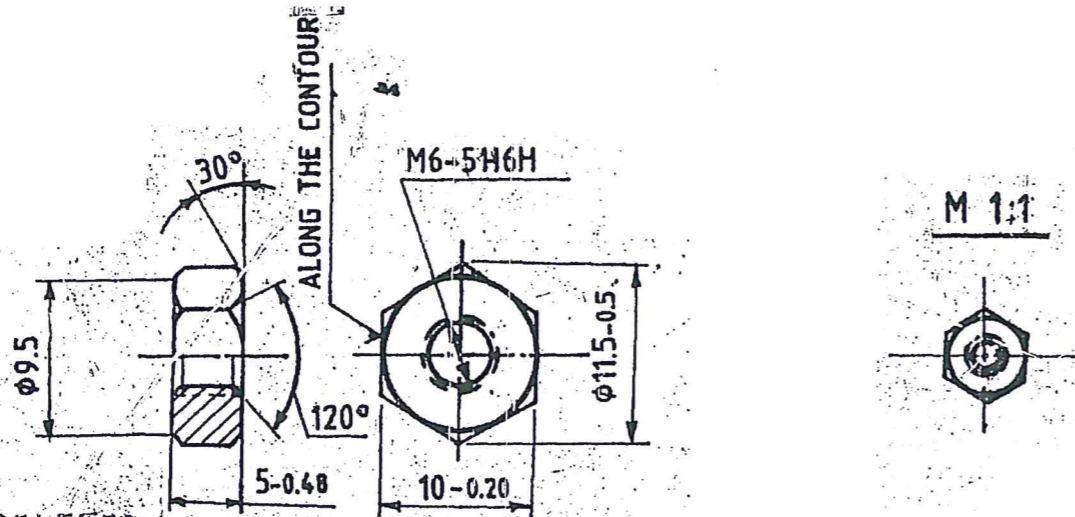


DRG. INDIANISED BASED ON RUSSIAN ORIGINAL ISSUE - NIL
 COMMON TO V-92S2 & UTD - 20 ENGINES
 KVC No. 78016



- 1.) DELETED.
- 2.) DELETED.
- 3.) THE THREAD MAY BE CHECKED BEFORE COATING.
- 4.) DELETED.
- 5.) COATING: Cd9, CHROMATIZING, AS PER ULS-104 WITH ELIMINATION OF HYDROGEN EMBRITTLEMENT.
- 6.) THE REST OF THE TECHNICAL REQUIREMENTS AS PER STANDARD 82052-00.

TO ENSURE HIGH QUALITY OF COATING, IT IS ALLOWED TO ELIMINATE SURFACE DEFECTS OF ROLLED STOCK WITH DECREASE OF DIMENSION AS PER ACCURACY CLASS 5.

(C) MATERIAL: STEEL 709 M40 (EN 19)
 TO BS: 970-PT-I-1983

Cb 20-05-47-4, Cb 20-01-00-8, Cb 20-06-12-6, Cb 20-06-13-6, Cb 20-09-07, Cb 20-11-01-9, Cb 20-12-01-13
 Cb 20-22-00-7, Cb 20-23-33-6, Cb 20-23-34-6, Cb 20-32-00-4, Cb 20-08-00-7

50	64	38	14	40	4	241	All Matl
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Cb 3301-00-37, Cb 406-12-44, Cb 406-13-44, Cb 3308-00-17, Cb 3320-00-33, Cb 407-7, Cb 401-10

(A) Cb 20-27-00-4, Cb 3338-00-16, Cb 3338-40-7, Cb 3335-00-30
 Cb 447-00-1

Cb 3301-00-44, Cb 406-12-75, Cb 406-13-75, Cb 3308-00-23
 Cb 3308-15-2, Cb 310-00-14, Cb 3320-00-43, Cb 315-606-12
 Cb 327-00-73, Cb 315-777-2, Cb 3334-00-47, Cb 3335-00-9,
 Cb 337-100

DRN: [Signature]
 CHD: [Signature]
 TCD: Non air part.
 APPD: [Signature]
 DATE: 09-4-86
 SCALE: 2:1
 DIMENSIONS IN mm
 TOLERANCE ON DIMNS UNLESS OTHERWISE STATED IS: 2102-69
 MATERIAL: HEXAGON BAR
 45-B GOST 1051-73
 USED ON: Cb 3342-188-3 Cb 315-606 Cb 327-00-45 Cb 402-93-1

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

CONTROLLERATE OF INSPECTION (HEAVY VEHICLES) AVADI

EST WT: 0.0025 Kg
 TO BE STAMPED OR MARKED WHERE INDICATED THUS # (LETTERS)

TITLE: NUT M6
 D S CAT NUMBER
 DRAWING NUMBER: 351-06

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

C 9-6-09 3rd ALTN. COMM. MINUTES
 POINT 5 DATE 27-2-09

B 25.8.08 USED ON NUMBER ADDED

A 5-9-92 EFA LT. 07263/ENG/P DO/395-4 dt 24.8.92

ISSUE DATE NATURE OF AMENDMENTS

353 23

EXPLANATORY NOTE

3. REFERENCE MATERIAL QUOTED:

SPRING WASHER, NOMINAL THREAD DIA 6mm, HEAVY WASHER 'T' PARKERISED AND OILED '0,6' AND REFERENCE NOTE '2' ON ALTERNATE MATERIAL ZINC PLATED '09' TO GOST 6402-70 AND MANUFACTURED IN ACCORDANCE WITH CARBON STRUCTURAL HOT ROLLED STEEL GRADE 65 G TO GOST 1050-74.

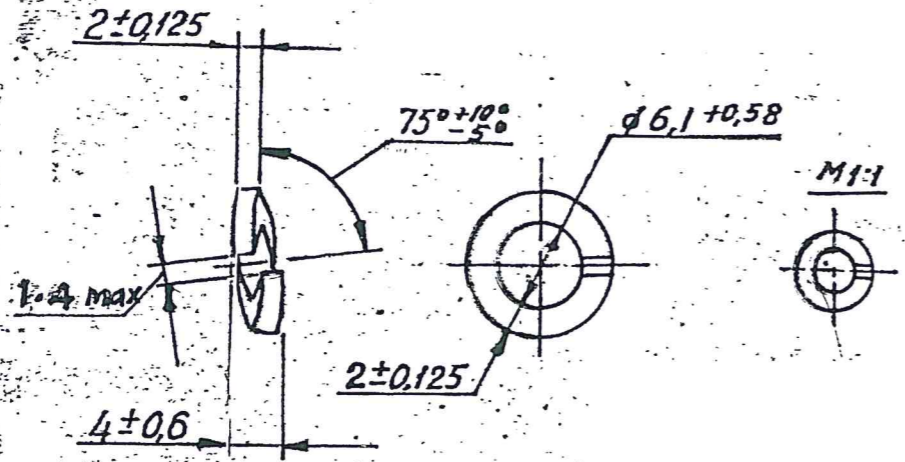
a) CHEMICAL COMPOSITION:

GRADE OF STEEL	CONTENT OF ELEMENTS %					
	C	SI	Mn	Cr	S	P
65G	0,62 - 0,70	0,17 - 0,37	0,90 - 1,20	0,25	0,040	0,35

RESIDUAL CONTENT OF COPPER AND NICKEL SHOULD NOT EXCEED 0,25% EACH

b) MECHANICAL PROPERTIES UNDER NORMALISED CONDITION: AS PER GRADE 65G, 1050-74.

GRADE OF STEEL	ULTIMATE TENSILE STRENGTH Kgf/mm ²	YIELD POINT Kgf/mm ²	ELONGATION %	HARDNESS	
				B H N	M A X
65 G	75	44	9	285	



1. COATING: CADMIUM CHROMATIZING AS PER 4.4.104 WITH ELIMINATION OF HYDROGEN EMBRITTLEMENT.
2. WASHER 6T.65G 09 GOST 6402-70 MAY BE USED.

* CB 20-01-00-8
 CB 20-06-13-6
 CB 20-06-00-2
 CB 20-06-12-6
 CB 20-06-00-7
 CB 20-22-00-7
 CB 20-23-24-86
 CB 20-23-23-83-6
 CB 20-15-663-4

COMMON TO V-92S2 & UTD-20 ENGINES
 KVD NO 63632

ⓑ EQUIVALENT MATERIAL
75 C6 TO IS:2507/EN42 J BS:970

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

ESP. WT 0,801 Kg TO BE STAMPED OR MARKED WHERE INDICATED THUS # (LETTERS)

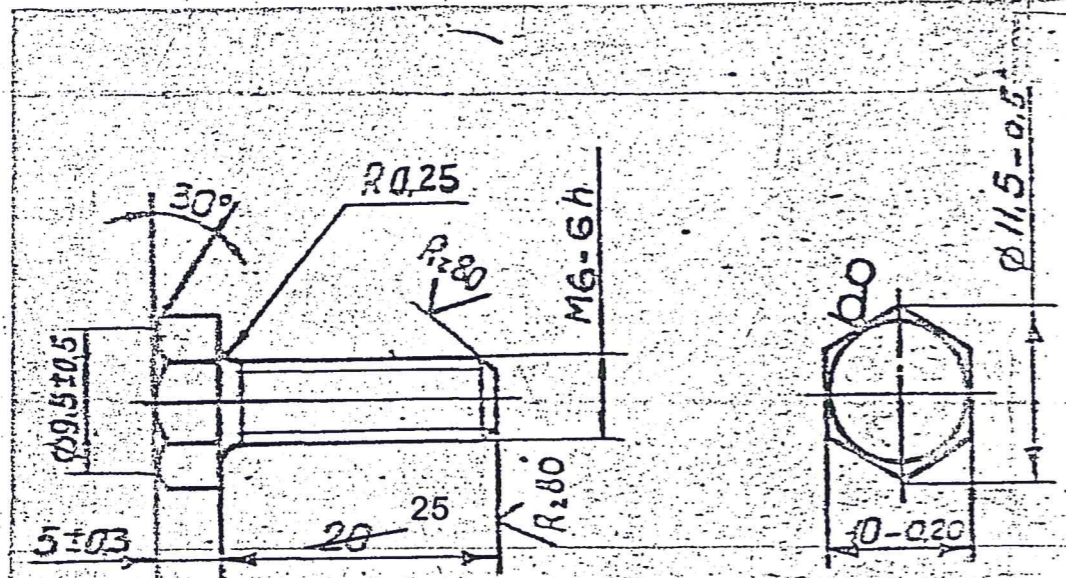
ALL SHARP EDGES AND CORNERS TO BE REMOVED UNLESS OTHERWISE STATED MACHINED CORNERS TO HAVE R OUT-SIDE R INSIDE EQUIVALENT CHAMFERS ARE PERMISSIBLE

- Ⓐ** Cb 327-00-73, Cb 3301-00-44, Eb 406-12-75, Cb 406-12-44, Cb 406-13-44
 Cb 3334-00-47, Cb 406-13-75, Cb 3308-15-2, Cb 3300-00-27 EX, Cb 3301-00-37
 Cb 3335-00-9, Cb 310-00-14, Cb 411-00-56, Cb 3308-00-17, Cb 3320-00-33
 Cb 337-100, Cb 3320-00-43, Cb 315-606-12, Cb 3335-00-24, COA(HV)5.06.607E **ⓓ**

USED ON
 Cb 3338-00-16*
 Cb 3338-401-10
 Cb 3338-406-7
 Cb 3342-00-80B
 Cb 3342-188-7 Cb 3315-606
 Cb 327-00-45 Cb 411-00-41
 Cb 407-00-1 Cb 402-93-1

CHK		MATERIAL	65G 06
TCD		GOST 6402-70	
APPD		DATE	25-3-86
SCALE	2:1	CONTROLLERATE OF INSPECTION (HEAVY VEHICLES) AYAD:	
DIMENSIONS	IN MM	TITLE	WASHER 6T
TOLERANCE ON DIMS	UNLESS OTHERWISE STATED IS 1:102-69	D S CAT NUMBER	
ALL THREADS TO CONFORM TO		DRAWING NUMBER	353 23
ISSUE DATE	NATURE OF AMENDMENTS		

Ⓐ
SIZE A3



1. ALTERNATE MATERIAL IS STEEL 40, 30, GOST 1050-74.
2. COATING: ZINCPLATED, 3 MICRONS THICK, OILED.
3. OTHER TECHNICAL REQUIREMENTS ARE AS PER GOST 1759-70.
4. THREAD MAY BE MADE BY ROLLING WITH DIAMETER OF THE UNTHREADED PORTION BEING WITH IN THE LIMITS OF THE MEAN DIAMETER OF THE THREAD.
5. DIMENSION IS GIVEN FOR REFERENCE.

6. MATERIAL QUOTED : 10-5 GOST 8560-78
 45 GOST 1050-74
 BRIGHT STEEL HEXAGONAL GRADE 45 STEEL, WITH WIDTH ACCROSS FLATS
 10mm. OF ACCURACY CLASS 5.

ALTERNATE MATERIAL — TO 40, 30 GOST 1050-74.
 Reference No: 1)

a) CHEMICAL COMPOSITION :-

ELEMENT %	Gde 30	Gde 40	Gde 45
CARBON	0.27 - 0.35	0.37 - 0.45	0.42 - 0.50
SILICON	0.17 - 0.37	0.17 - 0.37	0.17 - 0.37
MANGANESE	0.50 - 0.80	0.50 - 0.80	0.50 - 0.80
CHROMIUM	0.25 - max	0.25 - max	0.25 - max
SULPHUR	0.04 - max	0.04 - max	0.04 - max
PHOSPHORUS	0.035 max	0.035 max	0.035 max

b) MECHANICAL PROPERTIES :-

STEEL GRADES	30	40	45
YIELD POINT Kgf/mm ² (min)	30	34	36
ULTIMATE TENSILE STRENGTH Kgf/mm ² (min)	50	58	61
% ELONGATION (min)	21	19	16
% REDUCTION OF AREA (min)	50	45	40
IMPACT STRENGTH KJm/cm ² (min)	8	6	5

(A) EQUIVALENT MATERIAL STEEL
 45C8 TO IS:1570

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

EST. WT. TO BE STAMPED OR MARKED WHERE
 0.0066 Kg INDICATED THUS (LETTERS)

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

DRN	G. Naidu	MATERIAL :-	USED ON CB 411-00-48
CHK	K. R. Ramesh	10-5 GOST 8560-78	CB 20-27-00-4
TCD	N. Ravi	45 GOST 1050-74	CB 20-15-663-4
APPD		CONTROLLERATE OF QUALITY ASSURANCE(HEAVY VEHICLES)	
DATE	07-05-87	AVAD!	
SCALE :-		TITLE	
DIMENSIONS IN mm		BOLT M6X25	
TOLERANCE ON DIMNS UNLESS OTHERWISE STATED IS:2102-69		D S CAT NUMBER	
ALL THREADS TO CONFORM TO		DRAWING NUMBER :-	
ISSUE DATE	12-8-10	356-84(M)	
NATURE OF AMENDMENTS	4 th Alt. Comm. Meeting Minutes Point No.11 Dt: 26-10-09		

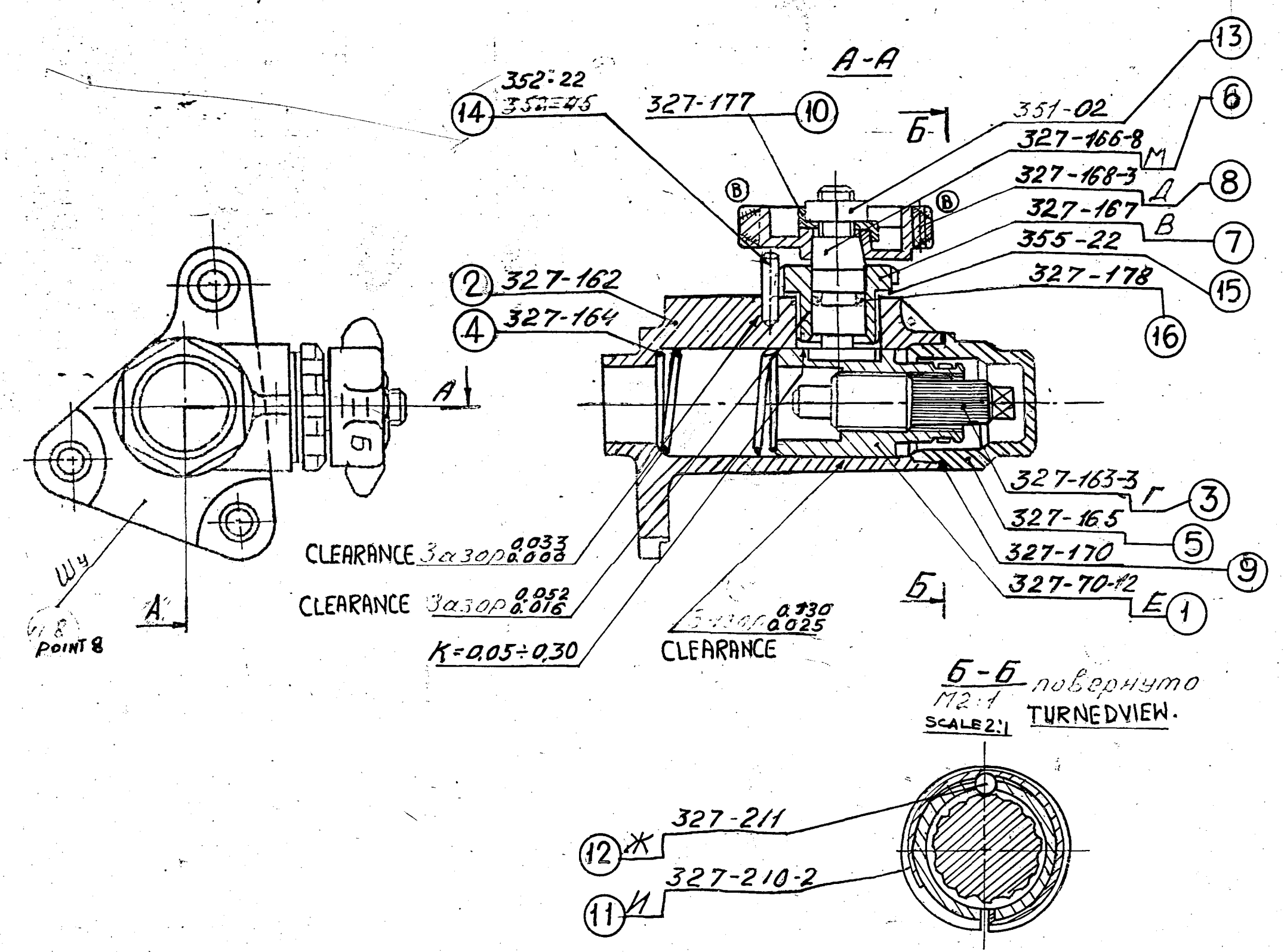
USED ON

CB 327 00 45

ITEM	DRAWING NUMBER	D S CAT NUMBER	DESCRIPTION	NO OFF	REMARKS
	CB 327 145 10		MAXIMUM FUEL FEED LIMITER		
	& ITEM LIST				
1	327 70 12		SLEEVE STOP	1	
2	327 162		LIMITER BODY	1	ТИ [Ⓐ]
3	327 163 3		STOP	1	
4	327 164		SPRING	1	
5	327 165		CAP	1	ТИ [Ⓐ]
6	327 166 B		RETAINER PIN	1	ТИ [Ⓐ]
7	327 167		RETAINER BUSHING	1	ТИ [Ⓐ]
8	327 168 3		HAND WHEEL	1	ТИ [Ⓐ]
9	327 170		SEALING RING	1	
10	327 177		LOCK WASHER	1	ТИ [Ⓐ]
11	327 210 2		SPRING RING	1	
12	327 211		BALL IV 3mm H GOST 3722-60	1	
13	351 02		NUT M8	1	ТИ [Ⓐ]
14	352 22		ROUND PIN 4C3 x 18	1	ТИ [Ⓐ]
15	355 22		RING 20 - 26	1	
16	327 178		SEALING RING	1	ТИ [Ⓐ]

A	09.12.87	AUTHY. NOTN. No. BK 83-48			
ISSUE	DATE	NATURE OF AMENDMENTS	ISSUE	DATE	NATURE OF AMENDMENTS
DRN	<i>[Signature]</i>		CONTROLLERATE OF INSPECTION (HEAVY VEHICLES) AVADI		
CHD	<i>[Signature]</i>		TITLE: MAXIMUM FUEL FEED LIMITER		
TCD	<i>[Signature]</i>				
APPD	<i>[Signature]</i>				
DATE	11.5.86		SHT 1 OFF 1	D S CAT NUMBER	ITEM LIST FOR CB 327 145 10

DRAWING INDIANISED BASED ON ISSUE 2



4. Вращением детали Д проверить от руки легкость перемещения гильзы Е в корпусе чпура. Заедания не допускаются.
 5. До установки кольца И проверить от руки свинчиваемость детали Г с сопрягаемой деталью Е. Заедания не допускаются.
 6. Вращая ключом чпура Г, проверить наличие фиксации чпура (щелчков) шариком Ж.
 7. Допускается использование дет 700-40-2552 вместо дет 327-178.
 8. Маркировать цифрой 10.
 9. Перемещение гильзы чпура, 327-70-12, при установке наковички, 327-168-3, из положения А в положение Б и Б должны быть соответственно 0.4 ± 0.08 мм и 1.2 ± 0.08 мм.

1. Все детали перед сборкой промыть профильтрованным дизельным топливом.
 2. Внутренние детали М и Е смазать графитовой смазкой по ГОСТ 3333-55.
 3. Зазор К, 0.05-0.30 обеспечить подбором длины резьбовой части (гарнеллы) втулки В, после чего втулку застопорить штифтом.

1. ALL COMPONENTS BEFORE ASSEMBLY SHOULD BE WASHED IN FILTERED DIESEL FUEL.
2. INNER COMPONENTS M AND E SHOULD BE COATED WITH GRAPHITE GREASE AS PER GOST 3333-55.
3. CLEARANCE $K = 0.05 \text{---} 0.30$ SHOULD BE ENSURED BY SELECTING THE LENGTH OF THREADED PORTION [GROUP] OF BUSH B, AFTER WHICH THE BUSH SHOULD BE LOCKED WITH PIN.
4. EASE OF MOVEMENT OF SLEEVE E IN THE STOP BODY SHOULD BE CHECKED BY TURNING COMPONENT E BY HAND, JAMMING IS NOT ALLOWED.
5. BEFORE INSTALLATION OF RING I COMPONENT Г SHOULD BE CHECKED FOR SCREWING TOGETHER WITH MATING COMPONENT E. JAMMING IS NOT ALLOWED.
6. CHECK THE STOP FOR FIXING [THERE SHOULD BE CLICK SOUND] WITH BALL Ж BY ROTATING STOP Г WITH A SPANNER.
7. COMPONENT 700-40-2552 MAY BE USED INSTEAD OF COMPONENT 327-178.
8. TO BE MARKED WITH FIGURE 10.
9. WITH HAND WHEEL 327-168-3 BEING CHANGED OVER FROM POSITION A TO POSITIONS K AND Б. STOP SLEEVE 327-70-12 SHOULD MOVE BY 0.4 ± 0.08 MM AND 1.2 ± 0.08 MM RESPECTIVELY.

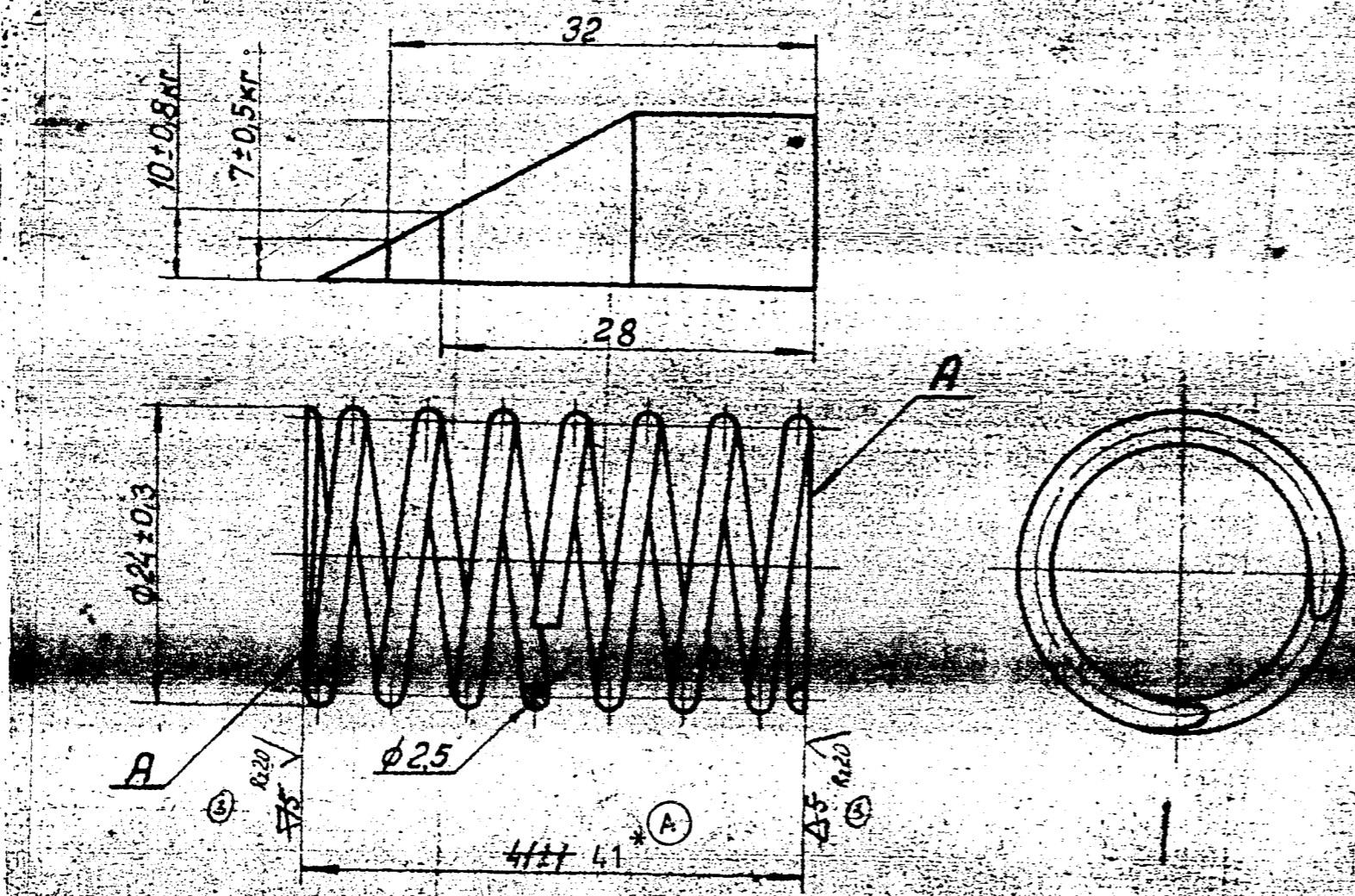
10. FOR ASSEMBLIES IN TROPICALIZED CONSTRUCTION. COMPONENTS PROVIDED WITH NOTATION "T" IN PART LIST OF THE GIVEN DRAWING (IN COLUMN "REMARKS") SHOULD HAVE TROPICALIZED CONSTRUCTION ENVISAGED BY SHOP DRAWING.

A-B

		EST. MASS 0.55 Kg	TO BE STAMPED OR MARKED WHERE INDICATED THUS # LETTERS
B	15288 AUTHY. NO BK 84-229	ALL SHARP EDGES AND CORNERS TO BE REMOVED UNLESS OTHERWISE STATED MACHINED CORNERS TO HAVE R OUTSIDE	
A	51287 AUTHY. NOTN. NO. BK 83-48	INSIDE EQUIVALENT CHAMFERS ARE PERMISSIBLE.	
ISSUE	DATE	NATURE OF AMENDMENTS	
DRN	SCALE - 1:1	MATERIAL:-	USED ON:- CB 327 00 45
END	DIMENSIONS IN mm.	CONTROLLERATE OF INSPECTION (HEAVY VEHICLES) AVADI.	
TCD	TOLERANCE ON DIMNS UNLESS OTHERWISE STATED	TITLE:- MAXIMUM FUEL FEED LIMITER	
APPD	ALL THREADS CONFORM TO	D S CAT NUMBER	DRAWING NUMBER CB 327 145 10
DATE			

DRAWING NUMBER
327 164

✓(✓)



NO. OF WORKING COILS		5±0,5
TOTAL NUMBER OF COILS	Общее число витков	8±0,5
DIRECTION OF COILS	Направление намотки	любое
LENGTH OF DEVELOPED COMPONENT	Развернутая длина	555

1. Группа контроля I по ТУН ②
2. Неравномерность шага не более 0,5мм.
3. Опорная поверхность витка должна быть не менее 0,75-окружности, а толщина конца опорного витка не менее 0,3мм.
4. Неперпендикулярность торцев А относительно оси не более 0,5мм по угольнику на длине пружины.
5. После сжатия пружины до размера 25мм остаточная деформация не допускается.
6. Допускается увеличение наружного диаметра опорных витков до 24,5мм.
7. Зазенны не допускаются.
8. Покрытие 11-9 мм до 11-14 с удалением водородной хрупкости.

TRY SQUARE.
5. THE SPRING BEING COMPRESSED TO 25MM RESIDUAL DEFORMATION IS NOT ALLOWED.
6. INCREASE OF EXTERNAL DIAMETER OF END COILS UP TO 24.5MM IS ALLOWED.
7. BURRS ARE NOT ALLOWED.
8. THE SPRING SHALL BE TREATED IN ACCORDANCE WITH GOST 9389-75 WITH ELIMINATION OF HYDROGEN EMBRITTLEMENT.

1. VARIATION IN PITCH SHOULD NOT EXCEED 0.5MM.
2. BASE SURFACE OF COIL SHOULD BE AT LEAST 0.75 OF THE CIRCUMFERENCE AND THICKNESS OF END OF THE EXTREME COIL SHOULD NOT BE LESS THAN 0.3MM.
3. NON-SQUARENESS OF FACES A RELATIVE TO THE AXIS SHOULD NOT EXCEED 0.5MM ON SPRING LENGTH TO BE MEASURED WITH

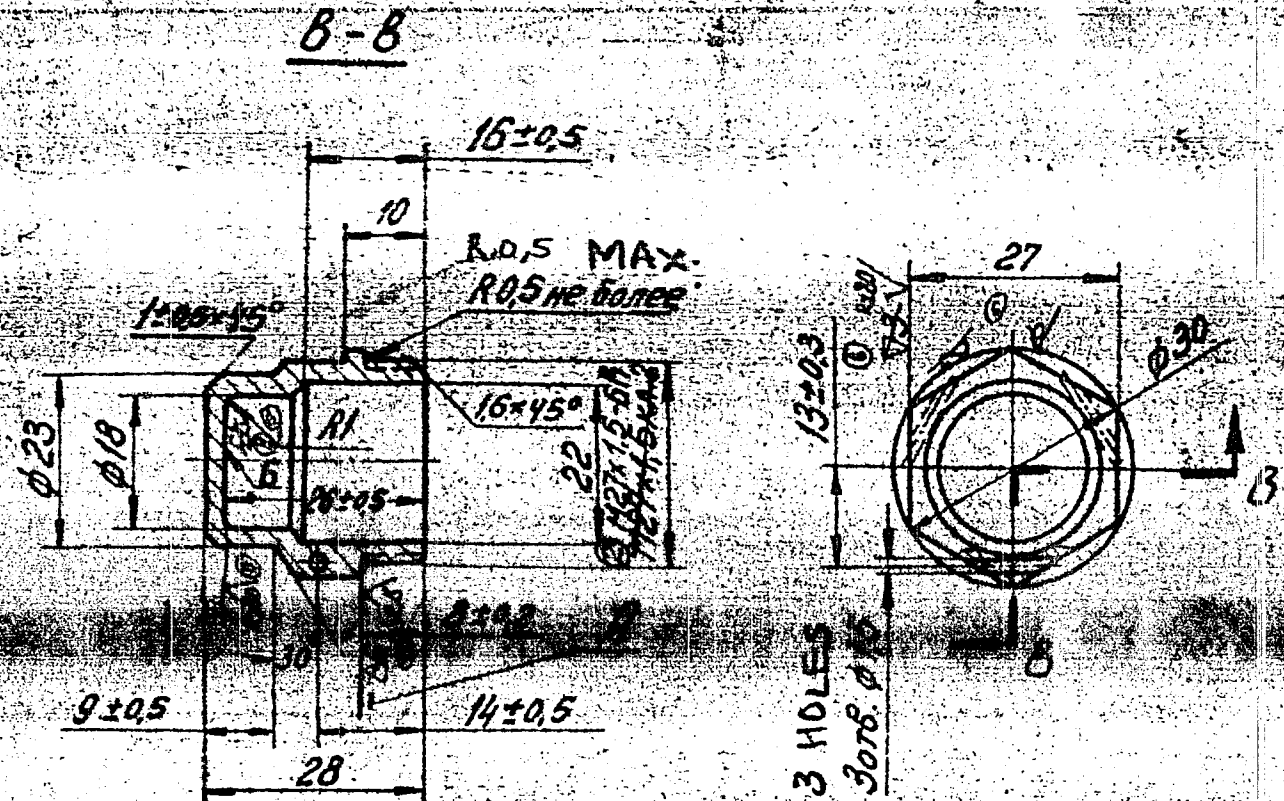
Ⓐ * DIMENSION FOR REFERENCE.

Ⓑ EQUIVALENT MATERIAL
Gr. DH/DM IS:4454-2001

PILOT SAMPLE SHOULD BE APPROVED BY A H S P BEFORE BULK PRODUCTION.		DRN	MATERIAL:-	USED ON:-
EST. MASS	TO BE STAMPED OR MARKED WHERE INDICATED THUS # LETTERS)	CHD	WIRE II - 2.5	CB 327 165 25 10
0.020 Kg		TCD	GOST 9389-75	
ALL SHARP EDGES AND CORNERS TO BE REMOVED UNLESS OTHERWISE STATED MACHINED CORNERS TO HAVE R OUTSIDE R INSIDE EQUIVALENT CHAMFERS ARE PERMISSIBLE.		APPD	CONTROLLERATE OF INSPECTION (HEAVY VEHICLES) AVADI	
		DATE	TITLE:-	
		SCALE - 2 : 1	SPRING	
		DIMENSIONS IN mm.	D S CAT NUMBER	
		TOLERANCE ON DIMNS UNLESS OTHERWISE STATED.	DRAWING NUMBER	
		ALL THREADS CONFORM TO	327 164	
ISSUE	DATE	NATURE OF AMENDMENTS		
B	16-8-10	4 th Alt. Comm. Meeting Minutes Point No.13 Dt:26-10-09		
A	23-9-87	AUTHY. BK 82-612		

Ⓐ-8
SIZE A2

DRAWING NUMBER
327 165



- 5. CUTTING-IN OF TOOL TO A DEPTH NOT EXCEEDING 0.3 MM IS ALLOWED ON CYLINDRICAL SURFACE DURING CUTTING OF FACE A.
- 6. SHARP EDGES ARE NOT ALLOWED.
- 7. THERE MAY BE NO COATING ON INTERNAL SURFACES AND THE DIMENSIONS SHOULD BE CHECKED BEFORE COATING.
- 8. DRILLMARKS ARE ALLOWED ON FACE B PROVIDED BODY THICKNESS 1 MM MIN IS MAINTAINED.
- 9. COATING: CD 9 CHROMIUM NICKEL PHOSPHATE ICE 11-569-86
- 10. ЦЦЛ-104 WITH ELIMINATION OF HYDROGEN BRITTLINESS

- 3. THE FINISH WITH UNDESPECIFIED TOLERANCES SHOULD BE MAINTAINED AS PER ACCURACY CLASS 7 OST 1010.
- 4. NON-SQUARENESS OF FACE A RELATIVE TO THE AXIS OF THREAD SHOULD NOT EXCEED 0.1 MM (MMC).

- 1. Группа контроля - I по ТУ-11.3
- 2. Технические требования на резьбу выполнять по нормам ГОСТ 9201-00.
- 3. Размеры без отклонений выполнять по 7 классу точности ГОСТ 1010.
- 4. Неперпендикулярность торца А относительно оси резьбы не более 0,1 мм (допуск зависимый).
- 5. При подрезке торца А допускается врезание резца на цилиндрической поверхности на глубину не более 0,3 мм.
- 6. Острые кромки не допускаются.
- 7. На внутренних поверхностях и резьбе допускается отсутствие покрытия.
- 8. Размеры контролировать до покрытия.
- 9. На торце Б допускается след от сверла с сохранением толщины тела не менее 1 мм.
- 10. Покрытие Ц.З.хр по ЦЦЛ-104 с удалением водородной хрупкости.
- 11. В традиционном исполнении Покрытие КД9 хр по ЦЦЛ-104 с удалением водородной хрупкости.

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

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

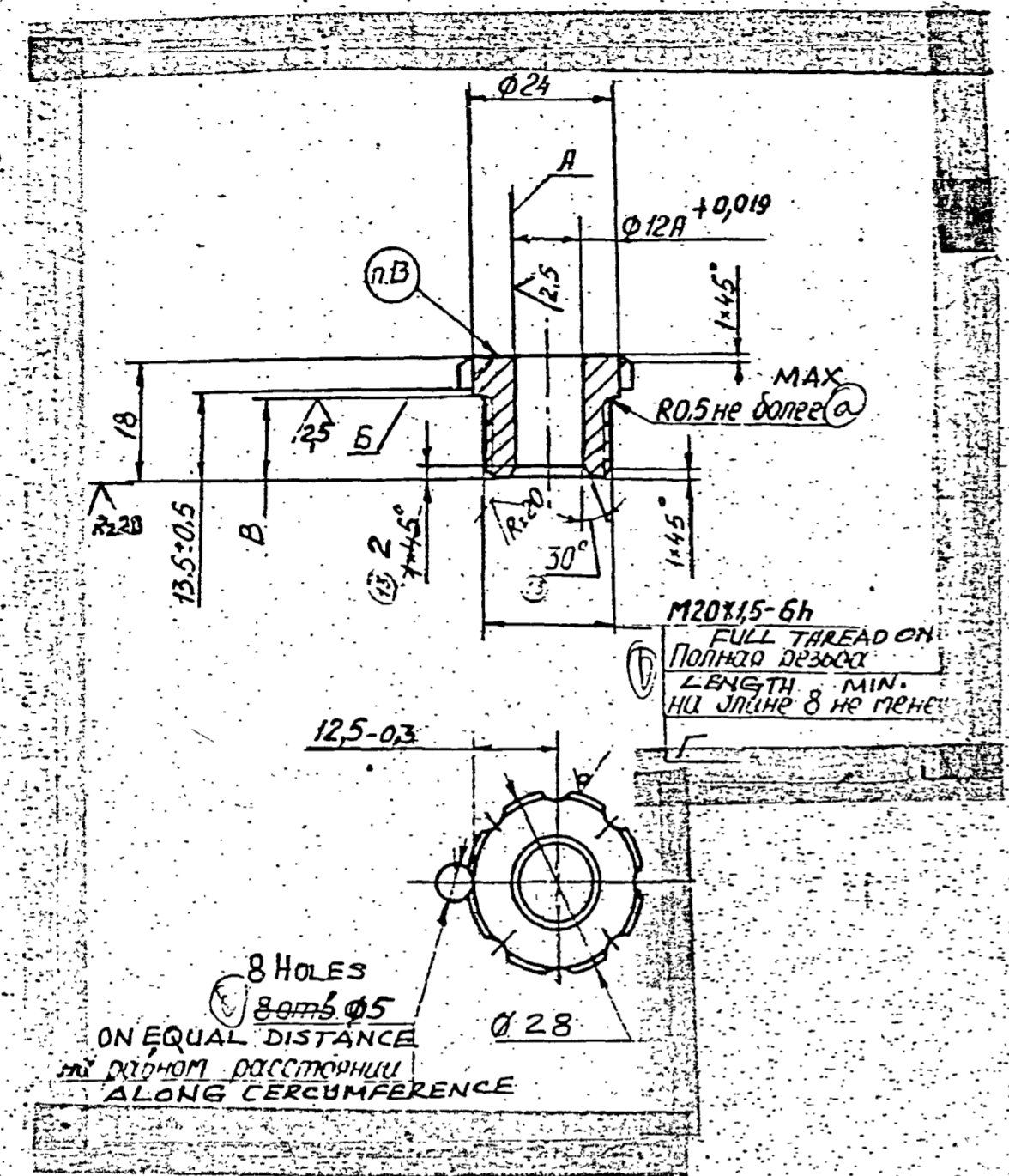
EST. MASS 0.045 Kg	TO BE STAMPED OR MARKED WHERE INDICATED THUS: LETTERS
ALL SHARP EDGES AND CORNERS TO BE REMOVED UNLESS OTHERWISE STATED MACHINED CORNERS TO HAVE R OUTSIDE R INSIDE EQUIVALENT CHAMFERS ARE PERMISSIBLE.	

DRN CHD TCD APPD DATE SCALE - 1:1 DIMENSIONS IN mm TOLERANCE ON DIMS UNLESS OTHERWISE STATED.	<i>Devi...</i> <i>M...</i> <i>M...</i> 09-5-86	MATERIAL: - ROUND BAR 30-4 GOST 7417-75 45 GOST 1051-73	USED ON:- CS 327 165 18/10
ISSUE DATE NATURE OF AMENDMENTS		CONTROLLERATE OF INSPECTION (HEAVY VEHICLES) AVADI	
A 15-2-88 AUTHY. NOTN. NO. BK 85-141		TITLE:- CAP	
B 10-7-10 4th ALT. COMM. Mfg. MINUTES POINT No. 7 DT. 26-10-09		D S CAT NUMBER DRAWING NUMBER 327 165	

SIZE A2

DRAWING NUMBER
327-167

R240/ (✓)



1. GROUP OF INSPECTION IV AS PER TR-11
2. HRC 26 - 32
3. DIMENSIONS WITHOUT DEVIATIONS ARE TO BE CARRIED OUT AS PER 7 CLASS OF ACCURACY OST 1010
4. TECH. REQUIREMENTS FOR THREAD TO BE CARRIED OUT AS PER STANDARD 82021-00.
5. NON-PERPENDICULARITY OF FACE B TO AXIS OF THREAD Γ SHOULD NOT EXCEED 0.1mm ON Φ(24 QUALIFIED TOLERANCE)
6. RADIAL RUN-OUT OF SURFACE A RELATIVE TO AXIS OF THREAD SHOULD NOT EXCEED 0.1mm (QUALIFIED TOLERANCE)
7. SHARP EDGES ARE NOT ALLOWED.
8. WHEN UNDERCUTTING FACE B, IT IS PERMITTED TO CUT IN THE TOOL (CUTTING) ALONG CYLINDRICAL SURFACE TO A DEPTH OF 0.3mm MAX.
9. INDIVIDUAL RING MARKS, EXCEEDING THE LIMIT OF FINISH 2.5 ARE ALLOWED ON SURFACE A.
10. COATING: Zn 3 Cr. AS PER UA-483-82.
11. ABSENCE OF COATING IS PERMITTED ON INNER SURFACE AND THREAD DIMENSIONS ARE TO BE CHECKED BEFORE COATING.
12. IN TROPICAL MAKE, COATING Cd 3 Cr. AS PER UA-569-84 WITH REMOVAL OF HYDROGEN EMBRITTLEMENT.
13. NO. OF GROUP TO BE MARKED WITH NUMERALS 0, 1, 2, 3 LETTERING AS PER 3-6 GOST 2930-62

NO. OF GROUP	DIMENSION B	NO. OF GROUP	DIMENSION B
1	12 - 0.4	0	12 - 0.7
2	12 - 0.1	1	12 - 0.4
3	12 - 0.2	2	12 - 0.1
0	12 - 0.7	3	12 - 0.2

(E) EQUIVALENT MATERIAL
STEEL OBOM 40 (EN 8) TO BS 970 OR
45CB TO IS 1570

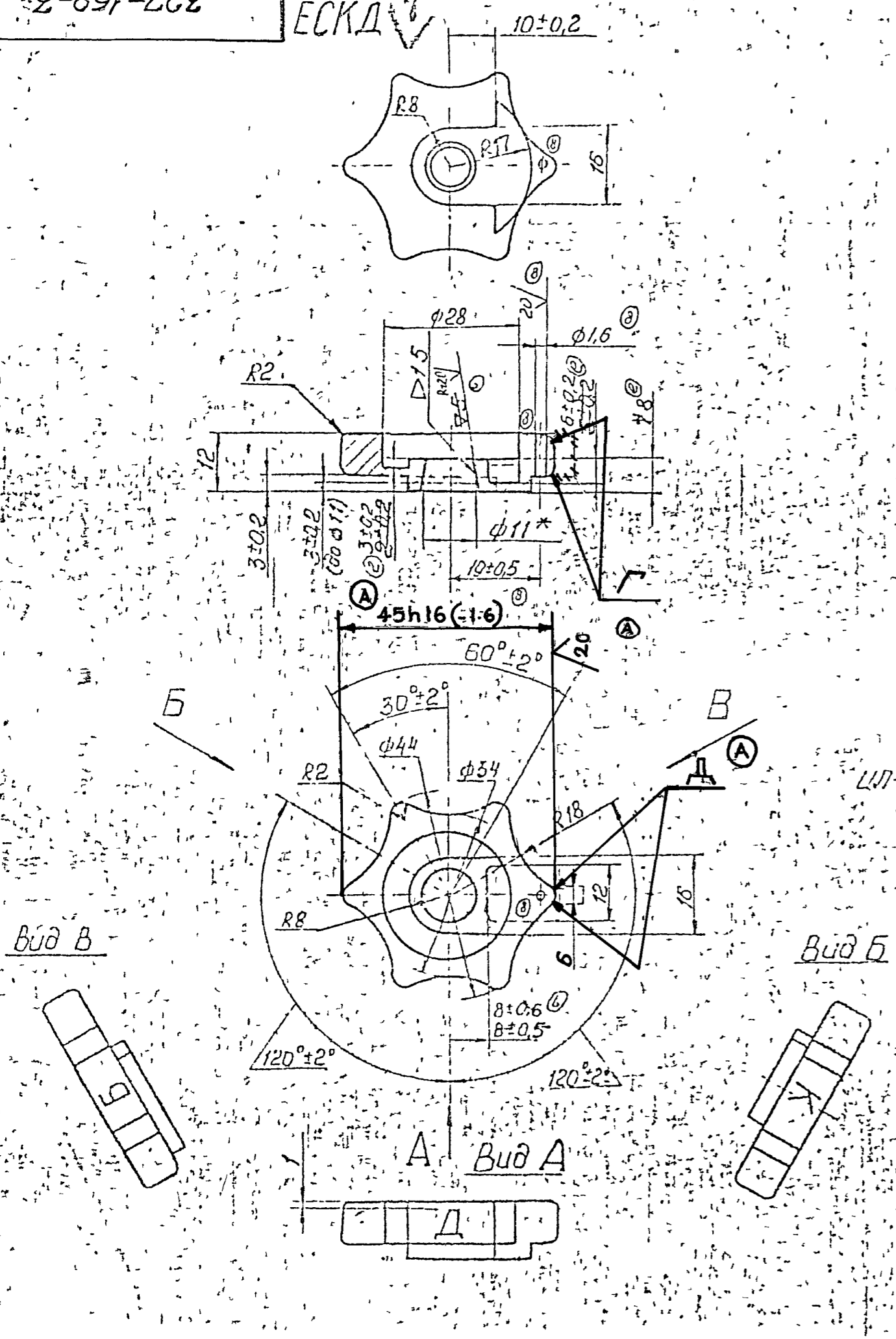
PILOT SAMPLE SHOULD BE APPROVED BY A H S P BEFORE BULK PRODUCTION.

EST. WT. 0.040kg 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	DIMENSIONS IN mm	TOLERANCE ON DIMNS UNLESS OTHERWISE STATED IS 2102-69	TITLE	D S CAT NUMBER	DRAWING NUMBER
				10-3-94	1:1			BUSH BODY		327-167
MATERIAL - ROUND BAR 28-h12 GOST 7417-75 45-6 GOST 1051-73					USED ON C8 327-145-10 C8 327-145-15		CONTROLLERATE OF QUALITY ASSURANCE (HEAVY VEHICLES) AVADI			
4 1/2 ALT. COMM. Mfg. MINUTES POINT No 7 DT. 26-10-09					RECEIVED VIDE BK. 87-334		ALL THREADS TO CONFORM TO			
ISSUE DATE					NATURE OF AMENDMENTS					

Supersedes 327-167 Issue C vide BK 87-334

SIZE A2



1. ~~Группа контроля~~
2. Покрытие Ц3 хр по ~~УЛ-483-82~~ на внутренних поверхностях допускается отсутствие покрытия.
3. Предельные отклонения размеров хватящих по А7, охватываемых - по В7
4. Требования, предъявляемые к отливке, по ТУ БТЛ №3
5. Литейные уклоны 2° не более
6. Неуказанные литейные радиусы 2мм не более.
7. На обработанной поверхности допускаются раковины диаметром до 2мм и глубиной до 1мм в количестве 3-х штук не более.
8. Буквы Б, Д, К маркировать ударным способом.
9. Впадины букв после цинкования скрасить ~~красной эмалью ПФ-223 ГОСТ 14923-78~~ красной эмалью ГОСТ 14023-69
- 10* Размер для инструмента
- 11 Шрифт ПО-6 ГОСТ 2930-62, чеканить.
- 12 Допускается изготовление из стали 40Л-I и 50Л-I ГОСТ 977-65, 75

3) В тропическом исполнении покрытие Кд9 хр по УЛ-569-84 с удалением водородной хрупкости

FOR TROPICAL USE:
COATING Cd9 Cr AS PER UЛ-569-84 WITH ELIMINATION OF H₂ EMBRITTLEMENT

6	1	БК82-207	5/2,82
5	2	БК77-690	2/11,21
4	1	БК80-303	28/11,80/8
3	1	БК18-206	11,87/8
0	1	74-7720	11,1
2	1	74-1110	4/11,1
6	1	74-696	11,05/11,1
6		73-540	3/75-276

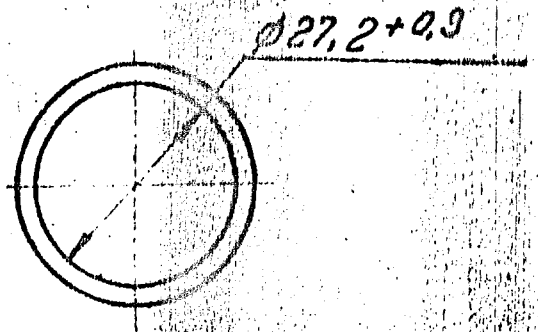
Ул. код	№ докум	Родн	Дата

- 1) DELETED
- 2) COATING. Zn3 Cr AS PER UЛ-483-82, INNER SURFACES MAY NOT BE COATED
- 3) TOLERANCES FOR DIMENSIONS OF FEMALE PARTS AS PER A7, OF MALE PARTS AS PER B7
- 4) REQUIREMENTS FOR CASTING IN ACCORDANCE WITH SPECIFICATIONS No 3 OF PRECISION CASTING BUREAU.
- 5) DRAFT 2° MAX
- 6) UNSPECIFIED CASTING RADII SHOULD NOT EXCEED 2mm
- 7) NOT MORE THAN 3 PIT MARKS WITH DIAMETER UPTO 2mm, AND UPTO 1mm DEEP ARE PERMISSIBLE ON MACHINED SURFACE
- 8) LETTERS P,D,K (STANDING FOR PETROL, DIESEL FUEL, KEROSENE RESPECTIVELY) SHOULD BE MARKED BY PUNCHING
- 9) AFTER GALVANISING SPACES OF LETTERS SHOULD BE FILLED WITH RED ENAMEL ПЭ - 223 GOST 14923-78
- 10) * DIMENSIONS FOR TOOL
- 11) TYPE 0-6, TO BE EMBOSSED.
- 12) MAY BE MANUFACTURED FROM STEEL 40Л- I AND 50Л- I GOST 977-75
- 13) BLANK
- 14) TO BE BLUNTED WITH CHAMFER OR RADIUS 2mm MAX IN THE AREAS OF Г AND Д

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

EST. MASS	0,06 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			
ISSUE DATE	29.9.75	NOTN NO. БК 89-65	
DRG	SCALE: 1:1	MATERIAL	STEEL 45Л-I GOST 977-75
CHD	DIMENSIONS IN -mm	USED ON	СБ 327-145-10
TCD	TOLERANCE ON DIMNS UNLESS OTHERWISE STATED	CONTROLLERATE OF QUALITY ASSURANCE(HEAVY VEHICLES) АВАДИ	
APPD		TITLE	HAND WHEEL
DATE 17-2-75	ALL THREADS TO CONFORM TO	D.S. CAT NUMBER	DRAWING NUMBER 327-168-3

327-170



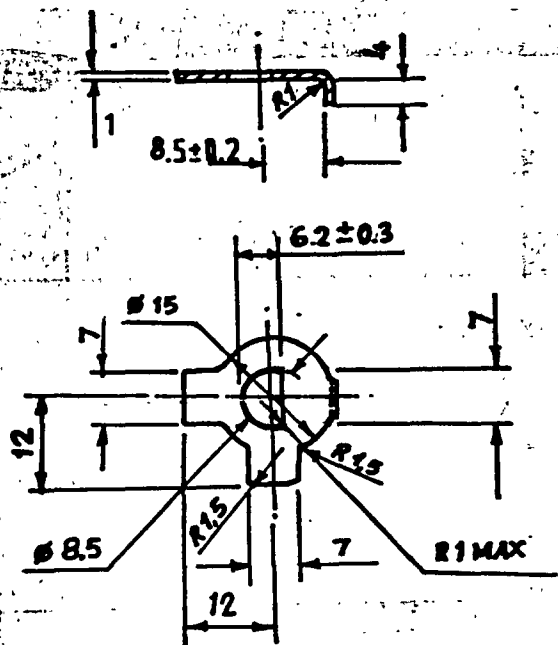
1. Грубая контроль I по ТУ-11. (2)
 2. Задусены и вмятины не допускаются.

1. ---
 2. BURRS AND NICKS ARE NOT ALLOWED.

			EST. MASS 0.00045 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.	
ISSUE DATE	NATURE OF AMENDMENTS		MATERIAL:- Д16 АМ-1 GOST 21631-76	USED ON:- СБ 327 145 10 СБ 327 145 15
CHD <i>[Signature]</i>	SCALE - 1 : 1		CONTROLLERATE OF INSPECTION (HEAVY VEHICLES) AVADI	
TCD <i>[Signature]</i>	DIMENSIONS IN mm.			TITLE:- SEALING RING
APD <i>[Signature]</i>	TOLERANCE ON DIMNS UNLESS OTHERWISE STATED.		D S CAT NUMBER	DRAWING NUMBER 327 170
DATE <i>[Signature]</i>	ALL THREADS CONFORM TO			

DRAWING NUMBER
327-177

Rz160 ✓✓



EXPLANATORY NOTE :

7. MATERIAL QUOTED : STRIP 08nC-M-2-0-1 GOST 503-81.

COLD ROLLED LOW CARBON STEEL STRIP.

08nC = GRADE OF STEEL. M = SOFT CONDITION.

2.0 = SECOND GROUP 1 = THICKNESS IN mm

CHEMICAL COMPOSITION : AS PER GOST 1050-74.

C = 0.05 - 0.11	Cr = 0.10	} maximum
Si = 0.05 - 0.17	S = 0.040	
Mn = 0.35 - 0.60	P = 0.035	
	Cu = 0.25	
	Ni = 0.25	

MECHANICAL PROPERTIES : AS PER GOST 503-71.

ULTIMATE TENSILE STRENGTH Kg/mm² = 32 = 45

% RELATIVE ELONGATION = 17 (min)

2. DIMENSIONS WITH UNSPECIFIED TOLERANCES SHOULD BE MAINTAINED WITH ACCURACY ±0.3mm.
3. TO BE STRAIGHTENED AFTER BLANKING.
4. BURRS ARE NOT ALLOWED.
6. COATING : Cd9, CHROMATIZING IN ACCORDANCE WITH UA-569-84 WITH ELIMINATION OF HYDROGEN EMBRITTLEMENT.

Ⓧ EQUIVALENT MATERIAL
Gr.D IS : 513-1994

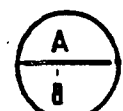
KVD NO 78508

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

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

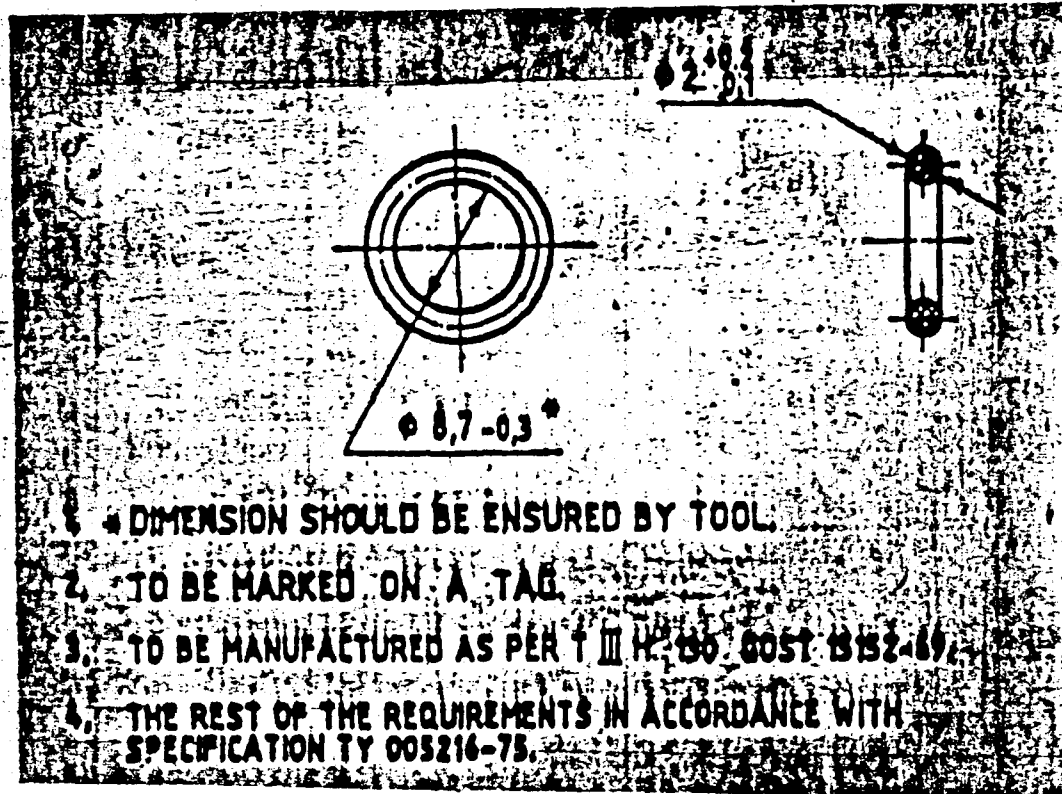
ALL SHARP EDGES AND CORNERS TO BE REMOVED UNLESS OTHERWISE STATED MACHINED CORNERS TO HAVE R OUT SIDE R INSIDE EQUIVALENT CHAMFERS ARE PERMISSIBLE

DRN	G. n. n.	MATERIAL:	USED ON
CHD		STRIP 08nC-M-2-0-1	CG 327-145-10
TCD		GOST 503-74-81	CG 327-145-15
APPO		CONTROLLERATE OF QUALITY ASSURANCE(HEAVY VEHICLES) AVADI	
DATE	27-5-89		
SCALE:- 1 : 1		DIMENSIONS IN mm TOLERANCE ON DIMS UNLESS OTHERWISE STATED IS-2102-69	TITLE LOCK WASHER
D 18.03.10 6 th Alt. Comm. Mf. Minutes P. No. 101-26-1009			
C 19.9.93 BK 86-441		ALL THREADS TO CONFORM TO	D S CAT NUMBER
B 15.2.88 AUTHY NOTN No: BK 85-141			
A 15-10-87 AUTHY NOTN No: BK 83-126			
ISSUE DATE	NATURE OF AMENDMENTS	DRAWING NUMBER 327-177	



SIZE A3

DRAWING NUMBER
327-178



EXPLANATORY NOTE:

Material Quoted: Rubber UPT 1287 TY 005216-75.
UPT 1287 : Rubber grade.

PROPERTIES:

- | | |
|---|-----------------------------------|
| 1. working medium | = Air, Nitrogen with fuel vapour. |
| 2. operating temperature | = From minus 20 to 250 °c |
| 3. Rupture strength | = 120 Kgf/cm ² (min) |
| 4. Elongation at rupture | = 120 % (min) |
| 5. Residual elongation after rupture | = 10 % (max) |
| 6. Hardness according to TTP device (TM-2) arbitrary unit % | = 70 to 82 |
| 7. Density (Deviation) Limit ± 0.05 | = 2.10 g/cm ³ |
| 8. operating pressure | = ≤ 50 Kgf/cm ² |

KVD NO 78509

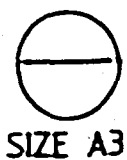
(A) ALT. MATL.: RUBBER GRADE FKM TO SPECN CQA(HV)/FKM

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

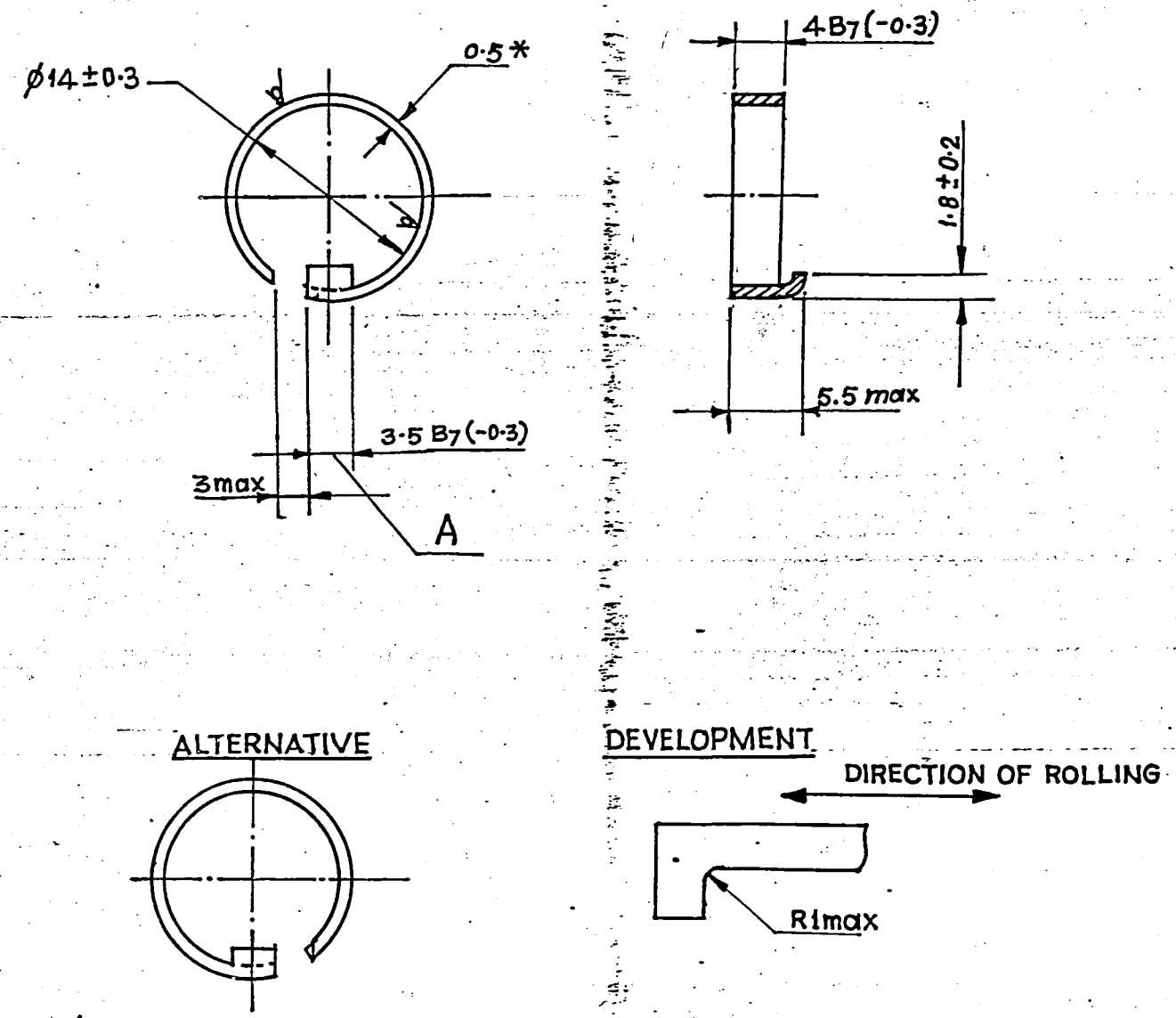
DRN	<i>Praculy</i>	MATERIAL:- RUBBER UPT-1287 TY 005216-75	USED ON: C6 327-145-10 C6 327-145-15
CHK	<i>Praculy</i>	CONTROLLERATE OF QUALITY ASSURANCE(HEAVY VEHICLES) AVADI	
TCD	<i>Praculy</i>		
APPO	<i>Praculy</i>	TITLE PACKING RING	
DATE	29-5-89		
SCALE:-	2:1	D S CAT NUMBER DRAWING NUMBER 327-178	
DIMENSIONS IN mm	TOLERANCE ON DIMMS UNLESS OTHERWISE STATED IS:2102-69		
ALL THREADS TO CONFORM TO			
ISSUE DATE	05.06.08		
NATURE OF AMENDMENTS	Lt. No. TC/GEN/IND-III Dt.02.04.08		



SIZE A3

DRAWING NUMBER

327-210-2



1. INSPECTION GROUP IV AS PER TECHNICAL REQUIREMENTS - 11.
2. ---
3. UNSPECIFIED PRESSING RADII SHOULD NOT EXCEED 1mm.
4. DURING INSTALLATION OF RING ON MANDREL $\phi 18$ mm RESIDUAL DEFORMATION IS NOT ALLOWED.
5. COATING : Zn6 . . 9, CHROMATING IN ACCORDANCE WITH U/1483-82 WITH SUBSEQUENT ELIMINATION OF HYDROGEN EMBRITTLEMENT
6. SECTION 'A' MAY BE MADE STRAIGHT.
7. * DIMENSION FOR REFERENCE.

EXPLANATORY NOTE :-

8. **MATERIAL QUOTED :** STRIP 65F , 0.5 GOST 2283-82.
 STRIP = COLD - DRAWN STEEL STRIPS. 0.5 = THICKNESS
 65F = GRADE OF STEEL AS PER GOST 1050-74.
 a) **CHEMICAL COMPOSITION :** % AS PER GOST 1050-74.

C O N T E N T O F E L E M E N T S %							
C	Si	Mn	Cr	S	P	Cu	Ni
			M	A	X	I	M
0.62 - 0.70	0.17 - 0.37	0.70 - 1.00	0.25	0.040	0.035	0.25	0.25

- b) **MECHANICAL PROPERTIES :-** AS PER GOST 2283-82.
 ULTIMATE TENSILE STRENGTH Kgf/mm² (min) = 65
 RELATIVE ELONGATION % (min) = 15

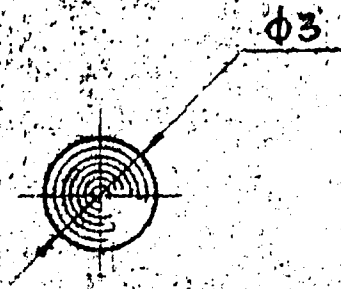
(A) EQUIVALENT MATERIAL
 75 C6 TO IS:2507/EN 42 J BS:970

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

EST. WT. 0.0006 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>Abraham</i>	MATERIAL :-	USED ON :-
CHKD	<i>Abraham</i>	STRIP 65F, 0.5	CB 327-145-10
TCO	<i>N. D.</i>	GOST 2283-82.	E6-327-145-15
APPD	<i>[Signature]</i>	CONTROLLERATE OF QUALITY ASSURANCE (HEAVY VEHICLES)	
DATE	3-5-89	A V A D I	
SCALE	:- 2 : 1	TITLE	SPRING RING
DIMENSIONS IN mm			
TOLERANCE ON DIMS UNLESS OTHERWISE STATED IS 2102-69		D S CAT NUMBER	DRAWING NUMBER 327-210-2
ISSUE	A		
DATE	16-08-10	NATURE OF AMENDMENTS	
	4 th Alt. Comm. Meeting Minutes Point No.12 Dt:26-10-09	ALL THREADS TO CONFORM TO	

03



Материал, твердость, чистота обработки,
отклонение от сферичности и другие ТТ по
ГОСТ 3722-60.

MATERIAL, HARDNESS, SURFACE FINISH, DEVIATION FROM
SPHER SHAPE AND OTHER TECHNICAL REQUIREMENTS IN
ACCORDANCE WITH GOST 3722-60.

ВНИМАНИЕ! Уменьшение диаметра и формы

588
20 889

A-8

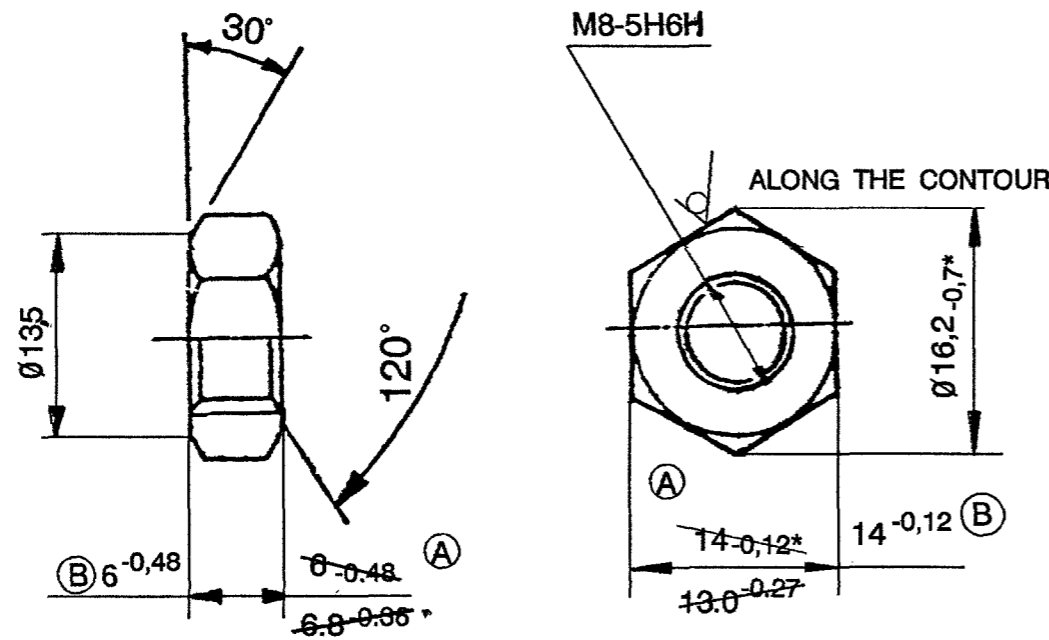
			EST. MASS 0.0001 Kg	TO BE STAMPED OR MARKED WHERE INDICATED THUS # LETTERS)
				ALL SHARP EDGES AND CORNERS TO BE REMOVED UNLESS OTHERWISE STATED MACHINED CORNERS TO HAVE R OUTSIDE R INSIDE EQUIVALENT CHAMFERS ARE PERMISSIBLE.
ISSUE	DATE	NATURE OF AMENDMENTS	MATERIAL:- Б IV 3mm H GOST 3722-60	USED ON:- CB 327 145 10 CB 327 145 15
DRN		SCALE - 5 : 1	CONTROLLERATE OF INSPECTION (HEAVY VEHICLES) AVADI	
CHD		DIMENSIONS IN mm.		TITLE:- BALL
TCD		TOLERANCE ON DIMNS UNLESS OTHERWISE STATED	D S CAT NUMBER	DRAWING NUMBER 327 211
APPD		ALL THREADS CONFORM TO		
DATE	08-5-1960			

(B. JAYAVELU)
JTO (D)

COMMON TO V-92S2 & UTD-20 ENGINES
DRG. INDIANISED BASED ON RUSSIAN ORIGINAL ISSUE -N/L

DRAWING NUMBER
351 - 02

Rz40/ (✓)



EXPLANATORY NOTE :

7. MATERIAL QUOTED :- HEXAGON BAR 14-4 GOST 8560-78
45-5 GOST 1051-73

ⓐ BRIGHT STEEL OF HEXAGONAL CROSS SECTION 14mm ACROSS FLAT, ACCURACY CLASS - 4 TO GOST 8560-78. AND MANUFACTURED FROM COLD DRAWN SIZED STEEL OF GROUP B SURFACE QUALITY TO GOST 1051-73.
ALTERNATE MATERIAL QUOTED - STEEL GRADE 40 & 50 TO GOST 1050-74.

CHEMICAL COMPOSITION :

STEEL GRADE	C O N T E N T O F E L E M E N T S %							
	C	Si	Mn	Cr(max)	S	P	Ni	Cu
40	0.37-0.45	0.17-0.37	0.50-0.80	0.25	0.040	0.035	0.10	0.15
45	0.42-0.50	0.17-0.37	0.50-0.80	0.25	0.040	0.035	0.10	0.15
50	0.47-0.55	0.17-0.37	0.50-0.80	0.25	0.040	0.035	0.10	0.15

MECHANICAL PROPERTIES :

STEEL GRADE	YIELD POINT Kg/mm ² (min)	ULTIMATE TENSILE STRENGTH Kg/mm ² (min)	PERCENTAGE ELONGATION (min)	REDUCTION OF AREA % (min)	IMPACT STRENGTH Kgfm/cm ² (min)
40	34	58	19	45	6
45	36	61	16	40	5
50	38	64	14	40	4

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 5.
2. ALTERNATE MATERIAL :- STEEL GRADES 40 AND 50 GOST 1050 - 74.
3. THE REST OF THE TECHNICAL REQUIREMENTS AS PER STANDARD 82052 - 00.
5. COATING :- Cd 3, CHROMATIZING AS PER UUL-104 WITH ELIMINATION OF HYDROGEN EMBRITTLEMENT.
6. *DIMENSIONS FOR REFERENCE.

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

- **
- ⓔ CQA(HV)5.06.606E
- ⓔ CQA(HV)5.06.610E
- ⓖ Cb 3312-90-9

Eb 20-01-00-8, Cb 20-06-12-6, Cb 20-06-13-6, Cb 20-09-07,
Cb 20-19-00-1, Cb 20-11-00-6, Cb 20-12-00-13, Cb 20-13-01-8,
Cb 20-20-00-10, Cb 20-22-00-7, Cb 20-08-00-7, Cb 3301-00-37,
Cb 306-01-20, Cb 306-02-20, Cb 306-03-3, Cb 306-04-2, Cb 321-04-4, Cb 447-01-1,
Cb 421-04-3, Cb 421-18-1, Cb 3301-00-44, Cb 3301-15-44, Cb 306-01-36,
Cb 306-02-36, Cb 3308-15-2, Cb 3312-90-14, Cb 419-00-20, Cb 3320-00-43,
Cb 315-663-33, Cb 3334-02-10, Cb 3336-00-11, Cb 337-100, Cb 3342-00-21.

USED ON:- **
ⓐ Cb 406-12-44
Cb 406-13-44
Cb 20-27-00-4
Cb 20-15-663-4
Cb 3342-00-8cb
Cb334-73-1
Cb3334-02-3
Cb327-145-10
ⓑ Cb327-145-15
Cb315-663-21

ISSUE	DATE	NATURE OF AMENDMENTS	DRN	Sd/=
G	04.01.22	USED ON NUMBER ADDED.	CHD	Sd/=
F	04.01.20	USED ON NUMBER DELETED.	TCD	Sd/=
E	15.7.15	Pt. 11, 7 th Alt. Comm. Meeting Dt. 11.4.12	APPD	Sd/=
D	18.5.09	Authy: Third Alt. Comm. Minutes Point: 5 Dated 27-02-2009.	DATE	08-05-86
C	25.8.08	USED ON NUMBER ADDED	SCALE:-	2:1
B	24-12-07	ALT. COMMITTEE MEETING MINUTES. POINT No. 2.18 Dt. 18-12-2007.	DIMENSIONS IN mm	
A	15-03-04	AUTHY. Lt. No.110094/IND-III/577, Dt. 19-02-04.	TOLERANCE ON DIMNS UNLESS OTHERWISE STATED IS: 2102 - 69	

MATERIAL :-
ⓐ 14-4 GOST 8560-78
ⓑ 45-5 GOST 1051-73

CONTROLLERATE OF QUALITY ASSURANCE (HEAVY VEHICLES)
AVADI

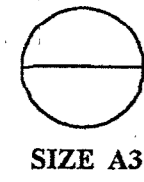
TITLE :-
NUT M8

D S CAT NUMBER
DRAWING NUMBER
351 - 02

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

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.

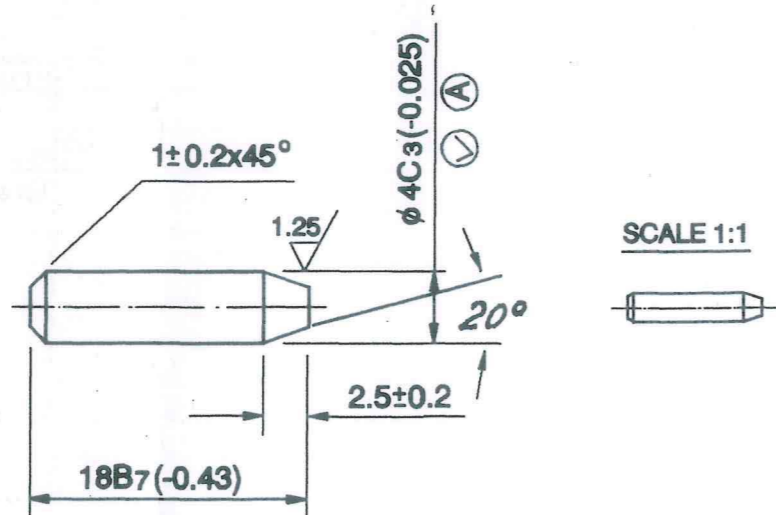


DRAWING RE-INDIANISED BASED ON RUSSIAN ORIGINAL ISSUE - NIL
COMMON TO V46-6 & V92S2

S.D.K.
(S.DEENADAYALAN)
SSO-I
28.01.2020

DRAWING NUMBER
352-22

Rz 40 (✓)



3. SHARP EDGES SHOULD BE BLUNTED.
4. COATING :- CHEMICAL OXIDIZING, OIL FINISHING.
5. ALTERNATE MATERIAL :- STEEL GRADES 40 AND 50, GOST 1050-70.
- Ⓐ 6. REPAIR SIZE DIMENSIONS ARE ADDED WHERE INDICATED THUS (✓) BASED ON OVERHAUL SPECIFICATION PART III REPAIR DRGS.

S.No.	R ₁	R ₂	REMARKS
1	φ4.3 ^{-0.025}	φ4.8 ^{-0.025}	ALL OTHER CONDITIONS AS PER STD DRG.

Ⓑ ALTERNATE MATERIAL : STEEL 080M40 (EN 8) TO BS:970 Pt I-1983 OR 45CB TO IS:1570

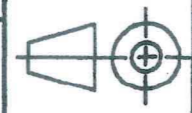
- Ⓓ Cb 306-04-2
- Cb 306-03-3
- Cb 306-02-36
- Cb 306-01-36
- Cb 306-02-20
- Cb 327.145.10
- ~~Cb 327.145.15~~ Ⓓ
- Ⓒ CQA(HV)5.06.605E
- ** CQA(HV)5.06.609E

PILOT SAMPLE SHOULD BE APPROVED BEFORE BULK PRODUCTION.

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

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

			DRN	-sd-	MATERIAL :-	USED ON :- Cb 306-01-20 **
			CHD	-sd-	ROUND BAR	GOST 7417-75 45 GOST 1051-73
			APPD	-sd-	CONTROLLERATE OF QUALITY ASSURANCE (HEAVY VEHICLES) AVADI	
			DATE	- 7-88		
			SCALE:- 2 : 1			
D	17.12.19	USED ON NUMBER ADDED	DIMENSIONS IN mm		TITLE :- ROUND PIN 4C₃x18	D S CAT NUMBER
C	15.7.15	7 th ALTERATION COMMITTEE MEETING MINUTES POINT No.11 DATED 11.04.12.	TOLERANCE ON DIMNS UNLESS OTHERWISE STATED IS : 2102 - 69			
B	19.8.09	3 rd ALTERATION COMMITTEE MEETING MINUTES POINT No.6 DATED 27-02-09.	ALL THREADS TO CONFORM TO			
A	20.1.96	REPAIR SIZE DIMNS ADDED			DRAWING NUMBER	352-22
ISSUE	DATE	NATURE OF AMENDMENTS				



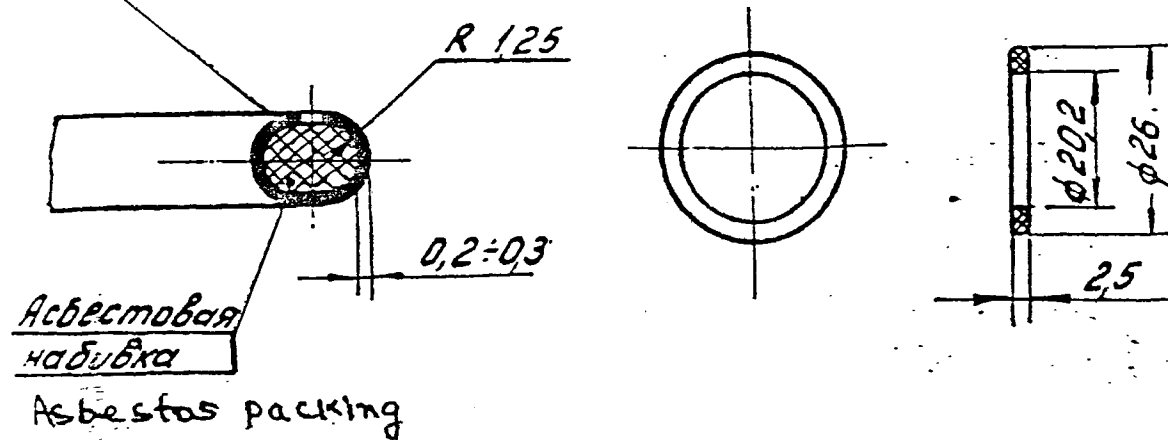
9
103

SIZE A3

DRAWING NUMBER
355-22

Scale
M5:1

Shell made of copper
Оболочка из
медной ленты
Strip



EXPLANATORY NOTE

MATERIAL QUOTED: M 3 & ASBESTOS

M 3 = GRADE OF COPPER SHEET (AS PER GOST 859-78)

ASBESTOS = GRADE KAP (KAP) ASBESTOS
AS A SOFTCORE IN A COMBINATION PACKING AT
JOINTS WITH MAX. COMBUSTION CHAMBER PRESSURE
UP TO 70Kgf/cm².

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

Cu + Ag = 99.5 (min)

IMPURITIES (MAX.)

Bi = 0.03 , Sb = 0.05 , As = 0.01 , Fe = 0.05 , Ni = 0.2 , Pb = 0.05,

Sn = 0.05 , S = 0.01 , O₂ = 0.08.

PHYSICAL & MECHANICAL PARAMETERS

ASBESTOS : GRADE KAP (KAP) AS PER GOST 2850-80.
THICKNESS : PREFERRED 2.5 ± 0.1 mm.

1. MAX. COMBUSTION CHAMBER PRESSURE = 70 Kg/cm²
2. WORKING TEMPERATURE = 400-500°C
3. DENSITY Kg/m³ = 900-1200
4. U T S Kg/cm² (MIN)
IN LONGITUDINAL DIRECTION = 25
IN TRANSVERSE DIRECTION = 15.
5. MOISTURE CONTENT % (max) = 3
6. LOSS OF WEIGHT BY CALCINATION (max) = 18%
7. RESISTANCE TO FIRE = MUST NOT BURN OR GET CHARRED.

KVD 63659
No:

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

EST. WT. 100
0.15 Kg PIECES 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.

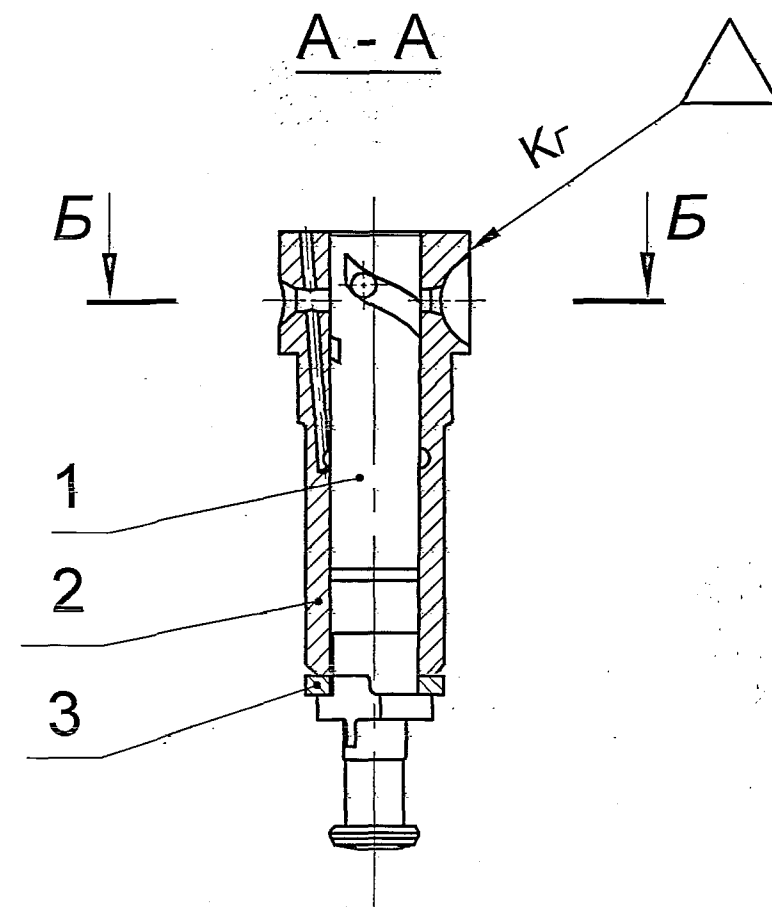
DRN	<i>[Signature]</i>	MATERIAL:-	USED ON C6 327-145-10
PHD	<i>[Signature]</i>	M3 AND ASBESTOS	C6 327-145-15
TCD	<i>[Signature]</i>	CONTROL RATE OF QUALITY ASSURANCE (HEAVY VEHICLES)	
APPO	<i>[Signature]</i>	AVADI	
DATE	23-7-89	TITLE	
SCALE:-	1:1	RING 20x26	
DIMENSIONS IN mm		D S CAT NUMBER	
TOLERANCE ON DIMMS		DRAWING NUMBER	
UNLESS OTHERWISE		355-22	
STATED IS:2102-69			
ALL THREADS TO			
CONFORM TO			
ISSUE DATE			
NATURE OF AMENDMENTS			

A
II

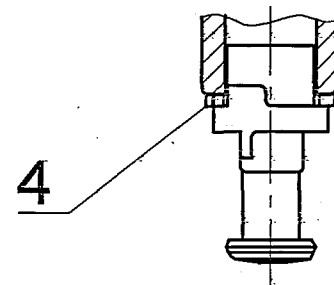
SIZE A3

DRAWING NUMBER
Cb.327-07-11

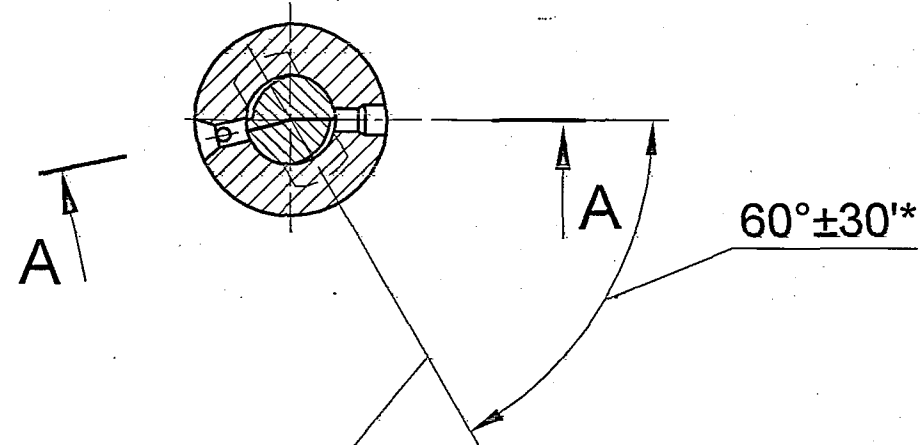
SHEET No. OF



ALTERNATE



B - B



Plunger dog(draw-bar) axle
during pressure testing

6. Before taking the first measurement, it is necessary to slightly press the end cap of the plunger barrel and force fuel out of the barrel by lowering the load by hand thus release the plunger barrel,bring up the load and sink the plunger barrel and take the first measurement. The load of the test stand creates a pressure of $210 \pm 10 \text{ kgf/cm}^2$ in the plunger barrel given for calculating the kinematic stand.
7. Preservation and storage of precision pair should be as per manufacturers instruction *ЦЗП depending upon storage life.*
8. *It is permitted to manufacture precision pair together by lapping. In this case, change in direction of conicity of lapped surfaces of plunger and plunger barrel is not allowed. Acceptance for airtightness test is carried on stand as per standard precision pairs as specified in the instruction IB-46-1.*
9. *Part (item 3) or Part (item 4) should be mounted for protecting from damage of upper edge of plunger while despatching as a spare. Remove gaskets before installing the precision pair on to the pump.*
10. *Dents and cracks on the edges and damaged edges on the finished surfaces of the precision components are not allowed.*
11. ** Dimension is given for reference*

1. Compound lapped parts, i.e plunger and barrel (item 1 & 2) comprise a precision pair, in which replacement of one part with similar part from other precision pair is not allowed.
2. Plunger preliminarily washed together with plunger barrel in diesel fuel, should smooth by descend down to the stop by gravity when it moves out of the barrel in vertical position by 20-25 mm. Check in different positions against angle of turn of the plunger in the barrel.
3. Diametrical clearance between plunger and plunger barrel should not be less than 0.001mm. Maximum clearance is restricted to precision plunger pairs as specified in instruction *IB-46-1* from time to time drop of load for 15 seconds.
4. Acceptance for air tightness should be carried out with mixture of oil and fuel (diesel) having a viscosity of 9.9-10.9 CCT Before pouring in the tank mix together very well.
5. Residue of vaseline or other type of lubricant is not allowed on the surface of plunger and plunger barrel. The precision pairs should be washed thoroughly with filtered diesel fuel before testing.

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

EST. WT. (kg) 0.166	TO BE STAMPED OR MARKED WHERE INDICATED THUS # (LETTERS)
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ALL SHARP EDGES AND CORNERS TO BE REMOVED UNLESS OTHERWISE STATED MACHINED CORNERS TO HAVE R OUT-SIDE R INSIDE EQUIVALENT CHAMFERS ARE PERMISSIBLE.

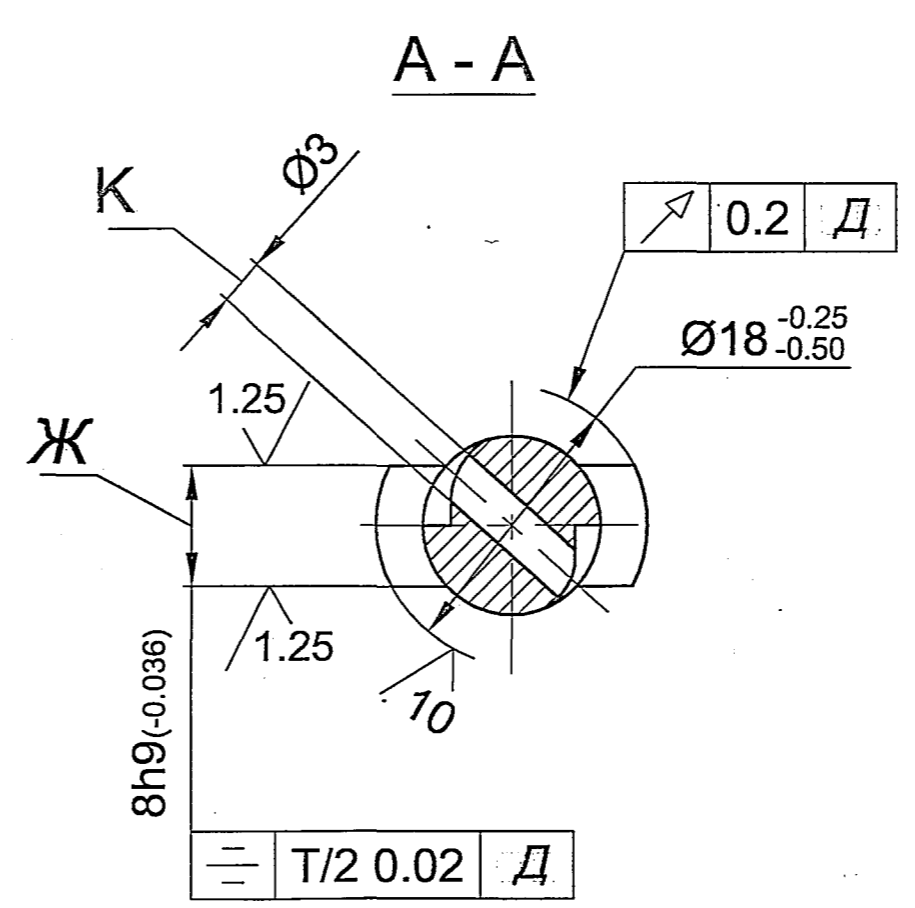
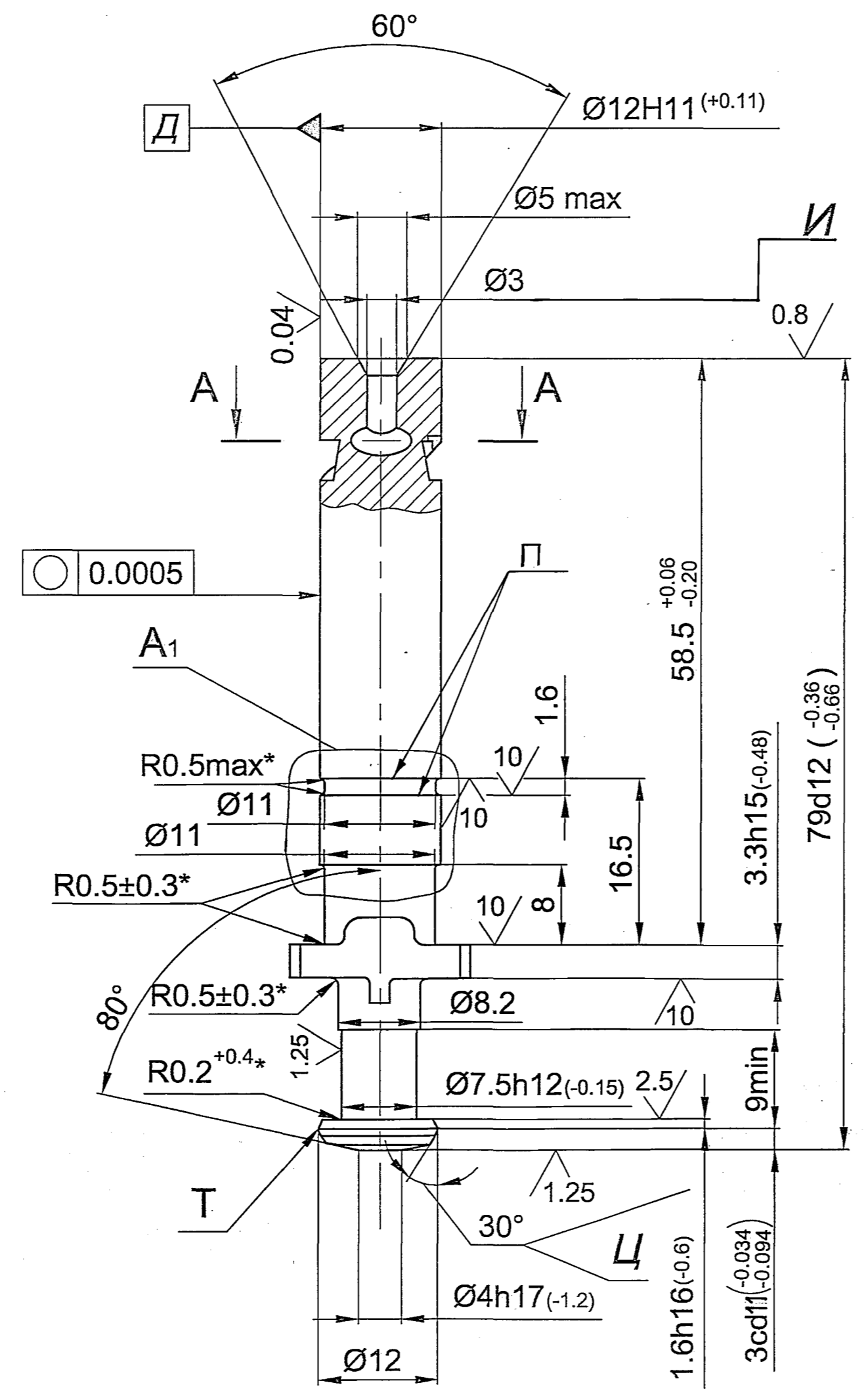
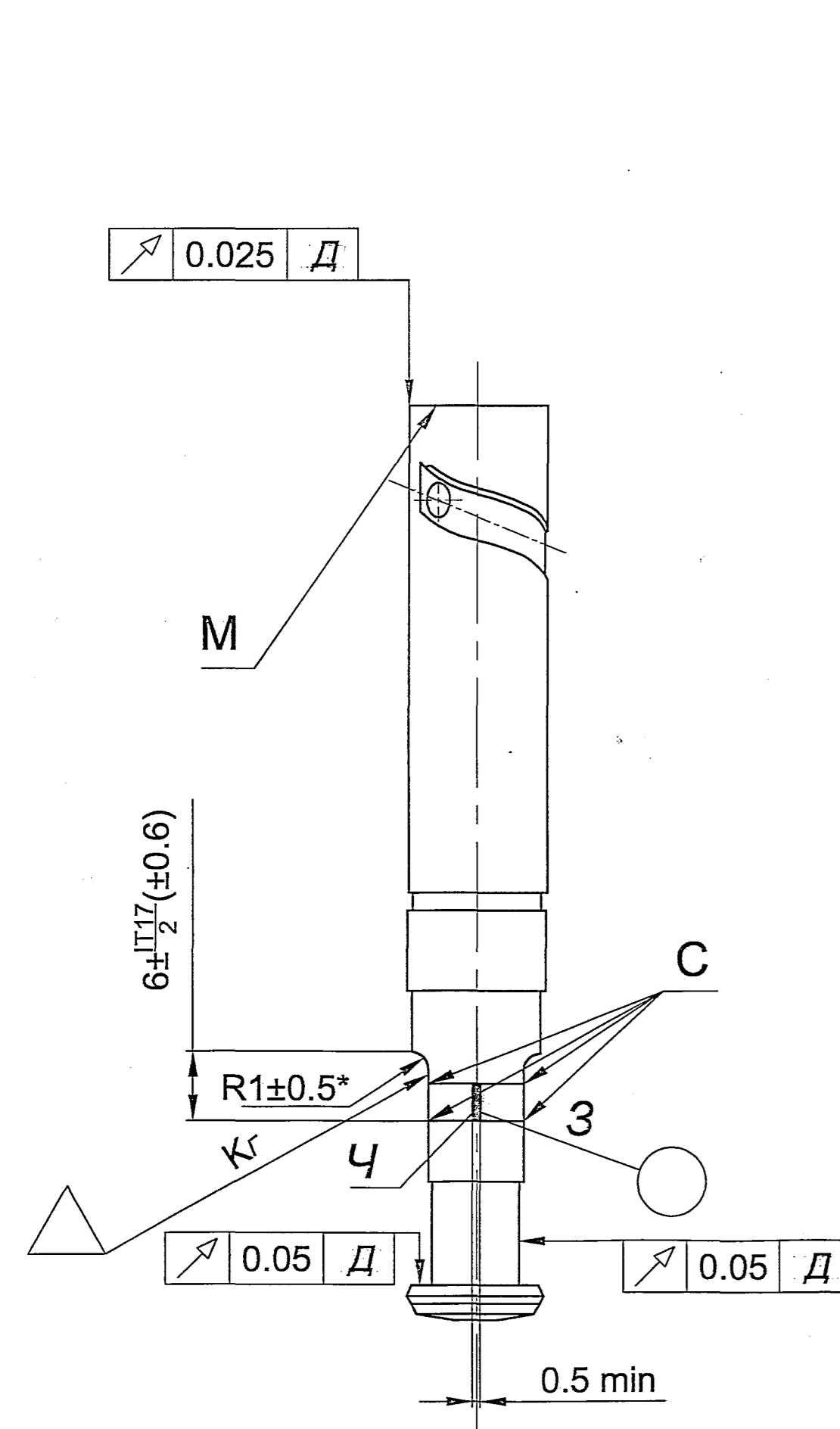
DRN	CHD	APPD	DATE	MATERIAL :-	USED ON :- Cb 327-00-73 Cb 327-00-47-01
			09/11/07	CONTROLLERATE OF QUALITY ASSURANCE (HEAVY VEHICLES) AVADI	
SCALE:- 1:1				TITLE :-	
DIMENSIONS IN mm				PUMP ELEMENT ASSY.	
TOLERANCE ON DIMNS UNLESS OTHERWISE STATED IS : 2102 - 69				D S CAT NUMBER	
ALL THREADS TO CONFORM TO				DRAWING NUMBER Cb.327-07-11	
ISSUE	DATE	NATURE OF AMENDMENTS			

DRAWING INDIANISED BASED ON RUSSIAN ORIGINAL ISSUE - 3
COMMON TO V-46-6

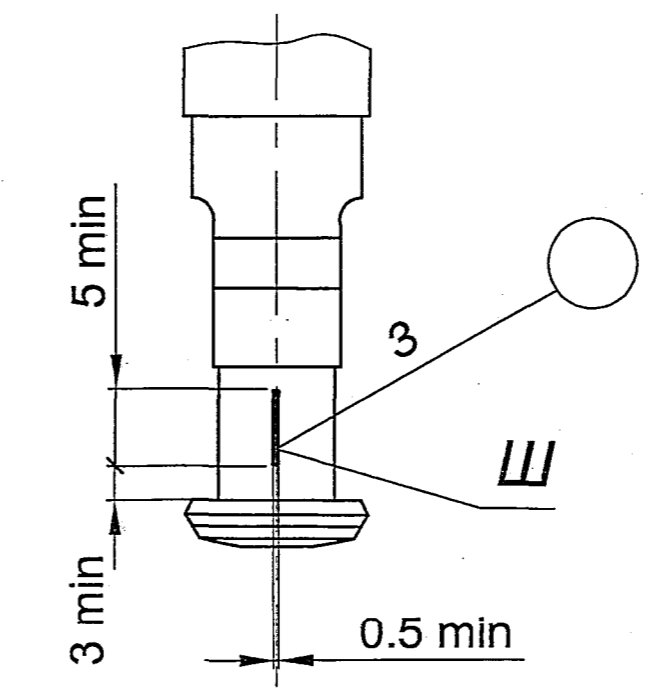
F-5
18
283

SIZE A4 x 3

DRAWING NUMBER
327-57-14

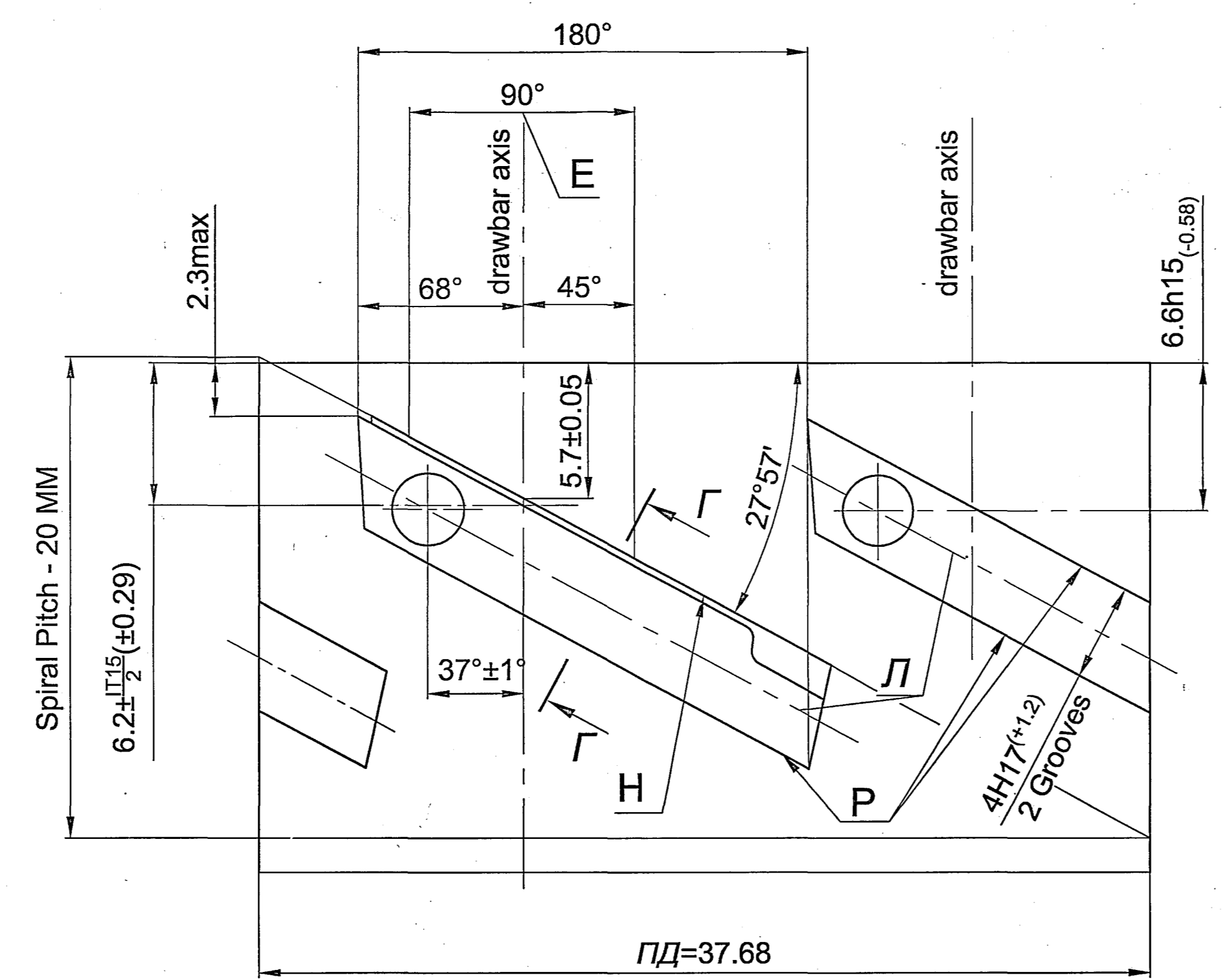


VIEW B ALTERNATIVE

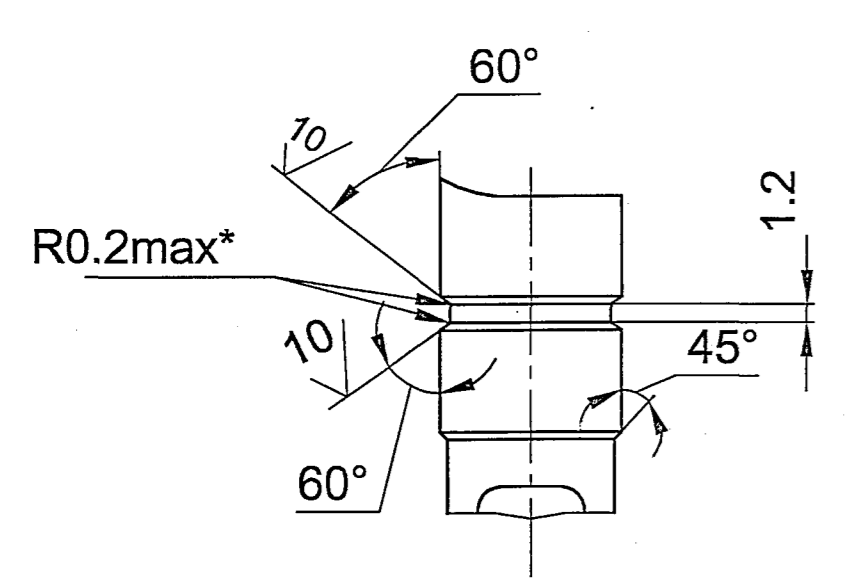


1. Inspection group is III as per T.T-11.
2. HRC_s 61...64.
3. Carryout heat treatment by maintaining the dimensions.
4. Thoroughly clean the surfaces which are not machined after heat treatment.
5. Unspecified limit deviations of dimensions for holes as per H14, for the shafts as per h14, and for others - $\pm \frac{IT14}{2}$.
6. Valve seat shape and barrel shape of surface D (semi - difference of dimensions, in compliance with Gost 24642-81) is maximum 0.001 mm.
7. Conicity of surface D (half difference of dimension in compliance with Gost 24642-81) is max 0.0008mm.
8. Max permissible conicity of surface D should be on the face of distributing edge side.
9. Deviation of distributing edge from specified configuration and specified angle of its position measured in the direction of the generatrix should not exceed 0.02mm on working length of edge (section E), (Check at distance of maximum 0.5mm from surface D).
10. Maintain dimension Ж along a minimum length of 4mm on each side.
11. Hole I should be open into hole K along the whole diameter.
12. Hole K should be open into slots Л along the whole diameter.
13. Surface of holes I and K should be clean. Presence of scale and salts is not allowed.
14. Edges M and H should be sharp, without nicks, burrs and chips.
15. Edges П and P should be sharp without burrs.
16. Roundoff edges C to a radius or chamfer of maximum 0.4mm.
17. Roundoff edge T to a radius or chamfer of 0.1...0.3mm.
18. Carryout coating of chemically oxidised oiled, except surface D. Local coating damages are allowed in machining.
19. Straightening is not allowed in any of the operations.
20. It is allowed to make a recess upto of max 0.3mm on surface Ø, during grinding the surface Y.
21. Score while drilling the hole I, drillmark upto 1.5 deep is allowed on surface K.
22. It is not allowed to make Chamfer Л.
23. Put marks Ч and Ш on grounded edge side of spiral.
24. Check the part in magnetic flaw detector, and carryout approval as per Technical Requirement IB-17.
25. * Dimensions are ensured by tool.

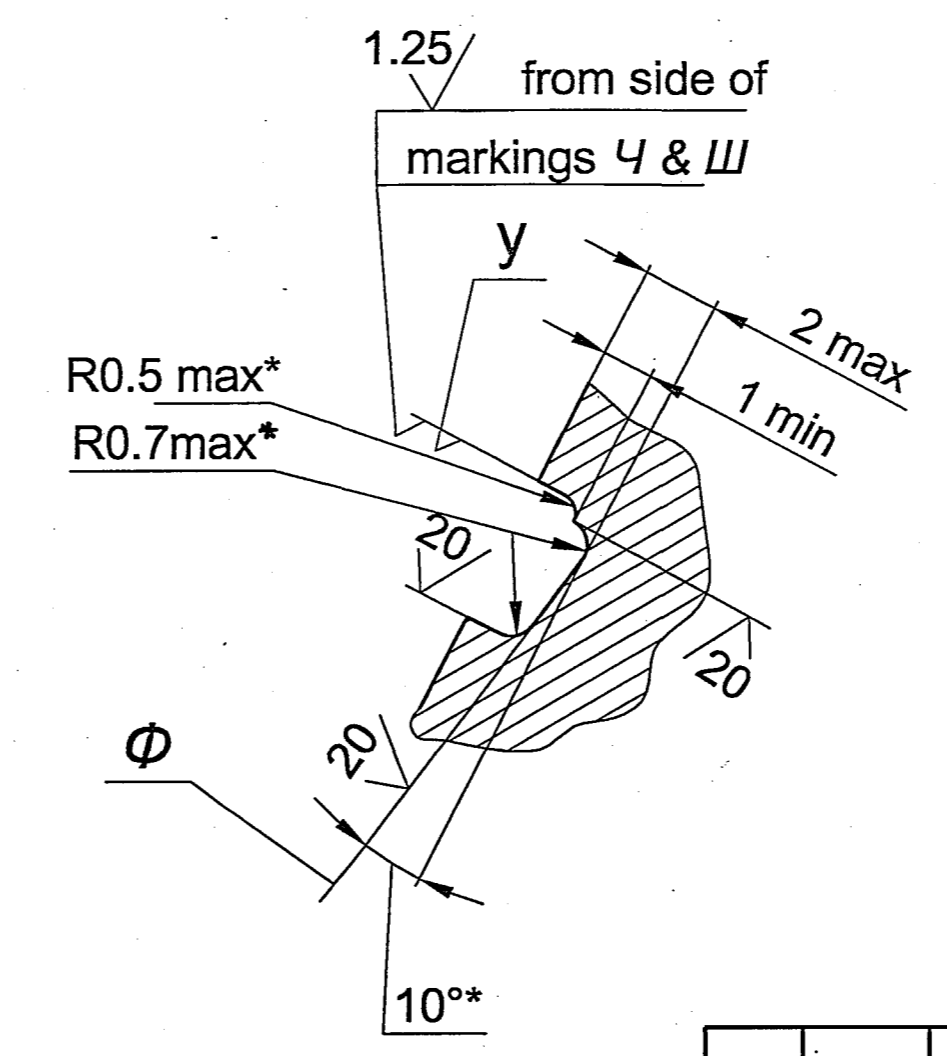
DEVELOPED VIEW OF PLUNGER SURFACE
M 5:1



A₁ ALTERNATIVE



Г-Г
M 5:1



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

EST. WT. 0.059 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.

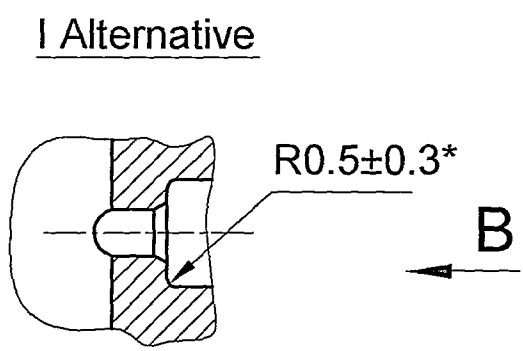
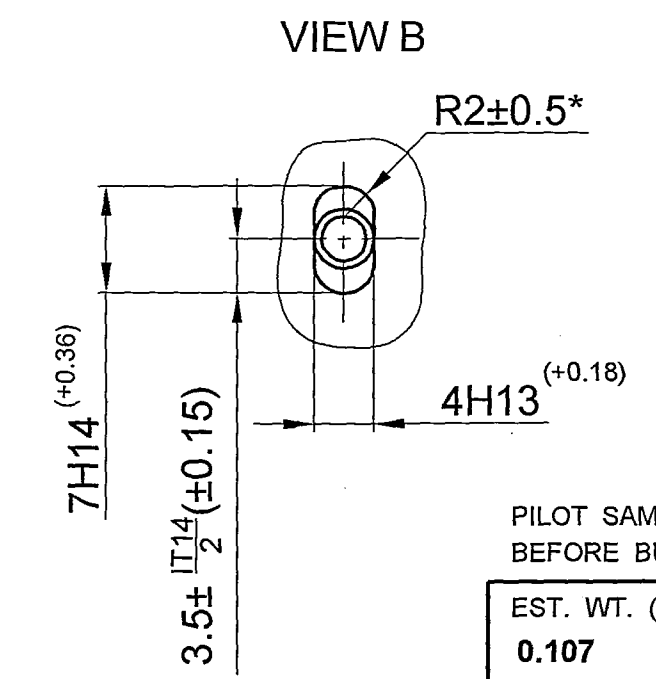
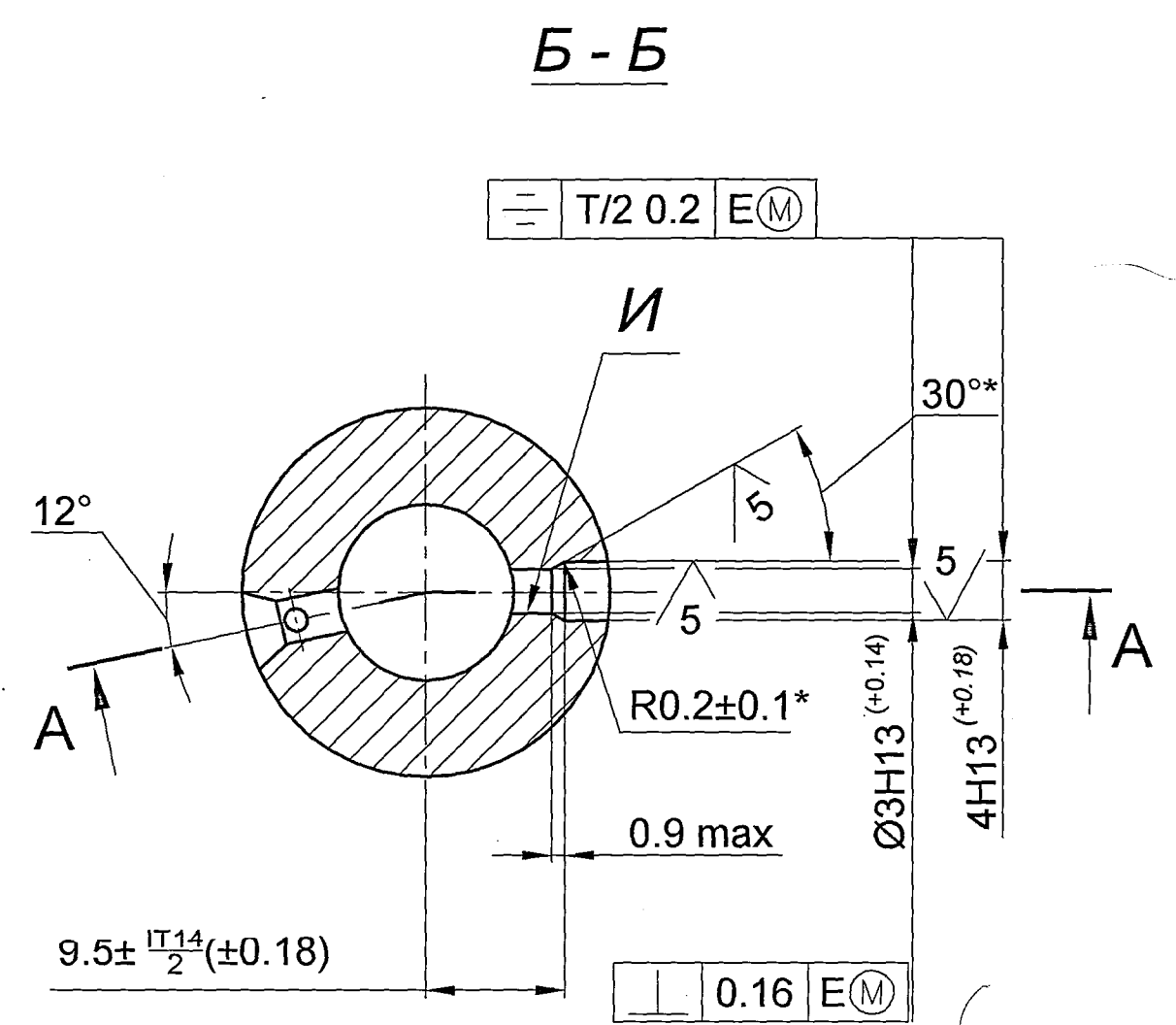
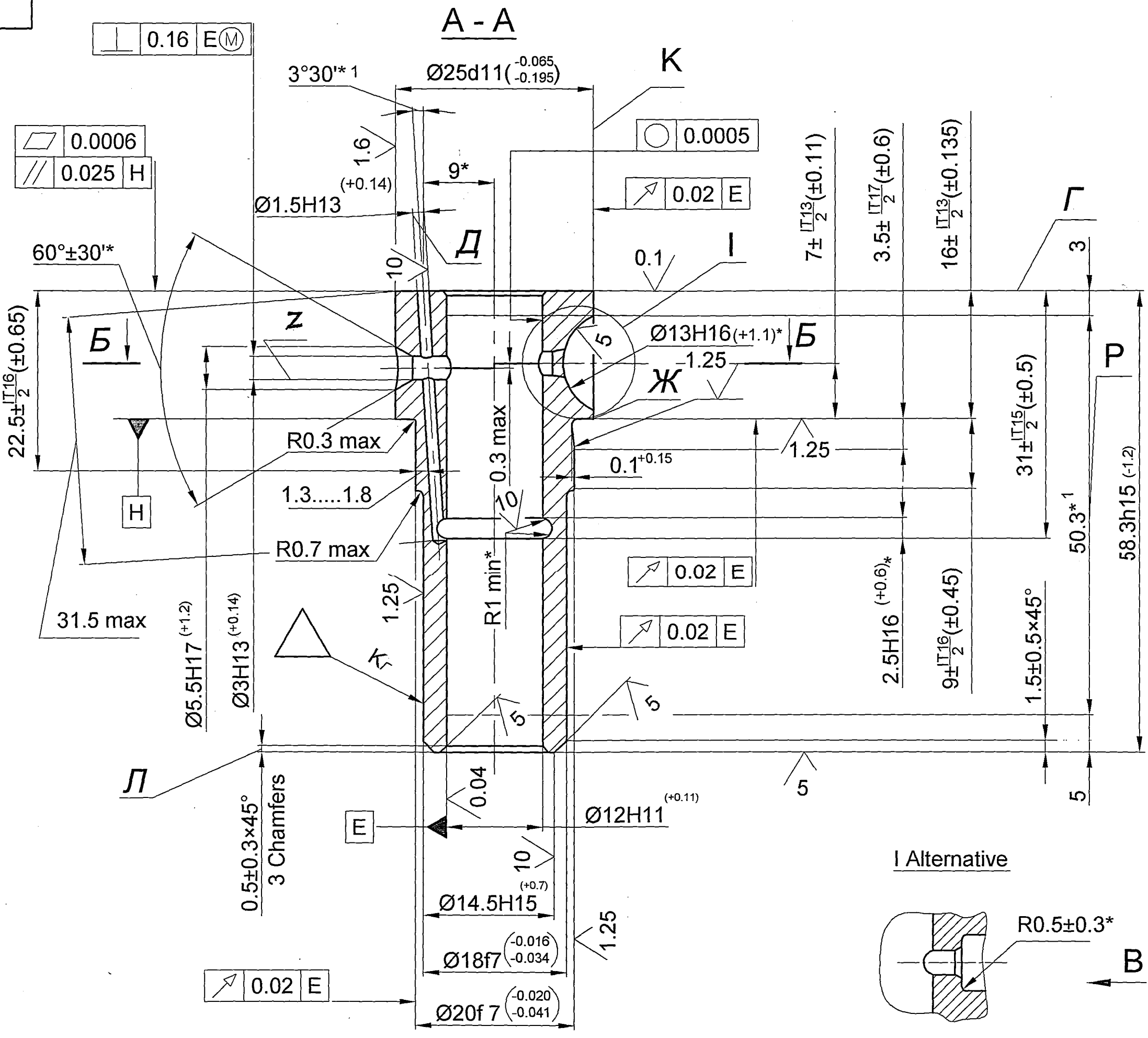
DRN	CHD	TCD	APPD	DATE	SCALE	DIMENSIONS IN mm	TOLERANCE ON DIMS UNLESS OTHERWISE STATED IS: 2102-69	ALL THREADS TO CONFORM TO	ISSUE	DATE	NATURE OF AMENDMENTS	MATERIAL: ROUND 19-Г-h11 GOST 14955-77 ИХ15-0-ХВ GOST 801-78	USED ON: Sb-327-07-11	CONTROLLERATE OF QUALITY ASSURANCE (HEAVY VEHICLES) AVADI	TITLE: PLUNGER	D S CAT NUMBER	DRAWING NUMBER 327-57-14
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DRAWING INDIAISED BASED ON RUSSIAN ORIGINAL ISSUE - 7

F-5
49
283
SIZE A1

DRAWING NUMBER
327-58-9

SHEET No. OF



13. Correction work is not allowed in any operation.
14. Local sinking of surface K by 0.03mm over a width of 6mm in the suction hole plane and slot is allowed.
15. Rounding off upto 0.7mm instead of chamfers Л is allowed.
16. Check the part in magnetic fault detector and carryout acceptance as per instruction ТТИВ-17.
17. * Dimensions are ensured by tool.
18. *¹ Dimensions are given for reference.

1. Inspection group is III as per Т.Т-11.
2. HRCэ 61...64.
3. Carryout heat treatment by maintaining the dimensions.
4. Surfaces not to be machined after heat treatment and surface of groove Д should be thoroughly cleaned off scales.
5. Valve seat shape and barrel shape of surface E (half difference of diameters, in compliance with Gost 24642-81) is maximum 0.001mm along the length P.
6. Conicity of surface E (Semi difference of diameters in correspondance with Gost 24642-81) and is max 0.0008mm along the length P.
7. Max diameter of allowed conicity of surface E should form the lower portion of the surface.
8. Checking the nonflatness of surface Г is allowed by straight edge. Clearance is not allowed.
9. During drilling the groove Д, care should be taken so that it opens out to the channel.
10. Roundoff the edge Ж to radius or to chamfer 0.2..0.5mm.
11. Edges of holes Z and И from sleeve's internal side of plunger barrel should be sharp, without nicks, chippings and burrs.
12. Coating: chemically oxidised, oiled except surface Г and E. Local external coating is allowed during machining.

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

EST. WT. (kg) 0.107 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	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
			09/04/09						327-58-9
MATERIAL :- ROUND 28.5-F-H11 GOST 14955-77 ШХ15-0-ХВ GOST 801-78				USED ON :- Cb 327-07-11		CONTROLLERATE OF QUALITY ASSURANCE (HEAVY VEHICLES) AVADI			
TITLE :- PLUNGER BARREL									
ISSUE		DATE		NATURE OF AMENDMENTS					

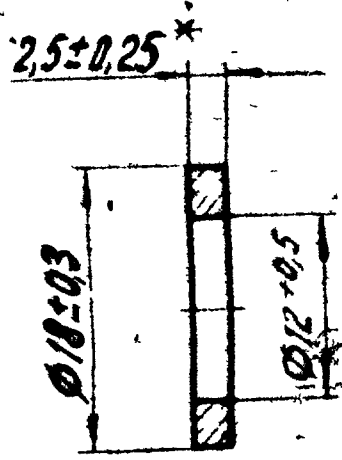
F-5
50
283

SIZE A4 x 4

ИТС ОУЕ



20-27



1. DIMENSIONS ARE PROVIDED WITH TOOLS
2. * DIMENSION IS GIVEN FOR REFERENCE:

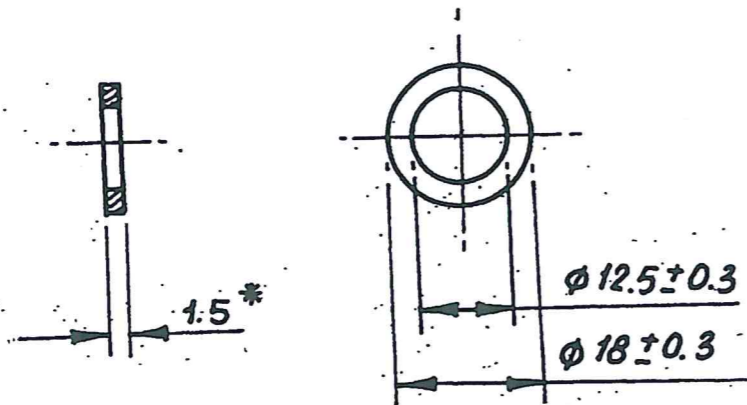
* CB 327-00-45

Универсальный станок

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

		EST MASS	TO BE STAMPED OR MARKED WHERE INDICATED THUS #
		0 0004 Kg	LETTERS)
		ALL SHARP EDGES AND CORNERS TO BE REMOVED UNLESS OTHERWISE STATED MACHINED CORNERS TO HAVE R OUTSIDE R INSIDE EQUIVALENT CHAMFERS ARE PERMISSIBLE	
ISSUE	DATE	NATURE OF AMENDMENTS	MATERIAL - FIBRE $\text{Ø}T$ / USED ON - CB 3327-1-2
DRN		SCALE - 2 : 1	2 5 GOST 14613-69 / * CB 327-07-1
CHD		DIMENSIONS IN mm	CONTROLLERATE OF INSPECTION (HEAVY VEHICLES) AVADI
TCR		TOLERANCE ON DIMMS UNLESS OTHERWISE STATED	□ ⊕ TITLE - GASKET 2.5 mm or 1.5mm
APPD		ALL THREADS CONFORM TO	DRAWING NUMBER 329-31A
DATE	24.04.87		

DRAWING NUMBER
340-183



- ALTERNATE MATERIAL IS BINDERS BOARD 1.5 TO 3mm THICK, GOST 7950-77, CALIBRATED BOARD 15 TO 3mm THICK, GOST 1933-73 OR GASKET BOARD A 1.5 GOST 9347-74
- * DIMENSIONS ARE GIVEN FOR REFERENCE.

EXPLANATORY NOTE:

MATERIAL QUOTED: B 1.5 GOST 9347-74
 B = GRADE OF CARD BOARD MATERIAL (UNIMPREGNATED)
 1.5 = THICKNESS OF CARD BOARD

TECHNICAL PARAMETER:

- ABSORPTIVITY, AFTER 6 HOURS OF COMPLETE IMMERSION IN WATER % = ~~60 (MAX)~~ 120 (MAX) (A)
- ULTIMATE TENSILE STRENGTH IN TRANSVERSE DIRECTION kgf/mm^2 = ~~1.4 (MIN)~~ 1.6 (MIN) (A)
- LINEAR DEFORMATION IN TRANSVERSE DIRECTION AFTER HOLDING THE SAMPLE IN HYDROSTAT FOR 24 HOURS % = 0.8 (MAX)
- MOISTURE CONTENT % = ~~12 ± 2~~ 10 ± 2 (A)
- COMPRESSIBILITY UNDER A LOAD OF ~~70 kgf/cm^2~~ % = ~~12-25~~ (A)
- ELASTIC DEFORMATION AFTER REMOVING THE LOAD % = ~~45 (MIN)~~ (A)

EXPLANATORY NOTE ADDED ON 18-6-92

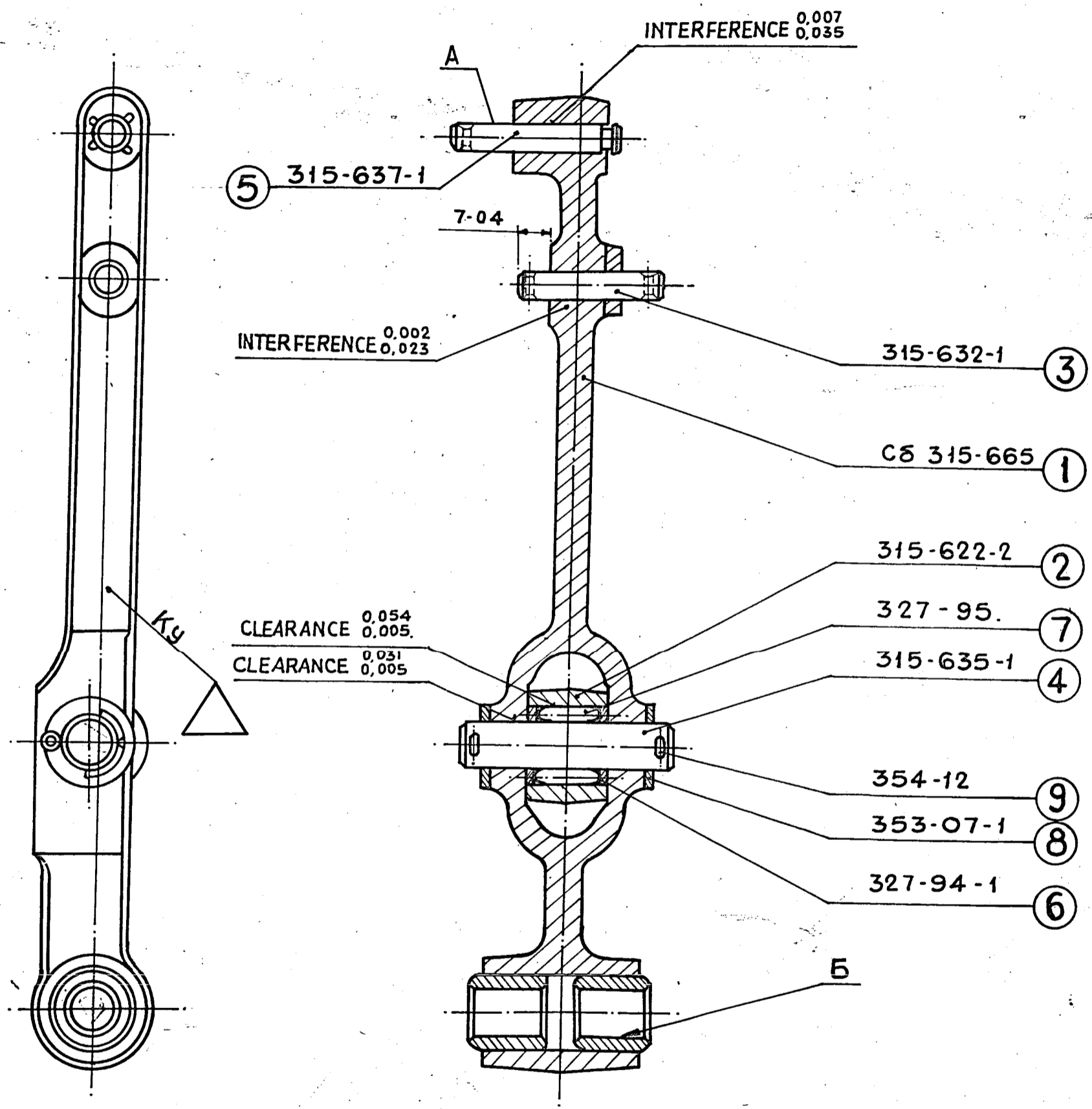
PILOT SAMPLE SHOULD BE APPROVED BY A H'S P BEFORE BULK PRODUCTION

EST. WT. 0.003 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		MATERIAL:- B 1.5	USED ON
CHD	<i>24-4-87</i>	GOST 9347-74	C6327-07-2
TCD	<i>Shrey</i>		
APPD	<i>24</i>		
DATE	24-4-87	CONTROLLERATE OF QUALITY ASSURANCE (HEAVY VEHICLES) AVADI.	
SCALE:-	1:1		
DIMENSIONS IN mm			TITLE
TOLERANCE ON DIMNS UNLESS OTHERWISE STATED IS: 2102-69.			GASKET
ALL THREADS TO CONFORM TO		D. S CAT NUMBER	DRAWING NUMBER
			340-183
A...	20.11.18	D.O CORRECTION.	
ISSUE	DATE	NATURE OF AMENDMENTS	

DRAWING NUMBER
CB 315-662-3



1. NON-PARALLELISM AND CROSSING OF AXES OF SURFACES "A" AND "B" SHOULD NOT EXCEED 0.05mm ON A LENGTH OF 10 mm.
2. HOLES FOR COTTER PINS IN COMPONENT 315-632-1 SHOULD BE LOCATED AT AN ANGLE OF NOT MORE THAN 30° RELATIVE TO THE VERTICAL X-AXIS TO ANY SIZE.
3. IN ASSEMBLED LEVER ROLLERS 327-95 SHOULD BE OF THE SAME SIZE TOLERANCE 0.003mm.
4. ROLLER 315-622-2 SHOULD ROTATE SMOOTHLY WITHOUT JAMMING.
5. INSTALLATION OF OXIDIZED COTTER PINS IS PERMITTED.

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

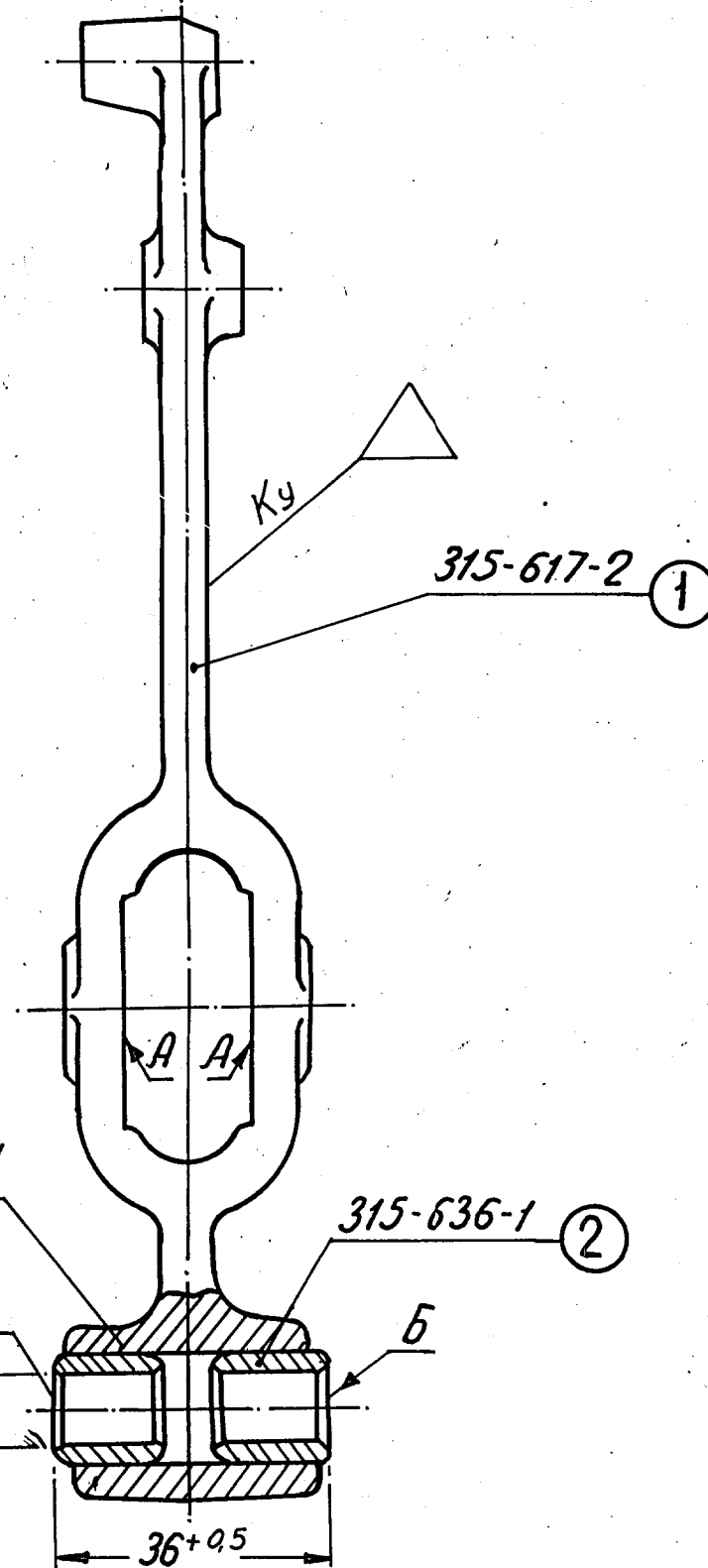
EST WT 0.355kg.	TO BE STAMPED OR MARKED WHERE INDICATED THUS II (LETTERS)
ALL SHARP EDGES AND CORNERS TO BE REMOVED UNLESS OTHERWISE STATED MACHINED CORNERS TO HAVE R OUT-SIDE R INSIDE EQUIVALENT CHAMFERS ARE PERMISSIBLE	

DRN	llp	MATERIAL	USED ON
CHD	<i>[Signature]</i>		CB 327-00-45
TCO	<i>[Signature]</i>	CONTROLLERATE OF INSPECTION(HEAVY VEHICLES) AVADI	TITLE GOVERNOR LEVER
APPD	<i>[Signature]</i>		
DATE	03.5.86	D S CAT NUMBER	DRAWING NUMBER CB 315-662-3
SCALE 1 : 1			
DIMENSION IN mm		TOLERANCE ON DIMNS UNLESS OTHERWISE STATED IS	
ALL THREADS TO CONFORM TO			
ISSUE	DATE	NATURE OF AMENDMENTS	

(A6)
SIZE A2

DRAWING NUMBER

CB 315-665



1. SHIFT OF SURFACES "A" RELATIVE TO THE AXIS OF SYMMETRY OF SURFACES B SHOULD NOT EXCEED 0.25mm.
2. BURRS SHOULD BE DRESSED.

INTERFERENCE 0.01
0.08

315-636-1 (2)

315-617-2 (1)

1.25

$\phi 10.03^{+0.03}$

$36^{+0.5}$

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

EST WT
0.252 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

Doc
Rajiv
Sharma
Kumar
09-5-86

MATERIAL

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USED ON

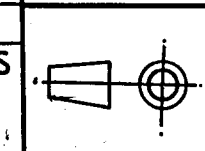
CB 315-662-3

CONTROLLERATE OF INSPECTION(HEAVY VEHICLES)
AVADI

SCALE 1 : 1

DIMENSION IN mm

TOLERANCE ON DIMNS UNLESS OTHERWISE STATED



TITLE

LEVER

ALL THREADS TO CONFORM TO

D S CAT NUMBER

DRAWING NUMBER

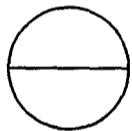
CB 315-665

ISSUE	DATE	NATURE OF AMENDMENTS

A8

SIZE A3

SHEET 2 CREATED ISSUE-"A", BASED ON CQA(HV) NOTING No. 111909/CQA(HV)/DB/ENG/T-90/ALT.COMM dt. 05 Aug 2020 & POINT No.3 OF 14TH ACM.



DRAWING NUMBER
315-617-2

SHEET No. 2 OF 2

EXPLANATORY NOTE:

Material Quoted: Steel 20 GOST 1050-74.

Alternate Material as per TR Point No.11 - Steel Grade 30, 35, 40 & 45 TO GOST 1050-74

CHEMICAL COMPOSITION: AS PER GOST 1050-74

CONTENT OF ELEMENTS %								
GRADE OF STEEL	C	Si	Mn	Cr	S	P	Cu	Ni
				Maximum				
20	0.17 - 0.24	0.17 - 0.37	0.35 - 0.65	0.25	0.040	0.035	0.25	0.25
30	0.27 - 0.35	0.17 - 0.37	0.50 - 0.80	0.25	0.040	0.035	0.25	0.25
35	0.32 - 0.40	0.17 - 0.37	0.50 - 0.80	0.25	0.040	0.035	0.25	0.25
40	0.37 - 0.45	0.17 - 0.37	0.50 - 0.80	0.25	0.040	0.035	0.25	0.25
45	0.42 - 0.50	0.17 - 0.37	0.50 - 0.80	0.25	0.040	0.035	0.25	0.25

MECHANICAL PROPERTIES: AS PER GOST 1050-74

GRADE OF STEEL	Yield Point Kg/mm ²	Ultimate Tensile Strength Kg/mm ²	Percentage of Elongation ϵ_5 %	Reduction of Area %	Impact Strength Kg.m/cm ²
20	25	42	25	55	—
30	30	50	21	50	8
35	32	54	20	45	7
40	34	58	19	45	6
45	36	61	16	40	5

Note : Any other parameters given in specification to be adhered in ToTo.

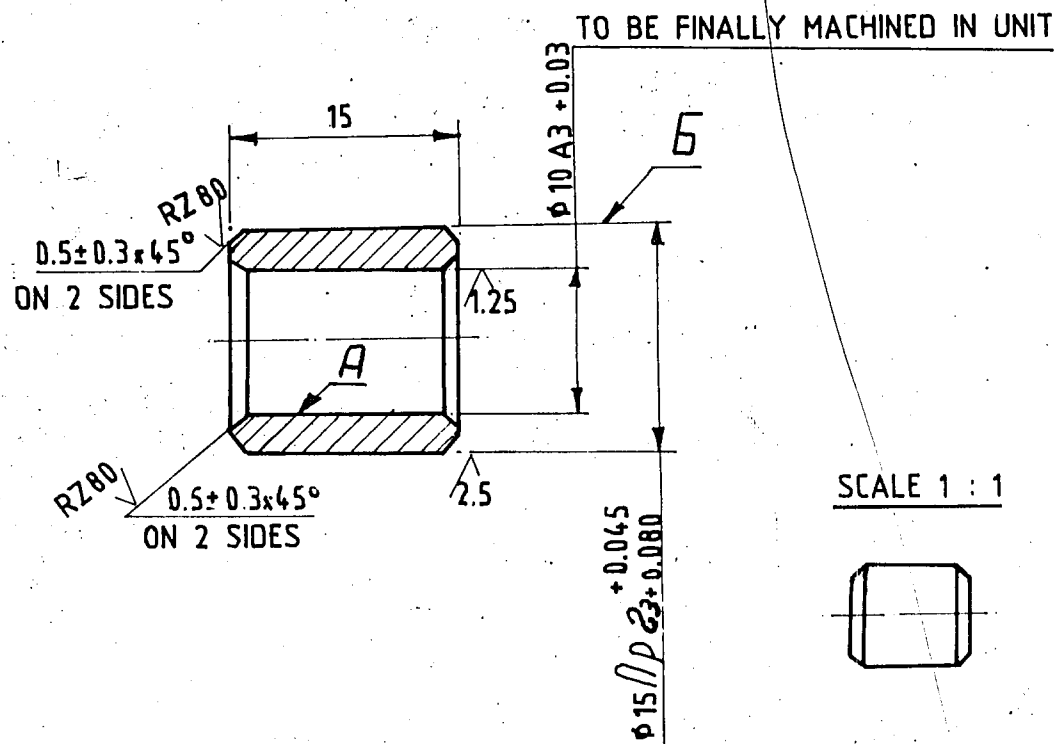
PILOT SAMPLE SHOULD BE APPROVED BY A H S P BEFORE BULK PRODUCTION.

		EST. WT. Refer Sht 1 of 2	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.		
		MATERIAL :- Refer Sht 1 of 2	USED ON :- Refer Sht 1 of 2	
ISSUE	DATE	NATURE OF AMENDMENTS		
DRN <i>[Signature]</i>		SCALE :- —	CONTROLLERATE OF QUALITY ASSURANCE (HEAVY VEHICLES) AVADI	
CHD <i>[Signature]</i>		DIMENSIONS IN mm		
APPD <i>[Signature]</i>		TOLERANCE ON DIMENSIONS UNLESS OTHERWISE STATED IS : 2102 - 69	TITLE :- REGULATOR LEVER	
DATE 09 Jul 2022		ALL THREADS TO CONFORM TO	D S CAT NUMBER	DRAWING NUMBER 315-617-2 SHT 2 of 2
SIZE A4				

DRAWING NUMBER

315-636-1

Rz20 (✓)



1. DIMENSIONS WITH UNSPECIFIED DEVIATIONS SHOULD BE OBTAINED AS PER ACCURACY CLASS 7 OST 1010.
2. RUN-OUT OF SURFACE B RELATIVE TO SURFACE A SHOULD NOT EXCEED 0.05mm.

EXPLANATORY NOTE:

MATERIAL QUOTED: LC 59-1 GOST 15527-70
LC 59-1 GRADE OF BRASS

CHEMICAL COMPOSITION (AS PER GOST 15527-70) %

COPPER : 57.0 - 60.0
LEAD : 0.8 - 1.5
ZINC : REMAINDER

ADMIXTURES

IRON : 0.5 (MAX) ANTIMONY : 0.010 (MAX)
BISMUTH : 0.003 (MAX) PHOSPHORUS : 0.02 (MAX)
TIN : 0.30 (MAX) TOTAL : 0.75 (MAX)

KVD No. 63490

A6
SIZE A3

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

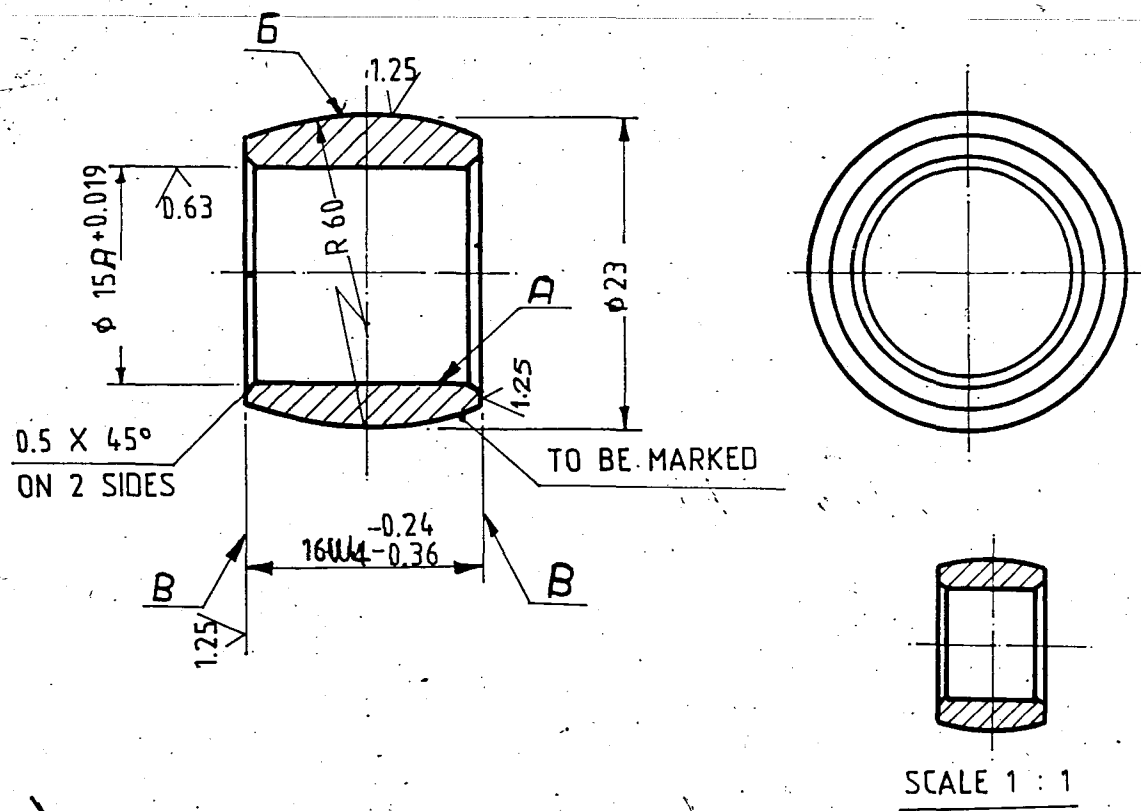
EST WT 0.012 Kg
TO BE STAMPED OR MARKED WHERE INDICATED THUS # LETTERS)

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>None</i>	MATERIAL	USED ON: CB 20-15-665-5
			CHD <i>None</i>	BRASS LC 59-1	CB 315-665
			TCD <i>None</i>	GOST 15527-70	
			APPD <i>None</i>	CONTROLLERATE OF INSPECTION (HEAVY VEHICLES)	
			DATE 08-5-'86	AVADI	
			SCALE 1 : 1	TITLE VARIABLE SPEED GOVERNOR LEVER BUSHING	
			DIMENSIONS IN mm		
			TOLERANCE ON DIMNS UNLESS OTHERWISE STATED		
			ALL THREADS TO CONFORM TO	D S CAT NUMBER	DRAWING NUMBER 315-636-1
8	7	6	ISSUE	DATE	NATURE OF AMENDMENTS

DRAWING NUMBER
315-622-2

✓(✓)



1. INSPECTION GROUP III, TT-11.
2. DIMENSIONS WITH UNSPECIFIED TOLERANCES SHOULD BE OBTAINED AS PER A7 OR B7 OST 1010.
HRC₃61..... 64
3. ~~HRC = 60-63~~
4. RUN-OUT OF SURFACES "B" RELATIVE TO SURFACE "A" SHOULD NOT EXCEED AT DIA. 18mm.
5. RUN-OUT OF SURFACE "B" RELATIVE TO SURFACE "A" SHOULD NOT EXCEED 0.05mm.
6. SHIFT OF SPHERE CENTRE FROM THE AXIS OF SYMMETRY OF SURFACES "B" SHOULD NOT EXCEED 0.3mm.
7. SHARP EDGES SHOULD BE BLUNTED.
8. COATING :-CHEMICAL OXIDIZING, OIL FINISHING.

EXPLANATORY NOTE :

(B) MATERIAL QUOTED: STEEL U_X15 GOST 801-78.
BALL BEARING STEEL WITH CHROMIUM (X) CONTENT 15% BY WEIGHT.

a) CHEMICAL COMPOSITION :

CARBON	= 0.95 - 1.05	COPPER	= 0.25 (max)
SILICON	= 0.17 - 0.37	NICKEL & COPPER	= 0.50 (max)
MANGANESE	= 0.20 - 0.40		
CHROMIUM	= 1.30 - 1.65		
SULPHUR	= 0.02 (max)		
PHOSPHORUS	= 0.02 (max)		
NICKEL	= 0.30 (max)		

* ROUND BLANK ^(B) 25.5-Г-4 GOST 14955-77
U_X 15-0-XB GOST 801-78

(C) EQUIVALENT MATERIAL
STEEL 535A 99 (EN31) TO BS: 970/103
CR 2 TO IS 4399-72

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

EST WT 0.0267 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	CHD	TCD	APPD	DATE	MATERIAL	USED ON
				08-5-86	SEE ABOVE * U_X 15 GOST 801-78	CG 315-662-3
SCALE 2 : 1					CONTROLLERATE OF INSPECTION(HEAVY VEHICLES) AVADI	
DIMENSION IN mm					TITLE	
TOLERANCE ON DIMNS UNLESS OTHERWISE STATED					ROLLER	
ALL THREADS TO CONFORM TO					DRAWING NUMBER	
ISSUE DATE NATURE OF AMENDMENTS					315-622-2	

DRAWING INDIANISED BASED ON ISSUE 3

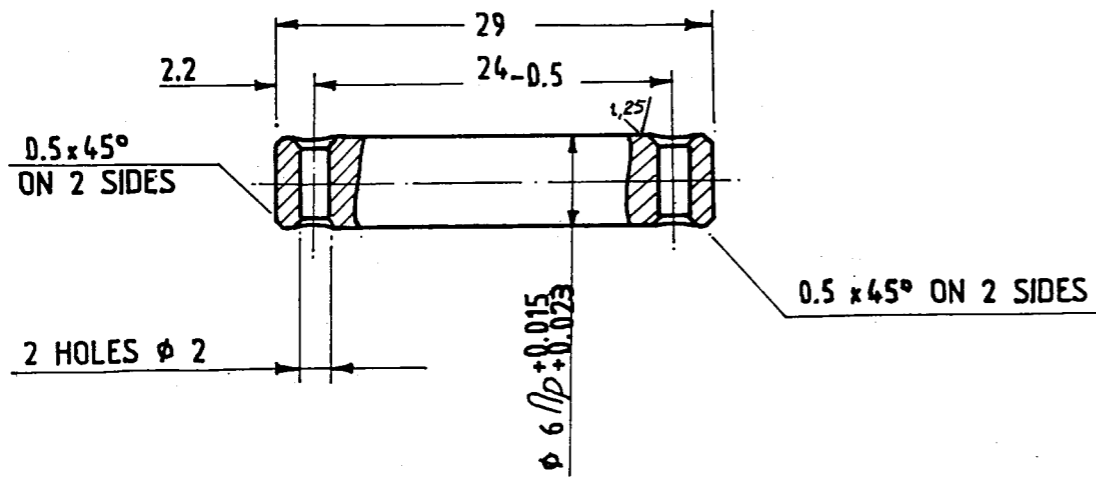
KVD NO 78288

(A 6)

SIZE A3

DRAWING NUMBER
315-632-1

SHEET No. 1 OF 2



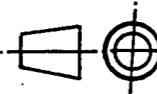
1. INSPECTION GROUP III, TT-11.
2. TO BE CARBURIZED TO A DEPTH OF 0.4 TO 0.7mm ON FINISHED ARTICLE. HARDNESS HRA \geq 78.
3. DIMENSIONS WITH UNSPECIFIED TOLERANCES SHOULD BE OBTAINED AS PER ACCURACY CLASS 7 OST 1010.
4. IN HOLES ϕ 2 CARBURIZED LAYER IS NOT ALLOWED.
5. COATING : CHEMICAL OXIDIZING, OIL FINISHING.

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

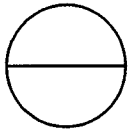
EST WT
0.006 Kg

TO BE STAMPED OR MARKED WHERE INDICATED THUS # 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: STEEL 12XH3A	USED ON
			CHD	<i>Pravin Bhanu</i>	TY 14-1 381-72	CB 315-661-1
			TCD	<i>Shamshad</i>		
			APPD	<i>B. S. M.</i>	CONTROLLERATE OF INSPECTION(HEAVY VEHICLES)	
			DATE	08-5-18	AVADI	
			SCALE 2 : 1			
			DIMENSION IN mm			
			TOLERANCE ON DIMNS UNLESS OTHERWISE STATED			
			TITLE			
			 SPRING PIN			
			ALL THREADS TO CONFORM TO		D SCAT NUMBER	DRAWING NUMBER Sht 1 of 2
						315-632-1
A	09.07.22	SHEET 2 CREATED.	ISSUE	DATE	NATURE OF AMENDMENTS	

SHEET 2 CREATED ISSUE-"A", BASED ON CQA(HV) NOTING No. 111909/CQA(HV)/DB/ENG/T-90/ALT.COMM dt. 05 Aug 2020 & POINT No.3 OF 14TH ACM



DRAWING NUMBER
315-632-1

SHEET No. 2 OF 2

EXPLANATORY NOTE:

Material Quoted: STEEL 12XH3A to TY 14-1-381-72.
Chromium - Nickel and Chromium - Nickel steel with boron
Steel Grade 12XH3A as per GOST 4543-71
A - High Quality Steel

CHEMICAL COMPOSITION: AS PER GOST 4543-71

CONTENT OF ELEMENTS %								
GRADE OF STEEL	C	Si	Mn	Cr	Ni	S	P	Cu
						Maximum		
12XH3A	0.09 - 0.16	0.17 - 0.37	0.30 - 0.60	0.60 - 0.90	2.75 - 3.15	0.025	0.025	0.30

MECHANICAL PROPERTIES: AS PER GOST 4543-71

GRADE OF STEEL	Yield Point	Ultimate Tensile Strength	Percentage of Elongation	Relative Reduction along Cross Section %	Impact Strength
	Kg/mm ²	Kg/mm ²	δ %		Kg.m/cm ²
	Minimum				
12XH3A	70	95	11	55	9

Note : Any other parameters given in specification to be adhered in ToTo.

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

			EST. WT. Refer Sht 1 of 2	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.	
			MATERIAL :- Refer Sht 1 of 2	USED ON :- Refer Sht 1 of 2
ISSUE	DATE	NATURE OF AMENDMENTS		
DRN 		SCALE :- —	CONTROLLERATE OF QUALITY ASSURANCE (HEAVY VEHICLES) AVADI	
CHD 		DIMENSIONS IN mm		
APPD 		TOLERANCE ON DIMENSIONS UNLESS OTHERWISE STATED IS : 2102 - 69		TITLE :- SPRING PIN
DATE 09 Jul 2022		ALL THREADS TO CONFORM TO	D S CAT NUMBER	DRAWING NUMBER 315-632-1 SHT 2 of 2

SIZE A4

DRAWING NUMBER

315-635-1

EXPLANATORY NOTE:-

MATERIAL QUOTED: STEEL 12XH3A TY 14-1-381-72.

CHROMIUM-NICKEL STEEL

12XH3A = GRADE OF STEEL.

CHEMICAL COMPOSITION: % (AS PER GOST 4543-71)

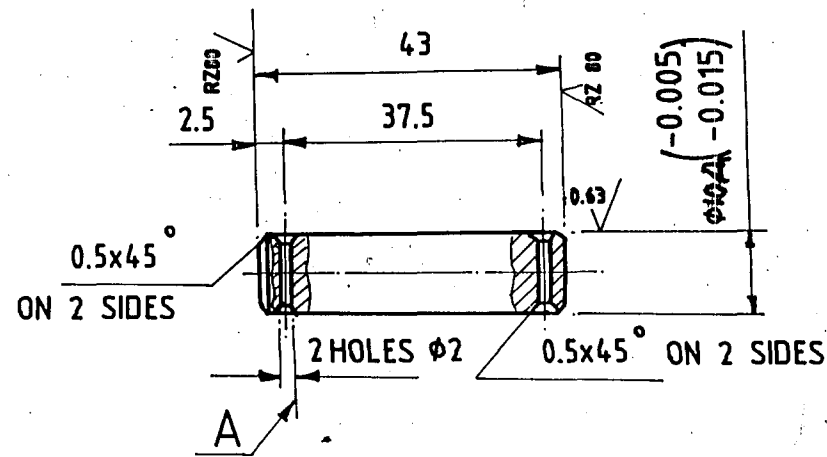
Rz40/ (✓)

CONTENT OF ELEMENTS %

C	Si	Mn	Cr	Ni	P	S	Cu	Ni
					MAXIMUM			
0.09 - 0.16	0.17 - 0.37	0.30 - 0.60	0.60 - 0.90	2.75 - 3.15	0.035	0.035	0.30	0.30

MECHANICAL PROPERTIES:

- a) HARDENING: (i) FIRST HARDENING OR NORMALIZING = 860°C.
 (ii) SECOND HARDENING = 760-810°C.
 (iii) COOLING MEDIUM = WATER OR OIL.
- b) TEMPERING: (i) TEMPERATURE °C = 180.
 (ii) COOLING MEDIUM = AIR OR OIL.
- c) YIELD POINT kgf/mm² (MIN) = 70
- d) ULTIMATE TENSILE STRENGTH kgf/mm² (MIN) = 95
- e) RELATIVE ELONGATION % (MIN) = 11
- f) RELATIVE REDUCTION ALONG ACROSS SECTION = 55
- g) IMPACT STRENGTH kgf.m/cm² (MIN)^(MIN) = 9



1. INSPECTION GROUP III TT-11
2. TO BE CARBURIZED h 0.7 TO 1.2 mm.
3. HARDNESS ~~HRC ≥ 58~~. HRC ≥ 59
4. DIMENSION WITH UNSPECIFIED TOLERANCE SHOULD BE OBTAINED AS PER ACCURACY CLASS-7.0ST 1010.
5. SURFACE 'A' SHOULD BE PROTECTED FROM CASE HARDENING.
6. COATING:- CHEMICAL OXIDIZING, OIL FINISHING.

DRAWING INDIANISED BASED ON ISSUE 3

KYD.NO. 63500

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

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

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

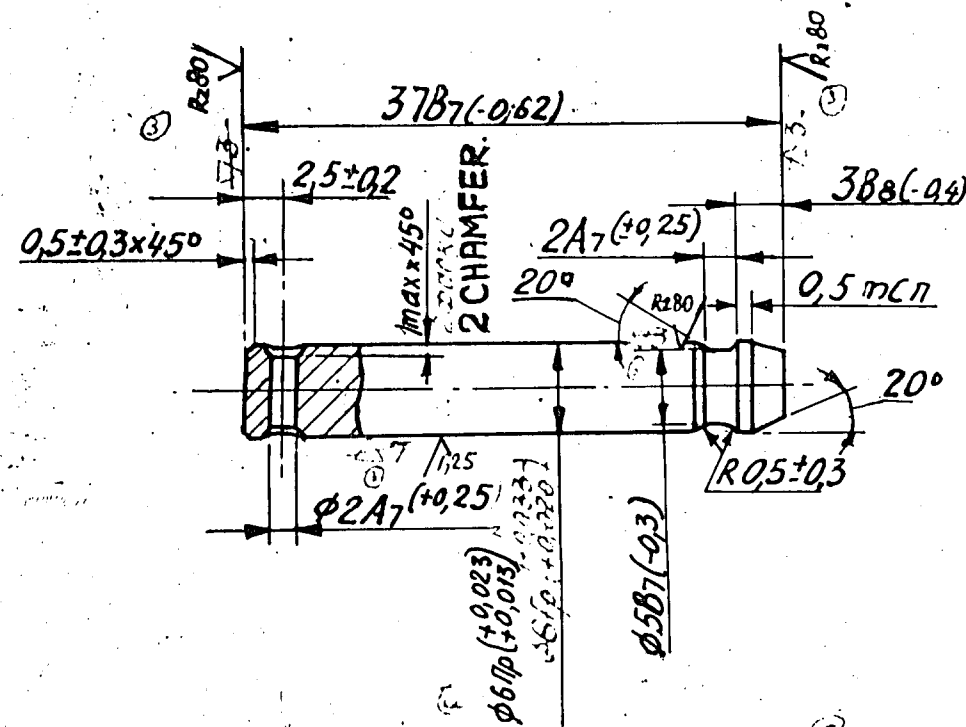
DRN	CHD	TCD	APPD	DATE	SCALE : 1 : 1	DIMENSIONS IN mm	TOLERANCE ON DIMNS UNLESS OTHERWISE STATED	ALL THREADS TO CONFORM TO	MATERIAL : STEEL 12XH3A TY 14-1-381-72	USED ON CB 315-662-3 CB-20-15-662-5	CONTROLLERATE OF INSPECTION(HEAVY VEHICLES) AVADI	TITLE STOP PIN	D S CAT NUMBER	DRAWING NUMBER 315-635-1
				09-5-86										
A	7.12. 87	AUTHY BK 62-394.												
ISSUE	DATE	NATURE OF AMENDMENTS												

A6

SIZE A3

RAWING NUMBER
315-637-1

Rz 40 (✓)



1. Група контроля IV по ТТ-11
2. HRC 24-30
3. Покрытие хим. окс. прм.

1. INSPECTION GROUP IV, TT 11.
2. HRC 24-30. HRC 26..... 32
3. COATING : CHEMICAL OXIDIZING, OIL FINISHING.

DRAWING INDIANISED BASED ON ISSUE 3

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

EST WT (B) 0.007 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 2 : 1	MATERIAL STEEL 45	USED ON
				08-5-85		GOST 1050-74	CB 315-662-3
					CONTROLLERATE OF INSPECTION(HEAVY VEHICLES)		
					AVADI		
					TITLE		
					LEVER PIN		
					D S CAT NUMBER		DRAWING NUMBER
							315-637-1
B 24.9.93 BK 86-441		A 7.12.87 AUTHY BK82-394.		ALL THREADS TO CONFORM TO			
ISSUE	DATE	NATURE OF AMENDMENTS					

A 6

SIZE A3

8

7

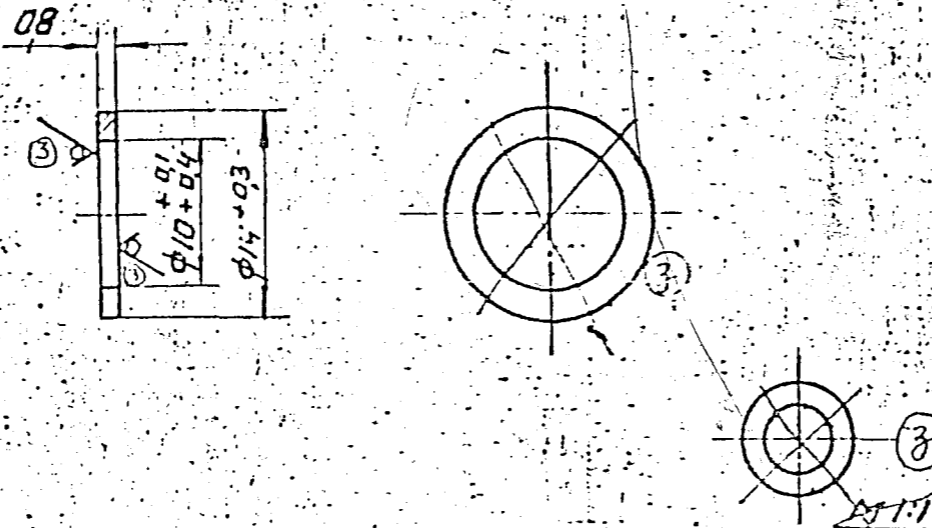
6

327-94-1

KVD No. 63525

DRG. INDIANISED BASED ON RUSSIAN - ORIGINAL
ISSUE 3 (BK83-11)

6483	1	15/11/88
8580	10	25/11/88
8580	10	25/11/88
8580	10	25/11/88
8580	10	25/11/88
8580	10	25/11/88
8580	10	25/11/88
8580	10	25/11/88
8580	10	25/11/88
8580	10	25/11/88



- ① Группа контроля IV по ТТ-11
- ② Твердость HRC = 47-48
- ③ Требования, предъявляемые к штамповке, по нормам 82050-16.
- ④ После штамповки править.
- ⑤ Острые кромки зашкурить.
- ⑥ Оксидировать. Покрытие Хим. Окс. прм.
- ⑦ Неплоскостность не более 0,1мм.
- ⑧ Заносцы и острые крошки не допускаются.

- 1) INSPECTION GROUP IV AS PER TECHNICAL REQUIREMENTS TT-11
- 2) HRA 73 ... 75.
- 3) REQUIREMENTS FOR BLANKING AS PER STANDARD 82050-16.
- 4) COATING : CHEMICAL OXIDIZING , OIL FINISHING.
- 5) NON-FLATNESS SHOULD NOT EXCEED 0.1mm.
- 6) BURRS AND SHARP EDGES ARE NOT ALLOWED.

EXPLANATORY NOTE

5. MATERIAL QUOTED : STRIP 65Г-0.8
GOST 2283-79

COLD DRAWN TOOL AND SPRING STEEL SHEETS.
65Г = GRADE OF STEEL AS PER GOST 1050-74
0.8 = THICKNESS OF STRIP

[a] CHEMICAL COMPOSITION: [AS PER GOST 1050-74] %
C = 0.62 - 0.70 , Si = 0.17 - 0.37 , Mn = 0.90 - 1.20
Cr = 0.25 [max] , P = 0.035 [max] , S = 0.040 [max]
Cu = 0.25 [max] , Ni = 0.25 [max].

[b] MECHANICAL PROPERTIES: [AS PER GOST 2283-79]
ULTIMATE TENSILE STRENGTH KgF/mm² (min)
= 75 TO 120
% ELONGATION (MIN) = 15

Ⓐ EQUIVALENT MATERIAL
75 C6 TO IS: 2507/EN 42 J BS: 970

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

EST. WT. 0.0005 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 INSIDE EQUIVALENT CHAMFERS ARE PERMISSIBLE.

DRN		MATERIAL:- STRIP 65Г-0.8	USED ON cb 20-34-07
CHD	<i>[Signature]</i>	GOST 2283-79.	CB 327-15-5
TCD	<i>[Signature]</i>	CONTROLLERATE OF QUALITY ASSURANCE (HEAVY VEHICLES)	
APPD	<i>[Signature]</i>	AVADI	
DATE	15-2-88		
SCALE:-	2 : 1		
DIMENSIONS IN mm		TITLE: TAPPET WASHER	
TOLERANCE ON DIMNS UNLESS OTHERWISE STATED IS: 210Z-69			
ALL THREADS TO CONFORM TO		D S CAT NUMBER	DRAWING NUMBER
A 16-08-10 4 th Alt. Comm. Meeting Minutes			327-94-1
Point No.12 Dt: 26-10-09			
ISSUE DATE	NATURE OF AMENDMENTS		

A-8
64

SIZE A3