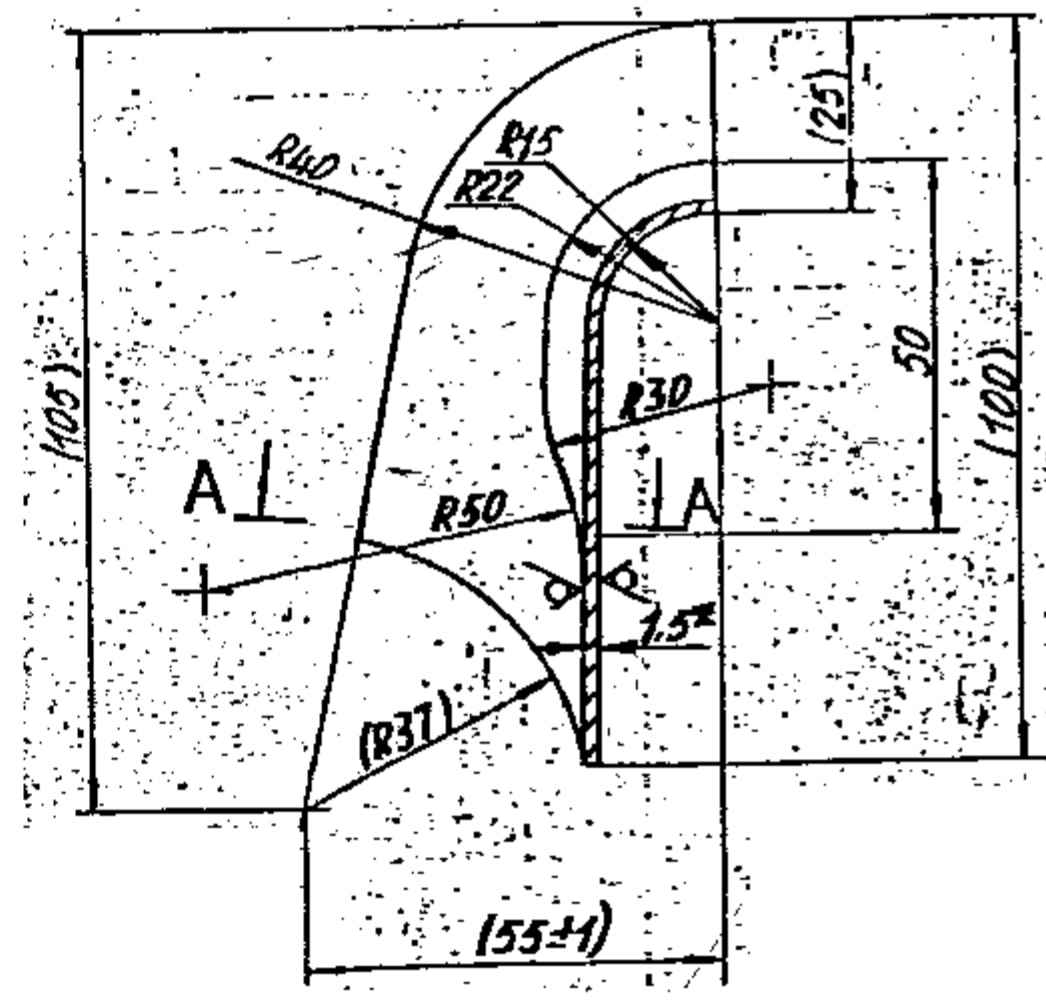
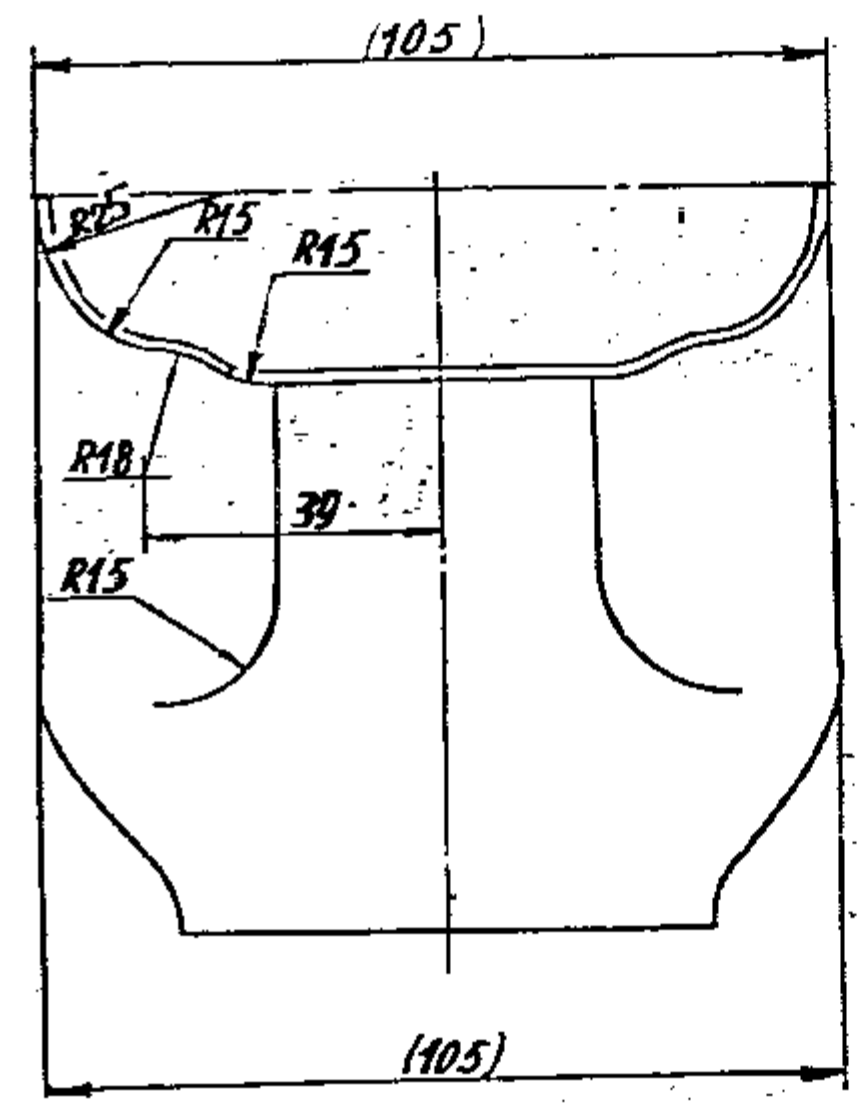


DRAWING NUMBER  
318-20-5

Rz 80/10

TECHNICAL REQUIREMENTS - TRANSLATED

1. DIMENSIONS WITH UNSPECIFIED DEVIATIONS FOR COLD STAMPING SHOULD BE OBTAINED WITH ACCURACY  $\pm 0.5$ mm.
2. MATERIAL THICKNESS IN THINNED PLACES SHOULD BE 1mm MIN.
3. CRACKS, LAMINATIONS, DENTS, ARE NOT ALLOWED.
4. DIMENSION IN BRACKETS SHOULD BE ENSURED AFTER ASSEMBLY.
5. \* DIMENSION FOR REFERENCE.



EXPLANATORY NOTE :-

MATERIAL QUOTED : SHEET 5 1.5 GOST 19904-74  
12X18H10T-M2a OR M3a GOST 5582-75

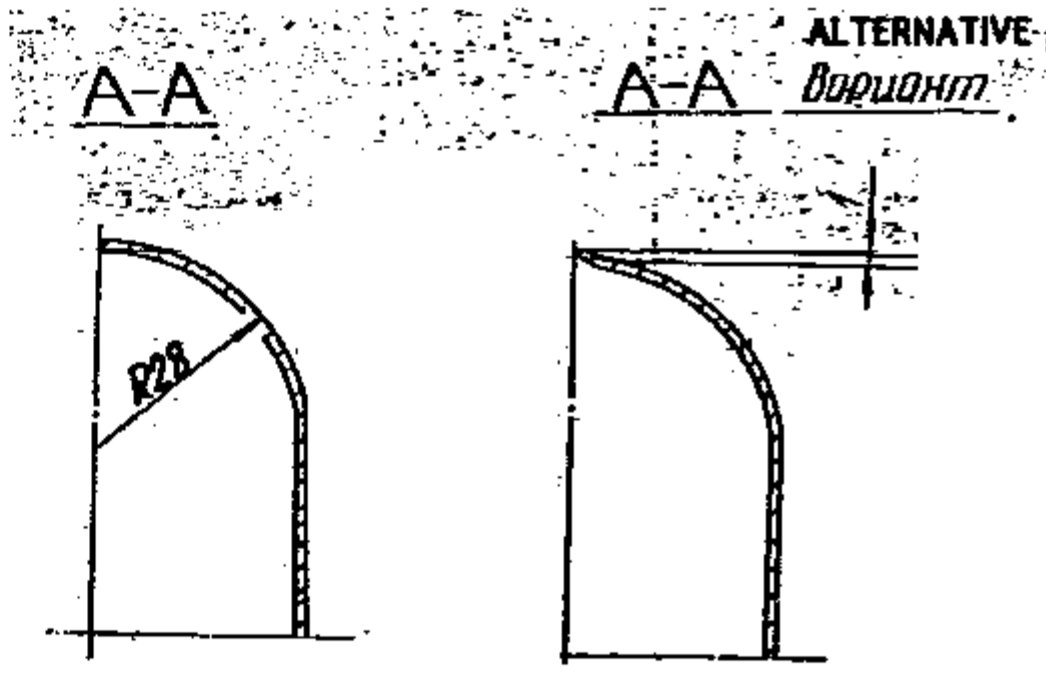
5 = STANDARD ACCURACY.  
1.5 = THICKNESS OF COLD ROLLED SHEET STEEL AS PER GOST 19904-74  
12X18H10T = GRADE OF STEEL.  
M2a OR M3a = PICKLED & BRIGHT ANNEALED.

CHEMICAL COMPOSITION (AS PER GOST 5632-72)  
CARBON = 0.12 (MAX); SILICON = 0.8 (MAX); MANGANESE = 2.0 (MAX);  
CHROMIUM = 17.0-19.0; NICKEL = 9.0-11.0; TITANIUM = 0.6-0.8

MECHANICAL PROPERTIES (AS PER GOST 5582-75)

HEAT TREATMENT

TEMPERING AT 1050 TO 1080°C  
COOLING IN WATER OR IN AIR.  
ULTIMATE STRENGTH  $Kgf/mm^2$  (MIN) = 54  
YIELD POINT  $Kgf/mm^2$  (MIN) = 20  
RELATIVE ELONGATION (MIN) = 40



\*\*  
SHEET: 5 1.5 GOST 19904-74  
12X18H10-M2a (OR M3a) GOST 5582-75

EXPLANATORY NOTE ADDED ON 18-2-92

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

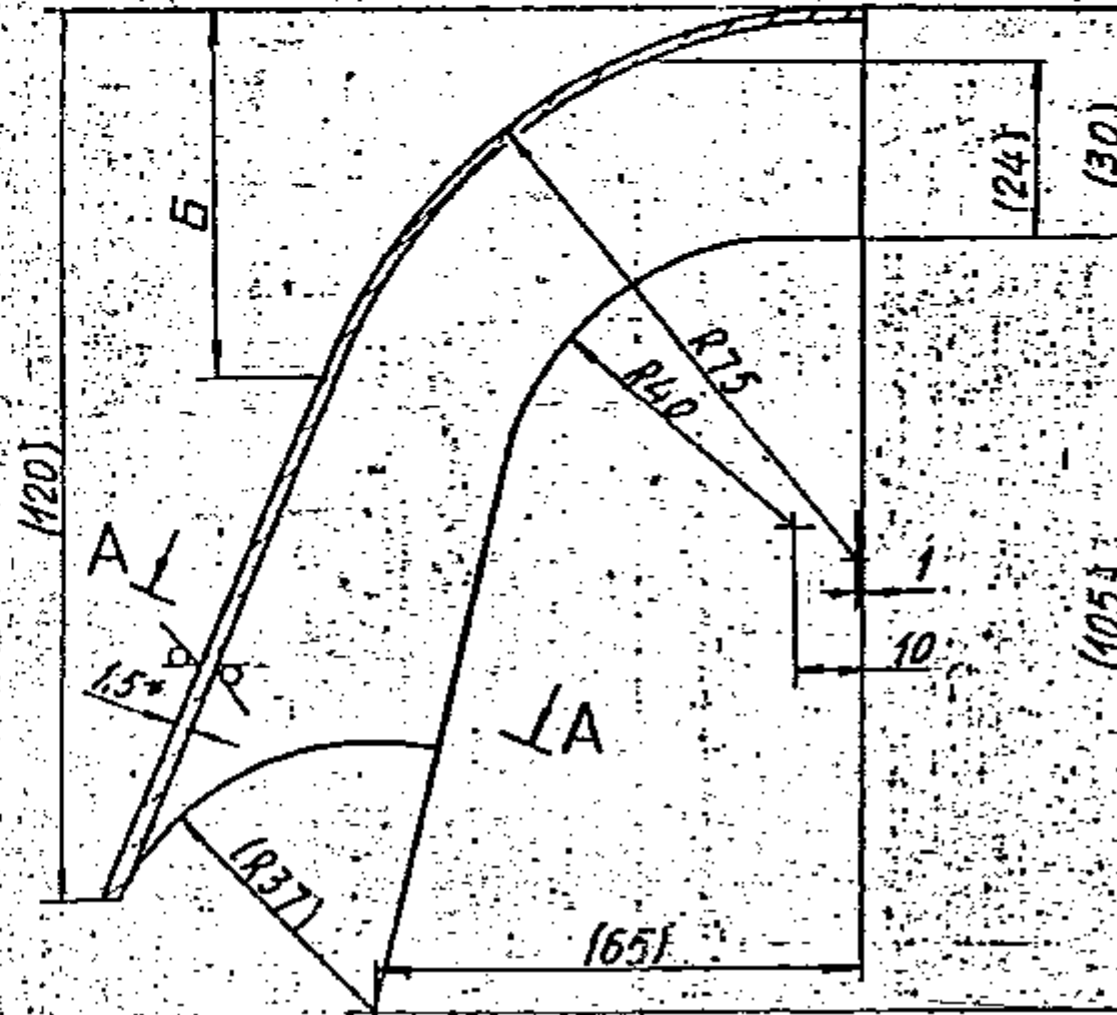
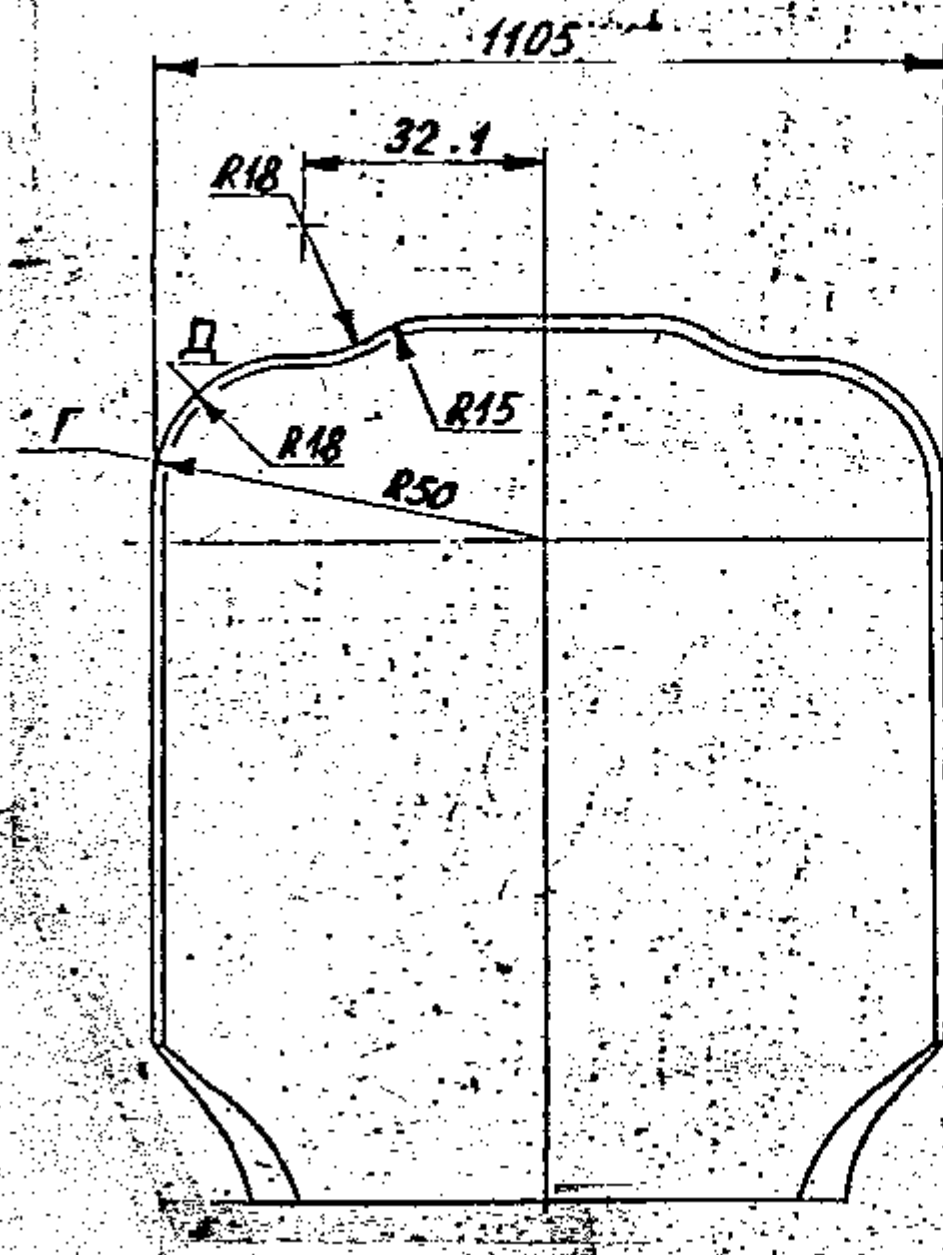
EST. WT. 0.135 kg TO BE STAMPED OR MARKED WHERE INDICATED THIS \* LETTERS)

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

DRN	—	MATERIAL	USED ON
END	—	SEE ABOVE **	C5318-22-5
TCO	—	CONTROLLERATE OF QUALITY ASSURANCE (HEAVY VEHICLES)	
APPD	—	A V A D I	
DATE	29-1-88	TITLE	
SCALE	1:1	LOWER PART OF SCREEN	
DIMENSIONS IN mm.		D S CAT NUMBER	
TOLERANCE ON DIMS UNLESS OTHERWISE STATED IS 2122-65		DRAWING NUMBER	
ALL THREADS TO CONFORM TO		318-20-5	
ISSUE	DATE	NATURE OF AMENDMENTS	

DRAWING NUMBER  
318-21-5

80 J (✓)



**EXPLANATORY NOTE :-**

**MATERIAL QUOTED :** SHEET B 1.5 GOST 19904-74  
12X18H10T-M2a OR M3a GOST5582-75

B = STANDARD ACCURACY.

1.5 = THICKNESS OF COLD ROLLED SHEET STEEL AS PER GOST 19904-74.  
12X18H10T = GRADE OF STEEL.

M2a OR M3a = PICKLED OR BRIGHT ANNEALED.

**CHEMICAL COMPOSITION % (AS PER GOST 5632-72)**

CARBON = 0.12 (MAX); SILICON = 0.8 (MAX); MANGANESE = 2.0 (MAX);  
CHROMIUM = 11.0-19.0; NICKEL = 9.0-11.0; TITANIUM = 0.6-0.8

**MECHANICAL PROPERTIES (AS PER GOST 5582-75)**

**HEAT TREATMENT**

TEMPERING AT 1050 TO 1080 °C

COOLING IN WATER OR IN AIR.

ULTIMATE STRENGTH  $Kgf/mm^2$  (MIN) = 54

YIELD POINT  $Kgf/mm^2$  (MIN) = 20

RELATIVE ELONGATION (MIN) = 40

A-A

AA

ALTERNATIVE  
BODUQH M



**TECHNICAL REQUIREMENTS - TRANSLATED**

- UNSPECIFIED LIMIT DEVIATIONS OF DIMENSIONS FOR COLD STAMPING SHOULD BE OBTAINED WITH ACCURACY  $\pm 0.5mm$ .
- MATERIAL THICKNESS IN THE THINNED PLACES SHOULD BE NOT LESS THAN 1mm.
- CRACKS, LAMINATIONS, DENTS, ARE NOT ALLOWED
- SMOOTH TRANSITION OF RADIUS B TO RADIUS C AND RADIUS A SHOULD BE ENSURED ON SECTION B.
- DIMENSIONS GIVEN IN BRACKETS ARE TO BE ENSURED AFTER ASSEMBLY.
- \* DIMENSIONS FOR REFERENCE

Ⓐ EQUIVALENT MATERIAL  
04Cr.18Ni10Ti20 TO IS:6911-72

\*\*  
SHEET: B 1.5 GOST 19904-74  
12X18H10T-M2a OR M3a  
GOST 5582-75

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

EST. WT. 0.235 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.

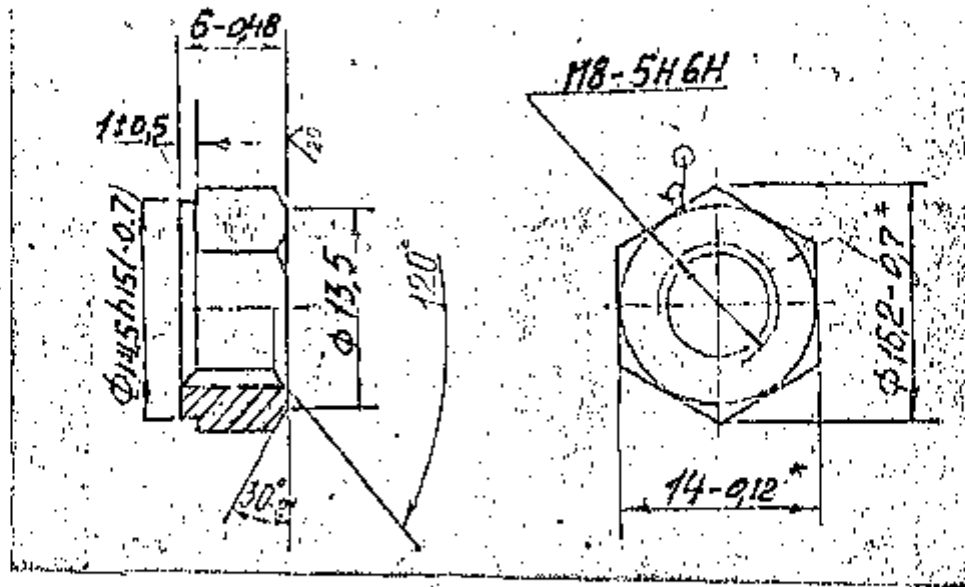
DRN	CHD	TCD	APPD	DATE	SCALE	DIMENSIONS IN mm.	TOLERANCE ON DIMS UNLESS OTHERWISE STATED IS 2102-69
				29-1-89	1:1		
				MATERIAL :-		USED ON :-	
				SEE ABOVE **		CB 318-22-5	
				CONTROLLERATE OF QUALITY ASSURANCE (HEAVY VEHICLES)			
				A V A D I			
				TITLE			
				UPPER PART OF SCREEN			
				D S CAT NUMBER		DRAWING NUMBER	
						318-21-5	
ISSUE	DATE	NATURE OF AMENDMENTS					
A	28.8.10	4th ALT Comm Meeting Minutes Part No. 16 Dated 26.10.09					

DRAWING BASED ON RUSSIAN ORIGINAL 155026 (21.07.54)

EXPLANATORY NOTE ADDED ON 18.2.92

SIZE A2

DRAWING NUMBER  
351-025



1. ROLLED STOCK OF GROUP 'B' CLASS 4 GOST 1051-73 MAY BE USED. TO ENSURE HIGH QUALITY OF COATING, IT IS ALLOWED TO ELIMINATE SURFACE DEFECTS OF ROLLED STOCK WITH DECREASE OF DIMENSIONS AS PER ACCURACY CLASS.
2. ALTERNATE MATERIAL : STEEL, GRADES 40 & 50, GOST 1050-74.
3. THE REST OF THE TECHNICAL REQUIREMENTS AS PER STANDARD 82052-00.
4. COATING : Cu, 6 AS PER U/A - 236 - 76.
5. COATING : Cu, 6 Cr, 6.
6. \* DIMENSIONS FOR REFERENCE.

Ⓐ EQUIVALENT MATERIAL STEEL  
45C8 TO IS:1570

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

A-11  
30

EST. WT. 0.0055 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.

MATERIAL :- USED ON ::  
HEXAGON BAR 14-4 GOST 8560-70 3300-00-27CX  
45-8 GOST 1051-73

ISSUE DATE NATURE OF AMENDMENTS

DRN SCALE:- 2 : 1  
DIMENSIONS IN mm

CHD TOLERANCE ON DIMENSIONS  
UNLESS OTHERWISE

TEC STATED IS 2102 -69

APPD ALL THREADS  
CONFORM TO

DATE 27/8/08

CONTROLLERATE OF DUALITY ASSURANCE (HEAVY VEHICLES) AVADI.

TITLE NUT M8

D S CAT NUMBER DRAWING NUMBER

351-025

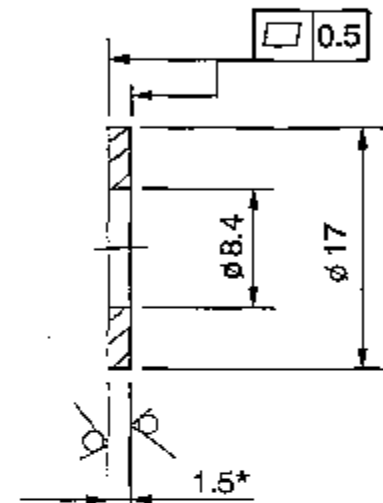
SIZE A4

DRAWING NUMBER  
353-03-3

SHEET No. 1 OF 1

20/ (M)

*P. Janardhanan*  
(P. JANARDHANAN)  
JTO (D)  
Dt. 15 Nov '10



1. ALTERNATE MATERIAL IS STEEL 08 to GOST 9045-80.
2. REQUIREMENTS FOR STAMPING AS PER STANDARD 82050-16, U/A-749-88
3. COATING Zn 15 Cr AS PER U/A-483-82 WITH REMOVAL OF HYDROGEN EMBRITTLEMENT.
4. IN TROPICALIZED MAKE THE COATING IS Ka9 XP AS PER U/A-589-84 WITH REMOVAL OF HYDROGEN EMBRITTLEMENT.
5. FINISH PARAMETER OF MACHING SURFACES ARE TO BE ENSURED WITH THE TOOL.
6. \* DIMENSIONS FOR REFERENCE.

Ⓐ EQUIVALENT MATERIAL Gr. 0  
IS: 513-1994

DRG. REINDIANISED BASED ON RUSSIAN ORIGINAL ISSUE - NIL

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

EST. WT. (Kg) 0.002 TO BE STAMPED OR MARKED WHERE INDICATED THUS # ( LETTERS)

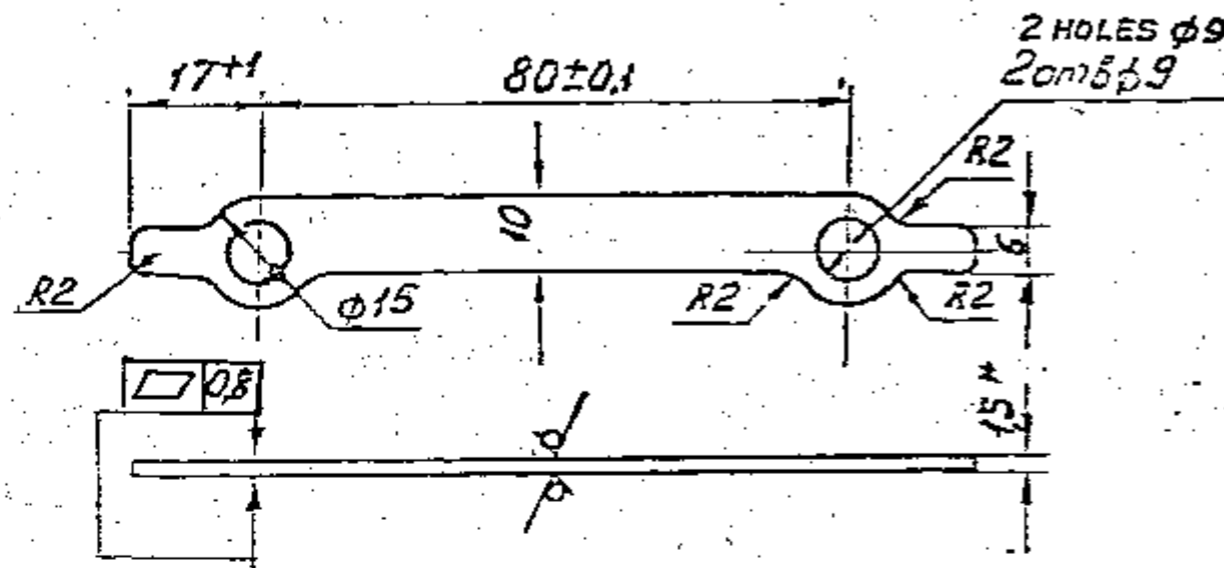
ALL SHARP EDGES AND CORNERS TO BE REMOVED UNLESS OTHERWISE STATED MACHINED CORNERS TO HAVE R OUTSIDE R INSIDE EQUIVALENT CHAMFERS ARE PERMISSIBLE.

			DRN	Sd/=	MATERIAL:- SHEET	USED ON:- Cb 418-00-6
			CHD	Sd/=	A1.5 GOST 19904-74	
			APPD	Sd/=	5-11-Г-10 GOST 16523-70	
			DATE	Nov 2010	CONTROLLERATE OF QUALITY ASSURANCE (HEAVY VEHICLES) AVADI	
			SCALE:- 2 : 1			
			DIMENSIONS IN mm			
			TOLERANCE ON DIMNS UNLESS OTHERWISE STATED IS : 2102 - 69		TITLE :- <b>BRIGHT WASHER</b>	
			ALL THREADS TO CONFORM TO IS : 4218, PART-4.		D S CAT NUMBER	DRAWING NUMBER 353-03-3
A	13.11.10	4 <sup>th</sup> Alt. Comm. Mfg. Minutes Point No.1 Dated 26.10.09	ISSUE	DATE	NATURE OF AMENDMENTS	

F -  
SIZE A3

DRAWING NUMBER  
353-68

20 ✓  
✓



TECHNICAL REQUIREMENTS

1. REQUIREMENTS FOR STAMPING AS PER STANDARD 82050 - 16.
2. THE COMPONENT SHOULD BE STRAIGHTENED AFTER STAMPING.
3. COATING Zn 15 Cr AS PER ИЦЛ - 432 - 82 WITH REMOVAL OF HYDROGEN EMBRITTLEMENT.
4. COATING: Cd 9, CHROMATISING AS PER ИЦЛ - 104 WITH ELIMINATION OF HYDROGEN EMBRITTLEMENT DURING TROPICAL MANUFACTURE.
5. REQUIRED SURFACE FINISHING OF MACHINING SURFACES SHOULD BE ENSURED BY TOOL.
6. \* DIMENSION FOR REFERENCE.

1. Требования, предъявляемые к штамповке, по нормам ИЦЛ 82050-16.  
 2. После штамповки править <sup>ⓑ</sup> ИЦЛ-432-82.  
 3. Покрытие Ц15.хр по ИЦЛ-104 с последующим удалением водородной хрупкости.  
 4. В тропическом исполнении покрытие Кд 9.хр по ИЦЛ-104 с последующим удалением водородной хрупкости.  
 5. Параметр шероховатости обрабатываемых поверхностей обеспечивается инструментом.  
 6. \* Размер для справок.

ⓑ EQUIVALENT MATERIAL  
Gr. O IS: 513-1994

DRG INDIANISED BASED ON RUSSIAN ORIGINAL ISSUE 6 (PK 02 - 207)

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

EST. WT. 0.0075 Kg. TO BE STAMPED OR MARKED WHERE INDICATED THIS ≡ -I (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	CHD	TCD	APPD	DATE	SCALE	MATERIAL:- STRIP	USED ON GENERAL ASSY.
				8 MAR 89	1:1	08 пс - М - 2 - 15 GOST	
						503 - 21 - 81 ⓑ	
						CONTROLLERATE OF QUALITY ASSURANCE (HEAVY VEHICLES) AVADI	
						TITLE	
						LOCK WASHER 9	
						D S CAT NUMBER	DRAWING NUMBER
							353 - 68

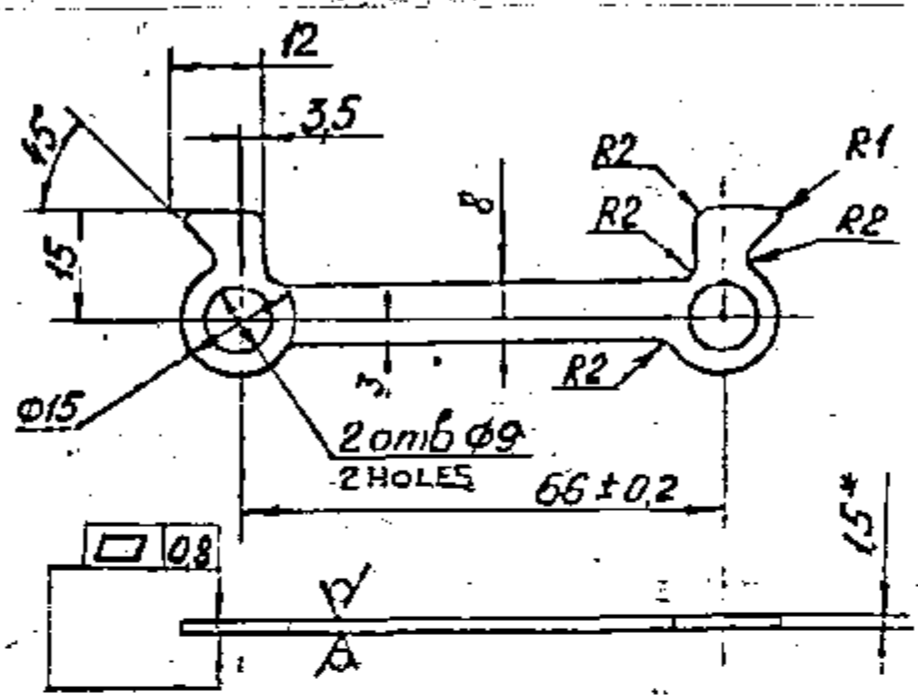
11  
SIZE A3

DRAWING NUMBER  
353 - 69 - 5

20 ✓ ✓

TECHNICAL REQUIREMENTS

1. UNSPECIFIED LIMIT DEVIATIONS OF DIMENSIONS SHOULD BE OBTAINED WITH ACCURACY OF  $\pm 0.3$  mm.
2. TO BE STRAIGHTENED AFTER STAMPING.
3. COATING : Zn 15, CHROMATIZING AS PER УЛ 483 - 82 WITH ELEMINATION OF HYDROGEN EMBRITTLEMENT.
4. IN TROPICALIZED CONSTRUCTION, COATING : Cd.9, CHROMATIZING AS PER УЛ - 104 WITH ELEMINATION OF HYDROGEN EMBRITTLEMENT.
5. \* DIMENSION FOR REFERENCE.



1. Неуказанные предельные отклонения размеров выполнять с точностью  $\pm 0,3$  мм.
2. После штамповки править.
3. Покрытие Ц15.Хр по УЛ-483-82 с удалением водородной хрупкости.
4. В тропическом исполнении покрытие КД9.Хр по УЛ-104 с удалением водородной хрупкости.
5. \* Размер для справок

Ⓐ EQUIVALENT MATERIAL  
Gr. 0 15: 513-1994

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 R INSIDE EQUIVALENT CHAMFERS ARE PERMISSIBLE

	DRN		MATERIAL:-	USED ON C6418-00.6
	CHD		BAND 08nc - M-2-1.5	GENERAL Assy.
	TCD		GOST 503-81	
	APPO		CONTROLLERATE OF QUALITY ASSURANCE-HEAVY VEHICLES	
	DATE	04 MAR 89	AVADI	
	SCALE:-	1 : 1		
	DIMENSIONS IN mm			
	TOLERANCE ON DIMMS UNLESS OTHERWISE STATED IS:2102-69			
	ALL THREADS TO CONFORM TO			
	ISSUE DATE	NATURE OF AMENDMENTS	D S CAT NUMBER	DRAWING NUMBER
	A 17-3-10	Alt. Comm. Nr. Minutes Pt. No. 10r. 26.10.09		353 - 69 - 5

SIZE A3

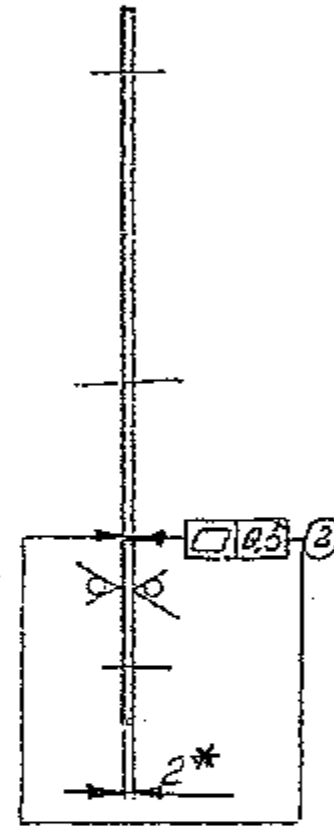
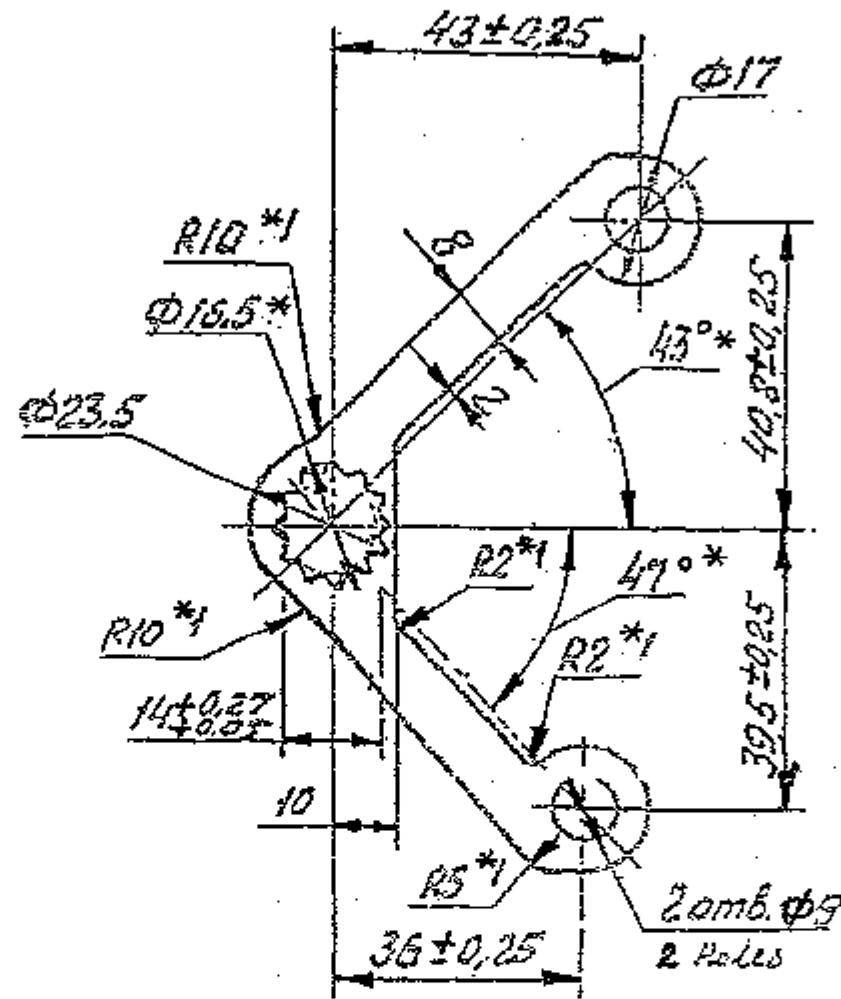
DRAWING NUMBER  
353-104

SHEET No. 1 OF 1

20

*Pravindray*  
(P. JANARDHANAN)  
JTO (D)  
DI.15 Nov 10

DRG. REINDIANISED BASED ON RUSSIAN ORIGINAL ISSUE - NIL



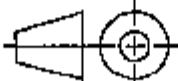
1. ALTERNATE MATERIAL IS STEEL 0.8 TO GOST 9045-80.
2. UNSPECIFIED TOLERANCES ON DIMENSIONS ARE TO BE MAINTAINED WITH AN ACCURACY OF 0.3mm.
3. COATING : Zn 15, Cr AS PER U/A-483-82 WITH REMOVAL OF HYDROGEN EMBRITTLEMENT
4. \* DIMENSIONS FOR REFERENCE.
5. \*1 DIMENSIONS ARE TO BE ENSURED WITH THE TOOL.

(A) EQUIVALENT MATERIAL Gr. 0  
IS: 513-1994

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

EST. WT. (Kg) TO BE STAMPED OR MARKED WHERE INDICATED THIS # ( LETTERS)  
0.019

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:- SHEET	USED ON:- Cb 418-00-6
			CHD	Sd/=	A2 GOST 19904-74	
			APPD	Sd/=	11-BF-08MK GOST 9045-80	
			DATE	Nov 2010	CONTROLLERATE OF QUALITY ASSURANCE (HEAVY VEHICLES)	
			SCALE:-	1:1	AVADI	
			DIMENSIONS IN mm		TITLE:- 	WASHER
			TOLERANCE ON DIMNS UNLESS OTHERWISE STATED IS: 2102-69			
A	13.11.10	4 <sup>th</sup> Alt. Comm. Mtg. Minutes Point No.1 Dated 26.10.09	ALL THREADS TO CONFORM TO IS: 4218,PART-4.		D S CAT NUMBER:	DRAWING NUMBER 353-104
ISSUE	DATE	NATURE OF AMENDMENTS				

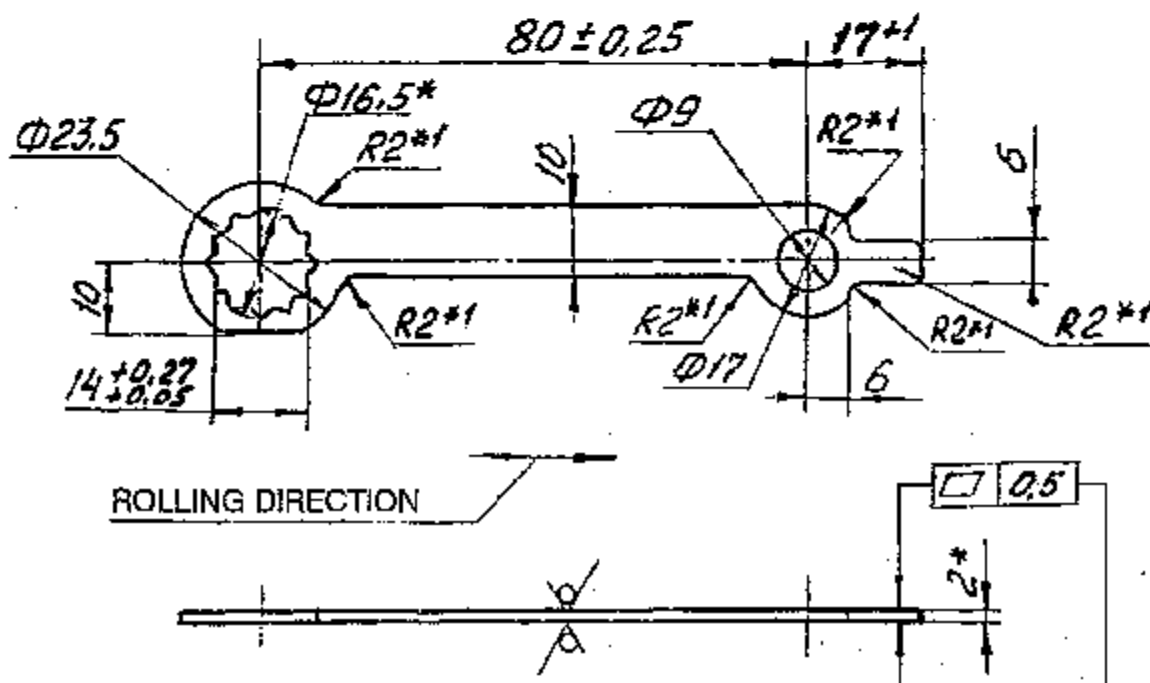
F-  
SIZE A3

DRAWING NUMBER  
353-105

SHEET No. 1 OF 1

20/ (✓)

ЕСКД



1. ALTERNATE MATERIAL IS STEEL 08 TO GOST 9045-80.
2. UNSPECIFIED TOLERANCES ON DIMENSIONS ARE TO BE MAINTAINED WITH AN ACCURACY OF  $\pm 0.3\text{mm}$ .
3. COATING Zn 15 Cr AS PER UA-483-82 WITH REMOVAL OF HYDROGEN EMBRITTLEMENT.
4. \* DIMENSIONS FOR REFERENCE.
5. \* DIMENSIONS ARE TO BE ENSURED WITH THE TOOL.

Ⓐ EQUIVALENT MATERIAL Gr. 0  
IS: 513-1994

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

EST. WT. (Kg) 0.016  
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 :- SHEET	USED ON :- Cb 418-00-6
CHD	Sd/=	A2 GOST 19904-74	
APPD	Sd/=	11-BF-08Mk GOST 9045-80	
DATE	Nov 2010	CONTROLLERATE OF QUALITY ASSURANCE (HEAVY VEHICLES) AVADI	
SCALE:- 1 : 1		TITLE :-	
DIMENSIONS IN mm		WASHER	
TOLERANCE ON DIMNS UNLESS OTHERWISE STATED IS: 2102-69			
ISSUE	DATE	NATURE OF AMENDMENTS	ALL THREADS TO CONFORM TO IS: 4218,PART-4.
A	13.11.10	4 <sup>th</sup> Alt. Comm. Mtg. Minutes Point No.1 Dated 26.10.09	D S CAT NUMBER
			DRAWING NUMBER 353-105

Dr. 15 Nov 10 JTO (D)

DRG. REINDIANISED BASED ON RUSSIAN ORIGINAL ISSUE - NIL

SIZE A3



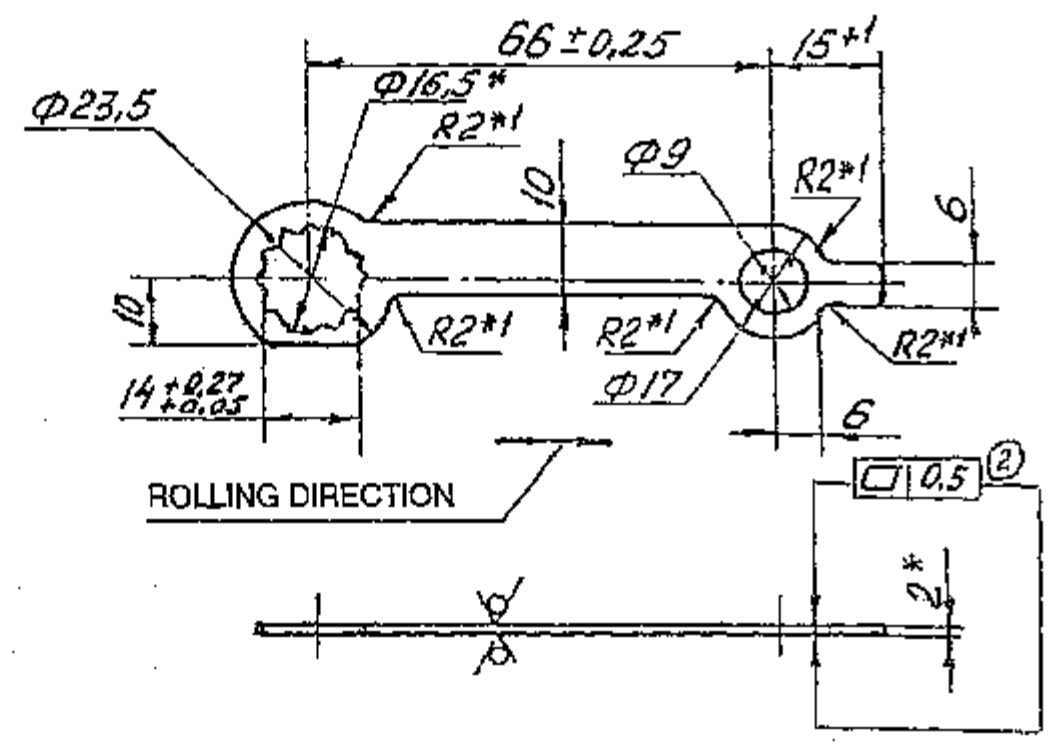
DRAWING NUMBER  
**353-106**

SHEET No. 1 OF 1

20/ (✓)

P. JANARDHANAN  
 Dt. 15 Nov 10 JTO (D)

*ECKA*



1. ALTERNATE MATERIAL IS STEEL 08 TO GOST 9045-80.
2. UNSPECIFIED TOLERANCES ON DIMENSIONS ARE TO BE MAINTAINED WITH AN ACCURACY OF  $\pm 0.3$ mm.
3. COATING Zn 15 Cr AS PER QA-483-82 WITH REMOVAL OF HYDROGEN EMBRITTLEMENT.
4. \* DIMENSIONS FOR REFERENCE.
5. \* DIMENSIONS ARE TO BE ENSURED WITH THE TOOL.

(A) EQUIVALENT MATERIAL Gr. 0  
IS: 513 - 1994

DRG. REINDIANISED BASED ON RUSSIAN ORIGINAL ISSUE - NIL

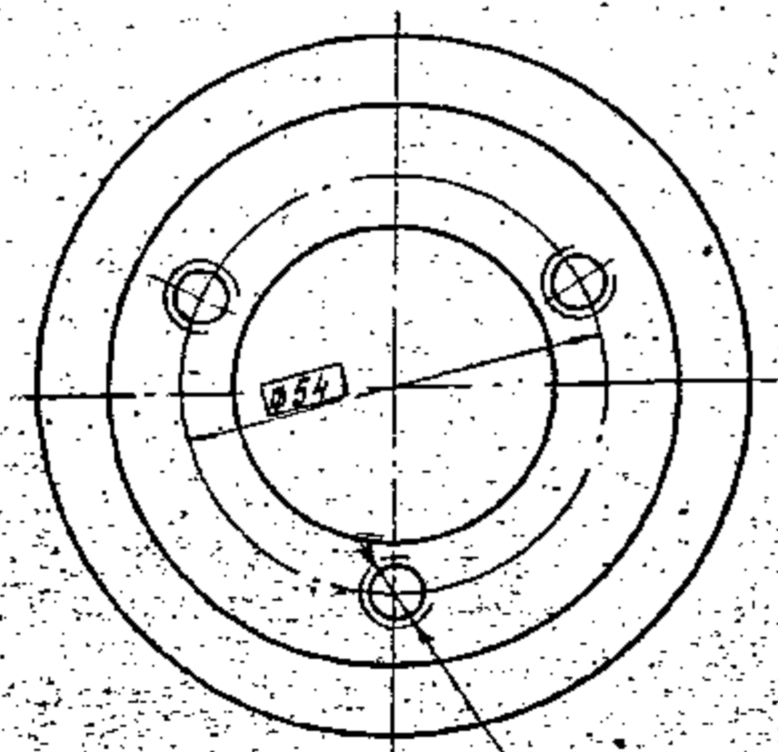
PILOT SAMPLE SHOULD BE APPROVED BY A H S P BEFORE BULK PRODUCTION.

EST. WT. (Kg) 0.014 TO BE STAMPED OR MARKED WHERE INDICATED THUS # ( LETTERS)

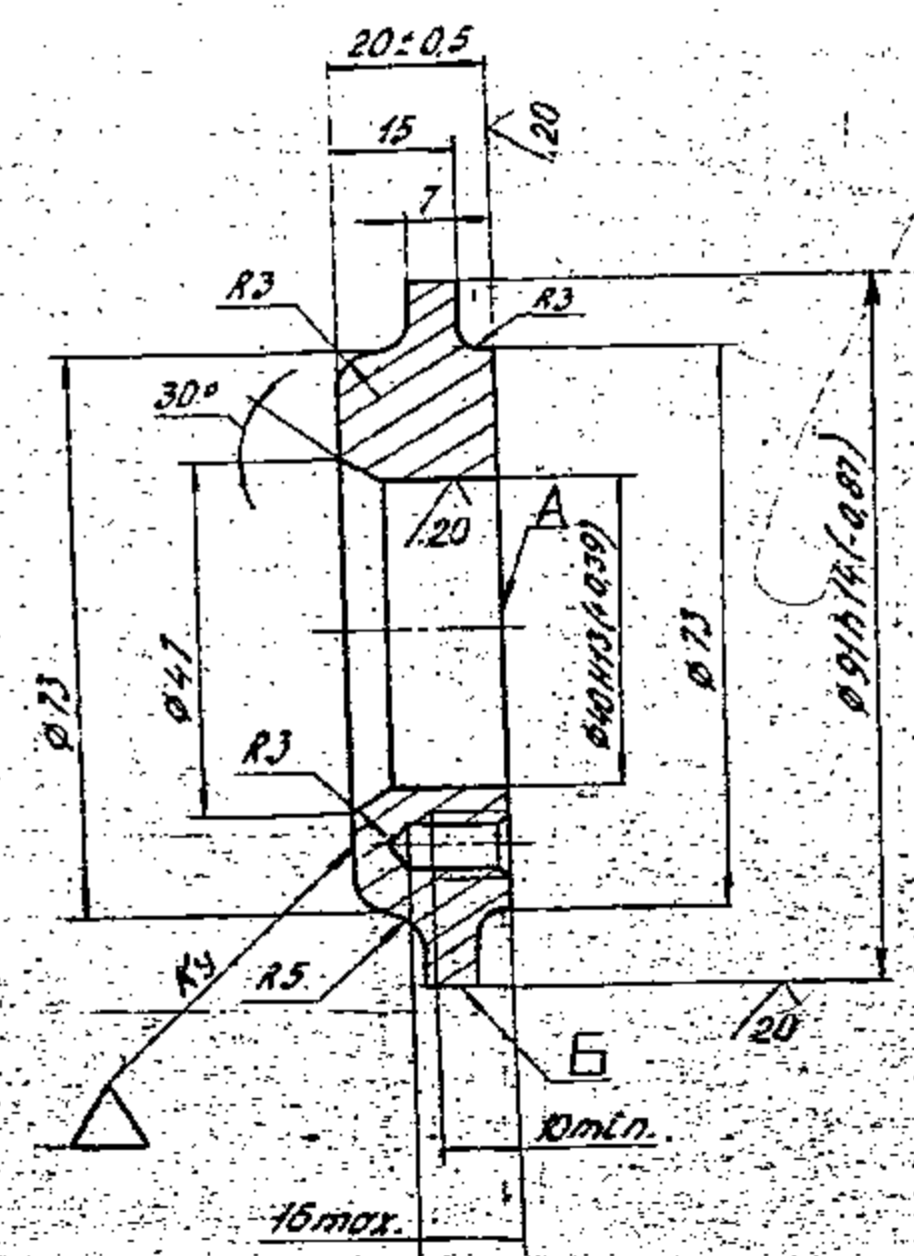
ALL SHARP EDGES AND CORNERS TO BE REMOVED UNLESS OTHERWISE STATED MACHINED CORNERS TO HAVE R OUT-SIDE R INSIDE EQUIVALENT CHAMFERS ARE PERMISSIBLE.

			DRN	Sd/=	MATERIAL :- SHEET	USED ON :- Cb 418-00-6
			CHD	Sd/=	A2 GOST 18904-74	
			APPD	Sd/=	11-BT-08MK GOST 9045-80	
			DATE	Nov 2010	CONTROLLERATE OF QUALITY ASSURANCE (HEAVY VEHICLES) AVADI	
			SCALE:- 1 : 1			
			DIMENSIONS IN mm		TITLE:-	
			TOLERANCE ON DIMNS UNLESS OTHERWISE STATED IS : 2102 - 69		WASHER	
			ALL THREADS TO CONFORM TO IS : 4218, PART-4.		D S CAT NUMBER	DRAWING NUMBER
			ISSUE	DATE		353-106
			NATURE OF AMENDMENTS			

F-  
SIZE A3



HOLES  
30mm MB-7H



1. ALTERNATE MATERIAL STEEL GRADES CM 3KT GOST 380-71.
2. TECHNICAL REQUIREMENTS FOR THREAD ARE AS PER STANDARD B2021-00.
3. REQUIREMENTS FOR STAMPING AS PER GOST 1505-74.
4. DISPLACEMENT OF AXES OF HOLES FROM TRUE POSITION SHOULD NOT EXCEED 0.2 mm (MMC)
5. NONFLATNESS OF SURFACE A SHOULD NOT EXCEED 0.1 mm.
6. ON SURFACE A TOOL MARKS ARE ALLOWED. THROUGH RADIAL MARKS ARE NOT ALLOWED.
7. ON UNMACHINED AREAS, LOCAL DEPRESSION UP TO 0.5 mm IS ALLOWED.
8. LOCAL DECREASE OF SURFACE B TO A DEPTH UP TO 4mm WITH ROUGHNESS  $R_a$  AND SMOOTH TRANSITION IS ALLOWED.

EXPLANATORY NOTE:-

MATERIAL QUOTED : STEEL 5CT GOST 380-71  
5 = CATEGORY OF STEEL (KILLED)  
CT = GRADE OF STEEL

CHEMICAL COMPOSITION %

CARBON = 0.28-0.37  
SILICON = 0.15-0.35  
MANGANESE = 0.50-0.80  
PHOSPHORUS = 0.04  
SULPHUR = 0.05  
CHROMIUM = 0.30  
NICKEL = 0.30  
COPPER = 0.30  
ARSENIC = 0.08

MECHANICAL PROPERTIES

TENSILE STRENGTH  $kgf/mm^2$  = 58-64  
STRESS AT YIELD POINT  $kgf/mm^2$  = 23 (MIN)  
RELATIVE ELONGATION % = 19 (MIN)

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

EST. WT. 0.562 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.

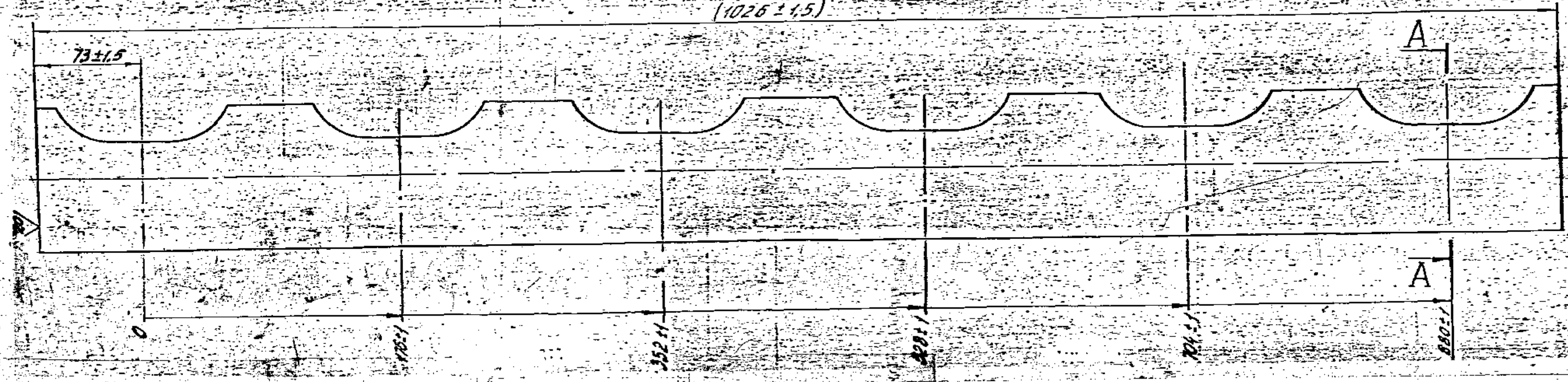
DRN	Ganji	MATERIAL	STEEL 5CT GOST 380-71	USED ON	CE 418-50-29 CE 418-51-29
CHO				CONTROLLERATE OF QUALITY ASSURANCE (HEAVY VEHICLES)	
TED	Ganji			A V A D I	
APPD	v. Ramani			TITLE : FLANGE	
DATE	2-3-92			D S CAT NUMBER	
SCALE	1:1			DRAWING NUMBER	
DIMENSIONS IN mm				418-11-1	
TOLERANCE ON DIMS UNLESS OTHERWISE STATED IS 2102-69					
ALL THREADS TO CONFORM TO					



DRAWING NUMBER  
418-23-4

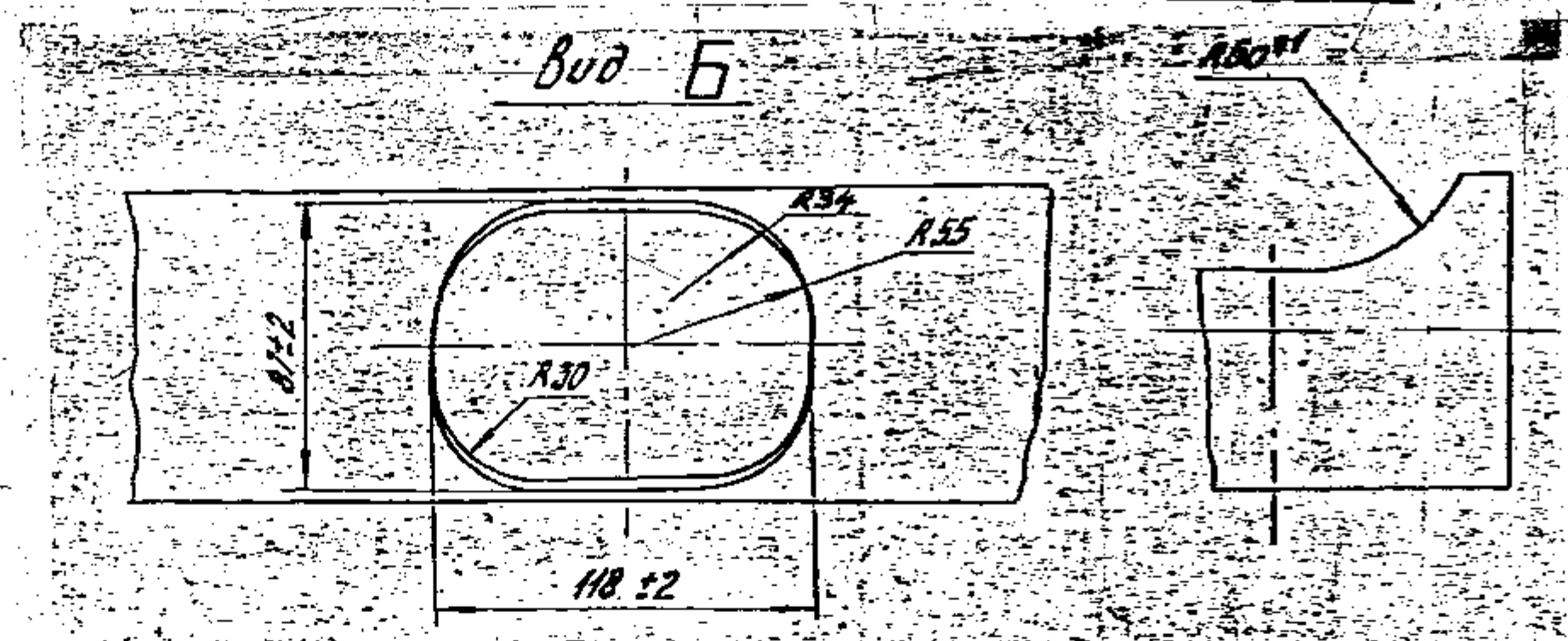
9/11

(1026 ± 1.5)



VIEW B

TURNED VIEW  
ALTERNATIVE

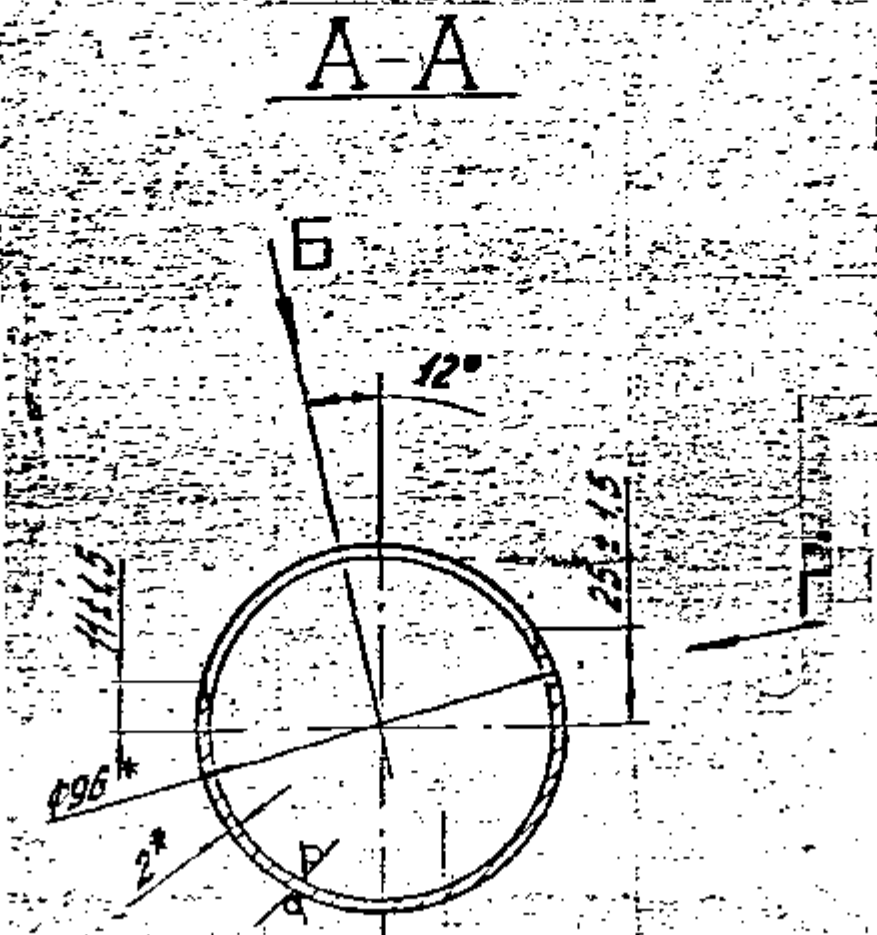


**EXPLANATORY NOTE:-**

MATERIAL QUOTED: PIPE 96x2-20A TY 14-159-21-72  
 MAJOR DIAMETER = 96 mm ± 0.8 %  
 WALL THICKNESS = 2 mm ± 10 %  
 20A = GRADE OF STEEL  
**CHEMICAL COMPOSITION 1:**  
 CARBON = 0.17-0.24  
 SILICON = 0.17-0.37  
 MANGANESE = 0.35-0.65  
 CHROMIUM = 0.25  
 NICKEL = 0.25  
 SULPHUR = 0.035  
 PHOSPHORUS = 0.035  
 } MAXIMUM

**TECHNICAL REQUIREMENTS-TRANSLATION**

1. Before Welding Pipe Should be Subjected to heat treatment.
2. Dimensions given in brackets are to be ensured after assembly.
3. \* Dimension for reference.
4. \*1 Dimension to be ensured by tooling.



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

EST. WT. 4.3 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.

SCALE: 1:2	MATERIAL: PIPE 96x2-20A TY 14-159-21-72	USED ON: C6 418-50-29 C5 418-51-29
DATE: 7-4-88	CONTROL RATE OF QUALITY ASSURANCE (HEAVY VEHICLES)	AVADI
DIMENSIONS IN mm.	TOLERANCE ON DIMS UNLESS OTHERWISE STATED IS 2102-69	TITLE: PIPE
ISSUE	DATE	NATURE OF AMENDMENTS
ALL THREADS TO CONFORM TO		D S CAT NUMBER
		DRAWING NUMBER: 418-23-4

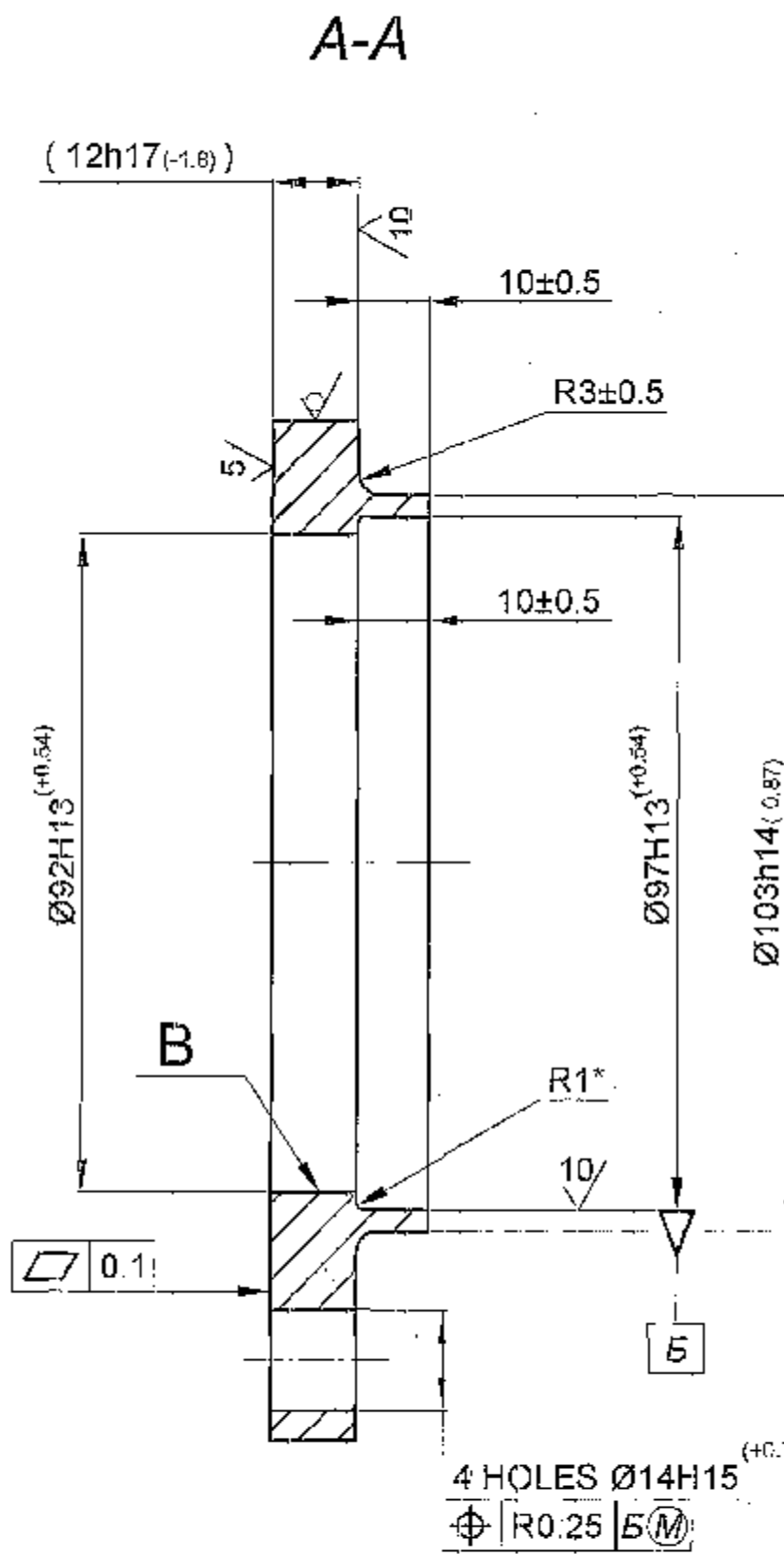
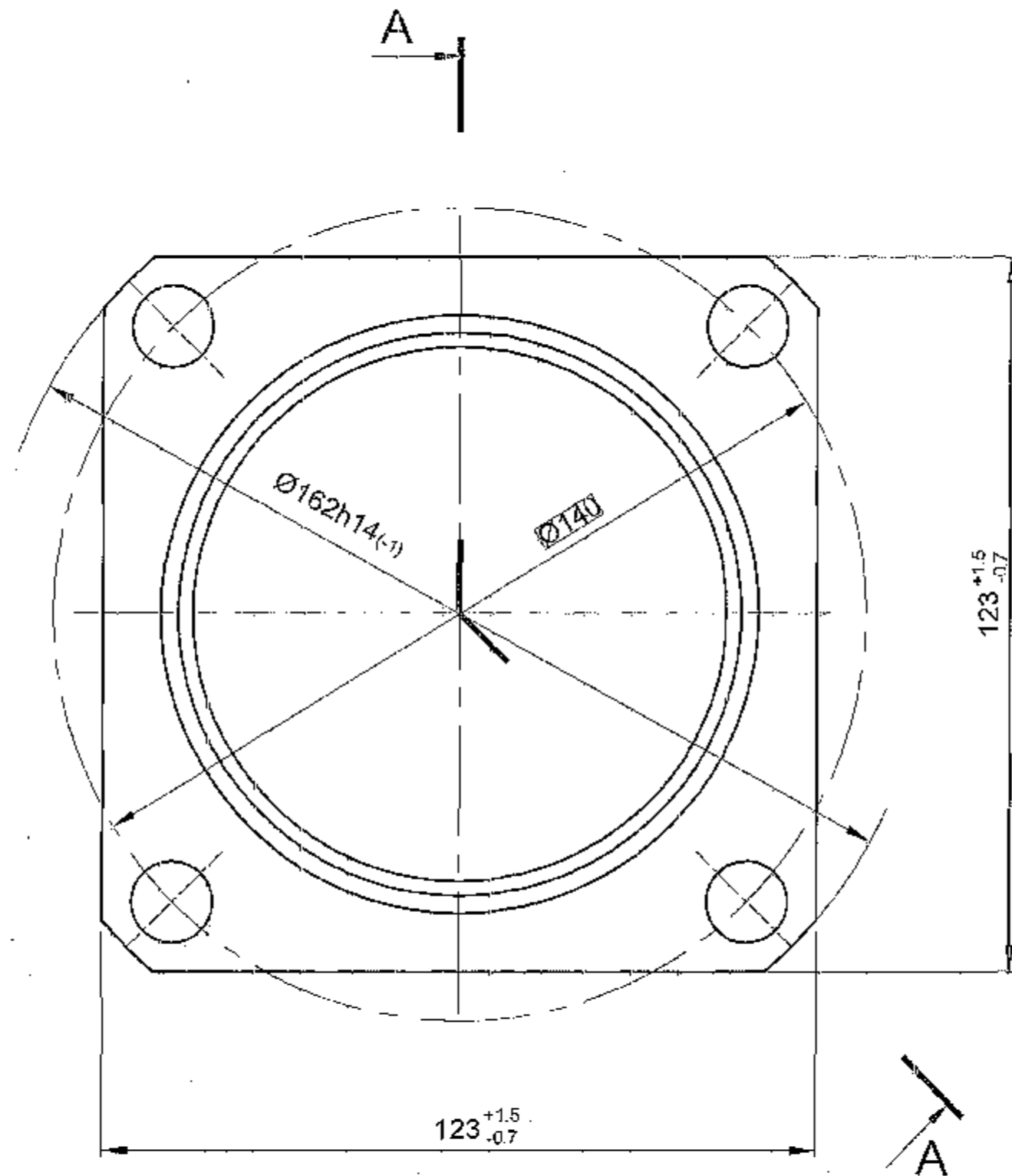
EXPLANATORY NOTE ADDED ON 18-2-92

A2

DRAWING NUMBER  
418-55-4

SHEET No. OF

20 ✓ (✓)



1. Blank: Forged steel blank as per GOST 7505-89.
2. Alternative material is steel 35 GOST 1050-88.
3. Dimension in brackets is after assembly.
4. Traces of tool marks are allowed on surface B.
5. \*Dimension to be ensured by tool.
6. Local deepening not more than 1mm on unmachined surface is allowed.

DRAWING INDIANISED BASED ON RUSSIAN ORIGINAL ISSUE - 10  
DRG. REPLACES 418-55-4 ISSUE-NIL, VIDE NOTIFICATION NO: 91-531

F-153  
45  
74

SIZE A4 x 3

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)  
0.718

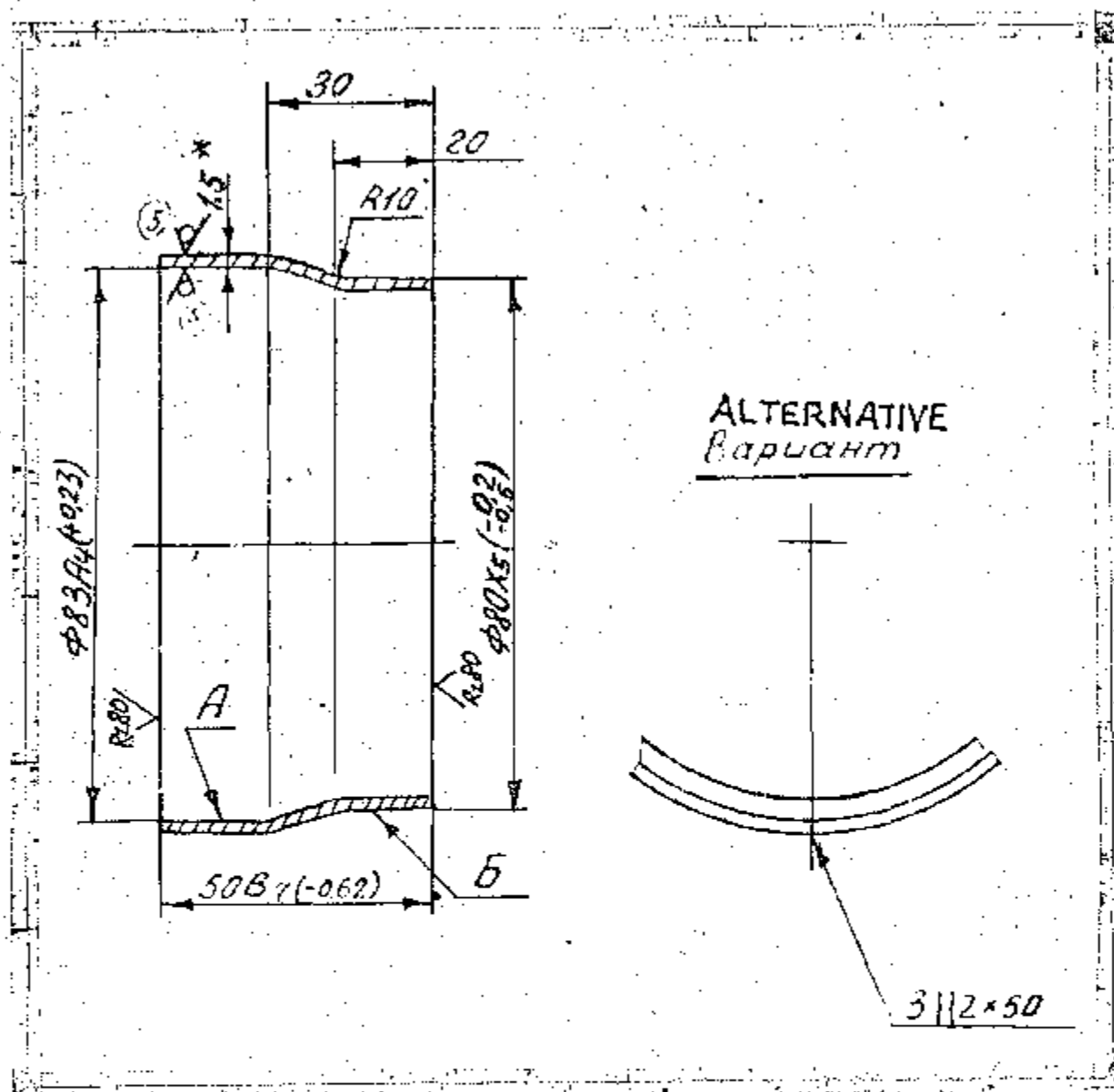
ALL SHARP EDGES AND CORNERS TO BE REMOVED UNLESS OTHERWISE STATED MACHINED CORNERS TO HAVE R OUT-SIDE R INSIDE EQUIVALENT CHAMFERS ARE PERMISSIBLE.

4 HOLES Ø14H15 (+0.7)  
⊕ | R0.25 | 5M

DRN	B. A. Bab	MATERIAL :-	STEEL 20	USED ON :-	Sb 418-50-29
CHD	R. G. G. G.		GOST 1050-88		Sb 418-51-29
APPD		CONTROLLERATE OF QUALITY ASSURANCE (HEAVY VEHICLES) AVADI			
DATE	04.01.08				
SCALE :- 1 : 1		TITLE :- <b>FLANGE</b>			
DIMENSIONS IN mm					
TOLERANCE ON DIMNS UNLESS OTHERWISE STATED IS : 2102 - 69		D S CAT NUMBER			
ALL THREADS TO CONFORM TO					
ISSUE	DATE	NATURE OF AMENDMENTS		DRAWING NUMBER <b>418-55-4</b>	

DRAWING NUMBER

418-85-3



ALTERNATIVE  
Варіант

3112x50

3. WHEN MANUFACTURING AS PER ALTERNATIVE, THE WELD SHOULD BE DONE BY ARGON-ARC WELDING. WELD SURFACE ON SECTIONS 'A' AND 'B' OF THE BUSH SHOULD BE DRESSED FLUSH.
4. \* DIMENSION FOR REFERENCE.

EXPLANATORY NOTE

5. REFERENCE MATERIAL QUOTED :  
COLD ROLLED SHEET STEEL, STANDARD ACCURACY 5, 1.5mm THICK TO GOST 19904-74. QUALITY ON SURFACE, HEAT TREATED PICKLED TO M2a OR M3a TO GOST 5582-75 AND MANUFACTURED IN ACCORDANCE WITH HEAT RESISTING STEEL ALLOY OF GRADE 12X18H10T TO GOST 5632-72.

a). CHEMICAL COMPOSITION AS PER GOST 5632-72.

Gde Of STEEL	CONTENT OF ELEMENTS %								
	C	Si	Mn	Cr	Ni	Ti	Fe	S	P
	MAX								
12X18H10T	0.12	0.8	2.0	17.0 19.0	9.0 11.0	5 C 0.8	Base	0.020	0.035

b) MECHANICAL PROPERTIES AS PER GOST 5582-75  
SUPPLY CONDITION-COLD HARDENED  
ULTIMATE TENSILE STRENGTH-90 -110 Kgf/mm<sup>2</sup>  
%ELONGATION -10 Min

1. CRACKS, FISSURES, LAMINATIONS, DENTS AND BURRS ARE NOT ALLOWED.
2. DIMENSIONS WITH UNSPECIFIED TOLERANCES FOR COLD STAMPING SHOULD BE OBTAINED WITH TOLERANCE ±0.5mm.

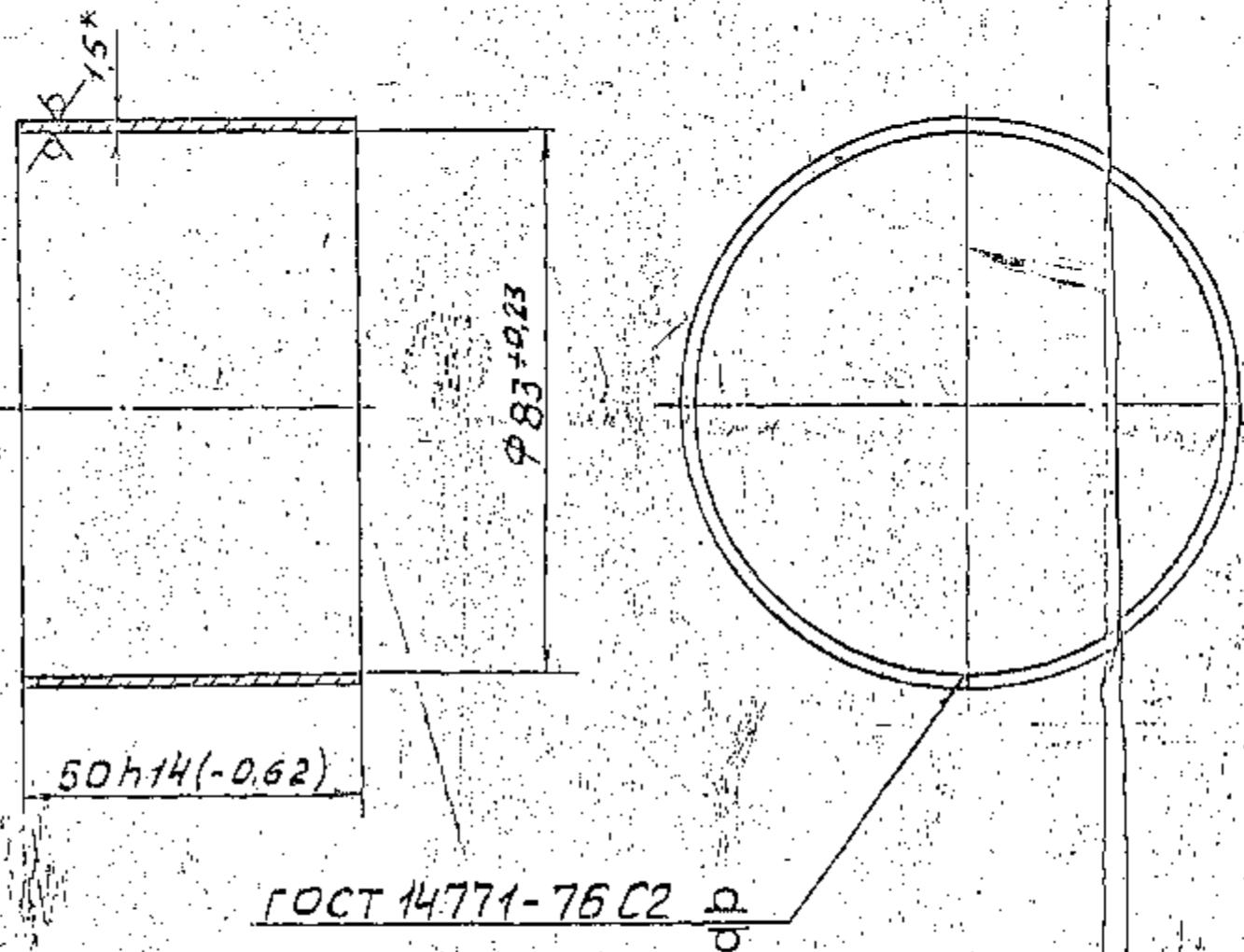
PILOT SAMPLE SHOULD BE APPROVED BY A H S P BEFORE BULK PRODUCTION.

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

DRN	CHD	TCO	APPO	DATE	MATERIAL	USED ON
					SHEET 5 GOST 19904-74 12X18H10T M2a OR M3a GOST 5582-75	Cb 418-50-29 Cb 418-51-29
SCALE 1 : 1					CONTROLLERATE OF INSPECTION (HEAVY VEHICLES) AVADI	
DIMENSIONS IN mm.					TITLE	
TOLERANCE ON DIMNS UNLESS OTHERWISE STATED IS : 2102-69					BUSH	
ALL THREADS TO CONFORM TO					D S CAT NUMBER	
ISSUE DATE NATURE OF AMENDMENTS					DRAWING NUMBER	
					418-85-3	

ЕСКА



1. Заменитель материала сталь 12X18H10T-M2a ГОСТ 5582-75.
2. Трещины, рванины, расслоения и вмятины не допускаются.
- 3.\* Размер для справок.

- 1) ALTERNATE MATERIAL, STEEL 12X18H10T M2a GOST 5582-75.
- 2) CRACKS, TEARS LAMINATION AND DENTS ARE NOT ALLOWED.
- 3) \* DIMENSIONS FOR REFERENCE.

ГОСТ 14771-76 C2

SHEET 6-1,5 GOST 19904-74  
12X18H10T-M2a GOST 5582-75

Ⓐ EQUIVALENT MATERIAL  
04Cr18Ni10Ti20 TOIS-6911-72

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

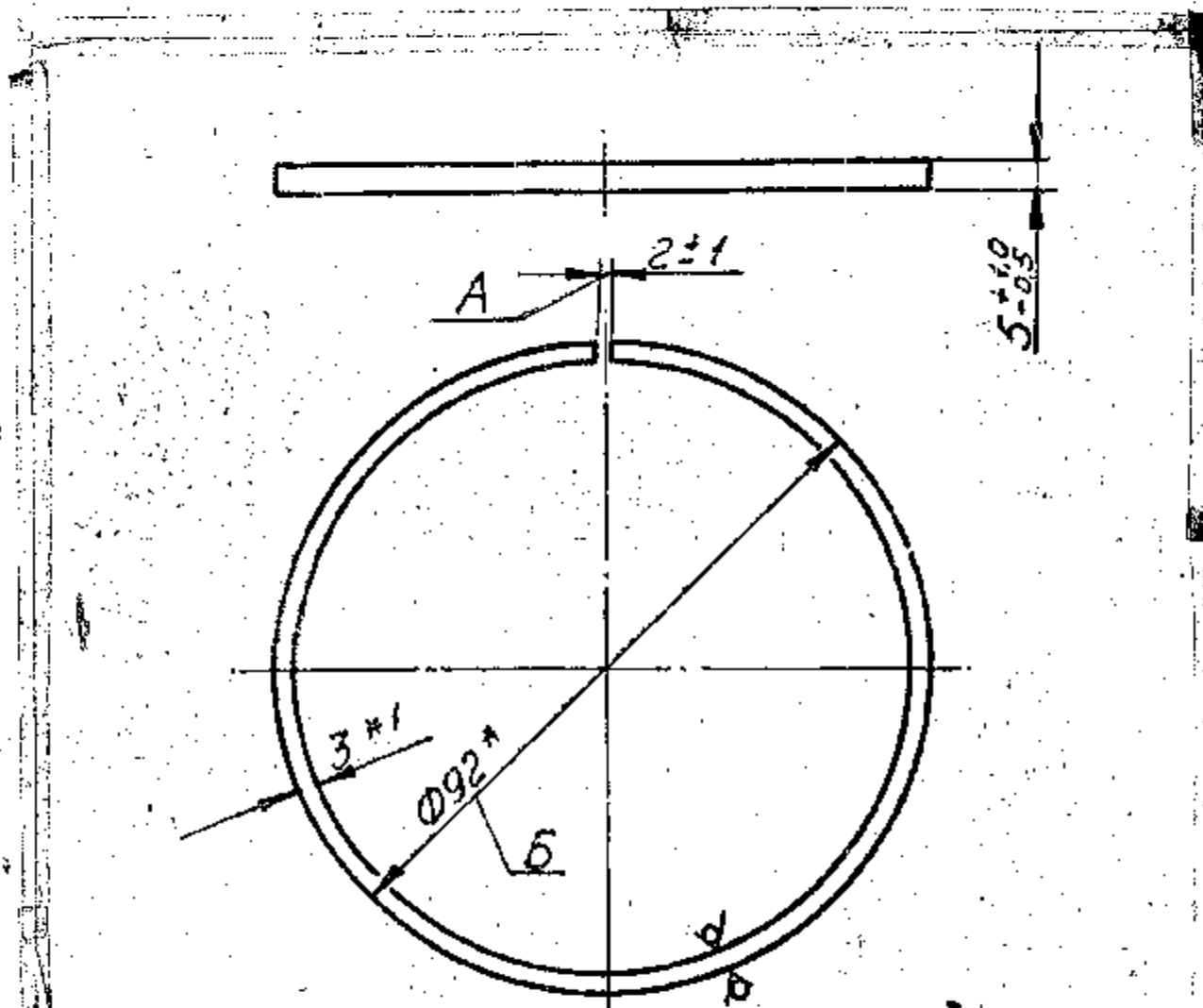
EST. MASS 0,155 Kg		TO BE STAMPED OR MARKED WHERE INDICATED THUS # (LETTERS)	
A 28.8.10		4 <sup>th</sup> Ait Comm Mtg Minutes Point No.16 Dt. 26.10.09	
ISSUE DATE	NATURE OF AMENDMENTS	ALL SHARP EDGES AND CORNERS TO BE REMOVED UNLESS OTHERWISE STATED MACHINED CORNERS TO HAVE R OUTSIDE R INSIDE EQUIVALENT CHAMFERS ARE PERMISSIBLE	
DRW. <i>[Signature]</i>	SCALE: 1:1	MATERIAL: * * SEE ABOVE USED ON: <i>[Blank]</i>	
CHKD <i>[Signature]</i>	DIMENSIONS IN mm	CONTROLLERATE OF QUALITY ASSURANCE (HEAVY VEHICLES) A V A D I	
YCD <i>[Signature]</i>	TOLERANCE ON DIMNS UNLESS OTHERWISE STATED	TITLE: BUSHING	
APPD <i>[Signature]</i>	ALL THREADS TO CONFORM TO	D S CAT NUMBER: <i>[Blank]</i> DRAWING NUMBER: 418-85-5	

Ил. № 186991, Пост. и дата 4.12.10, Ил. № 186991, Розв. и дата 4.12.10  
 DRG INDICATED BASED ON RUSSIAN - ORIGINAL ISSUE (BK 86-824)

Ил. № 186991 - БК 86-824

DRAWING NUMBER  
4-18-86

Rz320  
✓ (✓)



1. ALTERNATE MATERIAL : STEEL 20 GOST 1050-74.

2. \* DIMENSION IS TO BE ENSURED WITH TOOL.

3. \*1 DIMENSION FOR REFERENCE.

4. DIMENSION 'A' IS TO BE CHECKED ON MANDRAL DIA 'B'.

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

EST WT 0.038 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

**EXPLANATORY NOTE :**

5. REFERENCE MATERIAL QUOTED:

HOT ROLLED SHEET STEEL, INCREASED ACCURACY ON ROLLING ON 'A' 3mm THICK TO GOST 19903-74, ORDINARY SURFACE FINISH TO GOST 16523-70 AND MANUFACTURED IN ACCORDANCE WITH QUALITY CARBON STRUCTURAL STEEL GRADE 10, AND REFERENCE NOTE 1. ON ALTERNATE MATERIAL STEEL GRADE 20 TO GOST 1050-74.

a) CHEMICAL COMPOSITION AS PER GOST 1050-74.

GRADE OF STEEL	CONTENT OF ELEMENTS %						REMARKS
	C	Si	Mn	Cr	S	P	
10	0.07 0.14	0.17 0.37	0.35 0.65	0.15	0.040	0.035	REFERENCE MATERIAL
20	0.17 0.24	0.17 0.37	0.35 0.65	0.25	0.040	0.035	ALTERNATE MATERIAL

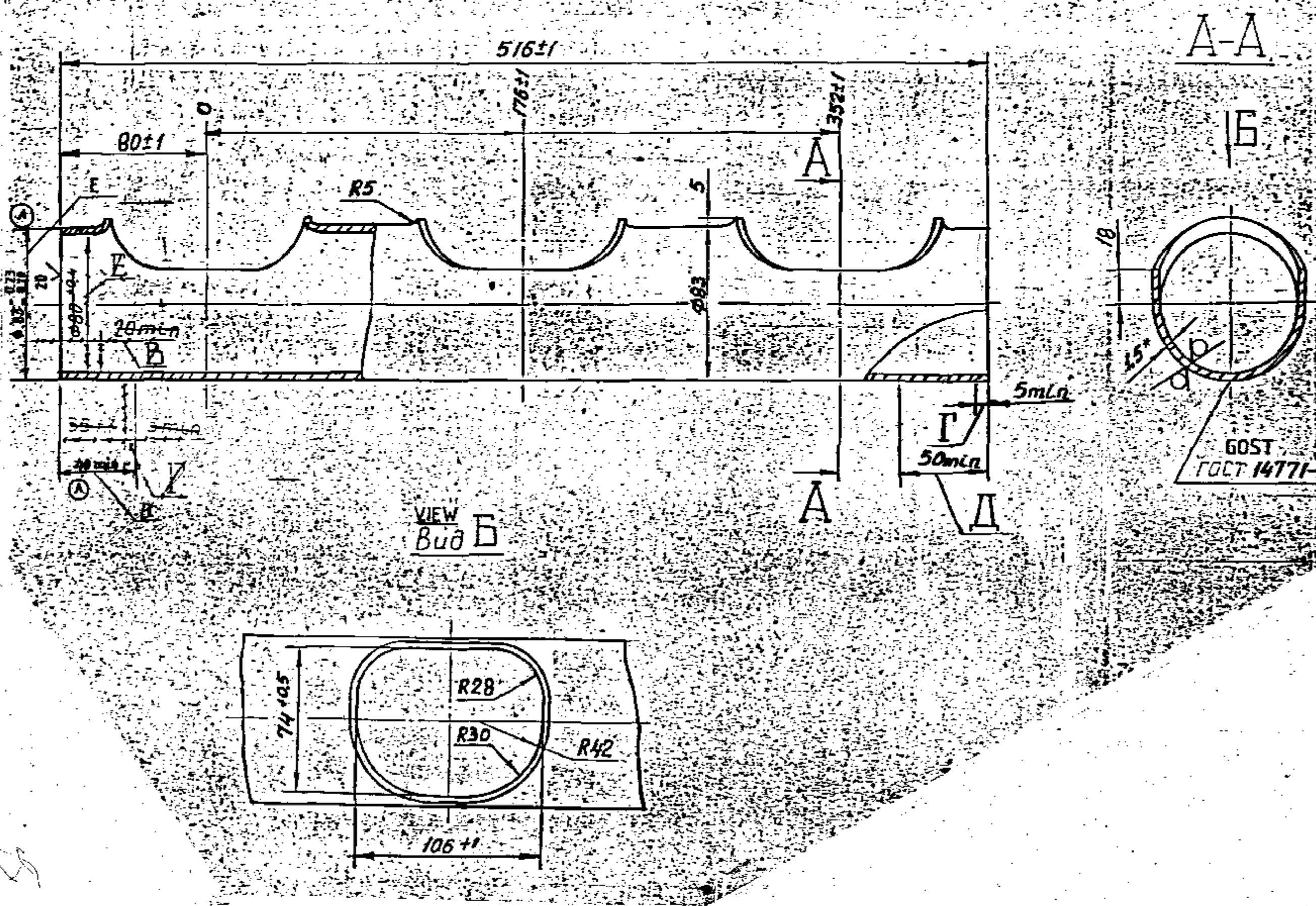
RESIDUAL CONTENT OF COPPER AND NICKEL SHOULD NOT EXCEED 0.25 % EACH.

b) MECHANICAL PROPERTIES AS PER GOST 16523-70

GRADE OF STEEL	ULTIMATE TENSILE STRENGTH Kg/mm <sup>2</sup>	RELATIVE ELONGATION %	REMARKS
10	30-42	26	Ref.Matl.
20	36-51	23	Alt.Matl.

DRN	<i>[Signature]</i>	MATERIAL:	USED ON:
CHD	<i>[Signature]</i>	SHEET A3 GOST 19903-74	CB 418-50-29
TEO	<i>[Signature]</i>	10 GOST 16523-70	CB 418-51-29
APPD	<i>[Signature]</i>	CONTROLLERATE OF INSPECTION (HEAVY VEHICLES)	
DATE	26-2-'86	AVADI	
SCALE: 1 : 1		TITLE: RING	
DIMENSIONS IN mm		D S CAT NUMBER	
TOLERANCE ON DIMNS UNLESS OTHERWISE STATED IS : 2102-69		DRAWING NUMBER	
ALL THREADS TO CONFORM TO		418-86	
ISSUE	DATE	NATURE OF AMENDMENTS	

SIZE A3



**EXPLANATORY NOTE :-**

**MATERIAL QUOTED :** SHEET Б 1.5 GOST 19904-74  
12X18H10T-M2a GOST 5582-75

Б = STANDARD ACCURACY.  
1.5 = THICKNESS OF COLD ROLLED SHEET STEEL AS PER GOST 19904-74  
12X18H10T = GRADE OF STEEL.  
M2a = PICKLED OR BRIGHT ANNEALED.

**CHEMICAL COMPOSITION % (AS PER GOST 5632-72)**  
CARBON = 0.12 (MAX); SILICON = 0.8 (MAX); MANGANESE = 2.0 (MAX);  
CHROMIUM = 17.0 - 19.0; NICKEL = 9.0 - 11.0; TITANIUM = 0.6 - 0.8

**MECHANICAL PROPERTIES (AS PER GOST 5582-75)**

**HEAT TREATMENT**

TEMPERING : AT 1050 TO 1080 °C  
COOLING IN WATER OR IN AIR.  
ULTIMATE STRENGTH  $\text{kgf/mm}^2$  (MIN) = 54  
YIELD POINT  $\text{kgf/mm}^2$  (MIN) = 20  
RELATIVE ELONGATION (MIN) = 40

**TECHNICAL REQUIREMENTS - TRANSLATED**

1. Unspecified limit deviations of dimensions for cold stamping should be obtained upto 80 mm ± 0.5 above 80 mm upto 200 mm ± 1mm.
2. Cracks, fissures, laminations and dents are not allowed.
3. On section B to be calibrated upto dimension E.
4. Surface of welds along the external diameter on section Г and along the internal diameter on section B should be dressed flush.
5. Up to two metal ruptures per flange are allowed with subsequent electric welding and with the dressing at the base of ruptures.
6. Welding on the inner side is allowed on Section A and B.
7. Pipe ovality except sections B and F is up to 4mm.
8. Alternate material : STEEL 12 X 18 H 10 T - M3a. GOST 5582-75.
9. \* Dimension for reference.

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

EST. WT. 1.265 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	CHD	TCD	APPD	DATE	SCALE	DIMENSIONS	TOLERANCE	ALL THREADS	
	Red	V. Mani		29-1-88	1:2	IN mm.	ON DIMMS UNLESS OTHERWISE STATED IS 2102-69	TO CONFORM TO	
MATERIAL - SHEET Б 1.5 GOST 19904-74					USED ON - CB 418-50-29				
12X18H10T-M2a GOST 5582-75					CONTROLLERATE OF QUALITY ASSURANCE (HEAVY VEHICLES) AVADI				
TITLE								PROTECTIVE PIPE, L.H.	
A 26-10-88 AUTHY BK 84-824					D S CAT NUMBER		DRAWING NUMBER		
ISSUE DATE NATURE OF AMENDMENTS							418-90-5		

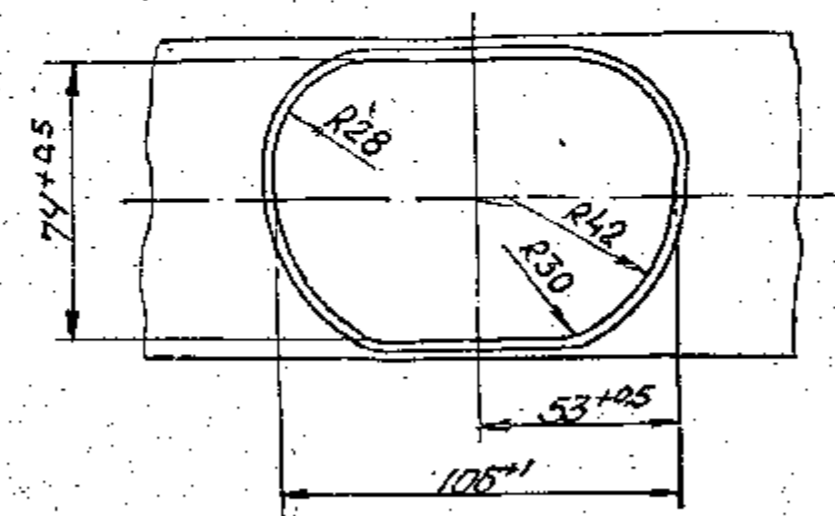
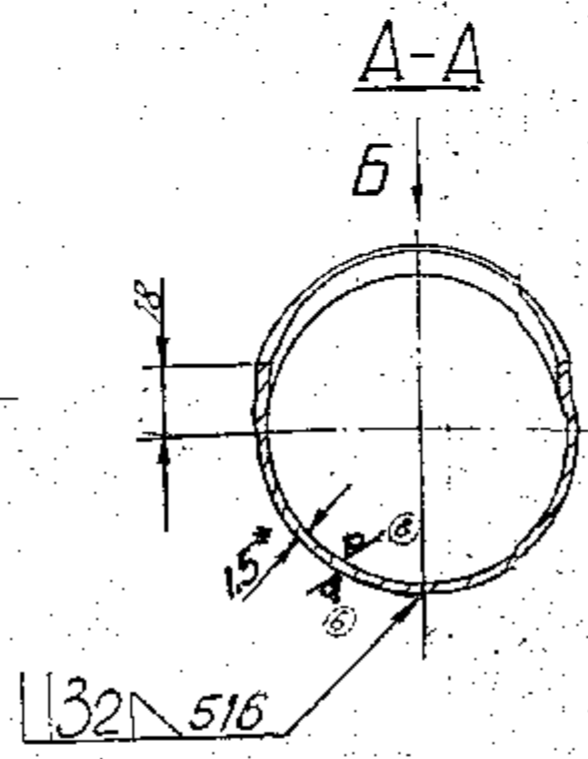
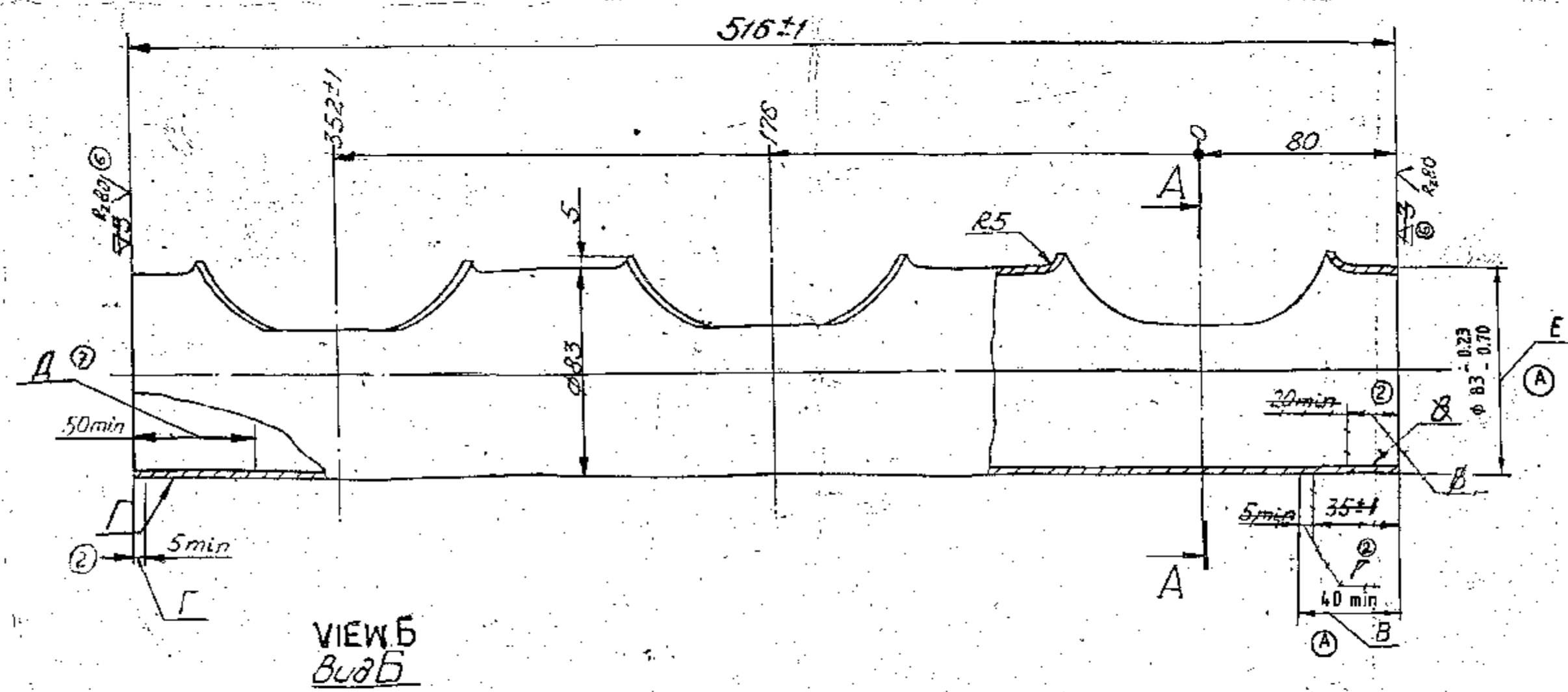
EXPLANATORY NOTE ADDED ON 18-2-92





DRAWING NUMBER  
418-90-7

Rz320  
✓(M)



1. CRACKS,FISSURES,LAMINATIONS,DENTS AND BURRS ARE NOT ALLOWED.
2. DIMENSIONS WITH UNSPECIFIED DEVIATIONS FOR COLD STAMPING SHOULD BE OBTAINED WITH TOLERANCE  $\pm 0.5\text{mm}$ . DIMENSIONS LESS THAN 80mm. AND WITH TOLERANCES  $\pm 1\text{mm}$ . FOR DIMENSIONS FROM 80mm TO 200mm.
3. THE PIPE SHOULD BE MACHINED TO DIAMETER  $\phi 80\text{as}(\pm 0.4)$  ON SECTION 'B' ON A LENGTH OF 20mm. FROM THE EDGE.
4. WELDS SHOULD BE DONE ARGON ARC WELDING OR BY CO<sub>2</sub> SHIELDED ARC WELDING WITH WIRE CB 08X20H9I 7T OR Cb 06X19H10T GOST 2246-70.
5. SURFACE OF WELDS ALONG THE EXTERNAL DIAMETER SHOULD BE DRESSED FLUSH ON SECTIONS 'I' AND ALONG THE INTERNAL DIAMETER ON SECTION 'B'.
6. UPTO 2 METAL RUPTURES PER FLANGE ARE ALLOWED WITH SUBSEQUENT ELECTRIC WELDING AND WITH DRESSING AT THE BASE OF RUPTURES.
7. \*DIMENSION FOR REFERENCE.
8. PIPE OVALITY EXCEPT SECTIONS 'B' AND 'I' SHOULD NOT EXCEED 4mm.
9. WELDING ON THE INNER SIDE IS ALLOWED ON SECTION

**EXPLANATORY NOTE**

10. REFERENCE MATERIAL QUOTED:  
COLD ROLLED SHEET STEEL, STANDARD ACCURACY B, 1.5mm THICK TO GOST 19904-74, QUALITY ON SURFACE HEAT TREATED PICKLED TO M2a OR M3a TO GOST 5582-75 AND MANUFACTURED IN ACCORDANCE WITH HEAT RESISTING STEEL ALLOY OF GRADE 12X18H10T GOST 5632-72.

a) CHEMICAL COMPOSITION AS PER GOST 5632-72.

Gde. OF STEEL	CONTENT OF ELEMENTS %								
	C	Si	Mn	Cr	Ni	T	Fe	S	P
	M A X								
12X18H10T	0.12	0.8	2.0	17.0-19.0	9.0-11.0	5.0-0.8	Base	0.020	0.035

b) MECHANICAL PROPERTIES AS PER GOST 5582-75  
SUPPLY CONDITION- COLD HARDENED  
ULTIMATE TENSILE STRENGTH- 90 -110 Kgf/mm<sup>2</sup>  
% ELONGATION - 10 Min.

\*\*\* GOST 5582-75

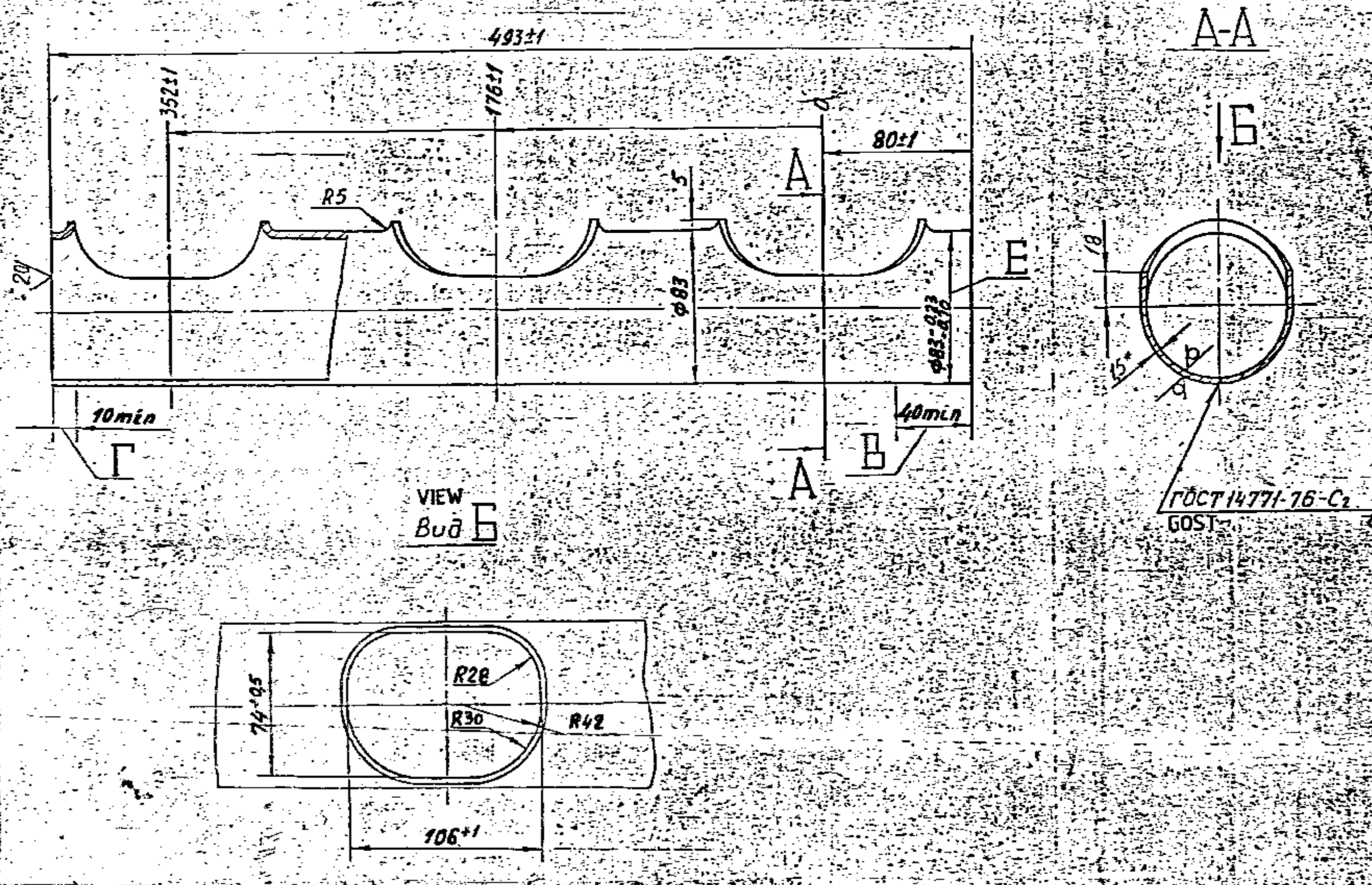
PILOT SAMPLE SHOULD BE APPROVED BY A H S P BEFORE BULK PRODUCTION.

EST WT 1.265 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 EHD	DRN EHD	MATERIAL SHEET 615 GOST19904-74	USED ON CB 418-51-29
TCD	TCD	12X18H10T M2a OR M3a ***	
APPD	APPD	CONTROLLERATE OF INSPECTION (HEAVY VEHICLES AVADI)	
DATE 26-2-86	DATE 26-2-86		
SCALE 1:2	SCALE 1:2		
DIMENSIONS IN mm TOLERANCE ON DIMNS UNLESS OTHERWISE STATED IS : 2102-69		TITLE PROTECTIVE PIPE R.H.	
ALL THREADS TO CONFORM TO		D S CAT NUMBER	
ISSUE A	DATE 26.10.88	DRAWING NUMBER 418-90-7	
NATURE OF AMENDMENTS			

DRAWING NUMBER  
418-91-5

80/1



**EXPLANATORY NOTE :-**

**MATERIAL QUOTED :** SHEET Б 1.5 GOST 19904-74  
12X18H10T-M2a GOST 5582-75

Б = STANDARD ACCURACY.  
1.5 = THICKNESS OF COLD ROLLED SHEET STEEL AS PER GOST 19904-74.  
12X18H10T = GRADE OF STEEL.  
M2a = PICKLED OR BRIGHT ANNEALED.

**CHEMICAL COMPOSITION % (AS PER GOST 5632-72)**  
CARBON = 0.12 (MAX) ; SILICON = 0.8 (MAX) ; MANGANESE = 2.0 (MAX) ;  
CHROMIUM = 17.0-19.0 ; NICKEL = 9.0-11.0 ; TITANIUM = 0.6-0.8

**MECHANICAL PROPERTIES (AS PER GOST 5582-75)**

**HEAT TREATMENT**  
TEMPERING AT 1050 TO 1080 °C  
COOLING IN WATER OR IN AIR =  
ULTIMATE STRENGTH  $Kgf/mm^2$  (MIN) = 54  
YIELD POINT  $Kgf/mm^2$  (MIN) = 20  
RELATIVE ELONGATION (MIN) = 40

**TECHNICAL REQUIREMENTS - TRANSLATED.**

1. Unspecified limit deviations of dimensions for cold stamping should be obtained upto 80 mm ± 0.5 above 80 mm upto 200 mm ± 1mm.
2. Cracks, fissures, laminations and dents are not allowed.
3. On section B, to be calibrated upto dimension E.
4. Surface of welds along the external diameter on sections B and Γ should be dressed flush.
5. Not more than 2 metal ruptures per flange are allowed with subsequent electric welding and with dressing at the base of ruptures.
6. Welding of both the ends of pipe on section 50-60 mm is allowed.
7. Pipe ovality except section B and Γ is up to 4 mm.
8. Alternate material STEEL 12 X 18 H 10 T - M 3 a, GOST 5582-75.
9. \* Dimension for reference.

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

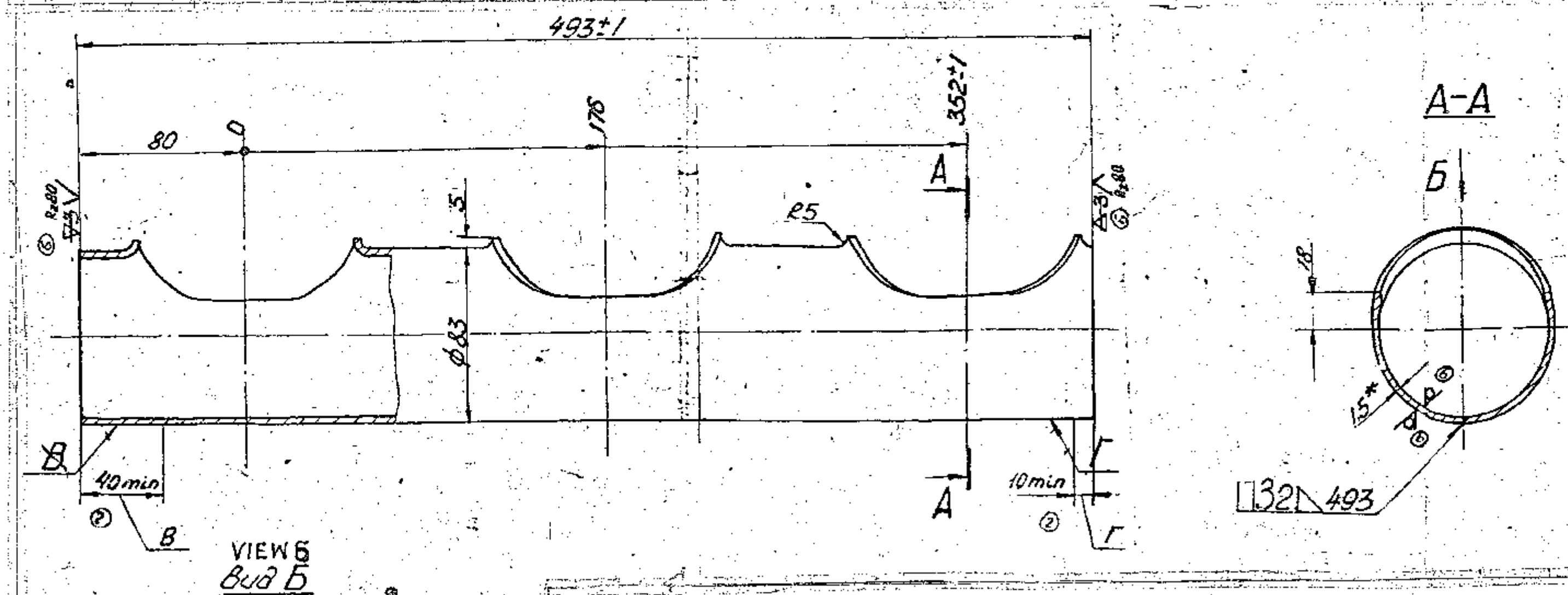
EST. WT. 1.22 kg. TO BE STAMPED OR MARKED WHERE INDICATED THUS # LETTERS!

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

DRN		MATERIAL - SHEET	USED ON -
CHD	<i>[Signature]</i>	Б 1.5 GOST 19904-74	СБ 418-50-29
TCD	<i>[Signature]</i>	12X18H10T-M2a GOST 5582-75	
APPD	<i>[Signature]</i>	CONTROLLERATE OF QUALITY ASSURANCE (HEAVY VEHICLES)	
DATE	29-1-88	A V A D I	
SCALE	1:2		
DIMENSIONS IN mm.			
TOLERANCE ON DIMNS UNLESS OTHERWISE STATED IS 2102-69		TITLE <b>PROTECTIVE PIPE L.H.</b>	
ALL THREADS TO CONFORM TO		D S CAT NUMBER	DRAWING NUMBER 418-91-5
ISSUE	DATE	NATURE OF AMENDMENTS	

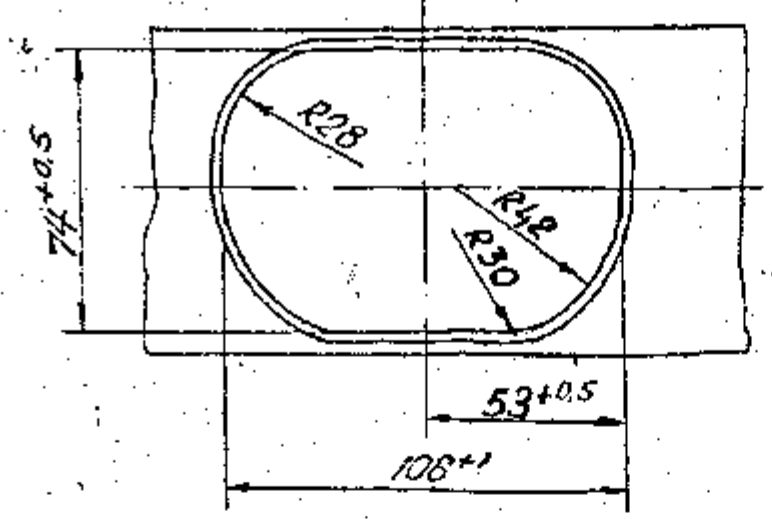
DRAWING CREATED BASED ON RUSSIAN ORIGINAL ISSUE 8 (8X 81-31)  
EXPLANATORY NOTE ADDED ON 18-2-92

Rz320  
✓(✓)



1. CRACKS, FISSURES, LAMINATIONS, DENTS AND BURRS ARE NOT ALLOWED.
2. DIMENSION WITH UNSPECIFIED DEVIATIONS FOR COLD STAMPING SHOULD BE DONE WITH TOLERANCE  $\pm 0.5\text{mm}$  FOR DIMENSIONS LESS THAN 80mm AND WITH TOLERANCE  $\pm 1\text{mm}$  FOR DIMENSIONS FROM 80mm UP TO 200mm.
3. THE PIPE SHOULD BE MACHINED TO DIAMETER  $83 \times 5_{-0.23}^{+0.70}$  ON SECTION 'B' FROM THE EDGE.
4. WELDS SHOULD BE DONE BY ARGON-ARC WELDING OR BY CO<sub>2</sub> SHIELDED ARC WELDING WITH WIRE CB-08X20H9/7T OR CB-06X19H1-07 GOST 2246-70.
5. SURFACE OF WELDS ALONG THE EXTERNAL DIAMETER SHOULD BE DRESSED FLUSH ON SECTIONS 'B' AND 'A'.
6. UP-TO 2 RUPTURES PER FLANGE ARE ALLOWED. METAL WITH SUBSEQUENT ELECTRIC WELDING AND WITH DRESSING AT THE BASE OF RUPTURES.
7. \* DIMENSION FOR REFERENCE.
8. PIPE OVALITY EXCEPT SECTIONS 'B' AND 'A' SHOULD NOT EXCEED 4 mm.
9. IT IS ALLOWED TO WELD BOTH ENDS OF PIPE ON THE INNER SIDE ON 'A' SECTION OF 50 TO 60mm.

VIEW B  
Вид B



**EXPLANATORY NOTE**

10. REFERENCE MATERIAL QUOTED :  
COLD ROLLED SHEET STEEL, STANDARD ACCURACY B, 1.5mm THICK TO GOST 19904-74, QUALITY ON SURFACE HEAT TREATED PICKLED TO M2a OR M3a TO GOST 5582-75 AND MANUFACTURED IN ACCORDANCE WITH HEAT RESISTING STEEL ALLOY OF GRADE 12X18H10T GOST 5632-72.

a) CHEMICAL COMPOSITION AS PER GOST 5632-72.

Gde. OF STEEL	CONTENT OF ELEMENTS %								
	C	Si	Mn	Cr	Ni	T	Fe	S	P
	M A X								
12X18H10T	0.12	0.8	2.0	17.0-19.0	9.0-11.0	5.0-0.8	Base	0.020	0.035

b) MECHANICAL PROPERTIES AS PER GOST 5582-75  
SUPPLY CONDITION- COLD HARDENED  
ULTIMATE TENSILE STRENGTH- 90 -110 Kgf/mm<sup>2</sup>  
% ELONGATION - 10 Min.

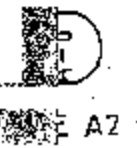
\*\* GOST 5582-75.

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

EST WT 1.22 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	<i>A. Blazhko</i>	MATERIAL:	SHEET B1.5 GOST 19904-74	USED ON	CB 418-51-29
CHD	<i>DoE</i>		12X18H10T-M2a OR M3a **		
TCD	<i>Norman</i>	CONTROLLERATE OF INSPECTION (HEAVY VEHICLES) AVADI			
APPD	<i>Don'ton</i>				
DATE	<i>24-2-86</i>	SCALE:	1 : 2	TITLE:	PROTECTIVE PIPE, R.H
		DIMENSIONS IN mm			
		TOLERANCE ON DIMMS UNLESS OTHERWISE STATED IS : 2102-69			
		ALL THREADS TO CONFORM TO	D'S CAT NUMBER	DRAWING NUMBER	418-91-7
ISSUE	DATE	NATURE OF AMENDMENTS			



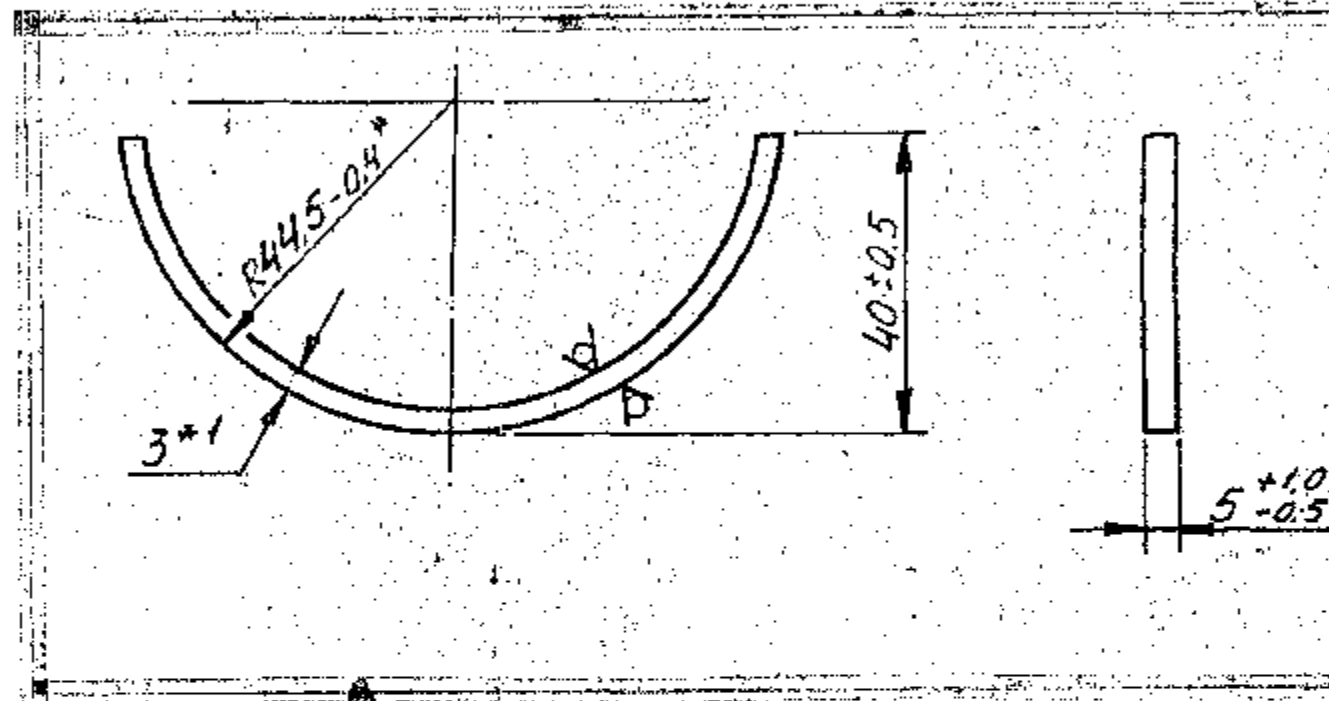
DRAWING NUMBER  
418-101

**EXPLANATORY NOTE :**

**REFERENCE MATERIAL QUOTED:**

HOT ROLLED SHEET STEEL INCREASED ACCURACY ON ROLLING ON 'A' 3mm THICK TO GOST 19903-74, ORDINARY SURFACE FINISH TO GOST 16523-70 AND MANUFACTURED IN ACCORDANCE WITH QUALITY CARBON STRUCTURAL STEEL GRADE 10, AND REFERENCE NOTE 1. ON ALTERNATE STEEL GRADES 20, 08Kn, 10Kn, GOST 1050-74.

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



GRADE OF STEEL	CONTENT OF ELEMENTS %						REMARKS
	C	Si	Mn	Cr	S	P	
10	0.07 0.14	0.17 0.37	0.35 0.65	0.15	0.040	0.035	Ref. Matl
20	0.17 0.24	0.17 0.37	0.35 0.65	0.25	0.040	0.035	Ref. Matl
08 Kn HOT ROLLED STEEL	0.05 0.11	0.03 MAX	0.25 0.50	0.10	0.040	0.035	Ref. Matl
10 Kn HOT ROLLED STEEL	0.07 0.14	0.07 MAX	0.25 0.50	0.15	0.040	0.035	Ref. Matl

RESIDUAL CONTENT OF COPPER AND NICKEL SHOULD NOT EXCEED 0.25% EACH

b) MECHANICAL PROPERTIES AS PER GOST 16523-70.

GRADE OF STEEL	ULTIMATE TENSILE STRENGTH Kgf/mm <sup>2</sup>	RELATIVE ELONGATION %	REMARKS
10	30-42	26	Ref. Matl.
20	36-51	23	Alt. Matl.
08Kn	27-39	28	Alt. Matl.
10Kn	28-40	26	Alt. Matl.

1. ALTERNATE MATERIAL: STEEL, GRADES 20, 08Kn, 10Kn GOST 1050-74.
2. \* DIMENSION IS TO BE ENSURED WITH TOOL.
3. \*1 DIMENSION FOR REFERENCE.

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

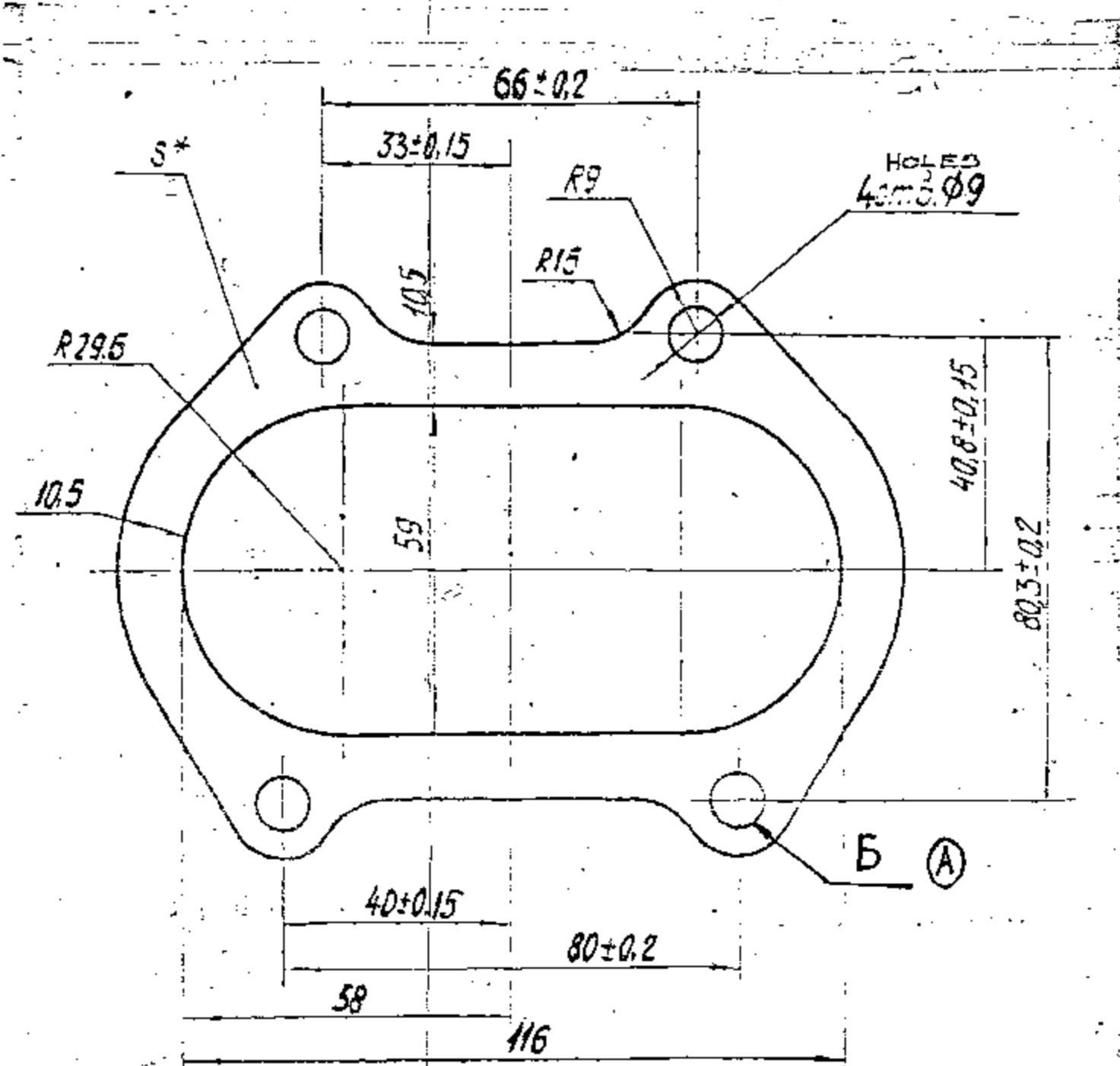
EST WT 0.015 Kg TO BE STAMPED OR MARKED WHERE INDICATED THUS II ( LETTERS )

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	<i>[Signature]</i>	MATERIAL:	A3 GOST 19903-74	USED ON:	CB 418-50-29
CHD	<i>[Signature]</i>	SHEET	10 GOST 16523-70		CB 418-51-29
TCD	<i>[Signature]</i>	CONTROLLERATE OF INSPECTION (HEAVY VEHICLES) AVADI			
APPD	<i>[Signature]</i>				
DATE	26-2-86	TITLE: <b>SEMI RING</b>			
SCALE:	1 : 1				
DIMENSIONS IN mm		D S CAT NUMBER			
TOLERANCE ON DIMNS UNLESS OTHERWISE STATED IS : 2102-69					
ALL THREADS TO CONFORM TO		DRAWING NUMBER		418-101	
ISSUE	DATE	NATURE OF AMENDMENTS			

DRAWING NUMBER

3306-99



DIMENSIONS IN MM  
РАЗМЕРЫ В ММ

S*	Пределные отклонения	Вес в кг
0.25	-0.04	0.0075
0.28	-0.04	0.0084
0.30	-0.04	0.009
0.35	-0.04	0.0105

1. Заменить материал лентой ДПРПТ НД МЗ ГОСТ 1173-77.  
2. Предельные отклонения размеров ±0.5 мм.  
3. \* Размер для справок.

1. ALTERNATE MATERIAL: STRIP ДПРПТ НД МЗ ГОСТ 1173-77
2. UNSPECIFIED TOLERANCES FOR DIMENSIONS ±0.5mm
3. \* DIMENSION FOR REFERENCE.

(A) HOLES B AND EXTERNAL OUTLINE ARE ALLOWED TO BE MADE WHEN ASSEMBLED.

**EXPLANATORY NOTE:-**

THE COMPONENT SHOULD BE MANUFACTURED FROM FIRE REFINED COPPER-STRIP COLD ROLLED (A) RECTANGULAR SECTION (HP), TOLERANCE ON THICKNESS 0.04 mm SPECIFIED IN TABLE COLUMN ON DRAWING AS PER NORMAL ACCURACY (H) NON STANDARD LENGTH (HA) COPPER GRADE M3 TO GOST 1173-77. ALTERNATIVELY THE SUBJECT ITEM MAY BE PRODUCED FROM FIRE REFINED COPPER-STRIP COLD-ROLLED (A) RECTANGULAR SECTION (HP), HARD (T), NON STANDARD LENGTH (HA) TO GOST 1173-77. CHEMICAL COMPOSITION SHOULD BE AS PER GOST 859-78 AND MECHANICAL PROPERTIES AS PER GOST 1173-77 ARE AS UNDER.

CHEMICAL COMPOSITION%:- AS PER GOST 859-78.

MANUFACTURING METHOD	GRADE OF COPPER	Cu+Ag NOT LESS THAN	IMPURITIES NOT MORE THAN										
			Bi	Sb	As	Fe	Ni	Pb	Sn	S	O	Zn	P
FIRE REFINED	M3	99.5	0.003	0.05	0.01	0.05	0.20	0.05	0.05	0.01	0.08	-	-

MECHANICAL PROPERTIES:- AS PER GOST 1173-77:

MANUFACTURING METHOD	GRADE OF COPPER	MATERIAL CONDITION	TENSILE STRENGTH		ELONGATION %
			Kgf/mm <sup>2</sup>	MPa	
FIRE REFINED	M3	SOFT	20	196.0	30
FIRE REFINED	M3	HARD	30	294.0	3

DRG. INDIANISED BASED ON RUSSIAN ORIGINAL ISSUE G : (BK 82-437)

KVD No:- 78410.

DRG. REDRAWN.

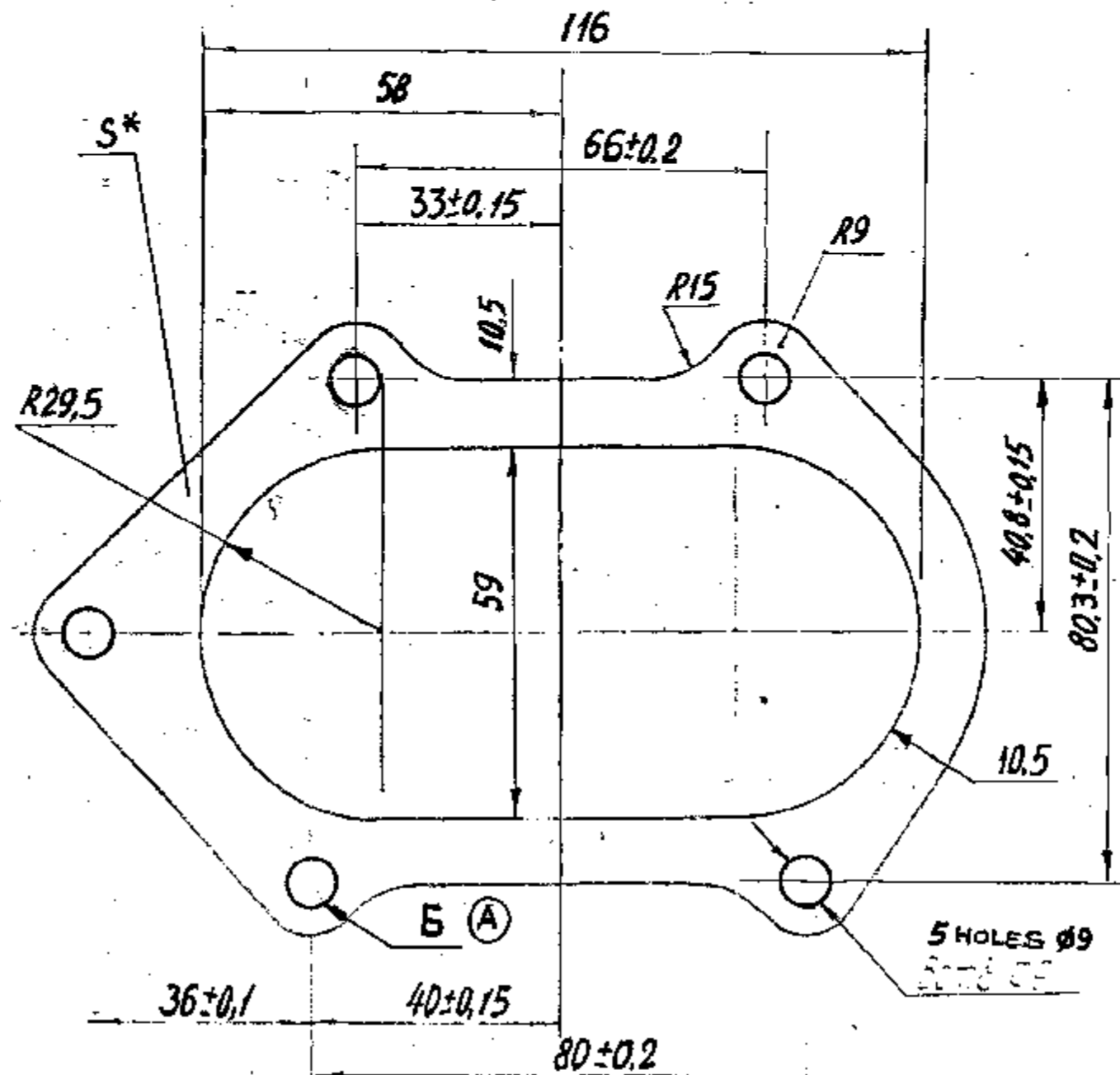
PILOT SAMPLE SHOULD BE APPROVED BY A H S P BEFORE BULK PRODUCTION.

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 OUTSIDE R INSIDE EQUIVALENT CHAMFERS ARE PERMISSIBLE.

URN	CHD	TCD	APPD	DATE	SCALE	DIMENSIONS IN mm.	TOLERANCE ON DIMS UNLESS OTHERWISE STATED IS 2102-69	URN	CHD	TCD	APPD	DATE	SCALE	DIMENSIONS IN mm.	TOLERANCE ON DIMS UNLESS OTHERWISE STATED IS 2102-69
				23-8-1988	1:1										
MATERIAL:- STRIP ДПРПТ НД МЗ ГОСТ 1173-77								USED ON:- C3306-15C6							
CONTROL RATE OF QUALITY ASSURANCE (HEAVY VEHICLES) A V A O I								TITLE: TOP PLATE							
ALL THREADS TO CONFORM TO								D S CAT NUMBER				DRAWING NUMBER 3306-99			
ISSUE		DATE		NATURE OF AMENDMENTS		AUTHY NOTN. No BK 86-763		DATE		NATURE OF AMENDMENTS		DATE		NATURE OF AMENDMENTS	

DRAWING NUMBER  
3306-99-2



DIMENSIONS IN MM

S*	TOLERANCE	MASS Kg
0,25	-0,04	0,01
0,28	-0,04	0,0112
0,30	-0,04	0,012
0,35	-0,04	0,014

3306-99-2  
3306-99-2  
3306-99-2

1. ALTERNATE MATERIAL: STRIP A, П PHT H Д, M3 GOST 1173-77
2. UNSPECIFIED TOLERANCES FOR DIMENSIONS ±0.5mm.
3. DIMENSION FOR REFERENCE.
4. HOLES B AND EXTERNAL OUTLINE ARE ALLOWED TO BE MADE WHEN ASSEMBLED.

EXPLANATORY NOTE:-

THE COMPONENT SHOULD BE MANUFACTURED FROM FIRE REFINED COPPER-STRIP COLD ROLLED (M) RECTANGULAR SECTION (M1) TOLERANCE ON THICKNESS 0.04mm SPECIFIED IN TABLE COLUMN ON DRAWING AS PER NORMAL ACCURACY (M) NON STANDARD LENGTH (M2) COPPER GRADE M3 TO GOST 1173-77. ALTERNATIVELY THE SUSPECT ITEM MAY BE PRODUCED FROM FIRE REFINED COPPER-STRIP COLD-ROLLED (M) RECTANGULAR SECTION (M1), HARD (M3) STANDARD LENGTH (M2) TO GOST 1173-77. CHEMICAL COMPOSITION SHOULD BE AS PER GOST 859-78 AND MECHANICAL PROPERTIES AS PER GOST 1173-77 ARE AS UNDER.

CHEMICAL COMPOSITION %:- AS PER GOST 859-78

MANUFACTURING METHOD	GRADE OF COPPER	IMPURITIES NOT MORE THAN	Bi	Sb	As	Fe	Mn	Pb	Sn	S	O	Zn	P
FIRE REFINED	M3	99.5	0.003	0.05	0.01	0.05	0.20	0.05	0.05	0.01	0.08	-	-

MECHANICAL PROPERTIES:- AS PER GOST 1173-77

MANUFACTURING METHOD	GRADE OF COPPER	MATERIAL CONDITION	TENSILE STRENGTH		ELONGATION %
			Kgf/cm <sup>2</sup>	MPa	
FIRE REFINED	M3	SOFT	20	196.0	30
FIRE REFINED	M3	HARD	30	294.0	3

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

EST. WT. SEE TABLE 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	APPD	MATERIAL	USED ON
ENC	APPD	STRIP A1PHM	C5 3306-15-2 c5
TCD	APPD	M3 GOST 1173-77	
APPD	APPD		CONTROLLERATE OF QUALITY ASSURANCE (HEAVY VEHICLES)
DATE	DATE		AVADI
SCALE	SCALE		
DIMENSIONS IN mm	DIMENSIONS IN mm		
TOLERANCE ON DIMS UNLESS OTHERWISE STATED IS 2002-69	TOLERANCE ON DIMS UNLESS OTHERWISE STATED IS 2002-69		
A 11.10.99 AUTHY NOTN - No. BK 86-763	A 11.10.99 AUTHY NOTN - No. BK 86-763		
ISSUE	DATE	NATURE OF AMENDMENTS	DRAWING NUMBER
			3306-99-2

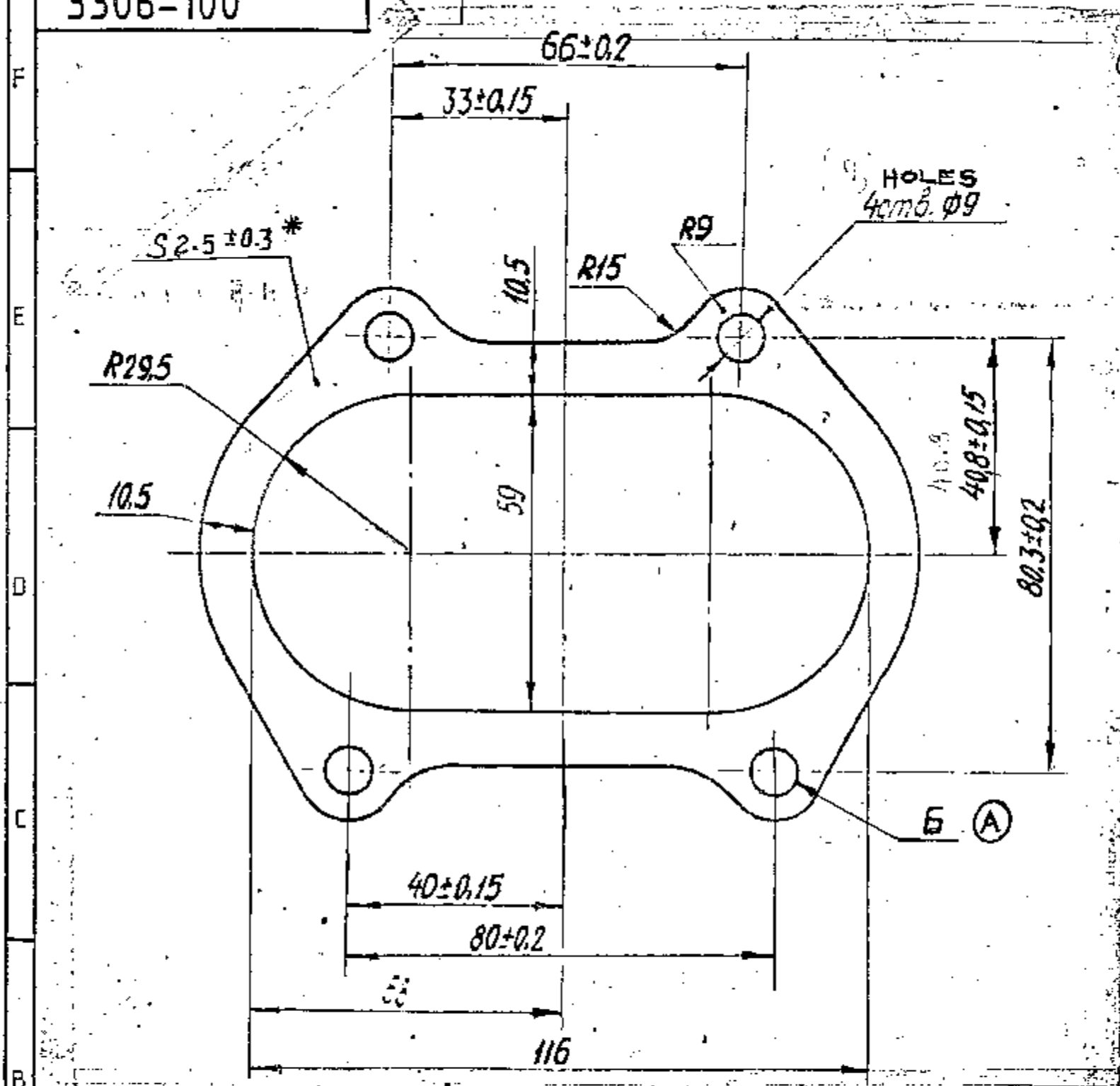
ORG. INDIANISED BASED ON RUSSIAK ORIGINAL ISSUE 5: (BK 82-437)

KVD No.:- 78411

ORG. REDRAWN.

A-5  
24  
E A2

DRAWING NUMBER  
3306-100



1. UNSPECIFIED TOLERANCES FOR DIMENSIONS  $\pm 0.5$ mm.
2. \*DIMENSION FOR REFERENCE.
3. HOLES 'B' AND EXTERNAL OUTLINE ARE ALLOWED TO BE MADE WHEN ASSEMBLED.

**EXPLANATORY NOTE:-**

THE COMPONENT SHOULD BE MANUFACTURED FROM CHRYSOTILE ASBESTOS MILLBOARD OF GRADE-KAT TO GOST 2850-80. PHYSICAL AND MECHANICAL PARAMETERS OF MILLBOARD MUST CONFORM TO NORMS SPECIFIED AS UNDER AS PER GOST 2850-80.

SL No.	PARAMETER	NORMS FOR GRADE KAT
1	DENSITY. Kg/m <sup>3</sup>	900 TO 1200
2	ULTIMATE TENSILE STRENGTH MPa (Kgf/cm <sup>2</sup> ), NOT LESS THAN IN LONGITUDINAL DIRECTION:- IN TRANSVERSE DIRECTION:-	2.5 (25) 1.5 (15)
3	MOISTURE CONTENT % (MAX)	3
4	LOSS OF WEIGHT BY CALCINATION % (MAX)	18
5	NON-INFLAMMABILITY (RESISTANCE TO FIRE)	MUST NOT BURN OR GET CHARGED

KVD No:- 78412.

ORG. REDRAWN.

2 824 222-37 21/11/88 10182  
117 1007 11/22/87 2000 1970

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

EST. WT. + TO BE STAMPED OR MARKED WHERE INDICATED THUS  $\frac{1}{2}$  ( LETTERS)  
0.0103Kg

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

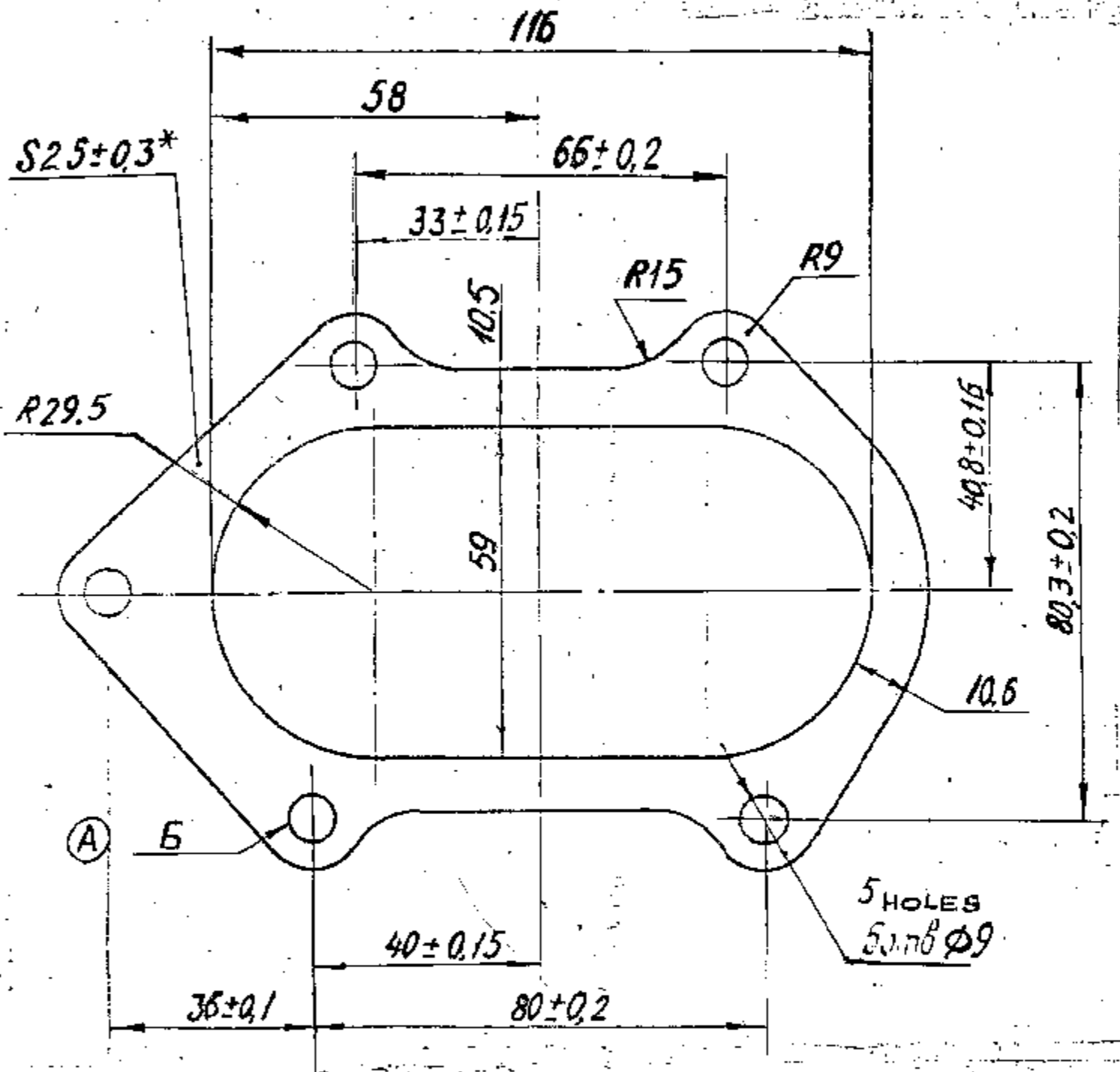
DRN	21/11/88	MATERIAL:- ASBESTOS BOARD KAT 25 GOST 2850-80	USED ON
CHD	11/10/88		
TEC	21/11/88		
APPO	11/10/88		
DATE	26-8-1988	CONTROLLERATE OF QUALITY ASSURANCE(HEAVY VEHICLES) AVADI	
SCALE:-	1:1	TITLE	
DIMENSIONS IN mm		GASKET	
TOLERANCE ON DIMNS UNLESS OTHERWISE STATED IS:2102-69		D S EXT NUMBER	
ALL THREADS TO CONFORM TO		DRAWING NUMBER	
A 11.10.88 AUTHY NOTN.No. BK 86-763		3306-100	
ISSUE DATE		NATURE OF AMENOMENTS	

A-5  
25

SIZE A3

DRAWING NUMBER

3306-100-2



- 1. UNSPECIFIED TOLERANCES FOR DIMENSIONS = ±0.5mm.
- 2. \*DIMENSION FOR REFERENCE.
- (A) 3. HOLES 'B' AND EXTERNAL OUTLINE ARE ALLOWED TO BE MADE WHEN ASSEMBLED.

**EXPLANATORY NOTE:-**

THE COMPONENT SHOULD BE MANUFACTURED FROM CHRYSOTILE ASBESTOS MILLBOARD OF GRADE 'KA1' TO GOST 2850-80. PHYSICAL AND MECHANICAL PARAMETERS OF MILLBOARD MUST CONFORM TO NORMS SPECIFIED AS UNDER AS PER GOST 2850-80.

Sl No:-	PARAMETER	NORMS FOR GRADE KA1
1	DENSITY Kg/m <sup>3</sup>	900 TO 1200
2	ULTIMATE TENSILE STRENGTH MPa (Kgf/cm <sup>2</sup> ), NOT LESS THAN IN LONGITUDINAL DIRECTION:- IN TRANSVERSE DIRECTION:-	2.5 (25) 1.5 (15)
3	MOISTURE CONTENT % (MAX)	5
4	LOSS OF WEIGHT BY CALCINATION % (MAX)	18
5	NON-INFLAMMABILITY (RESISTANCE TO FIRE)	MUST NOT BURN OR GET CHARGED

KVD No:- 78413.

DRG. REDRAWN.

2 CAR EX-257 12/11/88  
13/10/88

PLDT SAMPLE SHOULD BE APPROVED BY A H S P BEFORE MASS PRODUCTION

EST. WT. 2.03Kg 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 INSIDE EQUIVALENT CHAMFERS ARE PERMISSIBLE.

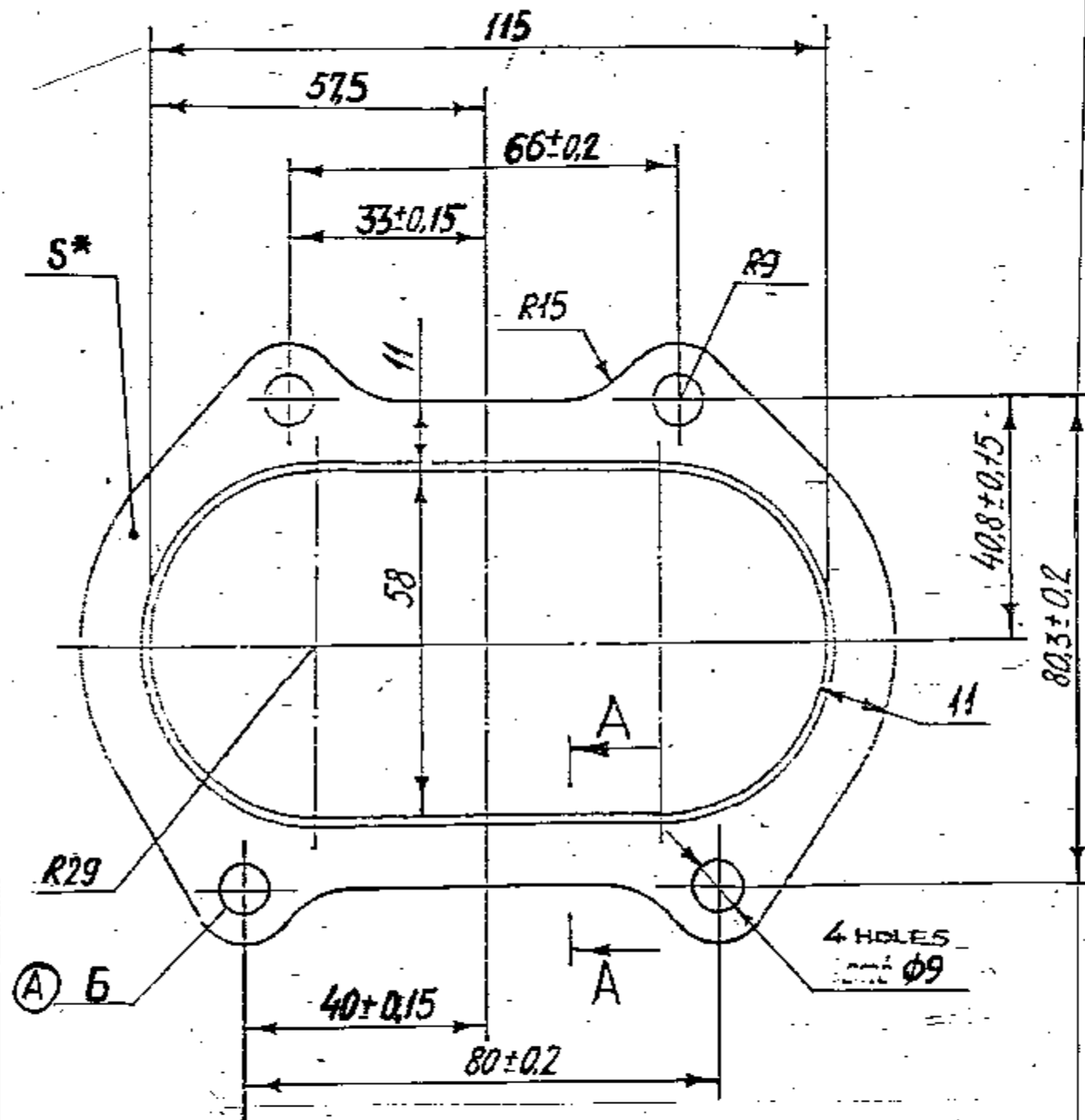
DRN	13.10.88	MATERIAL:- ASBESTOS BOARD KA125 GOST 2850-80	USED ON
APPD	13.10.88	CONTROL RATE OF QUALITY ASSURANCE (HEAVY VEHICLES)	
DATE	26-8-1988		
SERIES	1:1		
DIMENSIONS	IN MM		
TOLERANCE ON DIMNS	UNLESS OTHERWISE STATED IS: 2102-69		
ALL THREADS	TO CONFORM TO		
ISSUE	A	11.10.99 AUTHY NOTN. No. BK 86-763	D S CAT NUMBER
DATE			DRAWING NUMBER
NATURE OF AMENDMENTS			3306-100-2



DRAWING NUMBER

3306-101

DIMENSIONS IN mm.



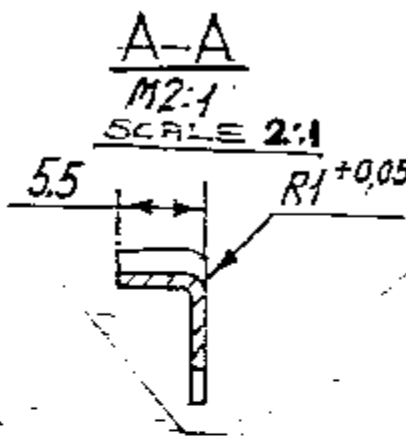
S*	TOLERANCE	MASS Kg.	REMARKS.
0.25	-0.04	0.011	
0.28	-0.04	0.0123	
0.30	-0.04	0.0132	
0.35	-0.04	0.0154	

1. ALTERNATE MATERIAL: STRIP ATPHM HA M3 GOST 1173-77.

2. UNSPECIFIED TOLERANCES FOR DIMENSIONS ±0.5mm.

3. \* DIMENSION FOR REFERENCE.

Ⓐ 4. HOLES "B" AND EXTERNAL OUTLINE ARE ALLOWED TO BE MADE WHEN ASSEMBLED.



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 INSIDE EQUIVALENT CHAMFERS ARE PERMISSIBLE.

DRN

GHD

TCD

APPD

DATE

SCALE:-

DIMENSIONS IN mm

TOLERANCE ON DIMNS

UNLESS OTHERWISE

STATED IS:2102-69

ALL THREADS TO

CONFORM TO

16-11-88

1:1

1:1

1:1

1:1

1:1

1:1

1:1

1:1

1:1

1:1

1:1

MATERIAL:- STRIP ATPHM

HA M3 GOST 1173-77

CONTROL RATE OF QUALITY ASSURANCE (HEAVY VEHICLES)

AVADI

TITLE

BOTTOM PLATE

D S CAT NUMBER

DRAWING NUMBER

3306-101

3306-101

3306-101

3306-101

ISSUE DATE

NATURE OF AMENDMENTS

A

11.10.99

AUTHY NOTN No.BK 86-763

5/7

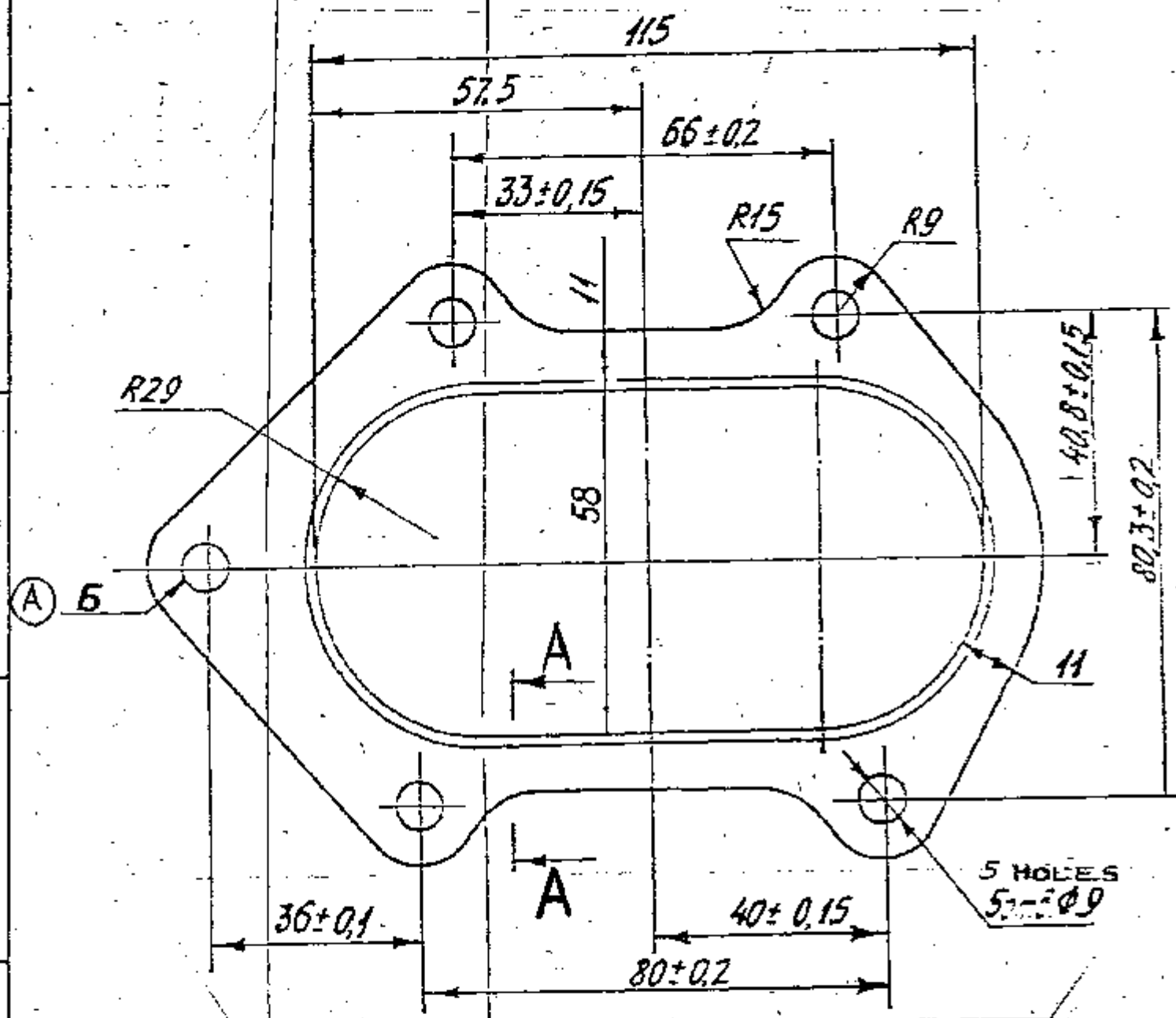
A3

DRAWING NUMBER

3306-101-2

DIMENSION IN mm

S*	TOLERANCE	MASS Kg
0,25	-0,04	0,013
0,28	-0,04	0,0145
0,30	-0,04	0,0156
0,35	-0,04	0,0182



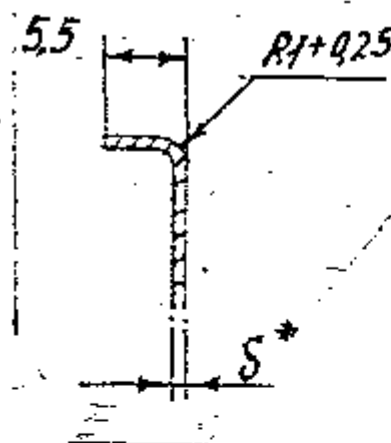
1. ALTERNATE MATERIAL : ДИПРТ МАН3 ГОСТ 1173-77.

2. UNSPECIFIED TOLERANCES FOR DIMENSIONS  $\pm 0,5\text{mm}$ .

3. DIMENSION FOR REFERENCE.

(A) 4. HOLES 'B' AND EXTERNAL OUTLINE ARE ALLOWED TO BE MADE WHEN ASSEMBLED.

A-A  
M2:1  
SCALE 2:1



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

EST WT  
SEE TABLE

TO BE STAMPED OR MARKED WHERE INDICATED THIS  $\oplus$  (LETTERS)

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

DRN	Hydratol	MATERIAL	USED ON
CHO	Gyants	STRIP ДИПРТ	CG 3306-15-2
TED	Karavayev	МАН3 ГОСТ 1173-77.	
APPO		CONTROLLER OF INSPECTION (HEAVY VEHICLES)	
DATE	16-11-88	AVADI	
SCALE	1:1		
DIMENSIONS IN MM		TITLE	
TOLERANCE ON DIMNS UNLESS OTHERWISE STATED IS: 2102-69			
ALL THREADS TO CONFORM TO		D S CAT NUMBER	DRAWING NUMBER
A 11.10.99 AUTHY NOTN. No. BK 86-763			3306-101-2
ISSUE	DATE	NATURE OF AMENDMENTS	

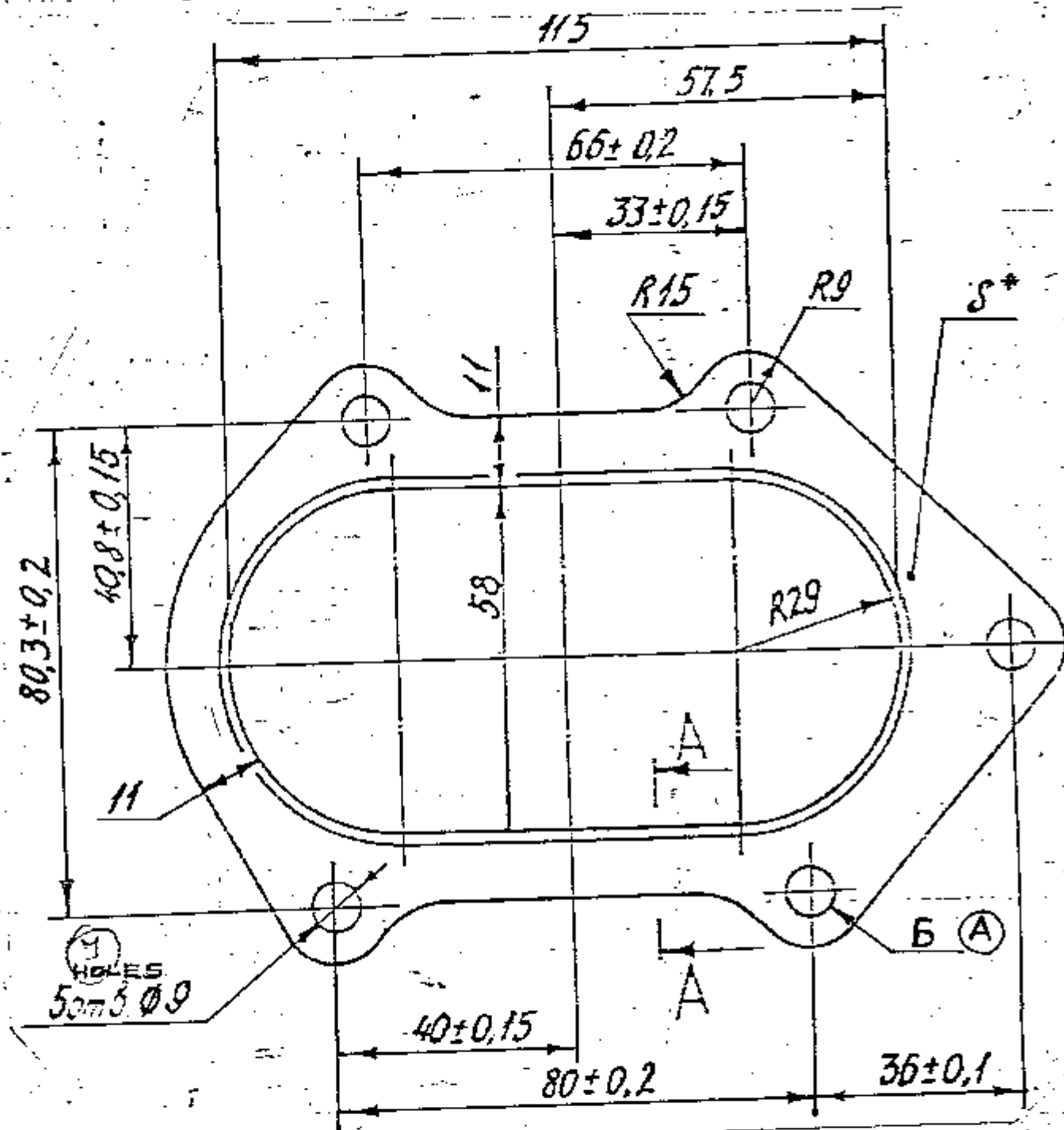
A-5  
28

SIZE A3

DRAWING NUMBER  
3306-101-3

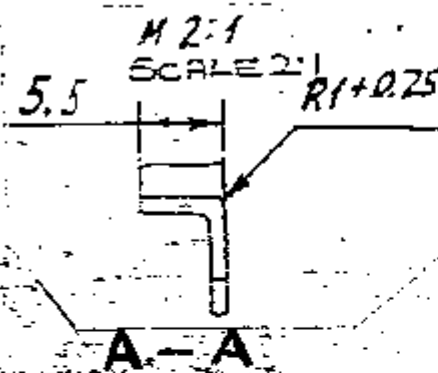
DIMENSION IN mm.

S*	TOLERANCE	MASS / Kg
0,25	-0,04	0,013
0,28	-0,04	0,0145
0,30	-0,04	0,0156
0,35	-0,04	0,0182



1. ALTERNATE MATERIAL : ДП РНТ Н,Д,МЗ ГОСТ 1173-77.
2. UNSPECIFIED TOLERANCES FOR DIMENSIONB ± 0.5mm.
3. \* DIMENSION FOR REFERENCE.

④ 4. HOLES B AND EXTERNAL OUT-LINE ARE ALLOWED TO BE MADE WHEN ASSEMBLED.



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

EST. WT. TO BE STAMPED OR MARKED WHERE SEE TABLE 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	Uphalaha	MATERIAL	USED ON :-
DHD	Uphalaha	STRIP ДПРНМ Н,Д,МЗ	CG 3306-15-3
TED	Noman Poo	GOST 1173-77	
APPD		CONTROLLERATE OF INSPECTION (HEAVY VEHICLES) AVADI	
DATE	16-11-88		
SCALE	1:1		
DIMENSIONS IN mm			
TOLERANCE ON DIMNS UNLESS OTHERWISE STATED IS: Z102-69			
ALL THREADS TO CONFORM TO			
A	11.10.93	AUTHY NOTN. No. BK 86-763	
ISSUE	DATE	NATURE OF AMERDMENTS	

TITLE	BOTTOM PLATE
	3306-101-3

A5  
29

SIZE A3

**EXPLANATORY NOTE:-**

MATERIAL QUOTED: SHEET A 2 GOST 19904-74  
II-F-10 GOST 16523-70

- A = HIGH ACCURACY
- 2 = THICKNESS COLD ROLLED SHEET STEEL TO GOST 19904-74.
- II = GROUP FOR QUALITY OF SURFACE FINISH.
- F = CAPABILITY TO DRAW- DEEP DRAWN.
- 10 = GRADE OF STEEL

**CHEMICAL COMPOSITION % (AS PER GOST 1050-74)**

CARBON = 0.07-0.14 ; SILICON = 0.17-0.37 ;  
 MANGANESE = 0.35-0.65 ;  
 CHROMIUM = 0.15 (MAX) ; SULPHUR = 0.040 (MAX) ;  
 PHOSPHORUS = 0.035 (MAX) ; COPPER = 0.25 (MAX) ;  
 NICKEL = 0.25 (MAX).

**MECHANICAL PROPERTIES (AS PER GOST 16523-70)**

ULTIMATE TENSILE STRENGTH  $Kgf/mm^2 = 30-42$   
 1. ELONGATION (MIN) = 25

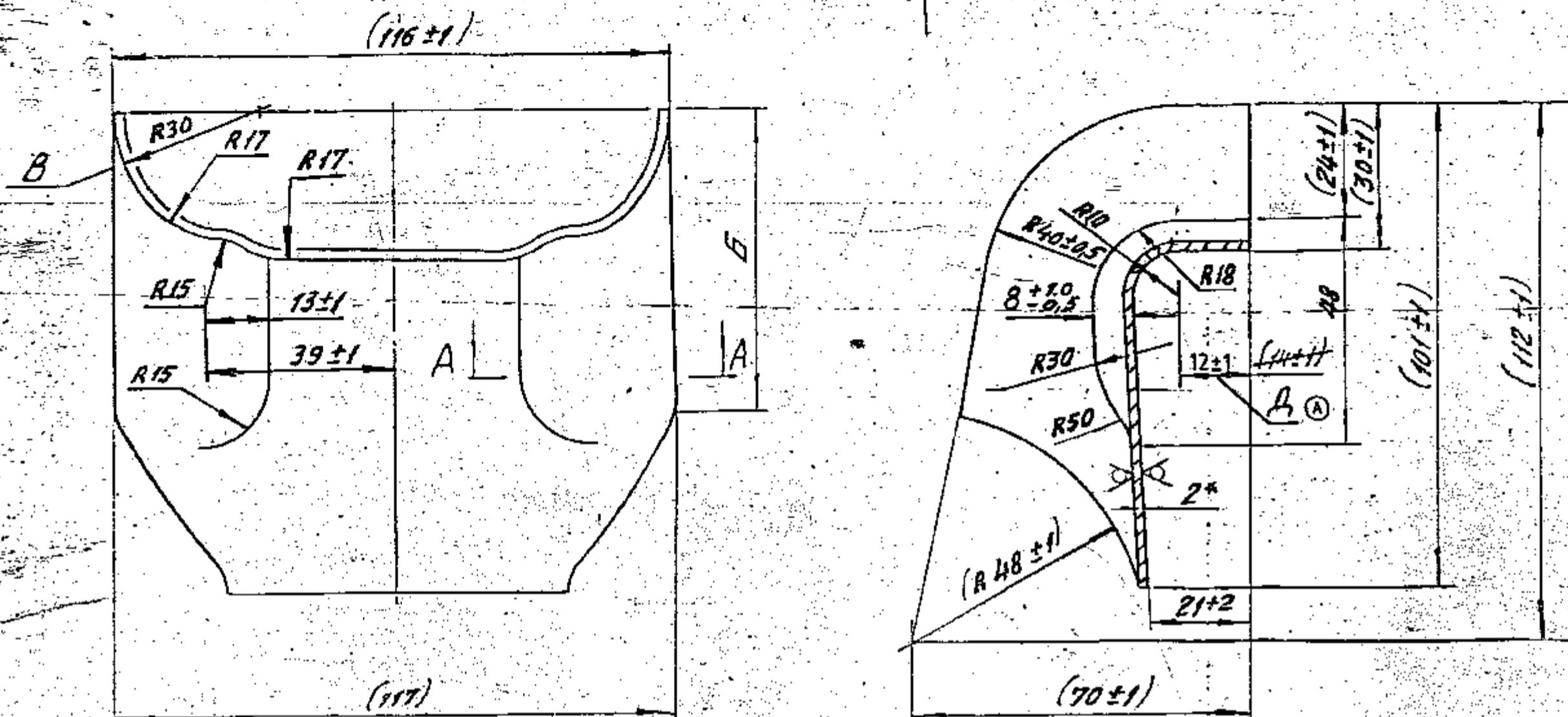
**TECHNICAL REQUIREMENTS - TRANSLATED**

1. UNSPECIFIED LIMIT DEVIATIONS OF DIMENSIONS FOR COLD STAMPING ARE TO BE OBTAINED WITH ACCURACY  $\pm 0.2mm$ .
2. MATERIAL THICKNESS IN THINNED PLACES SHOULD BE ATLEAST 1.5mm
3. RUPTURE HOLES LAMINATIONS, DENTS, AND OTHER DEFECTS ARE NOT ALLOWED.
4. WHEN MANUFACTURING AS PER ALTERNATIVE, SMOOTH TRANSITION OF RADI B TO RADIUS  $\Gamma$  SHOULD BE ENSURED ON SECTION B.
5. BEFORE PUTTING INTO PRODUCTION, THE MATERIAL SHOULD BE CHECKED FOR WELDABILITY AS PER SPECIFICATIONS OF WELDING DEPARTMENT.
6. DIMENSIONS GIVEN IN BRACKETS ARE TO BE ENSURED AFTER ASSY.
7. \* DIMENSIONS FOR REFERENCE.

**ALTERNATE MATERIAL**

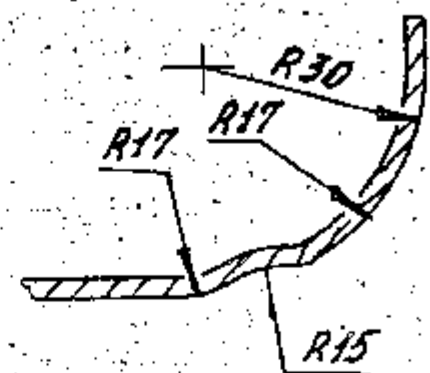
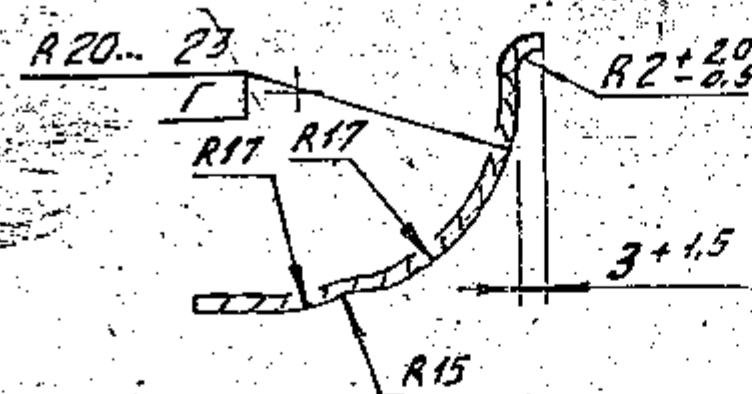
SHEET A-118-0-2.0 GOST 19904-74 (A)  
II-F-08 HE GOST 9045-60.

(A) ON SECTION 'A', BEAD SHOULD NOT BE MADE, WHEN MANUFACTURING AS PER ALTERNATIVE.



ALTERNATIVE A-A *вариант*

A-A



5	ВКР-31	23	0.229
УСТАНОВИТЬ НА ЧЕРТЕЖЕ ПЛОЩАДЬ АРОТ			

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

EST. MASS 0.229 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.

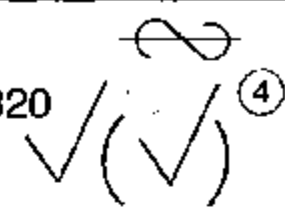
DRN	Edwin	MATERIAL :-	USED ON :-
CHD	Edwin	SHEET A2 GOST 19904-74	Cb 418-50-29
TEO	Edwin	II-F-10 GOST 16523-70	Cb 418-51-29
APPD	Edwin	CONTROLLERATE OF QUALITY ASSURANCE (HEAVY VEHICLES)	
DATE	29.1.88	A V A O I	
SCALE	1:1	TITLE :- LOWER HALF OF BRANCH PIPE	
DIMENSIONS IN mm		D S CAT NUMBER	
TOLERANCE ON DIMS UNLESS OTHERWISE STATED		DRAWING NUMBER	
ALL THREADS CONFORM TO		3318-06-1	
A	19.09.89	AUTHY. BK 84-779 & 85-788.	
ISSUE	DATE	NATURE OF AMENDMENTS	

EXPLANATORY NOTE ADDED ON 20-1-92

DRAWING NUMBER  
3318-06-4

SHEET No. 1 OF 1

**EXPLANATORY NOTE :-**

Rz 320 

MATERIAL QUOTED : SHEET A2 GOST 19904 - 74  
II - Γ - 10 GOST 16523 - 70

- A = HIGH ACCURACY
- 2 = THICKNESS OF COLD ROLLED SHEET STEEL TO GOST 19904 - 74
- II = GROUP FOR QUALITY OF SURFACE FINISH.
- Γ = CAPABILITY TO DRAW - DEEP DRAWN
- 10 = GRADE OF STEEL

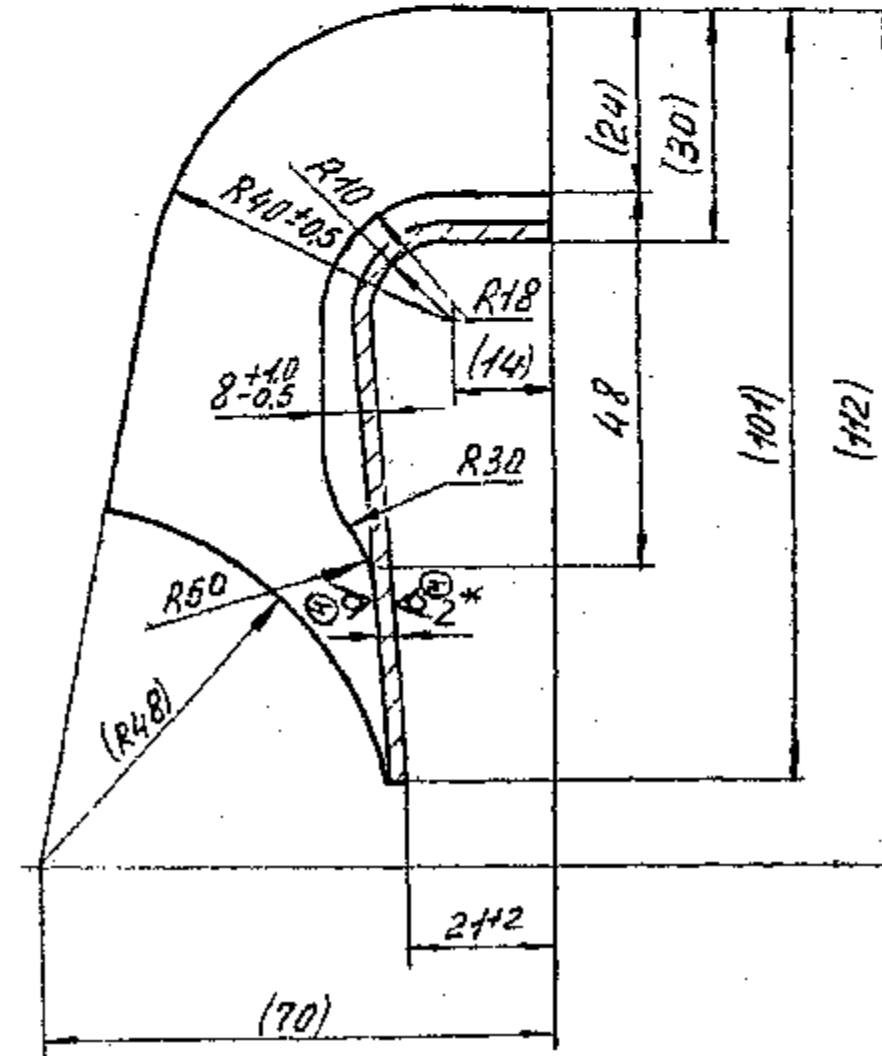
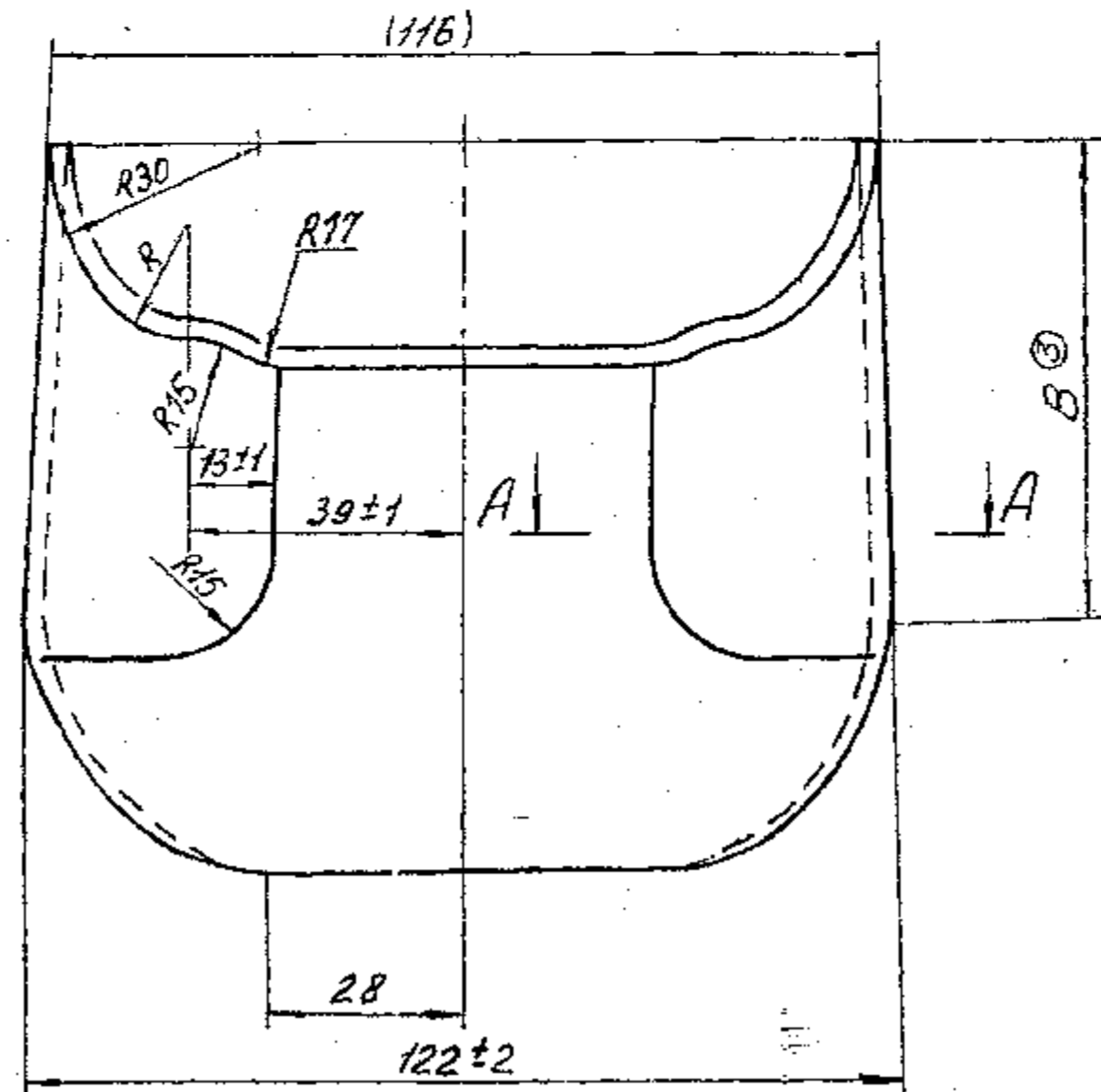
**CHEMICAL COMPOSITION % (AS PER GOST 1050 - 74)**

CARBON = 0.07 - 0.14 ; SILICON = 0.17 - 0.37  
MANGANESE = 0.35 - 0.85  
CHROMIUM = 0.15 ( MAX ) ; SULPHUR = 0.040 ( MAX )  
PHOSPHORUS = 0.035 ( MAX ) ; COPPER = 0.25 ( MAX )  
NICKEL = 0.25 ( MAX )

**MECHANICAL PROPERTIES (AS PER GOST 16523 - 70)**

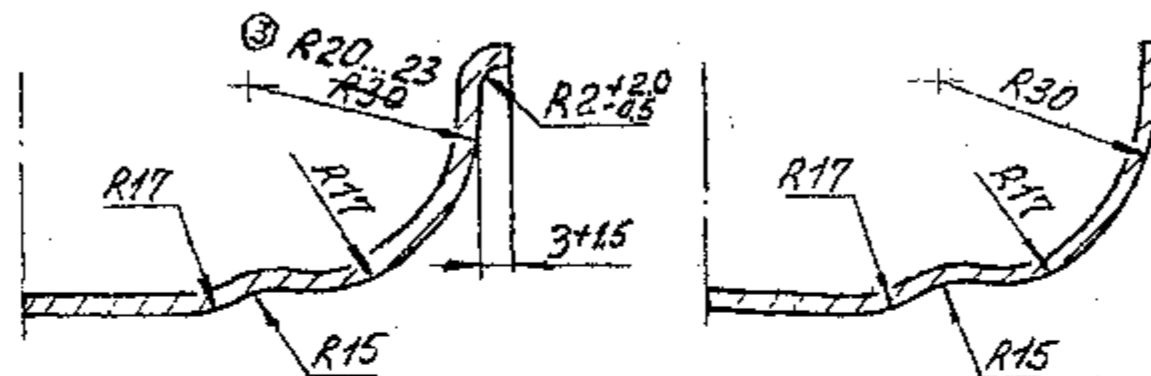
ULTIMATE TENSILE STRENGTH  $Kgf/mm^2 = 30 - 42$   
% ELONGATION ( MIN ) = 25

2. DIMENSIONS WITH UNSPECIFIED TOLERANCES FOR COLD STAMPING SHOULD BE OBTAINED WITH TOLERANCE  $\pm 2$  mm.
3. MATERIAL THICKNESS IN THINNED PLACES SHOULD NOT BE LESS THAN 1.5 mm.
4. RUPTURE HOLES, LAMINATIONS, DENTS AND OTHER DEFECTS ARE NOT ALLOWED.
5. DIMENSIONS IN BRACKETS SHOULD BE OBTAINED WITH ACCURACY  $\pm 1$  mm.
6. BEFORE PUTTING INTO PRODUCTION, THE MATERIAL SHOULD BE CHECKED FOR WELDABILITY AS PER SPECIFICATIONS OF THE WELDING DEPARTMENT.
7. \* DIMENSIONS FOR REFERENCE.
8. WHEN MANUFACTURING AS PER ALTERNATIVE SMOOTH TRANSITION OF R30 TO R20 TO 23 SHOULD BE ENSURED ON SECTION "B"



A-A ALTERNATIVE

A-A



ⓑ EQUIVALENT MATERIAL  
Gr. DD IS: 513-1994

Ⓐ ALTERNATIVE MATERIAL :- SHEET A-ΠB-0-2.0 GOST 19904 - 74  
II - BF 08/IC GOST 9045 - 80

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

EST. WT. (Kg) 0.229 TO BE STAMPED OR MARKED WHERE INDICATED THUS # ( LETTERS)

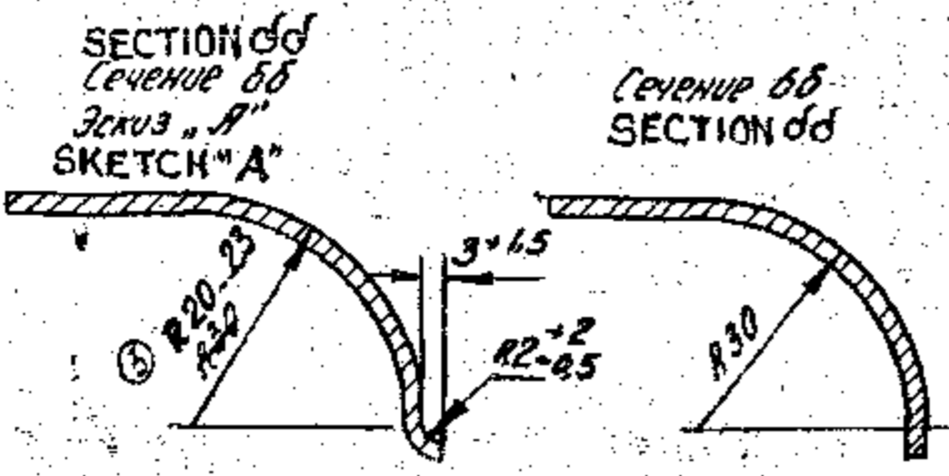
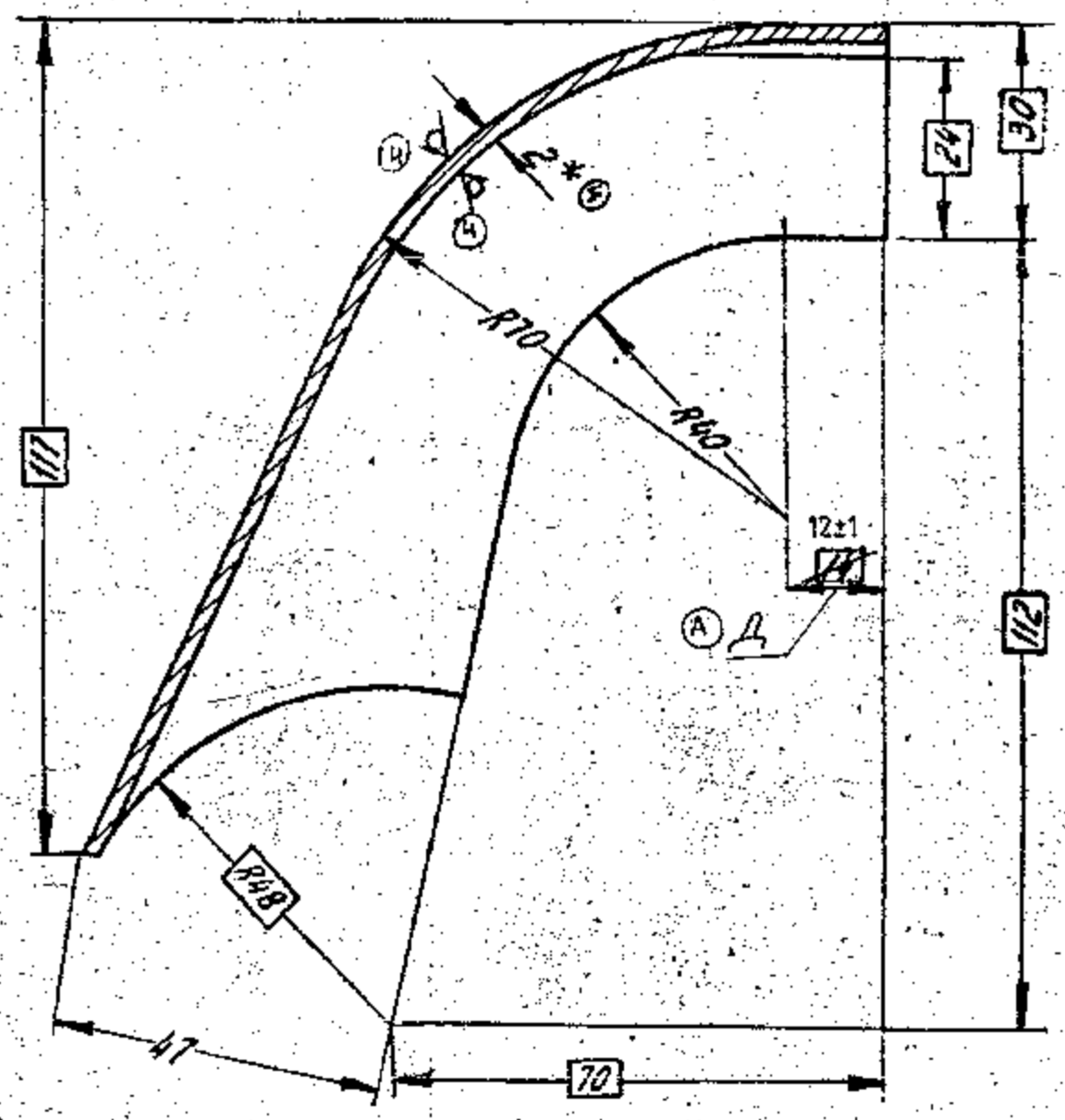
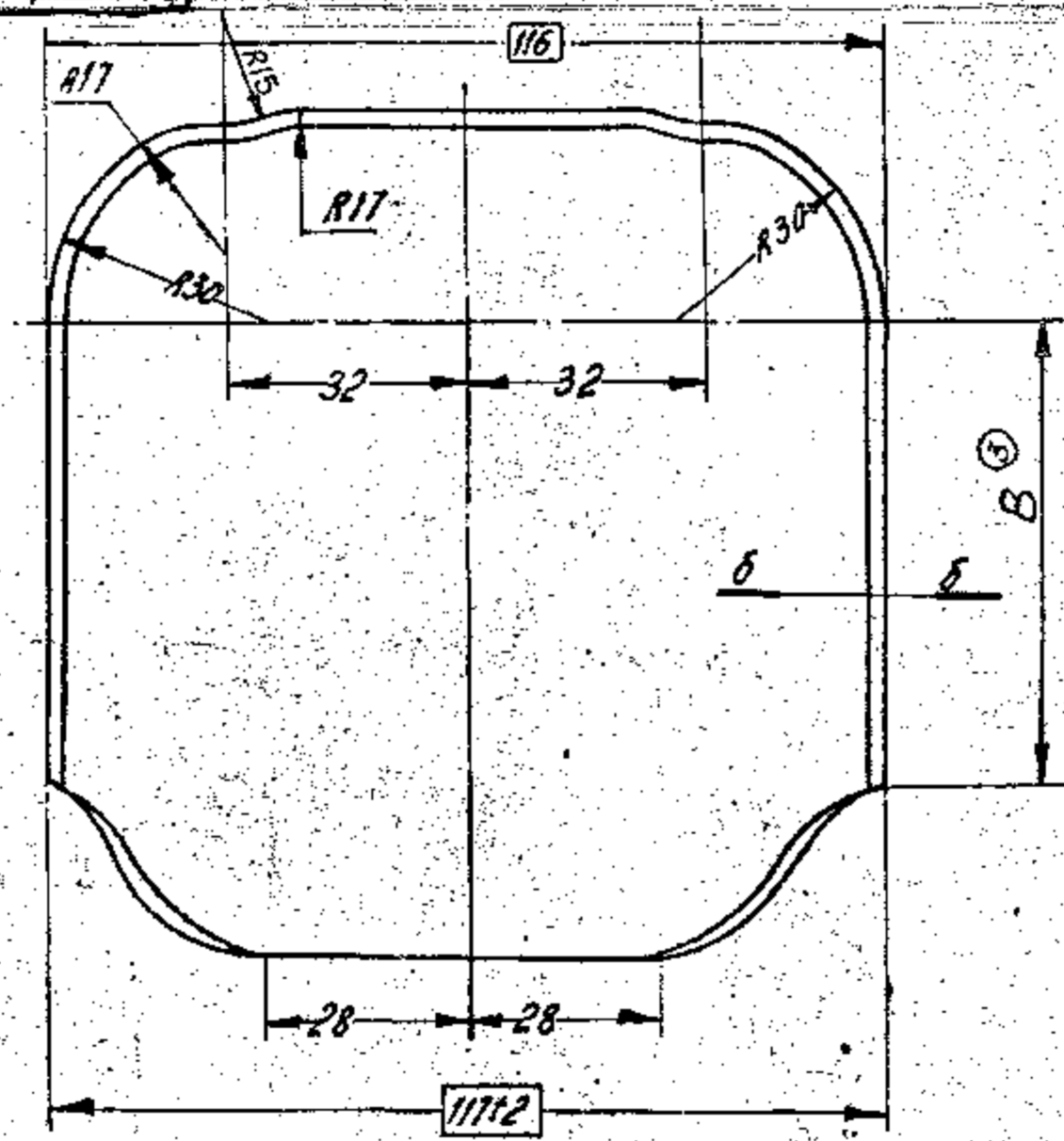
ALL SHARP EDGES AND CORNERS TO BE REMOVED UNLESS OTHERWISE STATED MACHINED CORNERS TO HAVE R OUTSIDE R INSIDE EQUIVALENT CHAMFERS ARE PERMISSIBLE.

DRN	APPD	DATE	SCALE	DIMENSIONS	TOLERANCE	MATERIAL	USED ON
		11/01/07	1:1	IN mm	UNLESS OTHERWISE STATED IS: 2102-69	A2 GOST 19904 - 74 II - Γ - 10 GOST 16523 - 70	Cb 411-50-29 Cb 411-51-29
CONTROLLERATE OF QUALITY ASSURANCE (HEAVY VEHICLES) AVADI				TITLE :- LOWER HALF OF BRANCH PIPE			
ISSUE	DATE	NATURE OF AMENDMENTS	D S CAT NUMBER		DRAWING NUMBER		
B	23.10.10	4 <sup>th</sup> Alt. Comm. Mfg. Minutes Point. No.1 dt. 26.10.09	IS : 4218 Pt. IV		3318-06-4		
A	18.9.89	AUTHY. BK. 84 - 779 & 85 - 788					

DRG. INDIANISED BASED ON RUSSIAN ORIGINAL ISSUE - 4

F-A  
6

SIZE A2



**EXPLANATORY NOTE :**

10. REFERENCE MATERIAL QUOTED : COLD ROLLED SHEET STEEL, HIGH ACCURACY ON 'A' 2 mm THICK TO GOST 19904-74, QUALITY OF SURFACE FINISH II; DEEP DRAWN Γ TO GOST 16523-70 AND MANUFACTURED IN ACCORDANCE WITH QUALITY CARBON STRUCTURAL STEEL Gde 10 TO GOST 1050-74  
 a) CHEMICAL COMPOSITION AS PER GOST 1050-74.

Gde OF STEEL	CONTENT OF ELEMENTS %					
	C	Si	Mn	Cr	S	P
10	0.07-0.14	0.17-0.37	0.35-0.65	0.15	0.040	0.035

RESIDUAL CONTENT OF COPPER AND NICKEL SHOULD NOT EXCEED 0.25% EACH.

b) MECHANICAL PROPERTIES AS PER GOST 16523-70.

GRADE OF STEEL	ULTIMATE TENSILE STRENGTH Kgf/mm <sup>2</sup>	RELATIVE ELONGATION %
10	30-42	25

- DIMENSIONS WITH UNSPECIFIED TOLERANCES FOR COLD STAMPING SHOULD BE OBTAINED WITH TOLERANCE ±0.5mm.
- MATERIAL THICKNESS IN THINNED PLACES SHOULD NOT BE LESS THAN 1.5mm.
- RUPTURE, HOLES, LAMINATIONS, DENTS AND OTHER DEFECTES ARE NOT ALLOWED.
- SHARP EDGES SHOULD BE BLUNTED.
- HALOES OF BRANCH-PIPES MAY BE STAMPED WITH BEADING AS PER SKETCH 'A'.
- DIMENSIONS GIVEN IN RECTANGLE  SHOULD BE MAINTAINED IN THE UNIT.
- BEFORE PUTTING INTO PRODUCTION THE MATERIAL SHOULD BE CHECKED FOR WELD-ABILITY AS PER SPECIFICATIONS OF THE WELDING DEPARTMENT.

- WHEN MANUFACTURING AS PER SKETCH 'A' SMOOTH TRANSITION FROM R30 TO R20-----R23 SHOULD BE ENSURED ON SECTIONS 'B'.
  - \* DIMENSION FOR REFERENCE.
- ALTERNATE MATERIAL  
 (A) SHEET A-ΠB-0-2.0 GOST 19904-74  
 II-BF-08 ИС GOST 9045-80.
- 10- ON SECTION 'A', BEAD SHOULD NOT BE MADE, WHEN MANUFACTURING AS PER ALTERNATIVE  
 (A)

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

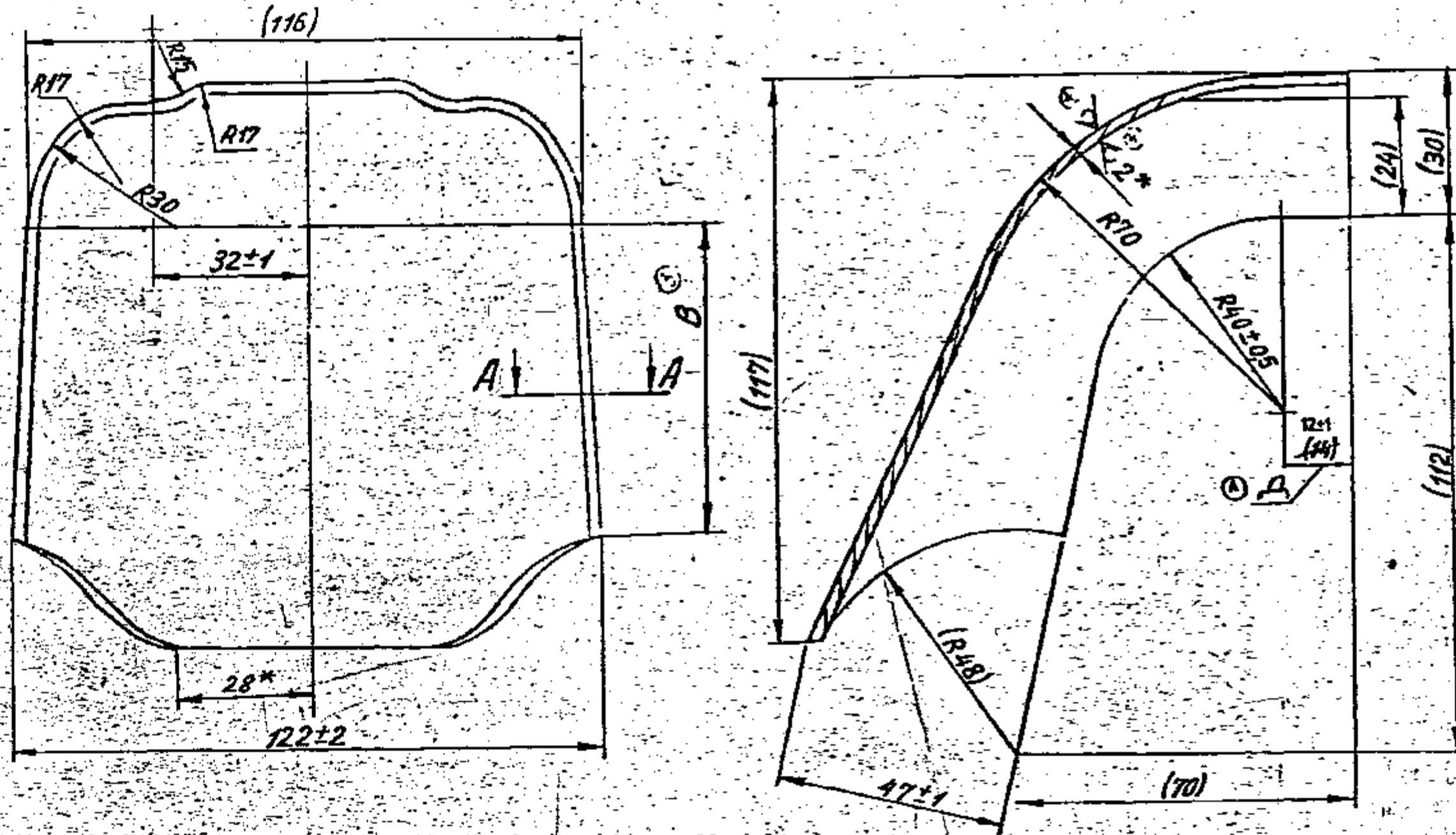
EST WT 0.428 Kg	TO BE STAMPED OR MARKED WHERE INDICATED THUS # ( LETTERS )
--------------------	--

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

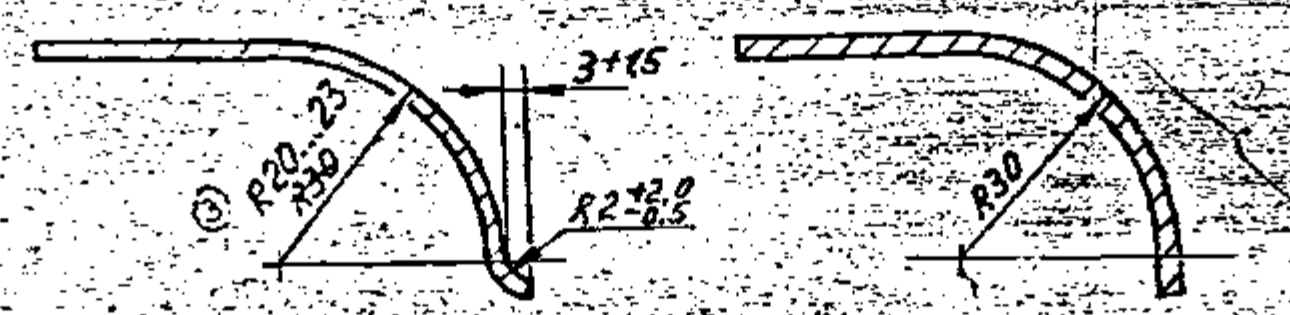
DRN	<i>[Signature]</i>	MATERIAL:	USED ON:
LHO	<i>[Signature]</i>	SHEET A2 GOST 19904-74	C6 418-5D-29
TCO	<i>[Signature]</i>	II-C-10 GOST 16523-70	C6 418-51-29
APPD	<i>[Signature]</i>	CONTROLLERATE OF INSPECTION (HEAVY VEHICLES) AVADI	
DATE	26-2-86	TITLE:	
SCALE	1:1	BRANCH PIPE UPPER HALF	
DIMENSIONS IN mm		D S CAT NUMBER	DRAWING NUMBER
TOLERANCE ON DIMNS UNLESS OTHERWISE STATED IS - 2102-69			3318-07-1
ALL THREADS TO CONFORM TO			
ISSUE	20.9.89	AUTHY. BK 84-799 & 85-708	
		NATURE OF AMENDMENTS	

DRAWING NUMBER  
3318-07-4

Rz320  
V(V)⊕



ALTERNATIVE  
A-A вариант A-A



Ⓐ ON SECTION 'A' BEAD SHOULD NOT BE MADE WHEN MANUFACTURING AS PER ALTERNATIVE

**EXPLANATORY NOTE:-**

MATERIAL QUOTED: SHEET A 2 GOST 19904-74  
II-Г-10 GOST 16523-70

- A = HIGH ACCURACY
- 2 = THICKNESS COLD ROLLED SHEET STEEL TO GOST 19904-74.
- II = GROUP FOR QUALITY OF SURFACE FINISH.
- Г = CAPABILITY TO DRAW- DEEP DRAWN.
- 10 = GRADE OF STEEL

**CHEMICAL COMPOSITION % (AS PER GOST 1050-74)**

CARBON = 0.07-0.14 ; SILICON = 0.17- 0.37 ;  
MANGANESE = 0.35 - 0.65 ;  
CHROMIUM = 0.15 (MAX) ; SULPHUR = 0.040 (MAX) ;  
PHOSPHORUS = 0.035 (MAX) ; COPPER = 0.25 (MAX) ;  
NICKEL = 0.25 (MAX).

**MECHANICAL PROPERTIES (AS PER GOST 16523-70)**

ULTIMATE TENSILE STRENGTH  $\text{kgf/mm}^2 = 30-42$   
1. ELONGATION (MIN) = 25

2. DIMENSIONS WITH UNSPECIFIED TOLERANCES FOR COLD STAMPING SHOULD BE OBTAINED WITH TOLERANCE  $\pm 2\text{mm}$ .
3. MATERIAL THICKNESS IN THINNED PLACES SHOULD NOT BE LESS THAN 1.5 mm.
4. RUPTURE HOLES, LAMINATIONS, DENTS AND OTHER DEFECTS ARE NOT ALLOWED.
5. DIMENSIONS IN BRACKETS SHOULD BE OBTAINED WITH ACCURACY  $\pm 1\text{mm}$ .
6. BEFORE PUTTING INTO PRODUCTION, THE MATERIAL SHOULD BE CHECKED FOR WELDABILITY AS PER SPECIFICATIONS OF THE WELDING DEPARTMENT.
7. \* DIMENSIONS FOR REFERENCE.
8. WHEN MANUFACTURING AS PER ALTERNATIVE SMOOTH TRANSITION OF R30 TO R20 TO 23 SHOULD BE ENSURED ON SECTION 'B'

**ALTERNATIVE MATERIAL**

Ⓐ SHEET A1B-D-2.0 GOST 19904-74  
II-BF 08UC GOST 9045-80

Ⓑ EQUIVALENT MATERIAL  
Gr. D. 13: 513-1994

EXPLANATORY NOTE ADDED ON 18-2-92  
DRG INDIANISED BASED ON RUSSIAN ORIGINAL ISSUE NO 4.

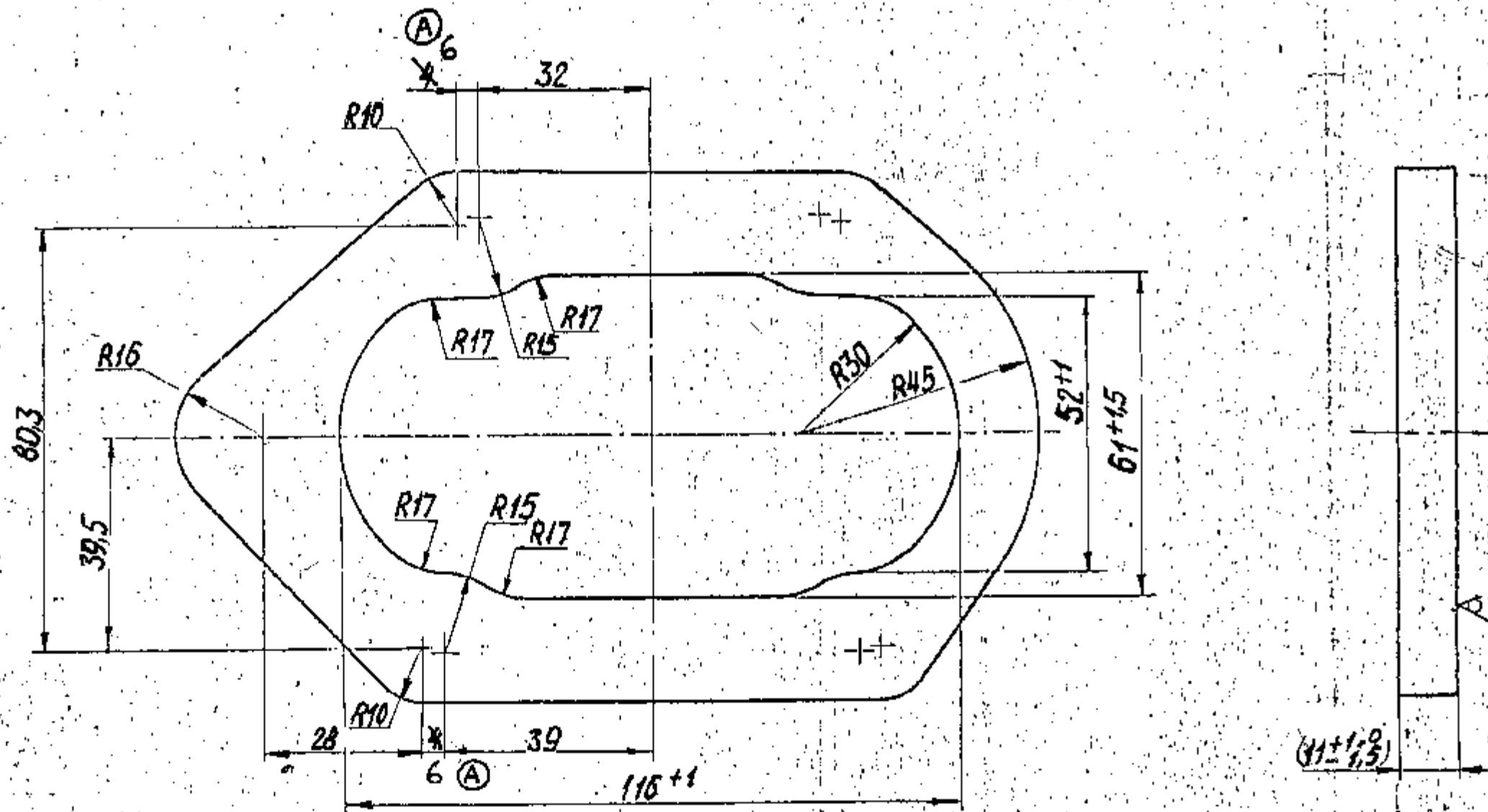
PILOT SAMPLE SHOULD BE APPROVED BY A H S P BEFORE BULK PRODUCTION.

EST. WT. 0.428 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.

DATE	74-88	MATERIAL :- SHEET	A 2 GOST 19904-74	USED ON :-	CE 411-50-29
			II-Г-10 GOST 16523-70		CE 411-51-29
SCALE :- 1:1			CONTROLLERATE OF QUALITY ASSURANCE (HEAVY VEHICLES)		
DIMENSIONS IN mm.			A V A D I		
TOLERANCE ON DIMS UNLESS OTHERWISE STATED IS 2102-69			TITLE UPPER HALF OF BRANCH PIPE		
ISSUE	DATE	NATURE OF AMENDMENTS	D S EAT NUMBER	DRAWING NUMBER	
B	18.03.10	4 <sup>th</sup> Alt. Comm. Mt. Minutes Pt. No. 1 Dt. 26.10.09		3318-07-4	
A	18-2-89	AUTHY. BK 84-7794 85-788			

DRAWING INDICATED BASED ON RUSSIAN ORIGINAL ISSUE 7 (BK 81-31)  
EXPLANATORY NOTE ADDED BY 12-2-82



TECHNICAL REQUIREMENTS IN RUSSIAN

1. Неуказанные предельные отклонения размеров ±0,5 мм
2. Размер в скобках - после сборки.
3. Заменитель материала сталь 15, 20 и 25 ГОСТ 1050-74
4. Штамповочный скос 12 мм на сторону.

TECHNICAL REQUIREMENTS - TRANSLATED

1. UNSPECIFIED LIMIT DEVIATIONS OF DIMENSIONS ±0.5mm.
2. DIMENSIONS GIVEN IN BRACKETS ARE TO BE ENSURED AFTER ASSEMBLY.
3. ALTERNATIVE MATERIAL STEEL 15, 20, AND 25 GOST 1050-74.
4. DRAFT 12mm PER SIDE.

EXPLANATORY NOTE:-

MATERIAL QUOTED:- SHEET 12 GOST 19903-74  
10 GOST 1577-81.

12 = THICKNESS OF THE SHEET  
10 = GRADE OF OPENHEARTH STEEL  
AS PER GOST 1577-81.

CHEMICAL COMPOSITION % (AS PER GOST 1050-74.)

C = 0.07 - 0.14, Si = 0.17 - 0.37, Mn = 0.35 - 0.65  
Cr = 0.15  
S = 0.040  
P = 0.035 (MAX)  
Cu = 0.25  
Ni = 0.25

MECHANICAL PROPERTIES AS PER GOST 1577-81.

ULTIMATE TENSILE STRENGTH: kgf/mm<sup>2</sup> (MIN) = 34  
% ELONGATION (MIN) = 32  
IMPACT STRENGTH kgcm/cm<sup>2</sup> (MIN) = 3

ⓑ EQUIVALENT MATERIAL  
040 A 04 (EN 2A) BS:970

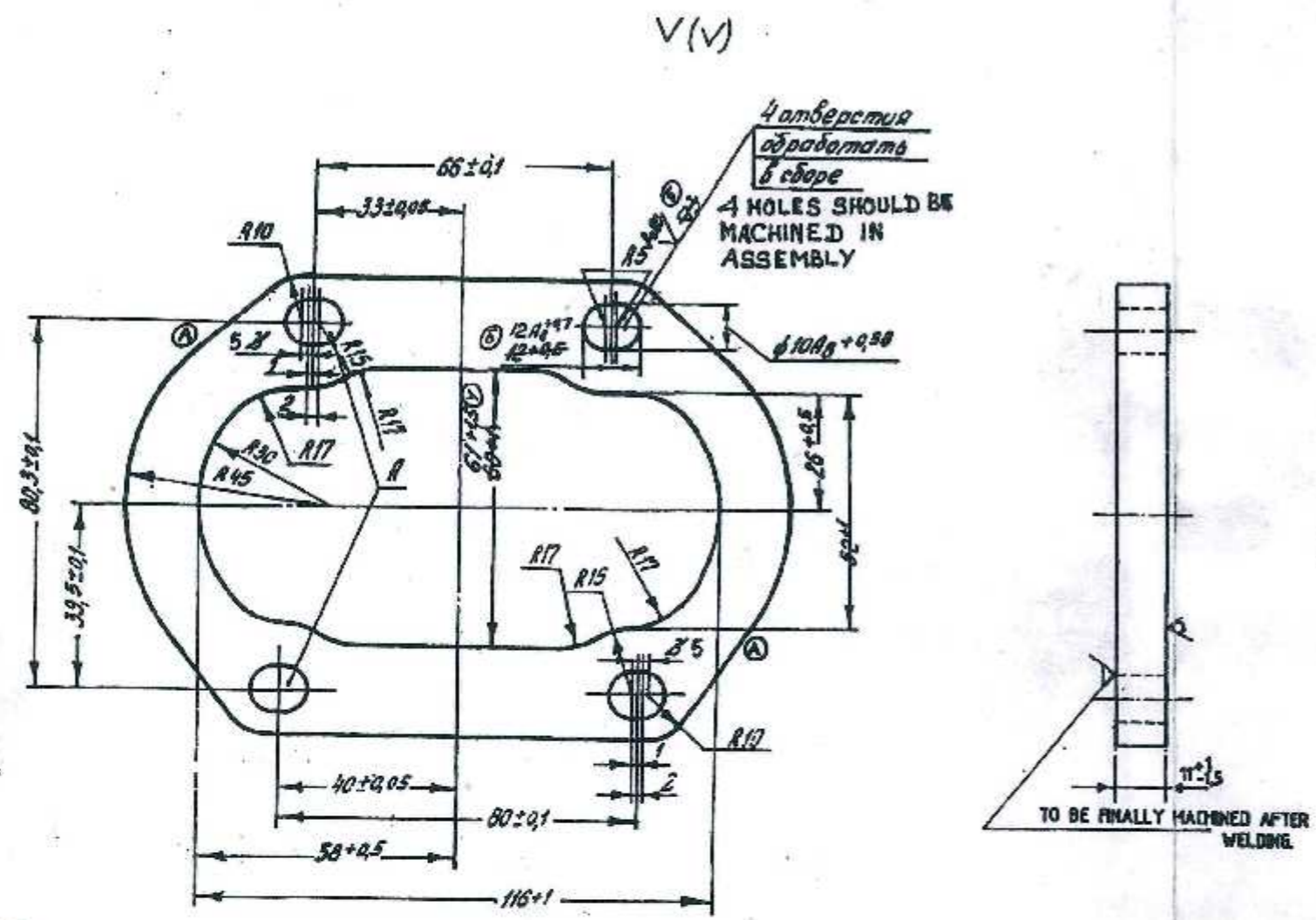
7	BK 81-31	12.2.82	12.2.82
---	----------	---------	---------

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

EST. MASS 0.6 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	CHD	TCD	APPO	DATE	SCALE	DIMENSIONS	TOLERANCE	ISSUE	DATE	NATURE OF AMENDMENTS	MATERIAL	USED ON	CONTROLLER	TITLE	D S CAT NUMBER	DRAWING NUMBER
				29.1.82	1:1	mm	UNLESS OTHERWISE STATED.	A	24.3.2K	4th ALT. COMM. Mtg. MINUTES POINT No 2 DT. 26-10-09 NOTN. No. BK 86-455	SHEET 12 GOST 19903-74 10 GOST 1577-81.	Cb 418-50-29 Cb 418-51-29		FLANGE		3318-08-7





**EXPLANATORY NOTE**

REFERENCE MATERIAL QUOTED: HOT ROLLED STEEL SHEET OF NORMAL ACCURACY ON ROLLING (G) 12mm THICKNESS TO GOST 19903-74 OF STEEL Gde 10 OF GOST 3577-81 MANUFACTURED IN ACCORDANCE WITH NORMALISED CARBON STRUCTURAL STEEL Gde 10 AND REFERENCE NOTE 5 ON ALTERNATIVE MATERIALS MANUFACTURED IN ACCORDANCE WITH CARBON STRUCTURAL STEEL Gdes 15,20 & 25 TO GOST 1050-76.



a) CHEMICAL COMPOSITION AS PER GOST 1050-76.

GRADE OF STEEL	CONTENT OF ELEMENTS %						REMARKS
	C	Si	Mn	Cr	S	P	
	MAXIMUM						
10	0.07 - 0.14	0.17 - 0.37	0.35 - 0.65	0.15	0.040	0.035	Ref. MATL
15	0.12 - 0.19	0.17 - 0.37	0.35 - 0.65	0.25	0.040	0.035	ALT. MATL
20	0.17 - 0.24	0.17 - 0.37	0.35 - 0.65	0.25	0.040	0.035	ALT. MATL
25	0.22 - 0.30	0.17 - 0.37	0.50 - 0.80	0.25	0.040	0.035	ALT. MATL

RESIDUAL CONTENT OF COPPER AND NICKEL SHOULD NOT EXCEED 0.25% EACH.

b) MECHANICAL PROPERTIES OF NORMALISED HOT ROLLED SHEET AS PER GOST 1577-81

GRADE OF STEEL	ULTIMATE TENSILE STRENGTH Kgf/mm <sup>2</sup>	ELONGATION %	IMPACT STRENGTH KJm/cm <sup>2</sup>	HARDNESS BHN		REMARKS
				MINIMUM	MAX.	
10	34	32	3	-	-	Ref Matl.
15	38	30	3	-	-	Alt. Matl.
20	40	28	3	-	-	Alt. Matl.
25	45	25	-	170	-	Alt. Matl.

ENGINE	HOLE PROFILE	USED ON ASSEMBLY	REMARKS
V46-6	 OVAL SHAPE AS SHOWN IN THE DRAWING (3318-08-08)	SB 418-50-29 SB 418-51-29	4 HOLES SHOULD BE MACHINED IN ASSEMBLY
V92S2	 CIRCULAR SHAPE AS PER ASSEMBLY DRAWING (SB 418-50-45 & SB 418-51-45)	SB 418-50-45 SB 418-51-45	

- DIMENSIONS WITH UNSPECIFIED TOLERANCES FOR COLD STAMPING SHOULD BE OBTAINED WITH TOLERANCE ±0.5mm.
- SHARP EDGES SHOULD BE BLUNTED.
- STAMPING BEVEL UP TO 1.2mm PER SIDE IS ALLOWED.
- NOTE: HOLES A FOR 3rd AND 4th FLANGES OF EVERY MANIFOLD SHOULD BE OBTAINED WITH DIA. 10A8+0.7 AS PER ASSEMBLY DRAWINGS OF MANIFOLDS.
- ALTERNATE MATERIALS: STEEL GRADES 15,20 AND 25,GOST 1050-76

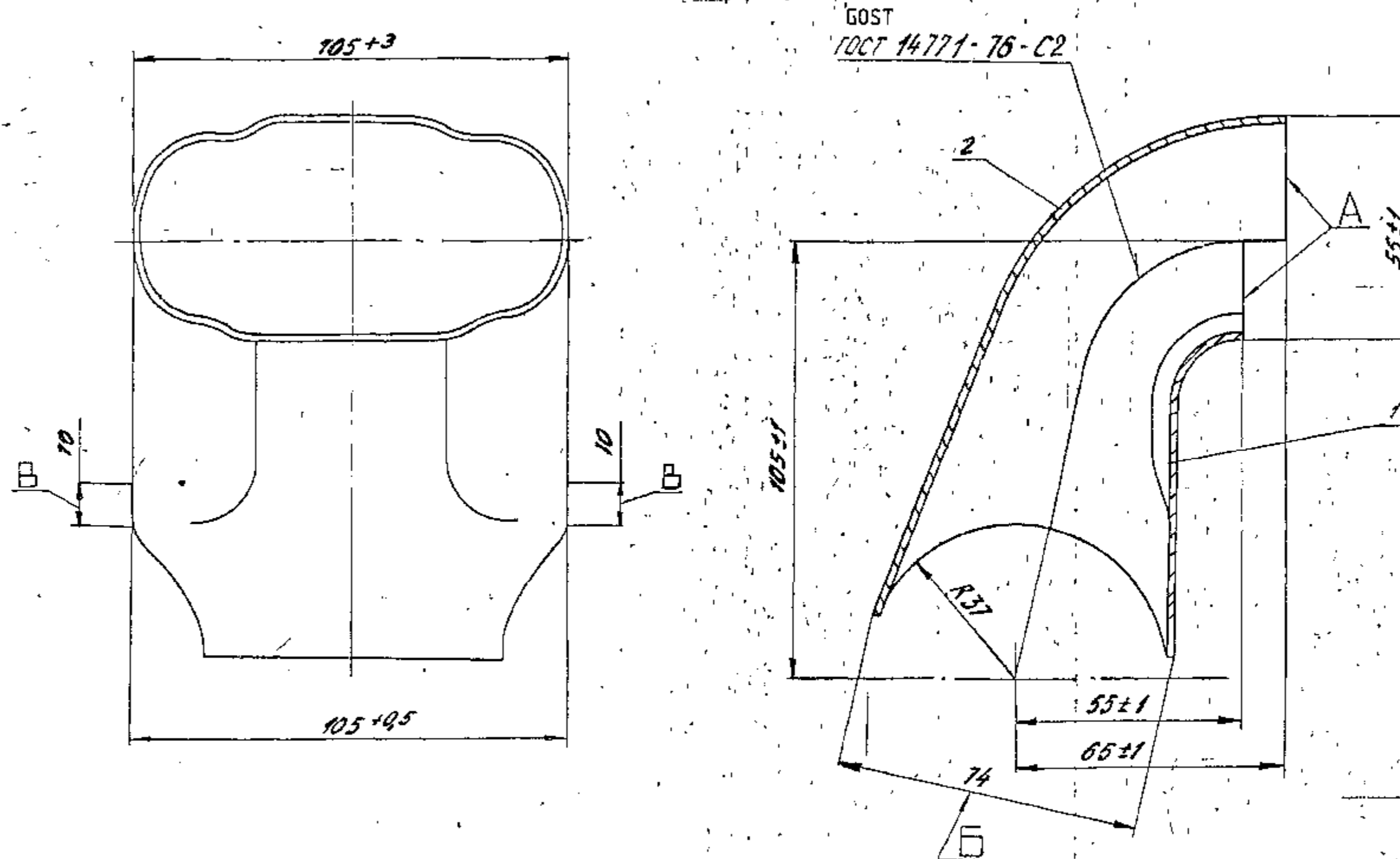
Anatoly Peredrienko  
Team Leader,  
Russian Specialists,  
Technician for Assembly  
**APPROVED BY**

BULK PRODUCTION  
EST WT 0.55 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: [Signature]  
 CHD: [Signature]  
 TCD: [Signature]  
 APPD: [Signature]  
 DATE: 19-2-88  
 SCALE: 1:1  
 DIMENSIONS IN mm  
 TOLERANCE ON DIMNS UNLESS OTHERWISE STATED IS: 2102-69  
 ALL THREADS TO CONFORM TO

MATERIAL: SHEET 12 GOST 19903-74 10 GOST 3577-81  
 USED ON: SB 418-50-29 SB 418-51-29  
 CONTROLLERATE OF INSPECTION (HEAVY VEHICLES) AVADI  
 TITLE: FLANGE EXHAUST MANIFOLD  
 D S CAT NUMBER  
 DRAWING NUMBER: 3318-08-8

Table introduced as per Russian specialist instruction in India (EFA)  
 24.8.2K NOTN.No. BK 86-455  
 ISSUE DATE MATURE OF AMENDMENTS



TECHNICAL REQUIREMENTS IN RUSSIAN

1. Контур А и размер Б подогнать по сопрягаемой детали перед приваркой в узле.
2. Сварные швы на участках В зачистить заплочиво.

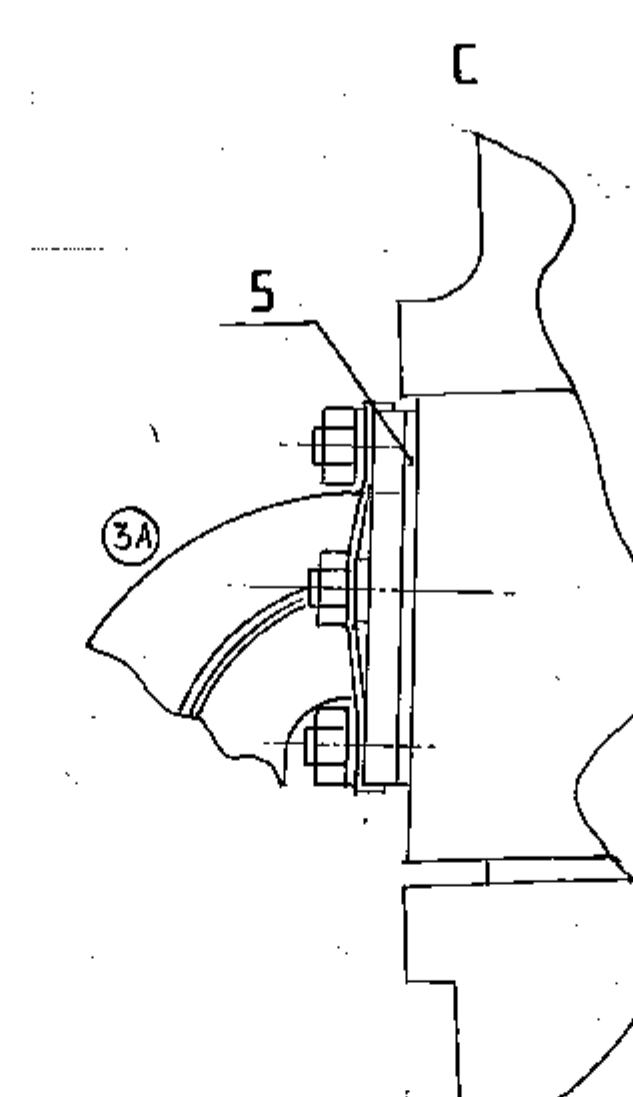
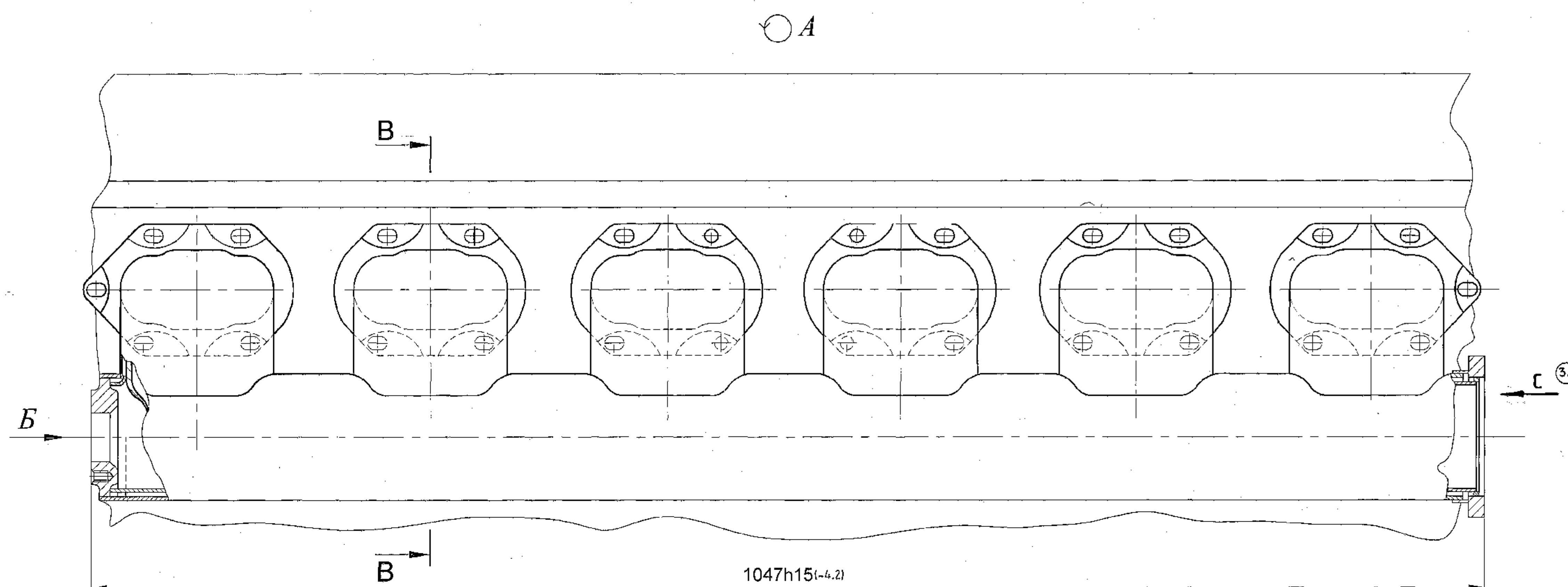
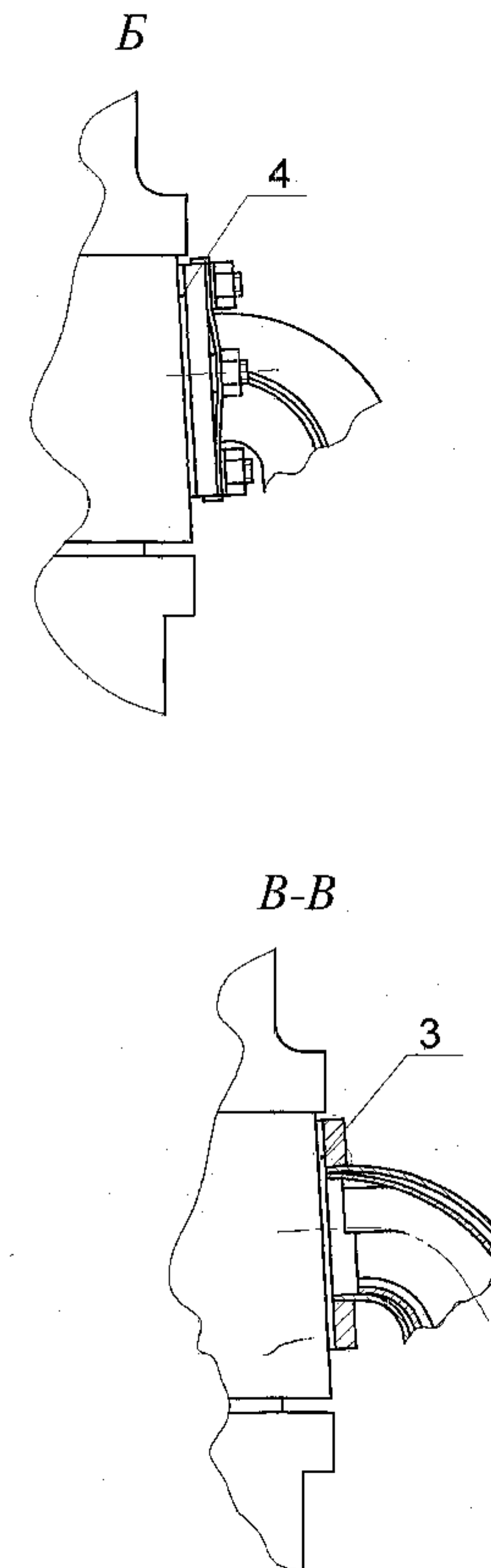
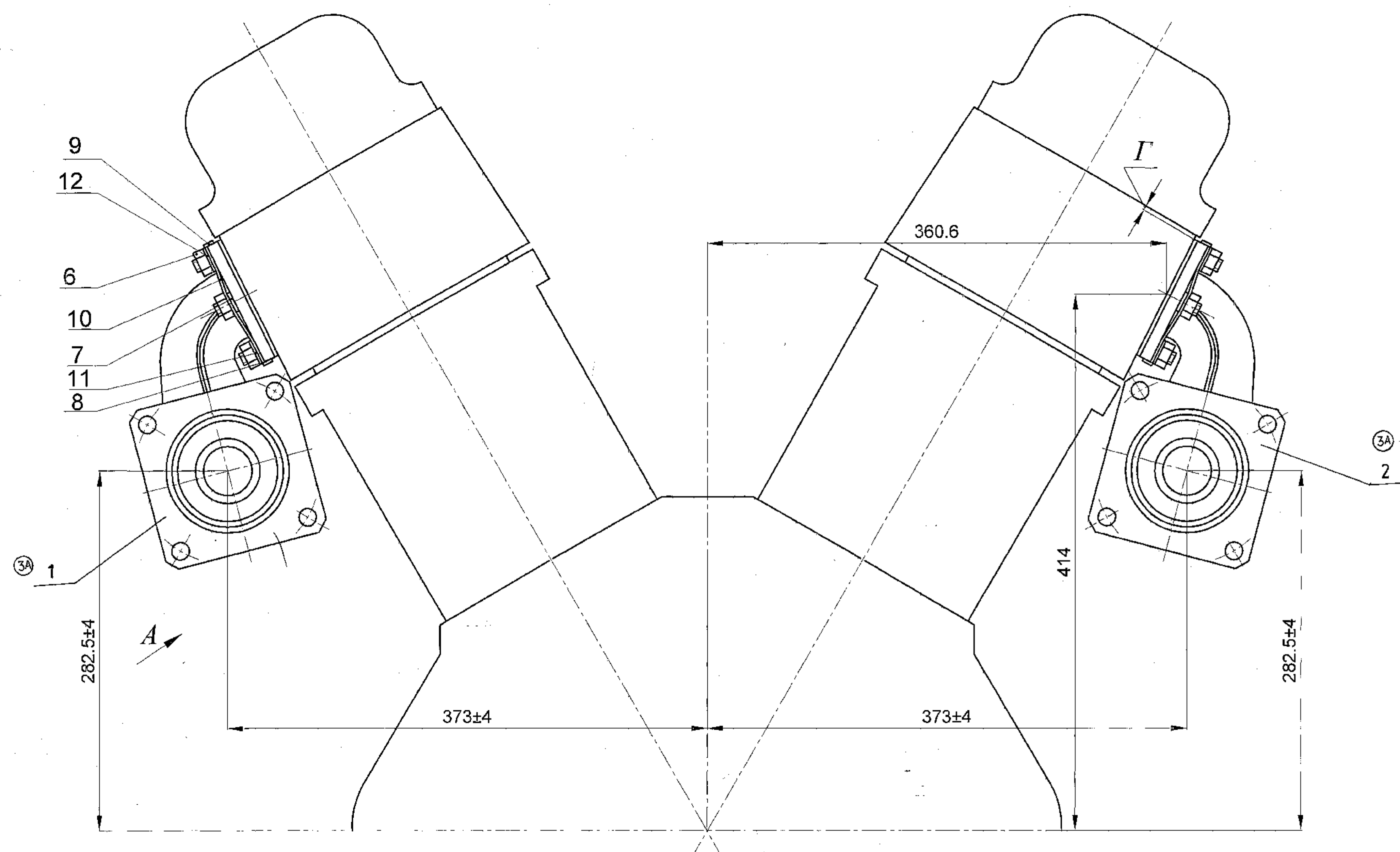
TECHNICAL REQUIREMENTS - TRANSLATED

- 1 CONTOUR 'A' AND DIMENSION 'B' SHOULD BE ADJUSTED TO SUIT MATING COMPONENT BEFORE WELDED TO ASSEMBLY.
- 2 WELDS ON SECTION 'B' SHOULD BE DRESSED FLASH

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

		EST MASS 0.37	TO BE STAMPED OR MARKED WHERE INDICATED THUS # (LETTERS)
		ALL SHARP EDGES AND CORNERS TO BE REMOVED UNLESS OTHERWISE STATED MACHINED CORNERS TO HAVE R OUTSIDE R INSIDE EQUIVALENT CHAMFERS ARE PERMISSIBLE	
ISSUE DATE	NATURE OF AMENDMENTS	MATERIAL -	USED ON -
DRN	SCALE - 1:1		CB 418-50-29 CB 418-51-29
CHD 1	DIMENSIONS IN mm	CONTROLLERATE OF INSPECTION (HEAVY VEHICLES) AVADI	
TCD	TOLERANCE ON DIMNS UNLESS OTHERWISE STATED	TITLE - <b>BRANCH PIPE SCREEN</b>	
APPD	ALL THREADS CONFORM TO	D S CAT NUMBER	DRAWING NUMBER
DATE	29.1.88		CB 318-22-5CB

2	BR 51-31	29.01.88	20.01.88
DM	100	100	100



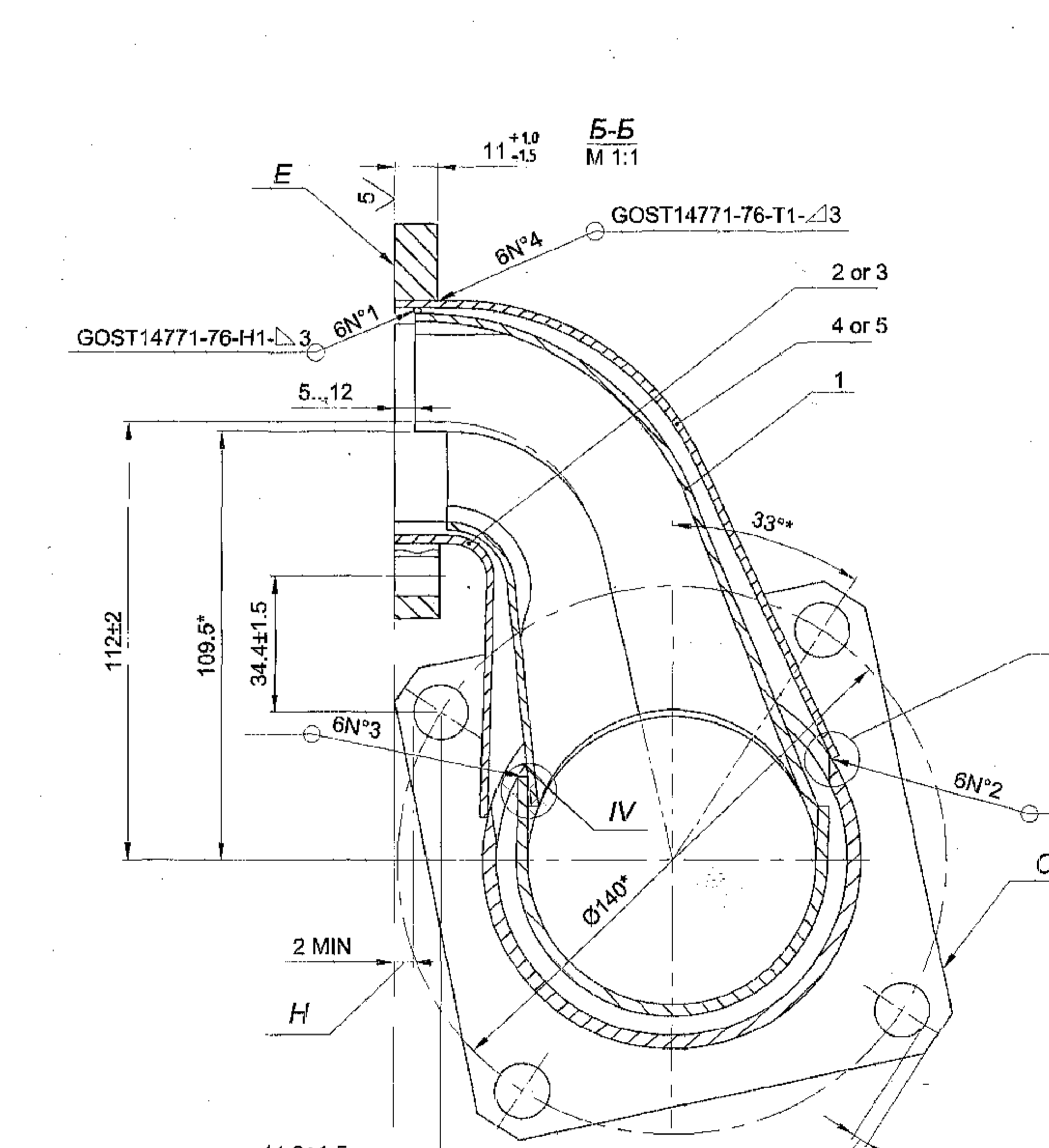
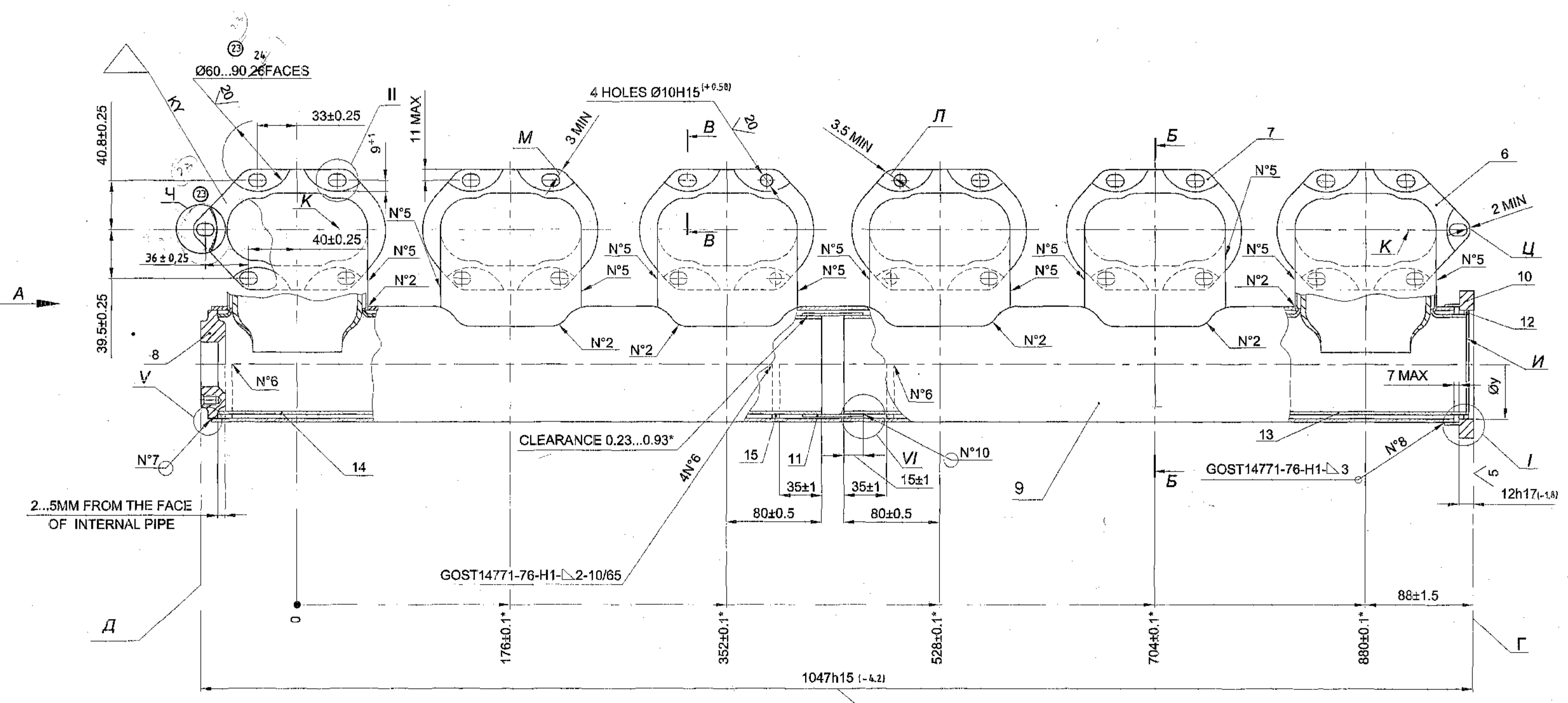
1. Check the presence of clearance "Γ". Fouling of exhaust manifold flange with the head cover is not allowed.
2. All the dimensions are given for reference and not for assembly inspection.
3. Main view is from transmission side.

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

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

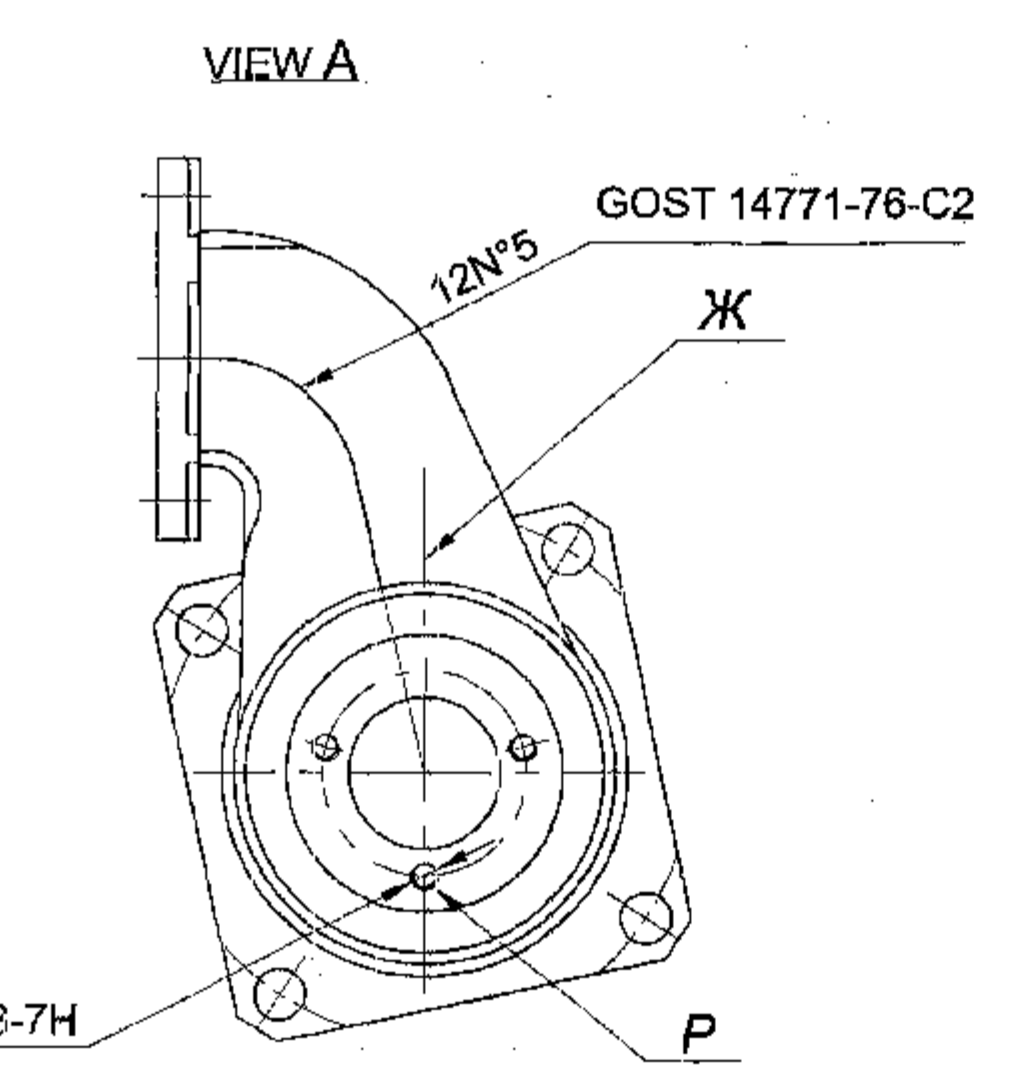
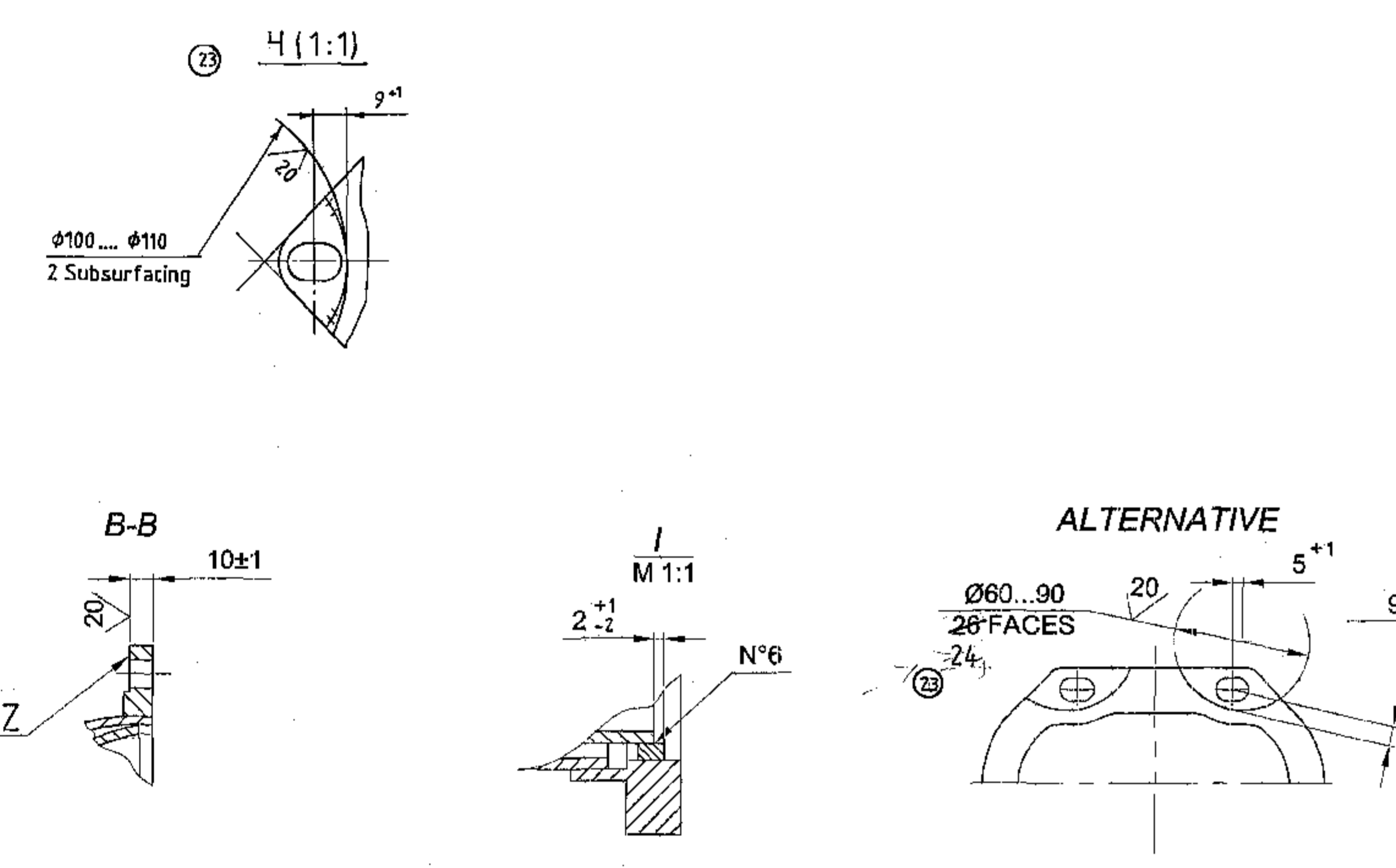
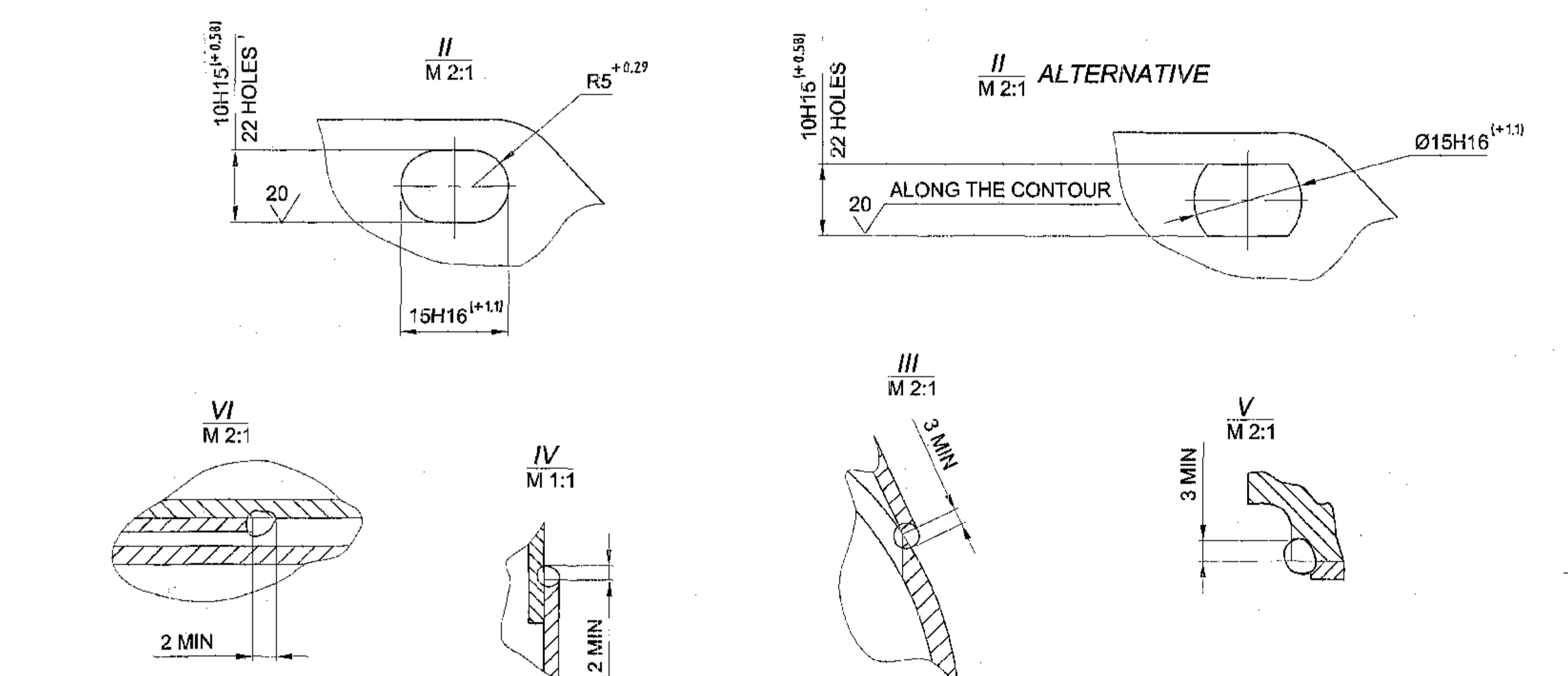
ALL SHARP EDGES AND CORNERS TO BE REMOVED UNLESS OTHERWISE STATED MACHINED CORNERS TO HAVE R. OUTSIDE R INSIDE EQUIVALENT CHAMFERS ARE PERMISSIBLE.

DRN	CHD	TCD	APPR	DATE	SCALE	DIMENSIONS IN mm	TOLERANCE ON DIMNS	STATED IS:	2102-69	D.S. CAT NUMBER	DRAWING NUMBER	USED ON:	Sb 3300-00-27 CX	
					1:2									
TITLE: EXHAUST MANIFOLD ASSY.														
3A	2.9.11	COAHV/LL.No.812&0 / COAHV / DB		ENG. 05.12.04c.2007	ALL THREADS TO CONFORM TO					Cb.418-00-6				
ISSUE	DATE	NATURE OF AMENDMENTS												

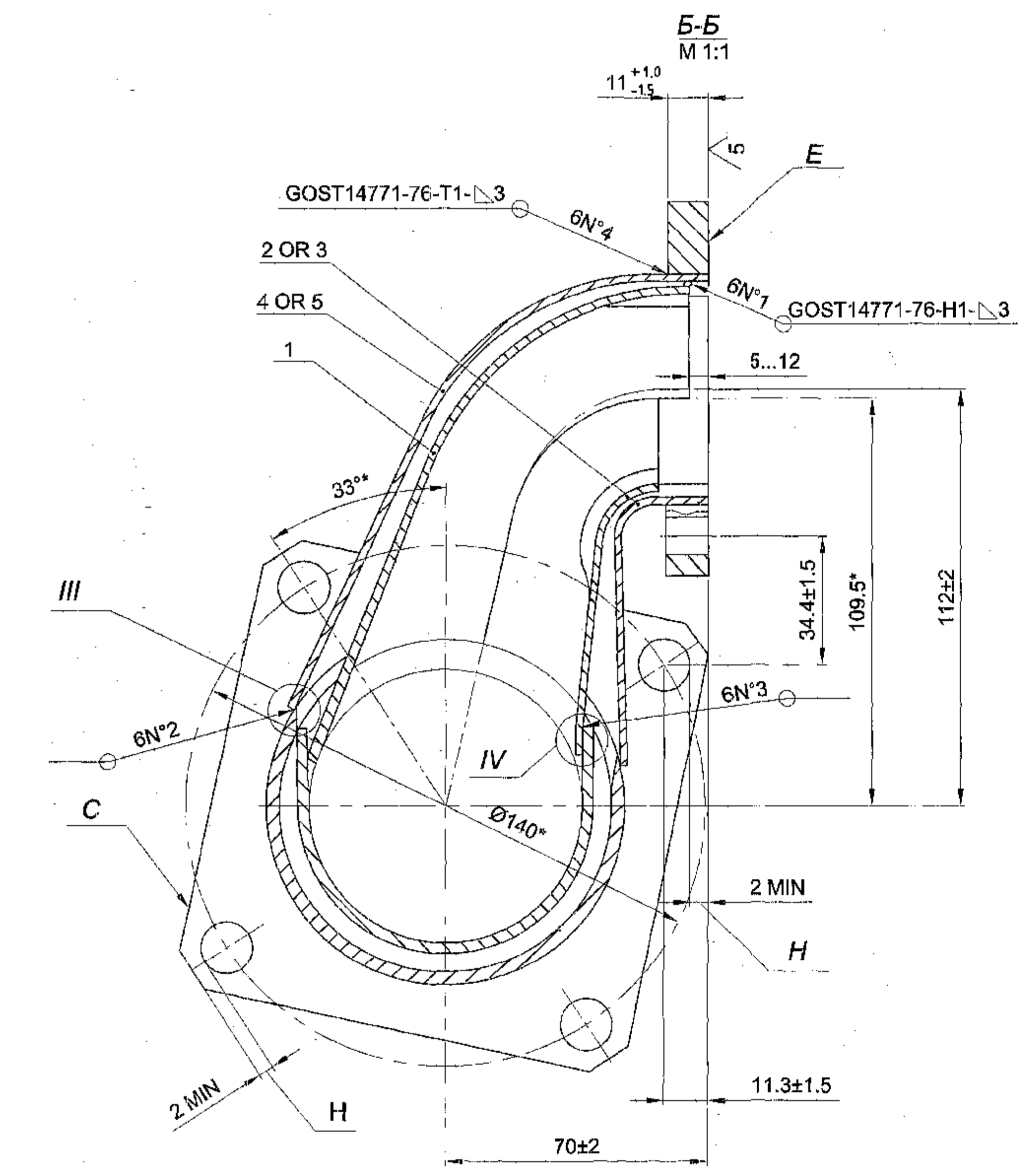
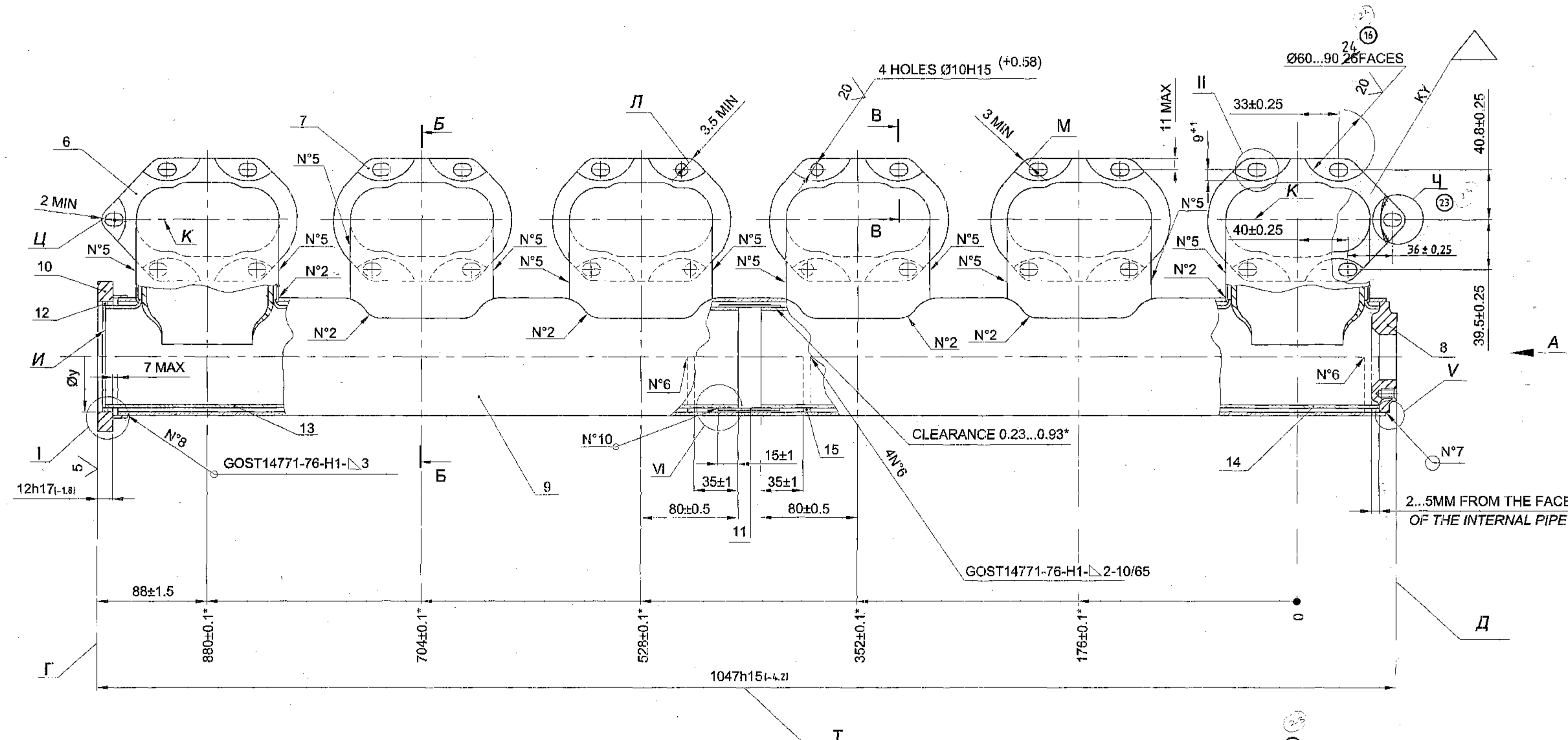


- Coating of external surface of manifold flanges except the surface  $\Gamma, \Delta, E$  of item 6, 7, 8 and 10 with enamel K0-813 is allowed as per instructions ИЛ-619-86. Unevenness and overflows of enamel is not allowed.
- In case, the component is intended as spheres surfaces  $\Gamma, \Delta$  and  $E$  of flanges item 6, 7, 8 and 10 should be coated with thin uniform layer of enamel K0-813 as per instructions ИЛ-619-86. unevenness and overflow runs of enamel are not allowed. Local non fitting of flanges "E" to the test plate should not exceed 0.2mm before coating.
- \* Dimensions are given for reference.
- \* Dimensions are given for fixture.
- Expanding at places of the collar of the flange of the part item 10 opposite to the welding joints; joining the halves of the branch pipes followed with bending of the expanding portion and back up welding of the outside surface of the collar to a length of minimum 30mm with a height of minimum 2mm. In the expanded portion is allowed.

- Welded joints No.2,3,10, should be made in gas shielded medium.
- Welded joint No.7 should be made by electric arc welding manually.
- Misalignment of contours of branch pipes item 2 or 3 and items 4 or 5 should not exceed 1mm.
- In the places of welding portion of branch pipes 2 and 3 or 4 and 5 with pipes 9 and flanges 6 and 7, the clearance upto 2mm and overlapping upto 4 mm is allowed.
- In the places of welding screens item 1 with protective pipes 13 and 14 clearance upto 1mm is allowed on separate sections.
- Flashes upto 0.2mm are permitted. Flashes from 0.2mm to 0.5mm and poor penetration are allowed to be rectified by welding.
- As per requirement of QID, one manifold out of 150 pieces or once in a month is sent to the laboratory for checking the quality of welding, for the absence of internal defects of welded joints and thickness of build up metal on flanging or on butt joint. The thickness should be 2.0mm minimum for manual electric arc welding and 1.8mm minimum for semi automatic Cc2 shielded arc welding with wire SB-08  $\Gamma$  2C.
- Ovality of pipe item.9 not to exceed 6mm after welding and to be checked at random as per the requirement of QID.
- Manifold should be normalized at a temperature of  $(930 \pm 10) ^\circ C$  with cooling the manifold secured in the fixture.
- Final machining of flange surface "E" should be carried out after welding and straightening of manifold. Non - flatness of surface "E" should not exceed 0.2mm.
- Correctness of location of holes for fastening flanges 6 and 7 should be checked on a fixture with pins for circular holes to be  $\varnothing 9 \pm 0.05mm$ , for oval holes to be  $9 \pm 0.05 \times 14 \pm 0.05mm$ . Additional welding of the lugs of flanges item 6 and item 7 to obtain dimension  $\Gamma=3.5mm, M=3mm, H=2mm, L=2mm$  is allowed. All holes may be obtained with  $\varnothing 10H15 (+0.039) mm$  on 3<sup>rd</sup> and 4<sup>th</sup> flanges item.7.
- Non parallelism of surface Z of spot facings under the nuts to surface of flanges "E" should not exceed 0.2mm on section with dimensions  $18 \times 13mm$  minimum concentric to the hole. Inward camber is allowed on the rest of the section after stamping.
- Non-squariness of surfaces  $\Gamma$  and  $\Delta$  measured at the extreme points, relative to surfaces "E" and the axis of end flanges "K" should not exceed 1.5mm.
- Non squariness of surface  $\Delta$  and surface  $\Gamma$  from  $\varnothing y$  to  $\varnothing 125mm$  should not exceed 0.2mm.
- Dents with smooth transitions are allowed on the surface of manifold.
- Shift of axis of hole "P" relative to axis "K" of manifold should not exceed 2'.
- Sinking and projection of the face of pipe item.9 beyond surface  $\Delta$  of flange item.8 upto 4mm within the limits of dimension "T" is allowed.
- Shearing of projected portion of flange "C" beyond the surface "E" is allowed.
- Projection of face  $\Delta$  of pipe item.13 beyond surface "E" is not allowed.
- Manifold should be subjected - to pressure test in the water bath with air at a pressure of  $(200 \pm 100) KPa (2 \pm 1) kgf/cm^2$ . Leakage of air is not allowed. In the places of air leakage, welding with subsequent dressing and pressure testing in water bath is permitted.

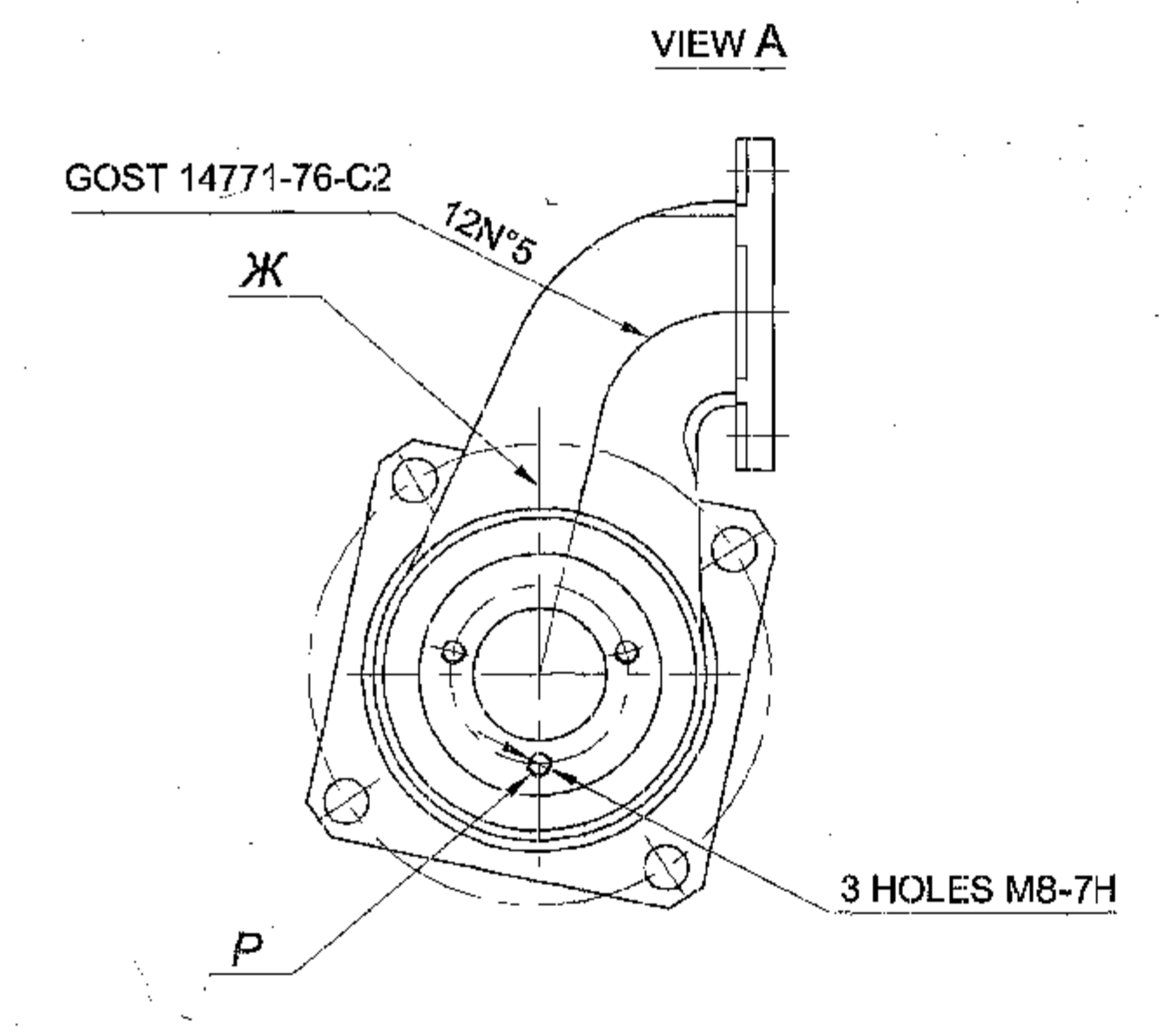
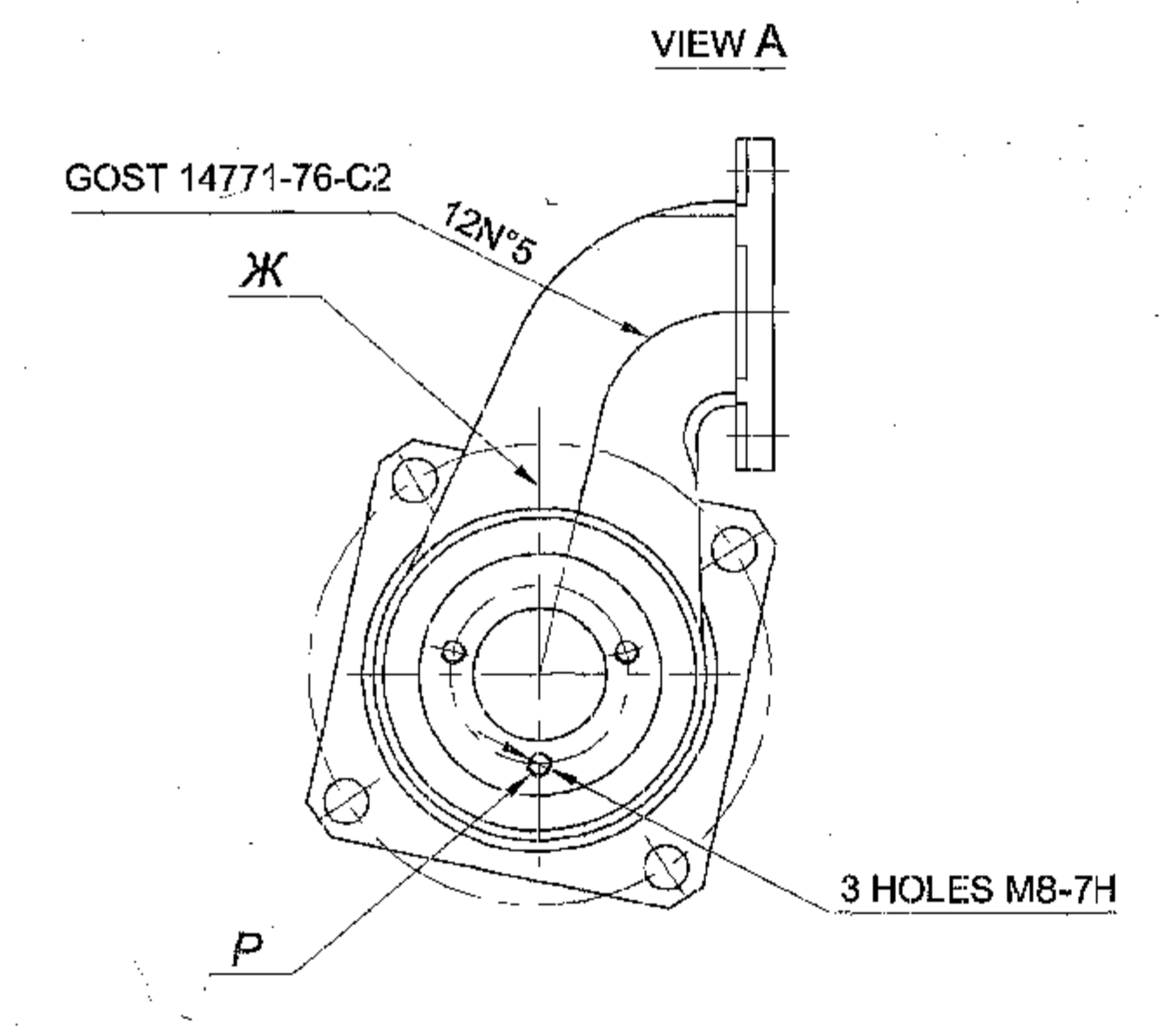
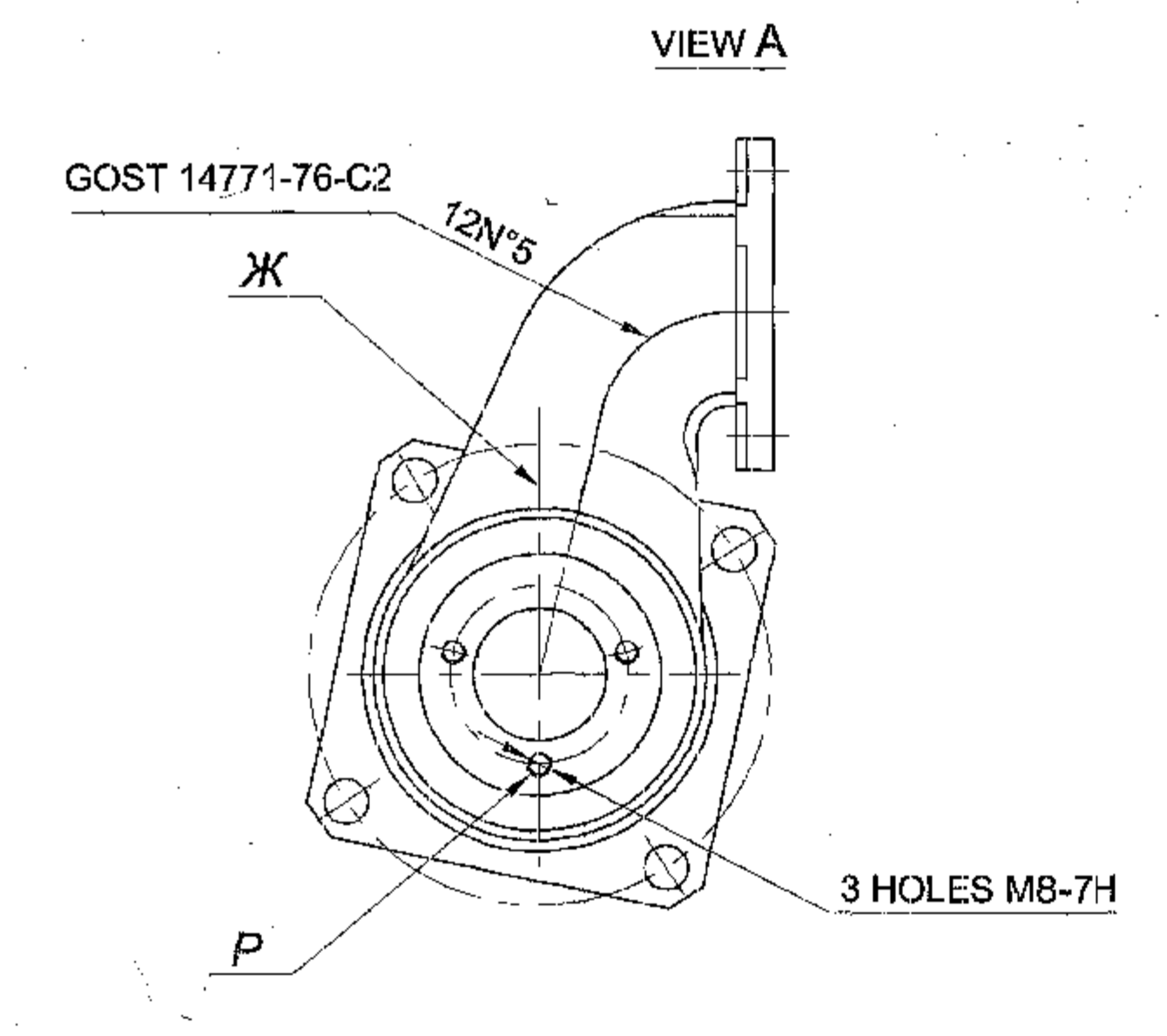
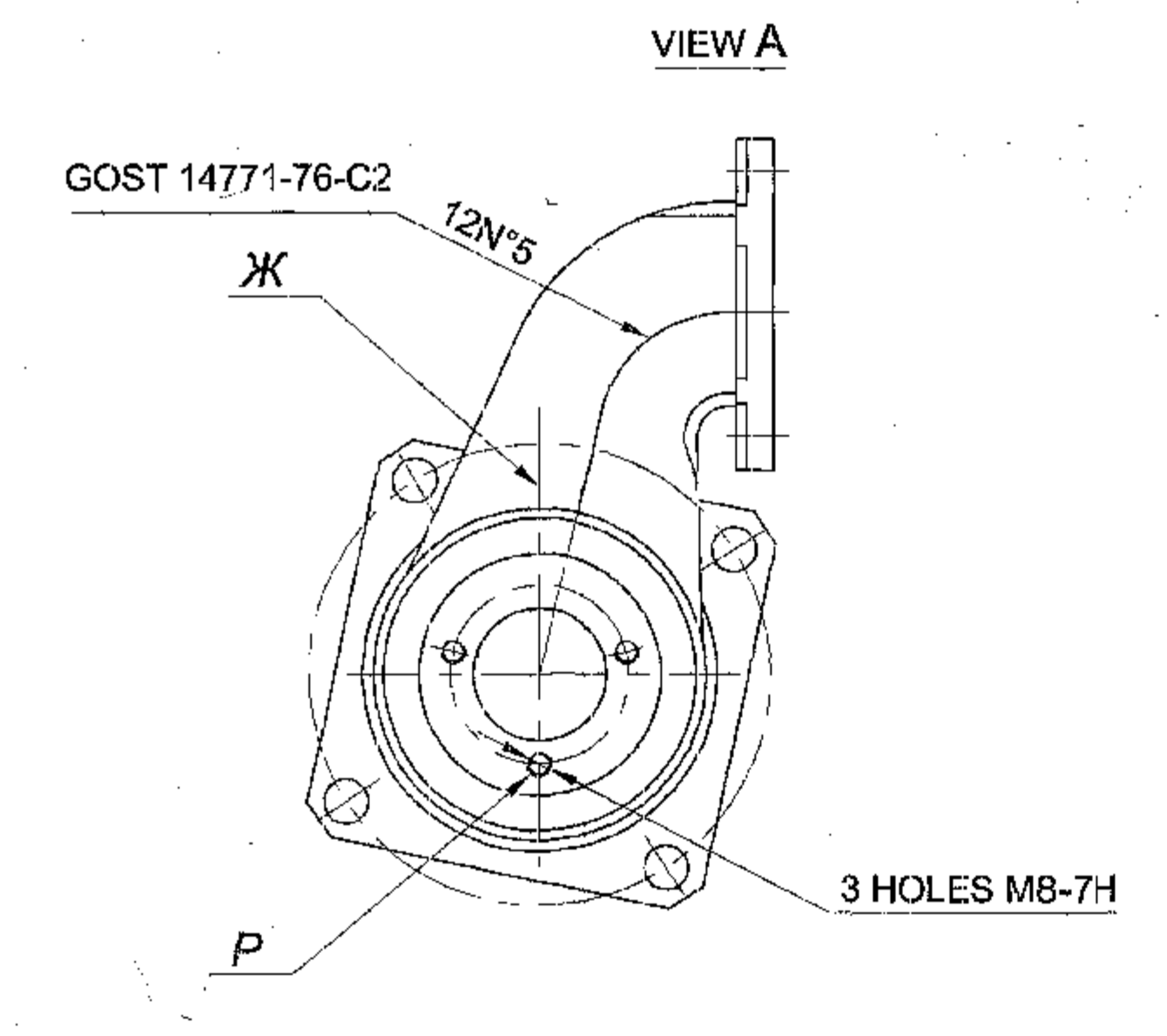
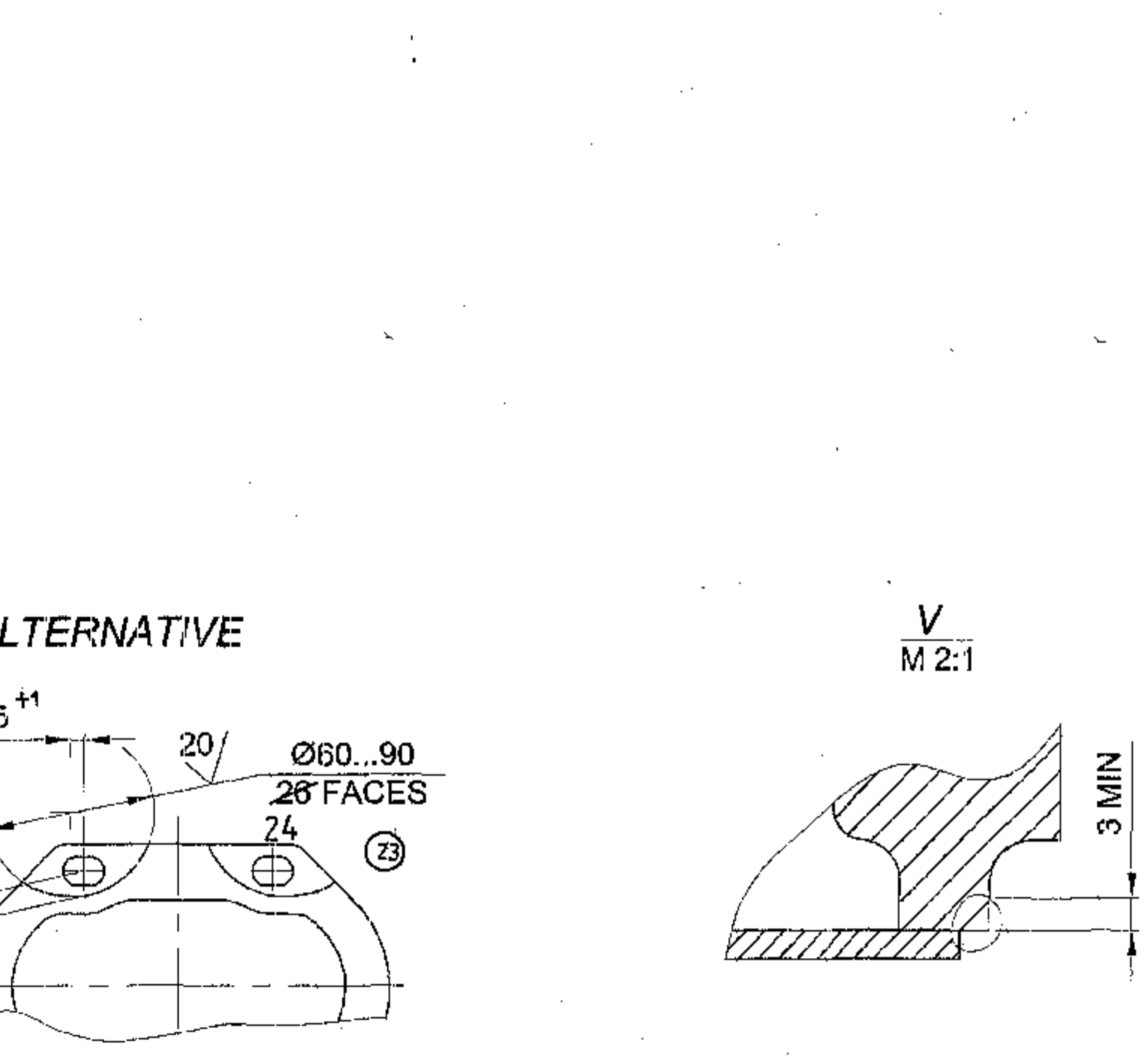
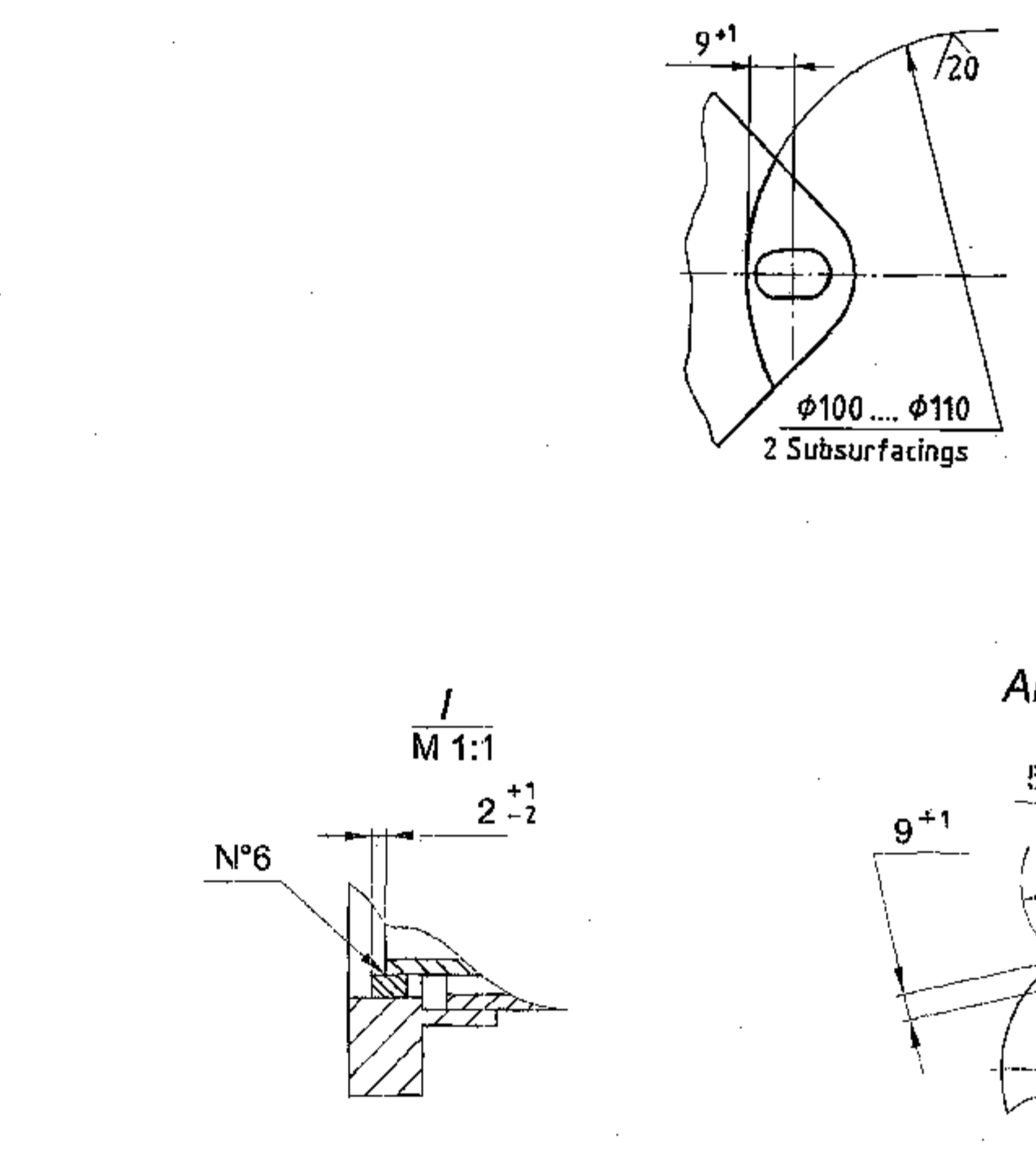
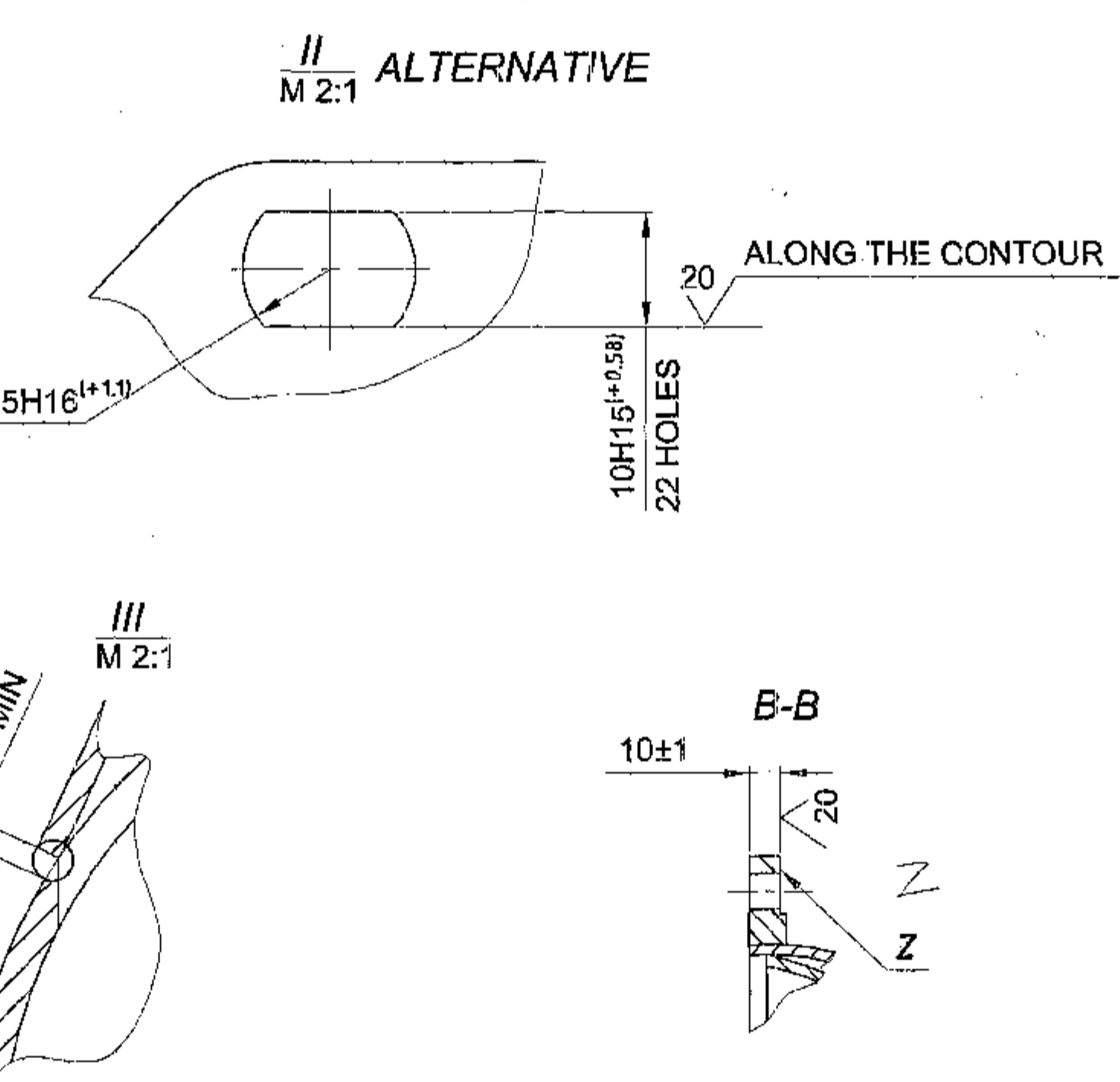
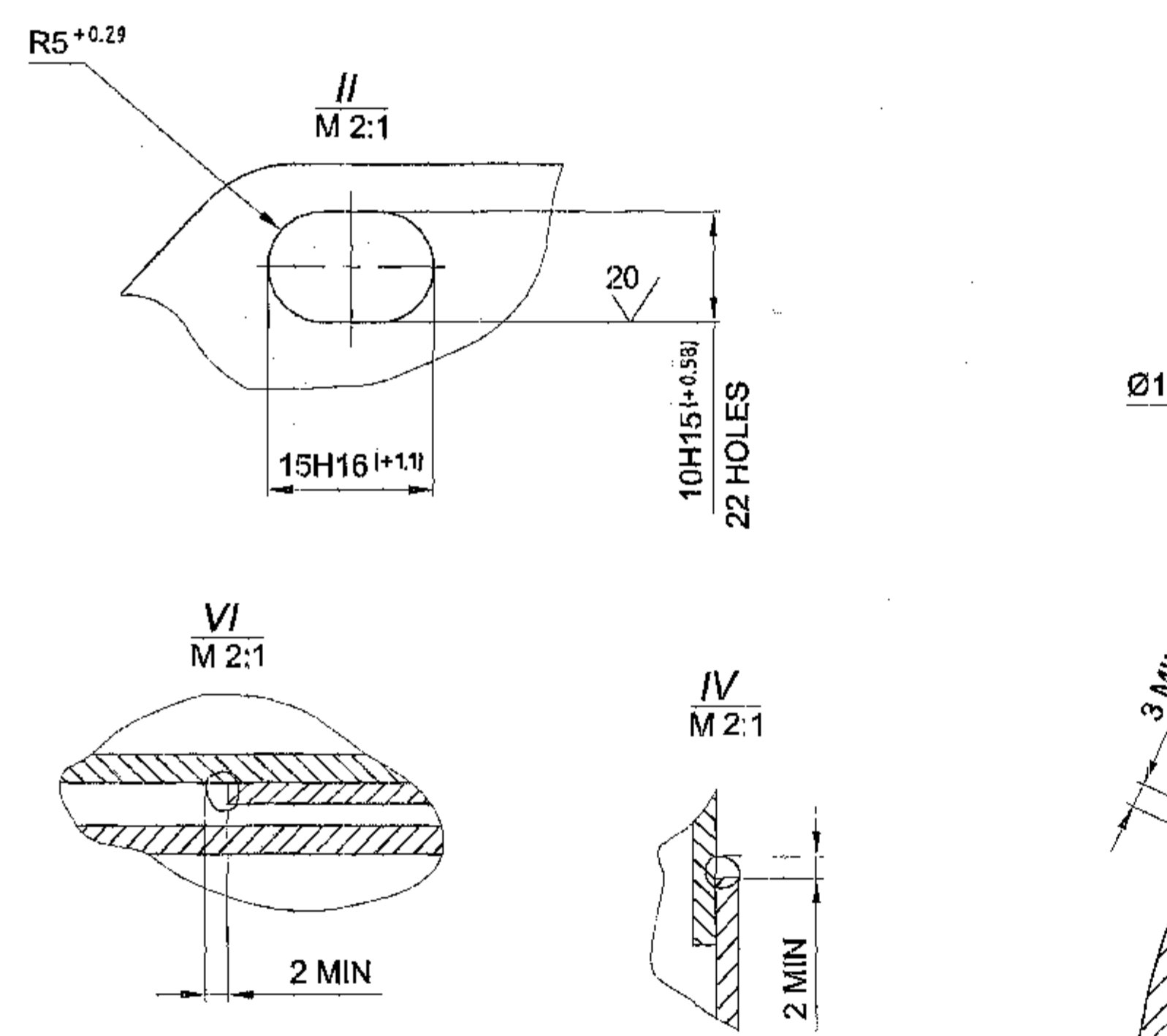


EST. WT. (kg)		TO BE STAMPED OR MARKED WHERE INDICATED THUS # (LETTERS)		DIMENSIONS IN MM UNLESS OTHERWISE STATED IS: 2102-69		TOLERANCE ON DIMS UNLESS OTHERWISE STATED IS: 2102-69		ALL THREADS TO CONFORM TO	
18									
23	13-03-69	NOTIFICATION NO.33-65	9-15M						
ISSUE	DATE	NATURE OF AMENDMENTS							
1									

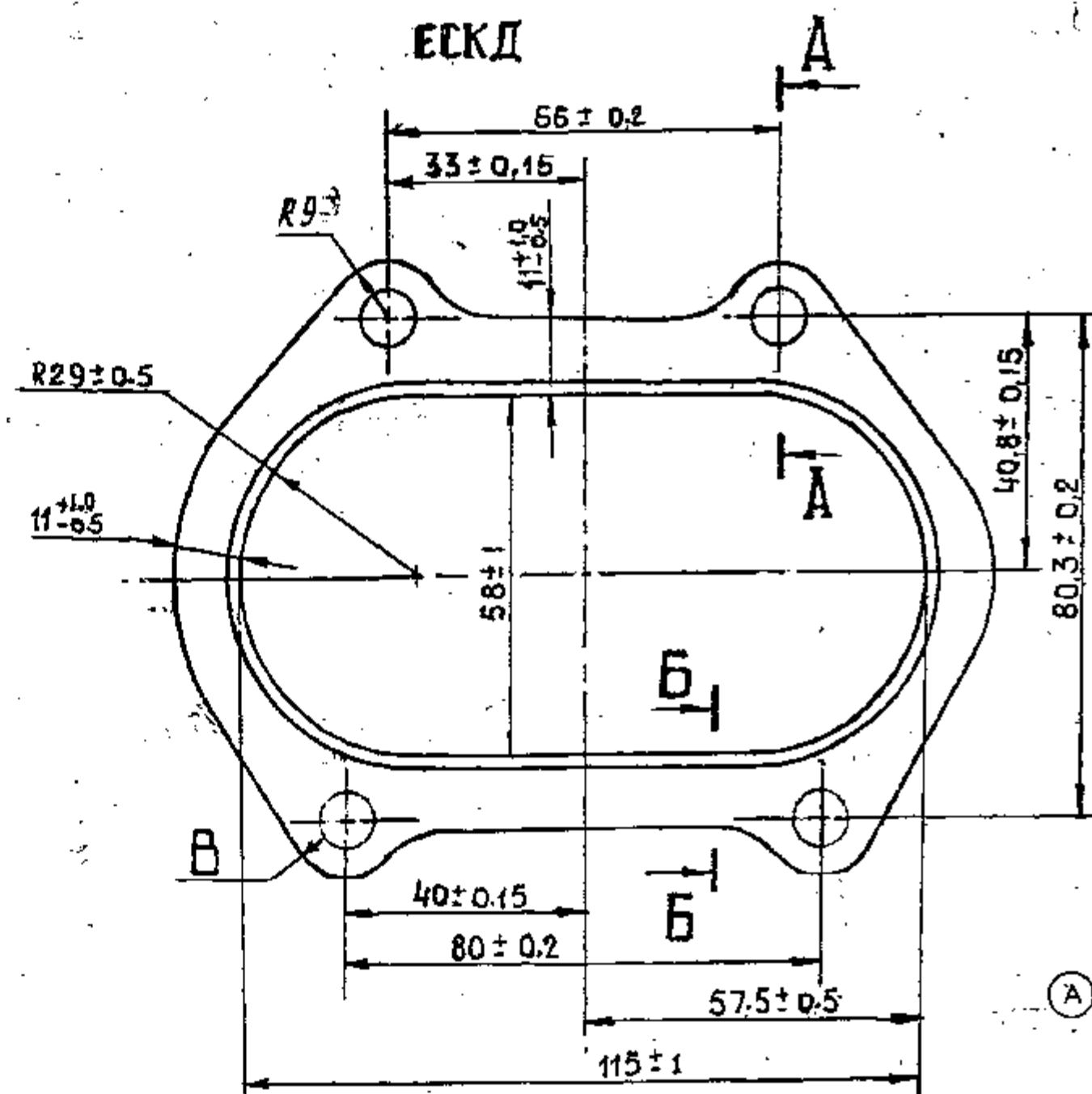


21. Coating of external surface of manifold except the surface Г, Д, Е of flanges item 6,7,8 and 10 with enamel КО-813 is allowed as per instruction ИИТ-619-86. Unevenness and overflows of enamel is not allowed.
22. In case, the component is intended as spares surfaces Г, Д and Е of flanges ref.6,7,8 and 10 should be coated with thin uniform layer of enamel КО-813 as per instructions ИИТ-619-86. Unevenness and overflow runs of enamel are not allowed. Local non filling of flanges "Е" to the test plate should not exceed 0.2mm before coating.
23. \* Dimension are given for reference.
24. \* Dimension are given for fixture.
25. Expanding at places of the collar of the flange of the part item 10 opposite to the welding joints, joining the halves of the branch pipes followed with bending of the expanding portion and back up welding of the outside surface of the collar to a length of minimum 30mm with a height of minimum 2 mm in the extended portion is allowed.

1. Welded joints No.2,3,10, should be made in gas shielded medium.
2. Welded joint No.7 should be made by electric arc welding manually.
3. Misalignment of contours of branch pipes item 2 or 3 and items 4 or 5 should not exceed 1mm.
4. In the places of welding portion of branch pipes item 2 and 3 or 4 and 5 with pipe 9 and flanges 6 and 7, the clearance upto 2mm and overlapping upto 4 mm is allowed.
5. In the places of welding of screens item 1 with protective pipes 13 and 14 clearance upto 1mm is allowed on separate sections.
6. Flashes upto 0.2mm are permitted. Flashes from 0.2mm to 0.5mm and poor penetration are allowed to be rectified by welding.
7. As per requirement of QID, one manifold out of 150 pieces or once in a month is sent to the laboratory for checking the quality of welding, for the absence of internal defects of welded joints and thickness of build up metal on flanging or on butt joint and the thickness should be 2.9mm minimum for manual electric arc welding and 1.8mm minimum for semi automatic Co2 shielded arc welding with wire SB-08 Г 2C.
8. Quality of pipe ref.9 not to exceed 6mm after welding and to be checked at random as per the requirement of QID.
9. Manifold should be normalized at a temperature of (930±20)°C with cooling the manifold secured in the fixture.
10. Final machining of flange surface "E" should be carried out after welding and straightening of manifold. Non - flatness of surface "E" should not exceed 0.2mm.
11. Correctness of location of holes for fastening flanges 6 and 7 should be checked on a fixture with pins for circular holes to be Ø 9±0.05mm, for oval holes to be 9±0.05 X 14±0.05mm. Additional welding of the lugs of flanges ref.6 and ref.7 to obtain dimension Л=3.5mm, М=3mm, Н=2mm, Л=2mm is allowed. All holes may be obtained with Ø 10H15(+0.58)mm on 3<sup>rd</sup> and 4<sup>th</sup> flanges ref.7.
12. Non parallelism of surface Z of spot facings under the nuts to surface of flanges "E" should not exceed 0.2mm on section with dimensions 18 x 13mm minimum concentric to the hole. Inward camber is allowed on the rest of the section after stamping.
13. Non-squareness of surfaces Г and Д measured at the extreme points, relative to surfaces "E" and the axis of end flanges "K" should not exceed 1.5mm.
14. Non squareness of surface Д and surface Г from Ø y to Ø. 125mm should not exceed 0.2mm.
15. Dents with smooth transitions are allowed on the surface of manifold.
16. Shift of axis of hole "P" relative to axis "K" of manifold should not exceed 2°.
17. Sinking and projection of the face of pipe ref.9 beyond surface Д of flange ref.8 upto 4mm within the limits of dimension "T" is allowed.
18. Shearing of projected portion of flange "C" beyond the surface "E" is allowed.
- 19: Projection of face И of pipe ref.13 beyond surface"Г" is not allowed.
20. Manifold should be subjected to pressure test in the water tank with air at a pressure of (200<sup>±10</sup>)/KPa [(2.2<sup>±1</sup>)/Kg/cm<sup>2</sup>]. Leakage of air is not allowed. In the places of air leakage, welding with subsequent dressing and pressure testing in water bath is permitted.

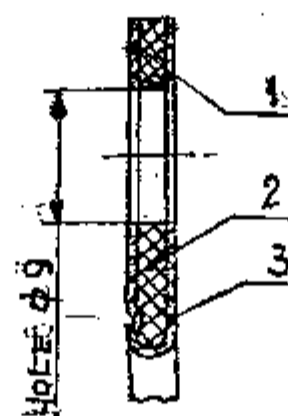


PLOT SAMPLE SHOULD BE APPROVED BY A H S P BEFORE BULK PRODUCTION.		EST. WT. (kg)	18	TOLERANCE ON DIMENS UNLESS OTHERWISE STATED IS: 2102 - 69	ALL THREADS TO CONFORM TO
ALL SHARP EDGES AND CORNERS TO BE REMOVED UNLESS OTHERWISE STATED MACHINED CORNERS TO HAVE R OUT-SIDE R INSIDE EQUIVALENT CHAMFERS ARE PERMISSIBLE.		DATE		DATE	



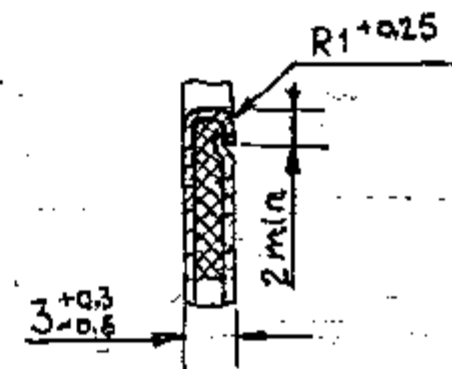
A-A

SCALE 2:1



B-B

SCALE 1:1



1. Ruptures, cracks, burrs and bulging are not permissible on the external surface and at the flared places.
2. Asbestos sheet should be on one level with the edges of copper cover plate or project beyond them by 0.5 mm, max. Its edges should not be torn.
3. Flared edges of the copper sheet should be in one plane with the side surface of the gasket. The projection not exceeding the thickness of the sheet is permissible.
4. The gaskets should be selected as a set of 12 Pcs with a variation in thickness not exceeding 0.2 mm.
5. Cover plate 3 may be flared up on the outer profile of the gasket to the contact with cover plate 1 and in holes B to a height upto 1 mm

- Ⓐ 6. Gaskets should be selected as a set of 6 pcs, namely,
- |                |       |
|----------------|-------|
| CB 3306-15     | 4 Pcs |
| CB 3306 - 15.2 | 1 PC  |
| CB 3306 - 15-3 | 1 Pc  |
- Ⓐ 7. Difference in thickness of gaskets in a set should not exceed 0.2 mm.

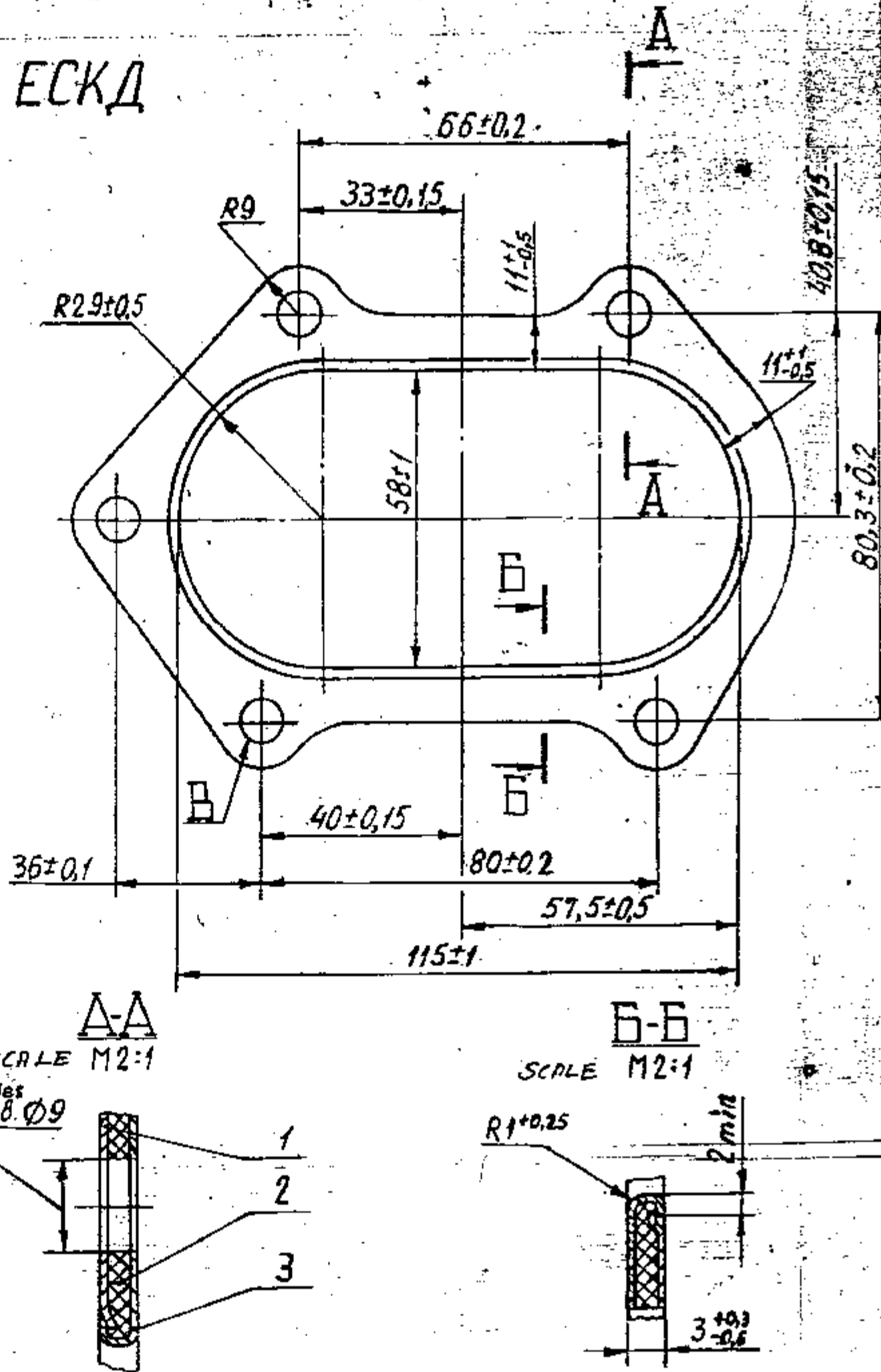
PILOT SAMPLE SHOULD BE APPROVED BY A H S P BEFORE BULK PRODUCTION.

EST. WT. 0.030 kg.	TO BE STAMPED OR MARKED WHERE INDICATED THUS * ( LETTERS)
-----------------------	--

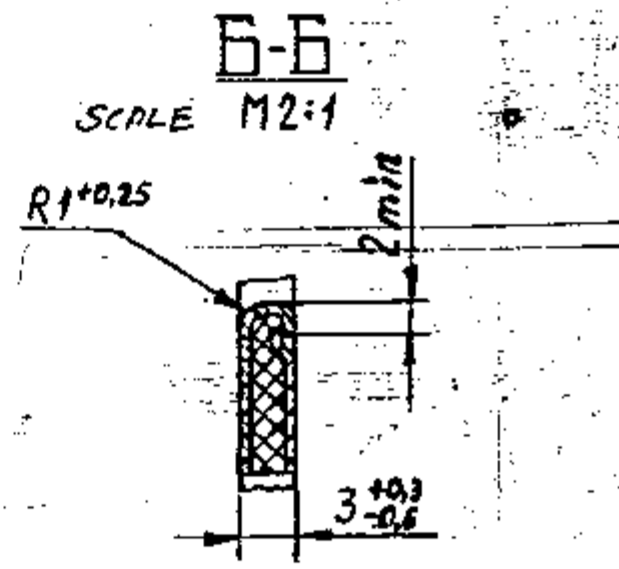
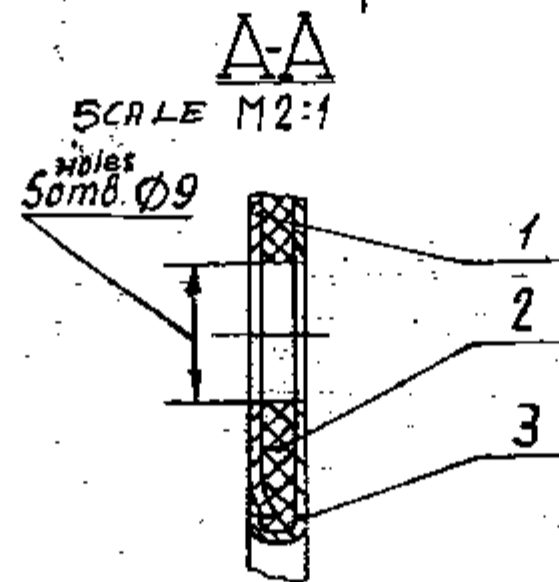
ALL SHARP EDGES AND CORNERS TO BE REMOVED UNLESS OTHERWISE STATED MACHINED CORNERS TO HAVE R OUTSIDE R INSIDE EQUIVALENT CHAMFERS ARE PERMISSIBLE.

DRN	G. V. ...	MATERIAL :-	USED ON :-
END	...		CB 3300-00-27CX
TCD	...		
APPD	...	CONTROLLERATE OF QUALITY ASSURANCE (HEAVY VEHICLES)	
DATE	2-4-90		AVAOI
SCALE	1:1		
DIMENSIONS	IN mm.		
TOLERANCE ON DIMNS	UNLESS OTHERWISE STATED IS 2102-69.		
ISSUE	A	TITLE	GASKET ASSY
DATE	8.3.07	D S CAT NUMBER	
NATURE OF AMENDMENTS	AUTH:ALT No.2.2 MIN OF CQA LIA.MEET Dt.23-02-07	DRAWING NUMBER	CB 3306-15 CB

DRAWING NUMBER  
**CB 3306-15-2CB**



1. Ruptures cracks, burrs and bulgings are not permissible on the external surface of the gasket and at flared places.
2. Asbestos sheet should be on one level with the extreme edges of copper cover plate of project-beyond it by 0.5 mm max, its edges should not be torn.
3. Flared edges of the copper sheet should be in one plane with the side surfaces of the gasket. The projection not exceeding the thickness of the sheet is permissible.
4. Gaskets should be selected as set of 6 Pcs, namely,  
 CB 3306 - 1.5 - 4 PCs;  
 CB 3306 - 15.2-1 PC;  
 CB 3306-15-3 -1 PC,
5. Difference in thickness of gaskets in a set should not exceed 0.2 mm.
6. Cover plate, 3 may be flared on the outer profile of the gasket to the contact with cover plate 1 and in holes B to be height upto 1 mm.

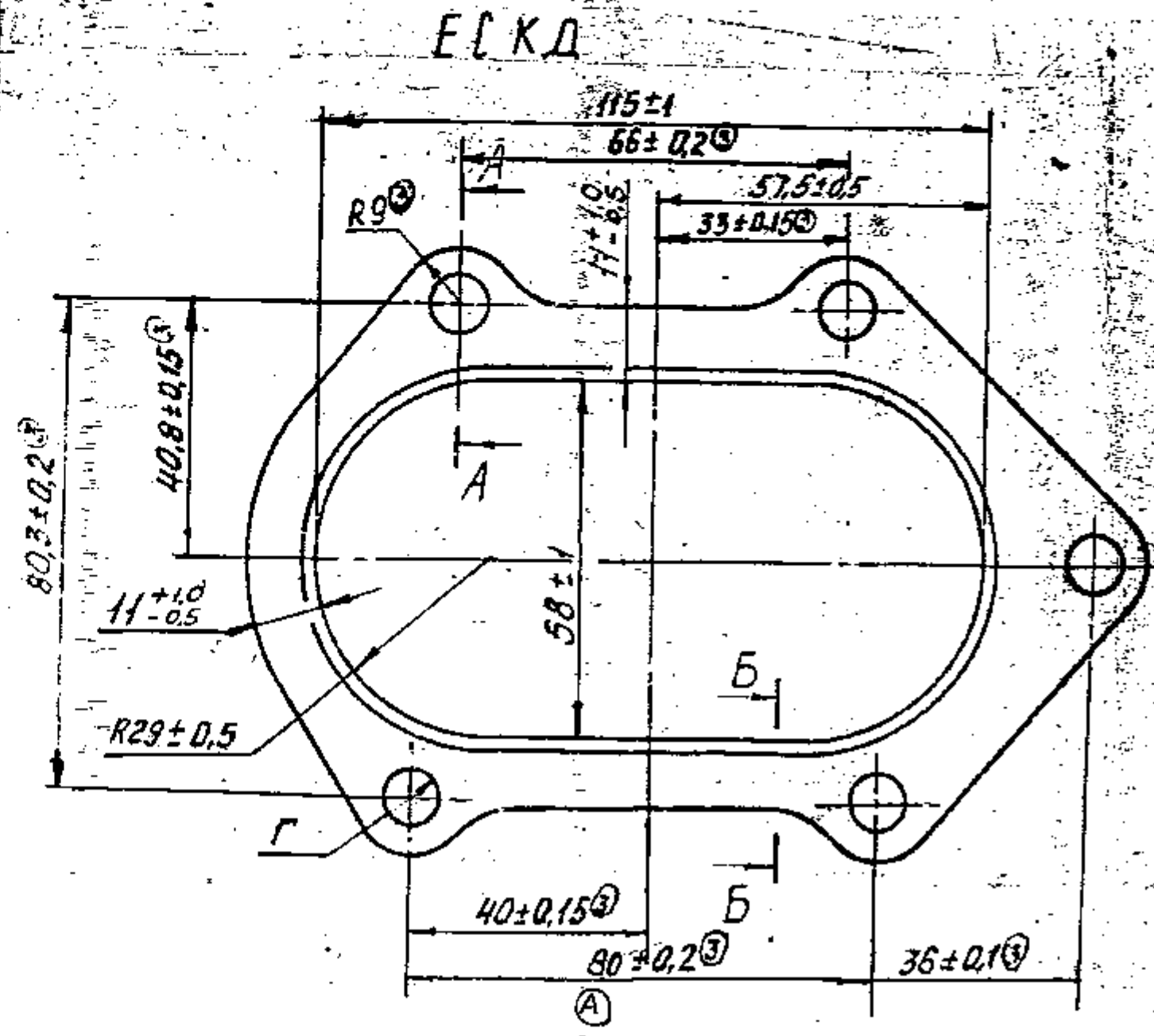


PILOT SAMPLE SHOULD BE APPROVED BY A H S P BEFORE BULK PRODUCTION.

EST. WT. 0.013 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.

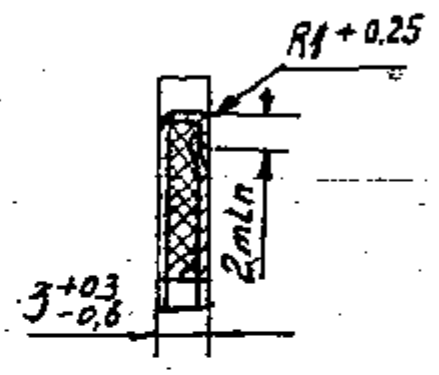
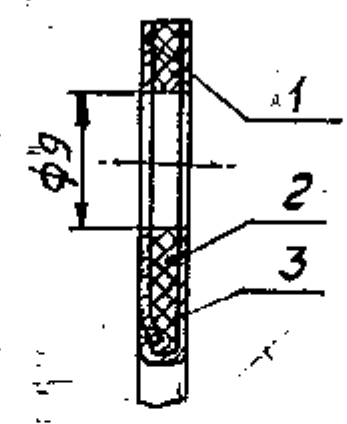
DRN	CHD	TCO	APPD	DATE	MATERIAL	USED ON :-
						CB 3300-00-27CX
SCALE - 2:1					CONTROLLERATE OF QUALITY ASSURANCE (HEAVY VEHICLES)	
DIMENSIONS IN MM.					A V A O I	
TOLERANCE ON DIMNS UNLESS OTHERWISE STATED IS 2102-69					TITLE	
ALL THREADS TO CONFORM TO					GASKET ASSY	
ISSUE . DATE					DRAWING NUMBER	
NATURE OF AMENDMENTS					CB 3306-15-2 CB	

A4  
 6B  
 SIZE A2



**A-A**  
 SCALE M2:1

**B-B**  
 SCALE M2:1



1. Ruptures, cracks, burrs, bucklings and bulgings are not permissible on the outer surface of gaskets and at the flared places.
2. Asbestos sheet should be on one level with the edges of copper cover plate or project beyond them by 0.5 mm, max; its edges should not be torn.
3. Flared edges of the copper sheet should be in one plane with the side surface of the gasket. The projection not exceeding the thickness of the sheet is permissible.
4. Gaskets should be selected a set of 6 pcs namely:
  - CS 3306-15      4 Pcs
  - CS 3306 - 15.2    1 PC
  - CS 3306 - 15.3    1 Pc
5. Difference in thickness of gaskets in a set should not exceed 0.2 mm.
6. Cover plate 3 may be flared up along the outer profile of the gasket to the contact with cover plate 1 and in holes to height upto 1 mm

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

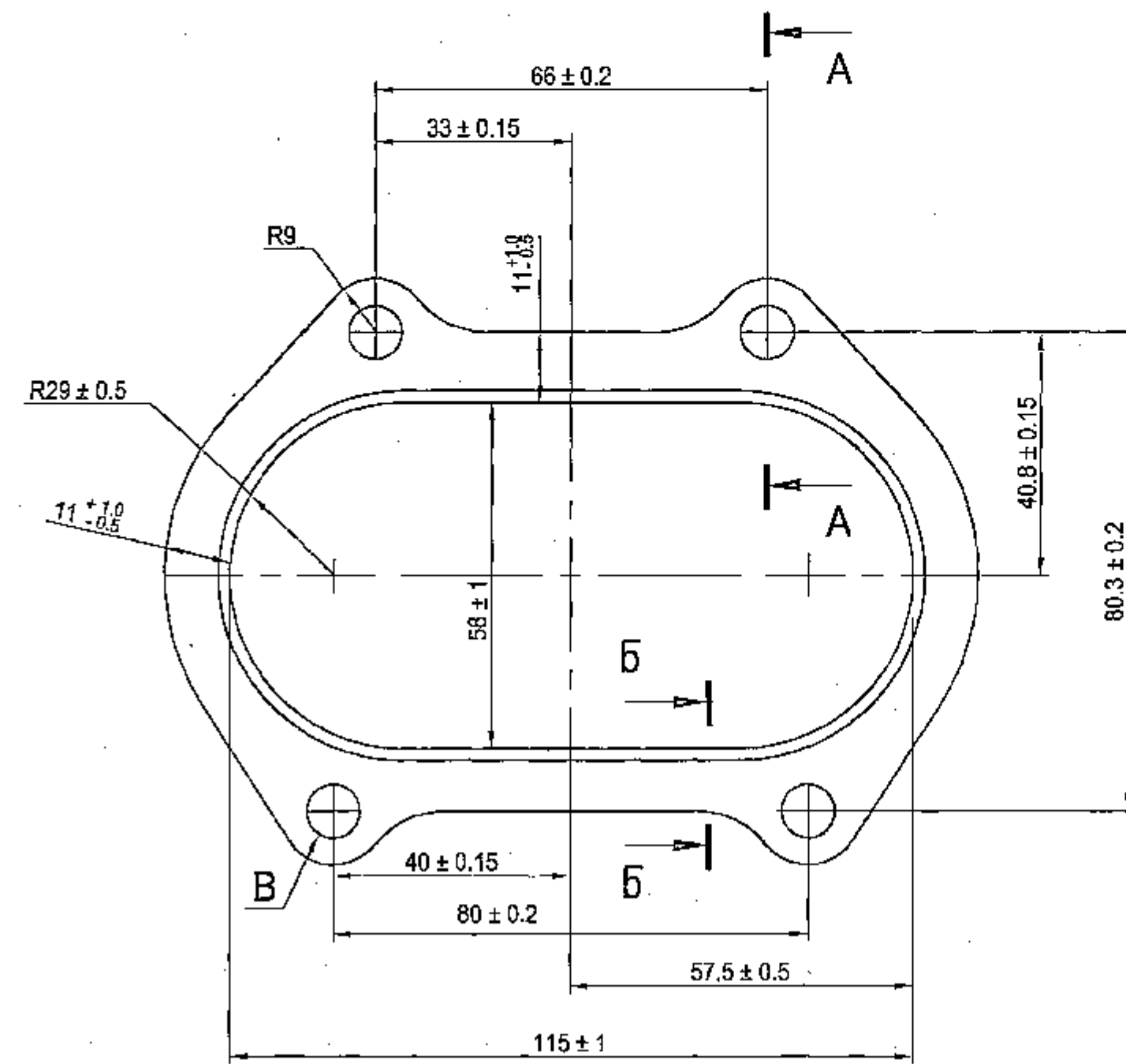
EST. WT. 0.036 Kg. TO BE STAMPED OR MARKED WHERE INDICATED THUS # LETTERS!

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

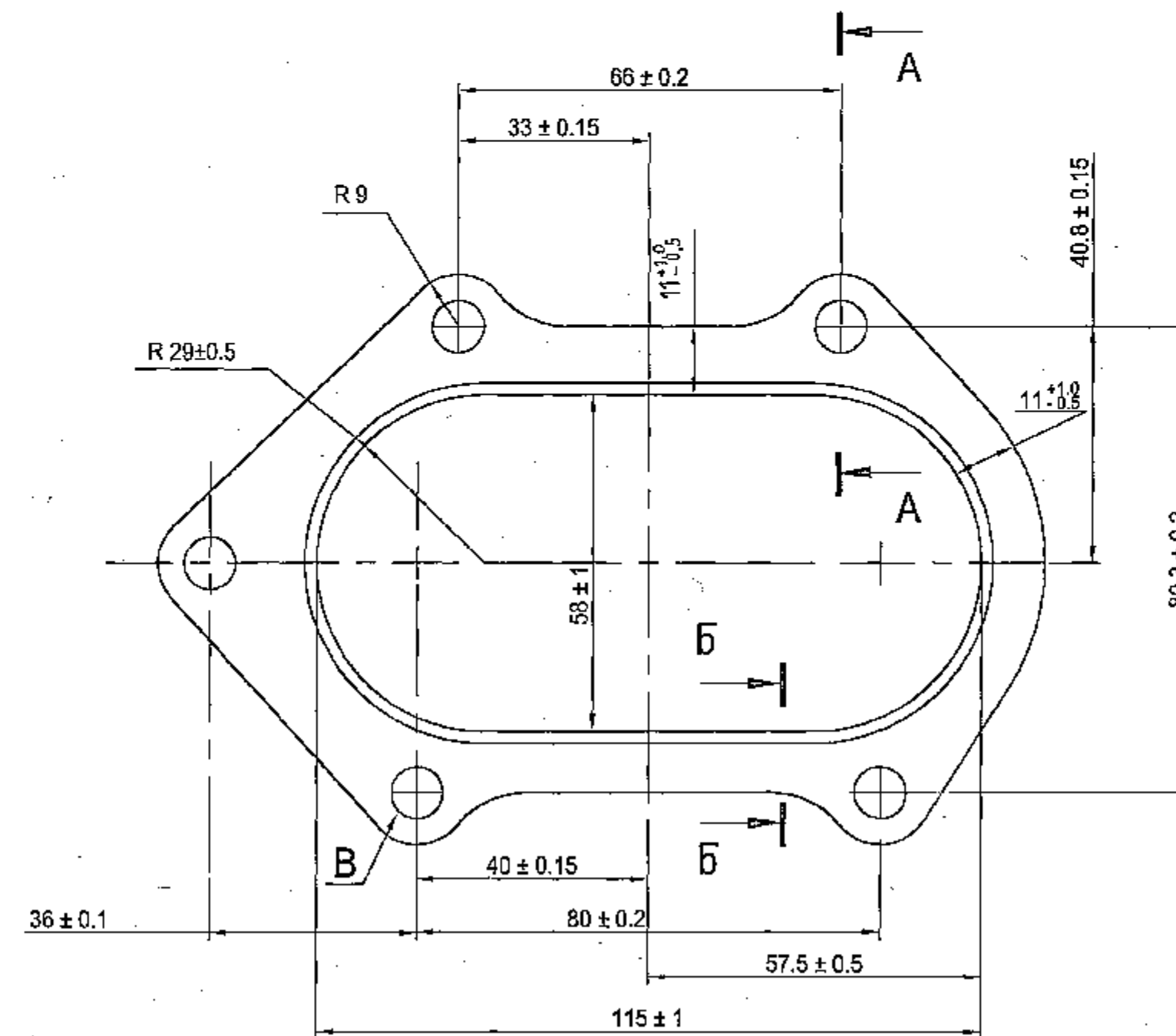
DRN	GND/12	MATERIAL :-	USED ON :-
CHD			CS 3300-00-27CX
TCD			
APPD		CONTROLLERATE OF QUALITY ASSURANCE (HEAVY VEHICLES)	
DATE	2-4-70	A V A D I	
SCALE	1:1	TITLE	<b>GASKET ASSY</b>
DIMENSIONS	IN mm.		
TOLERANCE	ON DIMNS UNLESS OTHERWISE STATED IS 2102-69		
ALL THREADS	TO CONFORM TO	D S CAT NUMBER	DRAWING NUMBER
A	23-6-33 AUTHY. LT. No. 93026/CDA(CVE)/LP/A10 of 24		<b>CS 3306-15-3CB</b>
ISSUE	DATE	NATURE OF AMENDMENTS	



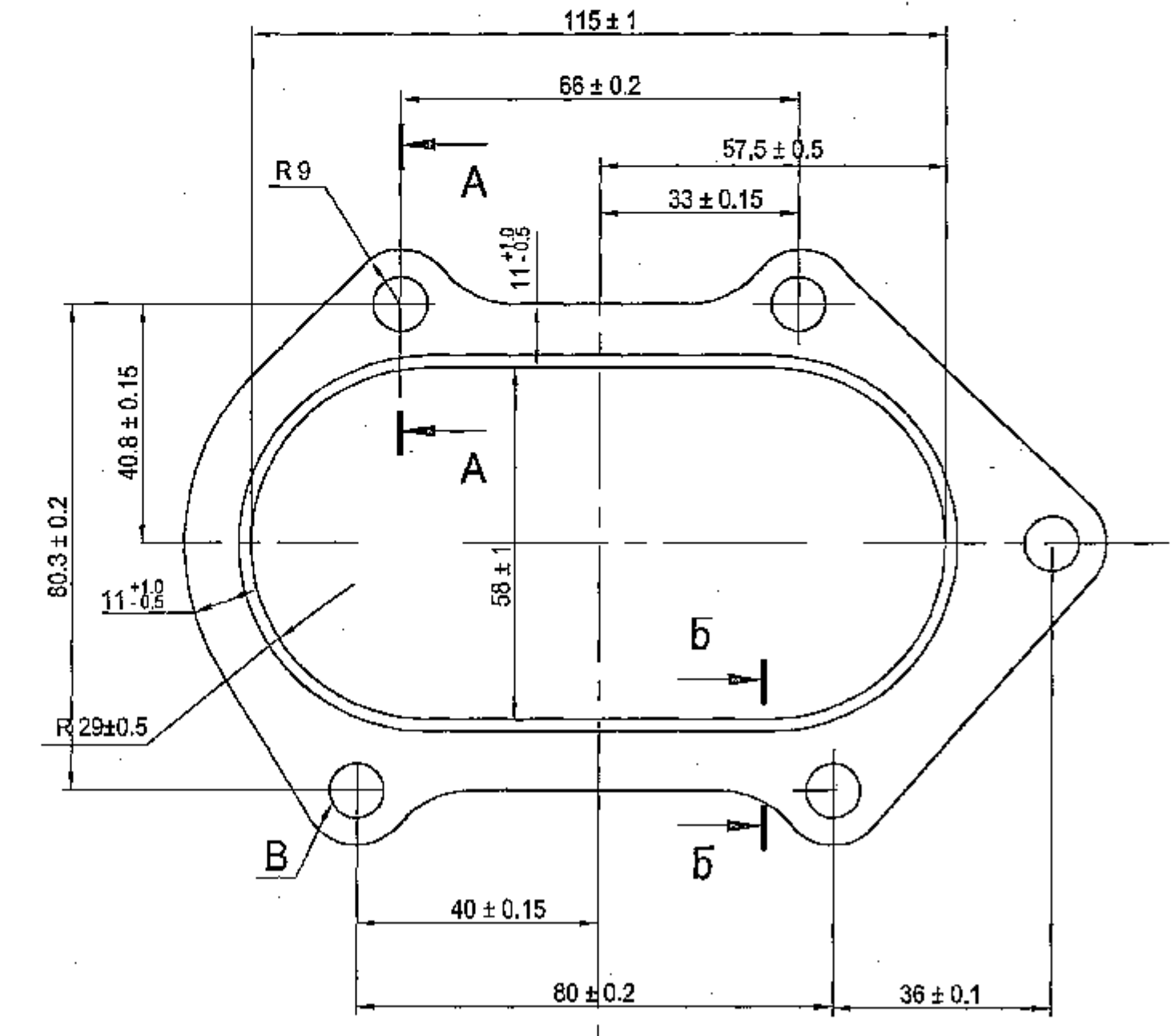
Ⓐ ITEM No. 3  
Cb 3306 - 15



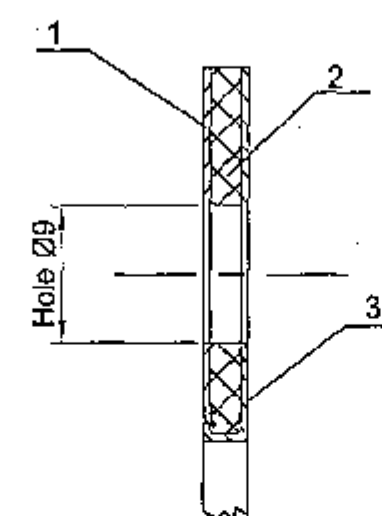
Ⓐ ITEM No. 4  
Cb 3306 - 15 - 2



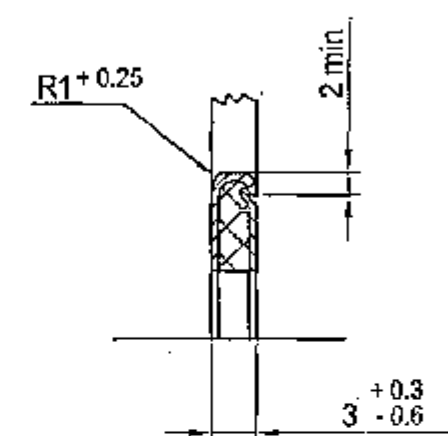
Ⓐ ITEM No. 5  
Cb 3306 - 15 - 3



A - A  
SCALE 2:1



B - B  
SCALE 2:1



1. Ruptures, cracks, burrs, bucklings and bulgings are not permissible on the external surfaces of gaskets and at the flared places.
2. Asbestos sheet should be on one level with the edges of copper cover plate or project beyond them by 0.5 mm, max, its edges should not be torn.
3. Flared edges of the copper sheet should be in one plane with the side surfaces of the gasket. The projection not exceeding the thickness of the sheet is permissible.
4. Gaskets should be selected as a set of 6 pcs. namely;
  - Cb 3306 - 15                    4 pc
  - Cb 3306 - 15 - 2                1 pc
  - Cb 3306 - 15 - 3                1 pc
5. Difference in thickness of gaskets in a set should not exceed 0.2 mm.
6. Cover plate 3 may be flared up along the outer profile of the gasket to the contact with cover plate 1 and in holes B to height upto 1 mm.

ITEM No	Sl. No.	DRAWING NUMBER	WEIGHT
3	1	Cb 3306 - 15 Cb	0.030 Kg
4	2	Cb 3306 - 15 - 2 Cb	0.036 Kg
5	3	Cb 3306 - 15 - 3 Cb	0.036 Kg

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 R INSIDE EQUIVALENT CHAMFERS ARE PERMISSIBLE.

DRN	CBD	TCD	APPD	DATE	SCALE	DIMENSIONS IN mm	TOLERANCE ON DIMNS UNLESS OTHERWISE STATED IS : 2102 - 69	MATERIAL:-	USED ON:-
				10.12.07	1:1				Cb 418-00-6
CONTROLLERATE OF QUALITY ASSURANCE (HEAVY VEHICLES) AVADI								TITLE:- EXHAUST MANIFOLD GASKET	
D S CAT NUMBER								DRAWING NUMBER CQA(HV)/507500 E	

DRG CREATED BASED ON CQA(HV) Lt. No. 81240 / CQA(HV) / DB / ENG dt 12 Dec 2007



USED ON

Sb 3300-00-27 CX

I/L CREATED BASED ON RUSSIAN ORIGINAL ISSUE - NIL  
VIDE NOTIFICATION NO: 91-531

ZONE	ITEM NO	DRAWING NUMBER	D S CAT NUMBER	DESCRIPTION	QTY	REMARKS
		Cb.418-00-6		EXHAUST		
		ITEM LIST		MANIFOLD ASSY.		
	1	Cb.418-50-29		EXHAUST MANIFOLD	1	
				L.H		
	2	Cb.418-51-29		EXHAUST MANIFOLD	1	
				R.H		
(A)	3	Cb.3306-15		GASKET	8	
(A)	4	Cb.3306-15-2		GASKET	2	
(A)	5	Cb.3306-15-3		GASKET	2	
	6	351-025		NUT M8	52	
	7	353-03-3		BRIGHT WASHER 8	4	
	8	353-68		LOCK WASHER 9	8	
	9	353-69-5		WASHER	8	
	10	353-104		WASHER	4	
	11	353-105		WASHER	4	
	12	353-106		WASHER	4	
	3	CQA(HV) 507 500 E		EXHAUST MANIFOLD GASKET	2 SET	SUPPLIED AS SET ONLY
(A)	4					
	5					
A	2.9.11	CQA(HV) Lt. No. 81240 / CQA(HV) / DB / ENG dt. 12 Dec 2007				
ISSUE	DATE	NATURE OF AMENDMENTS		ISSUE	DATE	NATURE OF AMENDMENTS
DRN		CONTROLLERATE OF QUALITY ASSURANCE (HEAVY VEHICLES) AVADI.				
CHD		TITLE : <b>EXHAUST MANIFOLD ASSY.</b>				
APPD						
DATE	04.01.08	SHT. NO. 1 OF 1	D S CAT NUMBER	ITEM LIST FOR <b>Cb.418-00-6</b>		

F-153  
37/74

USED ON

Sb 418-00-6

I/L CREATED BASED ON RUSSIAN ORIGINAL ISSUE - 2

VIDE NOTIFICATION NO: 91-531

ZONE	ITEM NO	DRAWING NUMBER	D S CAT NUMBER	DESCRIPTION	QTY	REMARKS
		Cb.418-50-29		LH EXHAUST MANIFOLD		
		ITEM LIST		ASSY.		
	1	Cb.318-22-5		BRANCH PIPE	6	
				SCREEN ASSY.		
	2	3318-06-1		LOWER HALF OF		6 PIECES
				BRANCH PIPE		ALLOWED TO
						CHANGE POS.3
	3	3318-06-4		LOWER HALF OF		6 PIECES
				BRANCH PIPE		ALLOWED TO
						CHANGE POS.2
	4	3318-07-1		UPPER HALF OF		6 PIECES
				BRANCH PIPE		ALLOWED TO
						CHANGE POS.5
	5	3318-07-4		UPPER HALF OF		6 PIECES
				BRANCH PIPE		ALLOWED TO
						CHANGE POS.4


ISSUE	DATE	NATURE OF AMENDMENTS	ISSUE	DATE	NATURE OF AMENDMENTS
-------	------	----------------------	-------	------	----------------------

DRN	<i>AS</i>	CONTROLLERATE OF QUALITY ASSURANCE (HEAVY VEHICLES) AVADI.			
CHD	<i>R.R. ...</i>	TITLE : <b>EXHAUST MANIFOLD LH.</b>			
APPD	<i>...</i>				
DATE	04.01.08	SHT. NO. 1 OF 2	D S CAT NUMBER	ITEM LIST FOR <b>Cb.418-50-29</b>	

F-153  
39/74



USED ON

Sb 418-00-6

I/L CREATED BASED ON RUSSIAN ORIGINAL ISSUE - 2

I/L REPLACES ISSUE-1, VIDE NOTIFICATION NO: 91-531

ZONE	ITEM NO	DRAWING NUMBER	D S CAT NUMEER	DESCRIPTION	QTY	REMARKS
		Cb.418-51-29		EXHAUST MANIFOLD		
		ITEM LIST		RH.		
	1	Cb.318-22-5 &		BRANCH PIPE	6	
		ITEM LIST		SCREEN ASSY.		
	2	3318-06-1		LOWER HALF OF		6 PIECES ARE
				BRANCH PIPE		ALLOWED TO
						CHANGE POS.3
	3	3318-06-4		LOWER HALF OF		6 PIECES ARE
				BRANCH PIPE		ALLOWED TO
						CHANGE POS.2
	4	3318-07-1		UPPER HALF OF		6 PIECES ARE
				BRANCH PIPE		ALLOWED TO
						CHANGE POS.5
	5	3318-07-4		UPPER HALF OF		6 PIECES ARE
				BRANCH PIPE		ALLOWED TO
						CHANGE POS.4


ISSUE	DATE	NATURE OF AMENDMENTS	ISSUE	DATE	NATURE OF AMENDMENTS
DRN			CONTROLLERATE OF QUALITY ASSURANCE (HEAVY VEHICLES) AVADI.		
CHD			TITLE : EXHAUST MANIFOLD RH.		
APPD					
DATE	04.01.08	SHT. NO. 1 OF 2	D S CAT NUMBER	ITEM LIST FOR Cb.418-51-29	

F-153  
42/74











