

LH CYLINDER HEAD

1. Nicks, Marks and other surfaces, trimming and flay marks from machining are not allowed on the packing surface M<sub>5</sub>.
2. Dimensions of grooves location are given for manufacturing of Tool.
3. On the exhaust side two extreme holes M8 X 1.25 T<sub>2</sub> are to be fulfilled.
4. Blank.
5. Blow holes, Flay marks, steps from tools and other surface defects are not allowed on surface Y<sub>2</sub>.
6. Tool marks at a height of 60 mm from the upper surface of head is allowed in the anchor pit with oil drain hole.
7. Other dimensions, surface finish, graphics and technical requirements are as per drawing 306-16-23. (sheet 1 & 2) by taking into consideration of modification as per drawing 306-16-19.
8. Surface B<sub>2</sub> & M<sub>3</sub> should be on one plane.
9. Non perpendicularity of surface X<sub>1</sub> to axis of thread should not exceed 0,1 mm (dependent tolerance).

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

EST. WT. (kg) TO BE STAMPED OR MARKED WHERE INDICATED THIS \* ( LETTERS)  
36.61

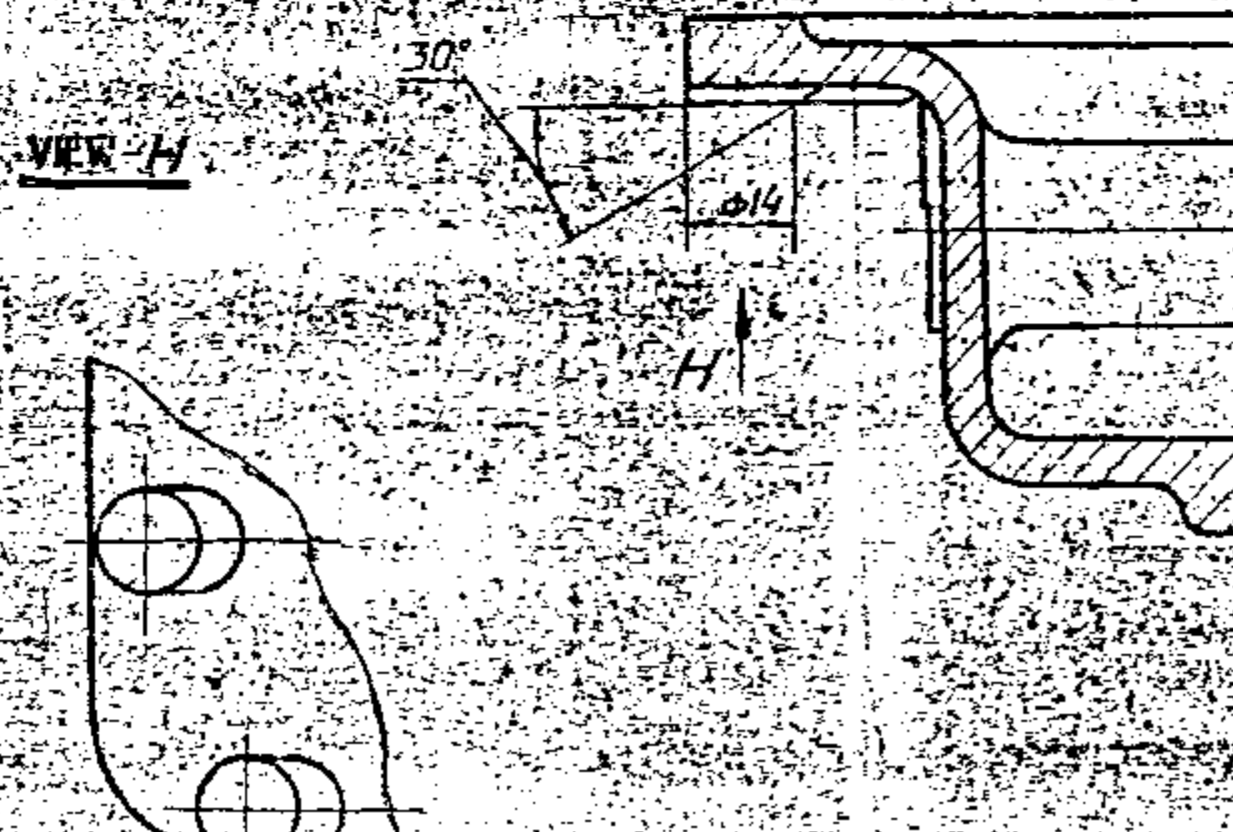
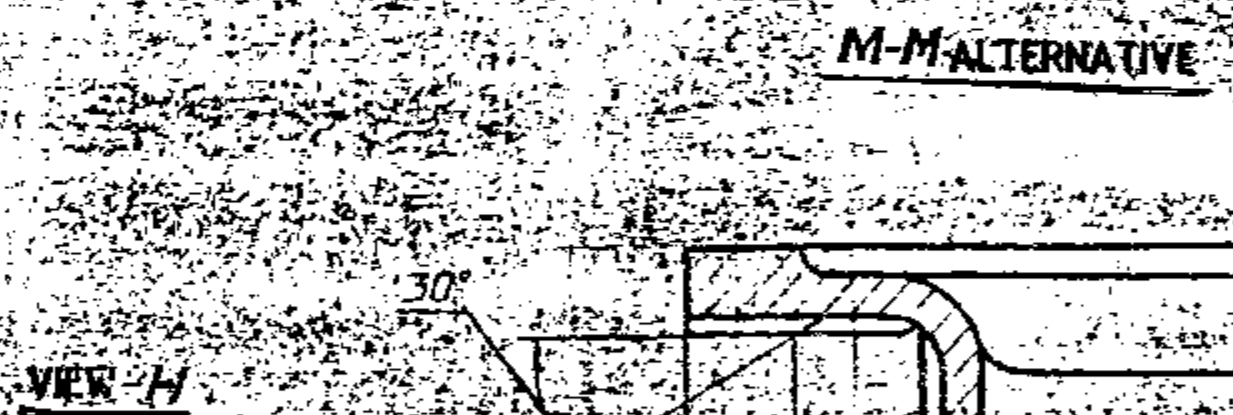
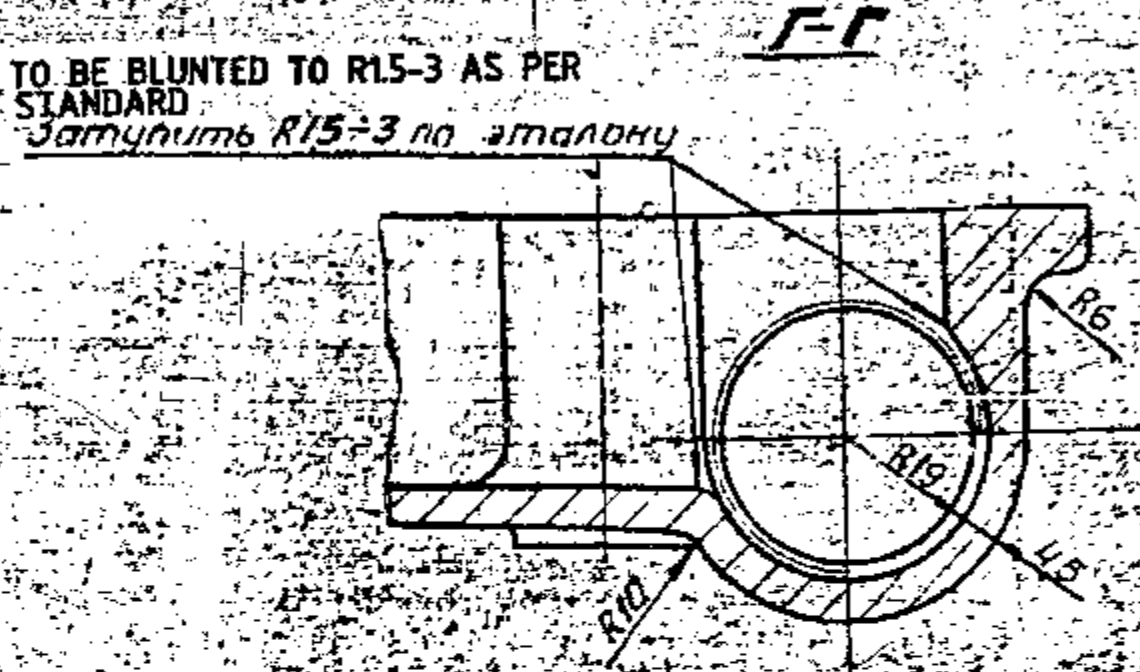
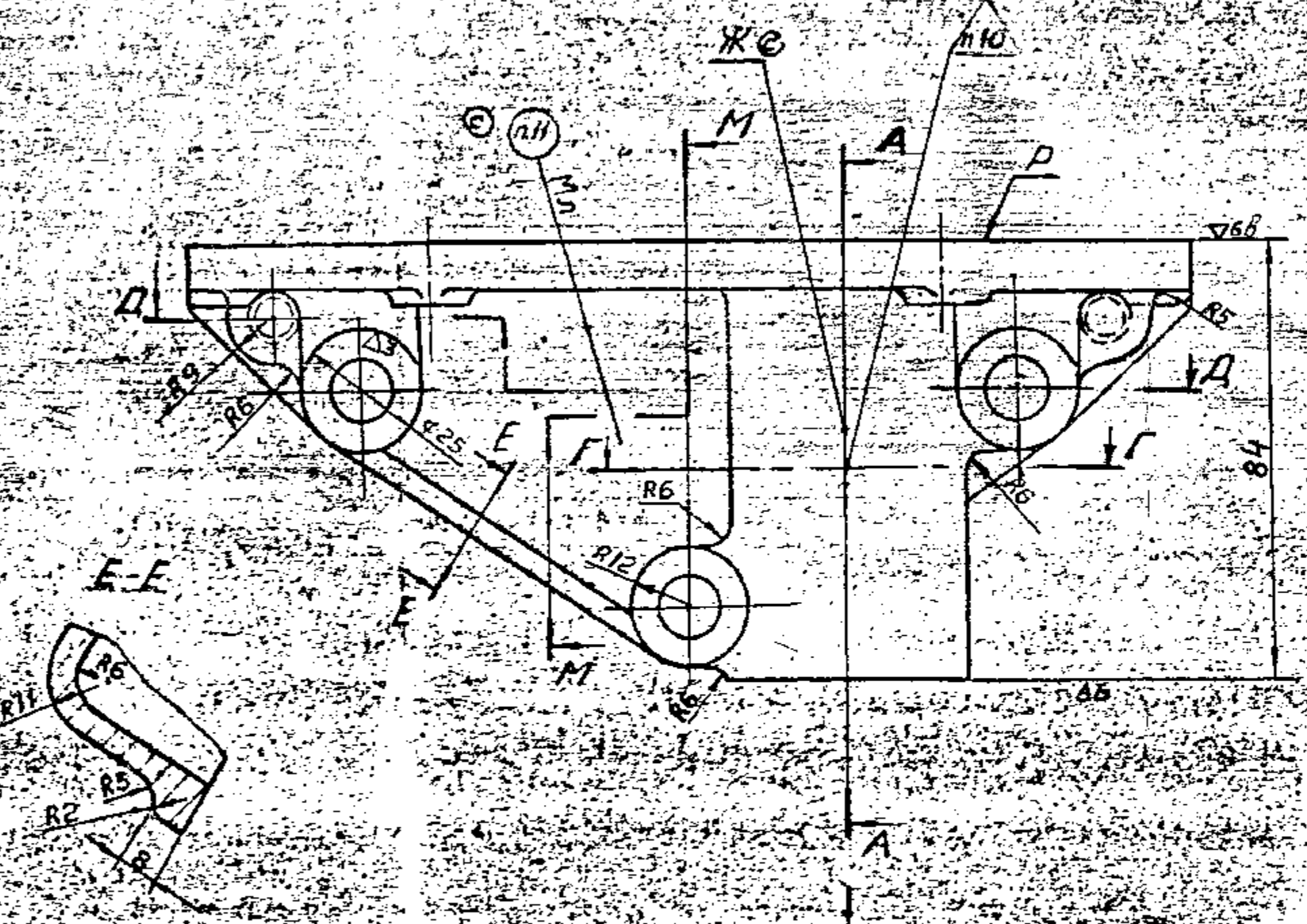
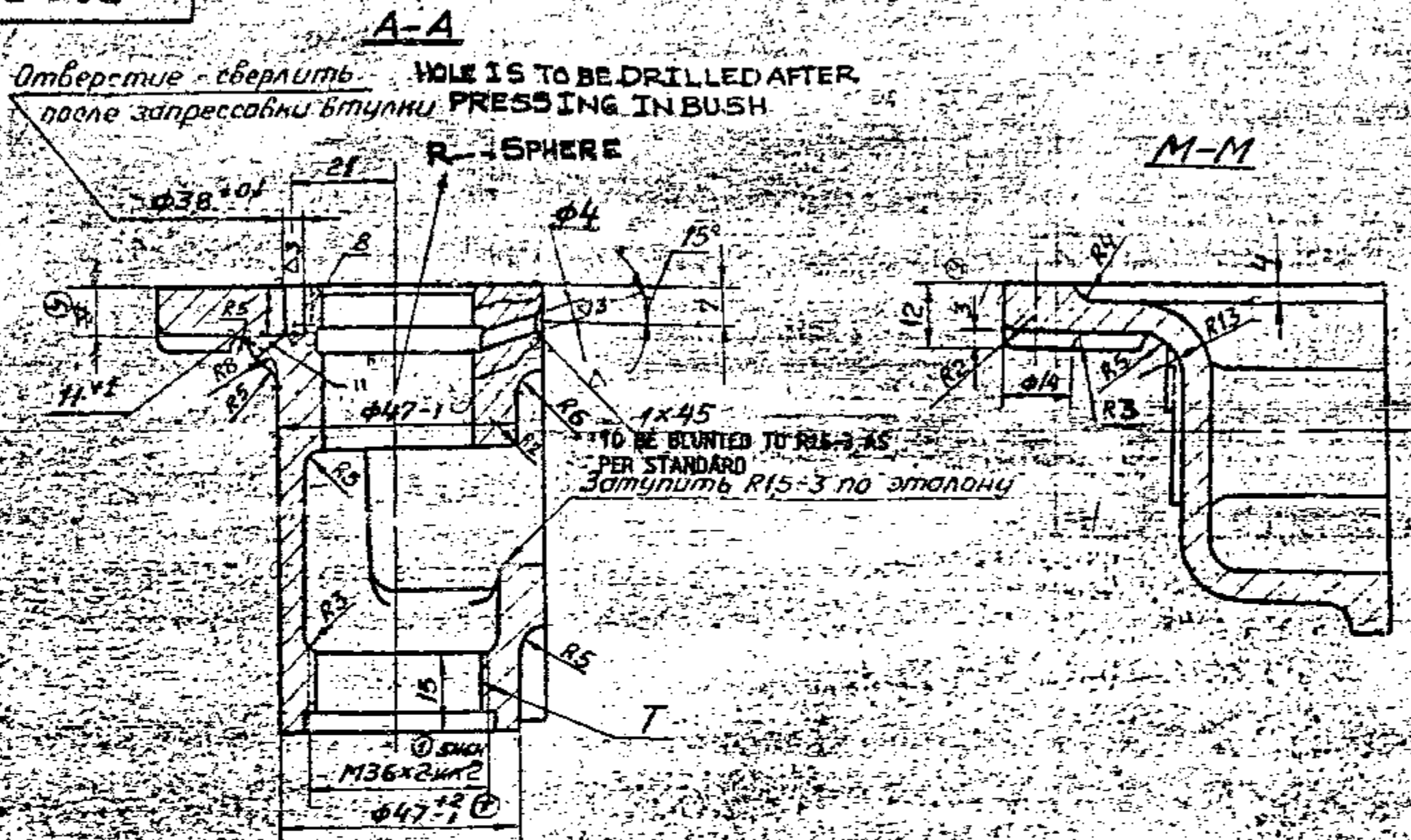
ALL SHARP EDGES AND CORNERS TO BE REMOVED UNLESS OTHERWISE STATED MACHINED CORNERS TO HAVE R OUTSIDE R INSIDE EQUIVALENT CHAMFERS ARE PERMISSIBLE.

DRN	AK74(AJ19)	GOST 1588-93	USED ON: Cb 306-02-20
CHD			
APPD			
DATE	14-05-2012		
SCALE	1:1		
DIMENSIONS IN mm			
TOLERANCE ON DIMS UNLESS OTHERWISE STATED IS: 2102-69			
ALL THREADS TO CONFORM TO IS: 4218, PART 4.			
ISSUE	DATE	NATURE OF AMENDMENT	

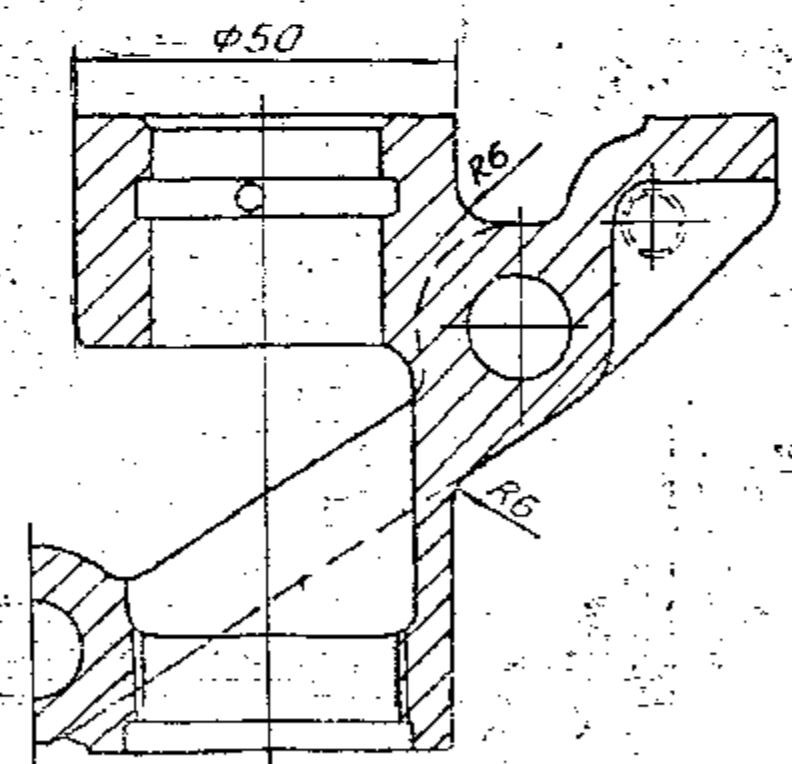
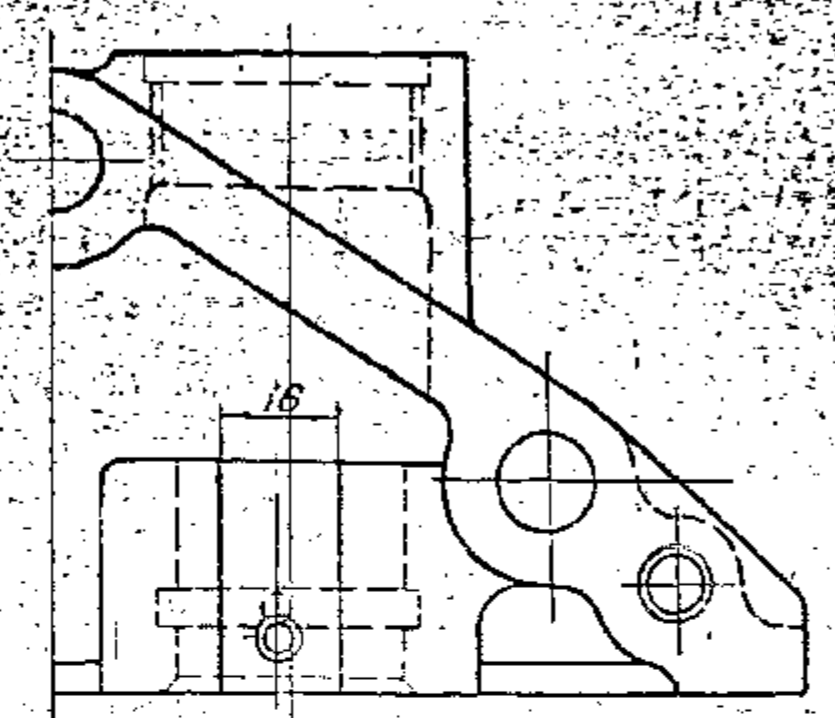
TITLE:  
LH CYLINDER HEAD

D S CAT NUMBER  
DRAWING NUMBER  
306-34-19

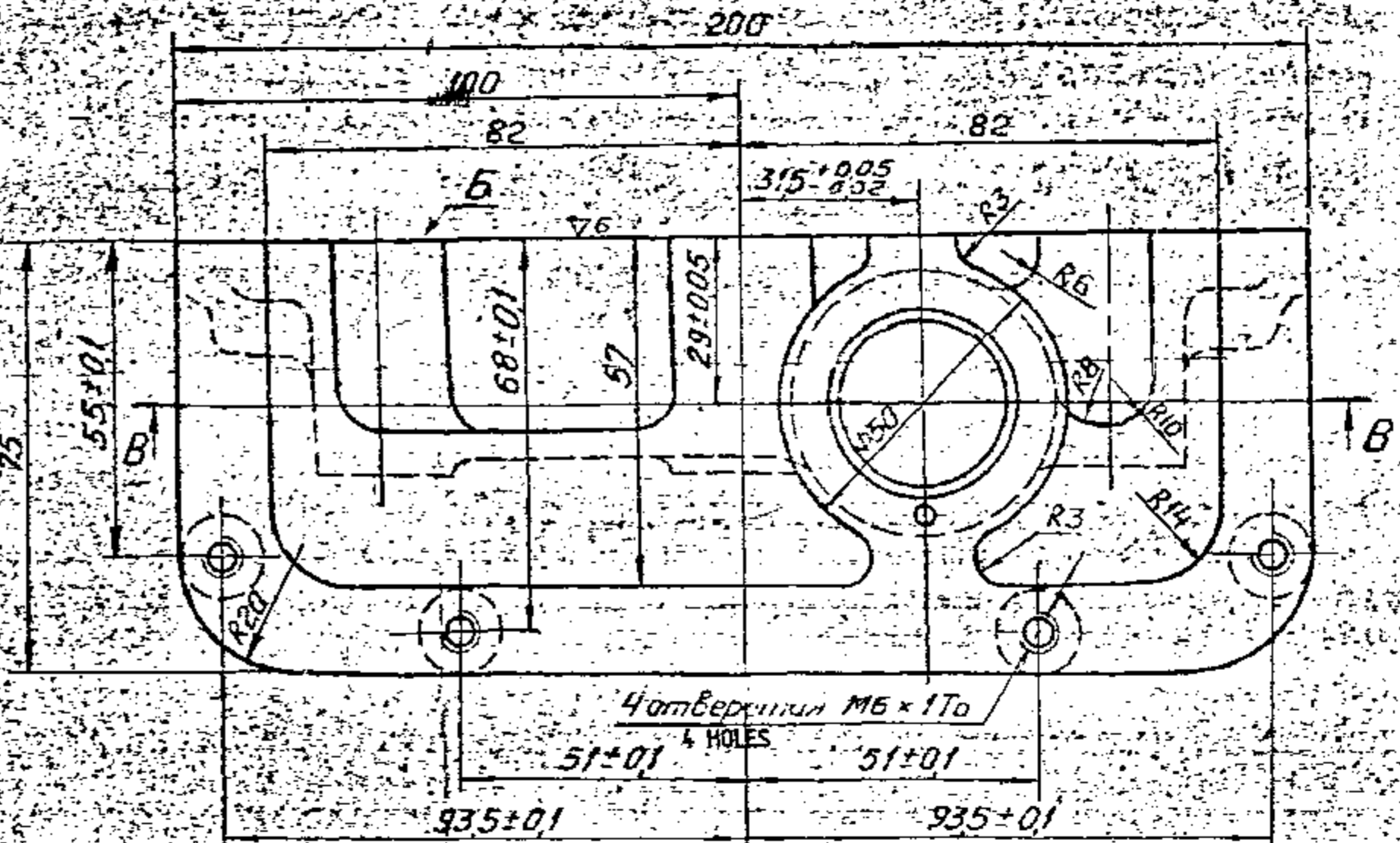
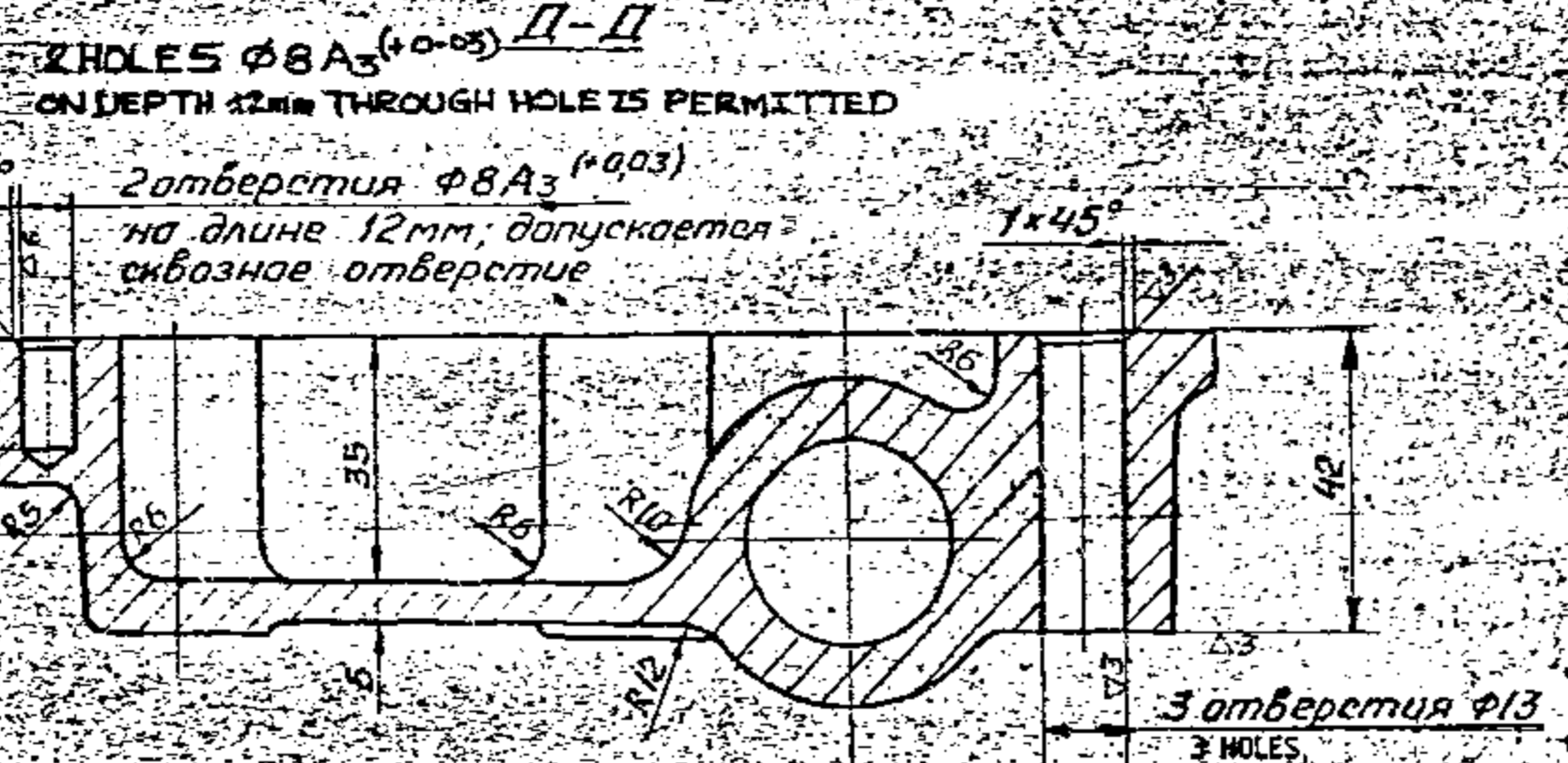
DRG. INDANISED BASED ON RUSSIAN ORIGINAL ISSUE - 17 AND DRG REPLACES ISSUE - B VIDE 18<sup>th</sup> BRIC PUMF No. 3



VIEW-K ALTERNATIVE

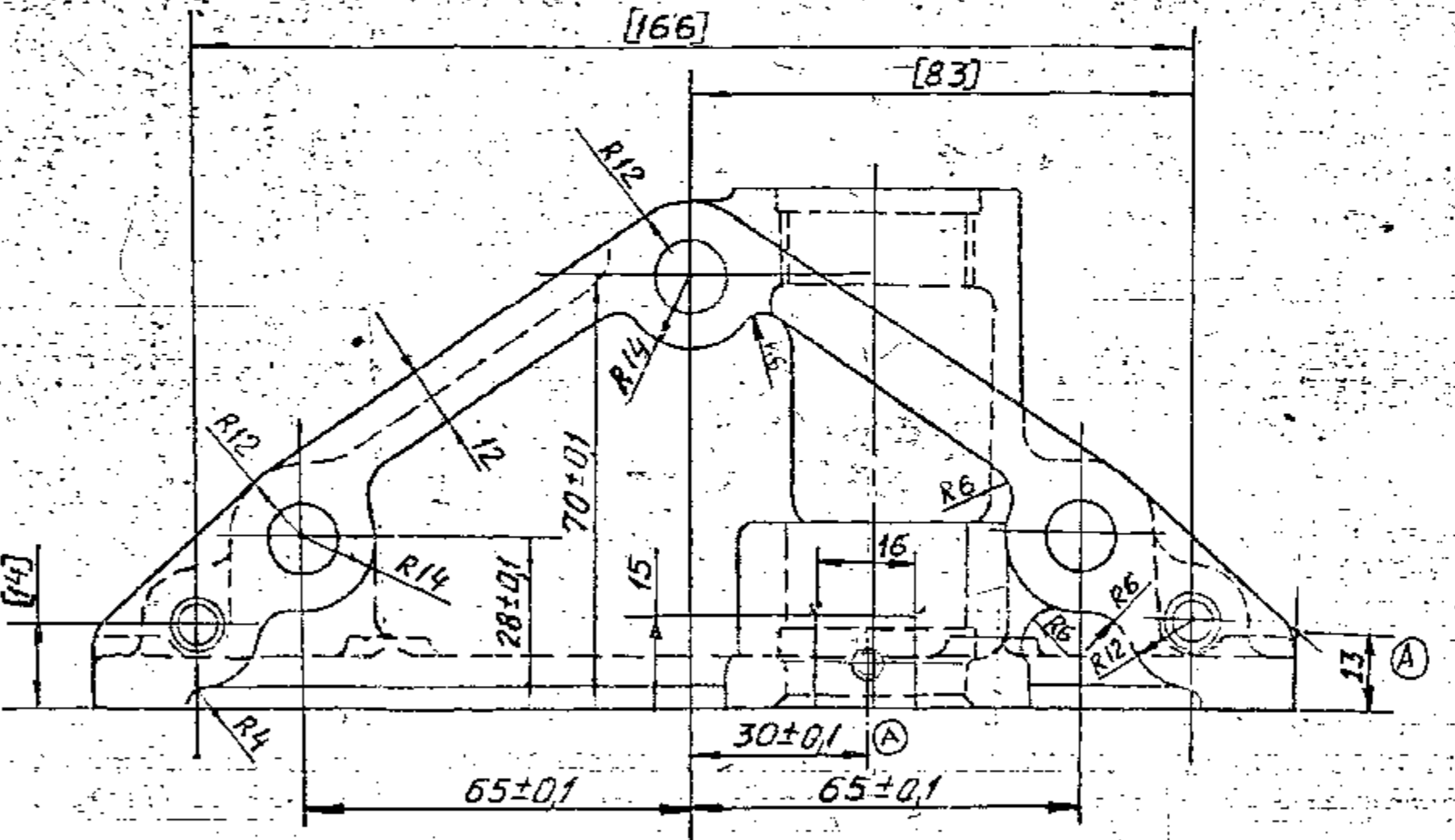
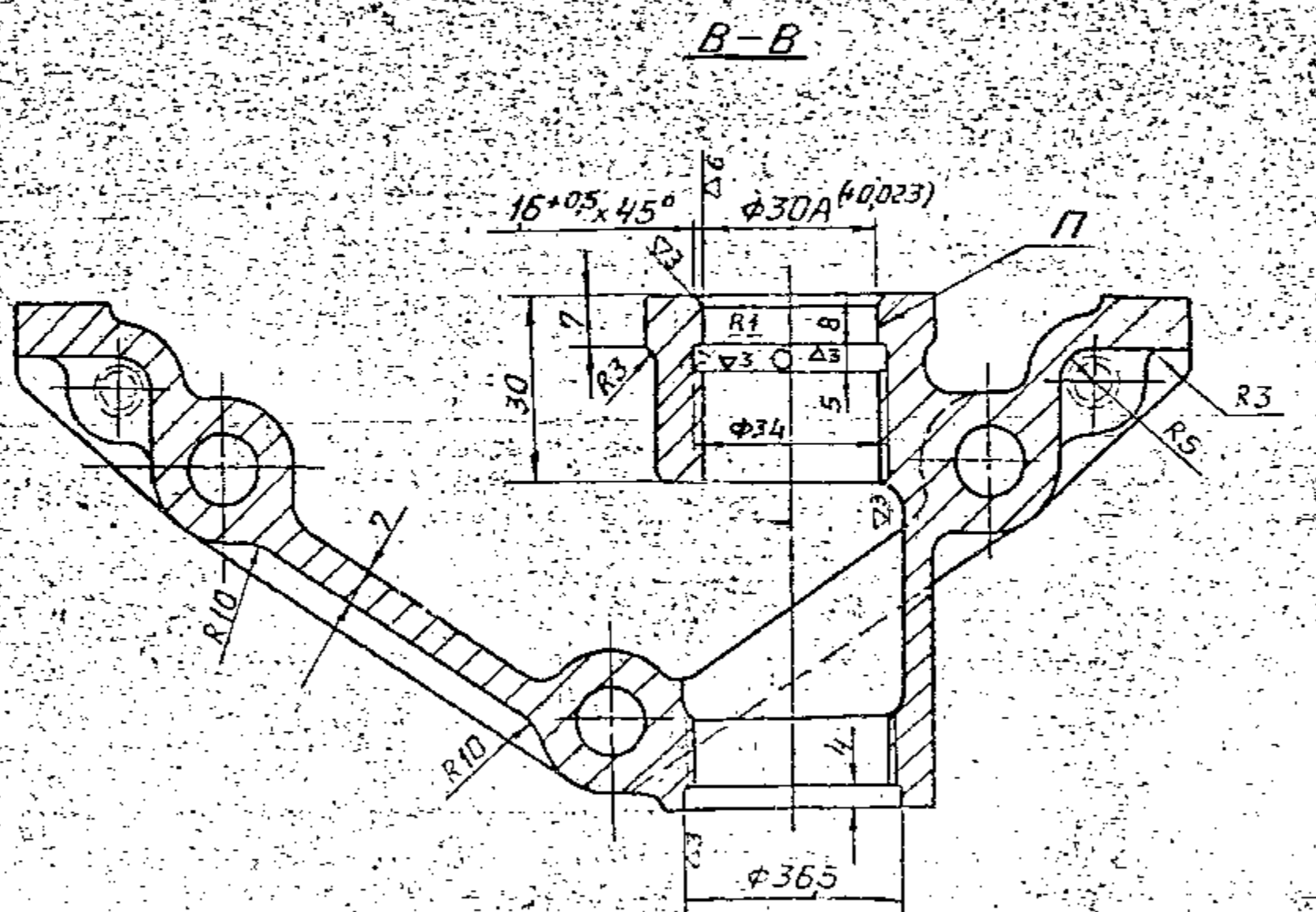
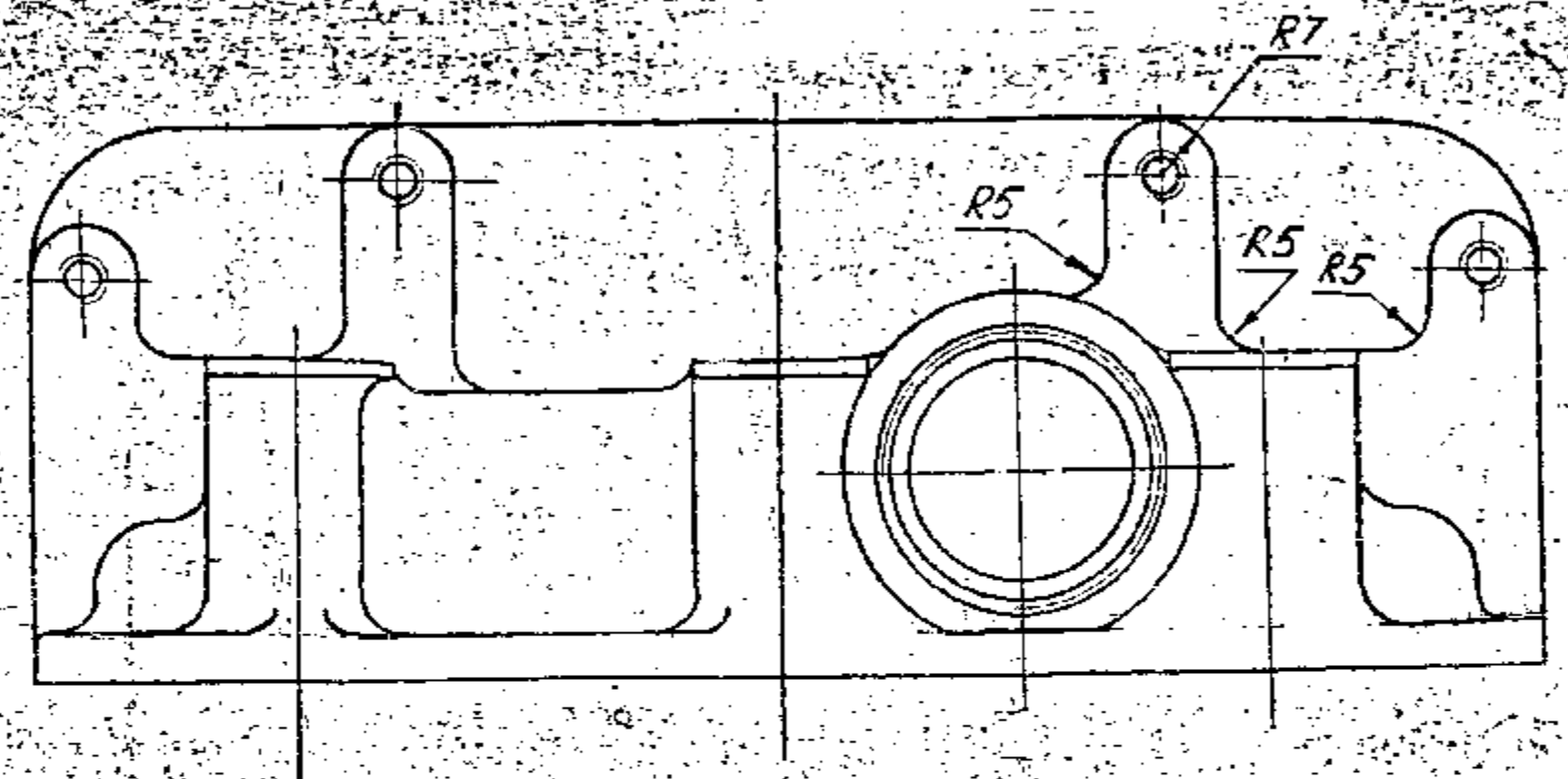


1. Requirements for castings should be in accordance with ITM - 65-78
2. Unspecified limit deviations on dimensions for machining of holes: as per A7, that of shaft; as per B7, others  $\pm 1/2$  tolerance; accuracy class 8.
3. Technical requirements for threads should be as per standard 82021-00
4. Dimension given in E should be obtained by means of a jig ensuring complete alignment of axes of the mating components.
5. Surface P and its hole should be machined after final assembly with the head.
6. Sharp edges are not allowed.
7. Straightness of surface 6 should be checked on surface plate by blueing. The paint imprint should evenly cover entire surface 6, but at least 75% of the entire surface in width.
8. Component may be manufactured from A15 Gost 2685-75.
9. Holes J and T may be finish machined after assembly.
10. To be punched.
11. Material grade is to be marked, material grade may be punched at place X.
12. Casting tolerances diametrical and linear dimensions (for surfaces which are not to be machined) should be:  
 $+ 1.5$  mm upto 100 mm,  $+ 2.0$  mm above 100 mm.  
 $- 1.0$  mm upto 100 mm,  $- 1.5$  mm above 100 mm.



VIEW-H

VIEW-L ALTERNATIVE



4.1 22-396  
3.1 10-688

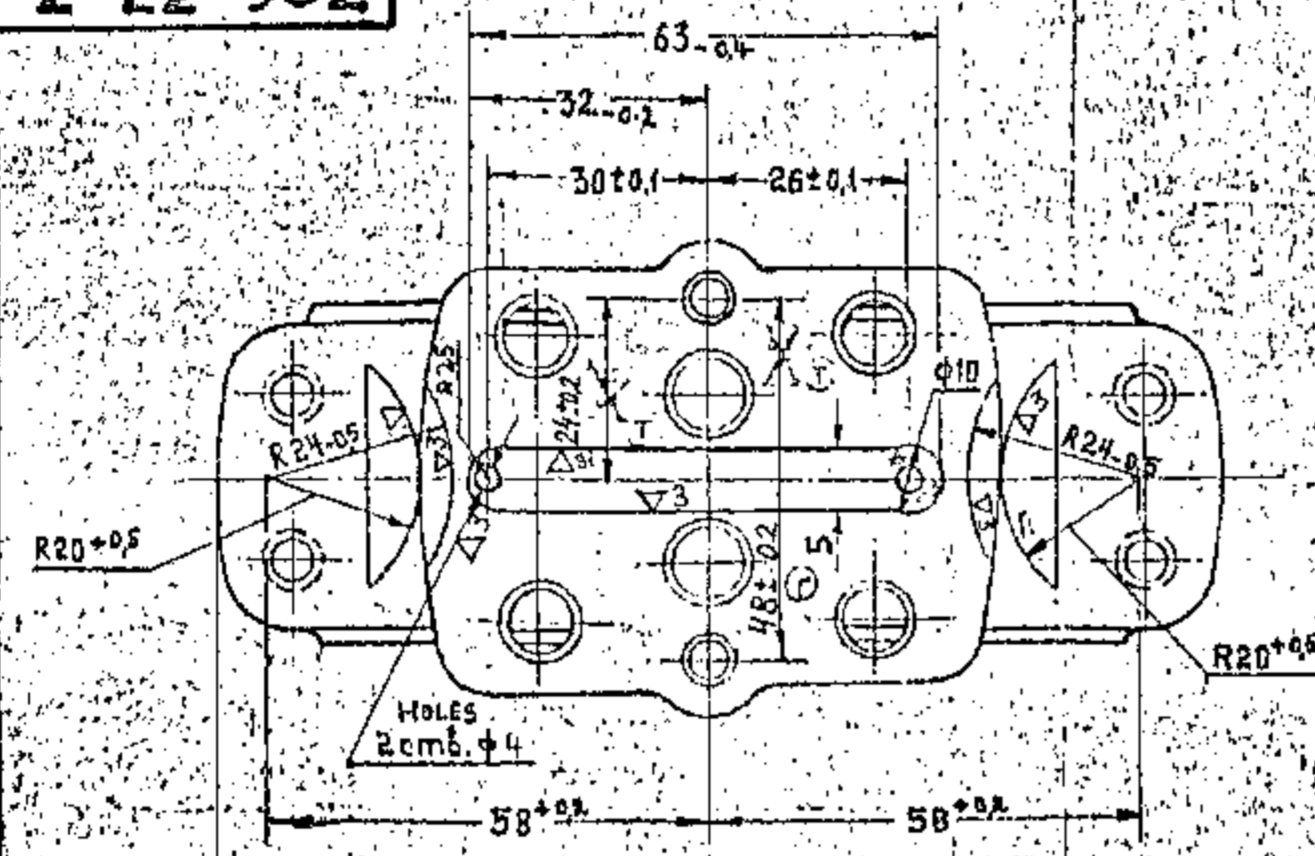
PILOT SAMPLE SHOULD BE APPROVED BY A H S P BEFORE BULK PRODUCTION.

EST. MASS 0.13 Kg. TO BE STAMPED OR MARKED WHERE INDICATED THUS:  $\Phi$  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	APPR	DATE	SCALE	DIMENSIONS IN MM	TOLERANCE ON DIMS UNLESS OTHERWISE STATED	ALL THREADS CONFORM TO
ISSUE	DATE	NATURE OF AMENDMENTS						

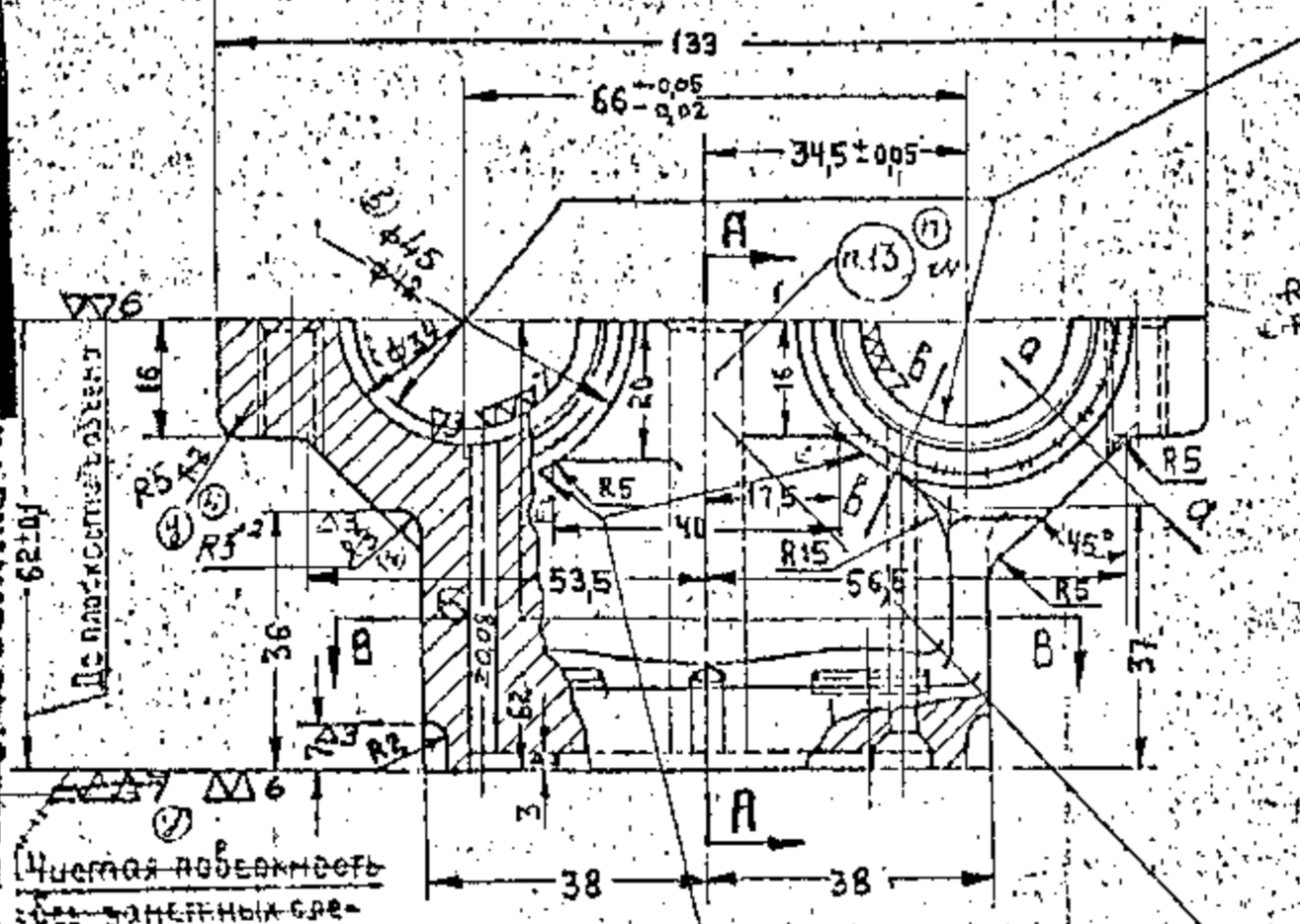
MATERIAL	USED ON
A 179 GOST 2685-75	E5 306-02-20
CONTROLLERATE OF QUALITY ASSURANCE-HEAVY VEHICLES A V A D I	
TITLE	D S CAT NUMBER
CASING OF INCLINED SHAFT LH	306-36-1

~(V3V4V6V7)



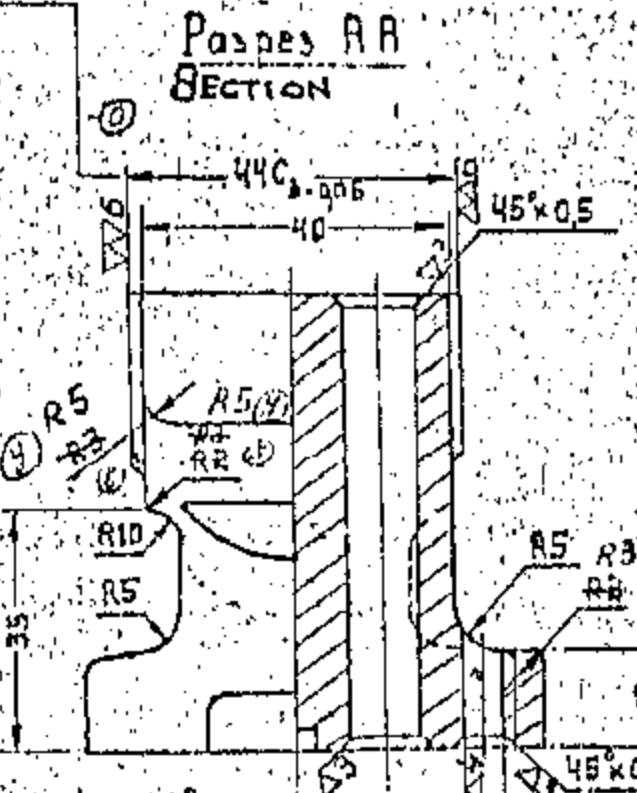
TO BE FINISHED AFTER THE ASSEMBLY OF CYLINDER HEAD

φ30x+0.02 окончательная обработка в виде блока 60180-0936 вращающ-д-конт-4-4



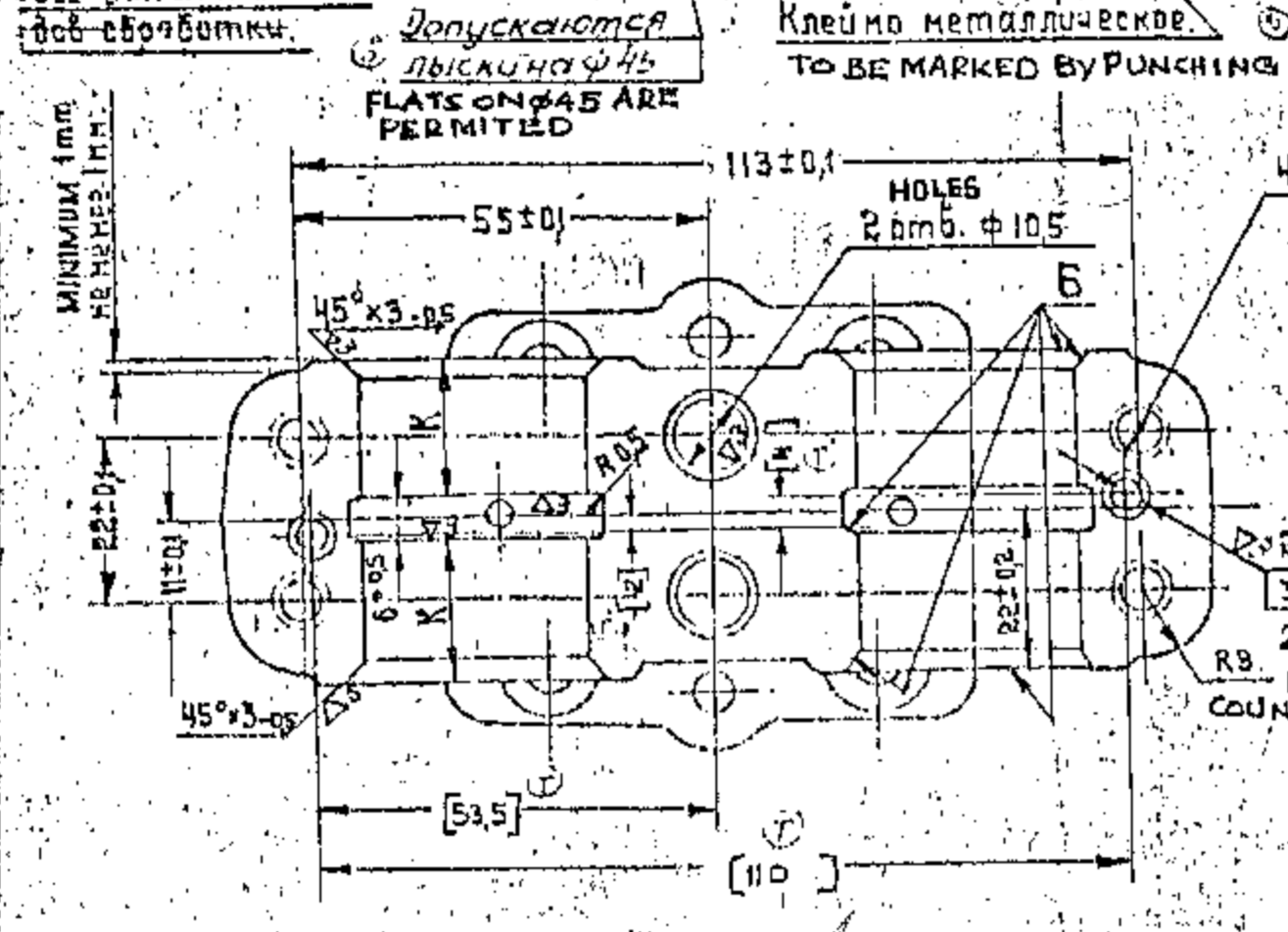
Сечение ББ SECTION

Сечение АА SECTION



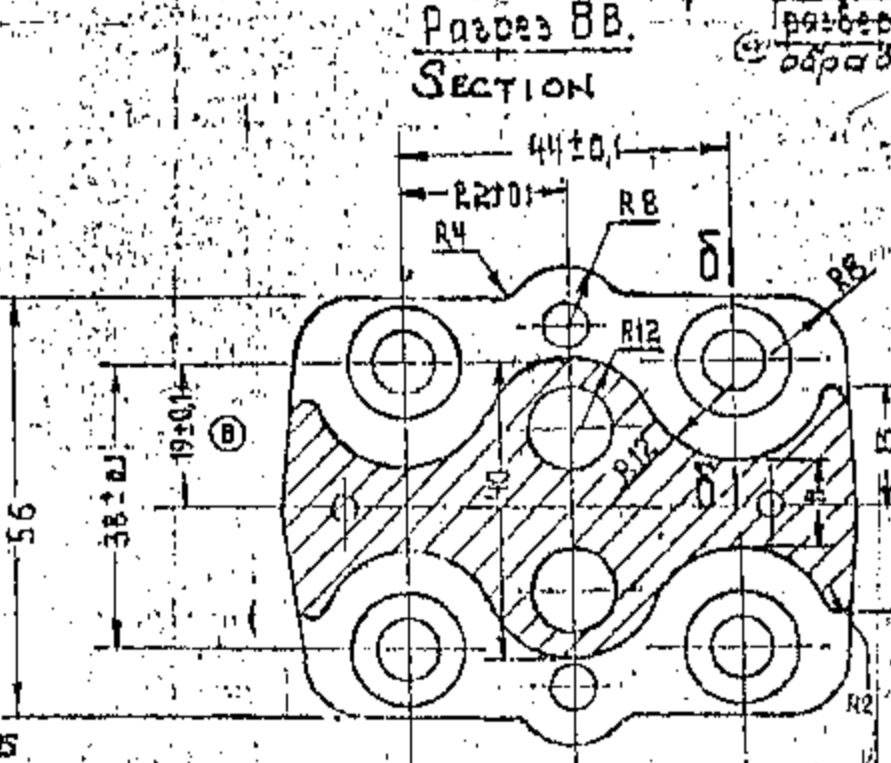
Разрез АА SECTION

2 HOLES φ5g<sup>+0.1</sup> TO BE FINISHED MACHINED AFTER ASSEMBLY

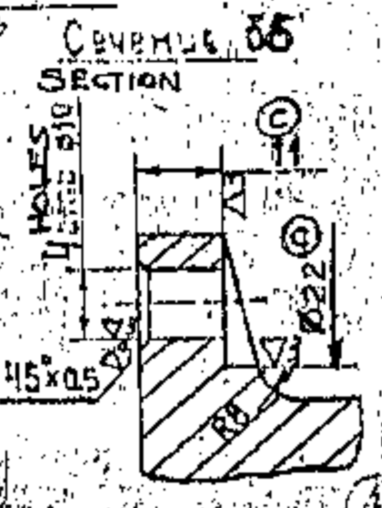


HOLES 4шт. φ8x1.25T<sub>0.1</sub>

2 HOLES φ3.8±0.1 R<sub>0.1</sub> DEPTH 10<sup>±0.1</sup> TO BE COUNTERSUNK AT 80° TO φ5



Разрез ББ SECTION



Сечение СС SECTION

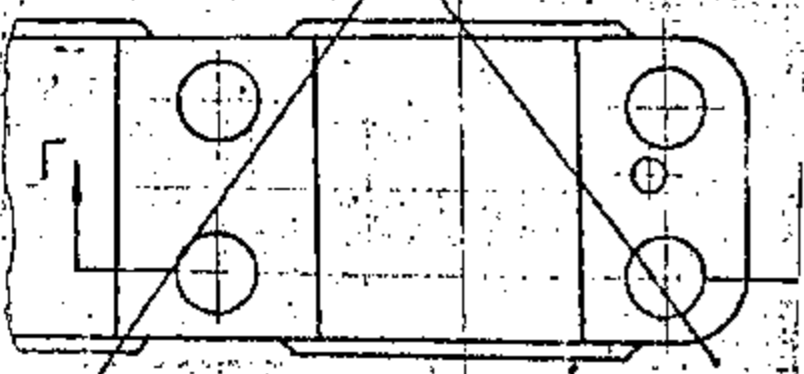
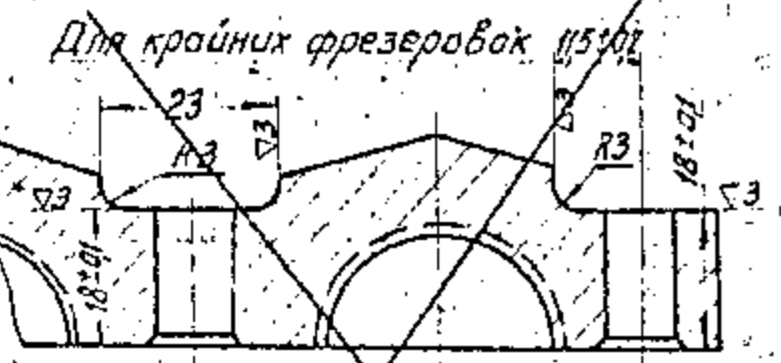
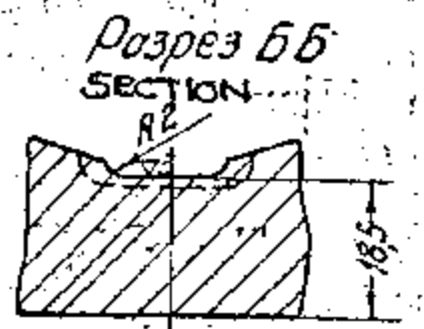
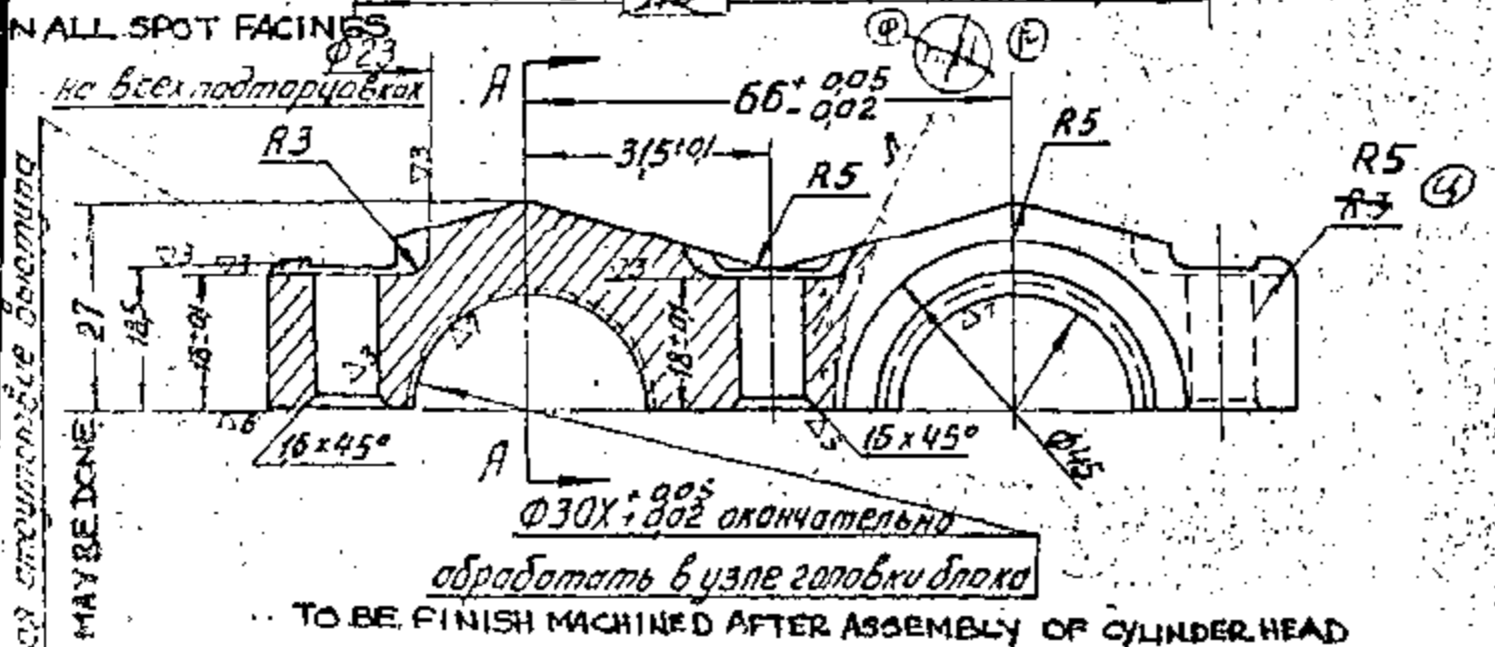
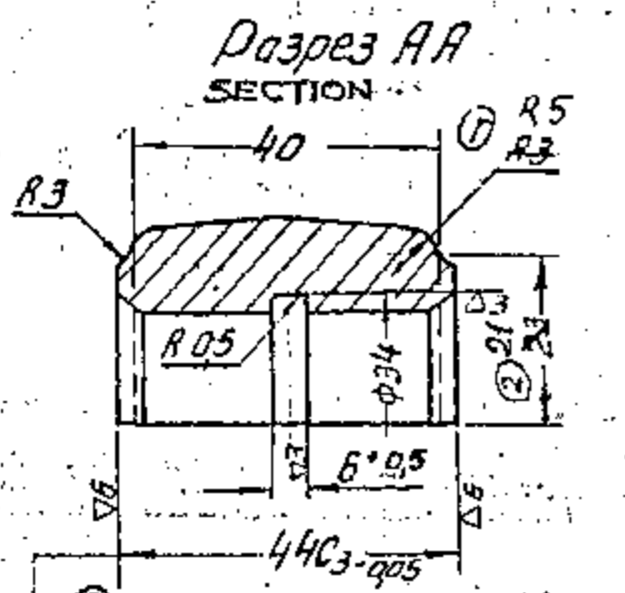
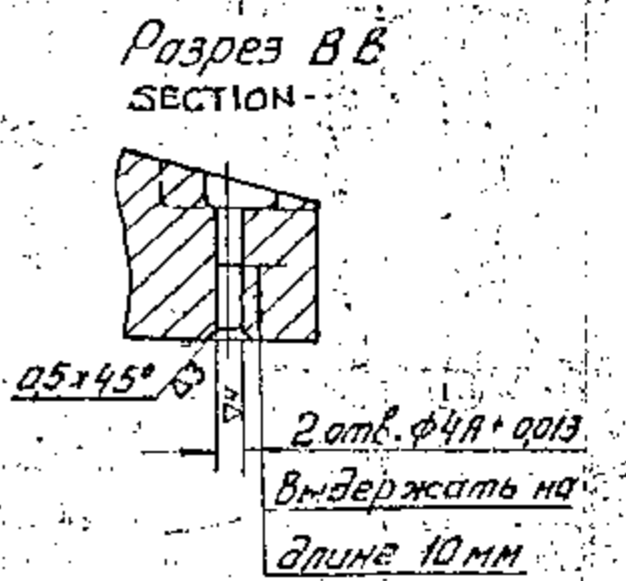
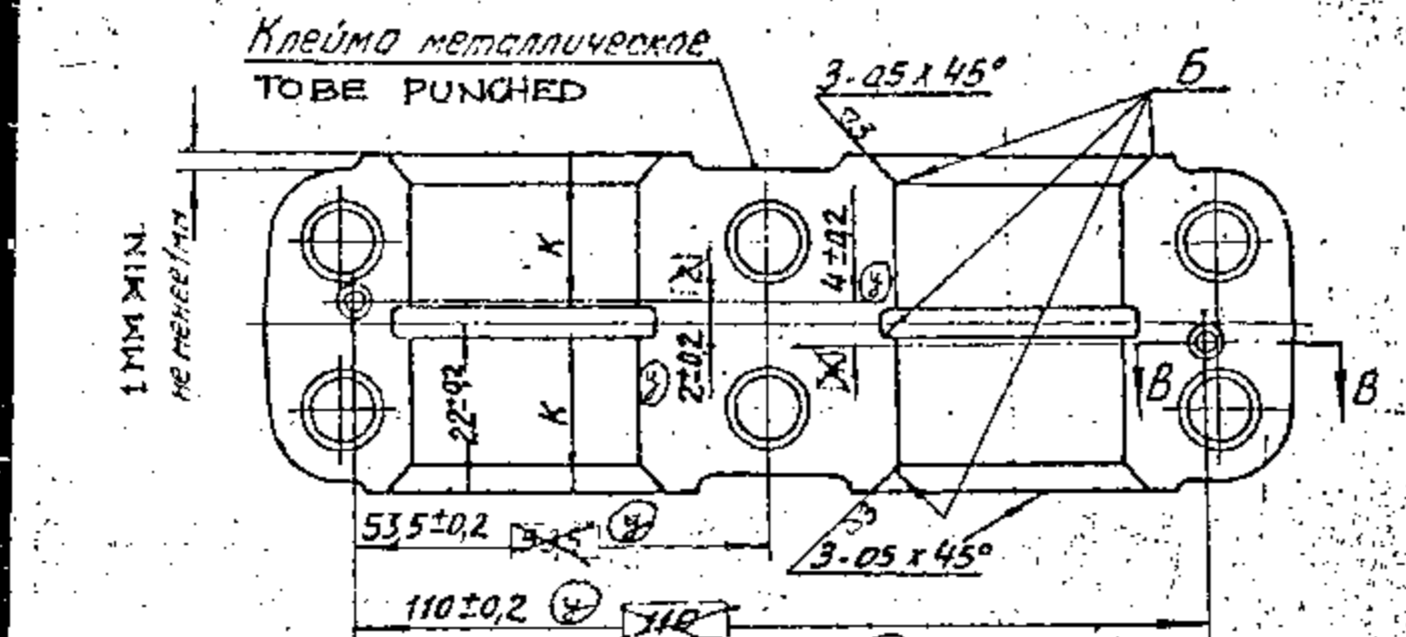
PILOT SAMPLE SHOULD BE APPROVED BY A.I.S.P. BEFORE BULK PRODUCTION

1. INSPECTION GROUP IV, AS PER TT-11.
2. HARDNESS: BHN ≥ 90.
3. COMPONENTS SHOULD BE ACCEPTED AFTER FINAL HEAT TREATMENT ACCORDING TO TT-10. (A)
4. TOLERANCES ON STAMPING DIMENSIONS SHOULD BE IN ACCORDANCE WITH STANDARD 82050-17.
5. DRAFTS WHICH ARE NOT SPECIFIED ON THE DRAWING SHOULD BE EQUAL TO 6°.
6. MACHINING DIMENSIONS WITHOUT TOLERANCES SHOULD BE AS PER ACCURACY CLASS 7 OST 1010.
7. TECHNICAL REQUIREMENTS FOR THREAD ARE AS PER STANDARD 82021-00.
- 8.
9. SURFACES SHOULD BE MACHINED IN ASSEMBLY
10. DIFFERENCE IN MEASUREMENTS OF DIMENSION "K" SHOULD NOT EXCEED 0.8mm.
11. SHARP EDGES ARE TO BE BLUNTED.
12. DRILL RUN-OFF OF HOLE φ 4mm SHOULD BE WITHIN THE GROOVE WIDTH.
13. MATERIAL GRADE TO BE MARKED.
14. TRACES OF FINS UP TO 1.7mm HIGH ALONG THE DIE PARTING-LINE ARE PERMISSIBLE.
15. DIMENSIONS GIVEN IN SQUARE BRACKETS SHOULD BE OBTAINED BY MACHINING TOGETHER WITH MATING COMPONENTS.

EST. PAGES	0.460 Kg	TO BE STAMPED OR MARKED WITH INDICATED FIGS & LETTERS
C 11.9.80	D.O. CORRECTION	ALL SHARP EDGES AND CORNERS TO BE REMOVED UNLESS OTHERWISE STATED. MACHINED CORNERS TO HAVE R OUTSIDE
B 11.12.89	D. O. CORRECTION	IF EQUIV. EQUIVALENT CHARACTERS ARE PERMISSIBLE
A 05.12.88	AUTHY BK 65-897	NATIONAL AI GOST 4784-78
ISSUE DATE	NATURE OF AMENDMENTS	© STAMPING
DRN	SCALE 1:1	WELD ON - CB 306-03-3
CID	DIMENSIONS IN mm	CONTINUATE OF QUALITY ASSURANCE (HEAVY VEHICLES) A V A 11
YCD	TOLERANCE OF DIMS UNLESS OTHERWISE STATED	TITLE: THRUST BEARING BASE FOR CAMSHAFT
APPR	ALL THREADS TO CONFORM TO	U.S. CAT NUMBER
DATE 5/1/88		DRAWING NUMBER 306-37-3

JOINING

1-8E-90E



1. Inspection group IV as per TT - 11
2. BHN ≥ 90;
3. Components should be accepted after final heat treatment according to TT - 10 TTM - 79 - 81 (A)
4. Tolerances on stamping dimensions should be in accordance with standard 82050 - 17.
5. Drafts which are not specified in the drawing should be equal to 6°.
6. Machining dimensions without tolerances should be as per accuracy, class 7 OST 1010.
7. Surfaces 6 should be machined after assembly. Difference in measuring of dimension 'K' should not be more than 0.8 mm
8. Sharp edges should be blunted.
9. Traces of fins upto 1.7 mm high along the die parting line are permissible

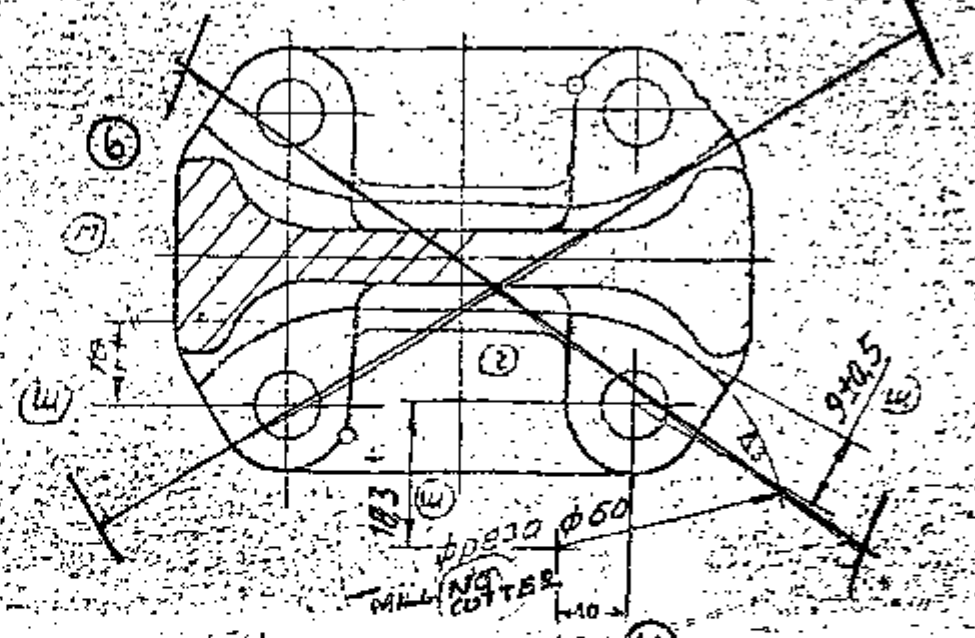
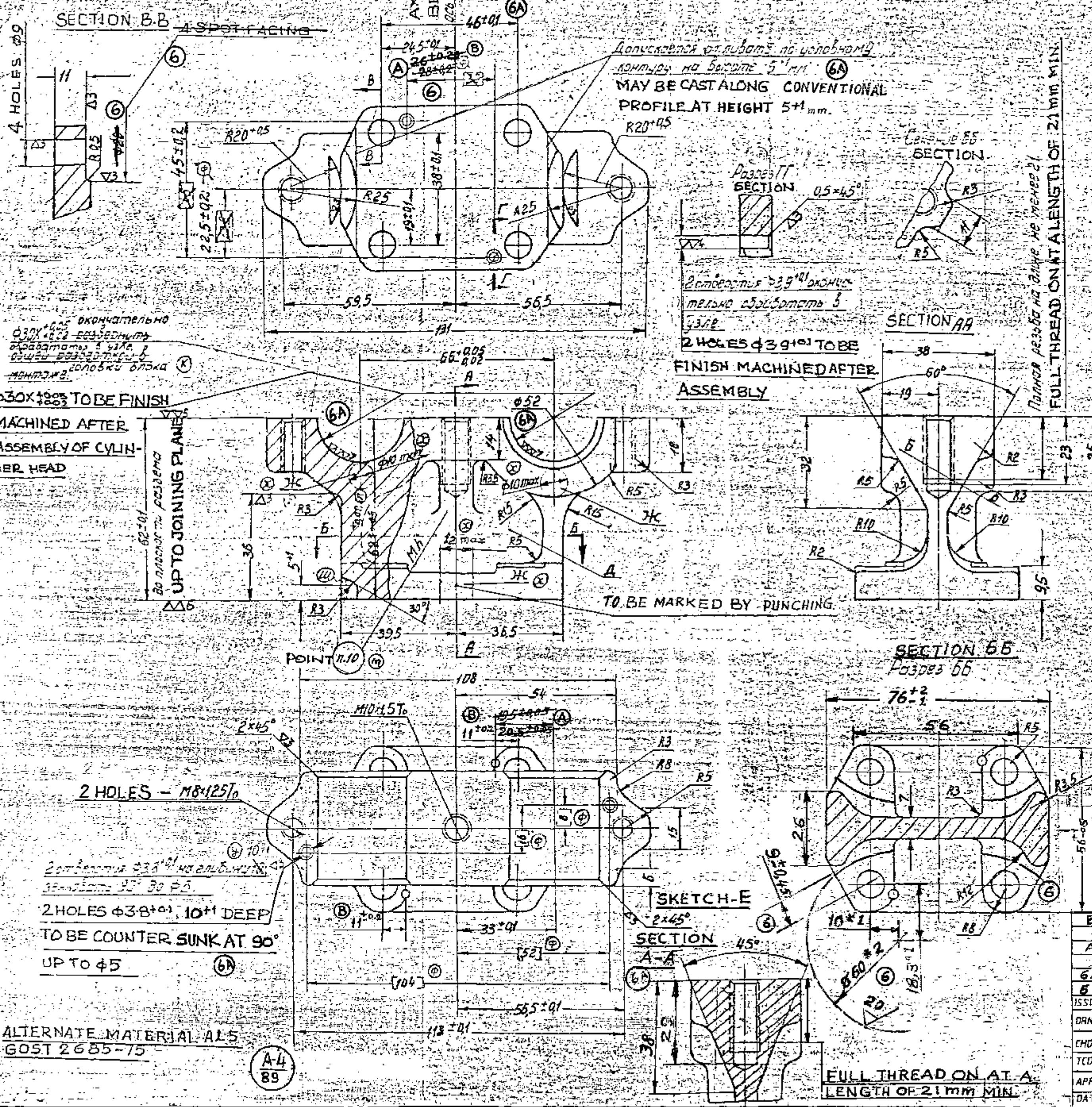
A-4

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

EST. MASS	0.200Kg	TO BE STAMPED OR MARKED WHERE INDICATED THIS # LETTERS
ISSUE DATE	2-12-84	AUTHY/FA/NO. 07263/ENG/PO/395-4 dt 9-11-84
ISSUE DATE	05.12.88	AUTHY BK 85-897
DRN	By	NATURE OF AMENDMENTS
DRN	By	SCALE 1:1
DRN	By	DIMENSIONS IN mm
DRN	By	TOLERANCE ON DIMS UNLESS OTHERWISE STATED
DRN	By	ALL THREADS TO CONFORM TO
DATE	28-1-88	
		ALL SHARP EDGES AND CORNERS TO BE REMOVED UNLESS OTHERWISE STATED FINISHED CORNERS TO HAVE R OUTSIDE IF INSIDE EQUIVALENT CHAMFERS ARE PREMISSIBLE
		MATERIAL ALUMINIUM ALLOY (A1) USED ON - GOST 4764-74 (STAMPING) USED ON - GOST 306-03-3
		CONTROL RATE OF QUALITY ASSURANCE (HEAVY VEHICLES) AV 411
		CAP OF CAMSHAFT THRUST BEARING
		DRAWING NUMBER 306-38-1

NO SHOULDER MAY BE DONE

5 1 18E81-12 1013 34 2



1. Casting requirements should in accordance with TTM - 65-78.
2. BHN ≥ 80.
3. Machining dimension without tolerance should be as per accuracy class 7, OST 1010.
5. Casting identification mark upto φ5 mm and upto 3 mm in height is permitted at place "A" (6A).
6. Sharp edges are to be blunted.
8. Technical requirements for threads should be in accordance with standard 82021-00
9. Components may be manufactured as per sketch E.
10. Material grade is to be marked in casting, Marking by punching is allowed.
11. Machining according to dimensions given in square brackets is done together with mating components.
12. permissible at points X are marks from push-rods

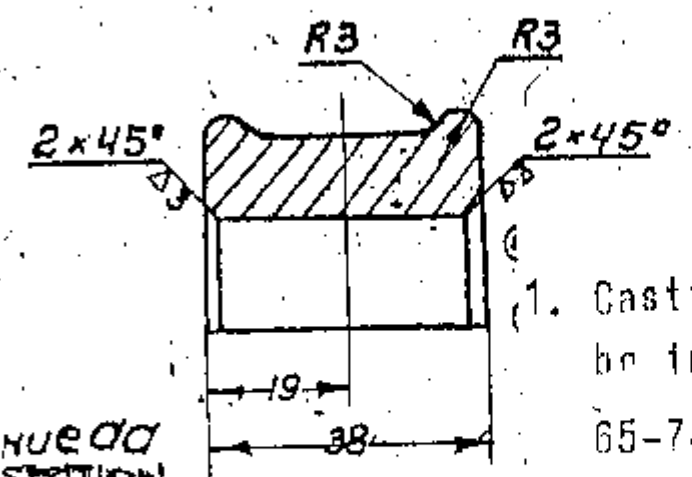
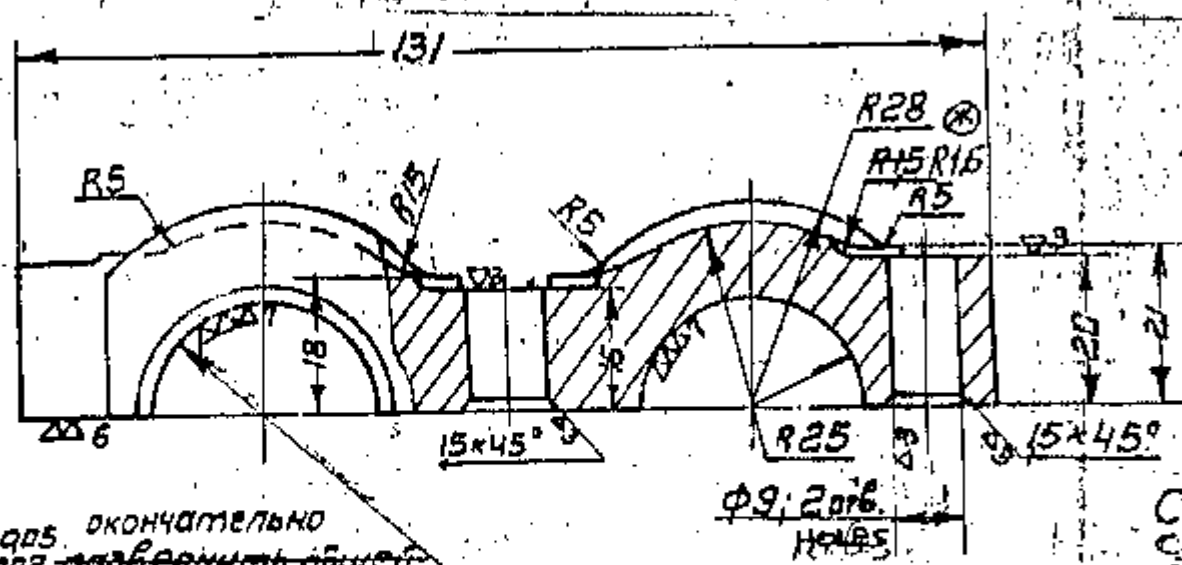
IN THE FORM OF RECESSES UPTO 1 mm OR BULGES UPTO 0.5 mm FROM BOTH SIDES OF THE COMPONENT WITHOUT COMING ON CHAMFER 2X45° FLASHES ARE NOT ALLOWED.

13. DIMENSIONS ARE FOR REFERENCE. \*\* A19 GOST 2685-75

PILOT SAMPLE SHOULD BE APPROVED BY A HSP BEFORE

B	2.11.02	EFA/P/PD0/023	EST. MASS	TO BE STAMPED OR MARKED WHERE INDICATED THUS:
A	17.9.02	EFA/P/PD0/023	0.35 Kg	LETTERS I
6A	22.3.93	DO CORRECTION	ALL SHARP EDGES AND CORNERS TO BE REMOVED UNLESS OTHERWISE STATED MACHINED CORNERS TO HAVE R OUTSIDE R INSIDE EQUIVALENT CHAMFERS ARE PERMISSIBLE	
E	12.3.93	BR 83-103	MATERIAL	USED ON: C5 306-04-2
ISSUE DATE	NATURE OF AMENDMENTS		** SEE ABOVE	
DRN	SCALE: 1:1	CONTROLLERATE OF QUALITY ASSURANCE (HEAVY VEHICLES) AVADI		
CHD	DIMENSIONS IN mm		TITLE: BASE OF CAMSHAFT BEARING	
TCD	TOLERANCE ON DIMS UNLESS OTHERWISE STATED		DRAWING NUMBER	
APPD	ALL THREADS TO CONFORM TO		306-40-1A	
DATE			D/S CAT NUMBER	

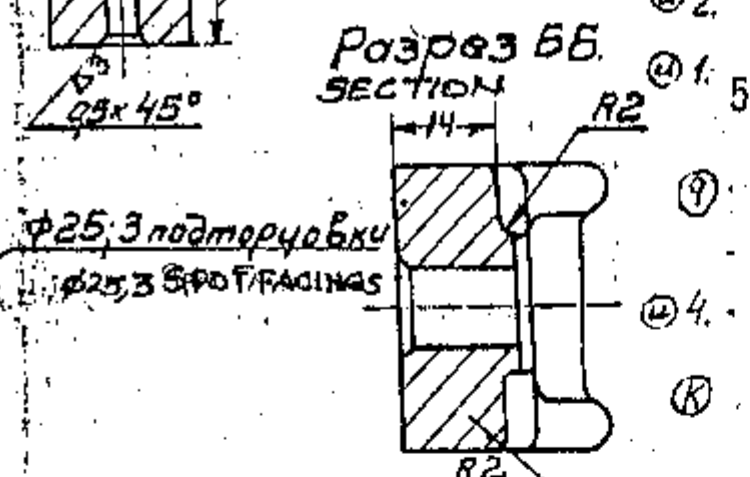
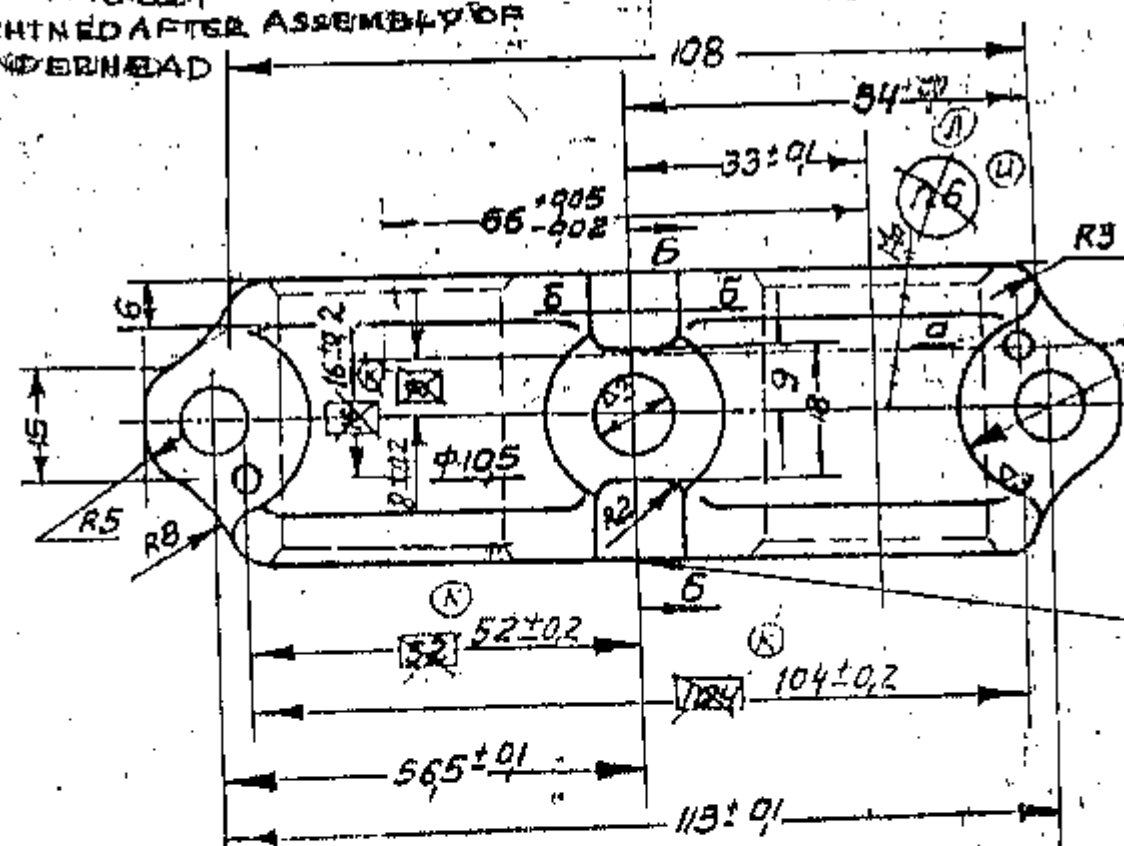
DRG. INDIVANISED BASED ON RUSSIAN ORIGINAL ISSUE - B.



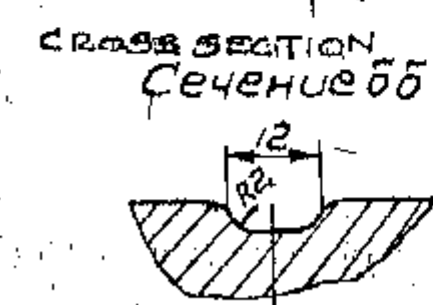
окончательно  
 обработать в угле головки блока.  
 обработать в монтаже  
 TO BE FINISHED  
 MACHINED AFTER ASSEMBLY OF  
 CYLINDER HEAD

Сечение dd  
 CROSS SECTION  
 2 HOLES  $\phi 49 \pm 0.013$   
 TO BE MACHINED ON DEPTH 10MM  
 2 ОТ В.  $\phi 49 \pm 0.013$  В ГЛУБИНУ  
 НА ДЛИНЕ 10 ММ.

1. Casting requirements should be in accordance with TTM 65-78.
2. BHN  $\geq 80$
3. Machining dimensions without tolerances should be as per accuracy class 7 OST 1010.
4. Sharp edges are to be blunted.



Разрез ББ  
 SECTION  
 $\phi 25,3$  подторцовки  
 $\phi 25,3$  SPOT/FACINGS  
 Клеймо металлическое.  
 TO BE MARKED BY PUNCHING.



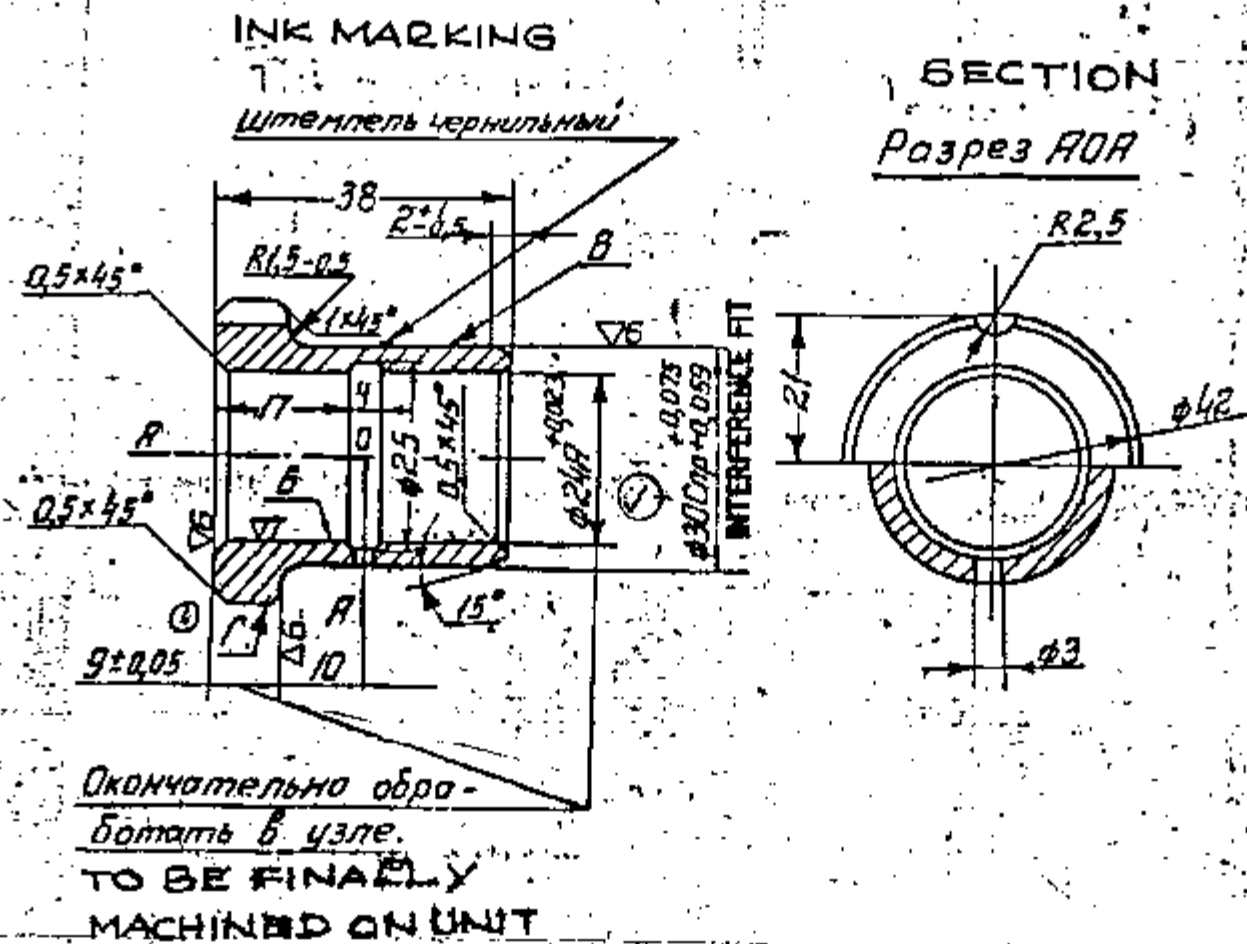
1	2	24.278	2/10/80	5/1/80
2	3	24.278	2/10/80	5/1/80
3	4	74.463	2/10/80	5/1/80
4	5	74.463	2/10/80	5/1/80
5	6	74.463	2/10/80	5/1/80
6	7	74.463	2/10/80	5/1/80
7	8	74.463	2/10/80	5/1/80
8	9	74.463	2/10/80	5/1/80
9	10	74.463	2/10/80	5/1/80

PILOT SAMPLE SHOULD BE APPROVED BY A ILS P BEFORE BULK PRODUCTION

EST. MASS 0,17 kg.	TO BE STAMPED ON MARKED SURFACE INDICATED THIS IS (LETTERS)
ALL SHARP EDGES AND CORNERS TO BE REMOVED UNLESS OTHERWISE STATED FACTURED CORNERS TO HAVE R-OUTSIDE R INSIDE EQUIVALENT CHAMFERS ARE PERMISSIBLE	
ISSUE DATE	NATURE OF AMENDMENTS
DRN	SCALE: 1:1
CHKD	DIMENSIONS IN MM
TCD	TOLERANCE ON DIMS UNLESS OTHERWISE STATED
APPD	ALL DIMENSIONS TO CONFORM TO
DATE 20.1.88	
MATERIAL: A R 9 GOST 2685-75	USED ON: 66 306-04-2
CONTROLLERATE OF QUALITY ASSURANCE (HEAVY VEHICLES) A V A U I	
TYPE: CAP OF CAMSHAFT BEARING	DRAWING NUMBER 306-41 A

DRAWING NUMBER

306-75-3



- INSPECTION GROUP IV, TT II.
- B.H.N  $\geq$  120.
- DIMENSION WITH UNSPECIFIED TOLERANCES SHOULD BE MAINTAINED AS PER ACCURACY CLASS 7, OF OST 1010.
- RUN-OUT OF SURFACE 'B' RELATIVE TO AXIS OF SURFACE 'B' BEFORE PRESSING SHOULD NOT EXCEED 0.04mm.
- SHARP EDGES SHOULD BE BLUNTED.
- ALTERNATE MATERIAL : БР А9 Ж ЗЛ, GOST 493-79.
- REQUIREMENTS FOR CASTING ARE AS PER TECHNICAL REQUIREMENT Б/А -109.
- CUTTER MARK NOT MORE THAN 0.3mm DEEP IS PERMISSIBLE ON SURFACE Г.

10. REPAIR SIZE DIMENSION:  $\varnothing 30.5$  ADDED WHERE INDICATED THIS  $\varnothing$  AND BASED ON LETTER No: 82847/OH/QAD/ED Dt: 13.1.95

Sl. No.	R <sub>1</sub>	R <sub>2</sub>	REMARKS
1	+ 0.075 + 0.059	+ 0.075 + 0.059	1. MARK REPAIR SIZE CATEGORIES R <sub>1</sub> , R <sub>2</sub> , Etc. 2. ALL OTHER SIZES SURFACE FINISH MATERIAL AND TECHNICAL REQUIREMENTS ARE SAME

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

EST. WT. 0.110 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 :**

- REFERENCE MATERIAL QUOTED : BAR БрА Ж9-4 GOST 1628-78  
БрА Ж9-4 - GRADE OF MATERIAL (BRONZE - EXTRUDED ROUND ROD)  
a) CHEMICAL COMPOSITION : % (BY WEIGHT) AS PER GOST 18175-78.  
(i) BASIC COMPONENT COPPER - THE REST  
ALUMINIUM - 8.0 - 10.0  
IRON - 2.0 - 4.0  
(ii) IMPURITIES ELEMENTS VIZ :  
TIN, SILICON, LEAD, PHOSPHORUS, ZINC, MANGANESE ALL PUT TOGETHER 1.7 % (max) BY WEIGHT.  
b) MECHANICAL PROPERTIES :  
ULTIMATE TENSILE STRENGTH Kgf/mm<sup>2</sup> (Mpa) (min) - 55 (540)  
RELATIVE ELONGATION % (min) - 15
- ALTERNATE MATERIAL QUOTED : БрА9 ЖЗЛ, GOST 493-79  
БрА9 ЖЗЛ - GRADE OF MATERIAL (TIN FREE BRONZE).  
a) CHEMICAL COMPOSITION : % (BY WEIGHT)  
BASIC COMPONENT COPPER - THE REST.  
ALUMINIUM - 8.0 - 10.5  
IRON - 2.0 - 4.0  
IMPURITIES ELEMENTS VIZ :  
ARSENIC, ANTIMONY, TIN, SILICON, NICKEL, LEAD, PHOSPHORUS, ZINC, MANGANESE, ALL PUT TOGETHER 2.8% (max) BY WEIGHT.  
b) MECHANICAL PROPERTIES : CHILL CASTING METHOD.  
ULTIMATE TENSILE STRENGTH, Mpa (Kgf/mm<sup>2</sup>) (min) 490 (50)  
RELATIVE ELONGATION % (min) = 12

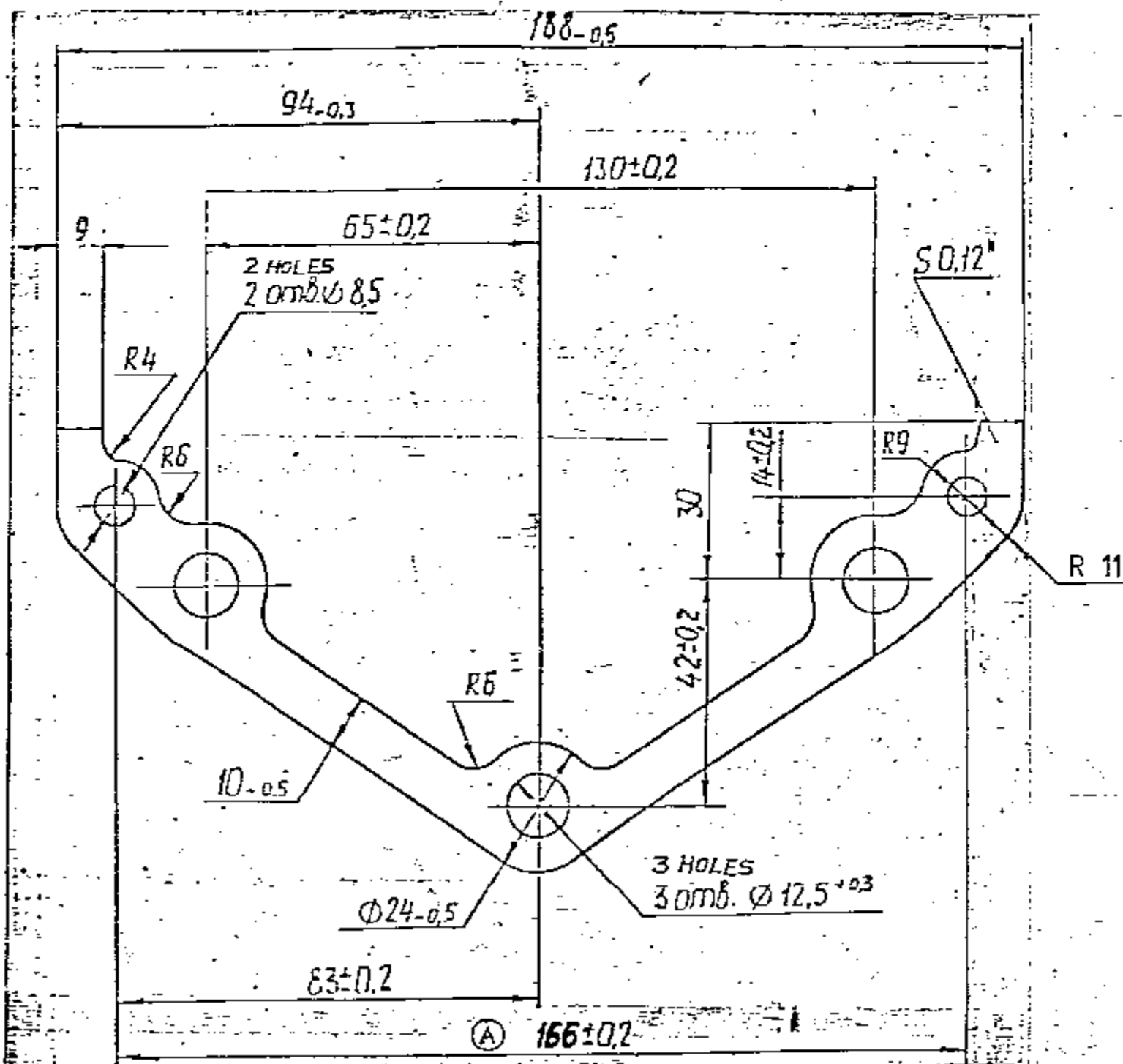
DRN	CHD	TCD	APPB	DATE	SCALE	DIMENSIONS IN mm.	TOLERANCE ON DIMNS UNLESS OTHERWISE STATED IS 2102-69	ALL THREADS TO CONFORM TO
				28-1-88	1:1			
MATERIAL :- BAR Бр А Ж9-4 GOST 1628-78			USED ON :- CB 306-01-20 CB 306-02-20			CONTROLLER OF QUALITY ASSURANCE (HEAVY VEHICLES) A V A D I		
TITLE							OBLIQUE SHAFT BUSHING	
ISSUE					DATE		NATURE OF AMENDMENTS	
D S CAT NUMBER						DRAWING NUMBER 306-75-3		

KVD No: 78120

A55

ZE A2





1. ALTERNATE MATERIAL : CABLE INSULATING PAPER K-170 GOST 23463-83.
2. UNSPECIFIED LIMIT DEVIATIONS OF DIMENSIONS  $\pm 0.5\text{mm}$ .
3. ON THE EDGES OF CONTOUR OF DENTS AND RUPTURE ARE NOT ALLOWED.
4. \* DIMENSION FOR REFERENCES.

EXPLANATORY NOTE

5. MATERIAL QUOTED : CABLE INSULATING PAPER K120 GOST 23436-83.  
 Alt Matl quoted : CABLE INSULATING PAPER K170 GOST 23436-83.  
 PAPER = FOR INSULATING 35KV POWER CABLES.  
 K-120 = GRADE OF PAPER - ORDINARY - THICKNESS =  $120 \pm 7$  MICRONS.  
 K-170 = GRADE OF PAPER - ORDINARY - THICKNESS =  $170 \pm 10$  MICRONS.

QUALITY PARAMETERS :

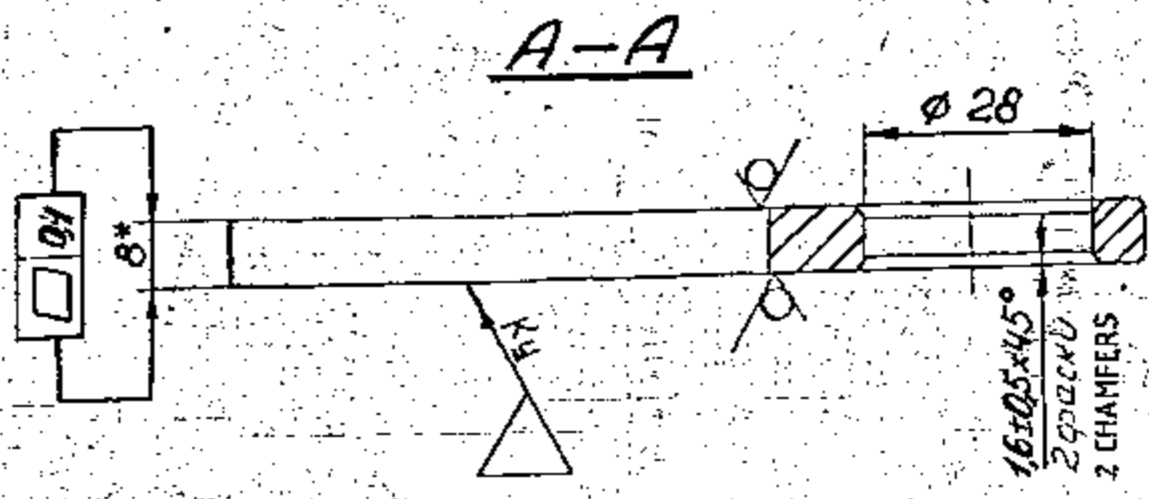
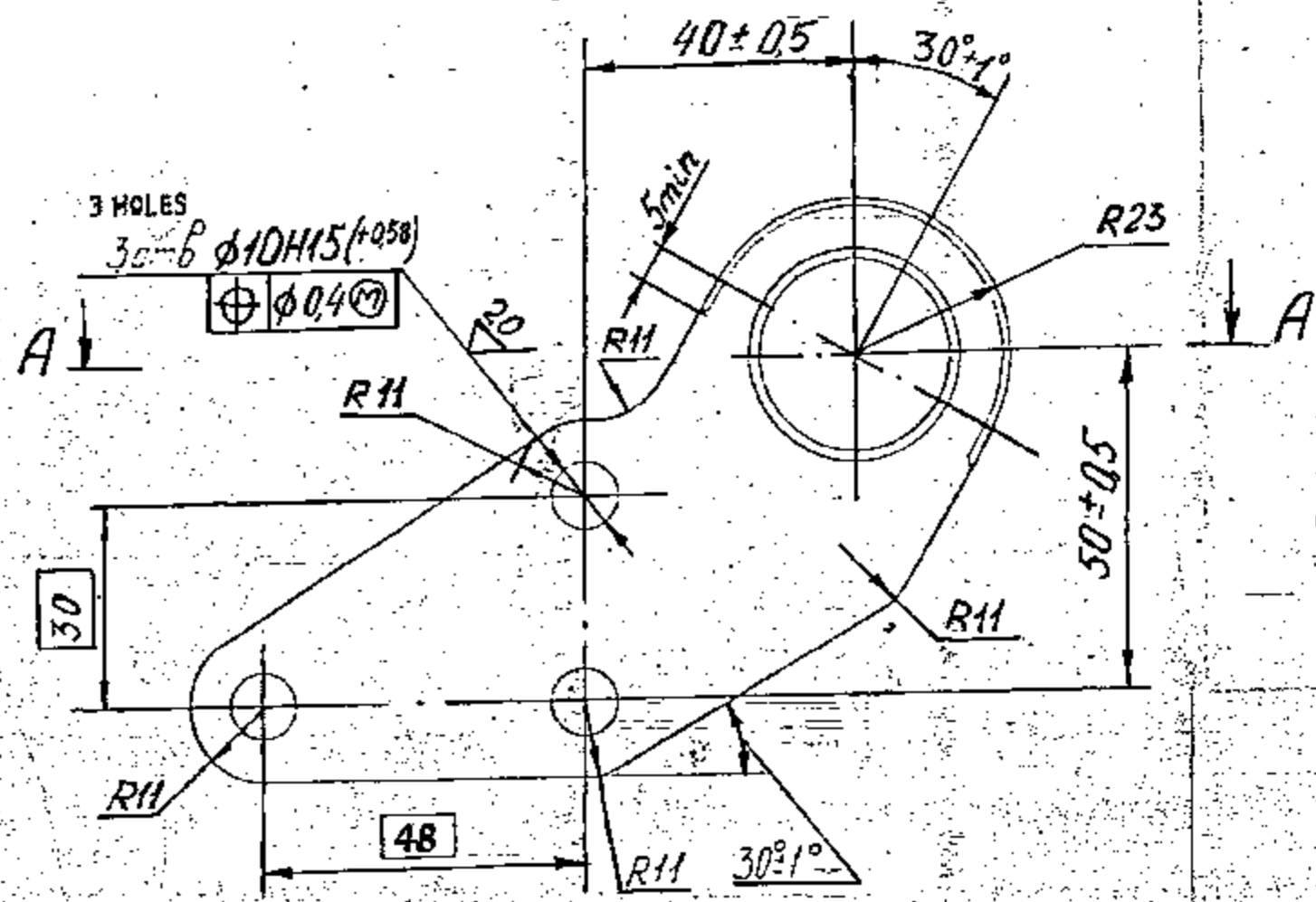
	K - 120	K - 170
1. FIBRE COMPOSITION % OF UNBLEACHED SULPHATE CELLULOSE AS PER STANDARD AND TECHNICAL DOCUMENTATION	100	100
2. DENSITY $\text{g/cm}^3$	$0.78 \pm 0.05$	$0.76 \pm 0.05$
3. BREAKING PROOF Kgf (min)		
IN THE MACHINE DIRECTION	13.0	17.5
IN THE TRANSVERSE DIRECTION	6.0	8.5
4. ELONGATION % (min)		
IN THE MACHINE DIRECTION	2.2	2.2
IN THE TRANSVERSE DIRECTION	6.6	6.6
5. AIR PERMEABILITY $\text{ml/min (max)}$	40	40
6. ASH CONTENT % (max)	1.0	1.0
7. PH VALUE OF AQUEOUS EXTRACT	7.0 - 9.5	7.0 - 9.5
8. CONDUCTIVITY OF AQUEOUS EXTRACT $\mu\text{s/cm (max)}$		
WITH MODULE 1 : 50	63	63
WITH MODULE 1 : 20	126	126
9. MOISTURE CONTENT %	4-8	4-8

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

EST. WT. (A) TO BE STAMPED OR MARKED WHERE INDICATED THIS  $\pm$  LETTERS).  
 $0.0005 \text{ Kg}$

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

DRN	Art. 306-87	MATERIAL :-	USED ON :-
CHKD	9/1/89	CABLE INSULATING PAPER	CB 306-01-20
TED	10/1/89	K-120 GOST 23436-83	CB 306-02-20
APRD	11/1/89	CONTROLLERATE OF QUALITY ASSURANCE (HEAVY VEHICLES)	
DATE	11-5-89	A V A D I	
SCALE	1:1	TITLE	
DIMENSIONS IN	mm	GASKET	
TOLERANCE ON DIMS	UNLESS OTHERWISE STATED IS 2102-69	D S GAT NUMBER	
A	28-2-96	AUTHY. I.T. No. EFA/PDO/2556-47	DRAWING NUMBER
ISSUE	DATE	NATURE OF AMENDMENTS	306-87



1. Заменитель материала сталь 25,35,40,45 ГОСТ 1050-74.
2. Неуказанные предельные отклонения размеров на штамповку ± 0.5 мм.
3. Допускается штамповочный скос не более 0.8 мм на сторону.
4. Покрытие Ц15.хр по УЛ-483-82.
5. В тропическом исполнении покрытие Ц19.хр по УЛ-569-84 с последующим удалением водородной хрупкости.
6. \* Размер для справок.

1. ALTERNATE MATERIAL : STEEL 25, 35, 40, 45 GOST 1050 - 74.
2. UNSPECIFIED TOLERANCES FOR STAMPING DIMENSIONS ARE ± 0.5 mm.
3. DRAFTS UPTO 0.8 mm PER SIDE IS PERMITTED.
4. COATING: Zn.15 CHROMATIZING AS PER U/L 483-82.
5. IN TROPICALIZED CONSTRUCTION COATING: Ц19 CHROMATIZING IN ACCORDANCE WITH U/L 569 - 84 WITH SUBSEQUENT REMOVAL OF HYDROGEN BRITTLNESS.
6. \* DIMENSION FOR REFERENCE.
7. ALTERNATE MATERIAL : SHEET 6 8 GOST 19903 - 74 20 GOST 4061 - 71

ⓑ EQUIVALENT MATERIAL  
STEEL 070 M20 (EN3A) TO BS: 970

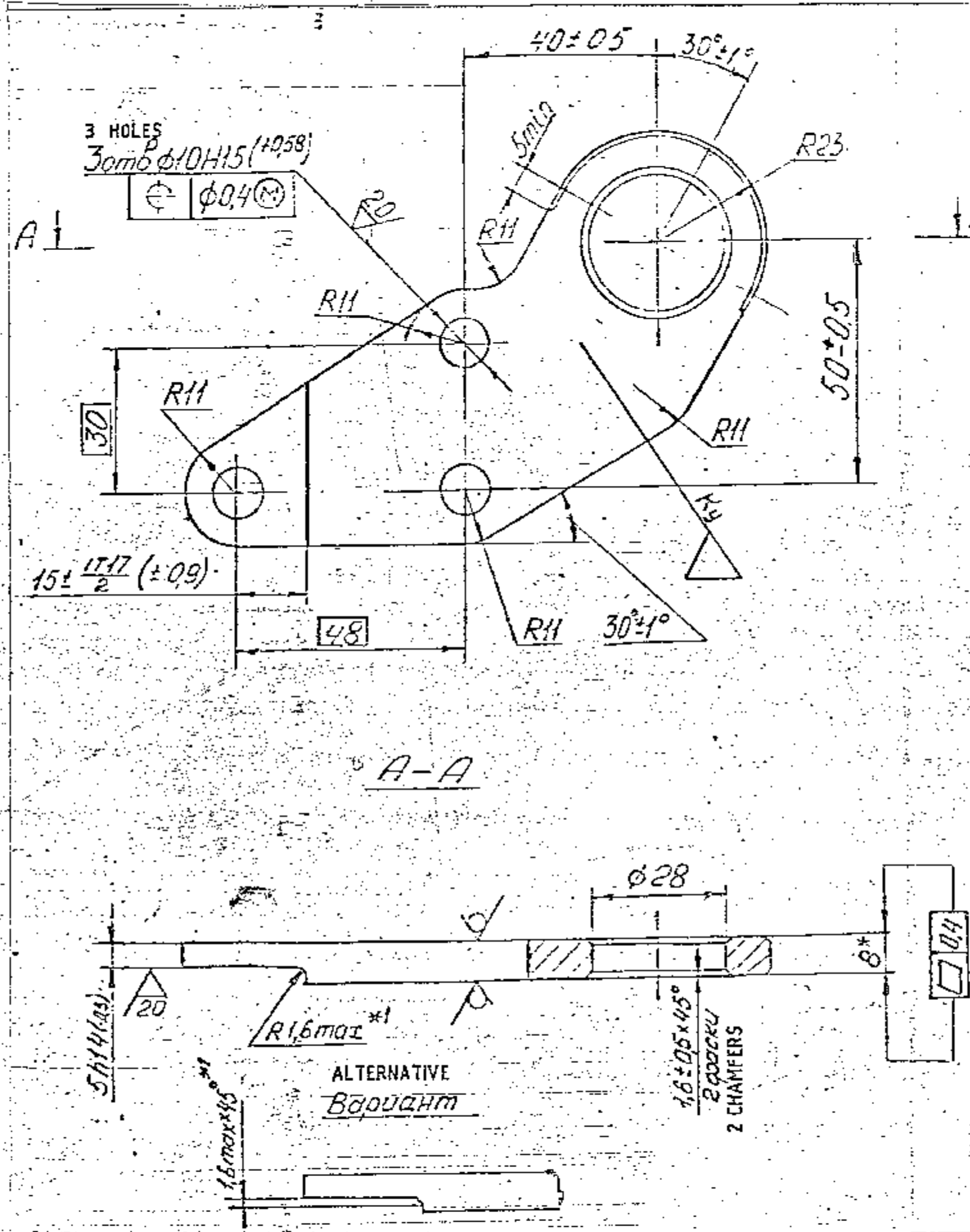
PILOT SAMPLE SHOULD BE APPROVED BY A H S P BEFORE BULK PRODUCTION.

EST. WT. 0.27 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	TED	APPD	DATE	SCALE	DIMENSIONS IN CM	TOLERANCE ON DEPTS UNLESS OTHERWISE STATED IS 20:2-97	MATERIAL SHEET 6 8 GOST 19903-74 20 GOST 1577-70	USED ON CS 306-92-20
				15-11-89	1:1			CONTROLLERATE OF QUALITY ASSURANCE (HEAVY VEHICLES)	
								AVADI	
								TITLE	
								ANGLE PIECE	
								D S CAT NUMBER	
								DRAWING NUMBER	306 - 98 - 6
ISSUE	DATE	NATURE OF AMENDMENTS							

DRG. INDIANISED BASED ON RUSSIAN ORIGINAL ISSUE-7(BK 85-141)

AS 20



1. Заменитель материала сталь 25,35,40,45 ГОСТ 1050-74.
2. Неуказанные предельные отклонения размеров на штамповку ±0,5 мм.
3. Допускается штамповочный скос не более 0,8 мм на сторону.
4. Покрытие Ц15 хр по УЛ-483-82.
5. В тропическом исполнении покрытие ЦКД9 хр по УЛ-569-84 с последующим удалением водородной хрупкости.
6. \* Размер для справок.
7. \* Размеры обеспечить инструментом.

1. ALTERNATE MATERIAL : STEEL 25, 35, 40, 45 GOST 1050 - 74.
2. UNSPECIFIED TOLERANCES FOR STAMPING DIMENSIONS ARE ± 0.5 mm.
3. DRAFT UP TO 0.8 mm PER SIDE IS ALLOWED.
4. COATING: Zn.15, CHROMATIZING AS PER УЛ 483-82.
5. IN TROPICALIZED CONDITION COATING: Cd.9, CHROMATIZING IN ACCORDANCE WITH УЛ 569-84 WITH SUBSEQUENT REMOVAL OF HYDROGEN BRITTLENESS.
6. \*DIMENSION FOR REFERENCE.
7. \*1 DIMENSION IS TO BE ENSURED BY TOOL.
8. ALTERNATE MATERIAL : SHEET 6-8 GOST 19903-74 20 GOST 4041 - 71.

ⓑ EQUIVALENT MATERIAL  
STEEL 070M20(EN3A) TO BS: 970

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

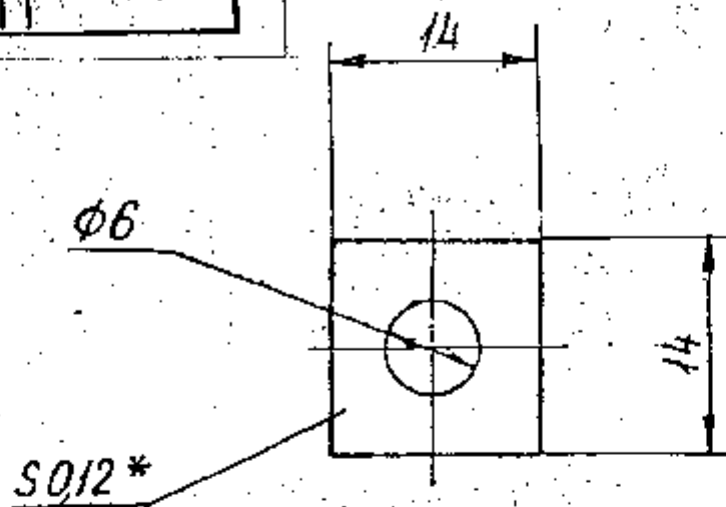
EST. WT. 0.27 Kg.	TO BE STAMPED OR MARKED WHERE INDICATED THIS (LETTERS)
ALL SHARP EDGES AND CORNERS TO BE REMOVED UNLESS OTHERWISE STATED MACHINED CORNERS TO HAVE R OUTSIDE EQUIVALENT CHAMFERS ARE PERMISSIBLE.	

DESIGN	DATE	MATERIAL	USED ON
APPD	15-11-89	SHEET 5 8 GOST 19903-74 20 GOST 1577-81	CS 306-02-20
SCALE	1:1	CONTROLLER OF QUALITY ASSURANCE (HEAVY VEHICLES)	
DIMENSIONS IN mm		A V A O I	
TOLERANCE ON DIMS UNLESS OTHERWISE STATED IS 2102-89		TITLE	
ALL THREADS TO CONFORM TO		ANGLE PIECE	
ISSUE	DATE	D S CAT NUMBER	DRAWING NUMBER
B	9-7-10		306 - 98 - 8
A	31-3-90		
NATURE OF AMENDMENTS			

DRE. INDICATED BASED ON RUSSIAN ORIGINAL ISSUE - 71BK-05-14-11



306-111



1. Заменитель материала бумага кабельная К-170  
ГОСТ 23436-79.

2. Неуказанные предельные отклонения размеров  
± 0,3 мм.

3\* Размер для справок.

1. ALTERNATE MATERIAL : INSULATING PAPER K-170 GOST 23436-79.

2. UNSPECIFIED TOLERANCES FOR DIMENSIONS ± 0.3 mm.

3\* DIMENSION FOR REFERENCE.

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

DRG. INDIANISED BASED ON RUSSIAN ORIGINAL  
 ISSUE No: 4 ( BK 84-109 )

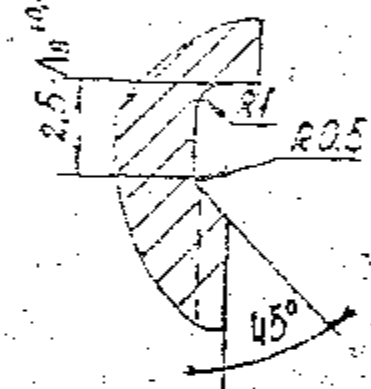
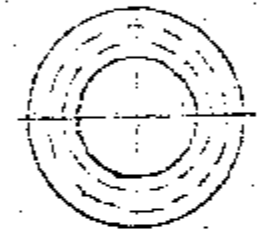
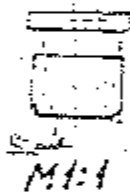
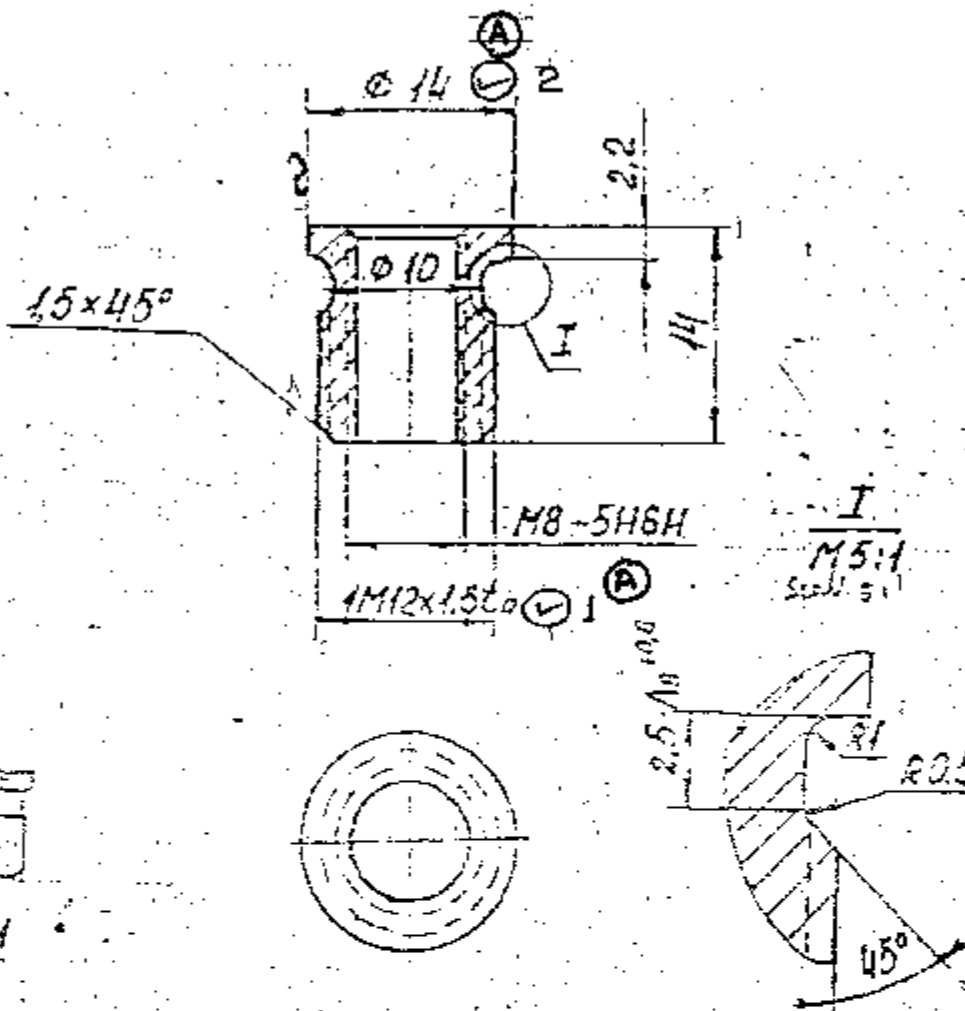
A5

		EST. WT. . . . .	TO BE STAMPED OR MARKED WHERE
		0.005 Kg. /200	INDICATED THUS $\frac{1}{200}$ ( LETTERS)
		ALL SHARP EDGES AND CORNERS TO BE REMOVED UNLESS OTHERWISE STATED MACHINED CORNERS TO HAVE R OUT-SIDE R INSIDE EQUIVALENT CHAMFERS ARE PERMISSIBLE.	
		MATERIAL : INSULATING PAPER K-120 GOST 23436-79 .	USED ON CS 306-01-20 CS 306-02-20
ISSUE DATE	NATURE OF AMENDMENTS		
DRN	SCALE:- 2:1 DIMENSIONS IN mm		
CHD	TOLERANCE ON DIMENSIONS UNLESS OTHERWISE STATED IS 2102 -69		
TED	ALL THREADS CONFORM TO		
APPD	D S CAT NUMBER		DRAWING NUMBER
DATE 15-11-89			306-111

SIZE A4

306-129

W4(2)



Значитель материал сталь марок 40 и 50 ГОСТ 1050-74.  
 Размеры без допусков выполнять по 7 классу точности  
 ГОСТ 1010.  
 Острые кромки затупить.  
 Покрытие хим. окс. прм.  
 Технические требования на резьбу выполнять по нормам  
 82021-00.

ALTERNATE MATERIAL - STEEL GRADES 40 AND 50  
 GOST 1050-74  
 DIMENSIONS WITH UNSPECIFIED TOLERANCES SHOULD BE  
 MAINTAINED ACCORDING TO ACCURACY CLASS 7, OST 1010  
 SHARP EDGES SHOULD BE BLUNTED.  
 COATING - CHEMICAL OXIDIZING, OZ FINISHING  
 TECHNICAL REQUIREMENTS FOR THREAD SHOULD BE AS  
 PER STANDARD 82021-00.

WHERE REPAIR SIZE DIMENSIONS ARE ADDED, INDICATED  
 THIS AND BASED ON LETTER No: 82847/0H/GAD/ED  
 D: 13.1.95.

Sl.No	Ri	REMARKS
1	1M 14 x 1.5 to	1. MARK REPAIR SIZE CATAGORY Ri
2	Ø 15	2. ALL OTHER SIZES, SURFACE FINISH MATERIAL AND TECHNICAL REQUIREMENTS ARE SAME.

ALT. MATERIAL: STEEL ØB0 M40 (EN 8)  
 TO BS: 970 Pt-1: 1983 OR 45 CB TO IS: 1510

\* CB 3311-05-1

PLOT SAMPLE SHOULD BE APPROVED BY A H/S P BEFORE BULK PRODUCTION	DRN	G. Ranganath	MATERIAL 45 GOST 7417-75 ROUND BAR 45 GOST 1051-73	USED ON CB 306-01-20 * CB 306-02-20
	CHKD	G. Ranganath		
EST. WT. TO BE STAMPED OR MARKED WHERE INDICATED THIS ( LETTERS)	APPD	REP	SCALE - 2:1	TITLE <b>BUSH</b>
	0.0055 Kg			
ALL SHARP EDGES AND CORNERS TO BE REMOVED UNLESS OTHERWISE STATED HAGENED CORNERS TO HAVE R CUT SIDE INSIDE EQUIVALENT CHAMFERS ARE PERMISSIBLE	DATE	13-3-88	CONTROL RATE OF QUALITY ASSURANCE (HEAVY VEHICLES) AVADI	D S CAT NUMBER
	ISSUE DATE	13-7-09		
SIZE AS	3 <sup>rd</sup> ALTERATION COMM. MINUTES POINT B, DATE 27-2-09		DIMENSIONS IN mm TOLERANCE ON DIMNS UNLESS OTHERWISE STATED IS: 2192-69	DRAWING NUMBER <b>306-129</b>
	A 20-5-95 REPAIR SIZES ADDED			
		ALL THREADS TO CONFORM TO		

ORG. INDIANISED BASED ON RUSSIAN ORIGINAL ISSUE No. 6-4 84-109

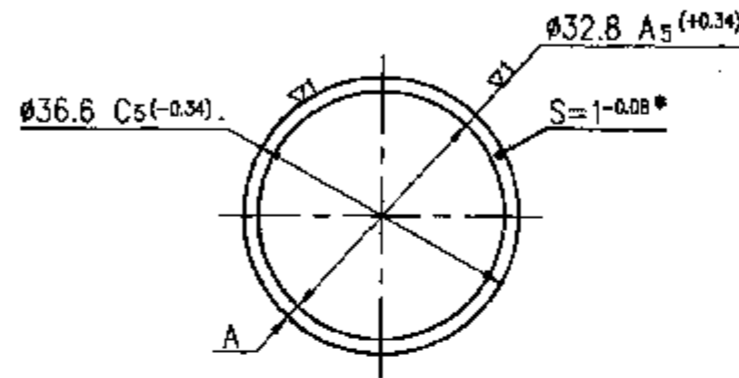


DRAWING NUMBER

306-165

2(▽)

0. ~~Грубая контроль V по IT 11~~
1. Разномерность по размеру A не более 0.4мм.
2. Отжечь.
3. \*Размер для справок.
4. Допускается механическая обработка V3.
5. Клеймить на бирке ~~705-25-154~~ для партии деталей.
6. Острые кромки допускаются.



1. —
2. VARIATION IN MEASUREMENTS OF DIMENSIONS A SHOULD NOT EXCEED 0.4mm.
3. TO BE ANNEALED.
4. \*DIMENSION FOR REFERENCE.
5. MACHINING TO  $\nabla 3$  IS PERMISSIBLE.
6. THE BATCH OF COMPONENT IS TO BE MARKED ON TAG.
7. SHARP EDGES ARE .....PERMITTED.
- ① 8. ALTERNATE MATERIAL SHEET ДПРЛМ 1.0 М1 GOST 495-92.

- 1B CQA(HV)5.06.605E  
CQA(HV)5.06.609E
- 1A CQA(HV)5.07.502E  
CQA(HV)5.07.504E  
Cb 20.06.01-5  
Cb 20.06.02-5  
\* Cb 306.01.36  
Cb 306.02.36

DRAWING APPLICABLE TO V46-6, UTD-20, V92S2 & BAZ ENGINES.  
DRAWING RE-INDIANISED BASED ON ISSUE-1

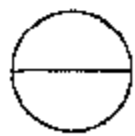
R. Balakrishnan  
(R. BALAKRISHNAN)  
J.S.O  
DI.12 Nov 2014

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

EST. WT. 0.0018 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	-Sd-	MATERIAL :-	ДПРЛМ 1.0	USED ON :-	*Cb 306-01-20 Cb 306-02-20
CHD	-Sd-	NAM 3 GOST 1173-77			
TCD	-Sd-	CONTROLLERATE OF QUALITY ASSURANCE (HEAVY VEHICLES) AVADI			
APPD	-Sd-	SCALE:- 1:1			
DATE	28-01-88	DIMENSIONS IN mm			
TOLERANCE ON DIMNS UNLESS OTHERWISE STATED IS : 2102-69		TITLE :-			
ALL THREADS TO CONFORM TO		RING			
D S CAT NUMBER		DRAWING NUMBER			
306-165		306-165			
ISSUE	DATE	NATURE OF AMENDMENTS			
1B	15.07.16	Pt. 11 a 17th All. Comm. Meeting Dt. 11-4-12			
1A	11.11.14	POINT No.3 OF 9 <sup>th</sup> ALTERATION COMMITTEE MEETING Dt. 10-07-2014			
1	4.12.08	NOTN. No.117-04 F-158			



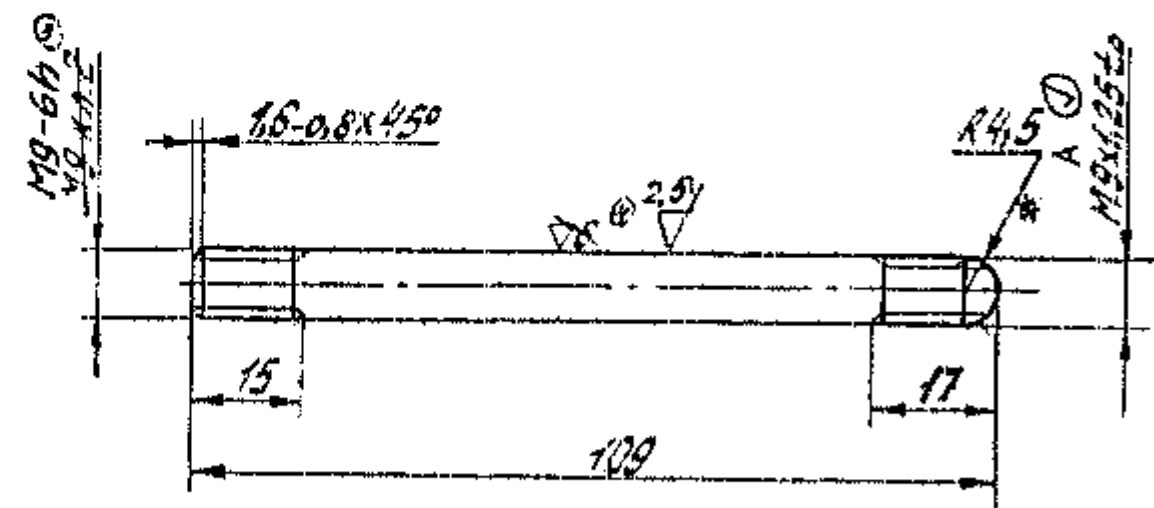
SIZE A3

Dr. P. Janardhanan  
 (P. JANARDHANAN)  
 JTO (D)  
 Dt. 27 Oct 18

DRG. REINDIANISED BASED ON RUSSIAN ORIGINAL ISSUE - NIL

DRAWING NUMBER **350-07-2** SHEET No. 1 OF 1

Rz 80  
 (V)(V)



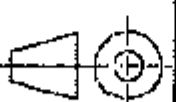
1. INSPECTION GROUP IV TT - 11.
2. HRC 35 ..... 39.
3. TECHNICAL REQUIREMENTS FOR THREADS - AS PER STANDARD 82021 - 00.
4. DIMENSIONS WITH UNSPECIFIED TOLERANCES AND THE REST OF THE TECHNICAL REQUIREMENTS - AS PER STANDARD 82052 - 00.
6. THE THREAD MAY BE MADE BY ROLLING WITH THE DIAMETER OF UNTHREADED PORTION WITH IN THE PITCH DIAMETER OF THREAD.
7. ALTERNATE MATERIAL : STEEL 18x2 H4 MA Ty14-1-381-72.
8. COATING : CADMIUM 3, CHROMATIZING AS PER UJJ-104 WITH THE ELIMINATION OF HYDROGEN EMBRITTLEMENT.
9. REPAIR SIZE DIMENSIONS ARE ADDED WHERE INDICATED THUS (A) BASED ON OVERHAUL SPECIFICATIONS PART III REPAIR DRGS. \*\*

\*\*

SL No.	F	REMARKS
1	1 M 12x1.5 to	ALL OTHER CONDITION AS PER STD. DRG.
2	PCD=11.026 <sup>+0.170</sup> / <sub>+0.085</sub>	

- (C) EQUIVALENT MATERIAL -  
 (D) STEEL 709M40 (EN-19) COLD DRAWN TO BS-970-PT-1-1983/AISI 4140
- (D) EQUIVALENT MATERIAL -  
 STEEL 835M15 (EN39B) TO BS 970 PT-1-1983

(B) EQUIVALENT MATERIAL STEEL  
 -835 M15 (EN39B) BS-970-

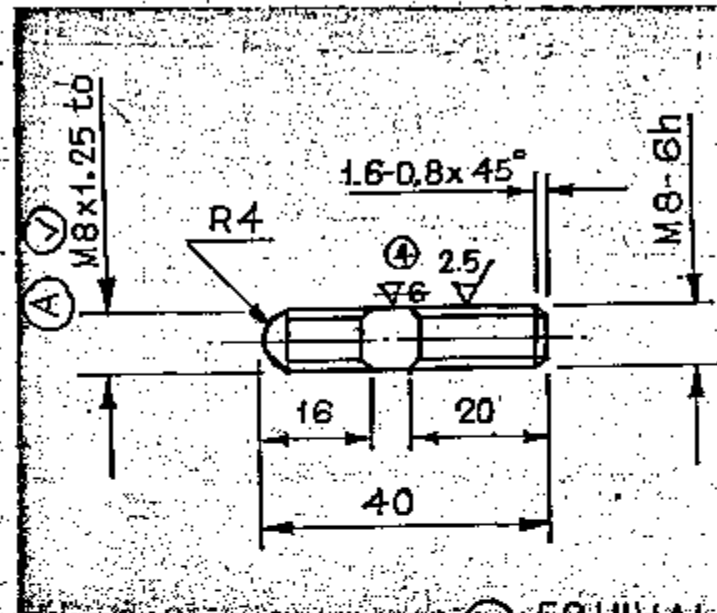
PILOT SAMPLE SHOULD BE APPROVED BY A H S P BEFORE BULK PRODUCTION.		DRN	Sd/=	MATERIAL :- GOST 7417-75	USED ON :- Cb 306-01-20
EST. WT. (Kg) 0.05	TO BE STAMPED OR MARKED WHERE INDICATED THUS # ( LETTERS)	CHD	Sd/=	RD.BAR 18x2 H4 BA Ty14-1-381-72	Cb 306-02-20
ALL SHARP EDGES AND CORNERS TO BE REMOVED UNLESS OTHERWISE STATED MACHINED CORNERS TO HAVE R OUTSIDE R INSIDE EQUIVALENT CHAMFERS ARE PERMISSIBLE.		APPD	Sd/=	CONTROLLERATE OF QUALITY ASSURANCE (HEAVY VEHICLES) AVADI	
		DATE	28-1-88		
		SCALE:-	1 : 1		
		D	30.03.15	DIMENSIONS IN mm	
		C	11.11.2014	TOLERANCE ON DIMNS UNLESS OTHERWISE STATED IS : 2102-69	
		B	23.10.10	TITLE :-  STUD M9 x 109	
		A	2-9-85	D S CAT NUMBER	
		ISSUE	DATE	DRAWING NUMBER 350-07-2	
		NATURE OF AMENDMENTS			

SIZE A3



DRAWING NUMBER  
350-08-2A

④ Rz80 ✓ (✓)



③ EQUIVALENT MATERIAL STEEL  
835M15 (EN39B) BS:970

1. INSPECTION GROUP IV TT-11
2. HRC 35-39
3. TECHNICAL REQUIREMENTS FOR THREADS AS PER STANDARD 82021-00.
4. DIMENSIONS WITH UNSPECIFIED TOLERANCES AND THE REST OF THE TECHNICAL REQUIREMENTS AS PER STANDARD 82052-00.

⑤ ~~THE THREAD MAY BE MADE BY ROLLING WITH THE DIAMETER OF UNTHREADED PORTION WITHIN THE PITCH DIAMETER OF THREAD.~~

7. ALTERNATE MATERIAL: STEEL 18X2H4MA TY 14-1-381-72
8. COATING: CADMIUM 3, CHROMATIZING AS PER UJ, П-104 WITH ELIMINATION OF HYDROGEN EMBRITTLEMENT.

⑥ BOTH THE THREADS SHOULD BE MADE BY ROLLING AFTER HEAT TREATMENT. DIAMETER OF UNTHREADED PORTION WITHIN THE PITCH DIAMETER OF THREAD.

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

EST. WT. 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.

9. EXPLANATORY NOTE :-

GOST 7417-75

MATERIAL QUOTED: 18X2H4 BATY14-381-72

HOT ROLLED CHROMIUM-NICKEL TUNGSTEN STEEL OF HIGH QUALITY.

18X2H4 BA = GRADE OF STEEL AS PER TY 14-1-381-72

CHEMICAL COMPOSITION % (AS PER GOST 4543-71)

CARBON	= 0.14-0.20
SILICON	= 0.17-0.37
MANGANESE	= 0.25-0.55
NICKEL	= 4.00-4.40
CHROMIUM	= 1.35-1.65
TUNGSTEN	= 0.80-1.20
PHOSPHORUS	= 0.025
SULPHUR	= 0.025
COPPER	= 0.30

} MAX.

MECHANICAL PROPERTIES (AS PER GOST 4543-71)

ULTIMATE TENSILE STRENGTH	Kgf/mm <sup>2</sup> = 105 (MIN)
YIELD POINT	Kgf/mm <sup>2</sup> = 80 (MIN)
% ELONGATION	= 12 (MIN)
REDUCTION IN AREA	= 50 (MIN)
IMPACT STRENGTH	Kgf.m/cm <sup>2</sup> = 12 (MIN)

④ 10. REPAIR SIZE DIMENSIONS ARE ADDED WHERE INDICATED THIS ✓ BASED ON OVERHAUL SPECIFICATIONS PART III REPAIR DRAWINGS.

SL. No.	R.	REMARKS
1.	M 10 X 1.5 to	ALL OTHER CONDITIONS
2.	P.C.D. = 9.026 +0.170 / +0.095	AS PER STD. DRG.

DRN	by	MATERIAL: ROUND BAR	USED ON
CHD	3-5-85	GOST 7417-75	CE 306-01-20
TCO		18X2H4BATY14-1-381-72	CE 306-02-20
APPD		CONTROLLERATE OF QUALITY ASSURANCE (HEAVY VEHICLES) AVAIL.	
DATE	28-1-85	SCALE: 1:1	
DIMENSIONS IN mm		TITLE	
TOLERANCE ON DIMNS UNLESS OTHERWISE STATED IS: 2102-69.		STUD M8x40	
ALL THREADS TO CONFORM TO		D'S CAT NUMBER	DRAWING NUMBER
350-08-2A		350-08-2A	

EXPLANATORY NOTE ADDED ON 20-1-92

KVD NO 78866

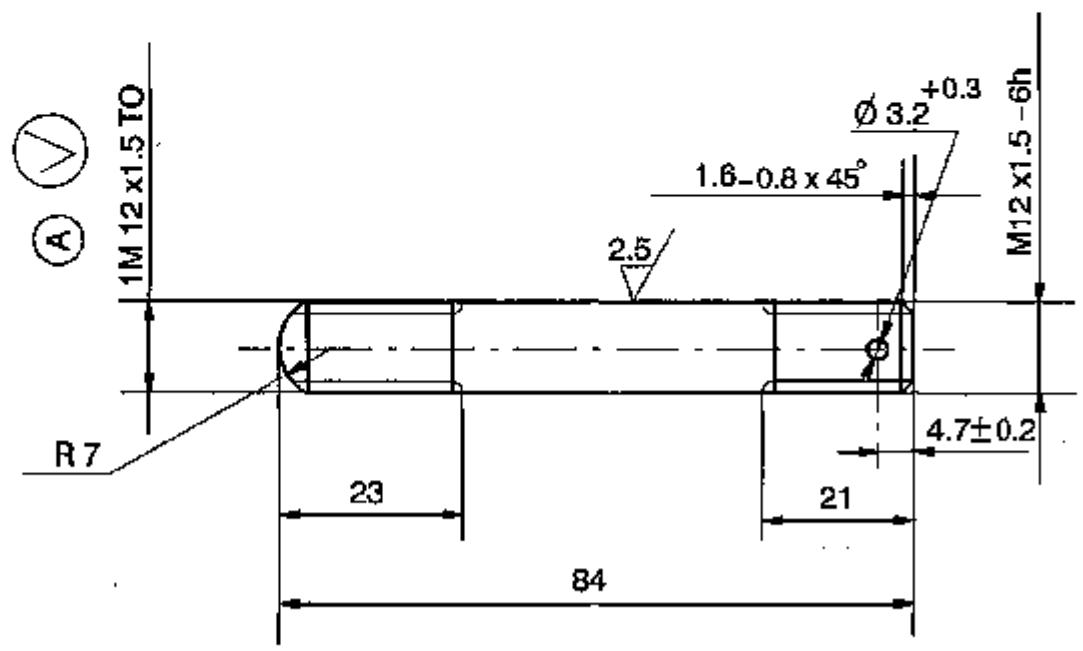


DRAWING RE-INDIANISED BASED ON RUSSIAN ORIGINAL  
ISSUE - A

JTO (C) DT. 9.6.09  
(R. BALAKRISHNAN)

DRAWING NUMBER  
**350-10-1**

Rz80 ✓ (✓)



(A) \*\*

Sl.No.	R	REMARKS
1	1M 14 X 1.5 TO	ALL OTHER CONDITIONS AS PER STD. DRG.
2	P.C.D. = 13.026 <sup>+0.170</sup> / <sub>+0.095</sub>	

- INSPECTION GROUP IV TT-11.
- HRC<sub>3</sub> 28 ..... 35.
- TECHNICAL REQUIREMENTS FOR THREADS AS PER STANDARD 82021-00.
- DIMENSIONS WITH UNSPECIFIED TOLERANCES AND THE REST OF THE REQUIREMENTS AS PER STANDARD 82052-00.
- COATING : CADMIUM 3, CHROMATIZING AS PER ЦУП-104 WITH ELIMINATION OF HYDROGEN EMBRITTLEMENT.
- THE THREAD MAY BE MADE BY ROLLING WITH THE DIAMETER OF UNTHREADED PORTION WITHIN THE PITCH DIAMETER OF THREAD.
- MECHANICAL DAMAGES OF CADMIUM COATING SUCH AS SCRATCHES, NICKS AND DENTS ARE ALLOWED ON ASSEMBLY UNITS, PROVIDED THE STEEL IS NOT EXPOSED.
- REPAIR SIZE DIMENSIONS ARE ADDED WHERE INDICATED THUS (✓), BASED ON OVERHAUL SPECIFICATIONS PART III REPAIR DRAWINGS. \*\*

(B) ALTERNATE MATERIAL: STEEL 709 M40 (EN 19)  
TO BS: 970, Pt I - 1983

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

EST. WT. 0.056 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.

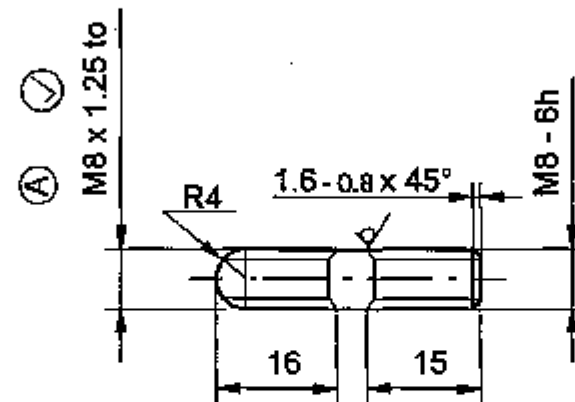
DRN	Sd/=	MATERIAL :- ROUND BAR	USED ON :-
CHD	Sd/=	GOST 7417-75	Cb 306-01-20 ✓
TCD	Sd/=	38XA GOST 1051-73 ✓	Cb 306-02-20 ✓
APPD	Sd/=	CONTROLLERATE OF QUALITY ASSURANCE (HEAVY VEHICLES)	
DATE	06.11.88 ✓	AVADI	
SCALE:- 1 : 1		TITLE:-	
DIMENSIONS IN mm		STUD M12 x 84 ✓	
TOLERANCE ON DIMNS UNLESS OTHERWISE STATED IS : 2102 - 69			
ALL THREADS TO CONFORM TO		D S CAT NUMBER	DRAWING NUMBER
			350-10-1 ✓

A-11  
6  
SIZE A3

ISSUE	DATE	NATURE OF AMENDMENTS
B	9-6-09	3 <sup>rd</sup> ALTERATION COMM. MINUTES POINT 2, DATE 27-2-09
A	06.09.85	REPAIR SIZE DIMENSIONS ADDED

DRAWING NUMBER  
350 - 15

SHEET No. 1 OF 1



8. EXPLANATORY NOTE :-

MATERIAL QUOTED :- ROUND BAR GOST 7417-75  
45 GOST 1051-73

ALTERNATE MATERIAL QUOTED :- 40, 50 GOST 1050-74  
PERTAINS TO SIZED COLD ROLLED OR COLD DRAWN STEEL WITH ROUND SECTION  
40, 45 AND 50 ARE GRADES OF STEEL GOST 1051-73

CHEMICAL COMPOSITION :

GRADE OF STEEL	CONTENT OF ELEMENTS IN %							
	C	Si	Mn	Cr	P	Cu	S	Ni
40	0.37 - 0.45	0.17 - 0.37	0.50 - 0.80	0.25	0.035	0.25	0.04	0.25
45	0.42 - 0.50	0.17 - 0.37	0.50 - 0.80	0.25	0.035	0.25	0.04	0.25
50	0.47 - 0.55	0.17 - 0.37	0.50 - 0.80	0.25	0.035	0.25	0.04	0.25

MECHANICAL PROPERTIES :

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

2. TECHNICAL REQUIREMENTS FOR THREADS AS PER STANDARD 82021-00.
3. DIMENSIONS WITH UNSPECIFIED TOLERANCES AND THE REST OF THE TECHNICAL REQUIREMENTS AS PER STANDARD 82052 - 00.
4. COATING : CADMIUM 3. CHROMATIZING AS PER IIIIJI-104 WITH ELIMINATION OF HYDROGEN EMBRITTELEMENT.
5. THE THREAD MAY BE MADE BY ROLLING WITH THE DIAMETER OF UNTHREADED PORTION WITHIN THE PITCH DIAMETER OF THREADS.
6. MECHANICAL DAMAGES OF THE CADMIUM COATING SUCH AS SCRATCHES, NICKS AND DENTS ARE ALLOWED ON ASSEMBLY UNITS, PROVIDED THE STEEL IS NOT EXPOSED.
7. ALTERNATE MATERIAL : STEEL, GRADES 40 AND 50 GOST 1050-74.
8. HARDNESS :- 27 - 32 HRC.

9. REPAIR SIZE DIMENSIONS ARE ADDED WHERE INDICATED THUS  BASED ON OVER HAUL SPECIFICATION PART III REPAIR DRAWINGS.

SL.No.	R	REMARKS
1	M 10 x 1.5 to	ALL OTHER CONDITIONS AS PER STD. DRG.
2	PCD = 9.026 <sup>+0.170</sup> <sub>+0.095</sub>	

\* ALT. MATERIAL :- STEEL 709 M40 (EN-19) TO BS : 970 PT. - I-1983.

\*\* Cb 306-01-36    Cb 306-01-20  
Cb 306-02-36    Cb 306-02-20  
Cb 3301-15-44    Cb 406-05-3  
Cb 3308-04-24    Cb 3301-15-30  
Cb 3321-14-1

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

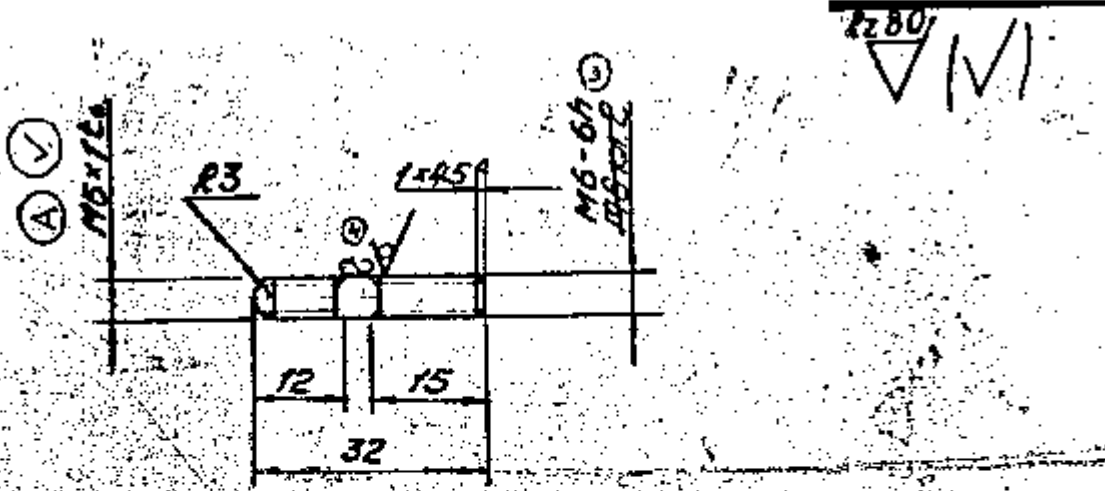
EST. WT. (Kg) TO BE STAMPED OR MARKED WHERE INDICATED THUS # ( LETTERS)

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	Sd/=	MATERIAL :- ROUND BAR	USED ON :-
CHD	Sd/=	GOST 7417-75 *	Cb 3338-402-4 **
APPD	Sd/=	45 GOST 1051-73	
DATE	02.05.87	CONTROLLERATE OF QUALITY ASSURANCE (HEAVY VEHICLES)	
SCALE:- 1 : 1		AVADI	
D	26-05-09	Authy: Third Alt. Comm. Minutes Point. 5 Dated 27-02-2009.	TITLE:- <b>STUD M8 x 35</b>
C	25.8.08	USED ON NUMBERS ADDED	
B	11.01.08	AUTHY:MIN. OF ALT. COM. MEET POINT	D S CAT NUMBER
A	06.9.95	No. - 2. 12 DL07.02.07	
ISSUE	DATE	NATURE OF AMENDMENTS	DRAWING NUMBER <b>350 - 15</b>

DRG. RE-INDIANISED BASED ON 350-15 ISSUE 'B' COMMON TO V-92S2 ENGINE

F-11  
SIZE A1



2280  
V M

1. Inspection group IV TT-11.
  2. HRC<sub>2</sub> 28-35
  3. Technical requirements for threads as per Standard 82021-00.
  4. Dimensions with unspecified tolerances and the rest of the requirements - as per standard 82052-00.
  5. Coating :- Cadmium 3, Chromating as per UG 11-104 with elimination of Hydrogen embrittlement.
  6. The thread may be made by rolling with the diameter of unthreaded portion within the pitch diameter of thread.
- T. Mechanical damages of Cadmium coating such as scratches, nicks and dents are allowed on assembly units; provided the steel is not exposed.

\* PROT SAMPLE SHOULD BE APPROVED BY A HSP BEFORE BULK PRODUCTION.

TEST, MASS	0.005 Kg	TO BE STAMPED OR MARKED WHERE INDICATED THIS # LETTERS ?
Authy: 3 <sup>rd</sup> Alt. Comm. Min. Pt. 2	Dated 27-02-09	ALL SHARP EDGES AND CORNERS TO BE REMOVED UNLESS OTHERWISE STATED. FACED CORNERS TO HAVE A OUTSIDE R INSTEAD EQUIVALENT CHAMFERS ARE PERMISSIBLE.
ISSUE DATE	NATURE OF AMENDMENTS	MATERIAL: GOST 7417-75 ROUND BAR 38XA GOST 1051-73
ISSUE DATE	NATURE OF AMENDMENTS	USED ON: CB 3301-15-30, CB 3301-15-44
ISSUE DATE	NATURE OF AMENDMENTS	CONTROLLED BY: AVADI
ISSUE DATE	NATURE OF AMENDMENTS	TITLE: STUD M6x32
ISSUE DATE	NATURE OF AMENDMENTS	DS CAT NUMBER: 350-16A

8. EXPLANATORY NOTE:-

MATERIAL QUOTED:- ROUND BAR GOST 7417-75.  
38XA GOST 1051-73

ROUND BAR GOST 7417-75 AS PER REQUIRED DIAMETER.  
38XA = GRADE OF STEEL.

CHEMICAL COMPOSITION:-

C O N T E N T O F E L E M E N T S %							
C	Si	Mn	Cr	Cu	Ni	P	S
				M A X I M U M			
0.35-0.42	0.17-0.37	0.50-0.80	0.80-1.10	0.25	0.30	0.025	0.025

MECHANICAL PROPERTIES:-

- ULTIMATE RUPTURE STRENGTH Kgf/mm<sup>2</sup> (MIN) = 95.
- YIELD POINT Kgf/mm<sup>2</sup> (MIN) = 80.
- % RELATIVE ELONGATION (MIN) = 12.
- RELATIVE REDUCTION IN AREA % (MIN) = 50.

(A) REPAIR SIZE DIMENSIONS ARE ADDED WHERE INDICATED THUS (C), BASED ON OVERHAUL SPECIFICATIONS PART III REPAIR DRAWINGS.

Sl.No.	R	REMARKS
1.	MB X 1.25 to	ALL OTHER CONDITIONS
2.	P.C.D = 7.188 <sup>+0.152</sup> <sub>+0.082</sub>	AS PER STD. DRG.

(C) Alt. Material: STEEL 709M40 (EN-19) TO BS-970 Pt-1-1983

CB 3338-403-2  
CB 306-01-20  
CB 306-02-20

USED ON:- (B)  
CB 3327-03-6-01  
CB 3338-403-2  
CB 3338-404-7  
CB 3327-03-6  
CB 306-01-20  
CB 306-02-20

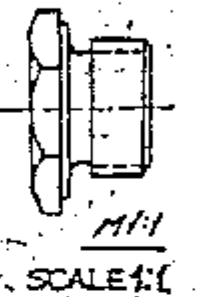
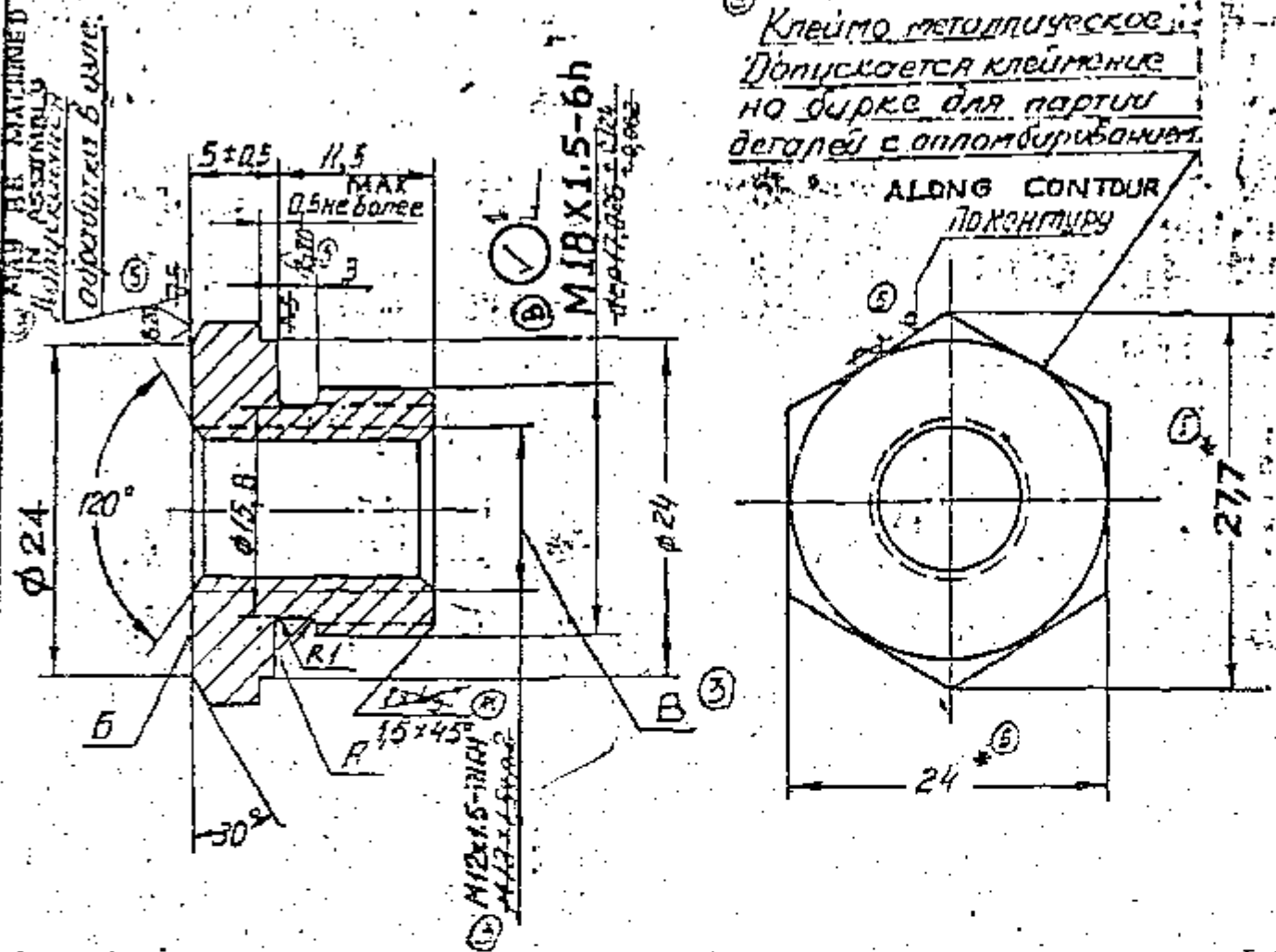
KVD 63590

COMMON TO V-92S2 ENGINE

1-901-10E

TO BE PUNCHED, MARKING ON TAG FOR A BATCH OF COMPONENTS WITH PACKING AND SEALING IS PERMISSIBLE.

Клеймо металлическое  
Допускается клеймение  
но бирке для партии  
деталей с опломбированием



Inspection group V  
Tolerance on free dimensions are as per class 7 accuracy of OST 1010.  
Tech. Requirements for thread are as per standard 82021-00.  
End play on surface A relative to the axis of external thread should not exceed 0.1 mm on Ø 23. End play on surface B relative to the axis of internal thread should not exceed 0.15 mm on Ø 23. Thread dimensions are to be checked before coating, internal thread may not be coated. Sharp edges should be blunted, turning of face on Ø 26 C5 is permissible. Coating is Cd 9 Cr as per ~~U.S. 569-86~~ with hydrogen embrittlement removed.  
Alternate material-steel grades 40 and 50, Gost 1050-74

\*Dimensions for reference.

ALTERNATE MATERIAL: STEEL 080M40 (EN B)  
TO BS: 970 Pt. I-1983 OR 45 CB 70 IS: 1570

COA(HV)5.07.50E Cb 306-01-36 \* CB-20-29-08-2  
COA(HV)5.07.504E Cb 306-02-36 CB-3329-01-11  
Cb 337-120 CB-3301-15-44  
PILOT SAMPLE SHOULD BE APPROVED BY A HSP BEFORE BULK PRODUCTION

D	9-6-09	3 <sup>rd</sup> ALTN. COMM. MINUTES POINT B. DT 27-2-09	EST. MASS 0.022 Kg	TO BE STAMPED ON MARKED WHERE INDICATED THUS #
C	9-9-08	USED ON NUMBER ADDED	ALL SHARP EDGES AND CORNERS TO BE REMOVED UNLESS OTHERWISE STATED MACHINED CORNERS TO HAVE R OUTSIDE R INSIDE EQUIVALENT CHAMFERS ARE PERMISSIBLE	
B	20-5-98	REPAIR SIZES ADDED	MATERIAL: 24-5 GOST 8560-78 HEXAGON 45 GOST 1051-73	
G		BK 82-207	USED ON: CB 3301-15-30 *	
A	25.12.08	AUTHY BK 65-141	CONTROLLERATE OF QUALITY ASSURANCE (HEAVY VEHICLES) AVADI	
ISSUE	DATE	NATURE OF AMENDMENTS	TITLE: BUSH	
DRN	1/2	SCALE: 2:1	U.S. CAT NUMBER: 301-106-1	
CHD	3/11	DIMENSIONS IN mm	DRAWING NUMBER: 301-106-1	
TCO	4	TOLERANCE ON DIMS UNLESS OTHERWISE STATED		
APPD		ALL TOLERANCES TO COMPLY TO		
ISSUE	DATE	NATURE OF AMENDMENTS		
E	5.3.14	Authy. Point No.11 of 7 <sup>th</sup> Alt. Comm. Meeting at EFA.		

EXPLANATORY NOTE:-

MATERIAL QUOTED :- HEXAGONAL BAR 24-5 GOST 8560-78  
45- GOST 1051-73.

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

BRIGHT STEEL HEXAGONAL FROM GRADE 45 STEEL WITH WIDTH ACROSS FLATS 24 mm; OF ACCURACY CLASS - 5 AS PER GOST 1051-73.

CHEMICAL COMPOSITION:-

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

MECHANICAL PROPERTIES:-

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

REPAIR SIZE DIMENSIONS ARE ADDED BASED ON LETTER NO: 82847/OH/GAS/ED. DT: 27 MAR 95 AS FOLLOWS:

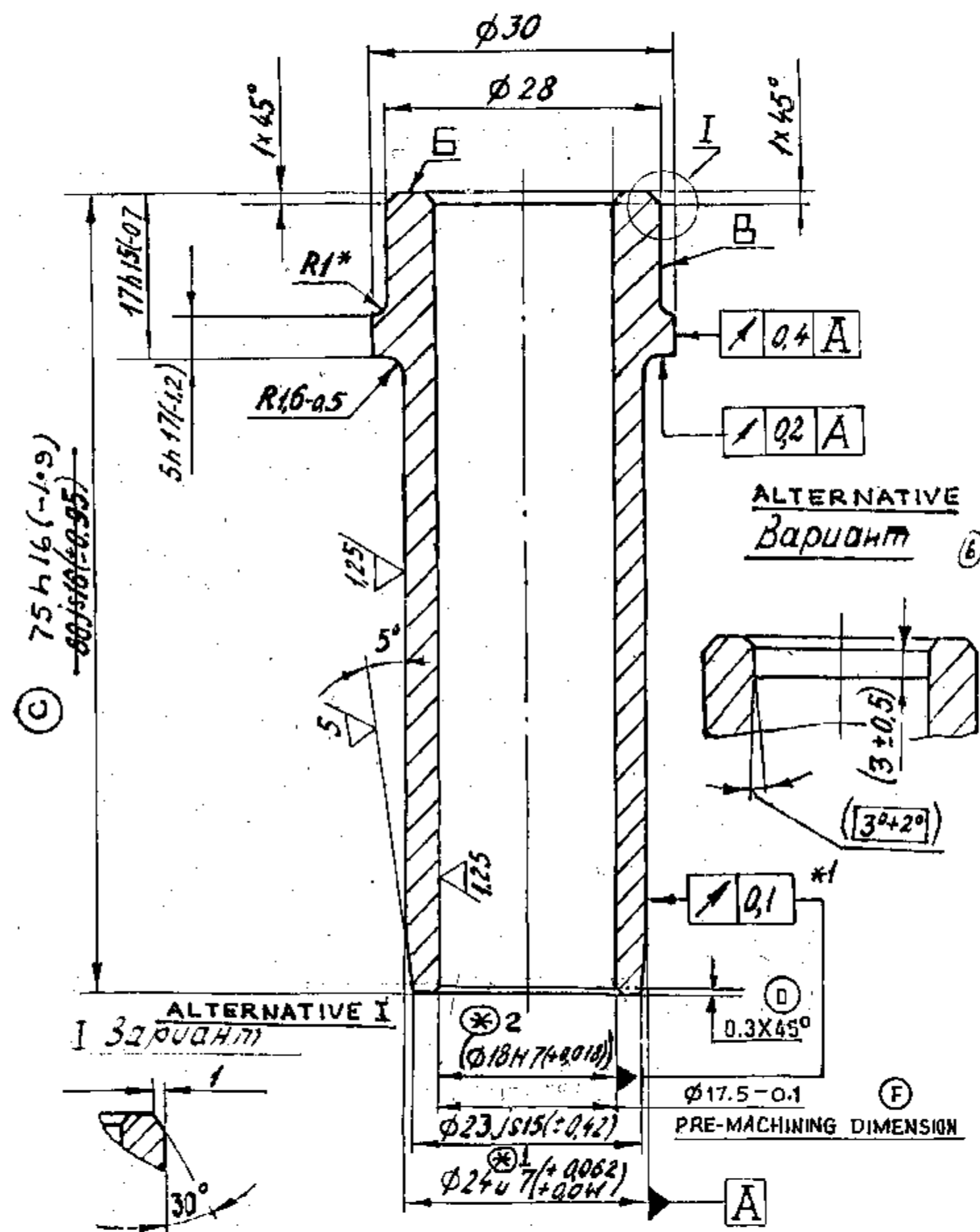
REPAIR SIZE DIMENSION ADDED WHERE INDICATED THUS: (B)

S/N	R	REMARKS
1	M20x1.5-6h	ALL OTHER CONDITIONS AS PER STD DRG. MARK REPAIR SIZE

COMMON TO V-92S2 & UTD-20 ENGINES

A-2

306-17-5



6. ALTERNATE MANUFACTURING PROCESS:-  
HOT UPSET FORGING OF BLANKS FROM  $\phi 24$ mm BRONZE ROD IS PERMITTED.

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

EST. WT. 0.155 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.

1. BHN: 110 TO 170.
2. UNSPECIFIED LIMIT DEVIATIONS OF DIMENSIONS : h 14.
3. DIMENSIONS IN BRACKETS : AFTER ASSEMBLY.
4. ON SURFACES B AND B TRACES FROM TOOL MARKS ARE ALLOWED.
- 4\* DIMENSIONS TO BE ENSURED BY TOOL.
- 5\* TO BE ENSURED BEFORE ASSEMBLY.

REFERENCE MATERIAL QUOTED:

TIN FREE PRESSURE WORKED EXTRUDED BRONZE ROD GRADE BPA \* MU 10-3-1.5, 30.0mm (-0.13) DIA TO GOST 1628-78 AND MANUFACTURED IN ACCORDANCE WITH BRONZE GRADE BPA \* MU 10-3-1.5 TO GOST 18175-78.

a) CHEMICAL COMPOSITION AS PER GOST 18175-78

GRADE OF BRONZE	BASIC COMPONENTS %					IMPURITIES %				
	Al	Fe	Mn	Cu	Sn	Si	Pb	P	Zn	TOTAL
BPA * MU 10-3-1.5	9.0	2.0	1.0	REST	0.1	0.1	0.03	0.1	0.5	0.7
	11.0	4.0	2.0							

NICKEL UPTO 0.5% (PART BY WEIGHT) WITHOUT CONSIDERING IT IN TOTAL IMPURITIES IS ALLOWED.

b) MECHANICAL PROPERTIES AS PER GOST 1628-78

GRADE OF BRONZE	METHOD OF MANUFACTURE	ULTIMATE TENSILE STRENGTH Kgf/mm <sup>2</sup>	ELONGATION %	HARDNESS BHN
BPA * MU 10-3-1.5	EXTRUDED	MINIMUM 60	12	130-200

REPAIR SIZE DIMENSIONS ARE ADDED AS INDICATED THUS \* BASED ON LETTER No: 82847/OH/QAD/ED dt 13-1-95

S.No	R <sub>1</sub>	R <sub>2</sub>	R <sub>3</sub>	REMARKS
*1	+0.062 +0.041 $\phi 24.0$	+0.062 +0.041 $\phi 24.1$	+0.062 +0.041 $\phi 24.2$	1. MARK REPAIR SIZE CATEGORY R <sub>1</sub> R <sub>2</sub> R <sub>3</sub> . 2. ENSURE INNER DIA AFTER ASSEMBLY. 3. PERMISSIBLE RUN-OUT OF SURFACE TO INNER DIA IS 0.1mm. 4. PERMISSIBLE RUN-OUT W.R.T. DIA 30 TO INNER DIA IS 0.4mm 5. ALL OTHER SIZES, SURFACE FINISH MATERIAL & TECH. REQUIREMENTS ARE SAME.
*2	+0.018 $\phi 17.8$	+0.018 $\phi 17.8$	+0.018 $\phi 17.8$	

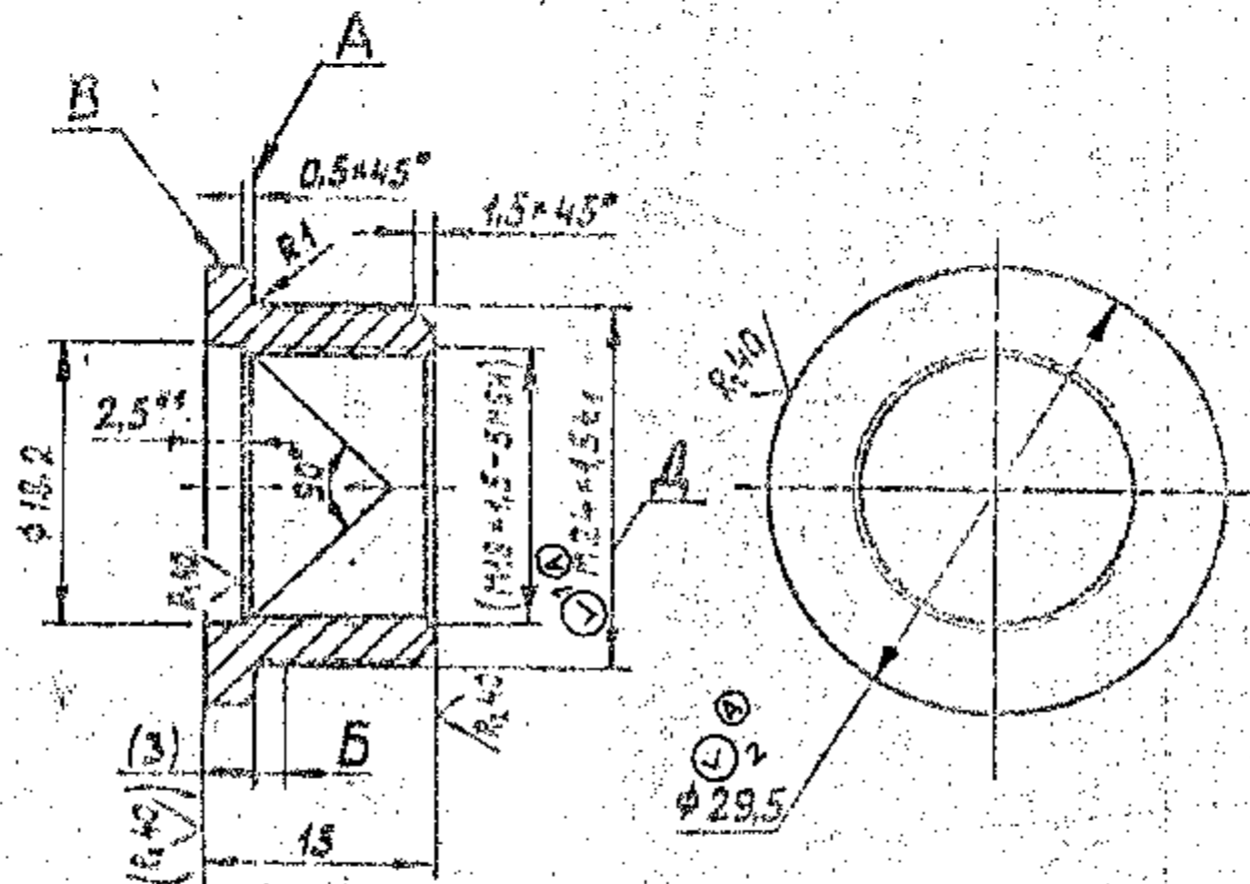
DRN	CHO	TCD	APPD	DATE	MATERIAL :-	USED ON :-
					Br. A * MU 10-3-1.5	C5 306-01-20
					GOST 1628-78	C5 306-02-20
F	5-6-09	3 <sup>rd</sup> ALTERATION COMM. MINUTES POINT 9 DATE 27-2-09	SCALE :- 2:1		CONTROLLERATE OF QUALITY ASSURANCE (HEAVY VEHICLES) AVAOI	
E	04.02.08	AUTHY: ALT.COM.MEET MINUTES Pt. No:3.3 Dt. 18.12.07.	DIMENSIONS IN mm			
D	07.8.07	AUTHY: ALT.No.29,2nd.ALT.COM.Meet Dated: 07.02.2007	TOLERANCE ON DIMNS UNLESS OTHERWISE STATED IS 2102-59		TITLE: VALVE GUIDE	
C	29.12.07	AUTHY BK 91-556			D S CAT NUMBER	
B	18.3.99	AUTHY NOTN BK No:88-284			DRAWING NUMBER	
A	10.3.97	AUTHY.LT.93626/V46-6/IND-37/301dt2020			306-17-5	
ISSUE	DATE	NATURE OF AMENDMENTS				

INTRODUCED VIDE NOTN No. BK 88-284

SIZE A2

7-51-902

2.5 (M)



1. ALTERNATE MATERIAL IS BRONZE OF THE FOLLOWING GRADES:  
 Бр АЖ 9-4Л, Бр АЖ-МЛ10-3-105, GOST 18175-78 AND BRASS  
 АС 59-1, GOST 15527-70.
2. REQUIREMENTS PLACED UPON CASTING ARE AS PER TTM 55-78.
3. UNSPECIFIED LIMIT DEVIATIONS OF DIMENSIONS ARE AS FOLLOWS:  
 FOR HOLES - AS PER A<sub>7</sub>  
 SHAFTS - AS PER B<sub>7</sub>  
 OTHERS - AS PER CM<sub>7</sub>.
4. IT IS PERMITTED TO PERFORM EXTERNAL DIAMETER OF HEAD B WITH TOLERANCE B<sub>0</sub> (-0.04) AND SURFACE ROUGHNESS R<sub>a</sub>.
5. RUN OUT OF SURFACE A IN RESPECT TO AXIS OF ANGLE DIAMETER OF EXTERNAL THREAD AS PER DIAMETER OF 26mm SHOULD NOT EXCEED 0.05mm.
6. CHATTER MARKS ON THE FIRST THREAD FROM THE DEAD ARE PERMITTED.
7. NO THREAD OR FLATTENED THREAD IS ALLOWED ON SECTION B EQUAL TO 2mm MAX AND MAJOR DIAMETER OF THREAD ON THIS SECTION MAY BE LOOSENE D U P T O 0.3mm.
8. CARRY OUT FINAL MACHINING OF DIMENSIONS GIVEN IN BRACKETS IN ASSEMBLY.
9. MAKE THREAD A AS PER STANDARD 82020-13, ISSUE 4.
10. APPLY STAMP OF FINAL ACCEPTANCE ON THE TAG (PART 540-551) FOR BATCH OF PARTS AND SEAL.

(A) (I) REPAIR SIZES DIMENSIONS ARE ADDED WHERE INDICATED. THUS (J)

\*\*\* ROD Бр А Ж 9-4 GOST 1820-78  
 \*\*\* (B) CQA(HV)5.06.605E \* CB 306-01-20  
 CQA(HV)5.06.609E \* CB 306-02-20

S.No	R1	R2	REMARKS
(1)	2M 27x1.5t1 +0.124 Ø26-026+0.062 (MEAN)	2M 30x1.5t1 +0.124 Ø29-026+0.062 (MEAN)	1. MARK REPAIR SIZE CATEGORY R1, R2
(2)	Ø32.5 <sup>-0.84</sup>	Ø35.5 <sup>-0.84</sup>	2. ALL OTHER SIZES SURFACE FINISH MATERIAL AND TECHNICAL REQUIREMENTS ARE SAME

BASED ON LETTER No. B2847/0H/QAD/ED DT 13-1-95

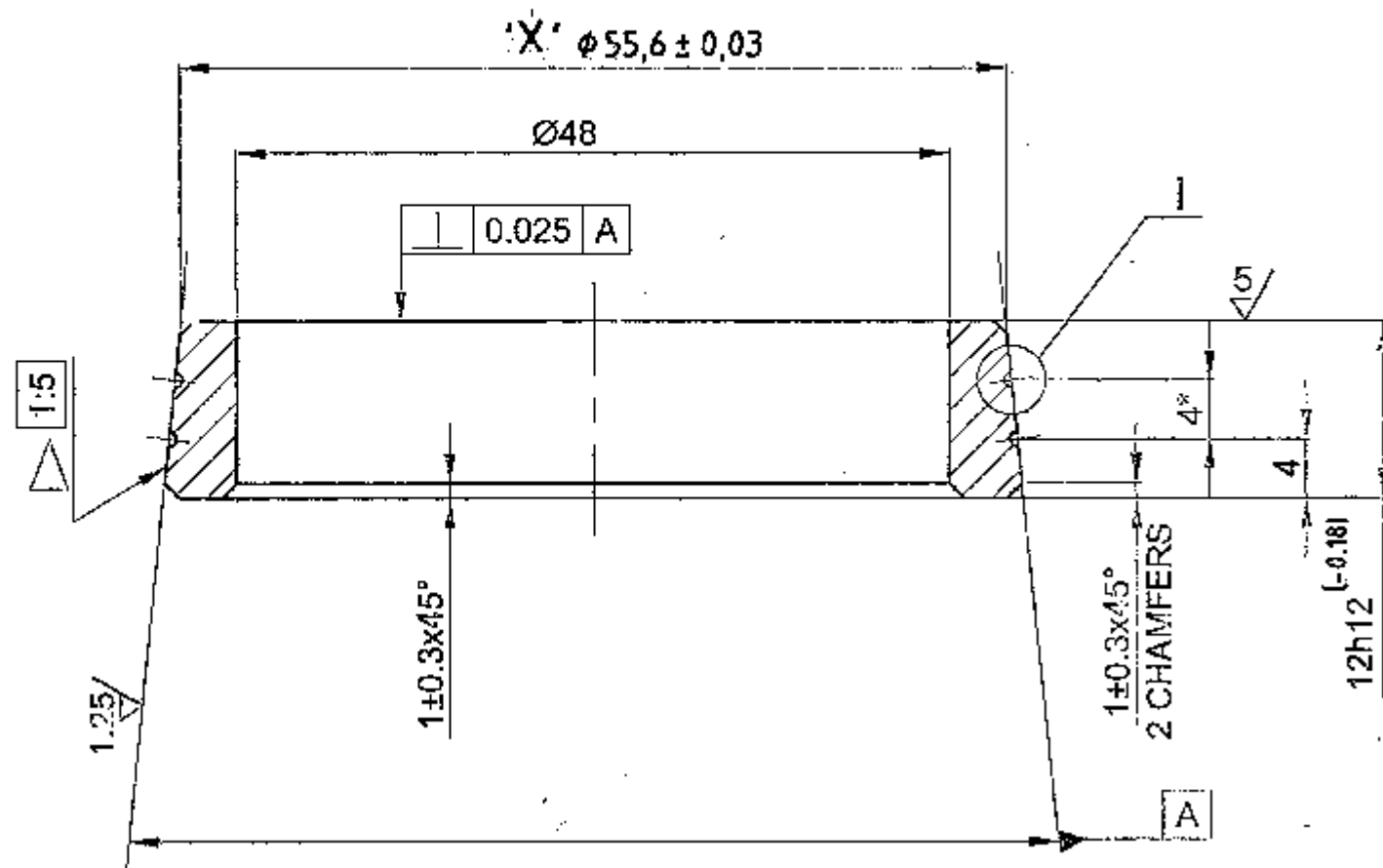
FORM 540-551 SHOULD BE APPROVED BY A MAN RECORDS AND ENGINEERING

EST. MASS 0,030 Kg	TO BE STAMPED BY PERSONNEL RESPONSIBLE FOR THIS
B 15.715 Pt. 11 of 7th Alt. Com. Meeting Dt. 11.4.12	ALL STAMP EDGES AND CORNERS TO BE DEBURR DRESS
A 205.86 REPAIR SIZES ADDED	OVERSHAVE STAMPED ENGRAVED TO HAVE A DESIGN
DATE	A HIGH EQUIVALENT FINISHERS AND PERIODIC
NATURE OF ASSIGNMENTS	MATERIAL USED DT 15-20-06-07-5
SCALE: 2:1	* * * SEC ABOVE 15-20-06-01-05 ***
DIMENSIONS IN mm	CONTROL UNIT OF INSPECTION HEAVY VEHICLE AVAIL
TOLERANCE ON HOLE DRESS OTHERWISE STATED	STARTING VALVE BUSH
PER THREADS CATEGORY	DRAWING NUMBER 306-19-7

DRAWING INDIANISED BASED ON RUSSIAN ORIGINAL ISSUE - 13  
 DRG. REPLACES 306-22-1, ISSUE - A VIDE NOTIFICATION NO: 89-361  
 COMMON TO V-92SZ & UTD-20

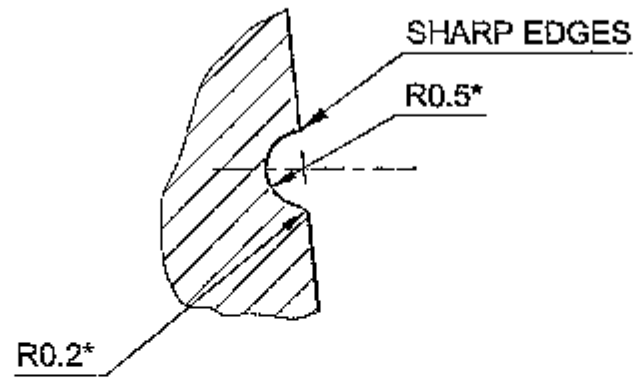
DRAWING NUMBER  
**306-22-1**

10 / (✓)



1. Inspection group IV as per TT-11.
2. Hardness 269.....321 HB.
3. Alternative material is steel 38XC GOST 4543-71.
4. Coating : Chemically oxidized,oiled.
5. Unspecified limit deviation of dimensions H14,±  $\frac{IT14}{2}$ .
6. Deviation from the taper surfaces 'A' to be checked by "bluing" with special gauge, the imprint should be uniform and cover the length of the cone minimum 80 % of the area.
7. \*Dimension to be ensured by tool.

1 (10:1)



CATEGORY		X
306-22-1	R <sub>1</sub>	DIA 55,7 ± 0,03
306-22-1	R <sub>2</sub>	DIA 55,8 ± 0,03

NOTE: R<sub>2</sub> SIZE IS "APPLICABLE ONLY" FOR V46-6 & UTD-20 ENGINES.

\*\*  
 (13B) CQA(HV)5.06.605E  
 CQA(HV)5.06.609E

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

EST. WT. 0.065Kg 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	APPD	DATE	SCALE	DIMENSIONS IN mm	TOLERANCE ON DIMNS UNLESS OTHERWISE STATED IS : 2102 - 69	MATERIAL :- PIPE 60x8GOST 8732-78 B-40X GOST 8731-87	USED ON :- Sb 20-06-01-5 Sb 20-06-02-5, SB 306-01-20, Sb 306-02-20, Sb 306-01-36, ** Sb 306-02-36
			31.12.07	2 : 1			CONTROLLERATE OF QUALITY ASSURANCE (HEAVY VEHICLES) AVADI	
							TITLE :-	
								<b>VALVE SEAT</b>
							D S CAT NUMBER	DRAWING NUMBER
								<b>306-22-1</b>
ISSUE	DATE	NATURE OF AMENDMENTS						

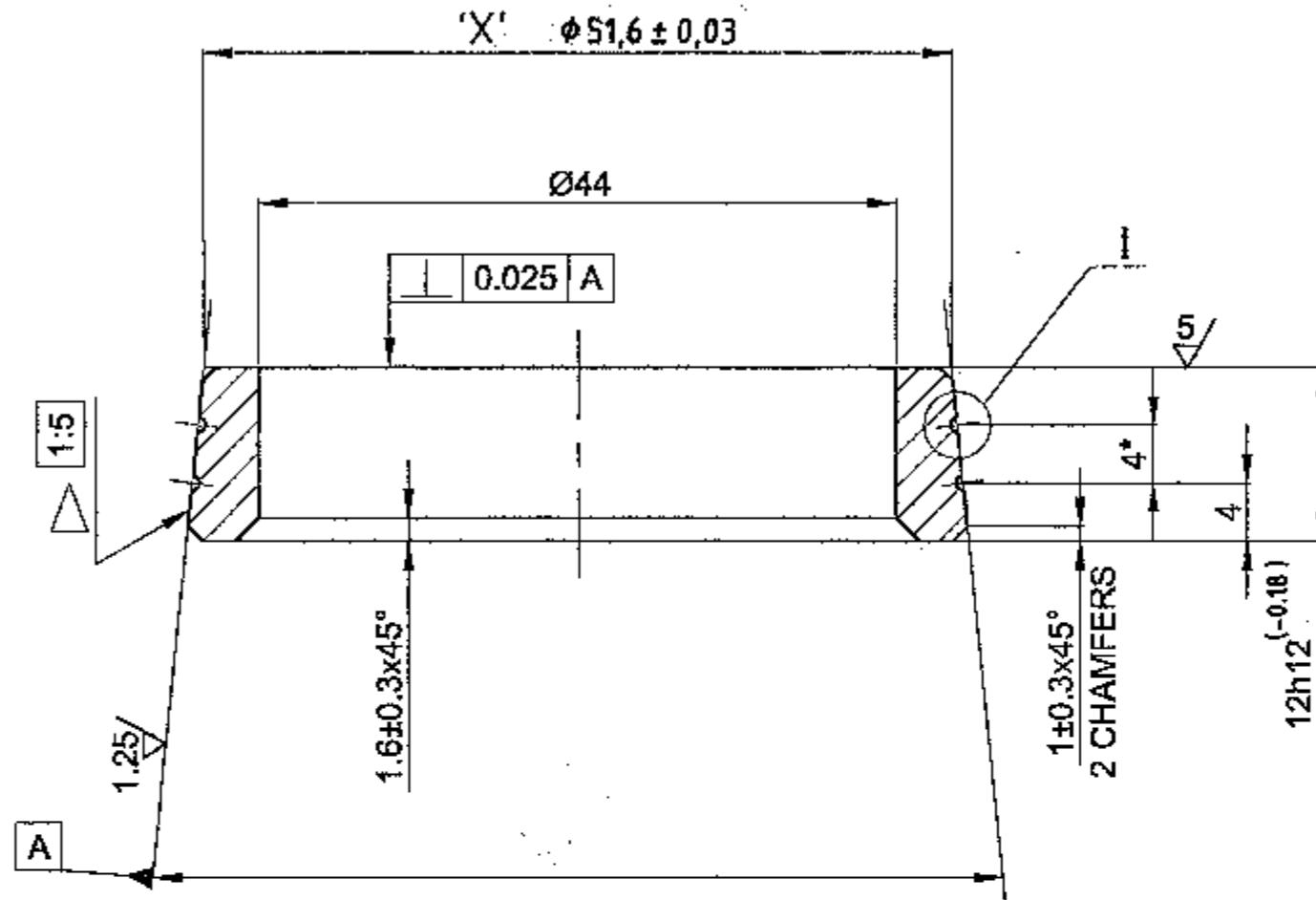
F-153  
 12  
 74  
 SIZE A3



DRAWING INDIANISED BASED ON RUSSIAN ORIGINAL ISSUE - 14  
 DRG. REPLACES 306-23-1 ISSUE - A, VIDE NOTIFICATION NO: 89-361  
 COMMON TO V-9252 & UTD-20

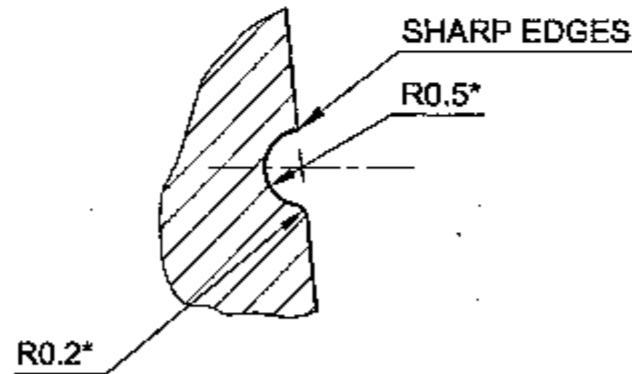
DRAWING NUMBER  
**306-23-1**

10 ✓ (✓)



1. Inspection group IV as per TT-11.
2. Hardness 269.....321 HB.
3. Alternative material is steel 38XC GOST 4543-71.
4. Coating: Chemically oxidized, oiled.
5. Unspecified limit deviation of dimensions H14, ±  $\frac{IT14}{2}$ .
6. Deviation from the taper surfaces 'A' to be checked by "bluing" with special gauge, the imprint should be uniform on cone length and cover minimum 80 % of the area.
7. \*Dimension to be ensured by tool.

1 (10:1)



14A

CATEGORY	X
306-23-1 R <sub>1</sub>	DIA 51,7 ± 0,03
306-23-1 R <sub>2</sub>	DIA 51,8 ± 0,03

NOTE: R<sub>2</sub> SIZE IS "APPLICABLE ONLY" FOR V46-6 & UTD-20 ENGINES.

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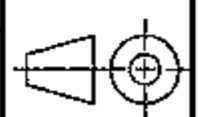
14B CQA(HV)5.06.605E  
 CQA(HV)5.06.609E

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

EST. WT. **0.055 Kg** TO BE STAMPED OR MARKED WHERE INDICATED THUS # ( LETTERS)

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

ISSUE	DATE	NATURE OF AMENDMENTS
14B	15.7.15	Pt. 11, 7 <sup>th</sup> Alt. Comm. Meeting Dt. 11.4.12
14A	24-03-10	i) Lt. No. EFA/P/RDS/CQA(HV)/23. Dt: 20-3-10 ii) Authy: SPECN. FOR REPAIR SIZE DRGS PART-III

DRN	<i>B. J. Bud</i>	MATERIAL :- PIPE	USED ON :- Sb 20-06-01-5
CHD	<i>R. P. Chhabra</i>	56x8 GOST 8734-75	** Sb 20-06-02-5
APPD	<i>Sumit</i>	B-40X GOST 8733-87	Sb 306-01-20, Sb 306-02-20
DATE	31-12-07		Sb 306-01-36, Sb 306-02-36
SCALE:-	2:1	CONTROLLERATE OF QUALITY ASSURANCE (HEAVY VEHICLES) <b>AVADI</b>	
DIMENSIONS IN mm		TITLE :-  <b>VALVE SEAT</b>	
TOLERANCE ON DIMNS UNLESS OTHERWISE STATED IS : 2102 - 69			
ALL THREADS TO CONFORM TO		D S CAT NUMBER	DRAWING NUMBER <b>306-23-1</b>

F-153  
 13  
 74

SIZE A3