

USED ON

ZONE

ITEM NO

DRAWING NUMBER

D S CAT NUMBER

DESCRIPTION

QTY

REMARKS

Cb.326-00-1

FUEL INJECTION PUMP

ITEM LIST

DRIVE COUPLING ASSY

Cb.326-00-19T

LABEL

Cb.326-00-17C

CERTIFICATE

1

Cb-326-02-1 & I/L

HYDRAULIC

1

CYLINDER ASSY

2

Cb-326-03-1 & I/L

HYDRAULIC

1

PISTON ASSY

6

326-46

RING

1

7

326-46-01

RING

1

8

From 326-47 to 326-47-11

RING

1

SELECTION

9

360.26.006-02

ADJUSTING AXLE

1

10

326-52

SPRING

1

12

360.26.016-01

SPRING RING

1

13

360.26.025

LOCK RING

1

I/L CREATED BASED ON RUSSIAN ORIGINAL ISSUE - 8
I/L REPLACES ISSUE - 7, VIDE NOTN.No: 281-06

ISSUE

DATE

NATURE OF AMENDMENTS

ISSUE

DATE

NATURE OF AMENDMENTS

DRN

F. Abramov

CONTROLLERATE OF QUALITY ASSURANCE (HEAVY VEHICLES) AVADI.

CHD

M. Kozlov

TITLE:

FUEL INJECTION PUMP DRIVE
COUPLING ASSY.

APPD

A. Kozlov

F-158

DATE

01 - 12 - 08

SHT. NO.1 OF 1

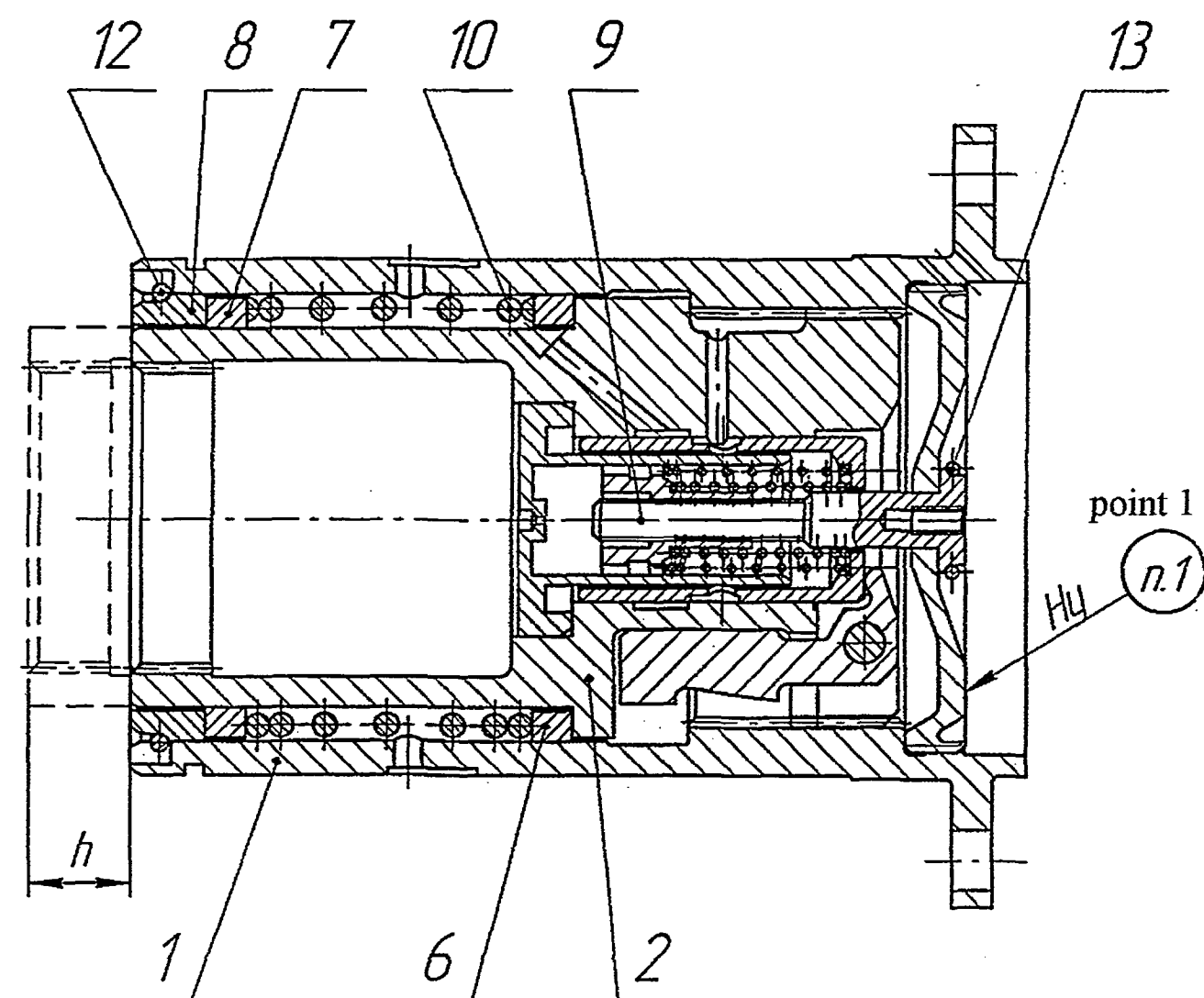
D S CAT NUMBER

ITEM LIST FOR

Cb.326-00-1

DRAWING NUMBER
Cb.326-00-1

SHEET No. 1 OF 1



1. Mark. Letter size 4-Pr3 GOST 26.008-85.
2. Working fluid-oil, used for engine.
3. Working pressure of fluid-(0.45±0.05 MPa [(4.5±0.5) kgf/cm²].
4. Displacement h of hydraulic piston item 2 from initial position at frequency of rotation of coupling, RPM:
500±25- 5.5 mm minimum;
650±25- 10±1.0 mm;
1000±25- 15±0.4 mm;
1150±50- 15.5 mm maximum.
Displacement at frequency of rotation of coupling (1150±50) RPM. ensure by selection of part item 8.
5. Displacement of hydraulic piston item 2 should be smooth during increase of frequency of rotation from 500 to 1000 RPM and vice-versa.
6. Displacement at frequency of rotation (1000±25) RPM. ensure by screwing and reversing of part item 9.
7. Fill tag for coupling, manufactured for setting on engine.
8. Displacement of hydraulic piston after testing in composition of "head" of engine:
frequency of rotation, RPM displacement, mm
650±25 10 ± 1
1000±25 15 ± 0,6
1150±50 16 Max.
9. Fill the certificate for coupling, manufactured for supply to spare part.

DRAWING INDIANISED BASED ON RUSSIAN ORIGINAL ISSUE - 6
DRAWING REPLACES Cb.326-00-1 ISSUE - 5 NOTN. No. 281-06

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

EST. WT. (Kg) 2.95	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	<i>S. S.</i>	MATERIAL :-	USED ON :-
CHD	<i>Choudhary</i>		
APPD		CONTROLLERATE OF QUALITY ASSURANCE (HEAVY VEHICLES) AVADI	
DATE	02-01-09		
SCALE:-	1 : 1	TITLE :- FUEL INJECTION PUMP DRIVE COUPLING ASSY	
DIMENSIONS IN mm			
TOLERANCE ON DIMNS UNLESS OTHERWISE STATED IS : 2102 - 69		D S CAT NUMBER	
ALL THREADS TO CONFORM TO			
ISSUE	DATE	DRAWING NUMBER Cb.326-00-1	
NATURE OF AMENDMENTS			

F-158

SIZE A2

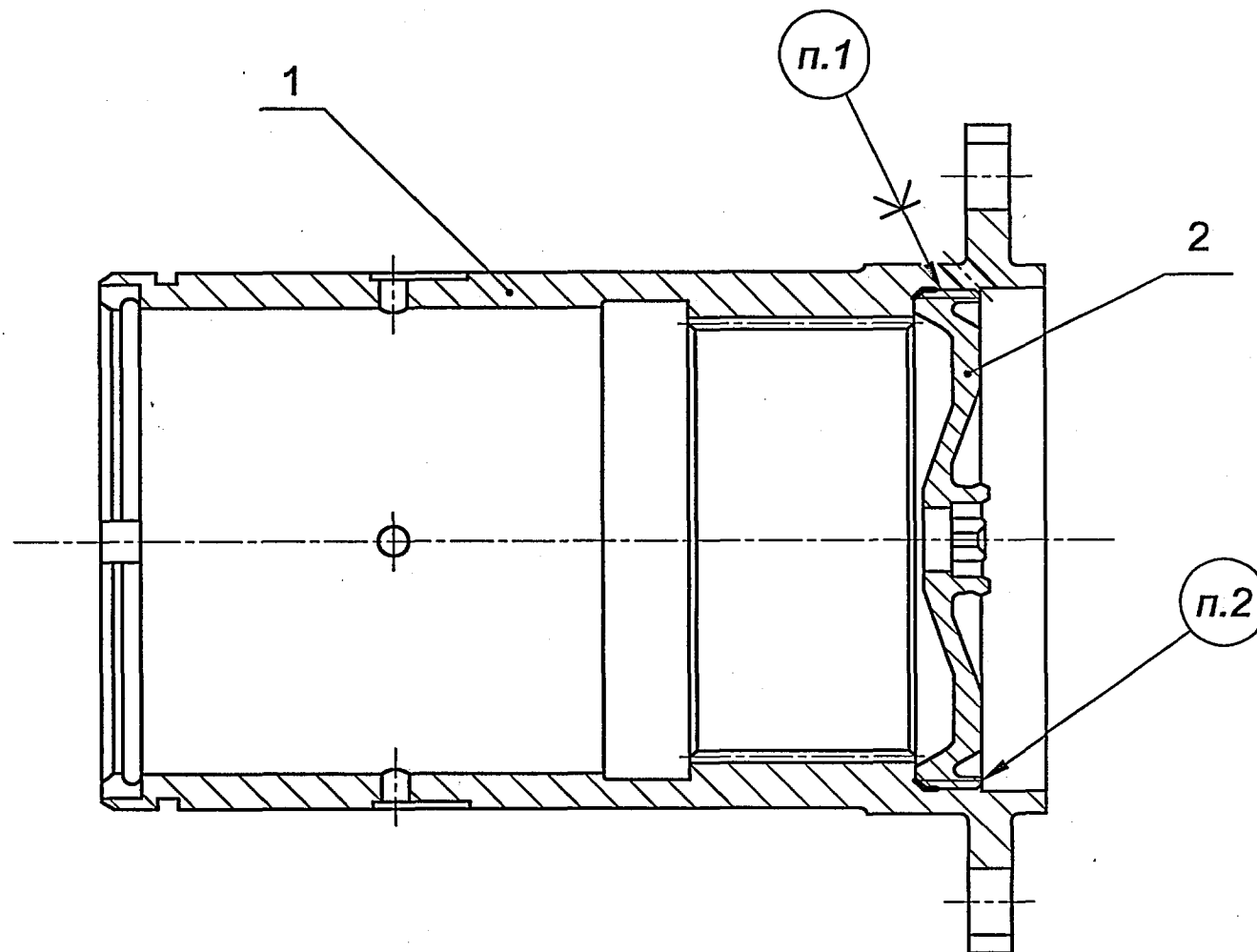
USED ON	ZONE	ITEM NO	DRAWING NUMBER	D S CAT NUMBER	DESCRIPTION	QTY	REMARKS
			Cb.326-02-1		HYDRAULIC		
			ITEM LIST		CYLINDER ASSY.		
		1	326-10-1		HYDRAULIC CYLINDER	1	
		2	360-26-015-03		COVER	1	
ISSUE		DATE	NATURE OF AMENDMENTS		ISSUE	DATE	NATURE OF AMENDMENTS
DRN			CONTROLLERATE OF QUALITY ASSURANCE (HEAVY VEHICLES) AVADI.				
CHD	<i>R. Balakrishnan</i>		TITLE : HYDRAULIC CYLINDER ASSY.				
APPD	<i>Joornal</i>						
DATE	28.6.07		SHT. NO. 1 OF 1	D S CAT NUMBER	ITEM LIST FOR Cb.326-02-1		

I/L CREATED BASED ON RUSSIAN ORIGINAL ISSUE -- 3

Cb 326-00-1

F-4
230/253

DRAWING NUMBER
Cb.326-02-1



1. Sealing compound АН-5МД ТУ 6-01-1288-84 as per ИЛ-652-86.
2. Engrave the cover collar item 2 in the hole of hydraulic cylinder item 1.

DRAWING INDIANISED BASED ON RUSSIAN ORIGINAL ISSUE - 4

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

EST. WT.(Kg) **1.44** 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>sdm</i>	MATERIAL :-	USED ON :- C5 326-00-1
CHD	<i>R. B. Subramanyam</i>	CONTROLLERATE OF QUALITY ASSURANCE (HEAVY VEHICLES) AVADI	
APPD	<i>[Signature]</i>		
DATE	16/12/07		
SCALE:-	1:1	TITLE :-	HYDRAULIC CYLINDER ASSY.
DIMENSIONS IN mm		D S CAT NUMBER	DRAWING NUMBER
TOLERANCE ON DIMNS UNLESS OTHERWISE STATED IS : 2102 - 69			
ALL THREADS TO CONFORM TO			

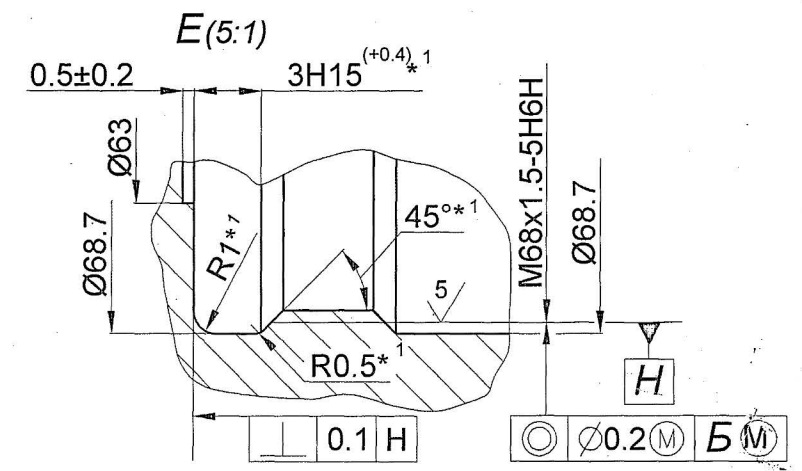
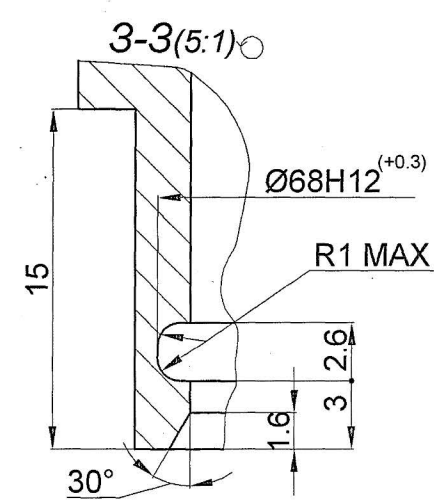
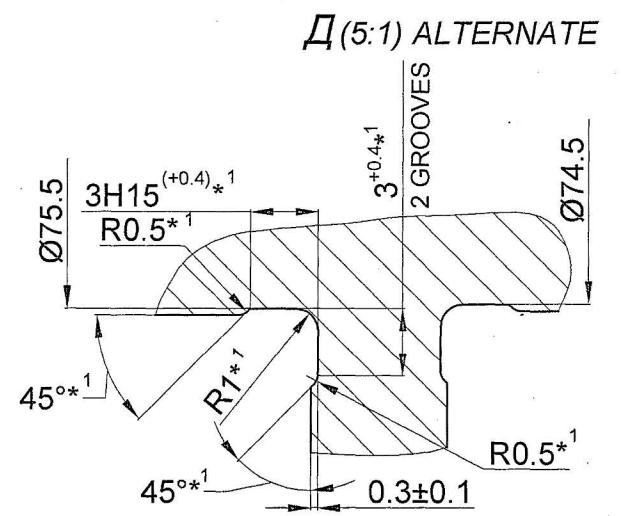
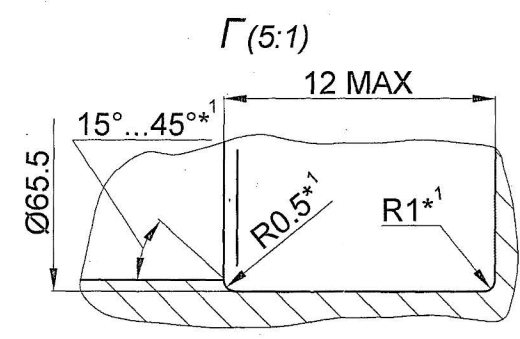
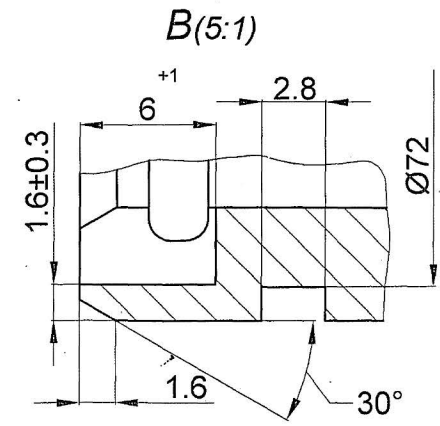
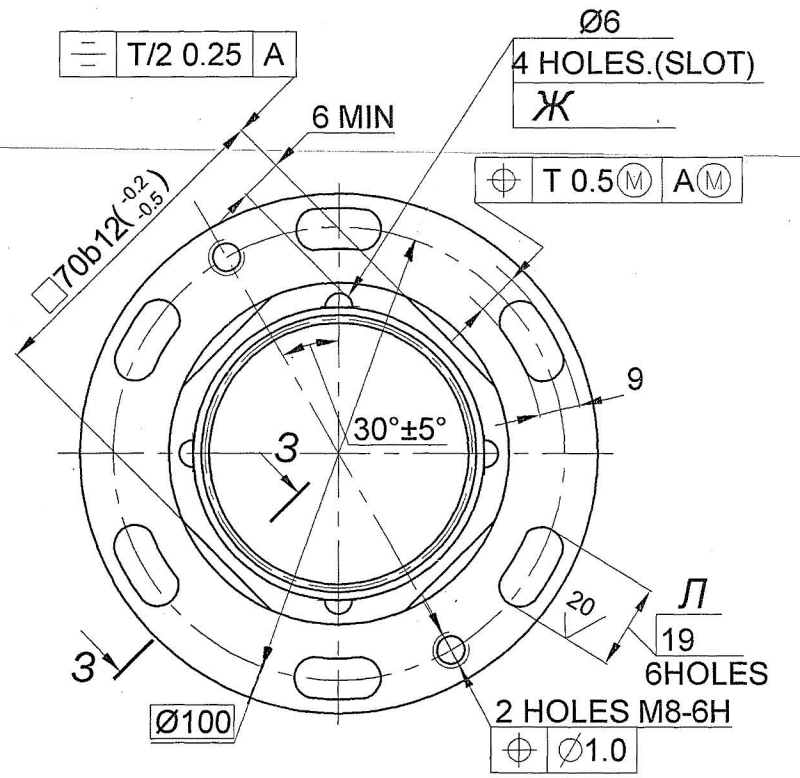
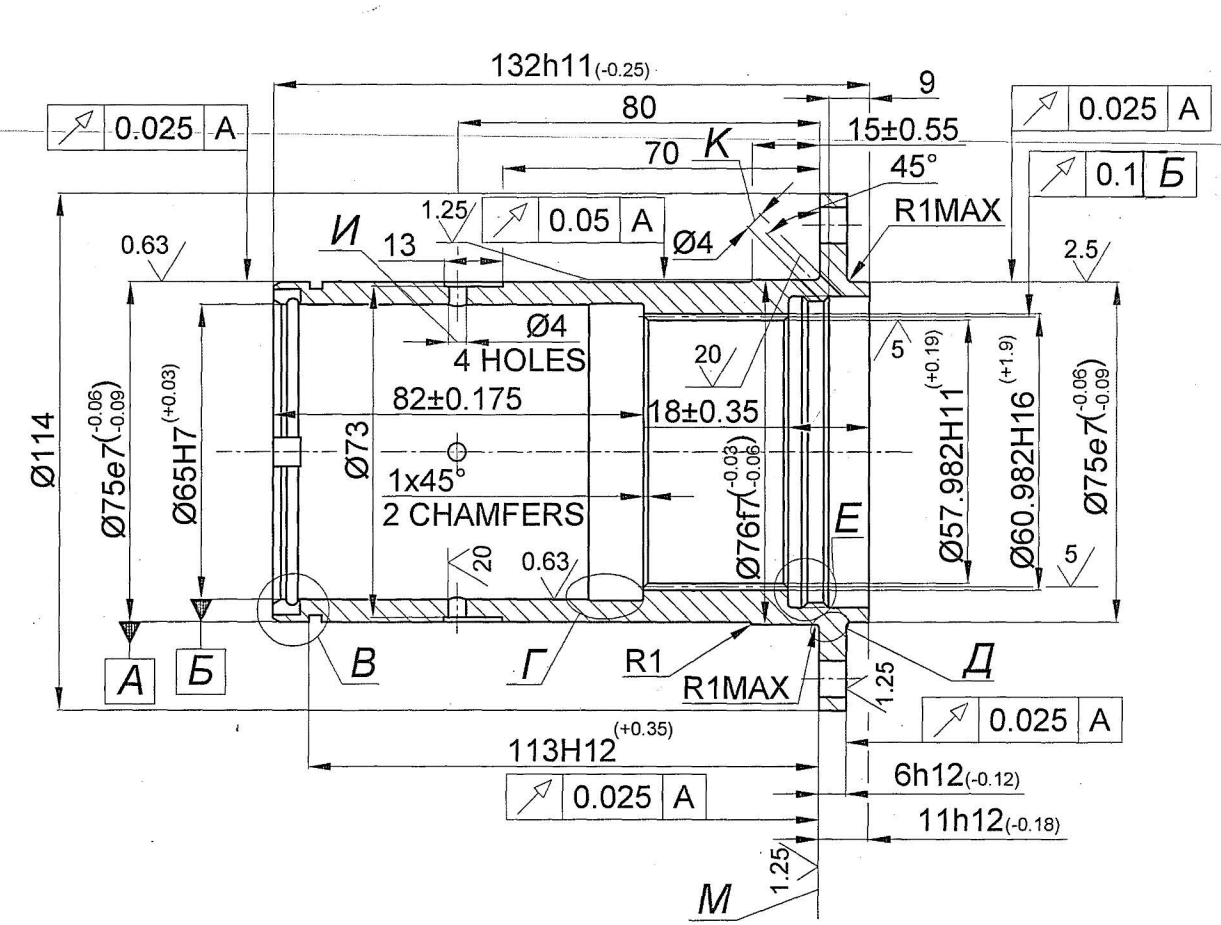
F-4
231
253

SIZE A3

ISSUE	DATE	NATURE OF AMENDMENTS

DRAWING NUMBER
326-10-1

10/✓



Module	<i>m</i>	1.5
Number of teeth	<i>z</i>	38
Angle of inclination	β	10°33'35"
Direction of tooth length		LH
Standard basic rack	Angle of profile	α 30°
	Co-efficient of addendum	<i>f</i> 0.45
	Co-efficient of dedendum	<i>f'</i> 0.55
	Thickness of tooth along pitch line	<i>s</i> 2.356
Addendum modification	<i>X_m</i>	+0.675
Standard width of root	<i>e_d</i>	3.136 ^{+0.140} / _{+0.050} / ₀
Pitch circle diameter	<i>d</i>	57.982
Diameter of rollers	<i>D_M</i>	2.75
Distance over pins	<i>M_i</i>	55.265 ^{+0.274} / _{+0.098}
Lead of helix of tooth	<i>t</i>	977.26

1. Inspection group III as per TT-11.
2. Carburizing the teeth *h* 0.6...1.0 mm, to minimum 55HRC of surface A, B to minimum *h* 0.4, to minimum 51HRC. Core 28...42 HRC, to be checked on part-sample.
3. It is permitted to carburize the remaining surfaces except the threaded hole, *h* 0.6...1.0mm.
4. Unspecified limit deviations of dimensions:
 $h14, H14, \pm \frac{IT14}{2}$
5. Stamp the final acceptance on tag.
6. Coating : chemically oxidized, oiled as per ИЛ-681-87.
7. Alternate-material is steel 18x12H4MA Gost 4543-71.
8. * Dimensions are given for reference.
9. * 1 Dimensions to be ensured by tool.
10. It is allowed to carryout combined inspection of gear rims with mating gear rim (by inspection specimen), manufactured as per maximum dimension.
11. Position of hole Ж, И, К with respect to hole П is arbitrary.
12. Absence of carburizing on surface A on section 25mm from face M is allowed.

(12A) EQUIVALENT MATERIAL
EN 36 B TO BS: 970 /
13 Ni 13 Cr 3 TO IS: 4432-1988

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

EST. WT.(kg) 1.29 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	APPD	DATE	MATERIAL - STEEL 12XH3A GOST 4543-71	USED ON - Cb 326-02-1
SCALE - 1:1	CONTROLLER OF QUALITY ASSURANCE (HEAVY VEHICLES) AVADI			
DIMENSIONS IN mm	TITLE - HYDRAULIC CYLINDER			
TOLERANCE ON DIMNS UNLESS OTHERWISE STATED IS : 2102 - 69	D S CAT NUMBER			
ALL THREADS TO CONFORM TO	DRAWING NUMBER 326-10-1			
ISSUE	DATE	NATURE OF AMENDMENTS		

DRAWING INDIANISED BASED ON RUSSIAN ORIGINAL ISSUE - 12

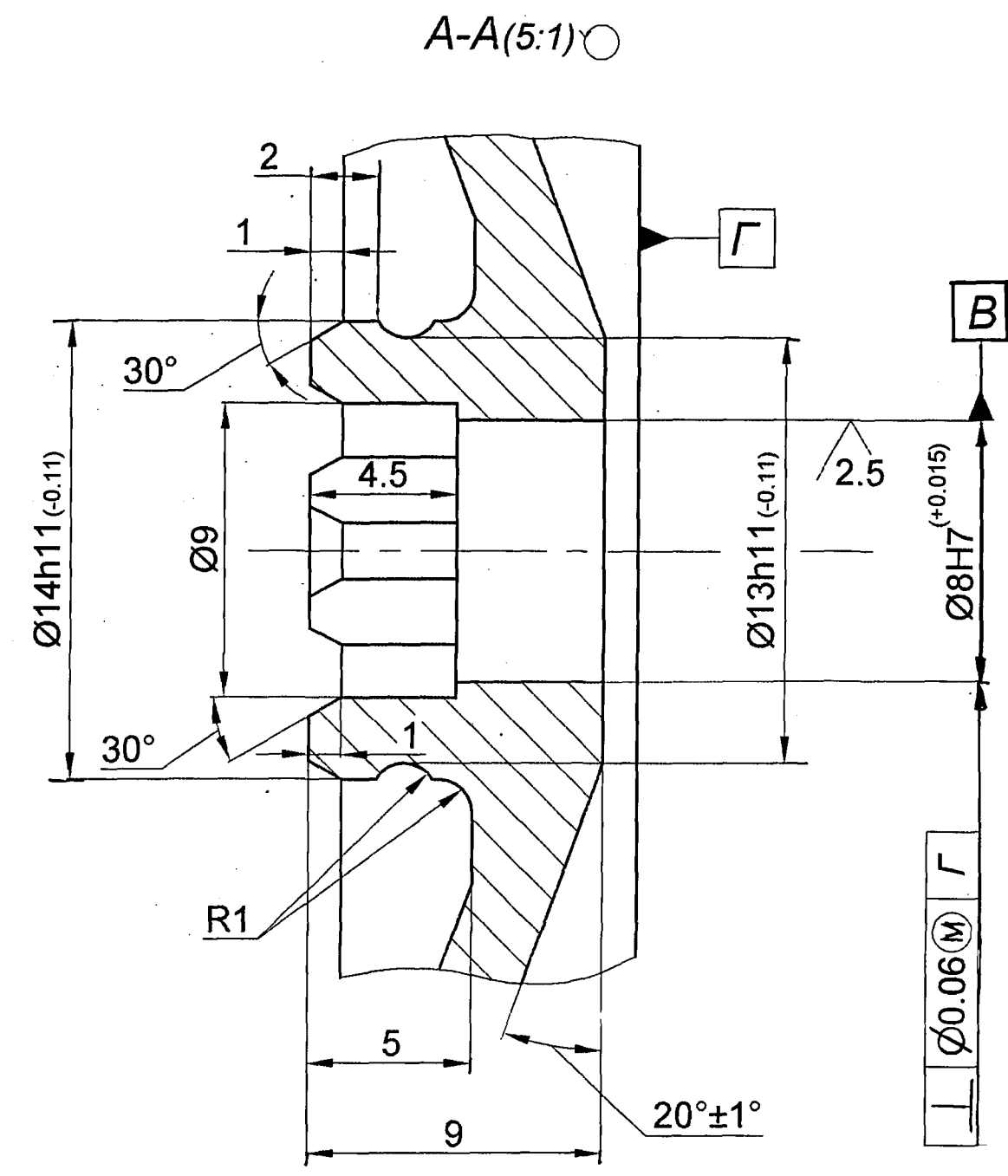
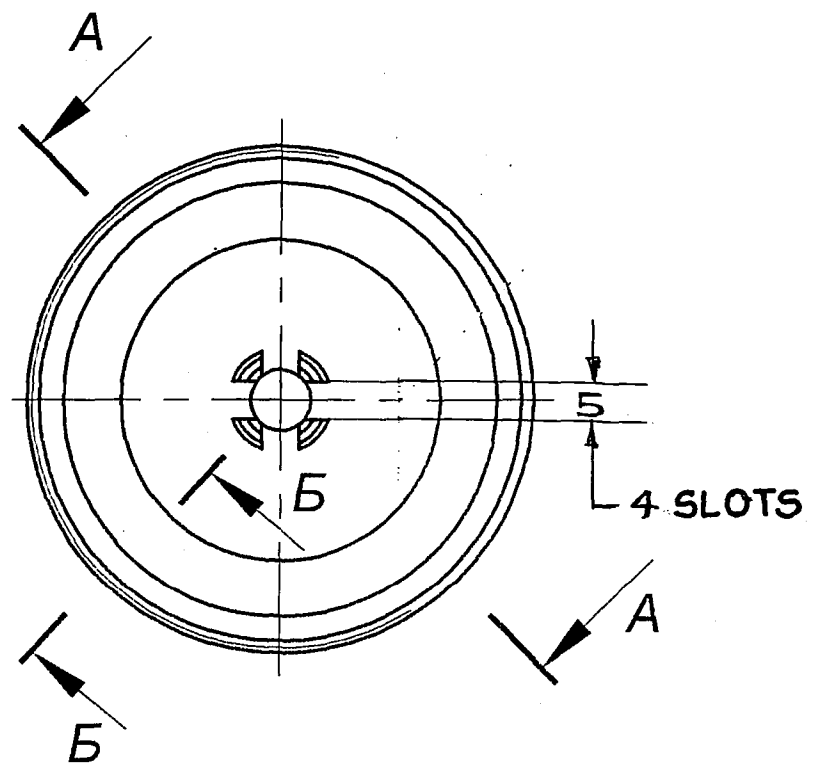
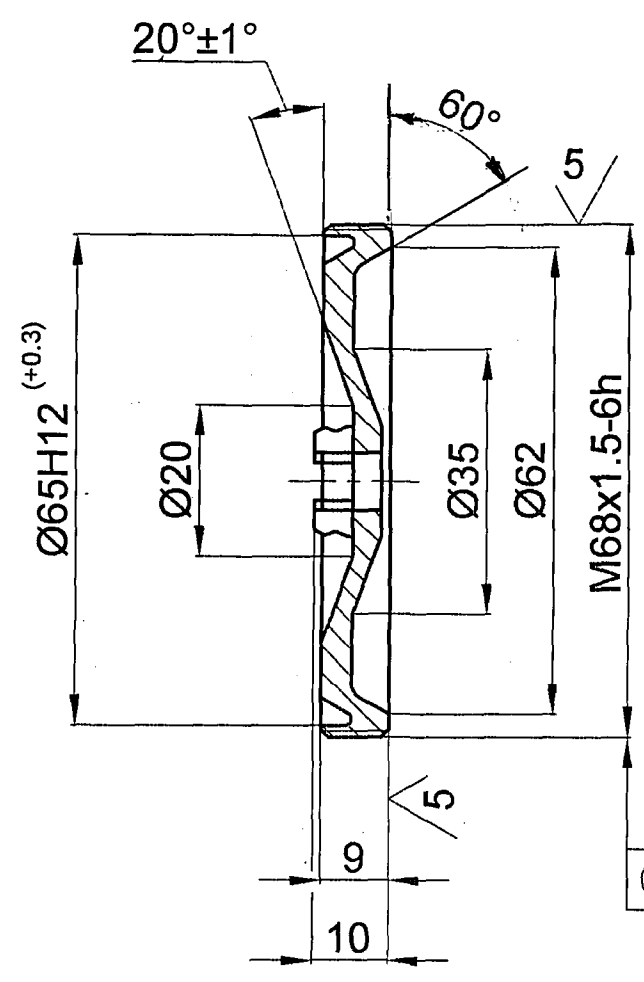
F-4
236
253
SIZE A1

DRAWING INDIANISED BASED ON RUSSIAN ORIGINAL ISSUE - 7

DRAWING NUMBER
360.26.015-03

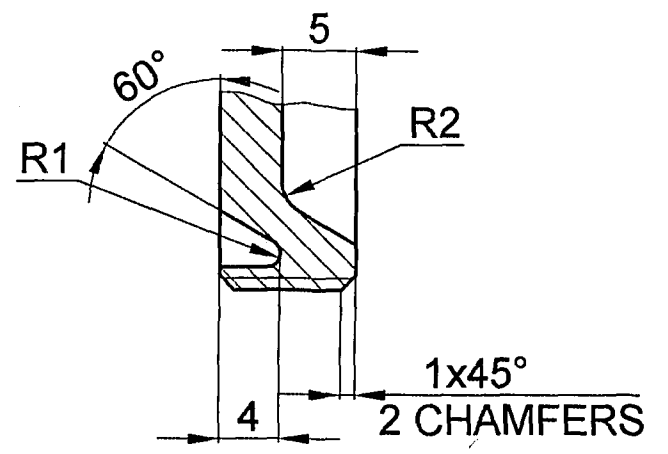
SHEET No. OF

10/ (✓)



1. Inspection group IV as per TT-11.
2. 28...35 HRC_α.
3. Unspecified limit deviations of dimensions:
 $h14, H14, \pm \frac{IT14}{2}$.
4. Coating :chemically oxidized, oiled
as per ИЛ-681-87.

Б-Б(2:1) ○



Ⓐ ALTERNATE MATERIAL : STEEL 080 M40 (EN8) TO BS : 970
Pt-1-1985 OR 45 CB TO IS : 1570

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

EST. WT. (kg) **0.153** TO BE STAMPED OR MARKED WHERE INDICATED THUS # (LETTERS)

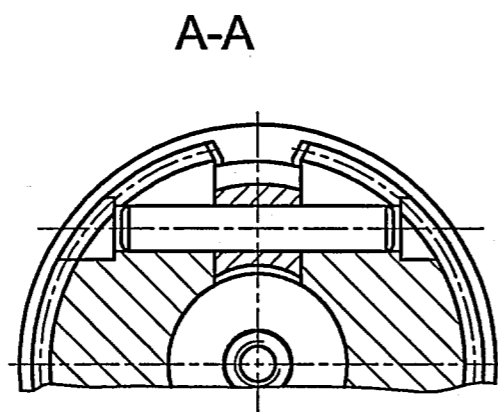
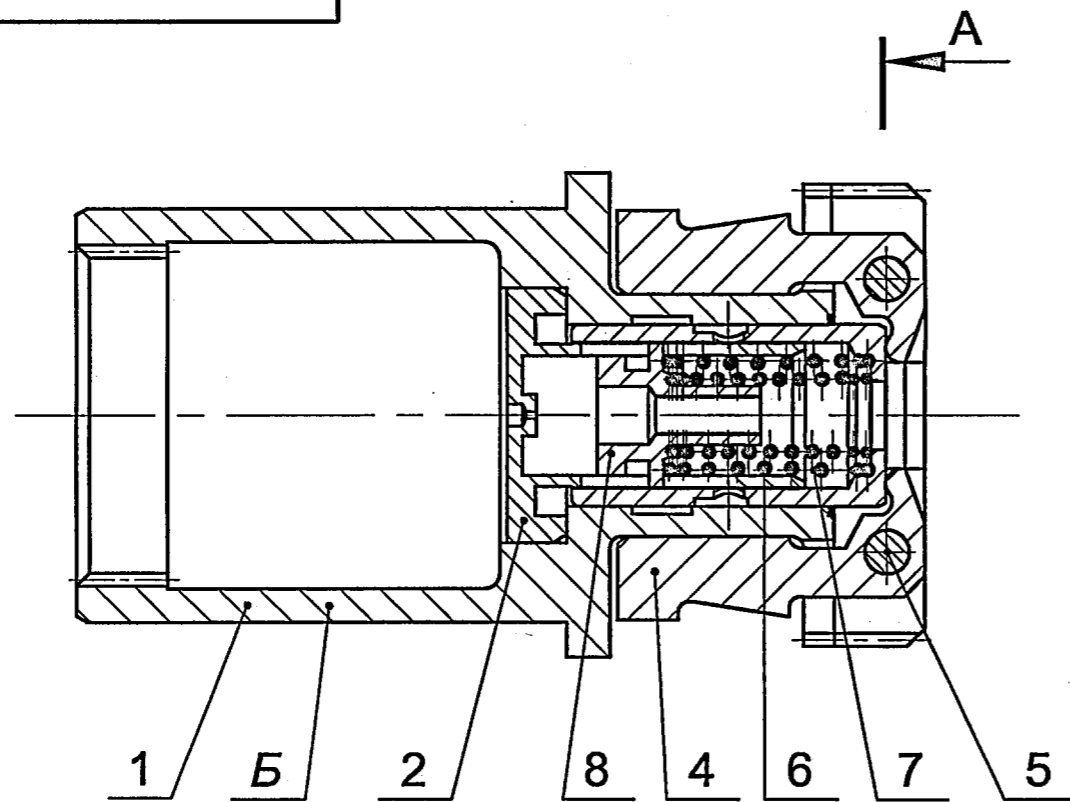
ALL SHARP EDGES AND CORNERS TO BE REMOVED UNLESS OTHERWISE STATED MACHINED CORNERS TO HAVE R OUT-SIDE R INSIDE EQUIVALENT CHAMFERS ARE PERMISSIBLE.

DRN	<i>[Signature]</i>	MATERIAL :- STEEL 45 GOST 1050-88	USED ON :- Γ5 326-02-1
CHD	<i>[Signature]</i>	CONTROLLERATE OF QUALITY ASSURANCE (HEAVY VEHICLES) AVADI	
APPD	<i>[Signature]</i>		
DATE	16/1/09	TITLE :- COVER	
SCALE:- 1 : 1		D S CAT NUMBER	
DIMENSIONS IN mm		DRAWING NUMBER 360.26.015-03	
TOLERANCE ON DIMNS UNLESS OTHERWISE STATED IS : 2102-69		ALL THREADS TO CONFORM TO	
ISSUE	A	DATE	11-7-09
NATURE OF AMENDMENTS		3 rd ALTERATION COMM. MINUTES POINT B. DATE 27-2-09	

F-4
251
253
SIZE A4 x 3

DRAWING NUMBER

Cb.326-03-1



1. For press-fitting of part "B" heat up to the temperature $(150 \pm 10)^\circ\text{C}$, and part item 2 - to be cooled in liquid nitrogen upto the termination of boiling of nitrogen.
2. Weight item 4, should oscillate other axis item 5 without jamming by the action of its own weight.

DRAWING INDIANISED BASED ON RUSSIAN ORIGINAL ISSUE - 4

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

EST. WT.(Kg) **1.28** 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 :-	USED ON :-	
			CHD	<i>[Signature]</i>		Cb-326-00-1	
			APPD	<i>[Signature]</i>	CONTROLLERATE OF QUALITY ASSURANCE (HEAVY VEHICLES)		
			DATE		AVADI		
			SCALE:-	1:1	TITLE :-		
			DIMENSIONS IN mm		HYDRAULIC PISTON ASSY.		
			TOLERANCE ON DIMNS UNLESS OTHERWISE STATED IS : 2102 - 69		D S CAT NUMBER		
			ALL THREADS TO CONFORM TO		DRAWING NUMBER		
			ISSUE	DATE	Cb.326-03-1		
			NATURE OF AMENDMENTS				

F-4
233
253

SIZE A3

USED ON

ZONE

ITEM NO

DRAWING NUMBER

D S CAT NUMBER

DESCRIPTION

QTY

REMARKS

326-03-1

Cb.326-04-1

HYDRAULIC

ITEM LIST

PISTON ASSY.

1

326-11-1

HYDRAULIC PISTON

1

2

326-12

SLIDE VALVE

1

I/L CREATED BASED ON RUSSIAN ORIGINAL ISSUE - 2

ISSUE

DATE

NATURE OF AMENDMENTS

ISSUE

DATE

NATURE OF AMENDMENTS

DRN

CONTROLLERATE OF QUALITY ASSURANCE (HEAVY VEHICLES) AVADI.

CHD

TITLE :

HYDRAULIC PISTON ASSY.

APPD

DATE

28-6-07

SHT. NO. 1 OF 1

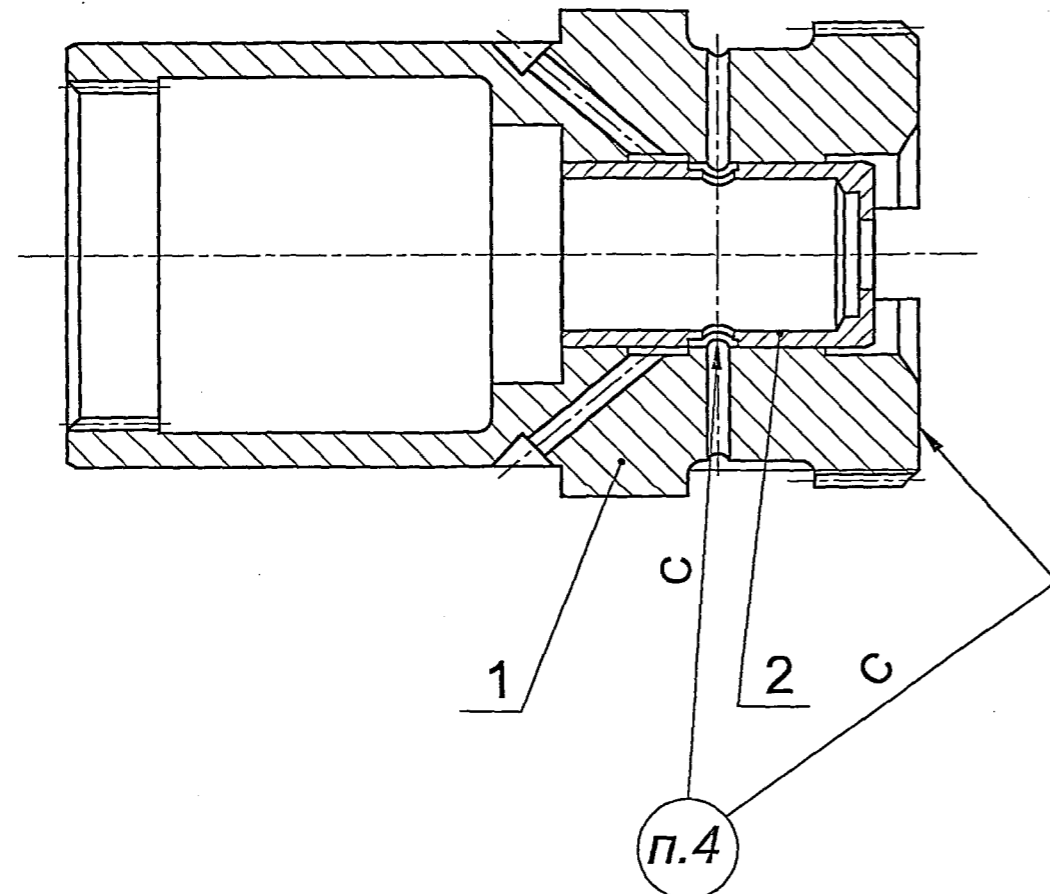
D S CAT NUMBER

ITEM LIST FOR
Cb.326-04-1

F-4
234/253

DRAWING INDIANISED BASED ON RUSSIAN ORIGINAL ISSUE - 6

DRAWING NUMBER
Cb.326-04-1



1. Dimetrical clearance between part item 1 and part item 2 is 0.02...0.04mm, which is ensured by selective assembly.
2. Mating surface of part item 1 and 2 before assembly is to be cleaned with filtered kerosene or diesel fuel and lubricated with engine oil.
3. Displacement of part item 2 should be smooth without drag. Check after lubricating the mating surfaces of parts with engine oil. Part item 2 moved out from the part item 1 by $\frac{1}{3}$ rd length of its working surface should smoothly and without stops continuously could be pushed into by the action of its own weight at any angle of rotation (around own axis) with respect to part item 1, installed at the angle of 45° to the horizontal.
4. Mark the pairing number of parts by electric etching method and later on use them together.

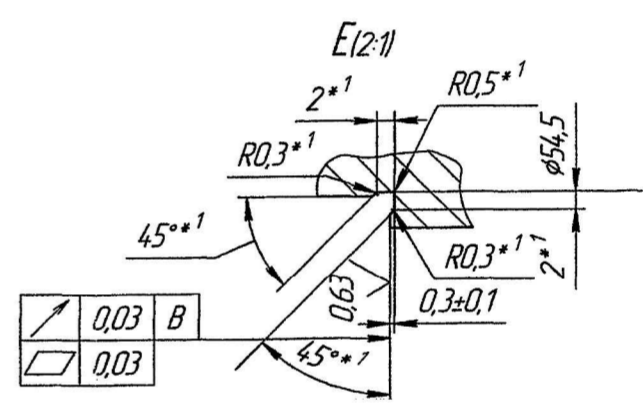
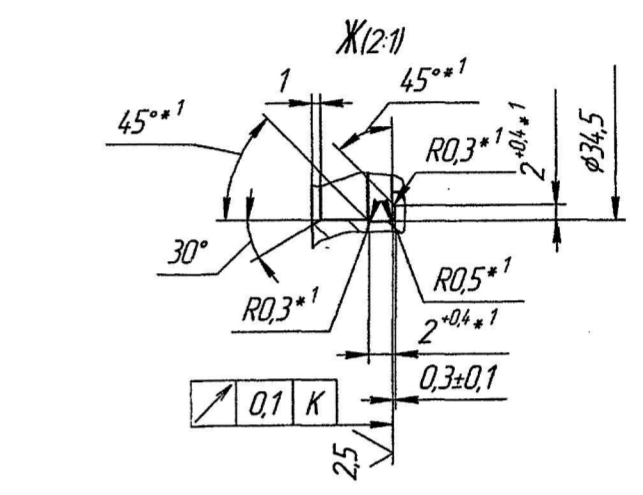
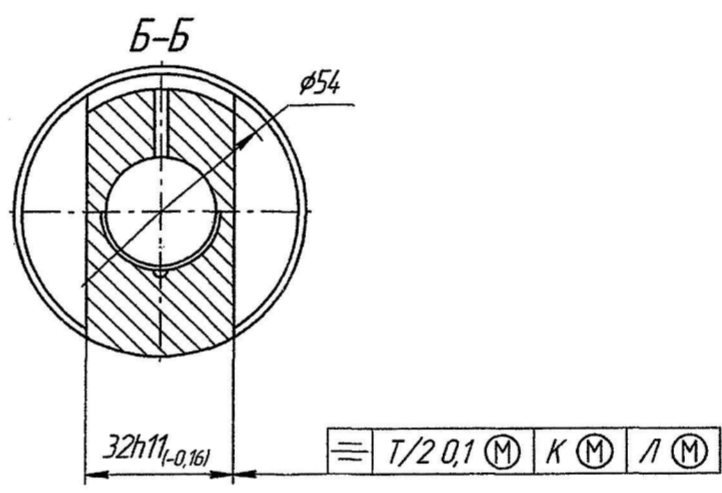
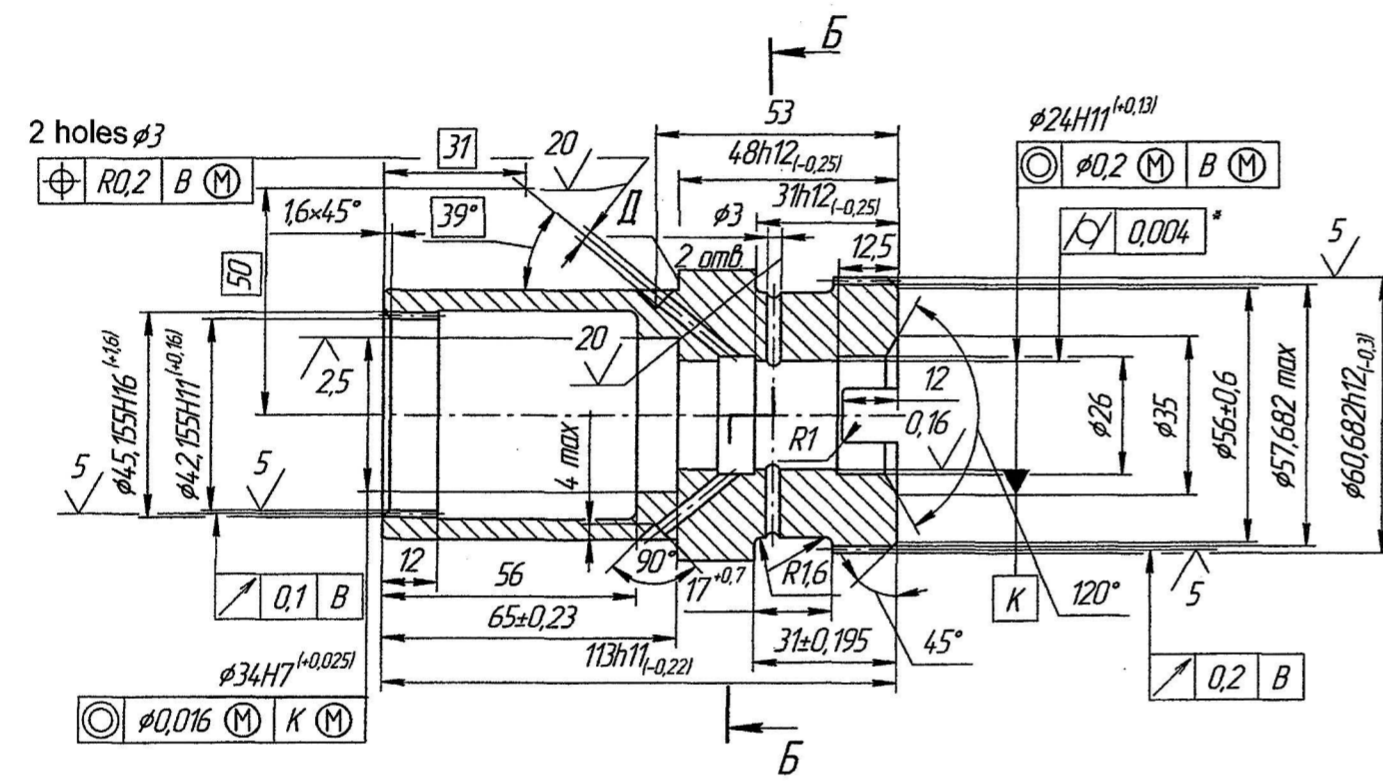
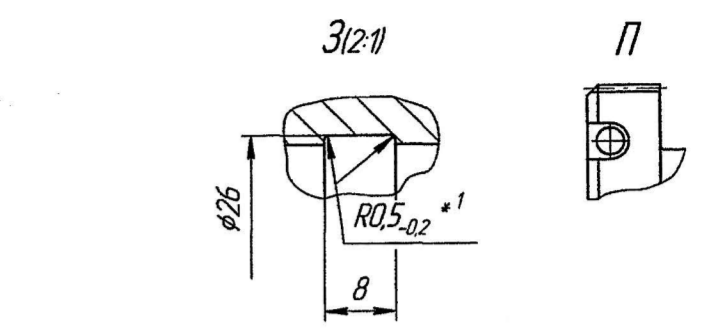
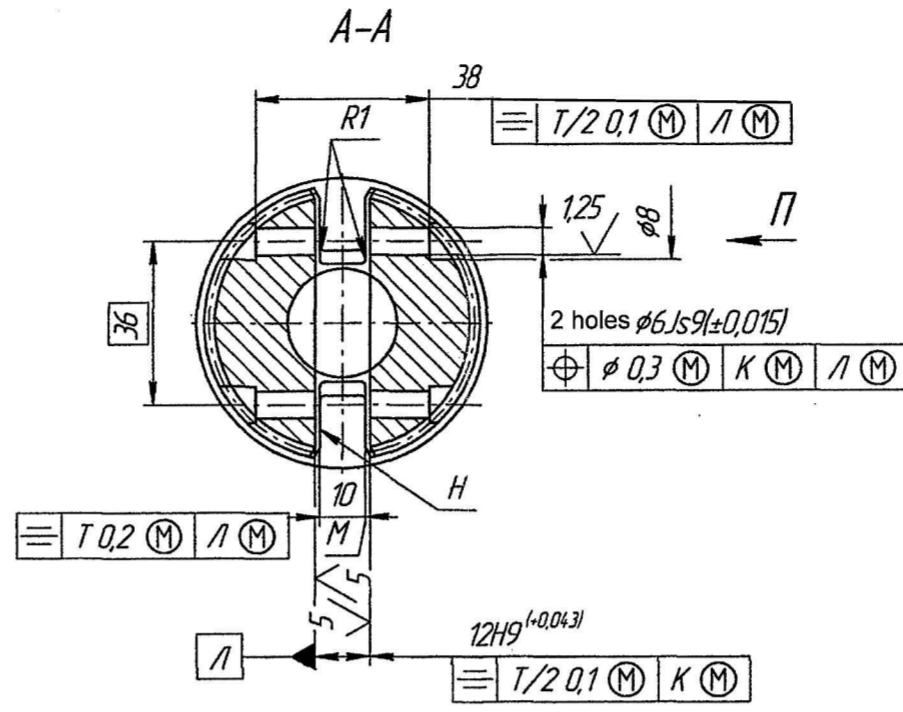
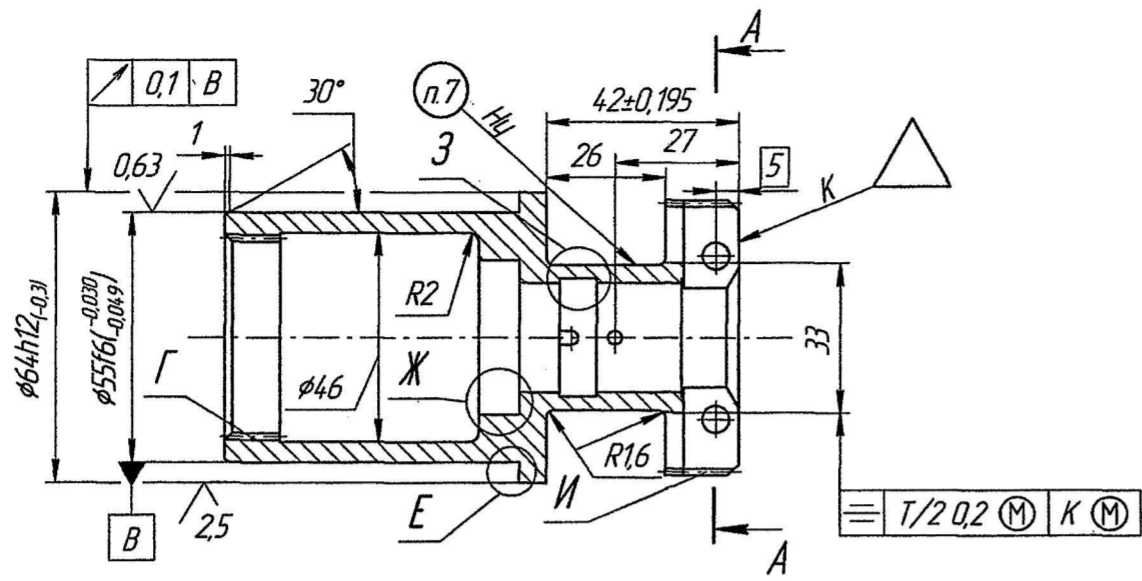
PILOT SAMPLE SHOULD BE APPROVED BY A H S P BEFORE BULK PRODUCTION.

EST. WT. **1.053** 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 :- Cb 326-03-1
			CHD	<i>[Signature]</i>		
			APPD	<i>[Signature]</i>	CONTROLLERATE OF QUALITY ASSURANCE (HEAVY VEHICLES) AVADI	
			DATE	12-7-07		
			SCALE:-	1:1		
			DIMENSIONS IN mm		TITLE :- HYDRAULIC PISTON ASSY.	
			TOLERANCE ON DIMNS UNLESS OTHERWISE STATED IS : 2102 - 69			
			ALL THREADS TO CONFORM TO		D S CAT NUMBER	DRAWING NUMBER Cb.326-04-1
8	7	6	ISSUE	DATE	NATURE OF AMENDMENTS	

F-4
235
253
SIZE A3



Toothings		Г	И
Module	m	1.5	1.5
Number of teeth	z	28	38
Spiral angle	β	4°54'54"	10°33'35"
Direction of tooth trace	-	правое Right	левое Left
Basic rack	Profile angle	α	30°
	Coefficient of addendum part of tooth	f'	0.45
	Coefficient of dedendum part of tooth	f''	0.55
	Tooth thickness at reference line	s	2.356
	Radius of curvature of basement curve	R	-
Addendum modification shift	X _m	+0.675	+0.675
Width of tooth space	e _d	3.136 ^{+0.125} / _{-0.045}	-
Tooth thickness along reference circle	S _d	-	3.136 ^{-0.056} / _{-0.116} / _{-0.206}
Reference diameter	d	42.156	57.982
Diameter over pins	D _п	2.716	-
Distance over pins	M _п	39.438 ^{-0.217} / _{-0.045}	-
Base tangent length	W	-	34.06 ^{-0.100} / _{-0.176}
Pitch of tooth helix	t	1278.28	977.26

1. Inspection group III as per TT-11.
2. Core 255...302 HB.
3. Nitrate coating of toothings to h 0.3...0.6 mm, 84 HRN15, minimum, surface B, Д, K to h 0.15...0.6 mm 83 HRN15, minimum. It is permitted to nitrate other surfaces.
4. Unspecified limit deviation of dimensions: h14, H14, ±IT14.
5. Unspecified tolerance of location as per GOST 25069-87.
6. Teeth, projecting on surface M, H and having incomplete profile, make up to dimension Ø59.5^{+0.3} mm.
7. Mark. Letter size 8-П3 GOST 26.008-85.
8. * It is permitted to carry out element wise inspection of parameters:
 - tolerance of ovality 0.003 mm (semi differences in dimensions);
 - tolerance of cut 0.004 mm;
 - tolerance of barrel-shape form 0.003 mm (semi differences in dimensions);
 - tolerance of taper 0.003 mm (semi differences in dimensions);
 - tolerance of saddle shape 0.003 mm (semi differences in dimensions).
9. It is permitted to carry out complex inspection of toothings by touching of toothings (with inspection sample), carried out on minimum for toothings И and maximum for toothings Г with dimension.
10. It is permitted to check the tolerance of plane "by bluing" as per ИЛ-613-85, imprints on end face, should be continuous with circular strip having width minimum 1.5 mm.
11. *1 Dimensions are ensured by tool.

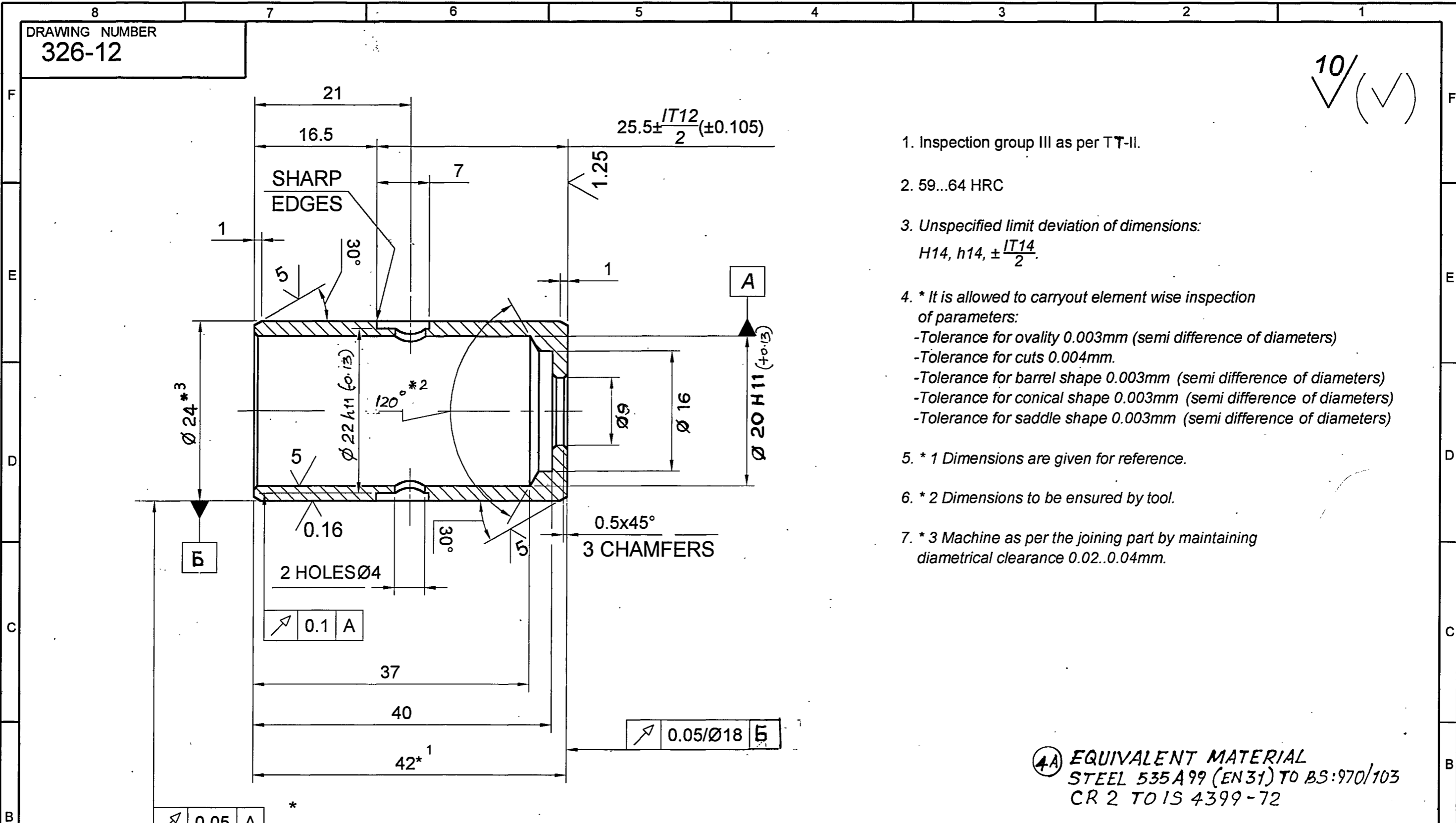
PILOT SAMPLE SHOULD BE APPROVED BY A H S P BEFORE BULK PRODUCTION.

EST. WT. (kg) TO BE STAMPED OR MARKED WHERE INDICATED THIS # (LETTERS)
 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:-	DIMENSIONS IN mm	TOLERANCE ON DIMNS UNLESS OTHERWISE STATED IS: 2102-69	ALL THREADS TO CONFORM TO	DRN	MATERIAL:-	USED ON:-
			05-01-09	1:1					STEEL 38X2M+QA GOST 4543-71	Cb.326-04-1
CONTROLLERATE OF QUALITY ASSURANCE (HEAVY VEHICLES) AVADI								TITLE:- HYDRAULIC PISTON		
D S CAT NUMBER								DRAWING NUMBER 326-11-1		

DRAWING INDIANISED BASED ON RUSSIAN ORIGINAL ISSUE - 9
DRAWING REPLACES 326-11-1 ISSUE - 8 NOTN. No. 294-03.

DRAWING INDIANISED BASED ON RUSSIAN ORIGINAL ISSUE - 4



10/ (✓)

1. Inspection group III as per TT-II.
2. 59...64 HRC
3. Unspecified limit deviation of dimensions:
H14, h14, $\pm \frac{IT14}{2}$.
4. * It is allowed to carryout element wise inspection of parameters:
 - Tolerance for ovality 0.003mm (semi difference of diameters)
 - Tolerance for cuts 0.004mm.
 - Tolerance for barrel shape 0.003mm (semi difference of diameters)
 - Tolerance for conical shape 0.003mm (semi difference of diameters)
 - Tolerance for saddle shape 0.003mm (semi difference of diameters)
5. * 1 Dimensions are given for reference.
6. * 2 Dimensions to be ensured by tool.
7. * 3 Machine as per the joining part by maintaining diametrical clearance 0.02..0.04mm.

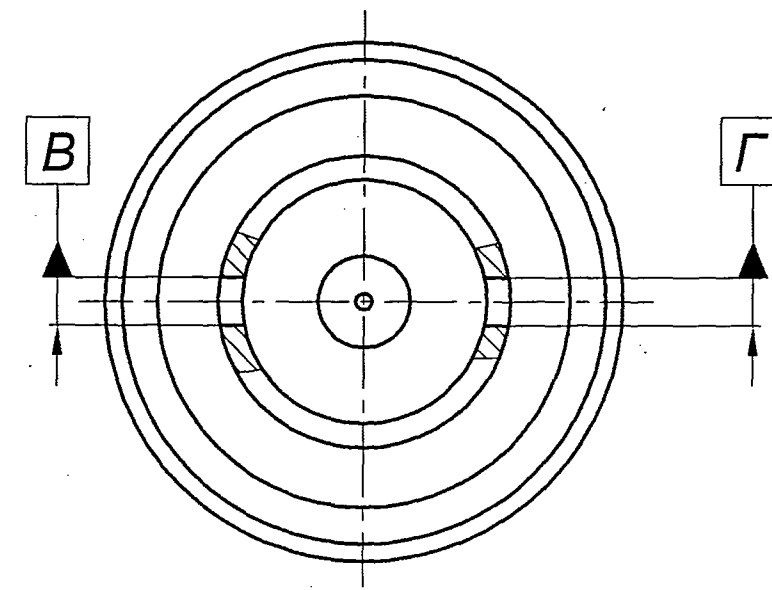
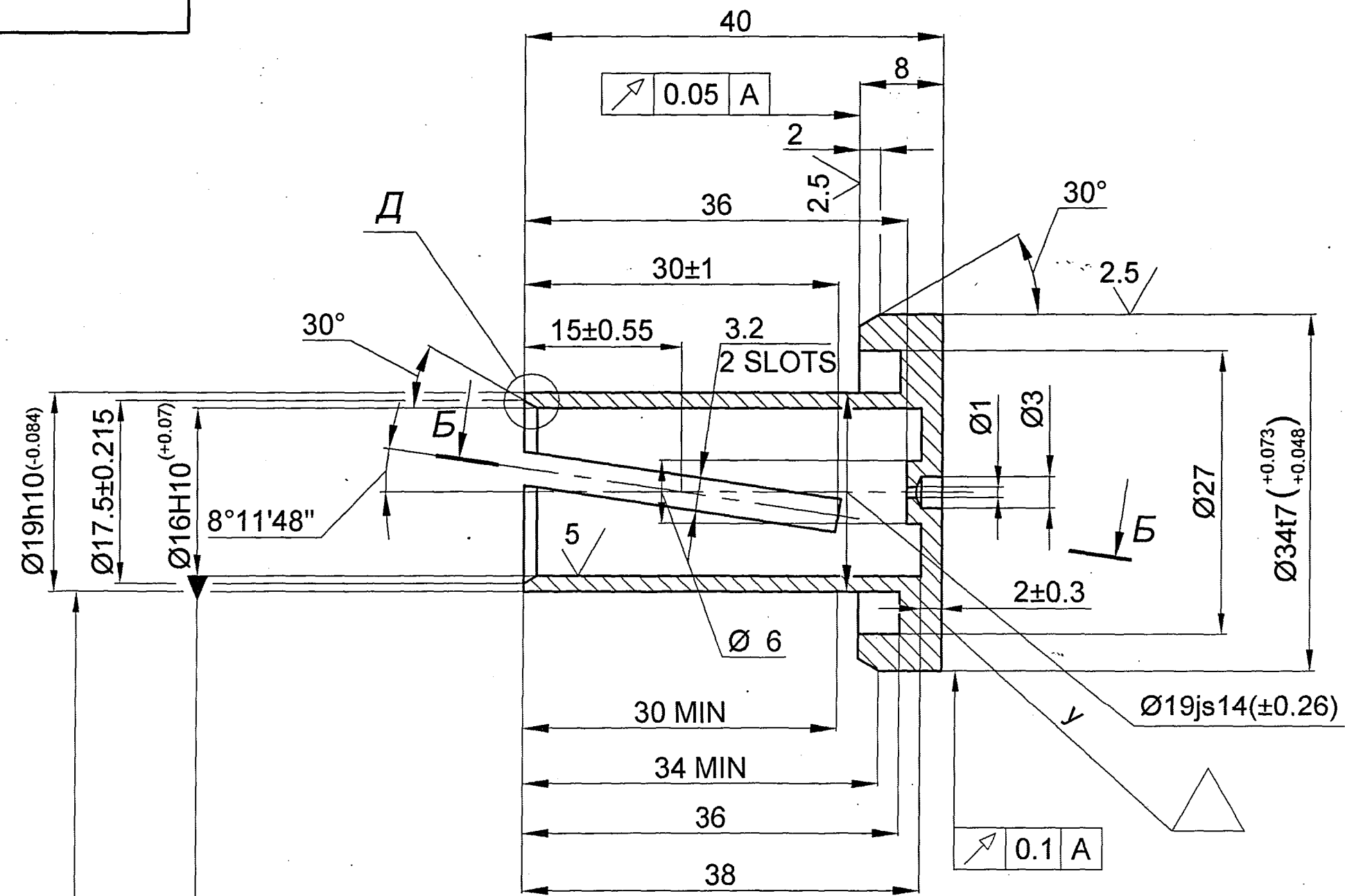
4A EQUIVALENT MATERIAL
STEEL 535A99 (EN31) TO BS:970/103
CR 2 TO IS 4399-72

PILOT SAMPLE SHOULD BE APPROVED BY A H S P BEFORE BULK PRODUCTION.		DRN		MATERIAL :- STEEL WX 15		USED ON :-	
		CHD		GOST 801-78		C6 326-04-1.	
EST. WT. 0.053 TO BE STAMPED OR MARKED WHERE INDICATED THUS # (LETTERS)		TCD		CONTROLLERATE OF QUALITY ASSURANCE (HEAVY VEHICLES) AVADI			
		APPD					
ALL SHARP EDGES AND CORNERS TO BE REMOVED UNLESS OTHERWISE STATED MACHINED CORNERS TO HAVE R OUT-SIDE R INSIDE EQUIVALENT CHAMFERS ARE PERMISSIBLE.		DATE		TITLE :-			
		SCALE:- 2:1					
F-4 238 253 SIZE A3		DIMENSIONS IN mm					
		TOLERANCE ON DIMNS UNLESS OTHERWISE STATED IS : 2102 - 69		ALL THREADS TO CONFORM TO		326-12	
		4 A 10-7-10		4th ALT. COMM. MEETING MINUTES POINT No 8 DT. 26-10-09			
		ISSUE DATE		NATURE OF AMENDMENTS			

DRAWING NUMBER
326-13

SHEET No. OF

10/ (✓)



- 28...35 HRC.
- H14, h14, $\pm \frac{IT14}{2}$.
- Carry out the inspection of dimensions and tolerance for location of surfaces given with respect to axis of surface A, before completion of slots.
- Coating is done zinc 3microns, chromium 1micron, titanium 1micron as per ИЛ-749-88. Local absence of coating on internal surfaces is allowed.

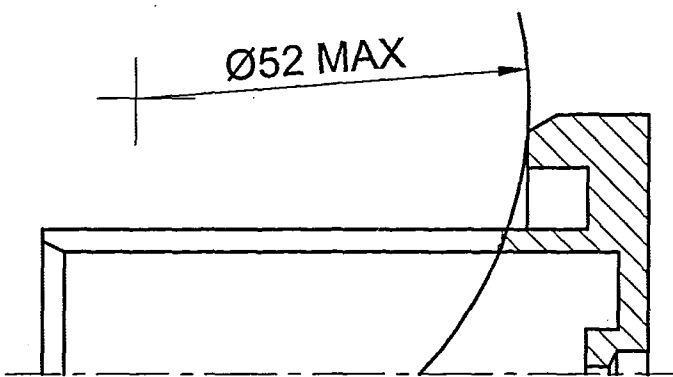
A
T0.2 (M) BГ (M)

0.1 A

Б-Б

Δ ALTERNATE

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



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

EST. WT. (kg) TO BE STAMPED OR MARKED WHERE INDICATED THUS # (LETTERS)
0.056

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

DRN	CHD	APPD	DATE	SCALE:- 2:1	DIMENSIONS IN mm	TOLERANCE ON DIMNS UNLESS OTHERWISE STATED IS: 2102-69	ALL THREADS TO CONFORM TO
			03/03/17				
MATERIAL:- STEEL 38XC GOST 4543-71				USED ON:- CB 326-03-1			
CONTROLERATE OF QUALITY ASSURANCE (HEAVY VEHICLES) AVADI				TITLE:- COVER			
A		10.5.09		Authy: Third Alt. Comm. Minutes Point: 2 Dated 27-02-2009.		D S CAT NUMBER	
ISSUE		DATE		NATURE OF AMENDMENTS		DRAWING NUMBER 326-13	

DRAWING INDIANISED BASED ON RUSSIAN ORIGINAL ISSUE - 4

F-4
239
253

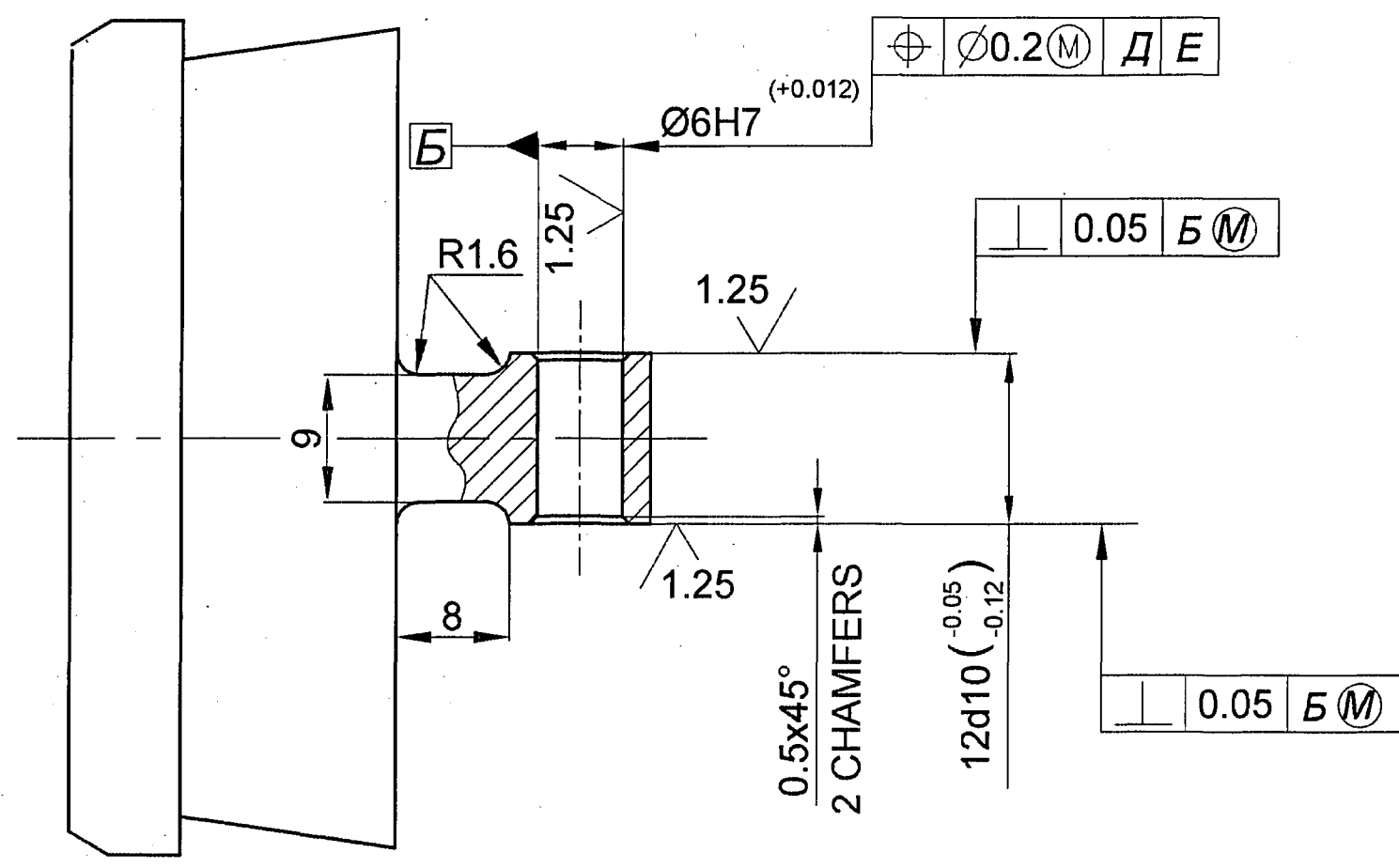
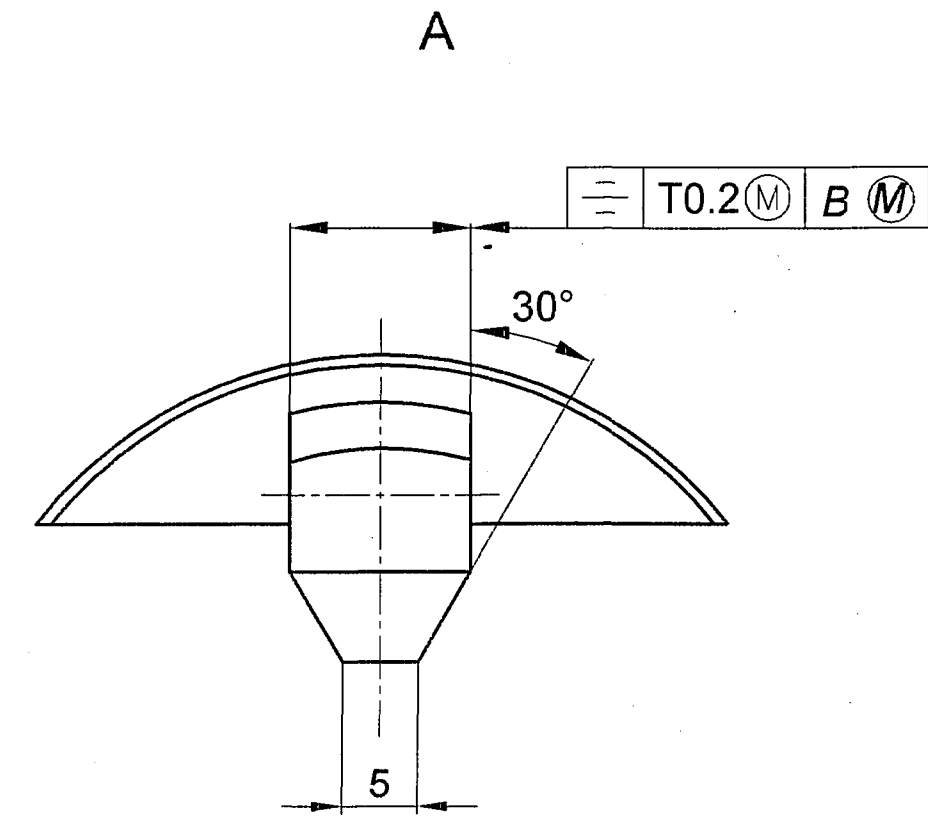
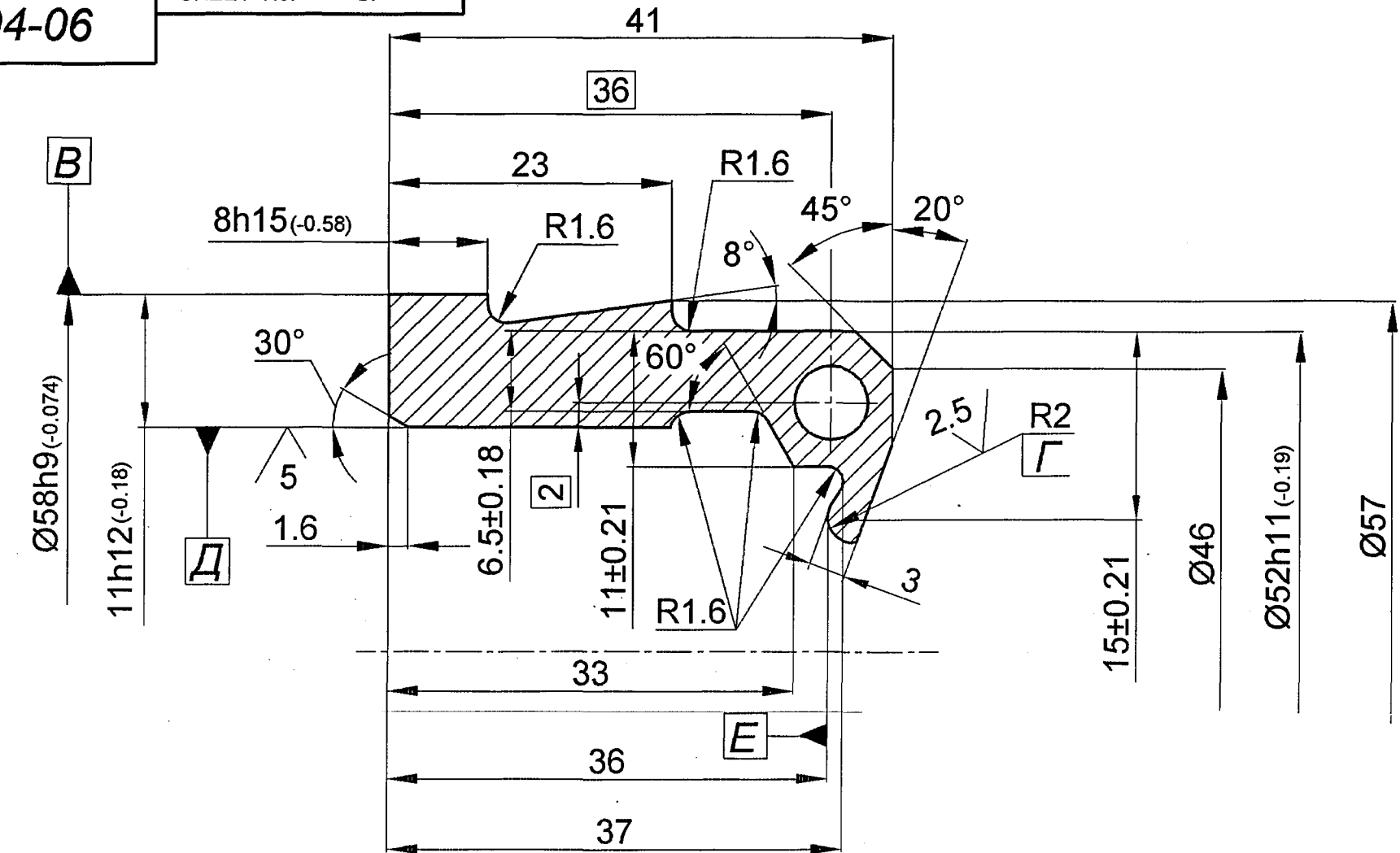
SIZE A4 x 3

DRAWING INDIANISED BASED ON RUSSIAN ORIGINAL ISSUE - 7

DRAWING NUMBER
360.26.004-06

SHEET No. OF

10/ (✓)



1. Inspection group III as per TT-II.
2. Carburize the surface Γ $h=0.5 \dots 0.8 \text{ mm}$; $HRC > 57$.
Other surfaces are allowed to be carburized.
3. $28 \dots 43 \text{ HRC}$ for non-carburized surface.
4. Unspecified limit deviations of dimensions:
 $h14, H14, \pm \frac{IT14}{2}$.
5. Inspection of dimensions and position of surfaces, given with respect to axis of surface B-to be carried out till it cuts the part blank.
6. Checking of carburization depth and hardness on the sample part is allowed.
7. Coating : Chemically oxidized, oiled as per ИЛ-681-87.

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

EST. WT. (kg) 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	APPD	DATE	MATERIAL :- STEEL 12XH3A GOST 4543-71	USED ON :- C6 326-03-1
SCALE:- 2:1				CONTROLLERATE OF QUALITY ASSURANCE (HEAVY VEHICLES) AVADI	
DIMENSIONS IN mm				TITLE :- FLY WEIGHT..	
TOLERANCE ON DIMNS UNLESS OTHERWISE STATED IS : 2102-69				D S CAT NUMBER	
8	27-11-08	Notification No. 265-06, F-158		DRAWING NUMBER	
7A	13-8-08	D.O. CORRECTION		360.26.004-06	
ISSUE	DATE	NATURE OF AMENDMENTS			

F-4
244
253
SIZE A4 x 4

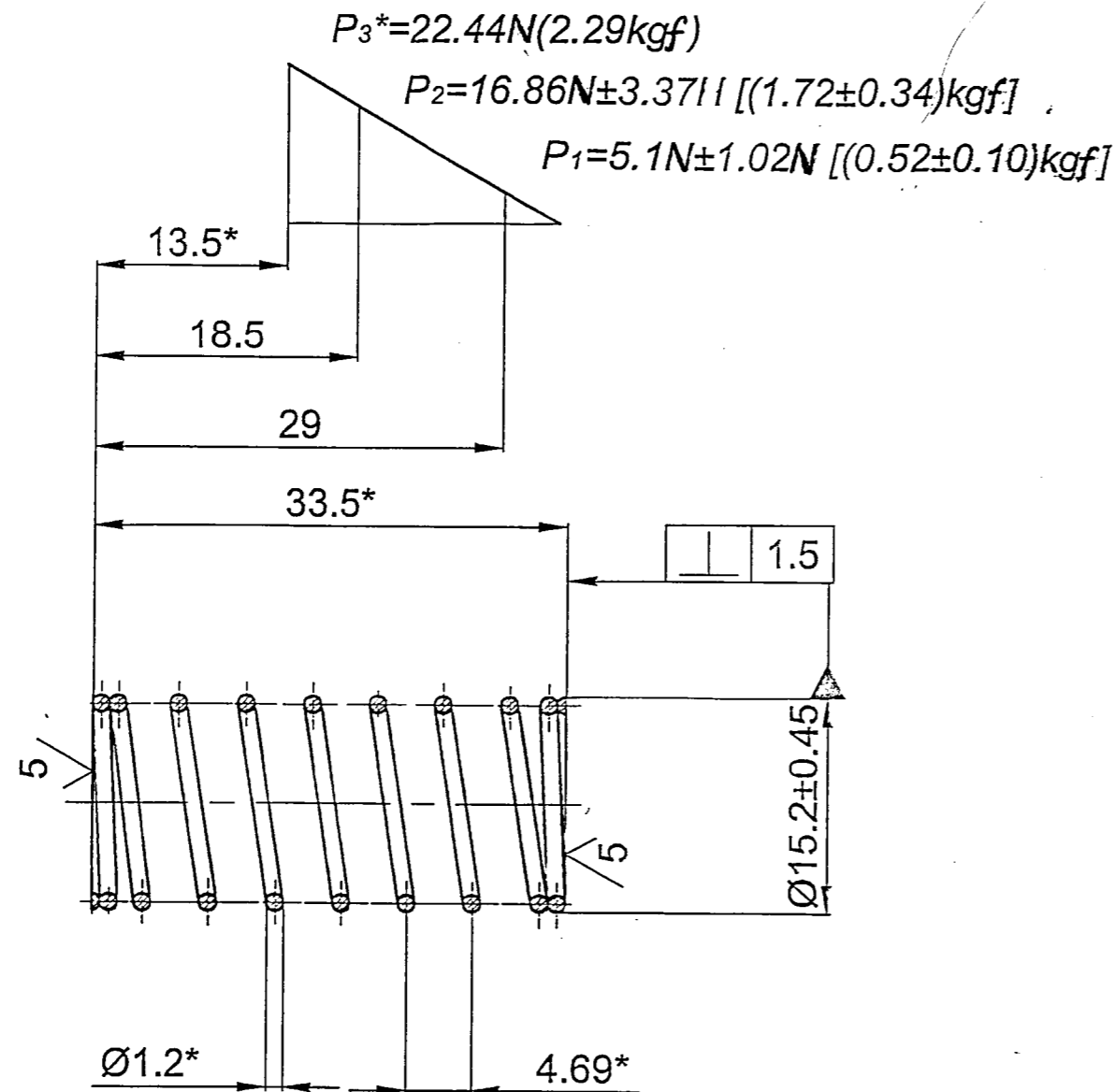
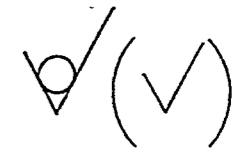
DRAWING INDIANISED BASED ON RUSSIAN ORIGINAL ISSUE - 3

4	3	2	1
DRAWING NUMBER 360.26.005-02		10 / (✓)	
F			
E			
D			
C			
B			
1. Inspection group: III as per TT-II. 2. Carburize h 0.6...1.2mm, HRC ₃ ≥ 52. Checking of carburization depth and hardness on sample parts is allowed. 3. Coating : Chemically oxidized, oiled as per ИЛ-681-87.			
(3B) EQUIVALENT MATERIAL EN 36B TO BS: 970/ 13 Ni 13 Cr 3 TO IS: 4432-1988			
PILOT SAMPLE SHOULD BE APPROVED BY A H S P BEFORE BULK PRODUCTION.			

F-4
 245
 253

			EST. WT. (Kg)	TO BE STAMPED OR MARKED WHERE INDICATED THUS # (LETTERS)
			0.008	
			ALL SHARP EDGES AND CORNERS TO BE REMOVED UNLESS OTHERWISE STATED MACHINED CORNERS TO HAVE R OUTSIDE R INSIDE EQUIVALENT CHAMFERS ARE PERMISSIBLE.	
3B	15-7-10	4 1/2 ALT. COMM. MEETING MINUTES POINT No 9. DT 26-10-09	MATERIAL :- STEEL 12XH3A GOST 4543-71	USED ON :- CB 326-03-1
3A	13-8-08	D.O. CORRECTION		
ISSUE	DATE	NATURE OF AMENDMENTS		
DRN	SCALE :- 2:1 DIMENSIONS IN mm		CONTROLLERATE OF QUALITY ASSURANCE (HEAVY VEHICLES) AVADI	
CHD	TOLERANCE ON DIMENSIONS UNLESS OTHERWISE STATED IS: 2102-69			TITLE :- SHAFT (3A)
APPD	ALL THREADS TO CONFORM TO		D S CAT NUMBER	DRAWING NUMBER 360.26.005-02
DATE	13/1/07			
SIZE A4				

DRAWING NUMBER
360.26.007-02



1. $T_3^* = 516 \text{ N/mm}^2$ (52.7 Kg/mm²).
(SHEAR STRESS)
2. Direction of winding - Counter clock wise left.
3. $\Pi = 6.5$
4. $\Pi_1 = 8.5 \pm 0.5$.
5. Variation of spring pitch in free condition should not be more than 0.5*mm.
6. Supporting surface of end turns should not be less than 0.75 length of arc of circle. Thickness of supporting turn should not be less 0.2mm.
7. Coating : Chemically oxidized, oiled as per ИЛ-681-87.
8. * Dimensions are given for reference.
9. Alternate material: Wire И-1.2 TY 14-4-923-87.

(4A) EQUIVALENT MATERIAL
Gr. DH/DM IS:4454-2001

DRAWING INDIANISED BASED ON RUSSIAN ORIGINAL ISSUE - 4

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

EST. WT. (Kg) 0.003 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.

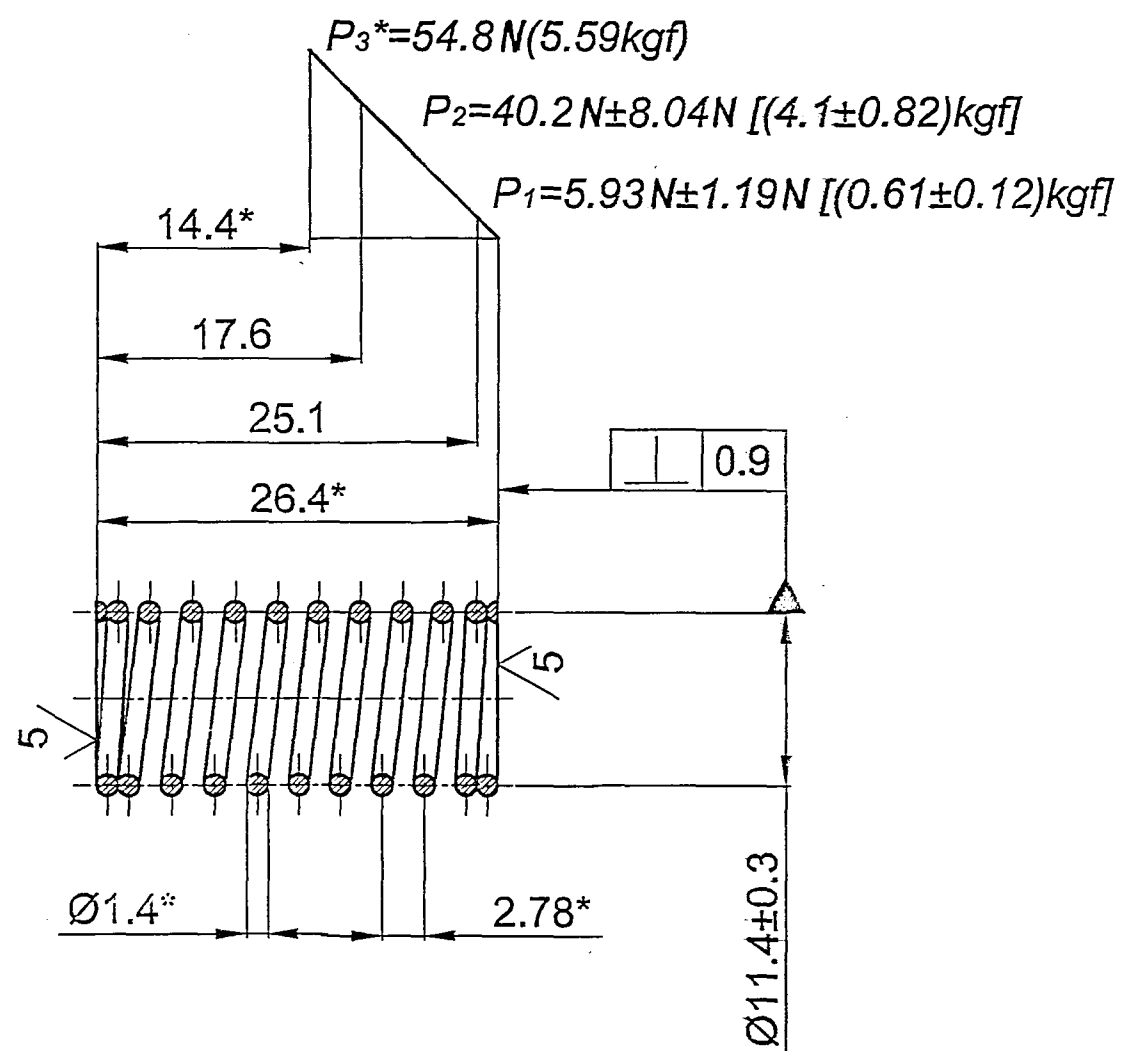
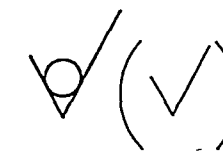


SIZE A3

			DRN	<i>[Signature]</i>	MATERIAL :-	WIRE 6-2-1.2 GOST 9389-75	USED ON :-	Cb 326-03-1
			CHD	<i>[Signature]</i>	CONTROLLERATE OF QUALITY ASSURANCE (HEAVY VEHICLES) AVADI			
			APPD	<i>[Signature]</i>	TITLE :-			
			DATE	04-12-08	SPRING			
			SCALE:-	2 : 1				
			DIMENSIONS IN mm		D S CAT NUMBER			
			TOLERANCE ON DIMNS UNLESS OTHERWISE STATED IS : 2102 - 69		DRAWING NUMBER			
			ALL THREADS TO CONFORM TO		360.26.007-02			
4A	16-8-10	4 th Alt. Comm. Meeting Minutes Point No.13 Dt.26.10.09	ISSUE	DATE	NATURE OF AMENDMENTS			

DRAWING INDIANISED BASED ON RUSSIAN ORIGINAL ISSUE - 4

DRAWING NUMBER
360.26.008-02



1. $T_3^* = 607.6 \text{ N/mm}^2$ (62 Kgf/mm²).
(SHEAR STRESS)
2. Direction of winding - Clock wise right.
3. $\Pi = 8$
4. $\Pi_1 = 10 \pm 0.5$.
5. Variation of spring pitch in free condition should not be more than 0.3*mm.
6. Supporting surface of end turns should not be less than 0.75 length of arc of circle. Thickness of supporting turn should not be less 0.2mm.
7. Coating : Chemically oxidized, oiled as per ИЛ-681-87.
8. * Dimensions are given for reference.
9. Alternate material: Wire И-1.4 TY 14-4-923-87.

Ⓔ4A EQUIVALENT MATERIAL
Gr. DH/DM IS:4454-2001

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

EST. WT. (Kg) TO BE STAMPED OR MARKED WHERE INDICATED THIS # (LETTERS)
0.004

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

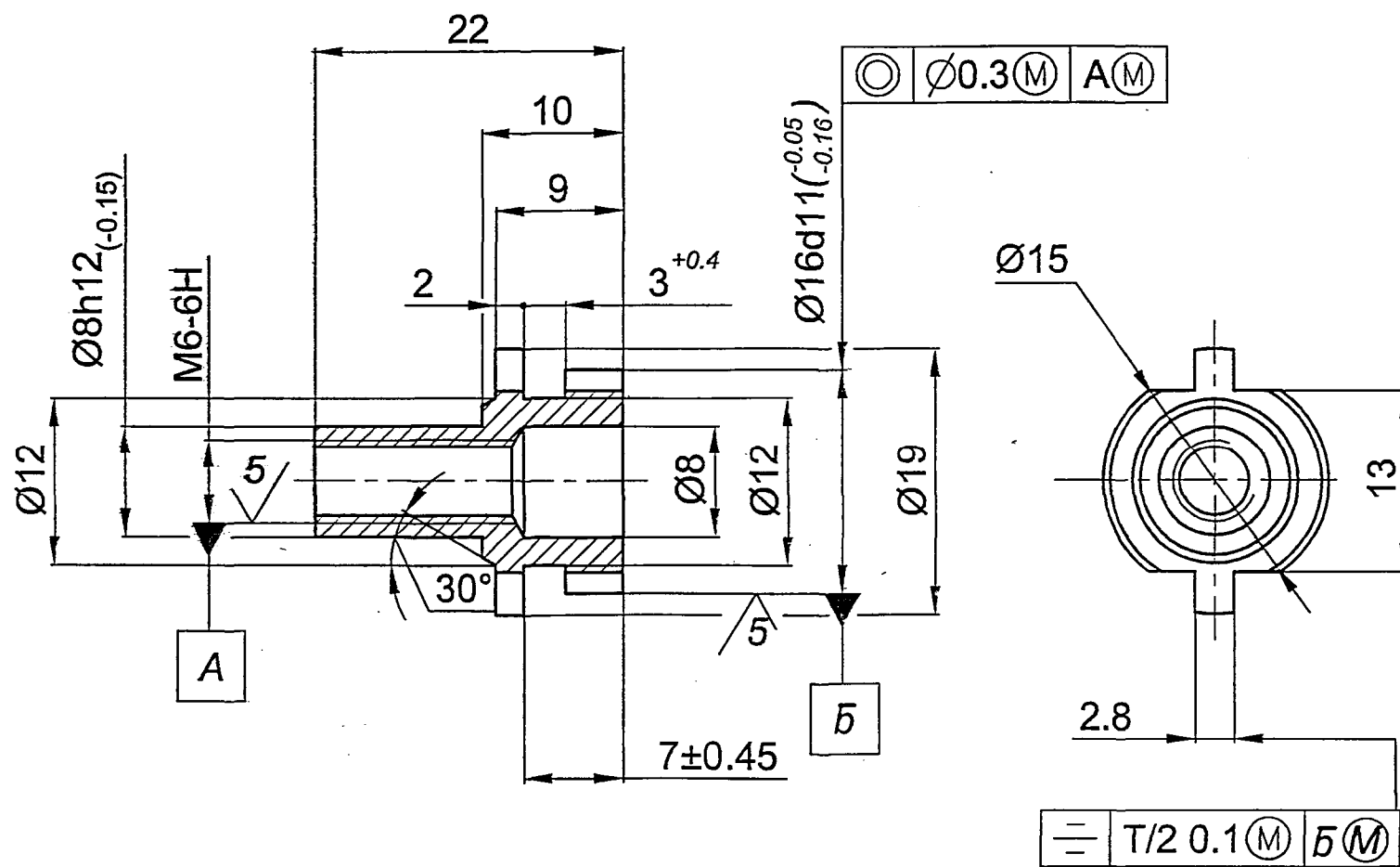
			DRN		MATERIAL :- WIRE 5-2-1.4 GOST 9389-75	USED ON :- Cb 326- 03-1
			CHD		CONTROLLERATE OF QUALITY ASSURANCE (HEAVY VEHICLES) AVADI	
			APPD			
			DATE	04-12-08		
			SCALE:-	2 : 1	TITLE :- SPRING	
			DIMENSIONS IN mm			
			TOLERANCE ON DIMNS UNLESS OTHERWISE STATED IS : 2102 - 69			
			ALL THREADS TO CONFORM TO		D S CAT NUMBER	DRAWING NUMBER 360.26.008-02
4A	16-8-10	4 th Alt. Comm. Meeting Minutes Point No.13 Dt:26-10-09	ISSUE	DATE	NATURE OF AMENDMENTS	

F-4
248
253

SIZE A3

DRAWING NUMBER
360.26.014-02

10
✓ (✓)



1. 24...32 HRC.

2. H14, h14, ± $\frac{IT14}{2}$.

3. Coating of Chemically oxidized, oiled as per ИЛ-681-87.

Ⓟ ALTERNATE MATERIAL : STEEL 080 M40 (EN8) TO BS: 970
Pt 1-1983 OR 45 C8 TO IS: 1570

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

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

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

DRN	CHD	APPD	DATE	SCALE	DIMENSIONS IN mm	TOLERANCE ON DIMNS UNLESS OTHERWISE STATED IS: 2102-69	ALL THREADS TO CONFORM TO	MATERIAL :- STEEL 45 GOST 1050-88	USED ON :- Cb 326-03-1
								CONTROLLERATE OF QUALITY ASSURANCE (HEAVY VEHICLES) AVADI	
								TITLE :- BUSHING Ⓟ	
								D S CAT NUMBER	DRAWING NUMBER 360.26.014-02

ISSUE	DATE	NATURE OF AMENDMENTS
5B	11-7-09	3 rd ALTERATION COMM. MINUTES POINT B. DATE 27-2-09
5A	13-8-08	D.O. CORRECTION

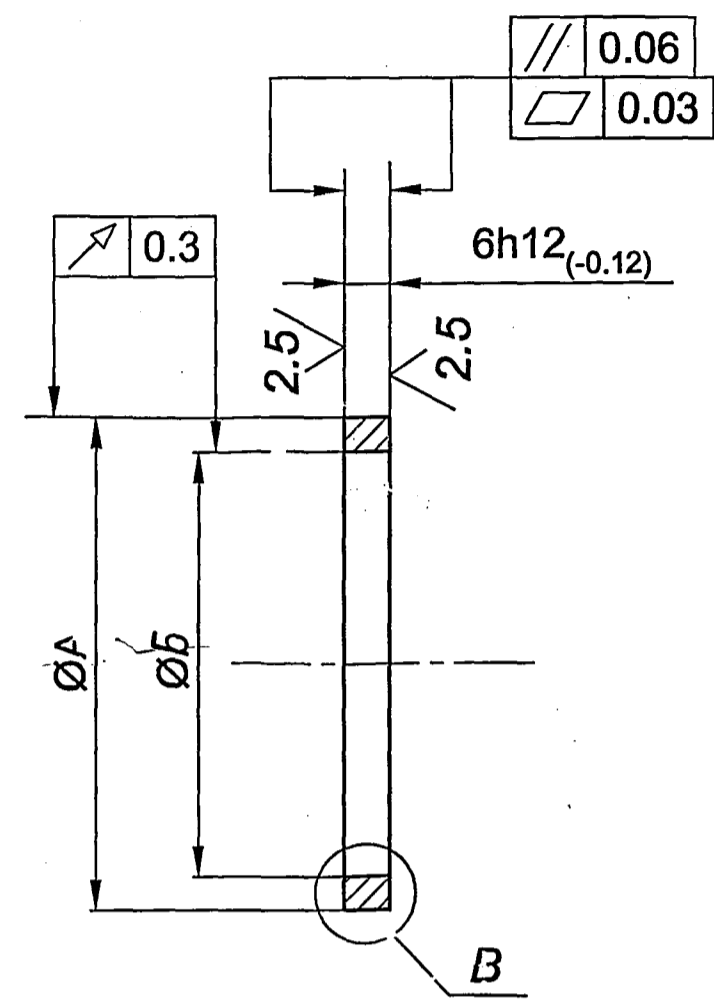
DRAWING INDIANISED BASED ON RUSSIAN ORIGINAL ISSUE - 5

F-4
250
253

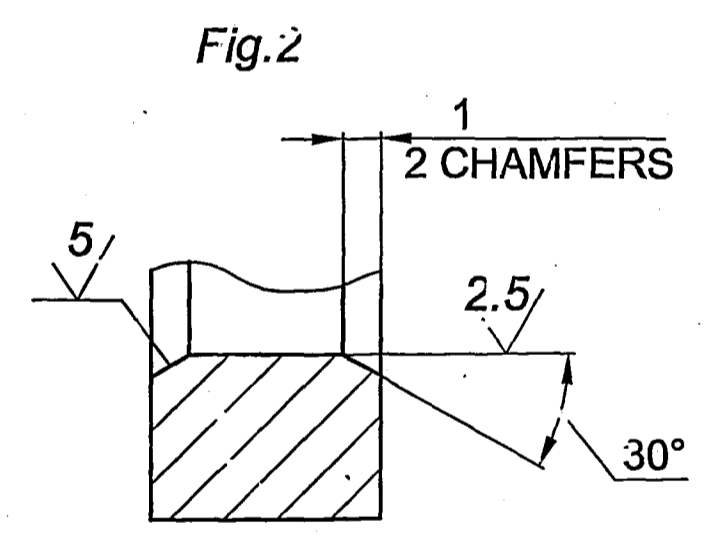
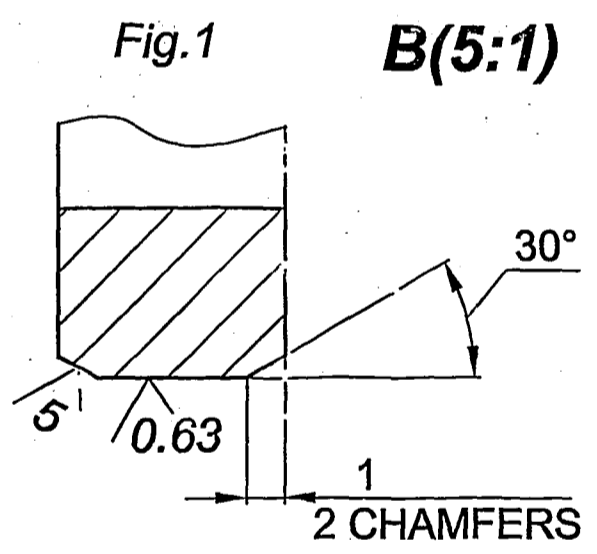
SIZE A3

DRAWING NUMBER
326-46

10/ (✓)



1. Inspection group III as per TT-II.
- ⑤ 2. Cyaniding minimum h 0.15...0.5 mm, 82HRN15.
2. HARDNESS 48.....55 HRC.
3. It is allowed to check the tolerance for flatness "by bluing", as per VJ-613-85, imprints on the faces should be continuous ring shaped band of width of minimum 1.5mm.
4. Inspection of hardness by calibrated file is permitted.
5. Absence of cyanide layer on the faces on sections with dimension 6x6mm is permitted.



Drg.no	Dimension,MM		Fig. for B	USED ON
	ØA	Øb		
326-46	65f6 ^(-0.030) _(-0.049)	56H12 ^(+0.46)	1	ES 326-00-1
326-46-01	64h12 ^(-0.46)	55H7 ^(+0.03)	2	-do-

⑤ * SHEET GOST 19903-74
65Г GOST 1577-93

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

EST. WT. (Kg) J.04 TO BE STAMPED OR MARKED WHERE INDICATED THUS # (LETTERS)

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

DRN	APPD	DATE	SCALE: 1:1	DIMENSIONS IN mm	TOLERANCE ON DIMNS UNLESS OTHERWISE STATED IS: 2102-69	ALL THREADS TO CONFORM TO	ISSUE	DATE	NATURE OF AMENDMENTS	MATERIAL: STEEL 20	⑤ * GOST 1050-88	USED ON: see table	CONTROL RATE OF QUALITY ASSURANCE (HEAVY VEHICLES)	TITLE: RING	D S CAT NUMBER	DRAWING NUMBER 326-46/326-46-01
							5	26.4.12	16 th TRIG POINT No. 6							

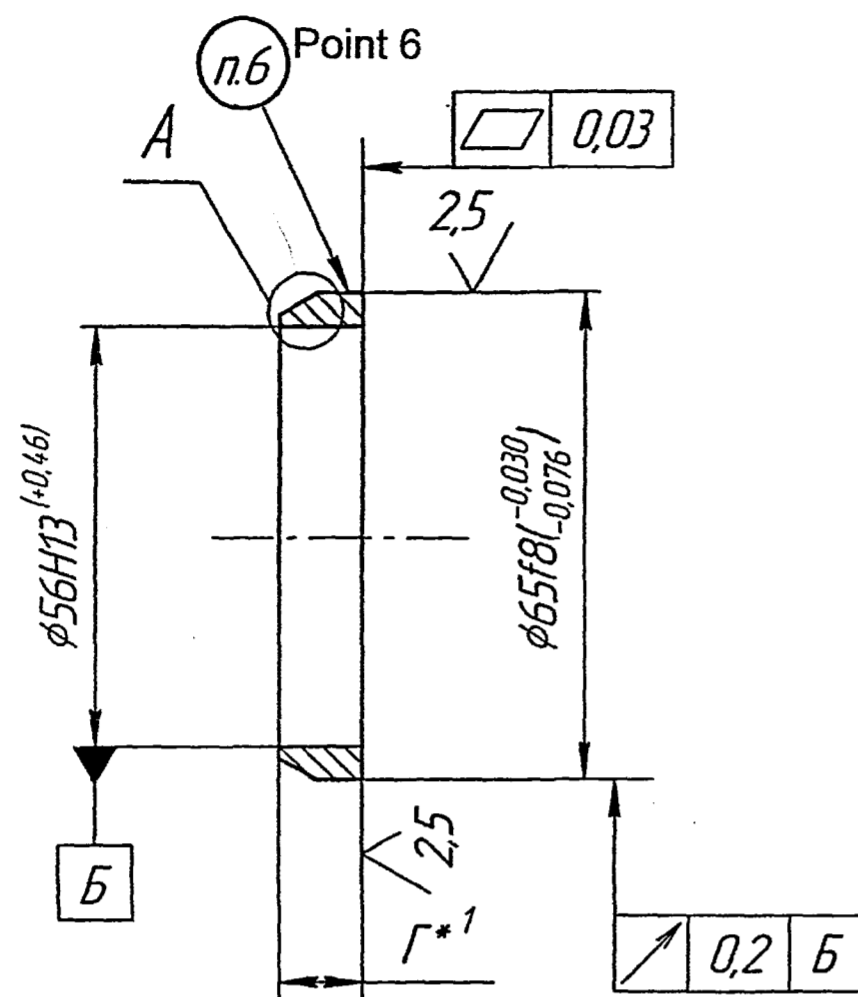
DRAWING INDIANISED BASED ON RUSSIAN ORIGINAL ISSUE 4

F-4
240
253
SIZE A2

DRAWING NUMBER
326-47

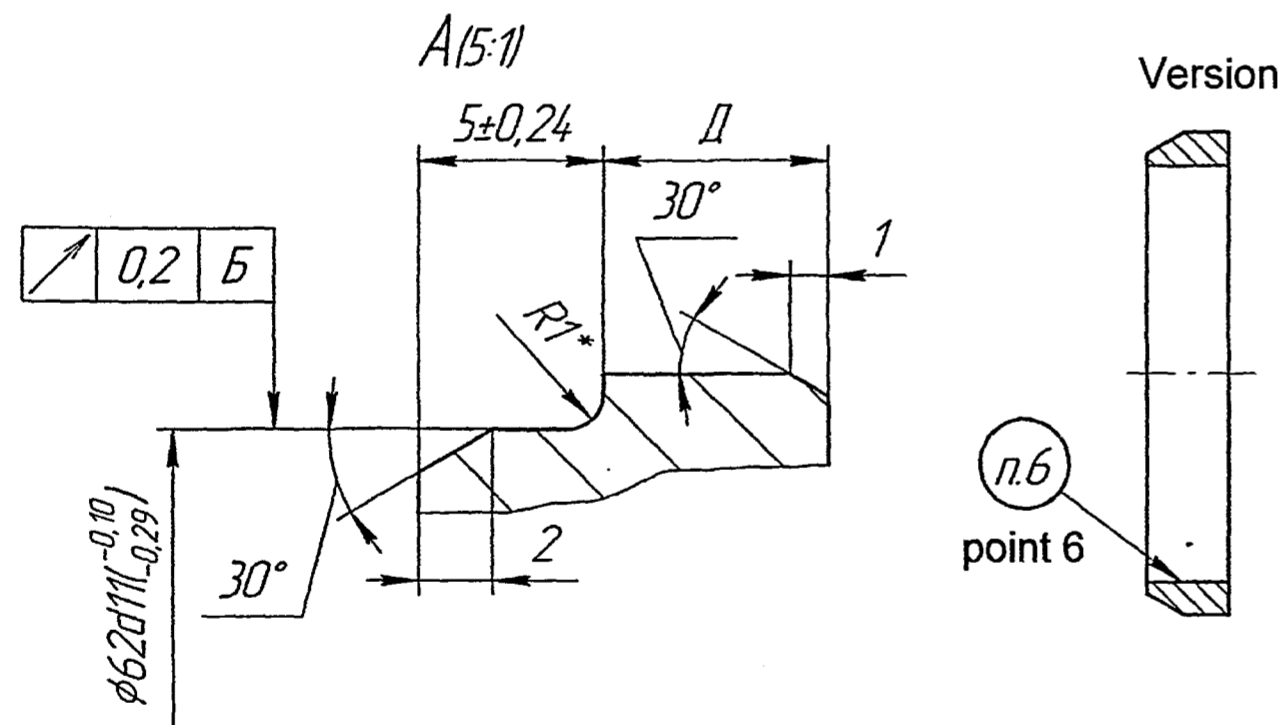
SHEET No. 1 OF 1

10/ (✓)



Code	Dimensions in mm		Weight in kg
	Г	Д	
326-47	11	6h12 _(-0,12)	0,07
-01	11,5	6,5h12 _(-0,15)	0,073
-02	12	7h12 _(-0,15)	0,077
-03	12,5	7,5h12 _(-0,15)	0,08
-04	13	8h12 _(-0,15)	0,084
-05	13,5	8,5h12 _(-0,15)	0,087
-06	14	9h12 _(-0,15)	0,091
-07	14,5	9,5h12 _(-0,15)	0,094
-	-	-	-
-	-	-	-
-10	10,5	5,5h12 _(-0,12)	0,067
-11	10	5,0h12 _(-0,12)	0,063

1. Group of control III as per TT-11.
2. 32...39 HRC.
3. * Dimensions are ensured by tool.
4. It is permitted to inspect the tolerance of plane "on paint" as per ИЛ-613-85, imprints on end face should be by continuous annular belt having width 1.5 mm max.
5. *1 Dimensions for reference.
6. Mark nominal dimension Д by electric spark method.



DRAWING INDIANISED BASED ON RUSSIAN ORIGINAL ISSUE - 6
DRG. REPLACES 326-47 ISSUE - 5 VIDE NOTN.No: 2002-196

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

EST. WT. (Kg)	TO BE STAMPED OR MARKED WHERE INDICATED THUS # (LETTERS)
REF. TABLE	
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	B. And B.	MATERIAL :-	USED ON :-
CHD	10/01/09	STEEL 45X GOST 4543-71	Cb.326-00-1
APPD	R. S. S.	CONTROLLERATE OF QUALITY ASSURANCE (HEAVY VEHICLES) AVADI	
DATE	02-01-09	TITLE :-	
SCALE:-	1 : 1	RING	
DIMENSIONS IN mm		D S CAT NUMBER	
TOLERANCE ON DIMNS UNLESS OTHERWISE STATED IS : 2102 - 69		DRAWING NUMBER	
ALL THREADS TO CONFORM TO		326-47	
ISSUE	DATE	NATURE OF AMENDMENTS	

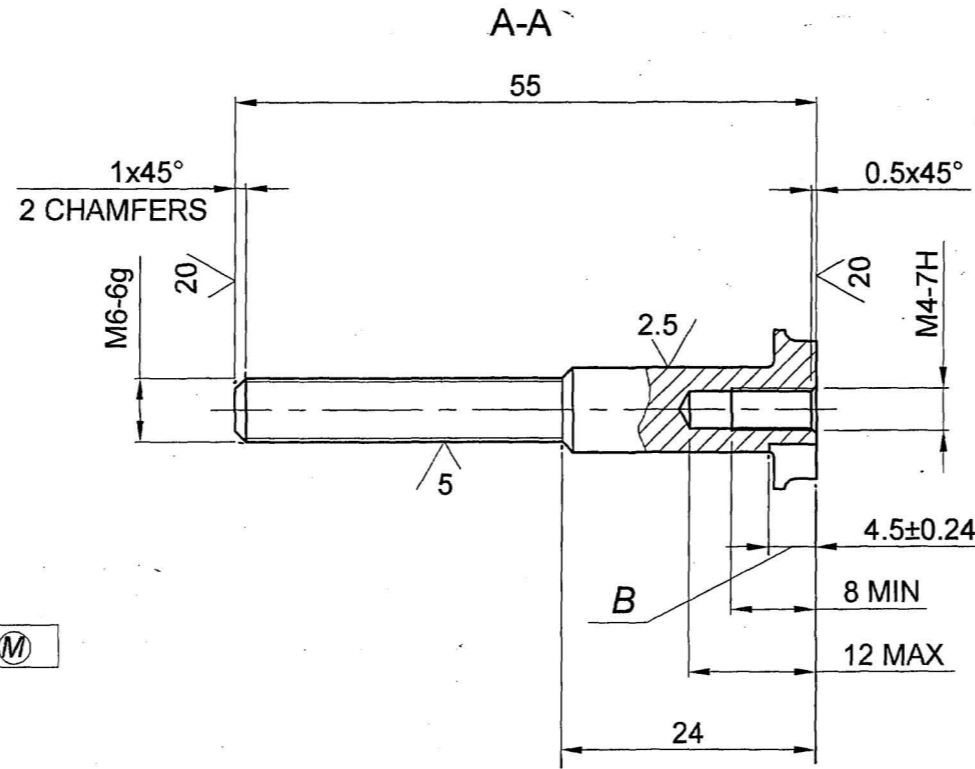
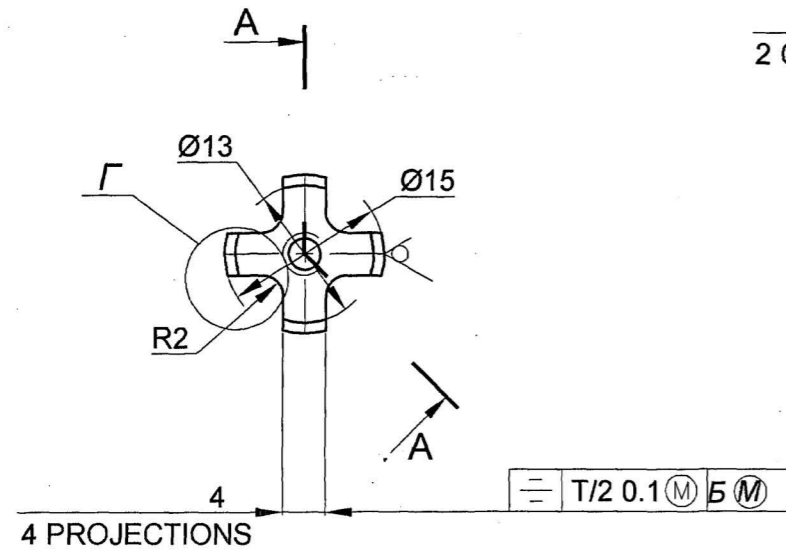
F - 158

SIZE A2

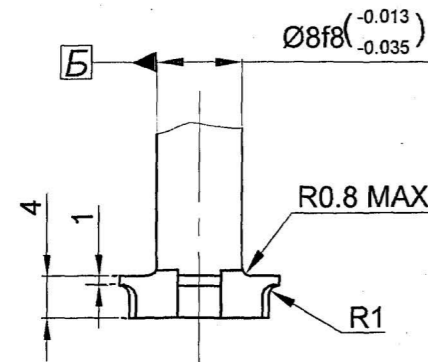
DRAWING NUMBER
360.26.006-02

SHEET No. OF

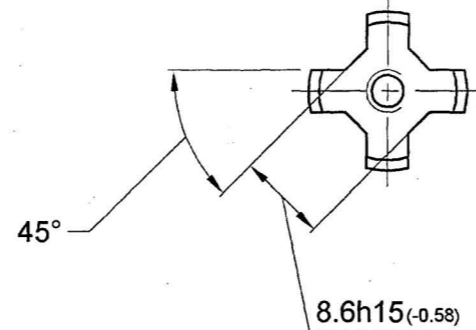
10/ (✓)



1. Inspection group IV as per TT-11.
2. 24...32 HRCэ.
3. Unspecified limit deviations of dimensions:
 $h14, \pm \frac{IT14}{2}$.
4. Coating : Chemically oxidized, oiled as per ИЛ-681-87.
5. During machining of 4 projections, marks due to withdrawal of the tool on the surface 'B' is allowed within the limits of dimension of "B"



ALTERNATE



9B ALTERNATE MATERIAL : STEEL 080 M40 (EN 8) TO BS: 970
PT-1-1983 OR 45 CB 15: 1570

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

EST. WT. (kg) 0.017 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	Aseshi	MATERIAL :-	STEEL 45	USED ON :-	
CHD	R. S. S. S.		GOST 1050-88		CB 326-00-1
APPD		CONTROLLERATE OF QUALITY ASSURANCE (HEAVY VEHICLES) AVADI			
DATE	25/11/09				
SCALE:- 2:1		TITLE :- ADJUSTING SHAFT 9A			
DIMENSIONS IN mm					
TOLERANCE ON DIMNS UNLESS OTHERWISE STATED IS: 2102-69		D S CAT NUMBER			
ALL THREADS TO CONFORM TO					
ISSUE	DATE	NATURE OF AMENDMENTS		DRAWING NUMBER 360.26.006-02	
9B	11-7-09	3rd ALTERATION COMM. MINUTES POINT B, DATE 27-2-09			
9A	13-8-08	D.O. CORRECTION			

DRAWING INDIANISED BASED ON RUSSIAN ORIGINAL ISSUE - 9

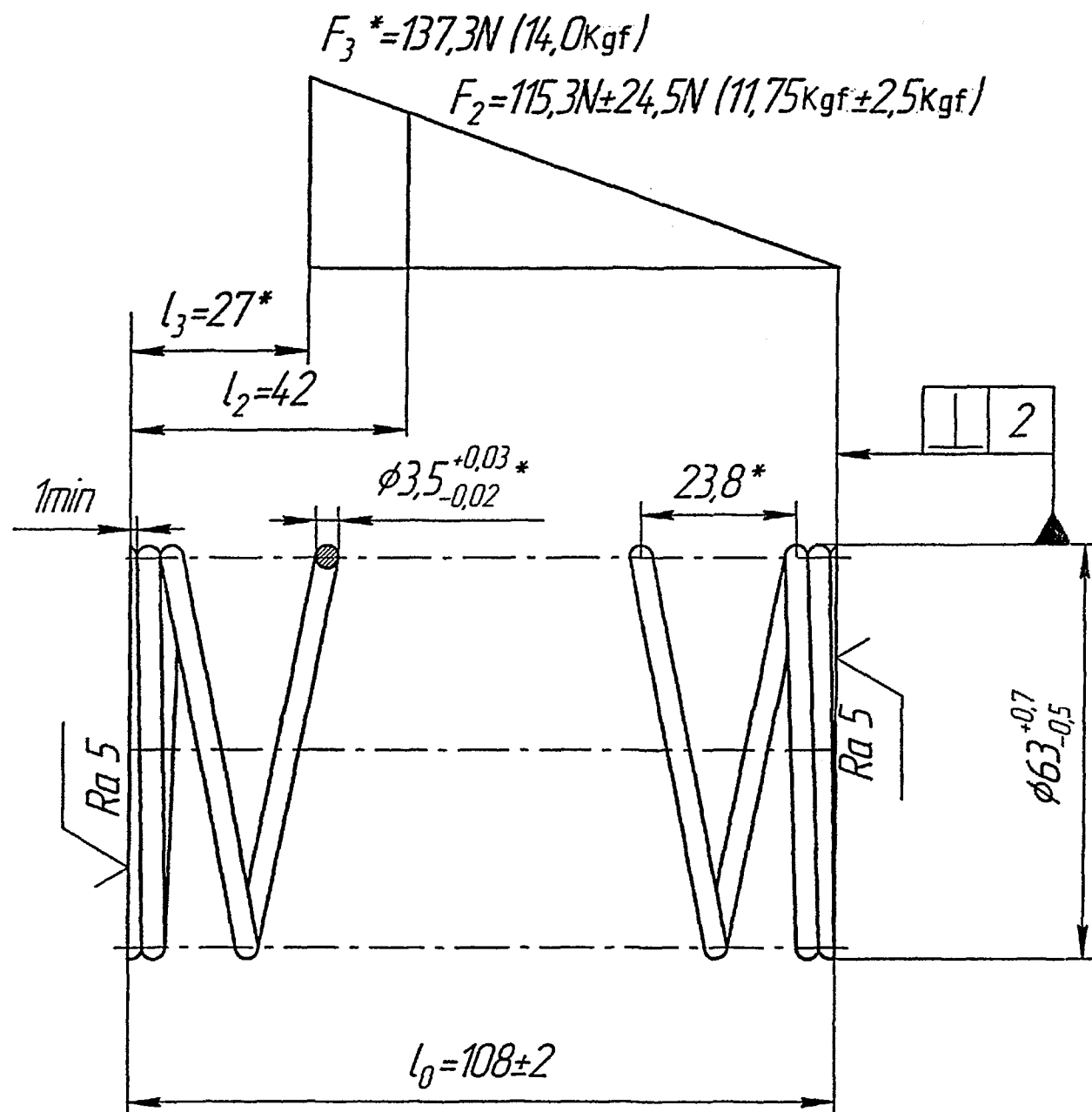
F-4
246
253

SIZE A4 x 3

DRAWING NUMBER

326-52

SHEET No. 1 OF 1



1. Direction of coil - any.
2. $n=4$.
3. $n1=8^{-0.25}$.
4. Unevenness of pitch of spring in free condition is not more than 4 mm.
5. Supporting surface of extreme turns is not less than 0.65 to length of arc of circumference.
6. Round the sharp edges of grinded turns as per master sample.
7. Coating: Chemical oxidation and oiling as per ИЛ-681-87.
8. * Dimensions and parameters for reference.
9. Other technical requirements and inspection method as per GOST 16118-70 for spring of III group of accuracy.
10. Length of springs, compressed up to touching of turns should be (26.25 ± 0.75) mm. It is permitted to carry out inspection of length under load 200N (20 kgf), minimum, during this adjacency of adjacent turns to each other not on entire length of circumference of turns is permitted.
11. $D2 = 64.8$ mm.
 $DC = 55.2$ mm.

 DRAWING INDIANISED BASED ON RUSSIAN ORIGINAL ISSUE - NIL
 DRAWING REPLACES 360.26.009-01 VIDE NOTN. No. 2002-196.

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

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

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

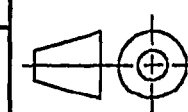
 DRN *B. And Bab*
 CHD *M. S. S. S.*
 APPD *P. S. S. S.*
 DATE 03-01-09

SCALE:- 1 : 1

DIMENSIONS IN mm

 TOLERANCE ON DIMNS
 UNLESS OTHERWISE
 STATED IS : 2102 - 69
ALL THREADS TO
CONFORM TO
 MATERIAL :-
 Wire 68FA-K-2A-17-3,5
 GOST 1071-81

 USED ON :-
 Cb.326-00-1

 CONTROLLERATE OF QUALITY ASSURANCE (HEAVY VEHICLES)
 AVADI


TITLE :-

SPRING

D S CAT NUMBER

DRAWING NUMBER

326-52

F-158

SIZE A3

8

7

6

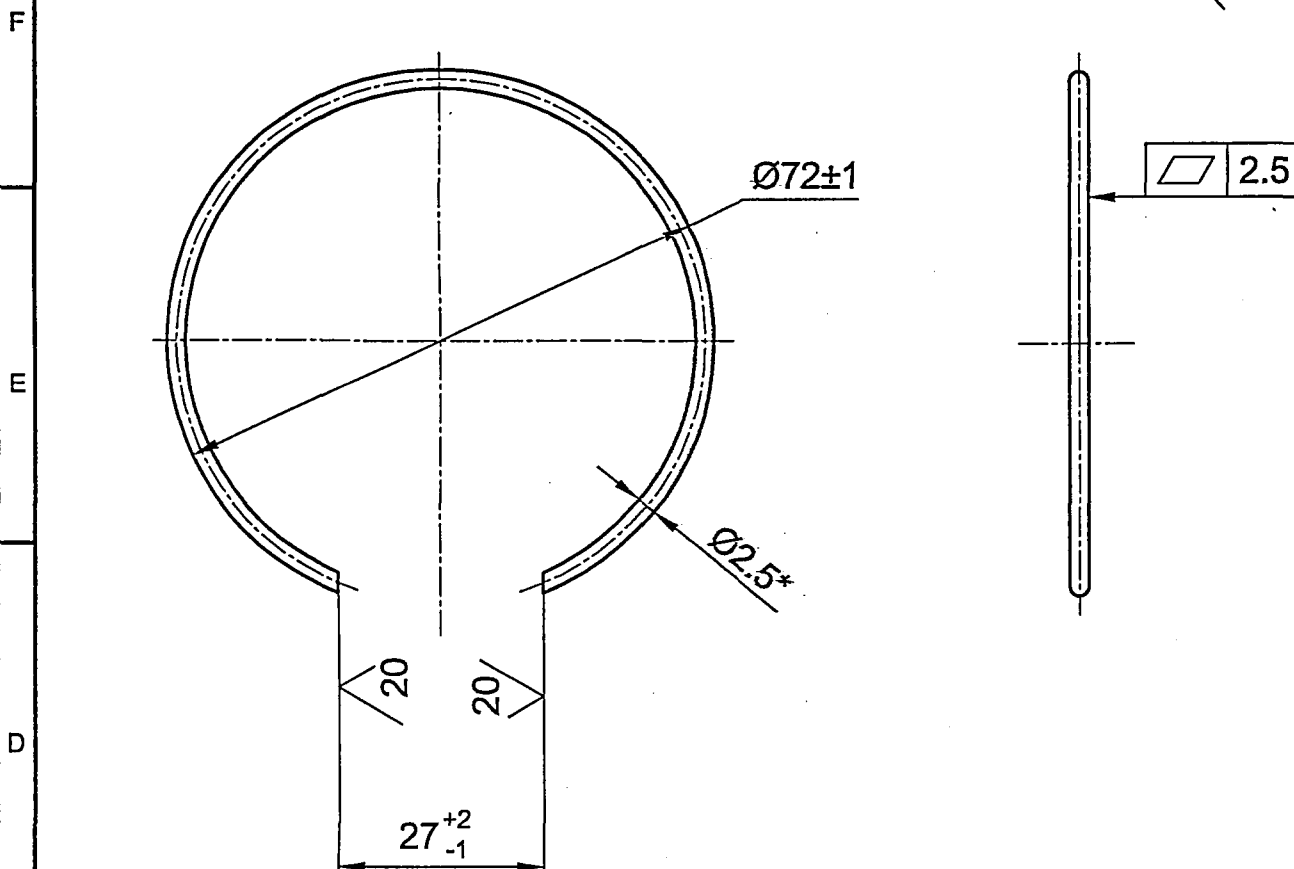
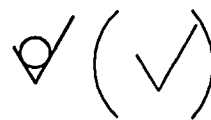
ISSUE

DATE

NATURE OF AMENDMENTS

DRAWING INDIANISED BASED ON RUSSIAN ORIGINAL ISSUE - 5

DRAWING NUMBER
360.26.016-01



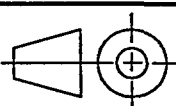
1. Coating : Chemically oxidized, oiled as per ИЛ-681-87.
2. Alternate material: Wire И-2.5 ТУ 14-4-923-87.
3. * Dimension is given for reference.

F-4
252
253

(5A) EQUIVALENT MATERIAL
Gr. SM/SH IS:4454-2001

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

			EST. WT. (Kg) 0.007	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 :- WIRE 5-2-2.5 GOST 9389-75	USED ON :- <i>Cb 326-00-1</i>
5A	16.8.10	4 th Alt. Comm. Meeting Minutes Point No.13 Dt: 26-10-09		
ISSUE	DATE	NATURE OF AMENDMENTS		
DRN	<i>[Signature]</i>	SCALE :- 1:1	CONTROLLERATE OF QUALITY ASSURANCE (HEAVY VEHICLES) AVADI	
		DIMENSIONS IN mm		
CHD	<i>[Signature]</i>	TOLERANCE ON DIMENSIONS UNLESS OTHERWISE STATED IS : 2102 - 69	TITLE :- SPRING RING	
APPD	<i>[Signature]</i>	ALL THREADS TO CONFORM TO	D S CAT NUMBER	DRAWING NUMBER
DATE	23/11/07			360.26.016-01

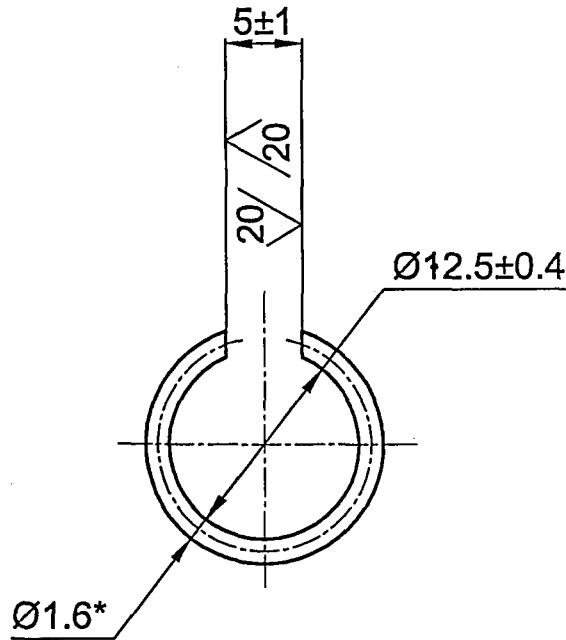
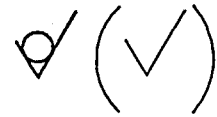


SIZE A4

DRAWING INDIANISED BASED ON RUSSIAN ORIGINAL ISSUE - 5

F-4
253
253

DRAWING NUMBER
360.26.025



1. Coating : Chemically oxidized, oiled as per ИЛ-681-87.
2. * Dimension is given for reference.
3. Alternate material: Wire II- 1.6 TY 14-4-923-87.

(5B) EQUIVALENT MATERIAL
Gr. SM/SH IS:4454-2001

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

			EST. WT. (Kg) 0.0006	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.	
5B	16.8.10	4 th Alt. Comm. Meeting Minutes Point No.13 Dt: 26-10-09	MATERIAL :- WIRE 5-2-1.6 GOST 9389-75	USED ON :- <i>Cb 326-00-1</i>
5A	13-8-08	D.O. CORRECTION		
ISSUE	DATE	NATURE OF AMENDMENTS		
DRN	SCALE :- 2 : 1 DIMENSIONS IN mm		CONTROLLERATE OF QUALITY ASSURANCE (HEAVY VEHICLES) AVADI	
CHD	TOLERANCE ON DIMENSIONS UNLESS OTHERWISE STATED IS : 2102 - 69		TITLE :-	LOCK RING (5A)
APPD	ALL THREADS TO CONFORM TO		D S CAT NUMBER	DRAWING NUMBER 360.26.025
DATE	<i>22/11/09</i>			

SIZE A4