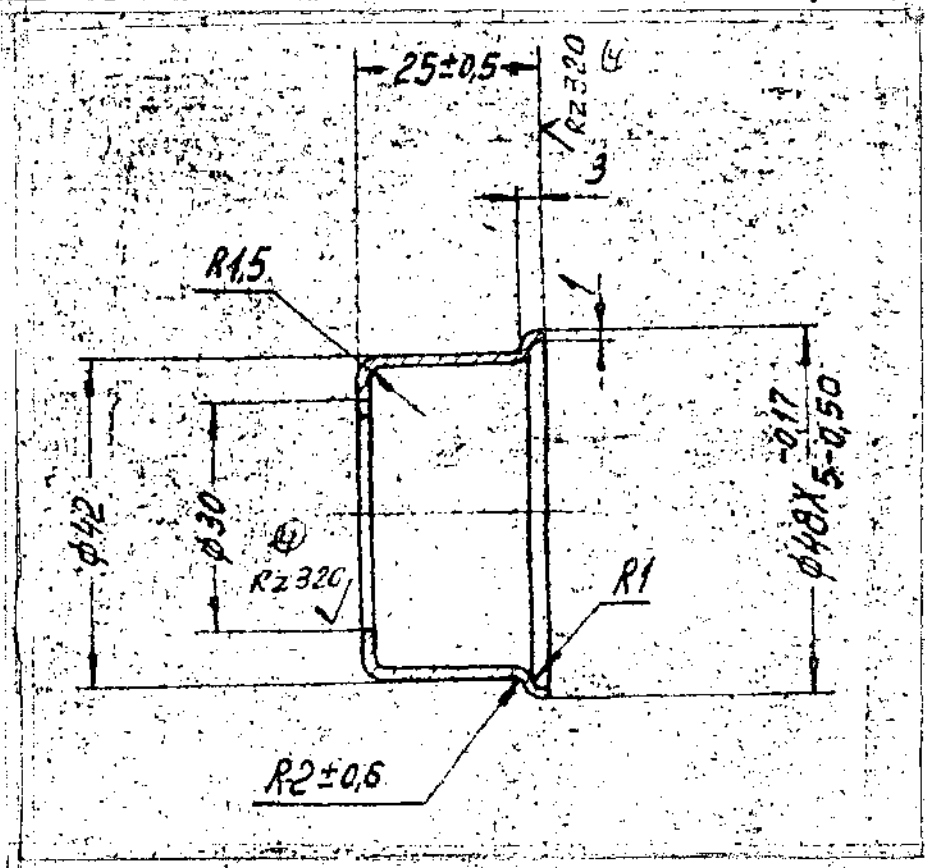


DRAWING NUMBER  
413 23



1. DIMENSIONS WITH UNSPECIFIED TOLERANCES ARE TO BE OBTAINED WITH ACCURACY OF  $\pm 0.3\text{mm}$ .
2. SHARP EDGES ARE TO BE BLUNTED.
3. COATING: Zn9CHROMATIZING AS PER INSTRUCTION  $\mathcal{U}\mathcal{A}$ -483-82.
4. ALTERNATE MATERIAL: STEEL GRADES 08nc, 10, AND 10Kn (RIMMING) GOST 1050-74

**EXPLANATORY NOTE:**

✓ (✓)

5. REFERENCE MATERIAL QUOTED:

COLD ROLLED SHEET STEEL, HIGH ACCURACY ON ROLLING 'A' 1.0mm THICK TO GOST 19904-74, AND HIGH SURFACE FINISH 'II' EXTREMELY DEEP DRAWN 'B' AND MANUFACTURED IN ACCORDANCE WITH COLD-ROLLED THIN SHEET STEEL Gde 08Kn TO GOST 9045-80.

a) CHEMICAL COMPOSITION AS PER GOST 9045-80.

GRADE OF STEEL	C O N T E N T O F E L E M E N T S %								
	C (max)	Mn	S	P	Si	Cr	Ni	Cu	
			M A X I M U M						
08 Kn	0.10	0.20 - 0.40	0.030	0.025	0.03	0.10	0.10	0.15	

b) MECHANICAL PROPERTIES:

CATEGORY	GRADE OF STEEL	ULTIMATE TENSILE STRENGTH Kgf/mm <sup>2</sup>	ELONGATION % MIN
B/	08Kn	26 - 37	28

6. REFERENCE NOTE 4 ON ALTERNATE MATERIAL QUALITY CARBON STRUCTURAL STEEL COLD ROLLED GRADES 08nc, 10 AND 10Kn TO GOST 16523-70 AND MANUFACTURED IN ACCORDANCE WITH CARBON STRUCTURAL STEEL TO GOST 1050-74.

a) CHEMICAL COMPOSITION AS PER GOST 1050-74.

GRADE OF STEEL	C O N T E N T O F E L E M E N T S %					
	C	Si	Mn	Cr	S	P
				M A X I M U M		
08nc	0.05 - 0.11	0.05 - 0.17	0.35 - 0.65	0.10	0.040	0.035
10	0.07 - 0.14	0.17 - 0.37	0.35 - 0.65	0.15	0.040	0.035
10Kn	0.07 - 0.14	0.07 - max	0.25 - 0.50	0.15	0.040	0.035

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

MANGANESE CONTENT UPTO 0.25% AS REGARDS LOWER LIMIT IS ALLOWED IN THE STEEL OF GRADE 08nc MEANT FOR PRODUCTION OF SHEET STEEL FOR COLD STAMPING.

b) MECHANICAL PROPERTIES AS PER GOST 16523-70.

GRADE OF STEEL	ULTIMATE TENSILE STRENGTH Kgf/mm <sup>2</sup>	ELONGATION % min
08nc	28 - 40	25
10	30 - 42	25
10Kn	28 - 40	25

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

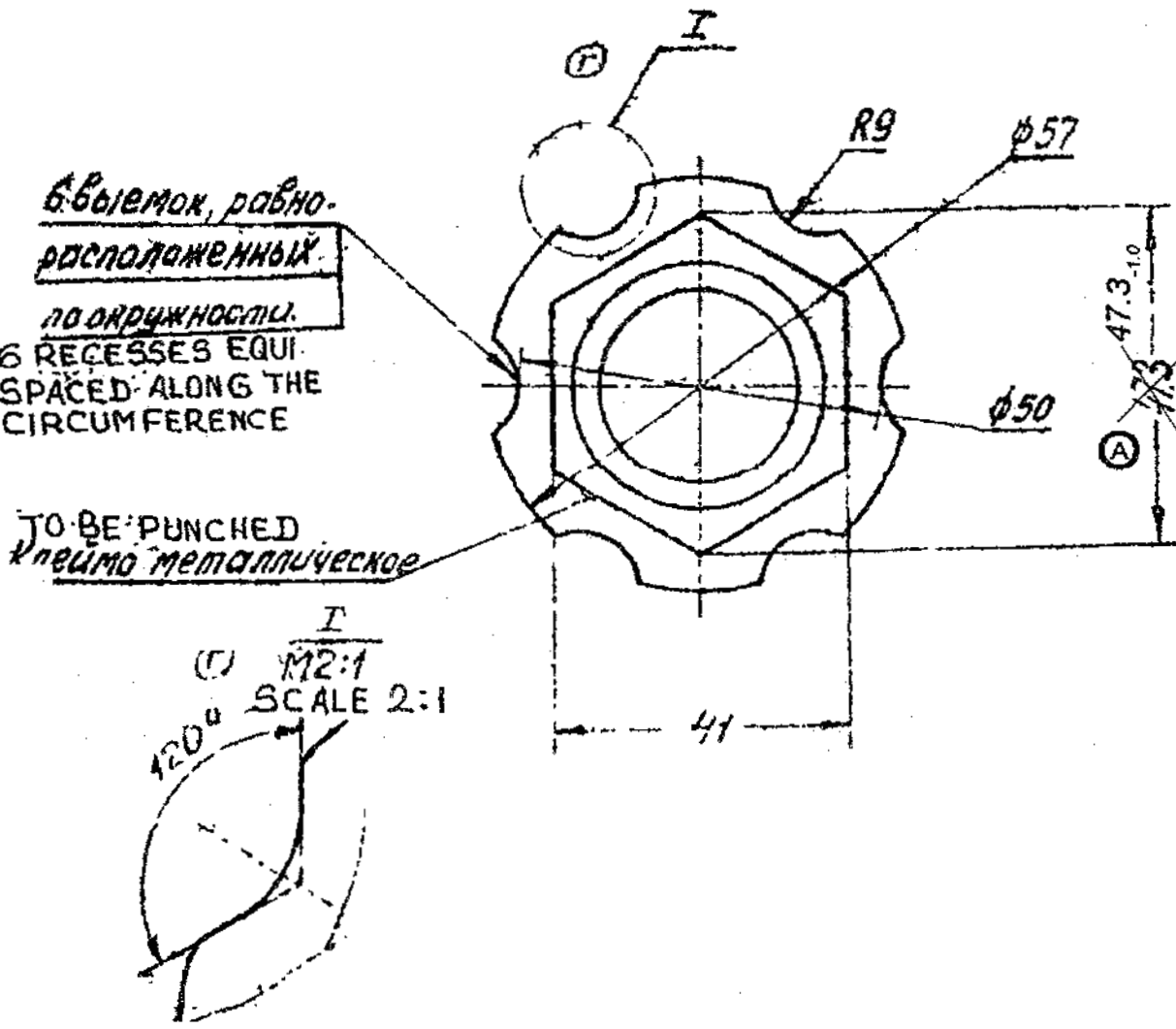
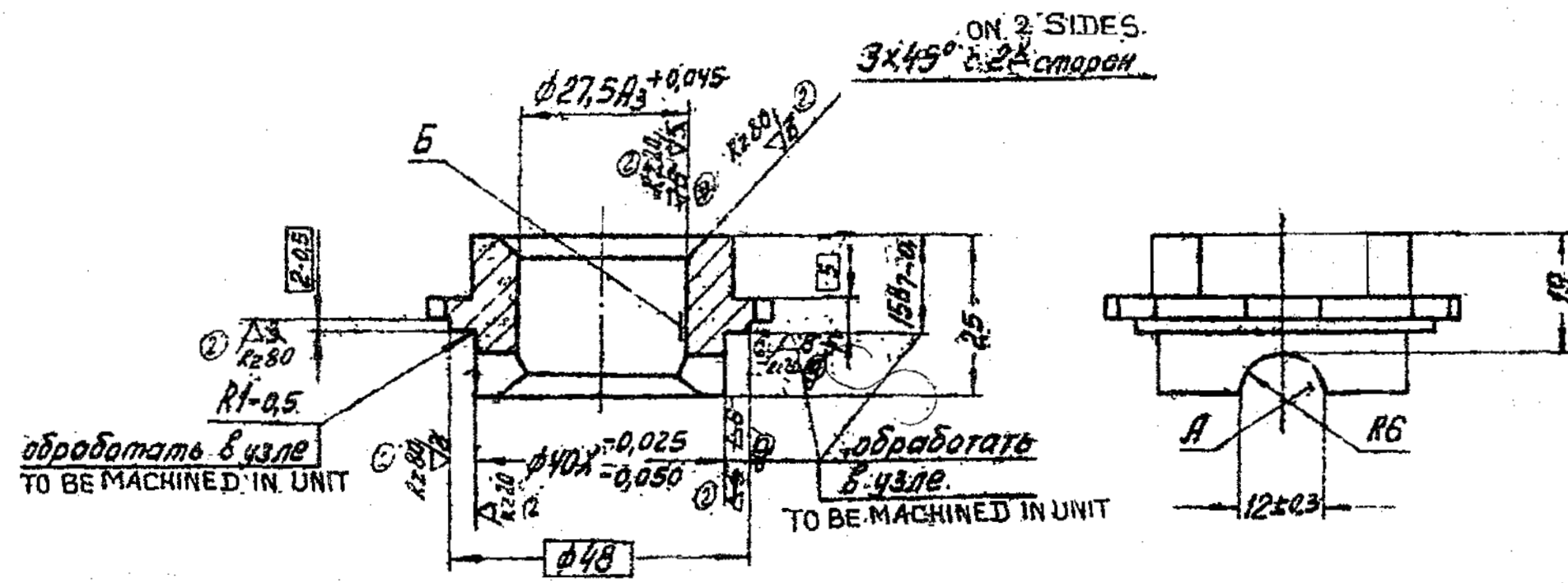
EST. WT. 0.015 Kg TO BE STAMPED OR MARKED WHERE INDICATED THUS # ( LETTERS )

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

DRN	CHD	TEC	APPD	DATE	SCALE: 1 : 1	DIMENSIONS IN mm	TOLERANCE ON DIMNS UNLESS OTHERWISE STATED.	ALL THREADS TO CONFORM TO	MATERIAL: SHEET A-1.0 GOST 19904-74 I - B/ 08Kn GOST 9045-80	USED ON: CB 413 117 2
									CONTROLLERATE OF INSPECTION (HEAVY VEHICLES) (AVADI)	
									TITLE: CUP	
									D S CAT NUMBER	DRAWING NUMBER 413 23
ISSUE	DATE	NATURE OF AMENDMENTS								

A-6

A3



1. UNSPECIFIED CASTING RADIUS SHOULD BE DONE R 1.5 max
2. DIMENSIONS WITH UNSPECIFIED TOLERANCES SHOULD BE DONE WITH AN ACCURACY OF  $\pm 0.5\text{mm}$ .
3. SHARP EDGES ARE TO BE BLUNTED.
4. THE REST OF THE REQUIREMENTS AS PER ТУ 8711 No. 3
5. DIMENSIONS IN RECTANGLE MAY BE ENSURED BY MACHINING IN UNIT.
6. SHIFT OF HEXAHEDRON AXIS RELATIVE TO THE HOLE AXIS SHOULD NOT EXCEED 1mm.
7. SHIFT OF AXIS OF RECESS 'A' RELATIVE TO THE HOLE AXIS SHOULD NOT EXCEED 0.5mm.
8. UPTO 5 BLOW HOLES WITH DIAMETER OF 3 mm, MAX. AND DEPTH NOT EXCEEDING 1.5mm ARE ALLOWED ON SURFACE 'B' AFTER MACHINING.
9. ALTERNATE MATERIAL: STEEL 20A-I AND 35A-I, GOST 977-75
10. POSITION OF HEXAHEDRON FACES RELATIVE TO RECESSES R9 IS ARBITRARY.

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

EST. MASS 0.21 Kg. TO BE STAMPED OR MARKED WHERE INDICATED THUS # LETTERS)

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

EXPLANATORY NOTE:

11. REFERENCE MATERIAL QUOTED: STEEL GENERAL PURPOSE CASTING GROUP I GRADE 45A AND REFERENCE NOTE '9' ON ALTERNATE MATERIAL GRADES 20A & 35A TO GOST 977-75

a) CHEMICAL COMPOSITION:

GRADE OF STEEL	CONTENT OF ELEMENTS %								REMARKS
	C	Mn	Si	MAXIMUM					
45A	0.42-0.50	0.40-0.90	0.20-0.52	0.06	0.06	0.30	0.30	0.30	Ref.MatL.
20A	0.17-0.25	0.35-0.90	0.20-0.52	0.06	0.06	0.30	0.30	0.30	Alt.MatL.
35A	0.32-0.40	0.40-0.90	0.20-0.52	0.06	0.06	0.30	0.30	0.30	Alt.MatL.

b) MECHANICAL PROPERTIES UNDER NORMALIZING CONDITION

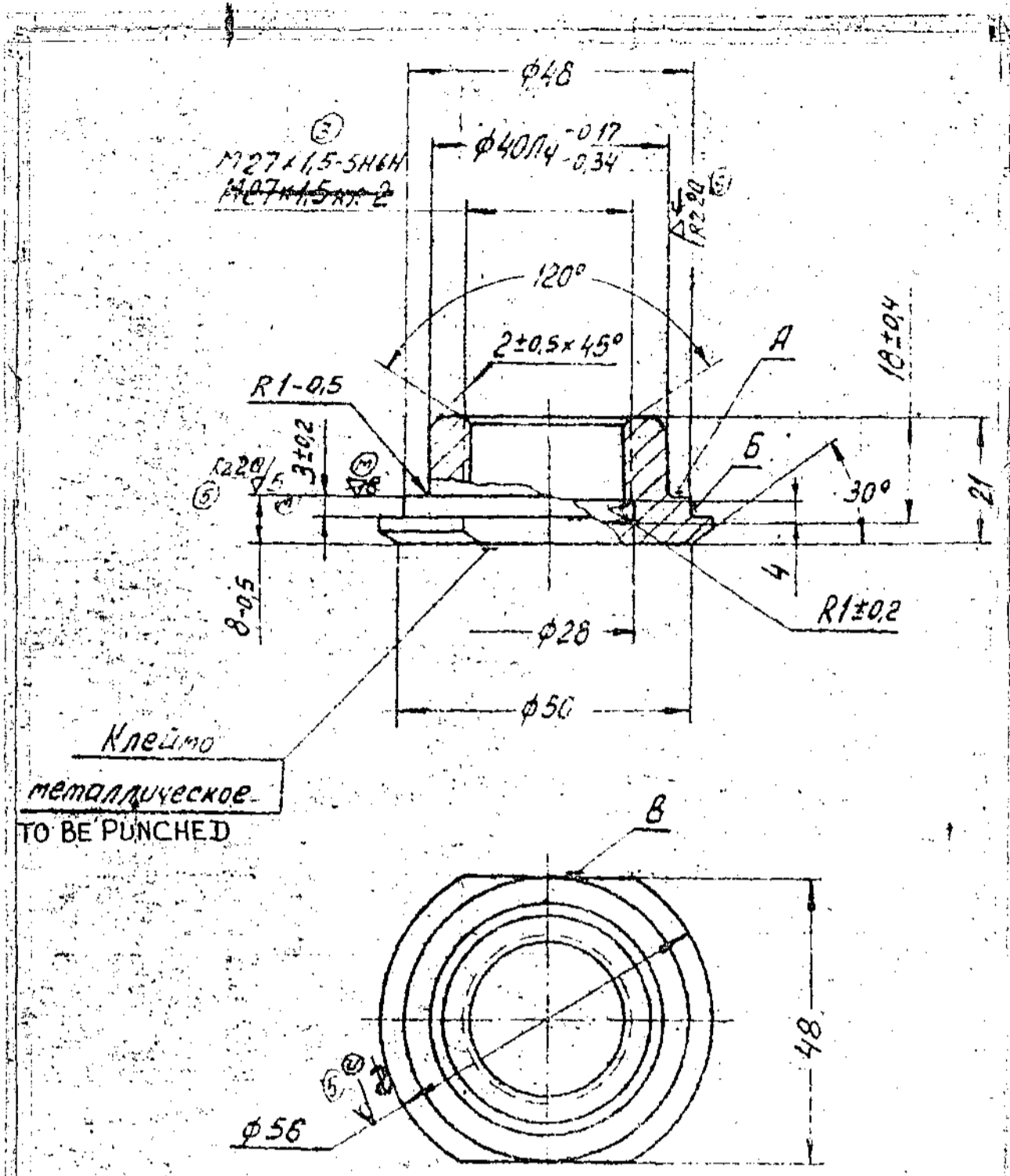
GRADE OF STEEL	ULTIMATE TENSILE STRENGTH Kg/mm <sup>2</sup>	YIELD POINT Kg/mm <sup>2</sup>	ELONGATION %	REDUCTION IN AREA %	IMPACT STRENGTH Kgcm/cm <sup>2</sup>	REMARKS
45A	59	32	12	20	3.0	Ref.MatL.
20A	42	22	22	35	5.0	Alt.MatL.
35A	50	28	15	25	3.5	Alt.MatL.

DRN	Dr	MATERIAL:- STEEL 45A-I	USED ON:-
CHD	Dr	GOST 977-75 CASTING	CB 3313-02-7
TCD	Dr	CONTROLLERATE OF INSPECTION (HEAVY VEHICLES) AVADI	
APPD	Dr	SCALE - 1:1	
DATE	19-5-86	DIMENSIONS IN mm.	
TOLERANCE ON DIMNS UNLESS OTHERWISE STATED.		TITLE:- BUSH	
A 291-03 Dt.23-09-08		D S CAT NUMBER	
ISSUE	DATE	DRAWING NUMBER 413-26A	

DRG. INDIANISED BASED ON RUSSIAN ORIGINAL ISSUE - 2

(A-6)

ZE A2



**EXPLANATORY NOTE:**

15. REFERENCE MATERIAL QUOTED:

SIZED STEEL ROUND BAR  $\phi 56.0$  (-0.400) mm TO GOST 7417-75, ACCURACY CLASS 5, NORMAL SURFACE QUALITY TO GOST 1051-73 AND MANUFACTURED IN ACCORDANCE WITH QUALITY CARBON STRUCTURAL STEEL GRADE 45 AND REFERENCE NOTE 14, ON ALTERNATE MATERIAL STEEL GRADES 40 AND 50 TO GOST 1050-74.

a) CHEMICAL COMPOSITION AS PER GOST 45, 40 & 50 TO GOST 1050-74.

GRADE OF STEEL	CONTENT OF ELEMENT %						REMARKS
	C	Si	Mn	Cr	S	P	
45	0.42-0.50	0.17-0.37	0.50-0.80	0.25	0.040	0.035	Ref, Material
40	0.37-0.47	0.17-0.37	0.50-0.80	0.25	0.040	0.035	Alt, Material
50	0.47-0.55	0.17-0.37	0.50-0.80	0.25	0.040	0.035	Alt, Material

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

b) MECHANICAL PROPERTIES UNDER NORMALISED CONDITION:

GRADE OF STEEL	ULTIMATE TENSILE STRENGTH Kg/mm <sup>2</sup>	YIELD POINT Kg/mm <sup>2</sup>	ELONGATION %	REDUCTION IN AREA %	IMPACT STRENGTH Kg/cm <sup>2</sup>	HARDNESS B H N MAXIMUM	REMARKS
45	61	36	16	40	5	229	Ref, Material
40	58	34	19	45	6	217	Alt, Material
50	64	38	14	40	4	241	Alt, Material

16. REFERENCE NOTE '11' ON ALTERNATE MATERIAL :

HOT ROLLED STEEL ROUND BAR HIGH ACCURACY ON ROLLING 'B' DIAMETER  $56.0 \pm 0.2$  TO GOST 2590-71 AND MANUFACTURED IN ACCORDANCE WITH QUALITY CARBON STRUCTURAL STEEL Gde 45 TO GOST 1050-74

CHEMICAL COMPOSITION & MECHANICAL PROPERTIES ARE AS ABOVE.

- DIMENSIONS WITH UNSPECIFIED TOLERANCES SHOULD BE DONE AS PER ACCURACY CLASS 7 OST 1010.
- TECHNICAL REQUIREMENTS FOR THREAD AS PER STANDARD 8.021-00
- NON SQUARENESS (RUN OUT) OF SURFACE A RELATIVE TO THE THREAD AXIS SHOULD NOT EXCEED 0.1mm
- DURING MACHINING OF SURFACE 'A', CUTTING-IN OF CUTTER TO A DEPTH OF NOT MORE THAN 0.3mm IS ALLOWED ON CYLINDRICAL SURFACE.
- FLAT FROM MILLING SURFACE B ARE ALLOWED ON SURFACE B.
- SHARP EDGES ARE TO BE BLUNTED.
- THREAD AFTER COATING MAY BE FINALLY TAPPED. COATING MAY BE REMOVED FROM THE THREAD.
- THERE MAY BE NO COATING ON THE INNER SURFACES.
- MAY BE MANUFACTURED FROM ROUND BAR B56 GOST 2590-71 45 GOST 1050-74
- DIMENSIONS SHOULD BE CHECKED BEFORE COATING.
- COATING: Cd 9, CHROMATIZING AS PER INSTRUCTIONS ЦД104 WITH REMOVAL OF HYDROGEN EMBRITTLEMENT.
- ALTERNATE MATERIAL: STEEL, GRADES 40 AND 50, GOST 1050-74. PILOT SAMPLE SHOULD BE APPROVED BY A H S P BEFORE BULK PRODUCTION

EST. WT. 0.15 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	TCD	APPD	DATE	SCALE: 1:1	DIMENSIONS IN mm	TOLERANCE ON DIMNS UNLESS OTHERWISE STATED	ALL THREADS TO CONFORM TO	DRN	USED ON:
										ROUND BAR 56-5 GOST 7417-75 45 GOST 1051-73
CONTROLLERATE OF INSPECTION (HEAVY VEHICLES) AVADI								TITLE: PLUG		
D S CAT NUMBER								DRAWING NUMBER 413 27		
ISSUE	DATE	NATURE OF AMENDMENTS								

DRG. INDIANISED BASED ON RUSSIAN ORIGINAL ISSUE - 6

DRAWING NUMBER

413 28

✓(✓)

EXPLANATORY NOTE:

5. REFERENCE MATERIAL QUOTED: COPPER SHEET 1mm THICK COLD ROLLED  $\Delta$  SQUARE SECTION  $\Delta$  NORMAL ACCURACY ON THICKNESS AND WIDTH 'H' SOFT CONDITION 'M' TO GOST 495-77 AND MANUFACTURED IN ACCORDANCE WITH COPPER GRADE M 1 TO GOST 859-78.

a. CHEMICAL COMPOSITION AS PER GOST 859-78

GRADE OF COPPER	CONTENT OF ELEMENTS %									
	Cu+Ag Min	IMPURITIES MAXIMUM								
		Bi	Sb	As	Fe	Ni	Pb	Sn	S	Zn
M 1	99.9	0.001	0.002	0.001	0.005	0.002	0.005	0.002	0.004	0.004

b. MECHANICAL PROPERTIES AS PER COLD ROLLED COPPER SHEET TO GOST 495-77

CONDITION OF MATERIAL	ULTIMATE TENSILE STRENGTH Kgf/mm <sup>2</sup>	ELONGATION % MINIMUM	HARDNESS B H N MAXIMUM
SOFT 'M'	20-27	36	55

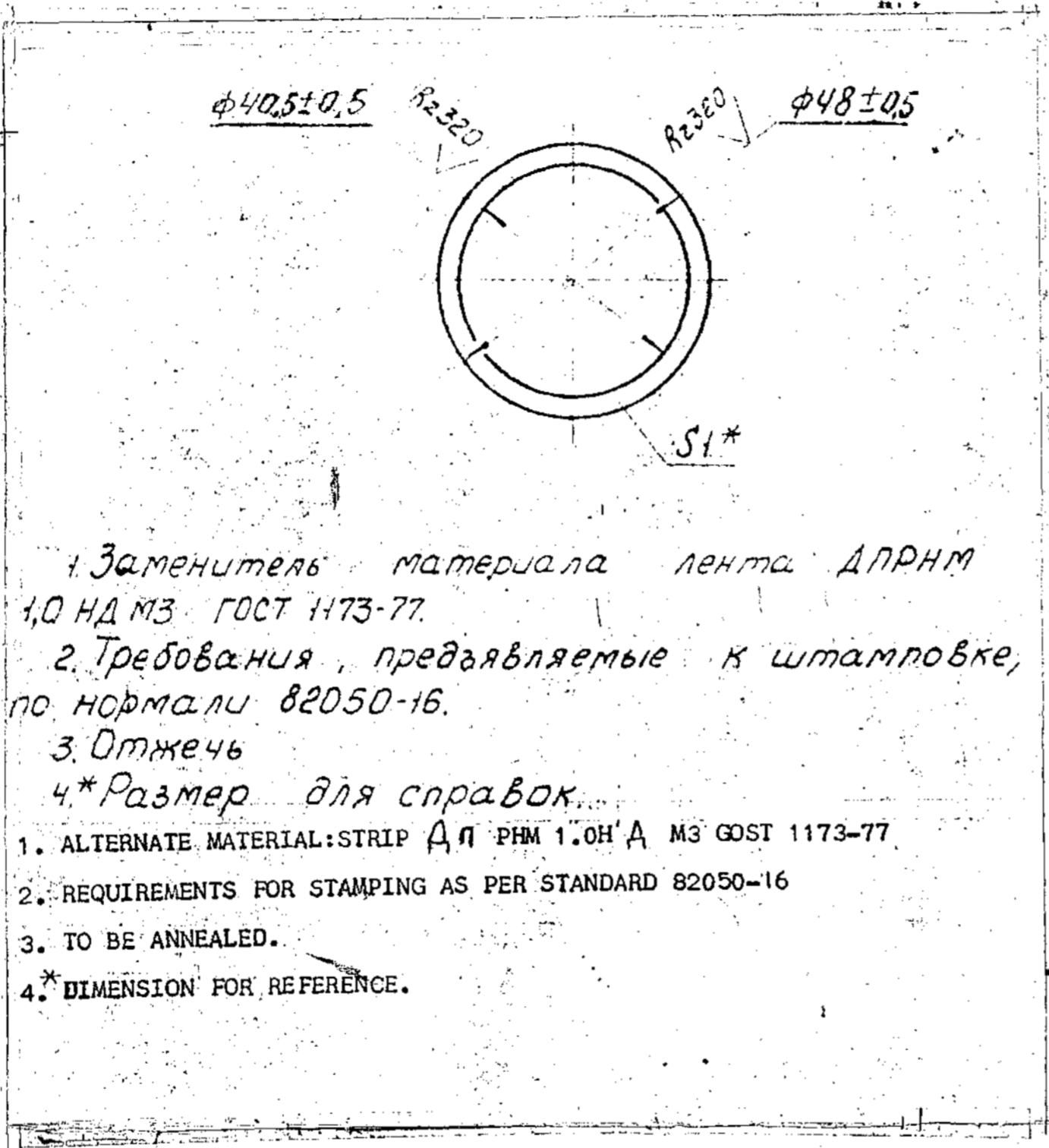
6. REFERENCE NOTE 1 ON ALTERNATIVE MATERIAL. COPPER STRIP 1mm THICK, COLD ROLLED  $\Delta$  RECTANGULAR SECTION  $\Delta$  NORMAL ACCURACY 'H' SOFT CONDITION 'M' NON-STANDARD LENGTH H $\Delta$  TO GOST 1173-77 AND MANUFACTURED IN ACCORDANCE WITH COPPER GRADE M3 TO GOST 859-78.

a) CHEMICAL COMPOSITION AS PER GOST 859-78

GRADE OF COPPER	CONTENT OF ELEMENTS %									
	Cu+Ag Min	IMPURITIES MAX								
		Bi	Sb	As	Fe	Ni	Pb	Sn	S	O
M3	99.5	0.003	0.05	0.01	0.05	0.2	0.05	0.05	0.01	0.08

b. MECHANICAL PROPERTIES AS PER COLD ROLLED COPPER STRIP TO GOST 1173-77

CONDITION OF MATERIAL	ULTIMATE TENSILE STRENGTH Kgf/mm <sup>2</sup> Min	ELONGATION % Min
SOFT M	20	30



- ALTERNATE MATERIAL: STRIP  $\Delta$  ПРМ 1.0H $\Delta$  M3 GOST 1173-77
- REQUIREMENTS FOR STAMPING AS PER STANDARD 82050-16
- TO BE ANNEALED.
- \* DIMENSION FOR REFERENCE.

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

EST WT 0.005 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

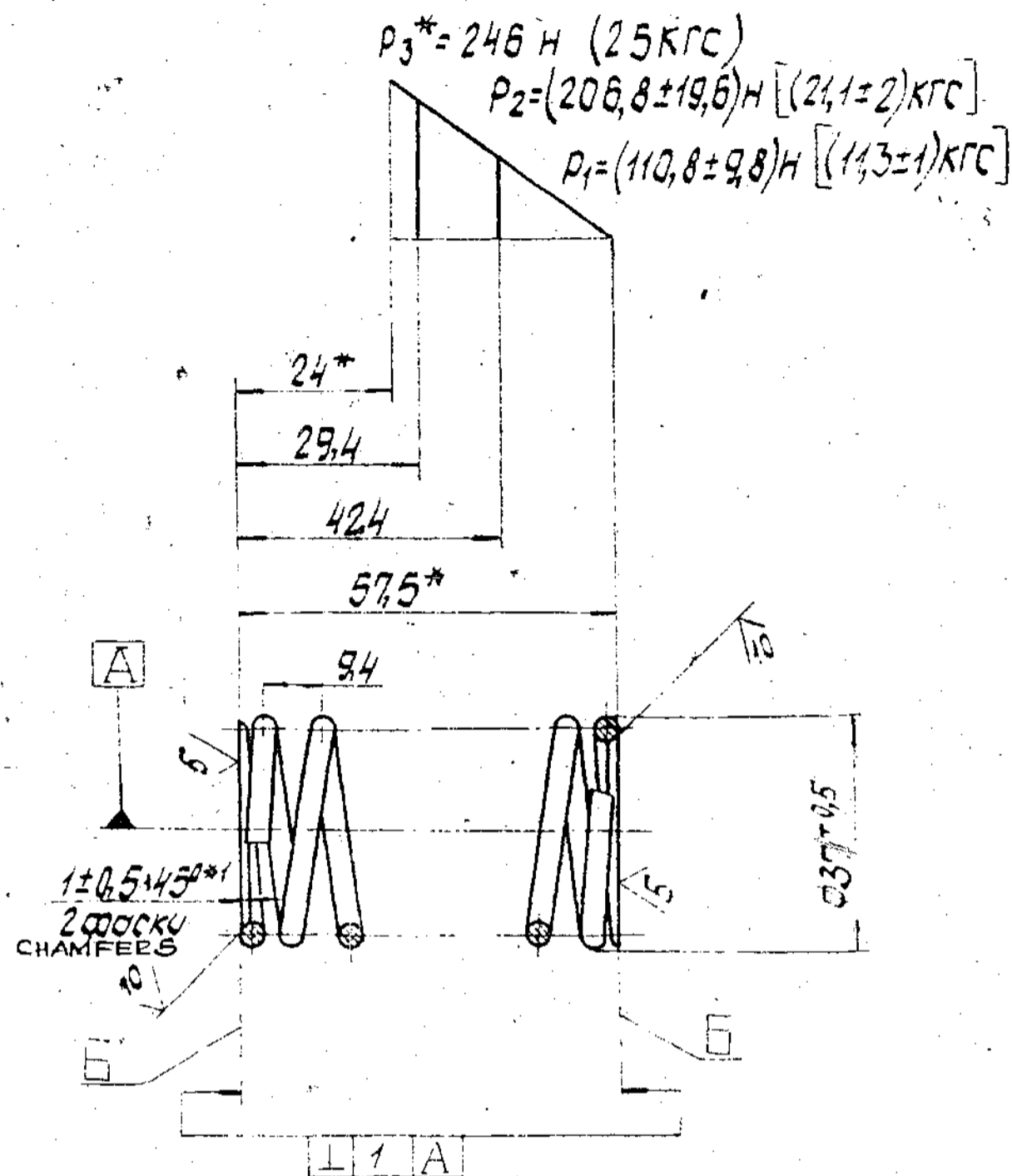
DRN	Doc	MATERIAL SHEET COPPER	USED ON
CHD	Doc	$\Delta$ ПРМ 1.0, M 1	CS 413 115 6
TCD	Doc	GOST 495-77	
APPD	Doc	CONTROLLERATE OF INSPECTION (HEAVY VEHICLES AVADI)	
DATE	20-5-86		
SCALE	1:1		
DIMENSION	IN mm		
TOLERANCE ON DIMEN	UNLESS OTHERWISE STATED	TITLE	
		GASKET METALLIC	
ALL THREADS TO CONFORM TO		D S CAT NUMBER	DRAWING NUMBER
ISSUE	DATE		413 28
NATURE OF AMENDMENTS			

DRG. INDIANISED BASED ON RUSSIAN ORIGINAL ISSUE - 5

A 10  
SIZE A2

DRAWING NUMBER  
306-66-2

✓(✓)



**EXPLANATORY NOTE:**

22. REFERENCE MATERIAL QUOTED.

ALLOY STEEL SPRING WIRE GRADE 51X φ A, WITH SPECIAL SURFACE FINISH  
POLISHED GROUP "A" OF HIGHER ACCURACY "A" FOR COLD SPRING  
COILING "XH" WITH DIAMETER OF 3.5 (+0.03 / -0.02) mm TO GOST 14963-78 AND  
MANUFACTURED IN ACCORDANCE WITH ALLOY STEEL GRADE  
51X φ A TO GOST 14969-79

1. INSPECTION GROUP IV-TT-11.
2. HRC3 41-48
3. DIRECTION OF SPRING COILING-L.H
4. LENGTH OF THE DEVELOPED SPRING-770mm
5. NUMBER OF WORKING COILS-5.25
6. TOTAL NUMBER OF COILS-7.25±0.5
7. INTERNAL DIAMETER OF THE SPRING SHOULD BE CHECKED WITH A CHECKING BAR (φ29.8 -0.03)mm. THE SPRING SHOULD GO DOWN THE VERTICAL CHECKING BAR BY GRAVITY
8. CHECKING UNDER LOADS P1 AND P2 IS COMPULSORY FOR EVERY SPRING.
9. THICKNESS OF THE RESTING COIL END SHOULD NOT BE LESS THAN 0.8mm
10. GAP BETWEEN THE RESTING COIL END AND ADJACENT COIL SHOULD NOT EXCEED 0.2mm
11. RESTING SURFACE B SHOULD HAVE AT LEAST 5/8 OF THE LENGTH OF THE COIL CIRCUMFERENCE.
12. THE GAP BETWEEN SURFACE B AND THE SURFACE PLATE SHOULD NOT EXCEED 0.2mm
13. INCREASE OF THE EXTERNAL DIAMETER OF THE RESTING COIL UP TO 37.75mm MAXIMUM IS PERMISSIBLE.
14. VARIATION IN THE PITCH OF THE NON LOADED SPRING SHOULD NOT EXCEED 0.5mm
15. AFTER COIL TO COIL COMPRESSION OF THE SPRING THE PERMANENT DEFORMATION IS NOT PERMISSIBLE.
16. COATING: LACQUER ΓΦ 95 IN ACCORDANCE WITH ГТ 09-73 CONTACT PLACES OF THE RESTING COILS MAY NOT HAVE COATING.
17. THE SPRING SHOULD BE HARDENED BY SHOTS IN ACCORDANCE WITH UM-159.75
18. RESTING SURFACES B MAY BE GROUND AFTER HARDENING THE SPRING BY SHOTS.
19. THE COMPONENT SHOULD BE CHECKED FOR DEFECT BY MAGNETIC FIELD FLAW DETECTOR THE TECHNICAL REQUIREMENTS AND ACCEPTANCE RULES ARE IN ACCORDANCE WITH TECHNICAL REQUIREMENTS UB-17
- 20.\* DIMENSIONS AND PARAMETERS ARE FOR REFERENCE.
- 21.\* DIMENSION AFTER HARDENING OF SPRING BY SHOTS.

a) CHEMICAL COMPOSITION AS PER GOST 14969-79

GRADE OF STEEL	CONTENTS OF ELEMENTS, %					MAXIMUM	
	C	Si	Mn	Cr	V	P	S
51X φ A	0.47 0.55	0.15 0.30	0.30 0.60	0.75 1.10	0.15 0.25	0.025	0.025

b) MECHANICAL PROPERTIES AS PER GOST 14963-78.

ULTIMATE TENSILE STRENGTH Kgf/ mm<sup>2</sup> Min- - - 105  
REDUCTION IN AREA % Min- - - - - 40

\* CB-20-06-13-6  
CB-20-06-12-6

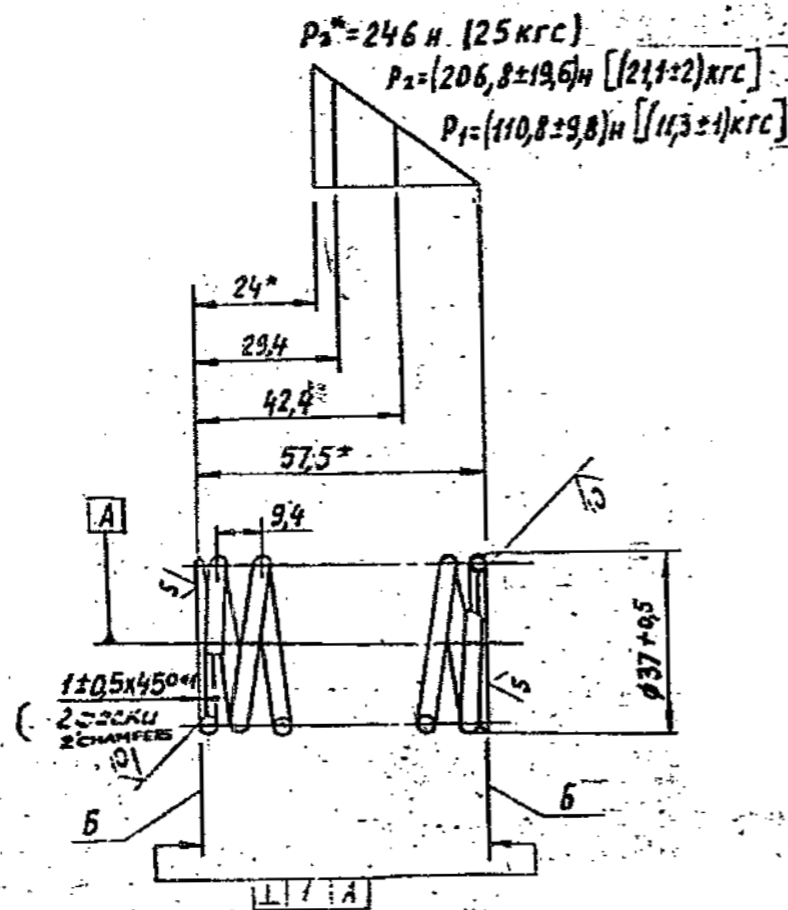
PILOT SAMPLE SHOULD BE APPROVED BY A H S P BEFORE BULK PRODUCTION.

EST. WT 0.057Kg	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 1:1	BIMENSIONS IN mm	TOLERANCE ON DIMNS UNLESS OTHERWISE STATED TO	ALL THREADS TO CONFORM TO	ISSUE	DATE	NATURE OF AMENDMENTS
				03.5.20							
MATERIAL - WIRE 51X φ A-A USED ON CB 406-13-32						Π-XH-3.5 GOST 14963-78 * CB 406-12-21 CB 413-117-2					
CONTROLLERATE OF INSPECTION (HEAVY VEHICLES) AVADI											
						TITLE		VALVE SPRING SMALLER			
						D S CAT NUMBER		DRAWING NUMBER 306-66-2			

A 5  
SIZE A2

DRAWING NUMBER  
306-66-2A



1. DIRECTION OF SPRING COILING - L.H.
2. LENGTH OF DEVELOPED SPRING - 770mm.
3. NUMBER OF WORKING COILS - 5-25.
4. TOTAL NUMBER OF COILS - 7.25 ± 0.5.
5. INTERNAL DIAMETER OF SPRING SHOULD BE CHECKED BY A CHECKING BAR (φ29.8-0.03mm) THE SPRING SHOULD GO DOWN THE VERTICAL CHECKING BAR BY GRAVITY.
6. CHECKING UNDER LOADS P1 AND P2 IS COMPULSORY FOR EVERY SPRING.
7. THICKNESS OF THE RESTING COIL END SHOULD NOT BE LESS THAN 0.8mm.
8. THE GAP BETWEEN THE END OF THE RESTING COIL AND THE ADJACENT WORKING COIL SHOULD NOT EXCEED 0.4mm.
9. RESTING SURFACE B SHOULD HAVE AT LEAST 5/8 OF THE LENGTH OF THE COIL CIRCUMFERENCE.
10. THE GAP BETWEEN SURFACE B AND THE SURFACE PLATE SHOULD NOT EXCEED 0.2mm.
11. INCREASES OF THE EXTERNAL DIAMETER OF THE RESTING COILS UP TO 37.75mm. MAX. IS PERMISSIBLE.
12. VARIATION IN THE PITCH OF THE NON LOADED SPRING SHOULD NOT EXCEED 0.5mm.
13. PERMANENT DEFORMATION AFTER COIL TO COIL COMPRESSION OF THE SPRING IS NOT PERMISSIBLE.

14. COATING: LACQUER Γφ95 AS PER I.I. 09-73 CONTACT PLACES OF THE RESTING COILS MAY NOT HAVE COATING.

15. SPRING SHOULD BE HARDENED BY SHOTS AS PER UM 508-83 508-83 15-75.

16. RESTING SURFACES B MAY BE GROUND AFTER HARDENING THE SPRING BY SHOTS.

17. THE COMPONENT SHOULD BE CHECKED FOR DEFECTS BY MAGNETIC FIELD FLAW DETECTOR. TECHNICAL REQUIREMENTS AND ACCEPTANCE RULES ARE IN ACCORDANCE WITH TECHNICAL REQUIREMENTS UB - 37.

18. DIMENSIONS AND PARAMETERS ARE FOR REFERENCE.

19. DIMENSION AFTER HARDENING THE SPRING BY SHOTS.

20. ALTERNATE MATERIAL WIRE 5XφA GOST 1071-81.

### EXPLANATORY NOTE

MATERIAL QUOTED: WIRE I - 3.5, 68ГA GOST 1071-81.

ALTERNATE MATERIAL QUOTED: WIRE 5XφA GOST 1071-81.

WIRE = HEAT TREATED STEEL SPRING WIRE.

I = CLASS I BY MECHANICAL PROPERTIES.

3.5 = DIAMETER OF WIRE WITH NORMAL ACCURACY ± 0.03.

68ГA = GRADE OF WIRE AS PER GOST 1071-81.

WIRE 5XφA = GRADE OF WIRE MADE FROM ALLOY STEEL AS PER GOST 14959-79.

11.1a) CHEMICAL COMPOSITION: % FOR GRADE 68ГA AS PER GOST 1071-81.

CONTENT OF ELEMENTS								
C	Si	Mn	S	P	Ni	Cr	Al	Cu
0.65-0.78	0.15-0.25	0.70-1.00	0.025	0.025	0.20	0.12	0.05	0.15

11.1b) MECHANICAL PROPERTIES: AS PER GOST 1071-81 FOR GRADE 68ГA.

1. ULTIMATE STRENGTH  $Kgf/mm^2 = 150 - 180$

2. No. OF BENDS (min) = 7

11.2a) CHEMICAL COMPOSITION: % FOR GRADE 5XφA AS PER GOST 14959-79.

C	Si	Mn	Cr	VANADIUM	S	P
0.47-0.55	0.15-0.30	0.30-0.60	0.75-1.10	0.15-0.25	0.025	0.025

11.2b) MECHANICAL PROPERTIES: AS PER GOST 14963-78

ULTIMATE RUPTURE STRENGTH = 185  $Kgf/mm^2$  (max)

MATERIAL (A)

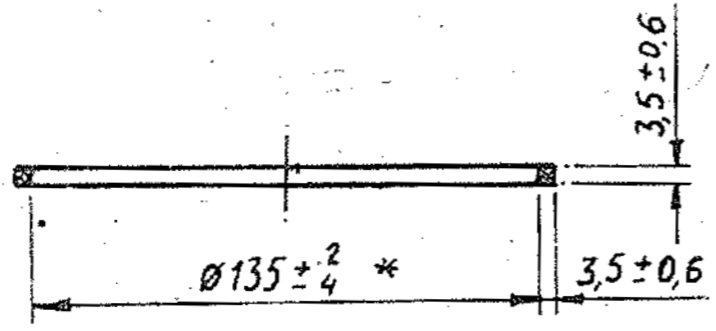
Проволока 5XφA-K-1A-П-Д-3,5  
WIRE ГОСТ 1071-81

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

EST. WT. 0.057 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	G.N.A.A.	MATERIAL	USED ON: C6-20-06-12-6
CHD	B. G. A. M.	WIRE	CD 486-12-44, C6-20-06-13-6
TCO	G.N.A.A.	48ГA GOST 1071-81	CD 486-13-44, CD 418-117-2
APPD		CONTROL RATE OF QUALITY ASSURANCE (HEAVY VEHICLES)	
DATE	23-5-83	SCALE = 1:1	AVADI
DIMENSIONS IN mm.		TITLE	
A 436-03 dt.23-10		VALVE SPRING SMALLER	
TOLERANCE ON DIMS UNLESS OTHERWISE STATED IS 202-69		IS CAT NUMBER	
ALL THREADS TO CONFORM TO		DRAWING NUMBER	
2A	18.5.91	ISSUE	306-66-2A
DATE		NATURE OF AMENDMENTS	



1. \*DIMENSION IS TO BE ENSURED BY TOOL.
2. TO BE MARKED ON TAG
3. TO BE MADE AS PER T III-1-100 GOST 15152-69

EXPLANATORY NOTE:

4. REFERENCE MATERIAL QUOTED:

RUBBER GRADE B-14, CODE OF CLASSIFICATION 25 - 1213 FROM UN-VULCANISED OIL AND PETROL RESISTANT RUBBER TO TY 005216-75.

CONDITION OF USE:

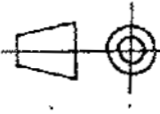
- (i) WORKING MEDIUM ----- DIESEL
- (ii) RUPTURE STRENGTH ----- 90 Kgf/cm<sup>2</sup> min
- (iii) ELONGATION OF RUPTURE ----- 160 % min
- (iv) RESIDUAL ELONGATION }  
AFTER RUPTURE ----- 8 % max

(A) ALT. MATL. : RUBBER GRADE N3 TO SPECN. CQA(HV)/NBR

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

EST WT 0.009 Kg TO BE STAMPED OR MARKED WHERE INDICATED THUS # ( LETTERS )

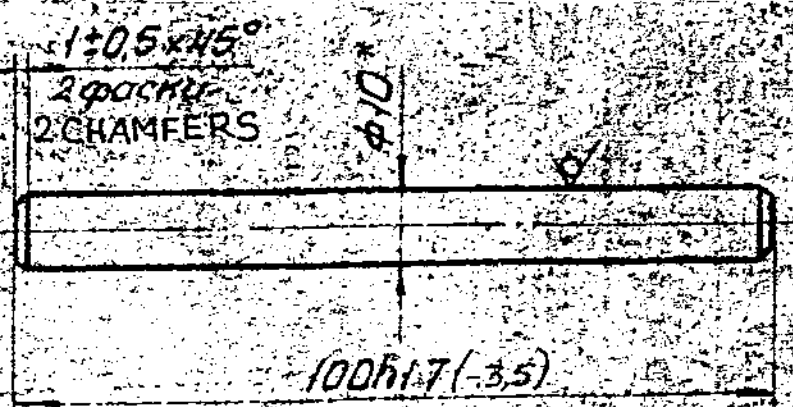
ALL SHARP EDGES AND CORNERS TO BE REMOVED UNLESS OTHERWISE STATED MACHINED CORNERS TO HAVE R OUT-SIDE R INSIDE EQUIVALENT CHAMFERS ARE PERMISSIBLE.

DRN	<i>Handwritten</i>	MATERIAL: RUBBER B - 14	USED ON:
CHD	<i>Handwritten</i>	TY 005216-75	CB 447 00 1
TCD	<i>Handwritten</i>		CB 413 00 12
APPD	<i>Handwritten</i>	CONTROLLERATE OF INSPECTION (HEAVY VEHICLES)	
DATE	19-0-86	AVAD	
SCALE: 1 : 2			TITLE: RING
DIMENSIONS IN mm			
TOLERANCE ON DIMNS UNLESS OTHERWISE STATED			
ALL THREADS TO CONFORM TO		D S CAT NUMBER	DRAWING NUMBER
			313 17 2

(A-6)

DRAWING NUMBER  
313 25

▽ 6 (▽)



**EXPLANATORY NOTE :**

**3. REFERENCE MATERIAL QUOTED:**

COLD ROLLED, SIZED STEEL ROUND CLASS OF ACCURACY '4'  $\phi 10(-0.100)$ mm TO GOST 7417-75 FROM STEEL TO GOST 1051-73 AND MANUFACTURED IN ACCORDANCE WITH CARBON STRUCTURAL STEEL GRADE 45 AND REFERENCE NOTE 1. ON ALTERNATE MATERIAL GRADE 40 AND 50 TO GOST 1050-74.

**a) CHEMICAL COMPOSITION**

GRADE OF STEEL	CONTENT OF ELEMENTS %						REMARKS
	C	Si	Mn	Cr	S	P	
45	0.42 - 0.50	0.17 - 0.37	0.50 - 0.80	0.25	0.040	0.035	Ref.Matl
40	0.37 - 0.45	0.17 - 0.37	0.50 - 0.80	0.25	0.040	0.035	Alt.Matl
50	0.47 - 0.55	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**

GRADE OF STEEL	ULTIMATE TENSILE STRENGTH Kgf/mm <sup>2</sup>	YIELD POINT Kgf/mm <sup>2</sup>	ELONGATION %	REDUCTION IN AREA %	IMPACT STRENGTH Kgm/cm <sup>2</sup>	HARDNESS BHN MAX	REMARKS
45	61	36	16	40	5	229	Ref.Matl
40	58	34	19	45	6	217	Alt.MATL
50	64	38	14	40	4	241	Alt.Matl

1. Заменитель материала сталь  
40 и 50 ГОСТ 1050-74  
2. \*Размер для справок.

1. ALTERNATE MATERIAL: STEEL; GRADE 40 AND 50, GOST 1050-74  
2. \* DIMENSION FOR REFERENCE.

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

EST. WT.  
0.05 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 : 1 : 1.  
DIMENSIONS IN mm

TOLERANCE ON DIMN  
UNLESS OTHERWISE STATED

ALL THREADS CONFORM TO

MATERIAL: ROUND BAR  
10-4 GOST 7417-75  
45 GOST 1051-73

CONTROLLERATE OF INSPECTION (HEAVY VEHICLES) AVADI.

TITLE  
PIN CYLINDRICAL

D S CAT NUMBER

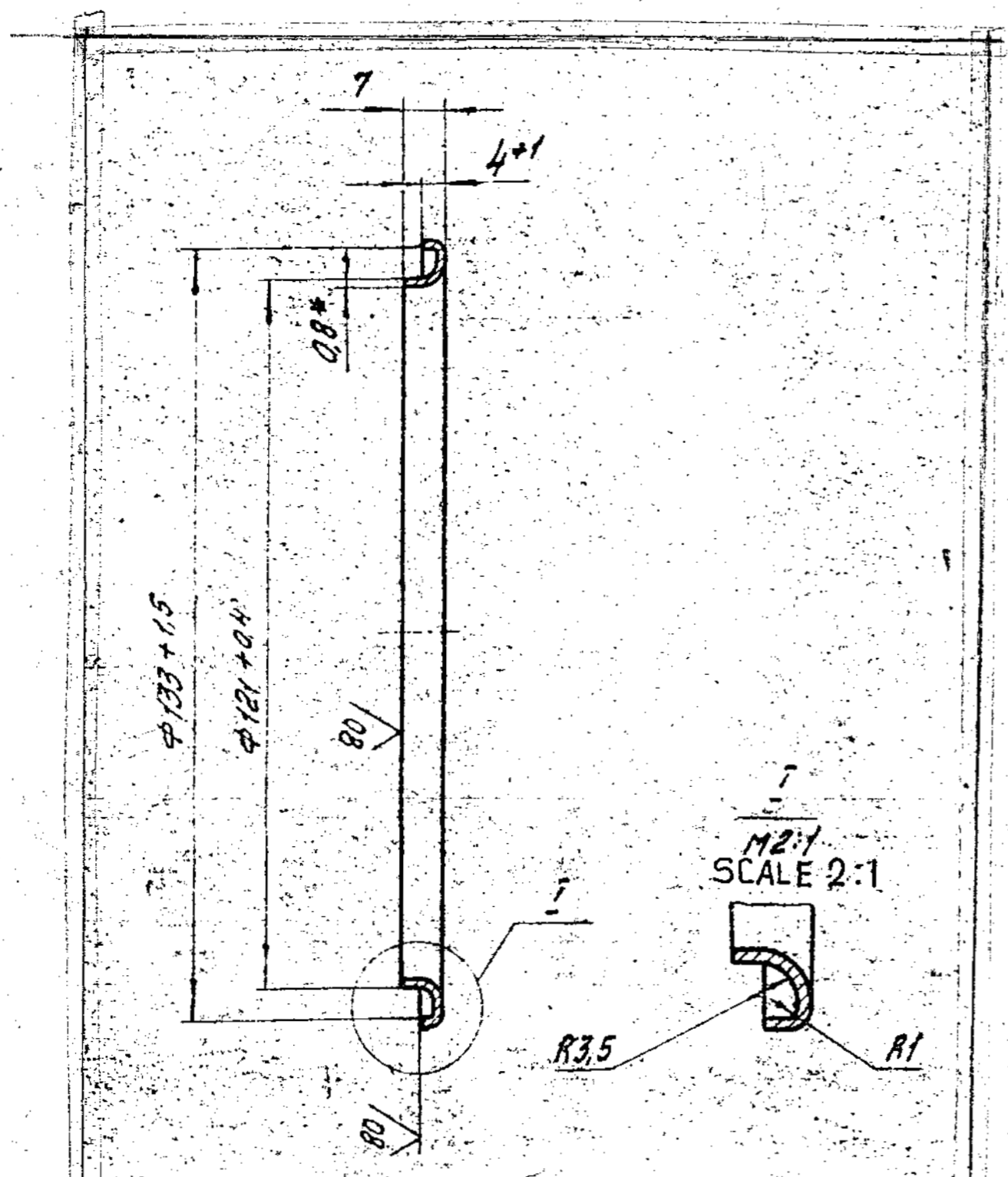
USED ON  
CB 413 77A.CB 413 77

DRAWING NUMBER  
313 25

A-6  
SIZE A3

DRAWING NUMBER

313 29



1. ALTERNATE MATERIAL: BRASS  $\beta$ 63 GOST 15527-70; STEEL 08 ПС, 10, 10Kn (RIMMING) GOST 1050-74.
2. UNSPECIFIED LIMIT DEVIATIONS OF DIMENSION  $\pm 0.5$ mm
3. COATING: Sn 9, EXCEPT MATERIAL BRASS 63
4. PERMITTED COATING: Zn 6, CHROMATIZING AS PER INSTRUCTIONS UJ483-82.
5. \* DIMENSION FOR REFERENCE.

**EXPLANATORY NOTE :**

6. REFERENCE MATERIAL QUOTED: COLD ROLLED SHEET STEEL, ON HIGH ACCURACY ON ROLLING 'A', 0.8mm THICK TO GOST 19904-74, AND HIGH SURFACE FINISH 'T', EXTREMELY DEEP DRAWING 'BГ' AND MANUFACTURED IN ACCORDANCE WITH COLD-ROLLED THIN SHEET STEEL Gde. 08kn TO GOST 9045-80.  
 a) CHEMICAL COMPOSITION AS PER GOST 9045-80.

GRADE OF STEEL	CONTENT OF ELEMENTS %							
	C MAX	Mn	S	P	Si	Cr	Ni	Cu
08kn	0.10	0.20-0.40	0.030	0.025	0.03	0.10	0.10	0.15

b) MECHANICAL PROPERTIES:

CATEGORY	GRADE OF STEEL	ULTIMATE TENSILE STRENGTH Kgf/mm <sup>2</sup>	ELONGATION % min.
BГ	08kn	26-37	28

7) REFERENCE NOTE '1' ON ALTERNATE MATERIAL QUALITY CARBON STEEL COLD ROLLED GRADES 08nc, 10 AND 10kn TO GOST 16523-70 AND MANUFACTURED IN ACCORDANCE WITH CARBON STRUCTURAL STEEL TO GOST 1050-74.

CHEMICAL COMPOSITION AS PER GOST 1050-74

GRADE OF STEEL	CONTENT OF ELEMENTS %					
	C	Si	Mn	Cr	S	P
08nc	0.05-0.11	0.05-0.17	0.35-0.65	0.10	0.040	0.035
10	0.07-0.14	0.17-0.37	0.35-0.65	0.15	0.040	0.035
10kn	0.07-0.14	0.07 max	0.25-0.50	0.15	0.040	0.035

RESIDUAL CONTENT OF COPPER AND NICKEL SHOULD NOT EXCEED 0.25% EACH. MANGANESE CONTENT UPTO 0.25% AS REGARDS LOWER LIMIT, IS ALLOWED IN THE STEEL OF GRADE 08nc MEANT FOR PRODUCTION OF SHEET STEEL FOR COLD STAMPING.

MECHANICAL PROPERTIES AS PER GOST 16523-70.

GRADE OF STEEL	ULTIMATE TENSILE STRENGTH Kgf/mm <sup>2</sup>	ELONGATION % min
08nc	28-40	25
10	30-42	25
10kn	28-40	25

b) REFERENCE NOTE '1' ON ALTERNATE MATERIAL : BRASS  $\beta$ 63 TO GOST 15527-70

**CHEMICAL COMPOSITION**

GRADE OF BRASS	CONTENT OF ELEMENTS %							
	BASIC ELEMENTS		ADMIXTURES MAXIMUM					
	Cu	Zn	Pb	Fe	Sb	Bi	P	TOTAL
$\beta$ 63	62.0-65.0	REMAIN- DER	0.07	0.2	0.005	0.002	0.01	0.5

Ⓐ EQUIVALENT MATERIAL  
Gr.D IS: 513-1994

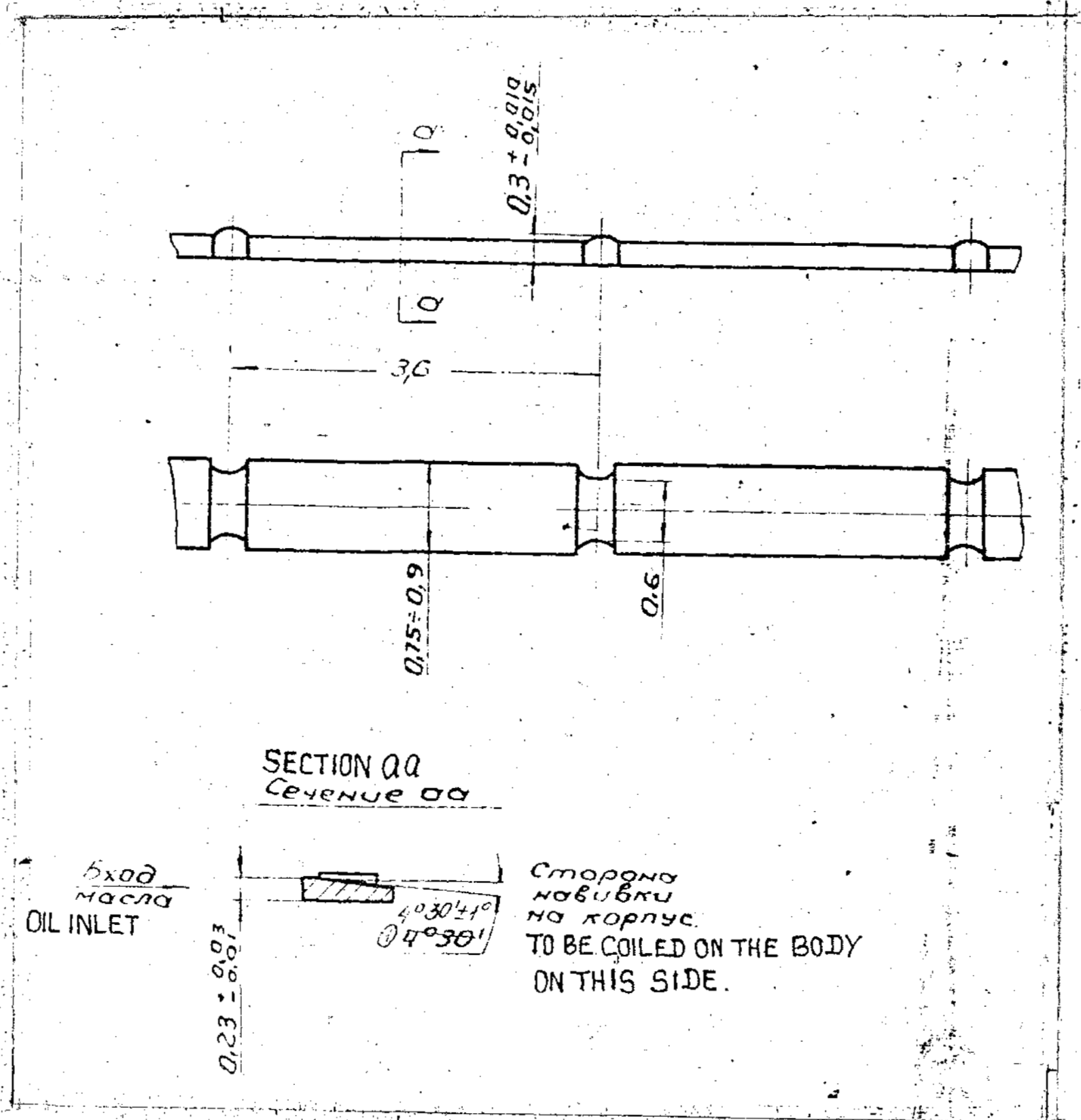
PILOT SAMPLE SHOULD BE APPROVED BY A H S P BEFORE BULK PRODUCTION

EST. WT. 0.042 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	TCD	APPD	DATE	SCALE: 1:1	MATERIAL: SHEET AQ.0 GOST 19904-74	USED ON: CE 413 04 1CB
					DIMENSIONS IN mm	I-BГ-08Kn GOST 9045-80	
CONTROLLERATE OF INSPECTION (HEAVY VEHICLES) AVADI						TITLE: RING	
D S CAT NUMBER						DRAWING NUMBER 313 29	
ISSUE	DATE	NATURE OF AMENDMENTS		ALL THREADS TO CONFORM TO			

SIZE A2

DRAWING NUMBER  
313-47



REQUIREMENTS FOR STAMPING AS PER STANDARD 82050-16

NET WEIGHT	FOR ASSEMBLY	QUANTITY OF UNITS PER OBJECT
0.740	CB 313-03-3	1
0.640	CB 313-04-2	1
	CB 313-05-7	1
0.445	CB 313-03-4	2
0.415	CB 413-04	1
0.330	CB 413-05	1
0.255	CB 413-06	1
0.640	CB 413-116	1

**EXPLANATORY NOTE:**

REFERENCE MATERIAL QUOTED: BRASS WIRE/COLD DRAWN 'A' SQUARE ROUND SECTION 'KP', NORMAL MANUFACTURING ACCURACY 'H' SOFT CONDITION 'M', DIA 0.5 (±0.040)mm, GRADE Л63 TO GOST 1066-80 AND MANUFACTURED IN ACCORDANCE WITH BRASS GRADE Л63 TO GOST 15527-70.

a) CHEMICAL COMPOSITION AS PER GOST 15527-70

BRASS GRADE	CONTENT OF ELEMENTS %							
	BASIC ELEMENTS		ADMIXTURES MAXIMUM					
	Cu	Zn	Pb	Fe	Sb	Bi	P	TOTAL
Л63	62.0-65.0	REMAINDER	0.07	0.2	0.005	0.002	0.01	0.5

b) MECHANICAL PROPERTIES AS PER GOST 1066-80

BRASS GRADE	CONDITION	ULTIMATE TENSILE STRENGTH Kgf/mm <sup>2</sup> MIN	RELATIVE ELONGATION % MIN
Л63	SOFT	35	20

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

EST. MASS 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	TCO	APPD	DATE	SCALE	DIMENSIONS IN mm	TOLERANCE ON DIMNS UNLESS OTHERWISE STATED.	MATERIAL: WIRE 4KPHM 0.5 BRASS Л63 GOST 1066-80	USED ON: CB 413-04-1 CB 413-05-1 CB 413-06-1 CB
				19-5-86	20:1			CONTROLLERATE OF INSPECTION (HEAVY VEHICLES AVADI)	TITLE: STRIP FILTERING
								D S CAT NUMBER	DRAWING NUMBER 313-47
ISSUE	DATE	NATURE OF AMENDMENTS							

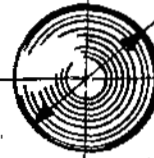
A-6

SIZE A2

DRAWING NUMBER

313 70 1

φ 19.05±0.15



**EXPLANATORY NOTE:**

REFERENCE MATERIAL QUOTED.

BALL BEARING STEEL HOT ROLLED GRADE W X15 GOST 801-78.

CHEMICAL COMPOSITION:

CONTENT OF ELEMENTS %								
C	Si	Mn	Cr	S	P	Ni	Cu	Ni+Cu
MAXIMUM								
0.95	0.17	0.20	1.30	0.02	0.027	0.30	0.25	0.50
1.05	0.37	0.40	1.65					

(A) EQUIVALENT MATERIAL  
STEEL 535A99 (EN 31) TO BS: 970/103  
CR 2 TO IS 4398-72

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

K V D No: 63326

(A-6)

EST. WT. 0.027 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: 19.05 MM H GOST 3722-60 STEEL W X15 GOST 801-78  
USED ON: CB 413 143 1

A 10-7-10 4<sup>th</sup> ALT. COMM. Mtg. MINUTES POINT No 8 DT. 26-10-09

ISSUE DATE NATURE OF AMENDMENTS

DRN SCALE: 1 : 1

CHD DIMENSIONS IN mm

TCD TOLERANCE ON DIMNS UNLESS OTHERWISE STATED

APD ALL THREADS TO CONFORM TO

DATE 19-5-86

SIZE A6

CONTROLLERATE OF INSPCTION (HEAVY VEHICLES) AVADI

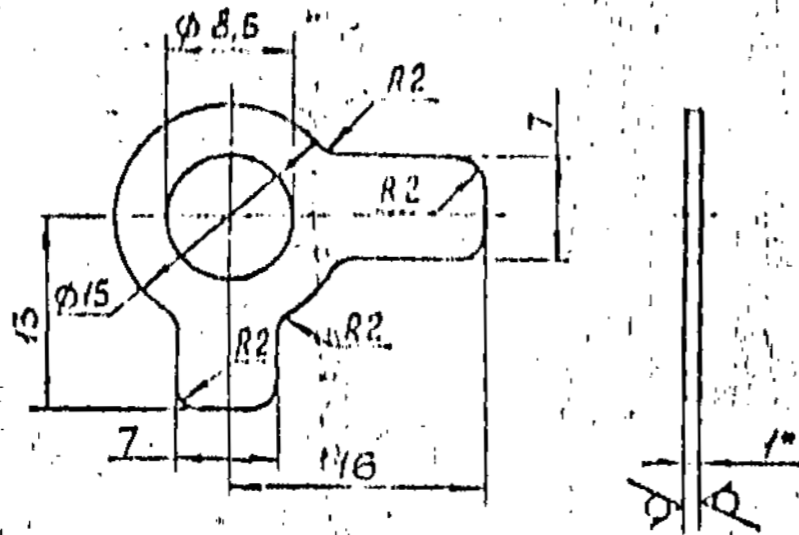
TITLE: BALL

D S CAT NUMBER DRAWING NUMBER 313 70 1

**EXPLANATORY NOTE :-**

Rz80 ✓ ✓

KVD No. 63629 COMMON TO V-92S2 & UTD-20 ENGINES



1. REQUIREMENTS FOR STAMPING ARE AS PER STANDARD 82050-16.
2. STRAIGHTEN AFTER STAMPING.
3. COATING : ZINC-PLATED, 9 MICRONS THICK, OILED WITH REMOVAL OF HYDROGEN EMBRITTLEMENT.
4. \* DIMENSION IS GIVEN FOR REFERENCE.

5. MATERIAL QUOTED : STRIP 08ПC-M-2-1 GOST 503-81.  
COLD ROLLED LOW CARBON STEEL TYPE.  
08ПC = GRADE OF STEEL , M = CONDITION OF MATERIAL-SOFT.  
2 = SECOND GROUP , 1 = THICKNESS IN mm.

(a) CHEMICAL COMPOSITION : ( AS PER GOST 1050-74 )  
C = 0.05 - 0.11 , Si = 0.06 - 0.17 , Mn = 0.35 - 0.60  
Cr = 0.10 (max) , S = 0.040 (max) , P = 0.035 (max)  
Cu = 0.25 (max) , Ni = 0.25 (max).

(b) MECHANICAL PROPERTIES : (AS PER GOST 503-81)  
ULTIMATE TENSILE STRENGTH Kgf/mm<sup>2</sup> = 32 - 45  
% RELATIVE ELONGATION = 17 (min)

(B) EQUIVALENT MATERIAL  
Gr. O IS: 513-1994

- (A) \*\*
- |               |                |
|---------------|----------------|
| Cb 3301-00-44 | Cb 3301-00-37  |
| Cb 413-115-9  | Cb 315-663-21  |
| Cb 315-663-33 | Cb 20-27-00-4  |
| Cb 3336-00-11 | Cb 20-09-07    |
| Cb 337-100    | Cb 20-11-00-6  |
| Cb 413-115-6  | Cb 20-01-00-8  |
|               | Cb 20-08-00-7  |
|               | Eb 20-12-00-13 |

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

EST. WT. 0.0019 Kg TO BE STAMPED OR MARKED WHERE INDICATED THUS (IF 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	TCD	APPD	DATE	SCALE	MATERIAL:- STRIP 08ПC-M-2-1 GOST 503-81	USED ON ** SEE ABOVE
				9-1-1990	2:1	CONTROLLERATE OF QUALITY ASSURANCE(HEAVY VEHICLES) AVADI	
DIMENSIONS IN mm TOLERANCE ON DIMNS UNLESS OTHERWISE STATED IS:2102-69						TITLE LOCK WASHER 8	
ALL THREADS TO CONFORM TO						D S CAT NUMBER	DRAWING NUMBER 353-16-1
B	10.03.10	4 <sup>th</sup> Alt. Comm. Mt. Minutes Pt. No. 1 Dt. 26.10.09					
A	28.8.08	USED ON NUMBER ADDED					
ISSUE DATE		NATURE OF AMENDMENTS					





DRAWING NUMBER

355 08

EXPLANATORY NOTE:

1. REFERENCE MATERIAL QUOTED:

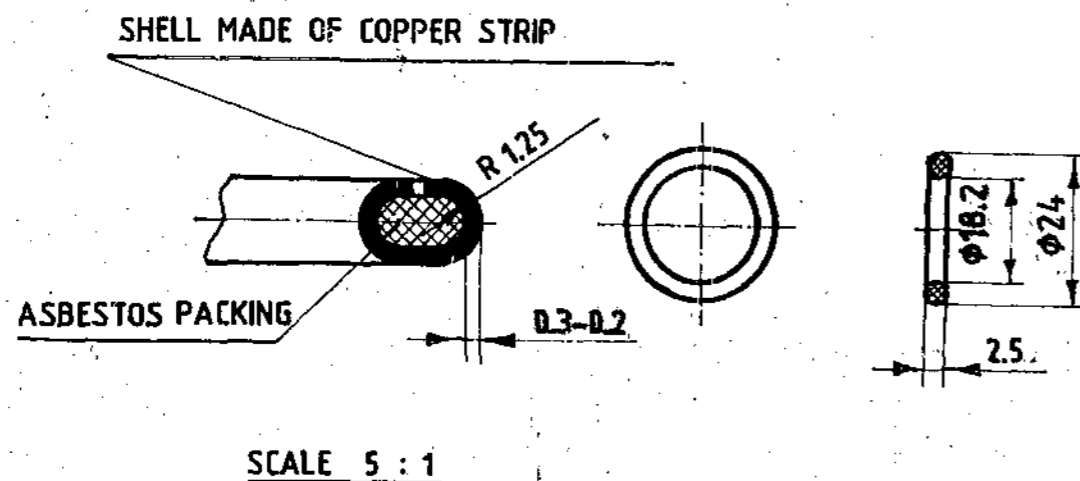
COPPER ASBESTOS SEALING RING 18.3mm I/D, 24mm O/D AND MANUFACTURED

IN ACCORDANCE WITH MH 4152-62.

a) COPPER SHEATH RING :- SOFT COPPER BAND GRADE M3 TO GOST 859-78.

b) CORE:- BRAIDED ASBESTOS CORD MADE OF CHRYSOTILE.

c) CHEMICAL COMPOSITION AS PER GOST 859-78.



GRADE OF COPPER	CONTENT OF ELEMENTS %									
	COPPER & SILVER min	IMPURITIES MAXIMUM								
		Bi	Sb	AS	Fe	Ni	Pb	Sn	S	O
M3	99.5	0.003	0.05	0.01	0.05	0.2	0.05	0.05	0.01	0.08

\*CB 3335-03-24  
3330  
Cb 3338-404-7  
346 01 3 CB  
346 00 CB  
176-32 CB

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

EST WT  
100 PIECES  
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

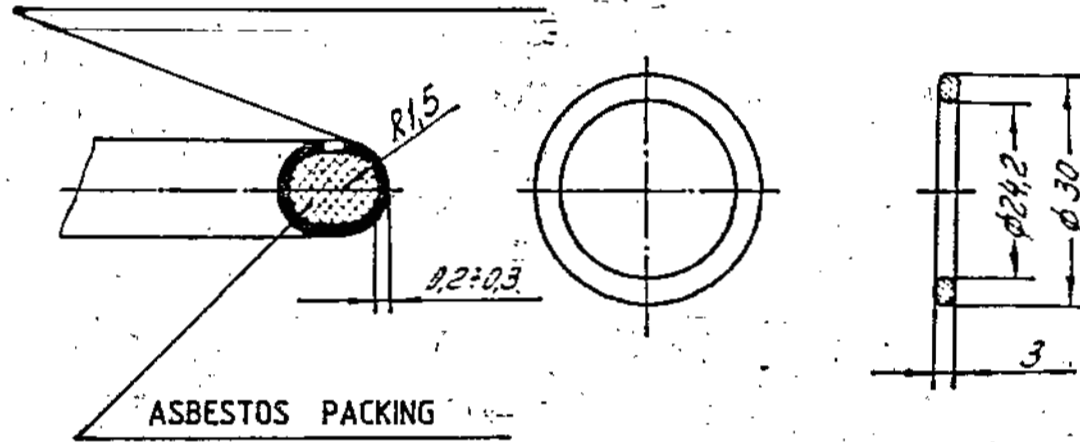
DRN	<i>Dr</i>	MATERIAL:	USED ON: CB 413-115-6
CHD	<i>Dr</i>	M3 AND ASBESTOS	CB 3329-01-11
TCD	<i>Narain Pudi</i>		CB 447-00-1
APPD	<i>Dr</i>		CB 327-00-45 *
DATE	04-4-86	CONTROLLERATE OF INSPECTION (HEAVY VEHICLES)	
SCALE:	1 : 1	AVADI	
DIMENSIONS IN mm		TITLE:	RING 18 x 24
TOLERANCE ON DIMNS UNLESS OTHERWISE STATED		D S CAT NUMBER	DRAWING NUMBER
ALL THREADS CONFORM TO			355 08
ISSUE	DATE	NATURE OF AMENDMENTS	

(A.11)

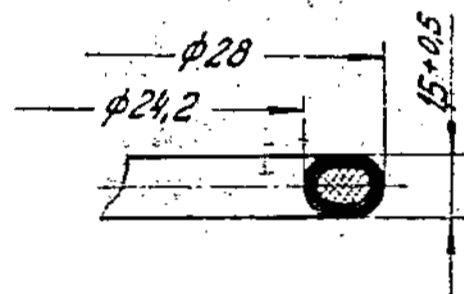
SIZE A3

DRAWING NUMBER  
355-10

SHAFT MADE OF COPPER STRIP



SKETCH-A  
M5:1



1. THE COMPONENT MAY BE MANUFACTURED ACCORDING TO SKETCH 'A'.

**EXPLANATORY NOTE :**

**2. REFERENCE MATERIAL QUOTED :-**

COPPER ASBESTOS SEALING RING 24mm I/D, 30mm O/D AND MANUFACTURED IN ACCORDANCE WITH MH 4152-62.

(a) COPPER SHEATH RING : SOFT COPPER BAND GRADE M3 TO GOST 859-78.

(b) CORE : BRAIDED ASBESTOS CORD MADE OF CHRYSOTILE.

(c) CHEMICAL COMPOSITION AS PER GOST 859-78 :-

GRADE OF COPPER	C O N T E N T O F E L E M E N T S %									
	COPPER + SILVER min	I M P U R I T I E S								
		Bi	Sb	As	Fe	Ni	Pb	Sn	S	O
M A X I M U M										
M3	99.5	0.003	0.05	0.01	0.05	0.2	0.05	0.05	0.01	0.08

AMDT ISSUE No:1 BK 76-808

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

EST. WT. 100 PIECES 0.20 Kg TO BE STAMPED OR MARKED WHERE INDICATED THIS # ( LETTERS)

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

DRN	<i>[Signature]</i>	MATERIAL:-	USED ON
CHD	<i>[Signature]</i>	M3 AND ASBESTOS	CS 447-01-1
TCD	<i>[Signature]</i>		CS 673-115-6
APPO	<i>[Signature]</i>		CS 3338-402-4
DATE	15-7-89	CONTROLLERATE OF QUALITY ASSURANCE(HEAVY VEHICLES)	
SCALE:-	1:1	AVADI	
DIMENSIONS IN mm TOLERANCE ON DIMS UNLESS OTHERWISE STATED IS:2102-69		TITLE RING 24x30	D S CAT NUMBER
ALL THREADS TO CONFORM TO			
ISSUE DATE	NATURE OF AMENDMENTS	DRAWING NUMBER 355-10	

A  
11

SIZE A3

DRAWING NUMBER  
401-366

CRS R  
RzAP (✓)

**EXPLANATORY NOTE:-**

**a) REFERENCE MATERIAL QUOTED.**

COLD ROLLED, SIZED STEEL ROUND, CLASS OF ACCURACY 'S'  
φ 24 (1-0,280)mm TO GOST 7417-75, SURFACE QUALITY 'B'  
TO GOST 1051-73 AND MANUFACTURED IN ACCORDANCE WITH  
CARBON STRUCTURAL STEEL GRADE 45 TO GOST 1050-74.

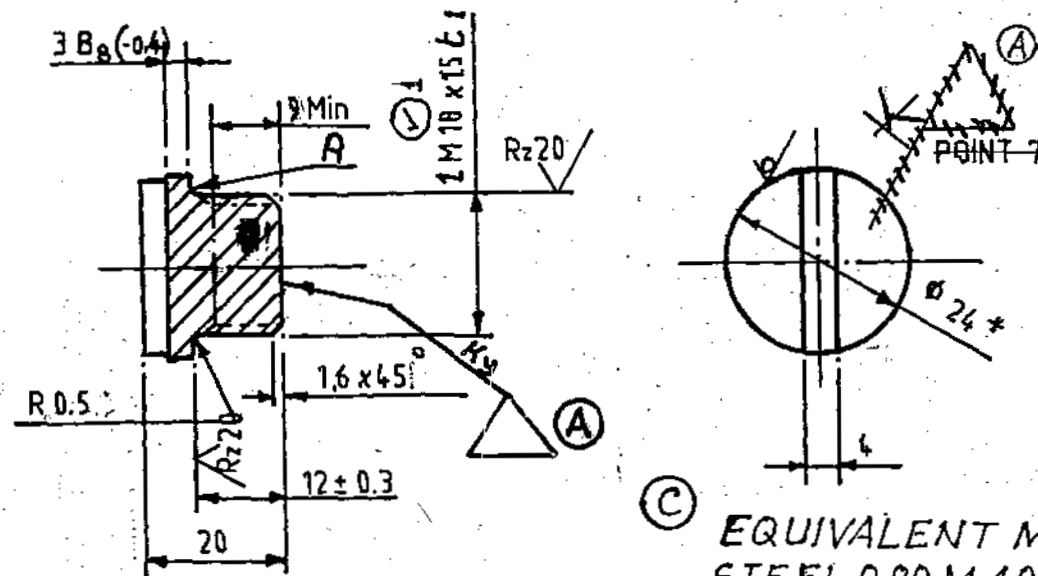
**b) CHEMICAL COMPOSITION. AS PER GOST 1050-74.**

GRADE OF STEEL	CONTENT OF ELEMENTS %					
	C	Si	Mn	Cr	S	P
45	0.42 0.50	0.17 0.37	0.50 0.80	0.25	0.040	0.035

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

**b) MECHANICAL PROPERTIES. AS PER GOST 1050-74.**

GRADE OF STEEL	ULTIMATE TENSILE STRENGTH Kgf/mm <sup>2</sup>	YIELD POINT Kgf/mm <sup>2</sup>	ELONGATION %	REDUCTION IN AREA %	IMPACT STRENGTH KJ/M <sup>2</sup>	HARDNESS BHN MAXIMUM
45	61	36	16	60	5	229



③ EQUIVALENT MATERIAL  
STEEL 080M40 (EN8) TO BS 970 OR  
45CB TO IS 1570

- DIMENSIONS WITHOUT TOLERANCES ARE TO BE IMPLEMENTED AS PER CLASS 7 ACCURACY OF OST 1010.
- SURFACE 'A' SHOULD BE SQUARE WITH THE THREAD AXIS WITHIN 0.1mm.
- WHEN MACHINING SURFACE A, CUTTING-IN AND SHOULDER ON CYLINDRICAL SURFACE ARE PERMISSIBLE AND THEY SHOULD NOT EXCEED 0.3mm.
- TECHNICAL REQUIREMENTS FOR THREAD ARE AS PER STANDARD 82021-00.
- COATING : Cd, Cr AS PER UG-104 WITH HYDROGEN EMBRITTLEMENT REMOVED.
- TO BE PUNCHED
- \* DIMENSION FOR REFERENCE
- REPAIR SIZE DIMENSIONS ARE ADDED, BASED ON LETTER NO. 82847/OH/GAS/ED DT. 27 MAR 95 AS FOLLOWS:  
REPAIR SIZE DIMENSIONS ARE ADDED WHERE INDICATED THUS (✓)

SL.No.	R	REMARKS
①	1M20 x 1.5 t1	ALL OTHER CONDITIONS AS PER STD. DRG
	d(PCD) 19.026	2. MARK REPAIR SIZE

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

EST. MASS 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
C	10-7-10	4 1/2 ALT. COMM. Mtg. MINUTES POINT No 7 DT. 26-10-09
B	8-9-08	USED ON NUMBER ADDED
A	26-10-88	BK 85-731

DRN	
CHD	
TCD	
APPD	
DATE	19-5-86
SCALE	1:1
DIMENSIONS IN mm.	
TOLERANCE ON DIMNS UNLESS OTHERWISE STATED.	
ALL THREADS CONFORM TO	

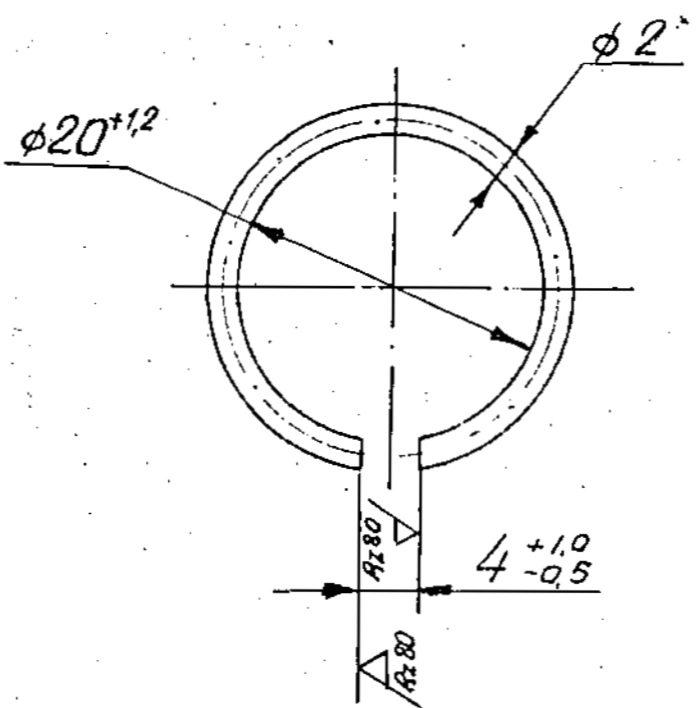
MATERIAL - ROUND BAR	USED ON - Cb 3301-15-30
24-5-GOST 7417-75	Cb 413-115-9
45-8-GOST 1051-73	Cb 3301-15-44
CONTROLLERATE OF INSPECTION (HEAVY VEHICLES AVADI)	
TITLE:-	STOPPER
D S CAT NUMBER	DRAWING NUMBER
	401-366

COMMON TO V-92S2 ENGINE

A-2  
SIZE A-3

DRAWING NUMBER  
412 -29-1

(✓)



1. Длина разбортки  $L \approx 69$  мм.  
 2. Кривление не более 0.3 мм.  
 3. Покрытие хим. Оксидом.
1. LENGTH OF STRAIGHTENED RING  $L=69$ mm  
 2. BUCKLING SHOULD NOT EXCEED 0.3mm  
 3. COATING: CHEMICAL OXIDIZING, OIL FINISHING.

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

EXPLANATORY NOTE.

4. REFERENCE MATERIAL QUOTED: CARBON STEEL SPRING WIRE OF CATEGORY II,  $\phi$  2.0mm NORMAL ACCURACY ( $\pm 0.03$ ) TO GOST 9389-75 AND MANUFACTURED IN ACCORDANCE WITH QUALITY CARBON STEEL GRADE 70 TO GOST 1050-74.

a) CHEMICAL COMPOSITION.

GRADE OF STEEL	CONTENTS OF ELEMENTS%							
	C	Si	Mn	Cr	S	P	Cu	Ni
70	0.67 0.75	0.17 0.37	0.5 0.8	0.25	0.04	0.035	0.025	0.025

RESIDUAL CONTENT OF COPPER AND NICKEL SHOULD NOT EXCEED 0.25%

b) MECHANICAL PROPERTIES AS PER GOST 9389-75

CATEGORY	ULTIMATE TENSILE STRENGTH Kgf/mm <sup>2</sup>	NO OF BENDS MIN.	NO OF TWISTS MIN.
II	180 - 205	9	16

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

EST WT 0.0016 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 CHAMBERS ARE PERMISSIBLE

DRN	CHD	TCD	APPD	DATE	SCALE: 2:1	DIMENSIONS IN mm	TOLERANCE ON DIMNS UNLESS OTHERWISE STATED IS: 2102-69	ALL THREADS TO CONFORM TO	D S CAT NUMBER	DRAWING NUMBER
				26-5-88						412-29-1
ISSUE	DATE	NATURE OF AMENDMENTS								
A	16-8-10	4 <sup>th</sup> Alt. Comm. Meeting Minutes Point No.13 Dt:26-10-09								

CONTROL RATE OF INSPECTION (HEAVY VEHICLES) AVADI

RETAINING RING

A 5  
SIZE A3