE	m	4.5
NUMBER OF TEETH	Z	10
BASIC RACK PROFILE ANGLE	αβ	25°
ADDENDUM CO-EFFICIENT	ha*	1
BOTTOM CLEARANCE CO-EFFICIENT	c*	0.2
ADDENDUM MODIFICATION CO-EFFICIENT	x	0
DEGREE OF ACCURACY AS PER GOST 1643-72	-	-
BASIC TANGENT LENGTH	W	20.43 ± 0.09 ± 0.27
TOLERANCE FOR BASIC TANGENT LENGTH VARIATION	Yw	0.1
COMPOSITE ERROR DOUBLE FLANK		
TOTAL	Ft	0.13
TOOTH TO TOOTH	fi	0.07
TOLERANCE FOR RADIAL RUN-OUT OF TOOTHED RIM	Fz	0.065
BASE PITCH		
NOMINAL VALUE		13.254
LIMIT DEVIATIONS		
TOTAL BEARING PATTERN OF STANDARD GEAR TEETH		
IN FACE WIDTH	%	AT LEAST 50
IN HEIGHT	%	AT LEAST 40
TOLERANCE FOR TOOTH PROFILE ERROR	Ff	0.020
TOLERANCE FOR TOTAL ERROR OF DISTORTION	Fβ	0.019
BASE-CIRCLE DIAMETER	do	40.78
RADIUS OF INVOLUTE CURVATURE AT THE BEGINNING OF CONTACT PROFILE	ρo	0
RADIUS OF INVOLUTE CURVATURE AT THE END OF CONTACT PROFILE	ρc	36.681
INVOLUTE DEVELOPMENT ANGLE	γ	57°32'

*** 12XH3A
GOST 4543-71

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

EST. MASS	0.620 Kg	TO BE STAMPED OR MARKED WHERE INDICATED THUS #	LETTERS
DATE	19-02-08	ALL SHARP EDGES AND CORNERS TO BE REMOVED UNLESS OTHERWISE STATED. MACHINED CORNERS TO HAVE A OUTSIDE R INSIDE EQUIVALENT CHAMFERS ARE PERMISSIBLE	
ISSUE DATE	12-11-07	NATURE OF AMENDMENTS	MATERIAL: *** SEE ABOVE
SCALE	1:1	USED ON	C6 20-12-01-13
DIMENSIONS IN mm		CONTROLLER OF QUALITY ASSURANCE (HEAVY VEHICLE) A V A D I	
TOLERANCE ON DIMENSIONS UNLESS OTHERWISE STATED		TITLE	GEAR
ALL THREADS TO CONFORM TO		D S CAT NUMBER	DRAWING NUMBER
			20-12-54-2



- INSPECTION GROUP III AS PER TECHNICAL REQUIREMENTS TT-11, HRC 35 TO 45, IF NOT SPECIFIED OTHERWISE CARBURIZING IS ALLOWED ALL ROUND EXCEPT SURFACE B AND E. CHECK DIMENSIONS AS PER VIEW A BEFORE HEAT TREATMENT.
- UNSPECIFIED LIMIT DEVIATIONS OF DIMENSIONS ARE AS FOLLOWS: FOR HOLES - AS PER A7, SHAFTS - AS PER B7, OTHERS - AS PER 1M7.
- VARIATION IN PITCH OF SURFACES E IS CHECKED WITH SPECIAL GAUGE MADE WITH REGARD TO THE MAXIMUM DIMENSIONS OF PART.
- TOLERANCE FOR RADIAL RUN-OUT OF MATED PROJECTION CIRCUMFERENCE TO THE AXIS OF SURFACE B IS 0.12mm.
- SINKING OR PROJECTION OF SURFACE E WITH RESPECT TO THE BUTTEND OF GEAR RIM SHOULD NOT EXCEED 0.25mm. CHECK BEFORE ASSEMBLY WITH PART 20-12-85.
- DURING THE TEETH GRINDING THE TOOTH FLANK MAY NOT BE GROUND UP TO THE RECESS TO NOT MORE THAN 0.2mm; AS A RESULT GEAR TEETH MESHING SHOULD REMAIN SMOOTH DURING GEAR RUN-IN WITH STANDARD IN THE ABSENCE OF CLEARANCE.
- DIMENSION Γ MAY BE SECURED IN CS. 20-12-79-1
- MEASURING GEAR IS AS PER GOST 6512-74.
- CHECK THE TEETH FOR PROPER MESHING BY PRUSSION BLUE WHILE RUNNING-IN WITH THE STANDARD IN THE ABSENCE OF CLEARANCE ACCORDING TO INSTRUCTIONS 4B-42, SHOULD TALLY WITH THE VALUES GIVEN IN THE TABLE.
- CHECK THE PART ON THE FLAW-DETECTOR AS PER INSTRUCTIONS 4B 20-17.

EXPLANATORY NOTE :-

MATERIAL QUOTED : 18X2H4MA (18X2H4BA) GOST 4543-71.
CHROMIUM NICKEL MOLYBDENUM STEEL TO GRADE 18X2H4BA.

a) CHEMICAL COMPOSITION :- AS PER GOST 4543-71.

CARBON	=	0.14 - 0.20
SILICON	=	0.17 - 0.37
MANGANESE	=	0.25 - 0.55
CHROMIUM	=	1.35 - 1.65
NICKEL	=	4.00 - 4.40
MOLYBDENUM	=	0.30 - 0.40
PHOSPHORUS	=	0.025 (max)
SULPHUR	=	0.025 (max)
COPPER	=	0.30 (max)

b) MECHANICAL PROPERTIES : AS PER GOST 4543-71.

YIELD POINT Kgf/mm ²	=	85 (min)
ULTIMATE STRENGTH Kgf/mm ²	=	1.5 (min)
% RELATIVE ELONGATION	=	12 (min)
RELATIVE REDUCTION ALONG CROSS SECTION %	=	50
IMPACT STRENGTH Kgf/cm ²	=	12

MODULE		m	4
NUMBER OF TEETH		Z	40
BASIC RACK	PROFILE ANGLE	α _a	20°
	ADDENDUM COEFFICIENT	ha*	0.8
	RADIAL CLEARANCE COEFFICIENT	c*	0.3
ADDENDUM MODIFICATION COEFFICIENT		X	0
DEGREE OF ACCURACY AS PER GOST 1643-72			
BASIC TANGENT LENGTH		W	55.378 ^{+0.07} _{-0.32}
TOLERANCE FOR BASE TANGENT LENGTH VARIATION		V _W	0.036
COMPOSITE ERROR DOUBLE FLANK	TOTAL	F _α	0.1
	TOOTH-TO-TOOTH	F _{α1}	0.028
TOLERANCE FOR RADIAL RUNOUT OF TOOTHED RIM		F _z	0.058
BASE PITCH	NOMINAL VALUE		11.808
	LIMIT DEVIATIONS	±f _{pB}	±0.011
TOTAL BEARING PATTERN OF STANDARD GEAR TEETH	IN FACE WIDTH	%	AT LEAST 70
	IN HEIGHT	%	AT LEAST 50
TOLERANCE FOR TOOTH PROFILE ERROR		f _f	0.014
TOLERANCE FOR TOTAL ERROR OF DISTORTION		F _B	0.013
BASE CIRCLE DIAMETER		d _a	150.35
RADIUS OF INVOLUTE CURVATURE AT THE BEGINNING OF CONTACT PROFILE		ρ _o	15.659
RADIUS OF INVOLUTE CURVATURE AT THE END OF CONTACT PROFILE		ρ _c	36.498
INVOLUTE DEVELOPMENT ANGLE		φ	15°53'

KVD No. 66707

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

EST. MASS TO BE STAMPED OR MARKED WHERE INDICATED THIS # LETTERS)
 0.723 Kg

ALL SHARP EDGES AND CORNERS TO BE ROUNDED UNLESS OTHERWISE STATED. MACHINED CORNERS TO HAVE R. OUTSIDE R. INSIDE. QUINALFIT CHAMFERS ARE

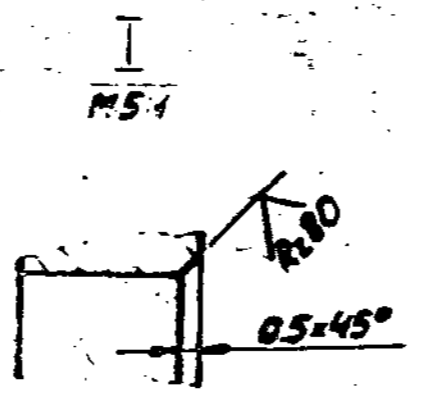
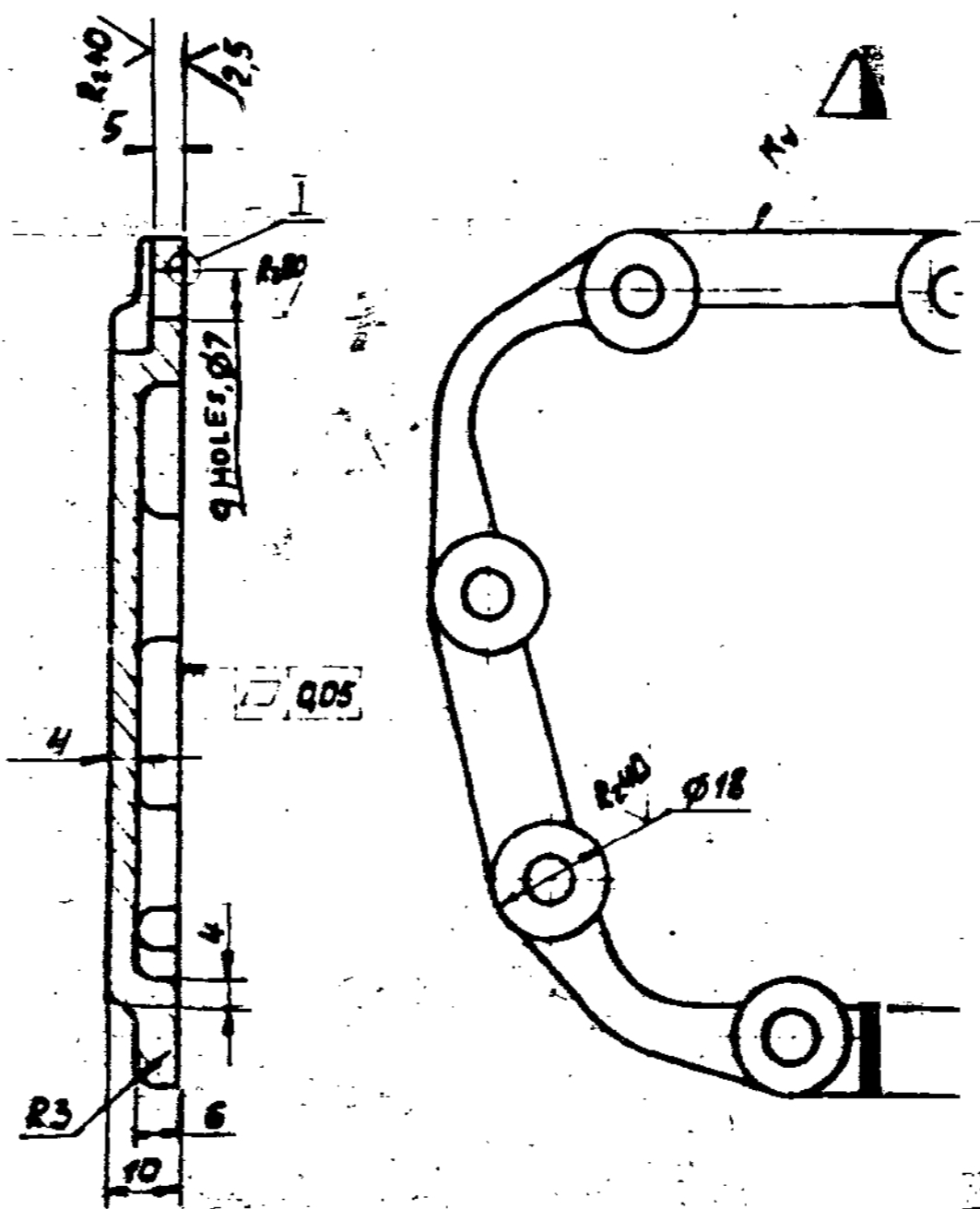
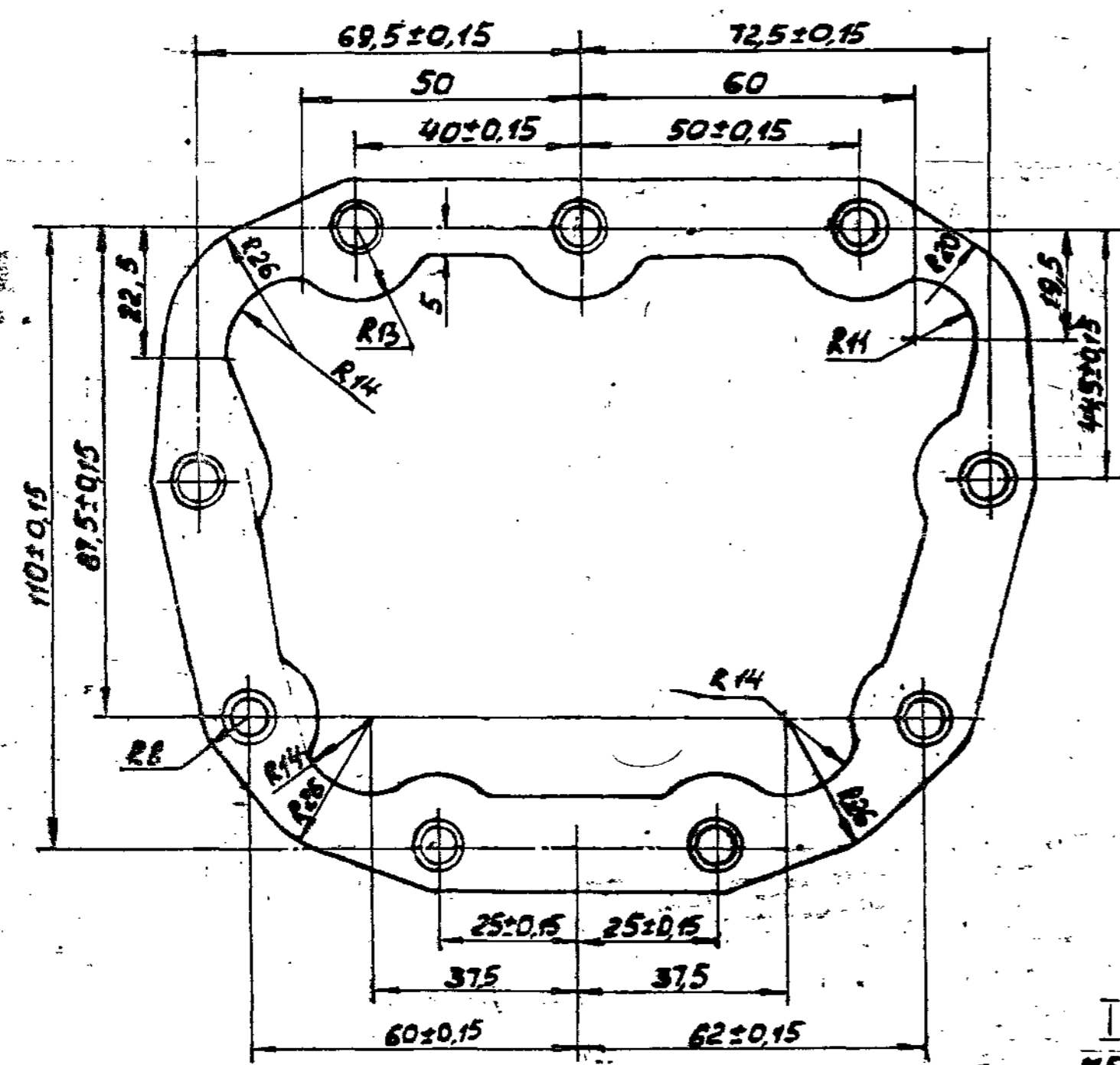
DRN	CHD	TCO	APPO	DATE	SCALE	DIMENSIONS IN mm.	TOLERANCE ON DIMS UNLESS OTHERWISE STATED IS 20-12-89	MATERIAL :- 18X2H4MA GOST 4543-71	USED ON :- CS 20-12-79-1
				3-5-89	1:1			CONTROLLED BY QUALITY ASSURANCE (HEAVY VEHICLES) A V A D I.	
							TITLE	GEAR	
							NATURE OF AMENDMENTS	20-12-55-3	

20-12-77-6

(2)

Восстановлен с изменениями
Верно: 27.11.77 г. Горбачев А.И.

60338
АМДТ. No: 1310-014



- 1). $HB \geq 80$.
- 2). ALTERNATE MATERIAL IS ALLOY A 14, GOST 2685-75.
- 3). REQUIREMENTS, PLACED UPON CASTING ARE AS PER, TECHNICAL REQUIREMENTS TT, AS 310-5/65 AND STANDARD 82050-45.
- 4). MAKE UNSPECIFIED CASTING RADII $R = 3$ TO 5 MM.
- 5). COATING OF UNMACHINED SURFACE: BAKELITE 95C-1, GOST 90178.V 6/1-C.
- 6). UNSPECIFIED LIMIT DEVIATIONS OF MACHINED DIMENSIONS ARE AS FOLLOWS:- FOR HOLES - AS PER A7, SHAFTS - AS PER B7, OTHERS - AS PER CM7.

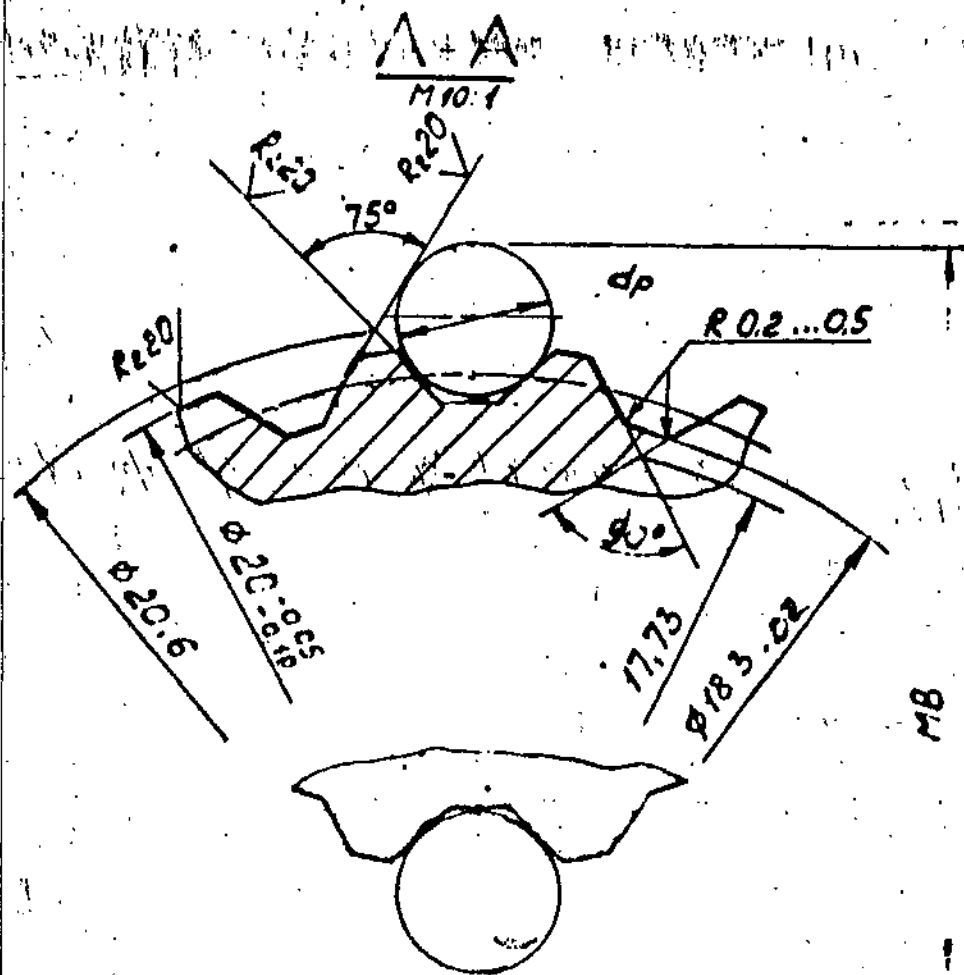
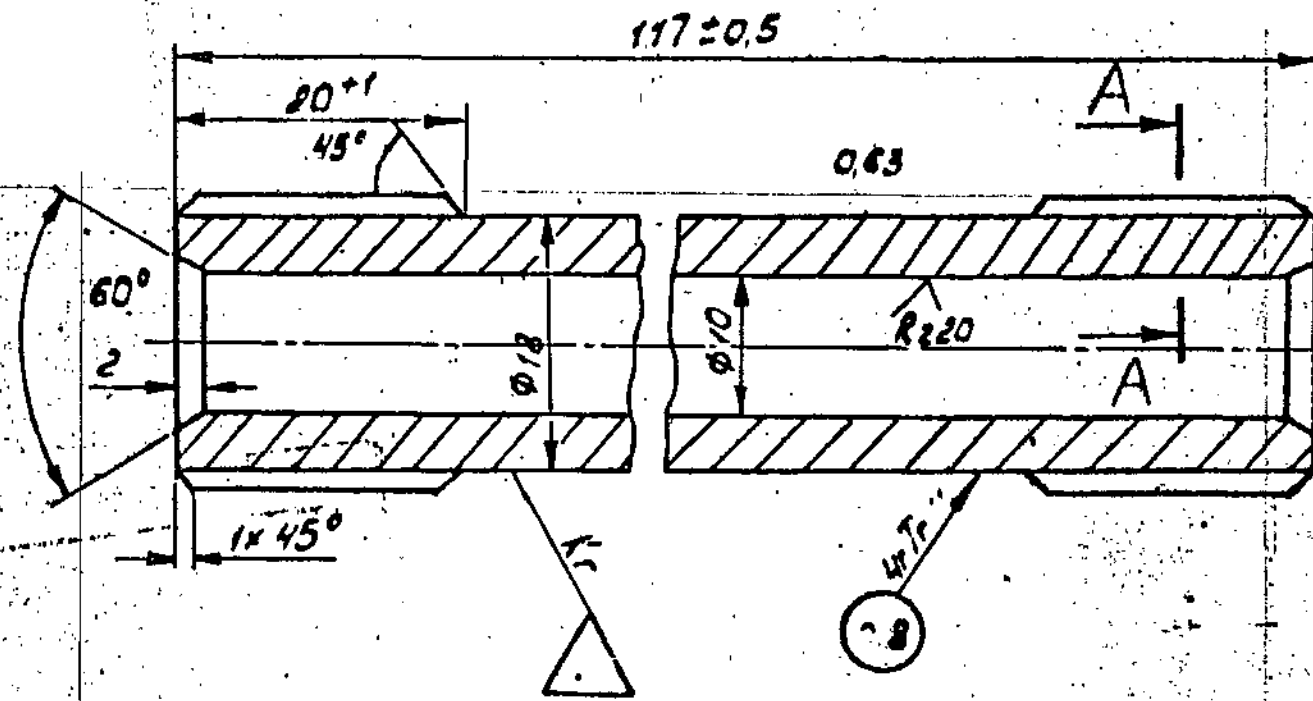
PILOT SAMPLE SHOULD BE APPROVED BY A H S P BEFORE BULK PRODUCTION

ISSUE DATE		NATURE OF AMENDMENTS		EST. MASS		TO BE STAMPED OR MARKED WHERE INDICATED THIS * (LETTERS)	
				0,259 Kg			
ALL SHARP EDGES AND CORNERS TO BE REMOVED UNLESS OTHERWISE STATED MACHINED CORNERS TO HAVE R OUTSIDE R INSIDE EQUIVALENT CHAMFERS ARE PERMISSIBLE				MATERIAL - A14 GOST 2685-75		USED ON - C6 20-12-01-13	
DIMENSIONS IN mm				SCALE: - 1:1		CONTROLLER OF INSPECTION (HEAVY VEHICLES) AVADI	
TOLERANCE ON DIMS UNLESS OTHERWISE STATED				DATE: 26.11.87		TITLE: COVER	
ALL THREADS TO CONFORM TO				D S CAT-NUMBER		DRAWING NUMBER 20-12-77-6	

20-12-86-2

R240 (V)

NUMBER OF TEETH	Z	24
DIAMETER OF PIN	dp	2.311
DIMENSION OVER PINS	MB	23.31 ^{+0.08} / _{-0.20}
THICKNESS OF TEETH ALONG PITCH CIRCLE CHORD	Sd	-----
DIAMETER OF PITCH CIRCLE	da	19.02 ^{+0.08} / _{-0.20}



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

- INSPECTION GROUP III AS PER TECHNICAL REQUIREMENTS TT-11. HRC 33 TO 37 (HB 302 TO 341).
- UNSPECIFIED LIMIT DEVIATIONS OF DIMENSIONS ARE AS FOLLOWS:- FOR HOLES - AS PER A₇, SHAFTS - AS PER B₇, OTHERS - AS PER CM₇.
- TOLERANCE FOR RADIAL RUNOUT OF MEAN CIRCLE OF SPLINES WITH RESPECT TO AXIS IS 0.1 MM.
- NOTCHES OR SCRATCHES ARE NOT ALLOWED ON THE EXTERNAL SURFACE BETWEEN SPLINES.
- AFTER GRINDING, CHECK THE PART ON MAGNETIC FLOW DETECTOR. PERFORM ACCEPTANCE TEST AS PER INSTRUCTIONS UB 20 - 17.
- COATING: CHEMICALLY OXIDIZED, OILED (ONLY IN PARTS INTENDED FOR SPARES).
- CARRY OUT ACCEPTANCE TEST OF SPLINES AS PER INSTRUCTIONS UB-19.
- MARK THE MANUFACTURER'S TRADE MARK AND PART DESIGNATION ON PARTS, SUPPLIED AS SPACERS OR THOSE SUPPLIED TO THE ASSOCIATED PLANTS ON A CO-OPERATION SCHEME.

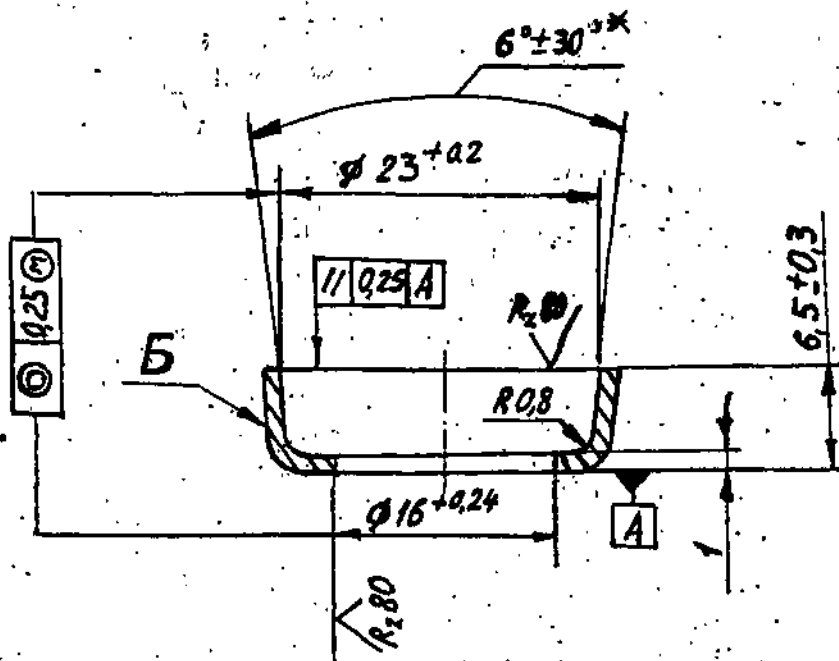
EST. MASS	0,175 Kg	TO BE STAMPED ON MARKED WHERE INDICATED THIS BY LETTERS
ISSUE	A 7.12.89	ALL SHARP EDGES AND CORNERS TO BE REMOVED UNLESS OTHERWISE STATED HAVING TO HAVE A OUTSIDE R NISHE EQUIVALENT EDGES ARE PERMISSIBLE
DATE	7.12.89	MATERIAL - 18X2H4MA GOST 4543-71
SCALE	2:1	USED ON - CB 20-12-01-13
TOLERANCE	UNLESS OTHERWISE STATED	CONTROL RATE OF INSPECTION (HEAVY VEHICLES) AVAIL
ALL DIMENSIONS	IN mm	TORSION BAR (A)
DATE	11/1/87	DRAWING NUMBER 20-12-86-2

26.7.97

REF COPY / ...

88-21-07

✓ (✓)



SAM.UMB.N. UMB.N. OYD. POOT. V. DAMIA
 Bepno: 024/107
 Лифсух

1. *DIMENSION IS GIVEN FOR REFERENCE.
2. A DIE TRACE TO A DEPTH OF 0,25mm AND A WIDTH UPTO 3mm IS ALLOWED ON EXTERNAL SURFACE B.
3. SHOT BLAST OR SAND BLAST.
4. OTHER REQUIREMENTS ARE AS PER TECHNICAL SPECIFICATIONS TY 005 216-75, APPENDIX;1.

(A) EQUIVALENT MATERIAL

Gr. D 15: 513-1994

		EST. MASS	TO BE STAMPED OR MARKED WHERE INDICATED THUS * (LETTERS)
		0.0053 Kg	
4 th Alt. Comm. Meet. Minutes Point No.1 Dt:28-10-09.		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 :-	USED ON :-
DRN	SCALE - 2:1	08 Kh GOST 1050-74	CS 20-12-22
CHKD	DIMENSIONS IN MM.	CONTROLLERATE OF INSPECTION (HEAVY VEHICLES) AYADI	
TCD	TOLERANCE ON DIMENS UNLESS OTHERWISE STATED.	TITLE :-	
APPD		FRAME	
DATE	ALL THREADS CONFORM TO	D S CAT NUMBER	DRAWING NUMBER
21-7-87			20-12-88