

NOTE:-
 DRG. NO. IN ENGLISH MVP 2-000SB REPRESENTS
 DRG. NO. МВН2-000СБ & МВН-2; МВН.000Т in RUSSIAN.

VERIFIED
 24 FEB 2008
 JWM/STD-CELL

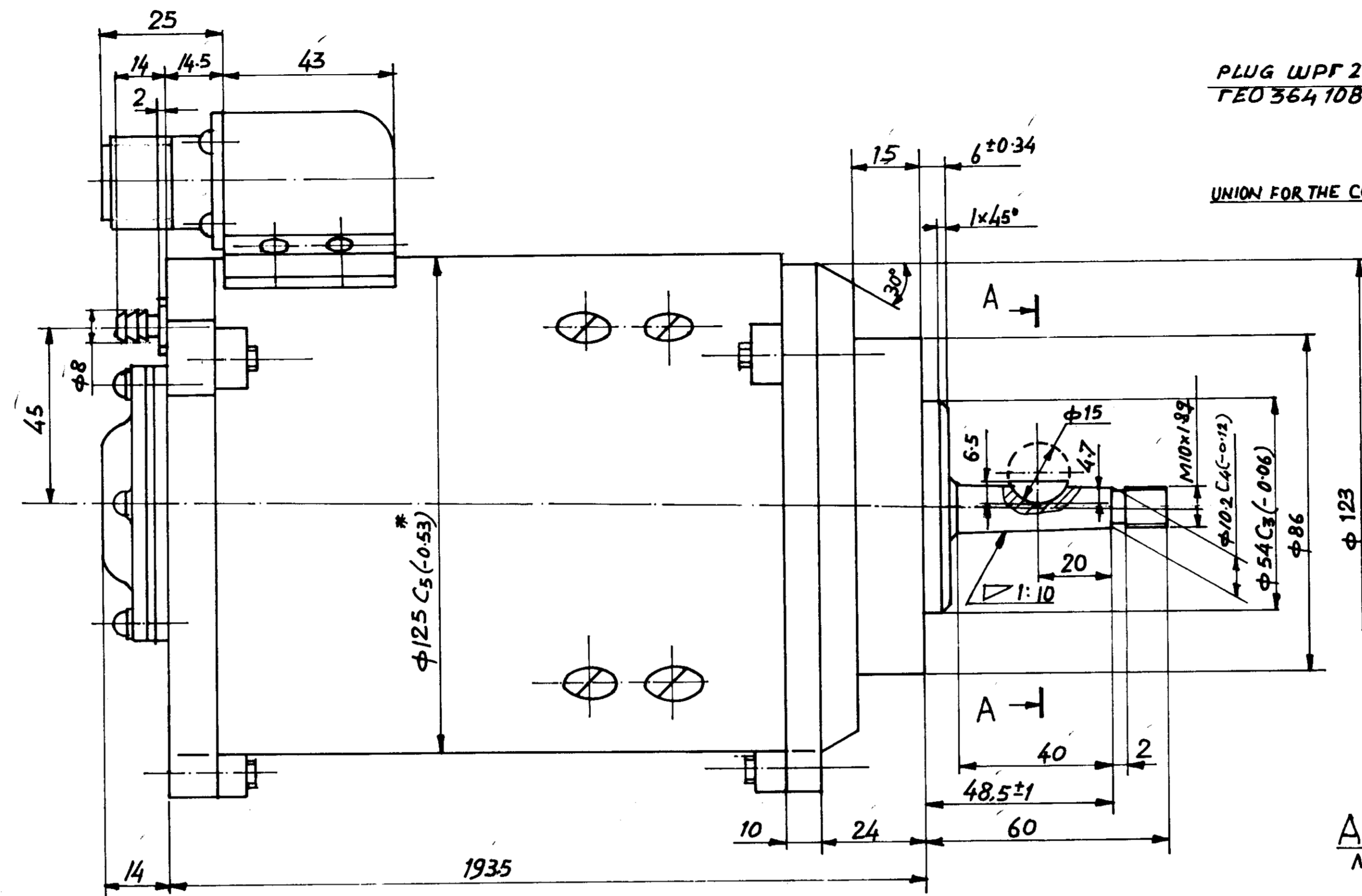
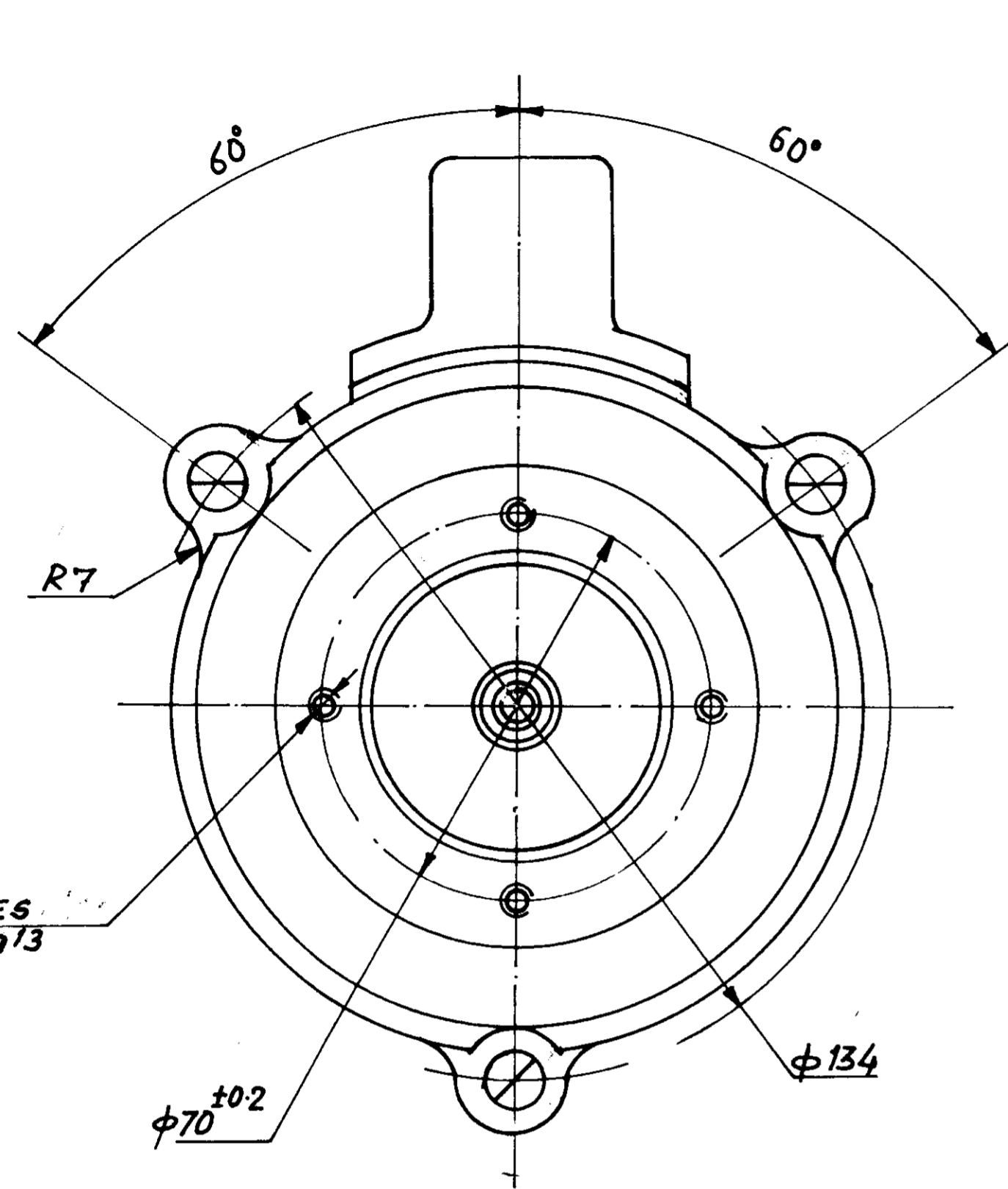
- Secure the unoin Ref.No.11, screws Ref.No.24,25 and screw Ref.No.23 which fasten the cover Ref.No.12 with the sealant Y30M, GOST 13489-79.
- Smear the place of cover seams with sealant Y-30M GOST 13489-79.
- Coat enamel XB-124, grey GOST 10144-74 on the screws Ref.No.23, which fasten brush Ref.No.6 and fastening parts Ref.No. 19, 20, 18, 27, 26.
- Solder the lead Ref.No.7 to the minus terminal 2 of plug connector using tin 03, GOST 860-75.
- After soldering the wires to the plug connector lead terminals, their soldering places and the pins should be insulated each with glass varnished cloth Ref.No.30 tightly upto the textolite washer of plug connector.
- Apply enamel XB-124, grey, GOST 10144-74 as the screw Ref.No.22.
- Coat electric motor with enamel Mп-12, black, GOST 9754-76 except on surfaces A and 5.
- Coat the inscriptions using enamel $\Gamma\phi-115$, white, GOST 6465-76.
- Mark using type 5 no. H0.010.007, with depth not less than 0.5mm.
- Screw the transporting cap Ref.No.21 on the plug connector it is not shown conventionally in drawing.

FIRST ANGLE PROJECTION

इन आरेखों तथा इसके साथ की सम्पूर्ण सामग्री का स्वत्वाधिकार भारत सरकार रक्षा मंत्रालय की भारतीय आयुध निर्माणियों के पास है। भारतीय आयुध निर्माणियों के महानिदेशक की लिखित अनुमति के बिना इनकी नकल या किसी भी रूप में इनके उद्धरण या इनमें समाहित सूचना किसी अनधिकृत व्यक्ति को उपलब्ध नहीं कराई जानी चाहिए।

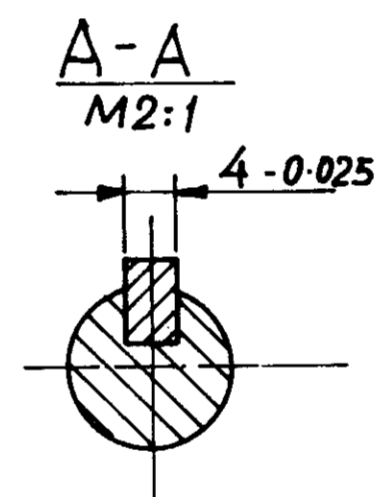
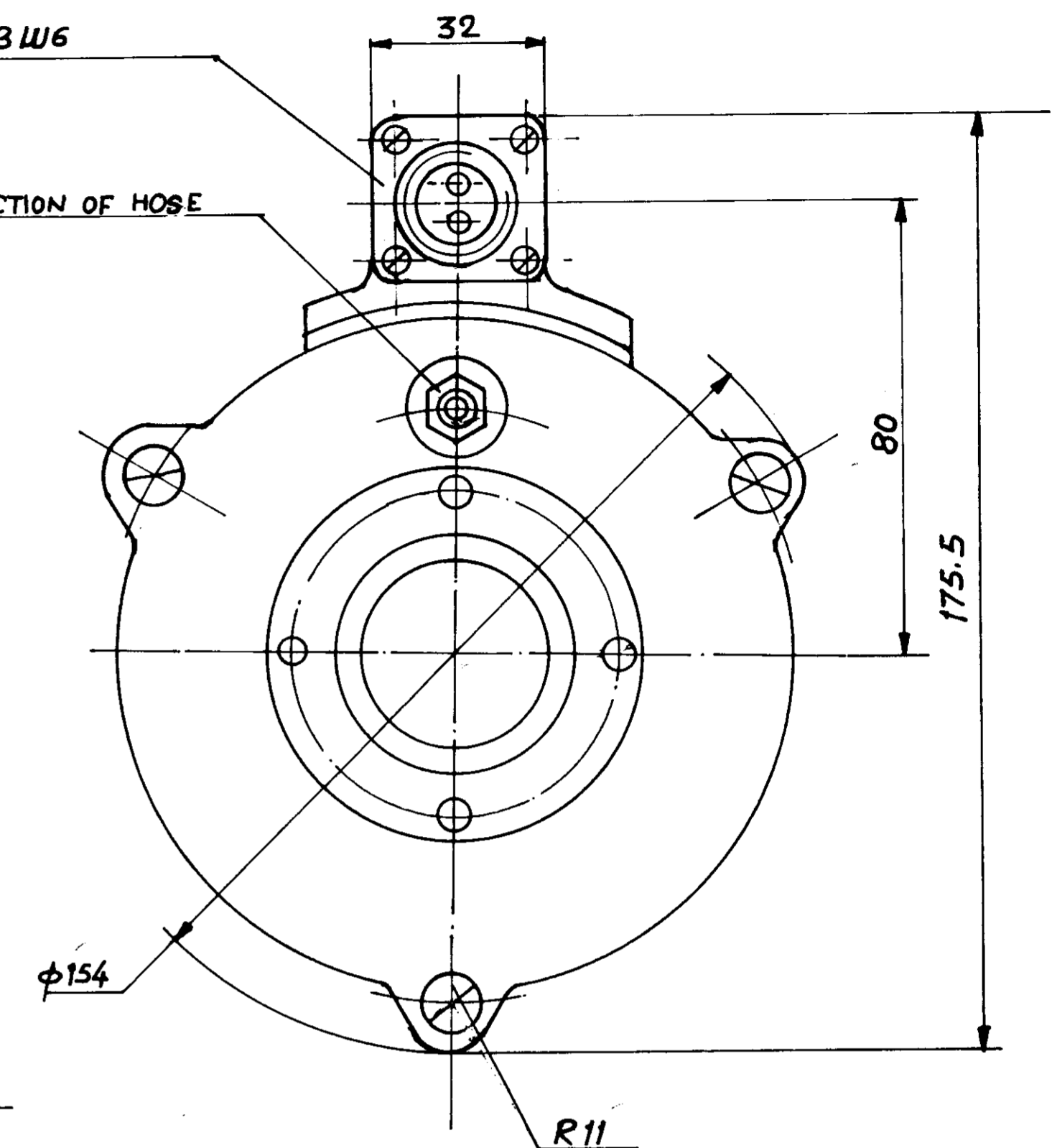
THE COPYRIGHT OF THESE DRAWINGS AND ALL ATTACHMENTS THERE TO BELONGS TO THE INDIAN ORDNANCE FACTORIES, MINISTRY OF DEFENCE, GOVT. OF INDIA THEY SHOULD NOT BE COPIED, REPRODUCED IN ANY WAY OR THE INFORMATION CONTAINED THEREIN MADE AVAILABLE TO UNAUTHORISED PERSONS WITHOUT THE WRITTEN PERMISSION OF THE DIRECTOR OF ORDNANCE FACTORIES.

| संख्या NO.OFF | विवरण DESCRIPTION | पुरा क. PART NO. | पदार्थ MATERIAL | मानक STANDARD | परिमाण DIMENSIONS | 9.4 MASS (Kg) | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
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| <table border="1"> <tr> <td>सामान्य सहिष्णुता GENERAL TOLERANCE</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>रेखिक परिमाण LINEAR DIMENSION</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>0-6</td> <td>±0.1</td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>6-30</td> <td>±0.2</td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>30-120</td> <td>±0.3</td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>120-315</td> <td>±0.5</td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>315-1000</td> <td>±0.8</td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>1000-2000</td> <td>±1.2</td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>कोणिक परिमाण ANGULAR DIMENSION</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>1-10</td> <td>±1'</td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>10-50</td> <td>±20'</td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>50-100</td> <td>±30'</td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>>100</td> <td>±10'</td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>मापक "मि एम" में VALUE IN "mm"</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>-</td> <td>>25</td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>▽</td> <td>8-25</td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>▽▽</td> <td>1.6-8</td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>▽▽▽</td> <td>0.025-1.6</td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>▽▽▽▽</td> <td><0.025</td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> </table> | | | | | | | सामान्य सहिष्णुता GENERAL TOLERANCE | | | | | | | रेखिक परिमाण LINEAR DIMENSION | | | | | | | 0-6 | ±0.1 | | | | | | 6-30 | ±0.2 | | | | | | 30-120 | ±0.3 | | | | | | 120-315 | ±0.5 | | | | | | 315-1000 | ±0.8 | | | | | | 1000-2000 | ±1.2 | | | | | | कोणिक परिमाण ANGULAR DIMENSION | | | | | | | 1-10 | ±1' | | | | | | 10-50 | ±20' | | | | | | 50-100 | ±30' | | | | | | >100 | ±10' | | | | | | मापक "मि एम" में VALUE IN "mm" | | | | | | | - | >25 | | | | | | ▽ | 8-25 | | | | | | ▽▽ | 1.6-8 | | | | | | ▽▽▽ | 0.025-1.6 | | | | | | ▽▽▽▽ | <0.025 | | | | | |
| सामान्य सहिष्णुता GENERAL TOLERANCE | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| रेखिक परिमाण LINEAR DIMENSION | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 0-6 | ±0.1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 6-30 | ±0.2 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 30-120 | ±0.3 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 120-315 | ±0.5 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 315-1000 | ±0.8 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1000-2000 | ±1.2 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| कोणिक परिमाण ANGULAR DIMENSION | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1-10 | ±1' | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 10-50 | ±20' | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 50-100 | ±30' | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| >100 | ±10' | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| मापक "मि एम" में VALUE IN "mm" | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| - | >25 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| ▽ | 8-25 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| ▽▽ | 1.6-8 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| ▽▽▽ | 0.025-1.6 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| ▽▽▽▽ | <0.025 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| ELECTRIC MOTOR MVP-2 ASSEMBLY DRAWING | | संख्या NO.OFF | संबंधित पुस्तक आरेखण क्र. DRG. NO. OF ASSOCIATED PART | सूचक INDEX | संशोधन ALTERATION | 2003 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| मापमान SCALE | आरेखित DRAWN | 2-1-03 | जाँचा CHECKED | 3-1-03 | रिक्त DATE | नाम NAME | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1:1 | अनुमोदित APPROVED | | द्वारा बदला REPLACED BY | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| मशीनी औजार आदिरूप फैक्टरी, अम्बरनाथ MACHINE TOOL PROTOTYPE FACTORY, AMBERNATH | | कार्यालय OFFICE | द्वारा बदला REPLACED FOR | आरेखण क्र. DRAWING NO. | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| VMT | | MVP 2-000SB | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |



PLUG WPF 20723 W6
TEO 364 10B TY

UNION FOR THE CONNECTION OF HOSE



1. DIRECTION OF ROTATION OF THE SHAFT-RIGHT
AIRTIGHT THE FREE END OF THE HOSE SHOULD BE
2. CONNECTION OF HOSE TO THE UNION SHOULD BE BROUGHT OUT
TO THE PLACE WHERE WATER CAN NOT GET INSIDE OF IT.
3. PLUS IS SUPPLIED TO THE FIRST TERMINAL AND MINUS
IS SUPPLIED TO THE SECOND TERMINAL.
4. END PLAY OF SHAFT, SHOULD NOT EXCEED 0.2 mm. IT IS
ENSURED WITH DESIGN AND IS NOT CHECKED.
5. * DIMENSION IS GIVEN BEFORE COATING WITH ENAMEL.

FIRST ANGLE PROJECTION

VETTED
25 FEB 2002
JVM/STD-CELL

इन आरेखों तथा इसके साथ की सम्पूर्ण सामग्री का प्रकाशिकार भारत सरकार तथा संसद की भारतीय अणु विभागों के पास है। भारतीय अणु विभागों के तकनीक की स्थिति अनुमति के बिना इनकी नकल या किसी भी रूप में इनके उद्धरण या इनमें समझल सुचना किसी अनधिकृत व्यक्ति को उपलब्ध नहीं कराई जानी चाहिए।

THE COPYRIGHT OF THESE DRAWINGS AND ALL ATTACHMENTS THERE TO BELONGS TO THE INDIAN ORDNANCE FACTORIES, MINISTRY OF DEFENCE, GOVT. OF INDIA THEY SHOULD NOT BE COPIED, REPRODUCED IN ANY WAY OR THE INFORMATION CONTAINED THEREIN MADE AVAILABLE TO UNAUTHORISED PERSONS WITHOUT THE WRITTEN PERMISSION OF THE DIRECTOR OF ORDNANCE FACTORIES.

| संख्या NO. OF | विवरण DESCRIPTION | पुर्जा क्र. PART NO. | पद MATERIAL | मानक STANDARD | परिमाण DIMENSIONS | वजन WEIGHT (kg) |
|--|----------------------|-------------------------|----------------|------------------|----------------------|--------------------|
| सामान्य सहिष्णुता GENERAL TOLERANCE | | | | | | |
| रैखिक परिमाण LINEAR DIMENSION | | | | | | |
| 0-30 | ±0.1 | | | | | |
| 30-100 | ±0.2 | | | | | |
| 100-315 | ±0.3 | | | | | |
| 315-1000 | ±0.5 | | | | | |
| 1000-2000 | ±0.8 | | | | | |
| कोणीय परिमाण ANGULAR DIMENSION | | | | | | |
| 1-10 | ±1' | | | | | |
| 10-80 | ±30' | | | | | |
| 80-100 | ±10' | | | | | |
| >100 | ±10' | | | | | |
| मानक 'यू एम' में VALUE IN 'UM' | | | | | | |
| 0-25 | ±0.05 | | | | | |
| 25-100 | ±0.1 | | | | | |
| 100-1000 | ±0.2 | | | | | |
| 1000-10000 | ±0.5 | | | | | |
| संख्या NO. OF | | | | | | |
| संश्लिष्ट पुर्जाक आरेख क्र. ORIG. NO. OF ASSOCIATED PART | | | | | | |
| पुर्जाक PIECE | | | | | | |
| संश्लिष्ट ALTERATION | | | | | | |
| 2002 | | | | | | |
| दिनांक DATE | | | | | | |
| नाम NAME | | | | | | |
| मापक SCALE | | | | | | |
| 1:1 | | | | | | |
| जांचित CHECKED | | | | | | |
| 30-12-01 | | | | | | |
| अनुमोदित APPROVED | | | | | | |
| 51.02 | | | | | | |
| REPLACED | | | | | | |
| BY | | | | | | |
| REPLACED FOR | | | | | | |
| OFFICE | | | | | | |
| मशीनी औजार आदिरूप फैक्टरी, अम्बरनाथ MACHINE TOOL PROTOTYPE FACTORY, AMBERNATH | | | | | | |
| DRAWING NO. MBN-0274 | | | | | | |

Traced from CQA(KV) original Dwg.

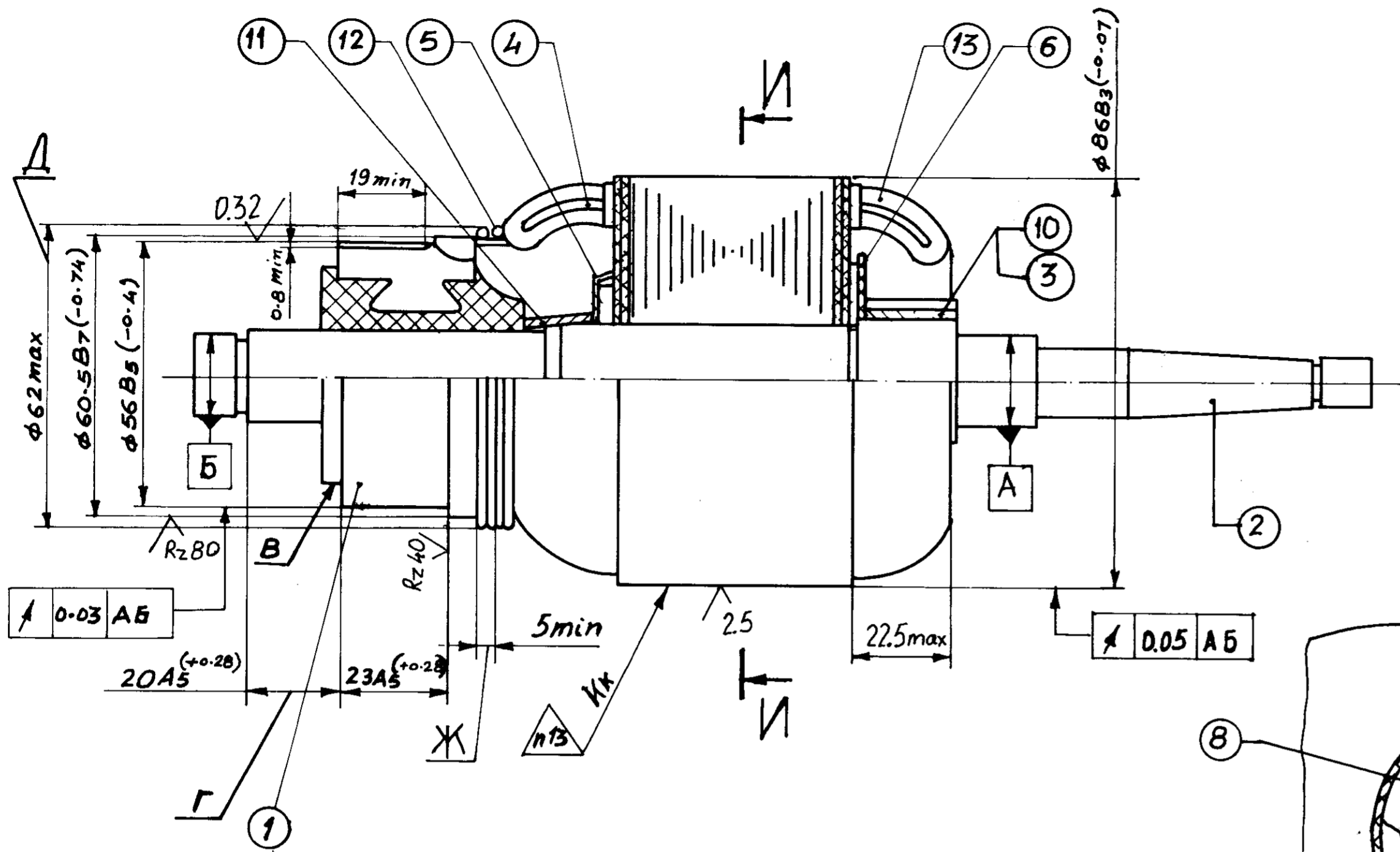
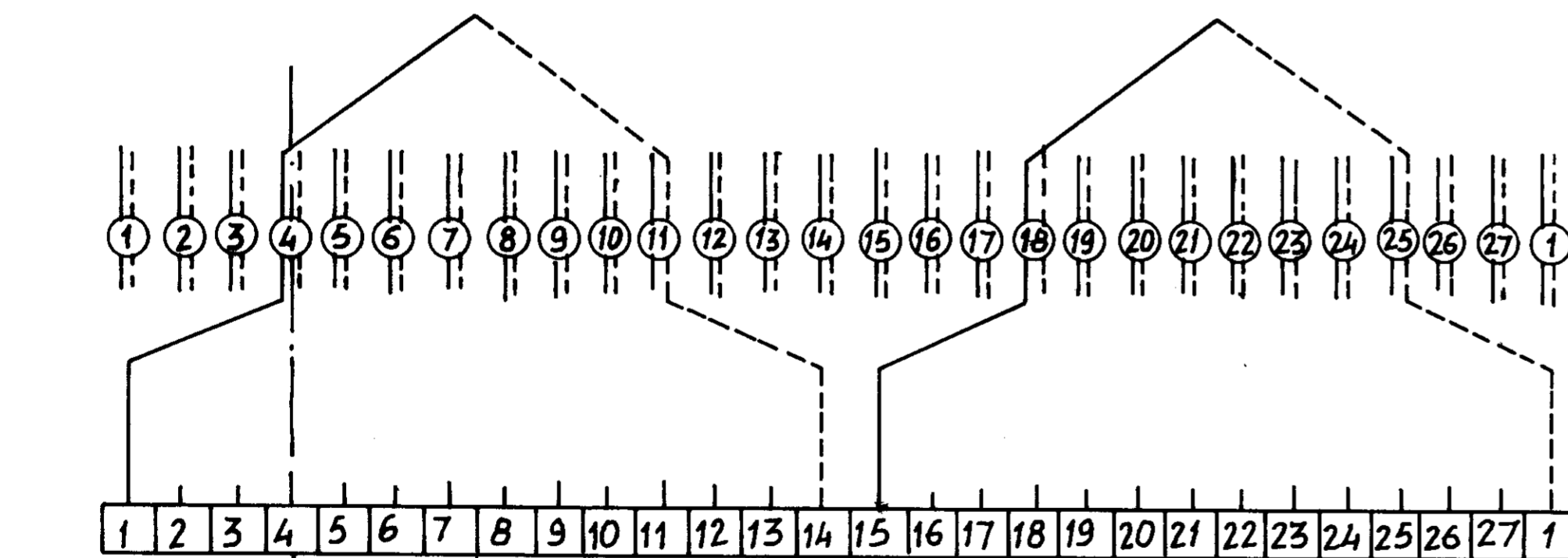


Diagram of electrical connections.



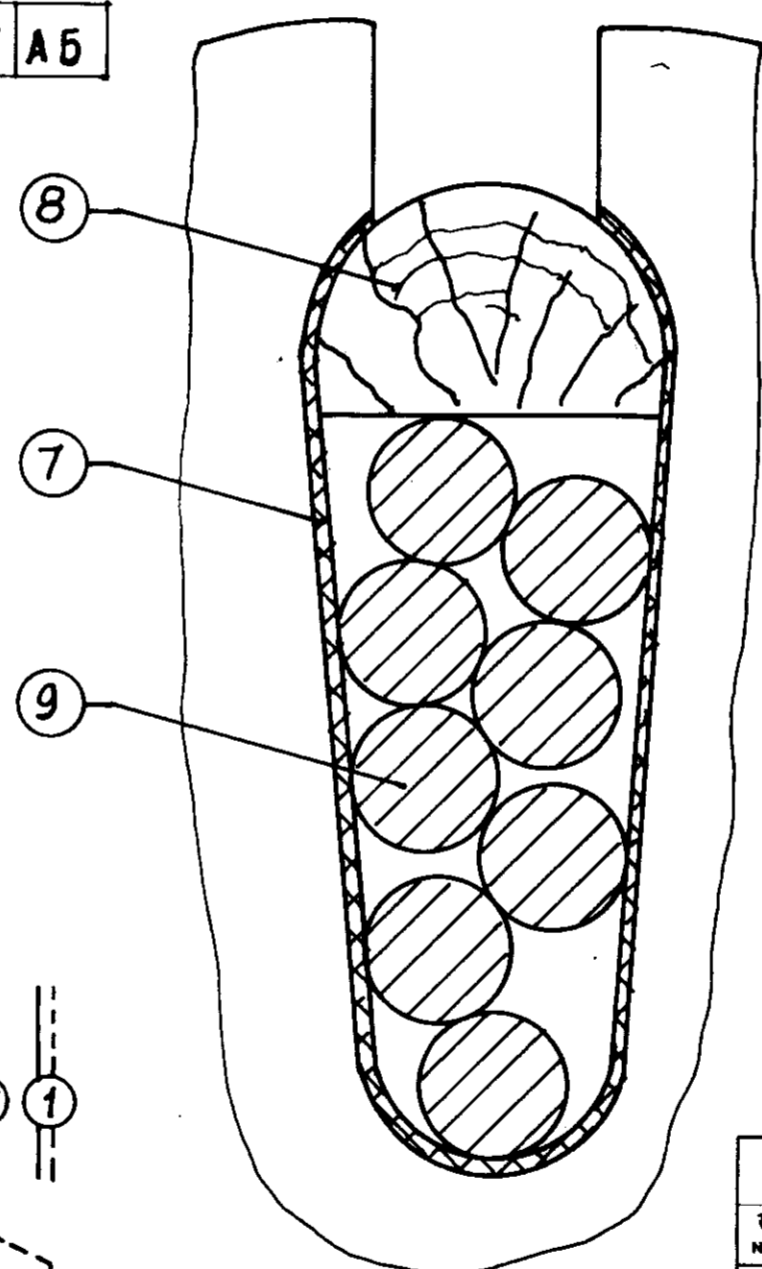
Slot pitch 1-8
Commutator pitch 1-14
No. of slots Z=27
No. of commutator plates K=27

Centre of slot 4 should coincide with the central commutator plate

इन आरेखों तथा इसके साथ की सम्पूर्ण सामग्री का स्वामित्व भारत सरकार रक्षा मंत्रालय की भारतीय आर्युध निर्माताओं के पास है। भारतीय आर्युध निर्माताओं के महानिदेशक की लिखित अनुमति के बिना इनकी नकल या किसी भी रूप में इनके उद्धरण या इनमें समाहित सूचना किसी अनधिकृत व्यक्ति को उपलब्ध नहीं कराई जानी चाहिए।

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N-N
M10:1

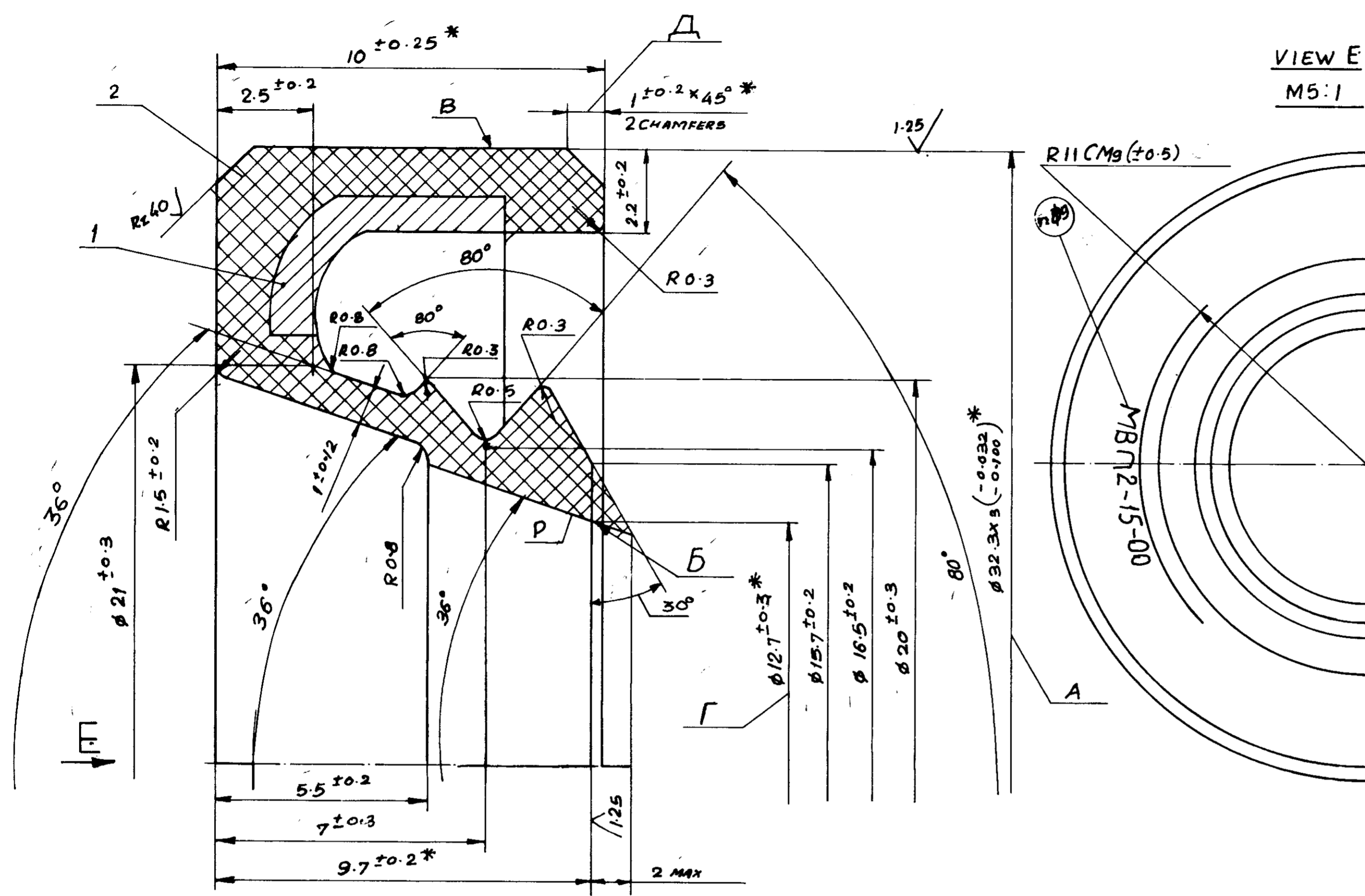


1. Check dimensions r as per the most sunk bar.
2. Turns in section - 4. Winding is wavy. Left or right coiling is allowed.
3. Insulate the lower section from each other with glass varnish cloth of width, $14 \pm 0.5\text{mm}$, Ref.No.14.
4. Upper sections from each other and lower sections are to be insulated with glass varnish cloth of width, $14 \pm 0.5\text{mm}$, Ref.No.14.
5. Solder cocks with wire nCP (soldering Ag) Cadmium Mr3, Technical specifications 48 - 1 - 210 - 74.
6. Apply varnish MA - 0121, Technical specifications Ty 6-10-1314-77, made as per insulation U-225-68 on binding, Ref.No. 12.
7. Binding should not project over diameter Δ on length \times from the commutator.
8. Impregnate with varnish $\epsilon T - 988$ GOST 6244-70 twice.
9. Coat the left section of armature iron and surface B using enamel $\Gamma\phi - 92$ XC, grey, GOST 9151-75, after grinding the armature iron.
10. Test the armature for over speeding at 7000 r.p.m. for 1 minute after which separate plates of commutator should not project more than 0.01mm.
11. Test armature for breakdown for 1 minute with voltage, 550V of A.C. with frequency, 50 Hz.
12. Resistance of insulation should not be less than 50 ohms in cold condition.
13. Mark.
14. Pull the last section towards the shaft with the cold insulation tube, Ref.No. 13.

FIRST ANGLE PROJECTION

VETTED
25 FEB 2008
JWM/STD-CELL

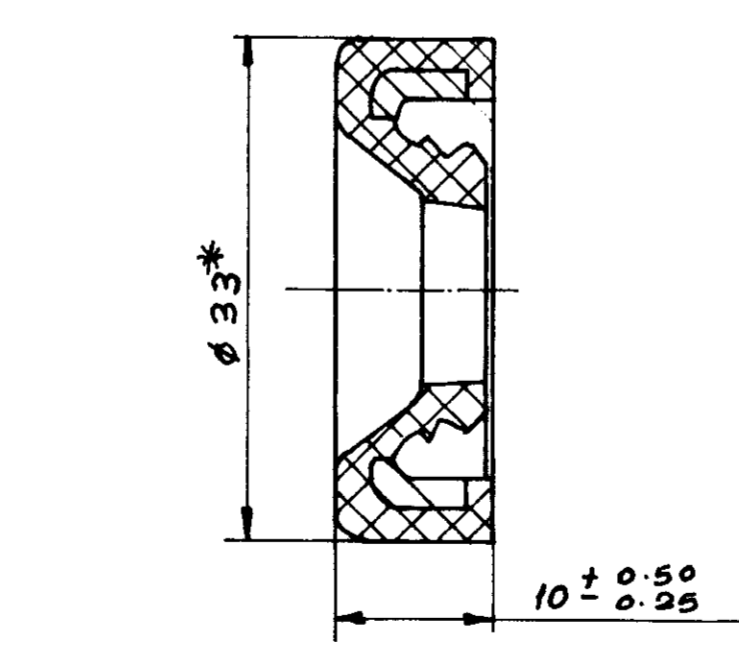
| ARMATURE (ASSY. DRG.) | | 2.9 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|---|--------------------------|--|----------------------|--|----------------------|----------------------------------|------|-----|-----------|------|-----------|--------|-----------|---------|-----------|----------|-----------|-----------|-----------|--|--|------|-----|--|--|--|--|--|-----------------|-------------------------|----------------|-------------|-----|---------|---------|----|----------------------------|--------------------------|--|--|-----------------------------|----------------------|--|--|
| संख्या NO. OFF | विवरण DESCRIPTION | पुर्जा क्र. PART NO. | परिमाण DIMENSIONS | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| <table border="1"> <tr> <th>सामान्य सहिष्णुता GENERAL TOLERANCE</th> <th>परिमाण DIMENSIONS</th> </tr> <tr> <td>रेखिक परिमाण LINEAR DIMENSION</td> <td></td> </tr> <tr> <td>0-8</td> <td>± 0.1</td> </tr> <tr> <td>8-30</td> <td>± 0.2</td> </tr> <tr> <td>30-120</td> <td>± 0.3</td> </tr> <tr> <td>120-315</td> <td>± 0.5</td> </tr> <tr> <td>315-1000</td> <td>± 0.8</td> </tr> <tr> <td>1000-2000</td> <td>± 1.2</td> </tr> </table> | | | | सामान्य सहिष्णुता GENERAL TOLERANCE | परिमाण DIMENSIONS | रेखिक परिमाण LINEAR DIMENSION | | 0-8 | ± 0.1 | 8-30 | ± 0.2 | 30-120 | ± 0.3 | 120-315 | ± 0.5 | 315-1000 | ± 0.8 | 1000-2000 | ± 1.2 | | | | | | | | | | | | | | | | | | | | | | | | | |
| सामान्य सहिष्णुता GENERAL TOLERANCE | परिमाण DIMENSIONS | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| रेखिक परिमाण LINEAR DIMENSION | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 0-8 | ± 0.1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 8-30 | ± 0.2 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 30-120 | ± 0.3 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 120-315 | ± 0.5 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 315-1000 | ± 0.8 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1000-2000 | ± 1.2 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| <table border="1"> <tr> <th>कोणिक परिमाण ANGULAR DIMENSION</th> <th>संख्या NO. OFF</th> <th>संबंधित पुर्जा क्र. DRG. NO. OF ASSOCIATED PART</th> <th>सूचक INDEX</th> <th>संशोधन ALTERATION</th> </tr> <tr> <td>1-10</td> <td>31°</td> <td></td> <td></td> <td></td> </tr> <tr> <td>10-50</td> <td>33°</td> <td></td> <td></td> <td></td> </tr> <tr> <td>50-100</td> <td>32°</td> <td></td> <td></td> <td></td> </tr> <tr> <td>>100</td> <td>31°</td> <td></td> <td></td> <td></td> </tr> </table> | | कोणिक परिमाण ANGULAR DIMENSION | संख्या NO. OFF | संबंधित पुर्जा क्र. DRG. NO. OF ASSOCIATED PART | सूचक INDEX | संशोधन ALTERATION | 1-10 | 31° | | | | 10-50 | 33° | | | | 50-100 | 32° | | | | >100 | 31° | | | | <table border="1"> <tr> <th>मापमान SCALE</th> <th>2002 आरेखित DRAWN</th> <th>दिनांक DATE</th> <th>नाम NAME</th> </tr> <tr> <td>1:1</td> <td>11/1/08</td> <td>13/1/23</td> <td>LD</td> </tr> <tr> <td>द्वारा बदला REPLACED BY</td> <td>2002 जांचा CHECKED</td> <td></td> <td></td> </tr> <tr> <td>द्वारा बदला REPLACED FOR</td> <td>अनुमोदित APPROVED</td> <td></td> <td></td> </tr> </table> | | मापमान SCALE | 2002 आरेखित DRAWN | दिनांक DATE | नाम NAME | 1:1 | 11/1/08 | 13/1/23 | LD | द्वारा बदला REPLACED BY | 2002 जांचा CHECKED | | | द्वारा बदला REPLACED FOR | अनुमोदित APPROVED | | |
| कोणिक परिमाण ANGULAR DIMENSION | संख्या NO. OFF | संबंधित पुर्जा क्र. DRG. NO. OF ASSOCIATED PART | सूचक INDEX | संशोधन ALTERATION | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1-10 | 31° | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 10-50 | 33° | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 50-100 | 32° | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| >100 | 31° | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| मापमान SCALE | 2002 आरेखित DRAWN | दिनांक DATE | नाम NAME | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1:1 | 11/1/08 | 13/1/23 | LD | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| द्वारा बदला REPLACED BY | 2002 जांचा CHECKED | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| द्वारा बदला REPLACED FOR | अनुमोदित APPROVED | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| <p>ARMATURE (ASSY. DRG.)</p> | | <p>मशीनी औजार आदिरूप फैक्टरी, अम्बरनाथ MACHINE TOOL PROTOTYPE FACTORY, AMBERNATH</p> | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| <p>संख्या NO. OFF</p> | | <p>कार्यालय OFFICE</p> | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| <p>मूलमाप व अन्वयोजन NOMINAL SIZE & FIT</p> | | <p>विचलन DEVIATION</p> | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| <p>संख्या NO. OFF</p> | | <p>आरेखण क्र. DRAWING NO.</p> | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| <p>संख्या NO. OFF</p> | | <p>MB/12-16-00 C5</p> | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |



1. Unspecified limit deviations of radii are $\pm 0.1\text{mm}$ and angular dimensions $\pm 1^\circ$.
2. * Dimensions are to be obtained by machining in the customer's factory. Other dimensions are provided with tools.
3. Edge Γ should be sharp and uniform, hollow, tear-out burrs are not allowed. (For customer).
4. Play of surface B with respect to surface P should not exceed 0.05mm. Provide checking of dimension A and play on the mandrel $\phi 15$, $5/11 (-0.030)$ mm in the factory of the customer.
5. Provide checking of dimensions A and Γ under a load of 50gms. in customer's factory.
6. Part is supplied with allowance not more than 2mm on dimension Γ .
7. Removal of the chamfers Γ and finishing upto dimension Γ and A are carried out in customer's factory.
8. Sag of rubber on the armature surface is allowed.
9. Mark with type print 3 as per H0.010.007.
10. Other technical requirements are as per TY005.216-75.
12. Surface P should be smooth, without burrs and traces of mould joints.
13. Roughness of surfaces should be accepted as per standard piece.

FIRST ANGLE PROJECTION

VETTED
24 FEB 2008
JWM/STD-CELL

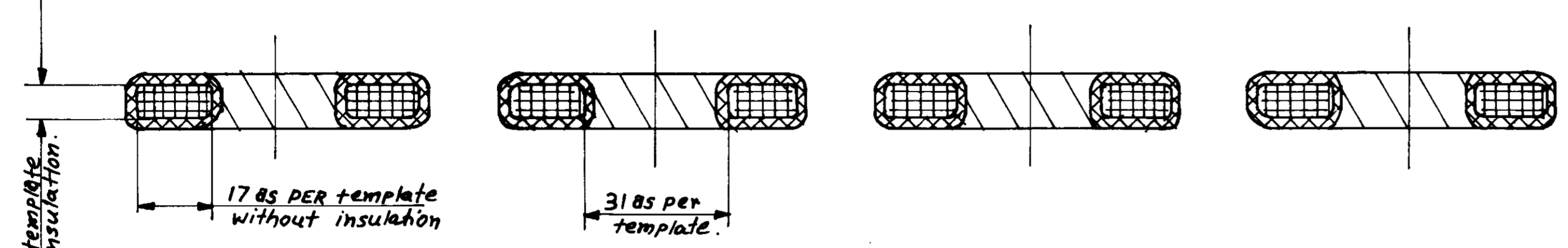


इन आरेखों तथा इसके साथ की सम्पूर्ण सामग्री का स्वत्व अधिकार भारत सरकार तथा मंत्रालय की भारतीय अनुभव निर्माणियों के पास है। भारतीय अनुभव निर्माणियों के मकसदों के लिए अनुमति के बिना इनकी नकल या किसी भी रूप में इनके उद्धारण या इनमें समरूपित सूचना किसी अनधिकृत व्यक्ति को उपलब्ध नहीं कराई जानी चाहिए।

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| SEALING (ASSY. DRG.) | | | | | | 10g | |
|--|----------------------|---|--------------------|------------------|----------------------|-----------------------------|---------------------------|
| संख्या NO. OF | विवरण DESCRIPTION | पुर्जा क्र. PART NO. | पदार्थ MATERIAL | मानक STANDARD | परिमाण DIMENSIONS | MASS (Kg) | |
| सामान्य सहिष्णुता GENERAL TOLERANCE | | | | | | | |
| रेखिक परिमाण LINEAR DIMENSION | | | | | | | |
| 0-6 | ±0.1 | | | | | | |
| 6-30 | ±0.2 | | | | | | |
| 30-120 | ±0.3 | | | | | | |
| 120-315 | ±0.5 | | | | | | |
| 315-1000 | ±0.8 | | | | | | |
| 1000-2000 | ±1.2 | | | | | | |
| कोणिक परिमाण ANGULAR DIMENSION | | | | | | | |
| 1-10 | ±1' | | | | | | |
| 10-30 | ±2' | | | | | | |
| 30-100 | ±3' | | | | | | |
| >100 | ±10' | | | | | | |
| मापक 'यू एम' में VALUE IN 'UM' | | | | | | | |
| - | ±0.05 | | | | | | |
| ∇ | ±0.25 | | | | | | |
| ∇∇ | ±0.5 | | | | | | |
| ∇∇∇ | ±0.75 | | | | | | |
| ∇∇∇∇ | ±1.0 | | | | | | |
| संख्या NO. OF | | संबंधित पुर्जा क्र. आरेखन क्र. DRG. NO. OF ASSOCIATED PART | | सूचक INDEX | संशोधन ALTERATION | 2008 | दिनांक DATE |
| SEALING RING ASSY. DRG. | | | | | | मापमान SCALE | आरेखित DRAWN |
| | | | | | | 10:1 | 2.1.08 |
| | | | | | | जांचा CHECKED | CL/113 |
| | | | | | | अनुमोदित APPROVED | |
| | | | | | | द्वारा कबला REPLACED BY | |
| | | | | | | द्वारा कबला REPLACED FOR | |
| मशीनी औजार आदिरूप फैक्टरी, अम्बरनाथ MACHINE TOOL PROTOTYPE FACTORY, AMBERNATH | | | | | | कार्यालय OFFICE | आरेखन क्र. DRAWING NO. |
| | | | | | | VMT | MBN 2-15-00 C B |

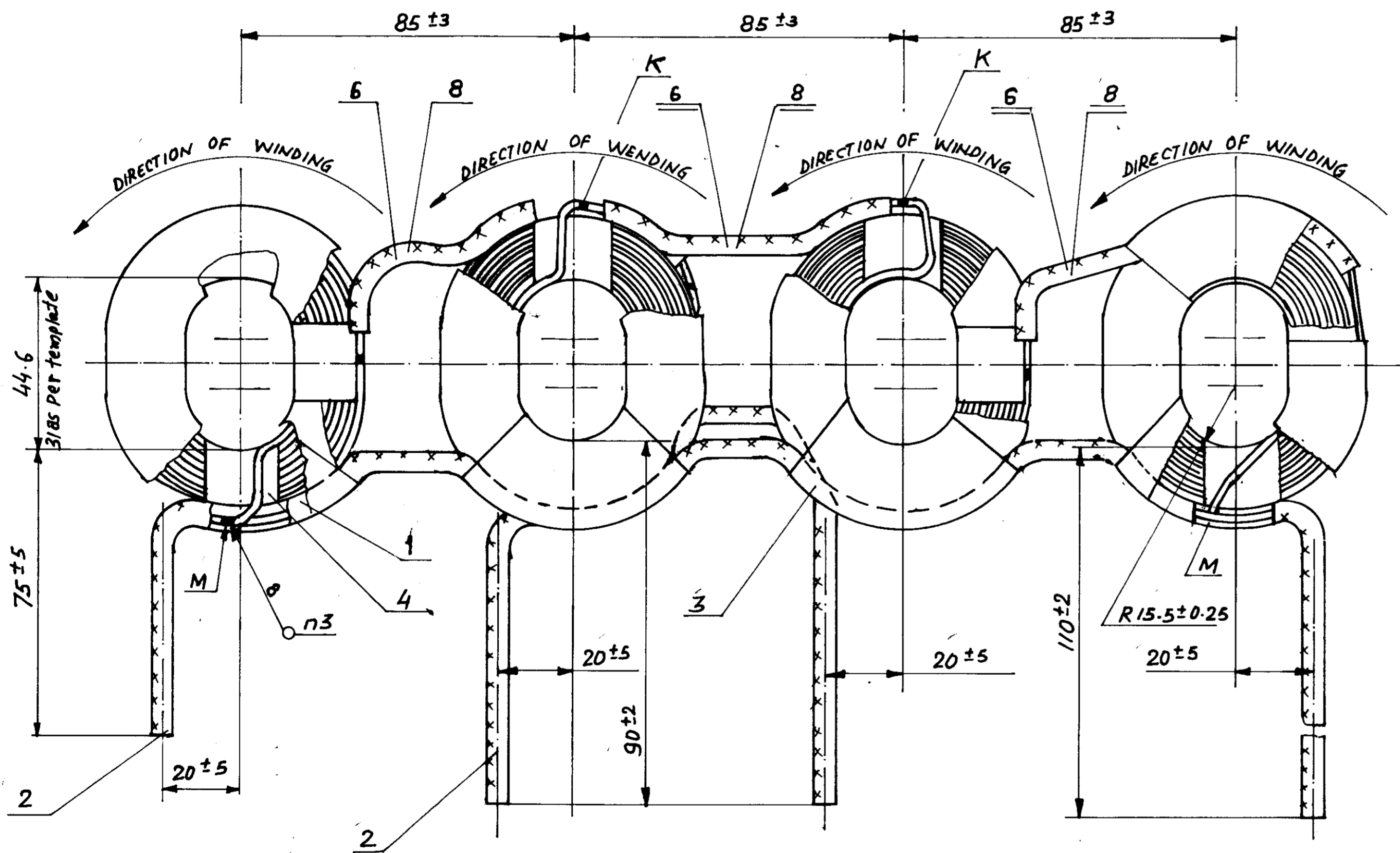
Traced from CRA (ICV) ORIGINAL DRG.



1. Windings should have 410 ± 3 turns coiled with wire Ref. No. 1.
2. Use the tape Ref. No. 7, for fastening the coils, in 4 places.
3. Dress the two ends of the coils and twist them with wire Ref. No. 2 and 6. Solder the place of twisting with solder nOCCY-40-2, GOST 21930-76. Insulate the soldering portion M with varnish cloth Ref. No. 4 and cable paper Ref. NO. 9; soldering portion K with tube Ref. No. 8. and varnish cloth Ref. No. 4 and other portions with tube Ref. No. 8 and varnish cloth Ref. No. 5.
4. Insulate the coils by semiover lapping with varnish cloth.
5. 3 to 4 layers of insulation are allowed in some places.
6. Resistance of every coil should be 6.8 ± 0.5 ohms.
7. Common resistances of coils are 26 ± 2 (27.2 ± 2 ohms) at 20°C .
8. Wire ϕ B-2-0.5, GOST 7262-78 may be used.

EQ. MATERIAL :- Sn 40 sb to IS: 193-82

FIRST ANGLE PROJECTION

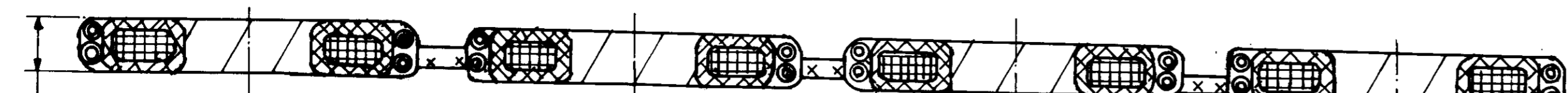


VETTED
24 FEB 2006
JWM/STD-CELL

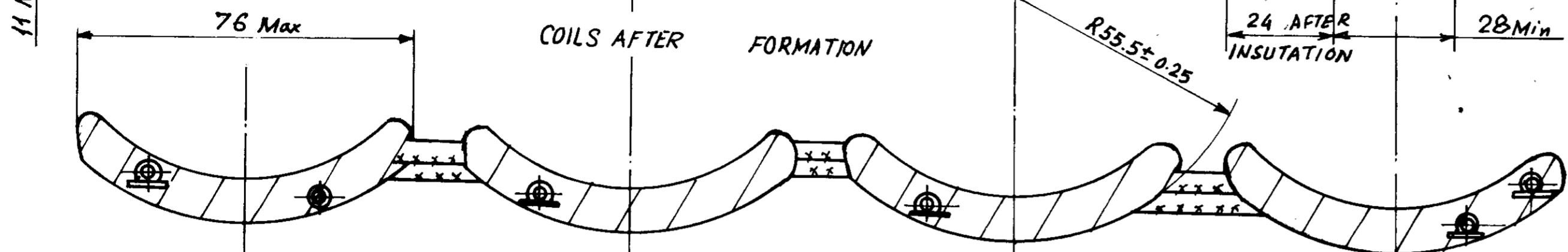
| संख्या NO.OFF | विवरण DESCRIPTION | पुर्जा क्र. PART NO. | पदार्थ MATERIAL | मानक STANDARD | परिमाण DIMENSIONS | 570g MASS |
|--|--|-------------------------|----------------------|----------------------------|---------------------------|---------------|
| सामान्य सहिष्णुता GENERAL TOLERANCE | | | | | | |
| रेखिक परिमाण LINEAR DIMENSION | | | | | | |
| 0-6 | ±0.1 | | | | | |
| 6-30 | ±0.2 | | | | | |
| 30-120 | ±0.3 | | | | | |
| 120-315 | ±0.5 | | | | | |
| 315-1000 | ±0.8 | | | | | |
| 1000-2000 | ±1.2 | | | | | |
| कोणिक परिमाण ANGULAR DIMENSION | | | | | | |
| 1-10 | ±1' | | | | | |
| 10-80 | ±30' | | | | | |
| 50-100 | ±20' | | | | | |
| >100 | ±10' | | | | | |
| मापक 'यू एम' में VALUE IN 'um' | | | | | | |
| - | >25 | | | | | |
| ∅ | 8-25 | | | | | |
| ∇ | 1.6-8 | | | | | |
| ∇∇ | 0.025-1.6 | | | | | |
| ∇∇∇ | <0.025 | | | | | |
| संख्या NO.OFF | संबंधित पुर्जा क्र. DRG. NO. OF ASSOCIATED PART | सूचक INDEX | संशोधन ALTERATION | दिनांक DATE | नाम NAME | |
| SHUNT COILS (ASSEMBLY DRAWING) | | | | मापमान SCALE | आरेखित DRAWN | 8/1/03 |
| | | | | 1:1 | जांचा CHECKED | 11/1/03 |
| | | | | द्वारा बदला REPLACED BY | | |
| | | | | कार्यालय OFFICE | हेतु बदला REPLACED FOR | |
| मशीनी औजार आदिरूप फैक्टरी, अम्बरनाथ MACHINE TOOL PROTOTYPE FACTORY, AMBERNATH | | | | कार्यालय OFFICE | आरेखण क्र. DRAWING NO. | MBN2 - 020 Cb |

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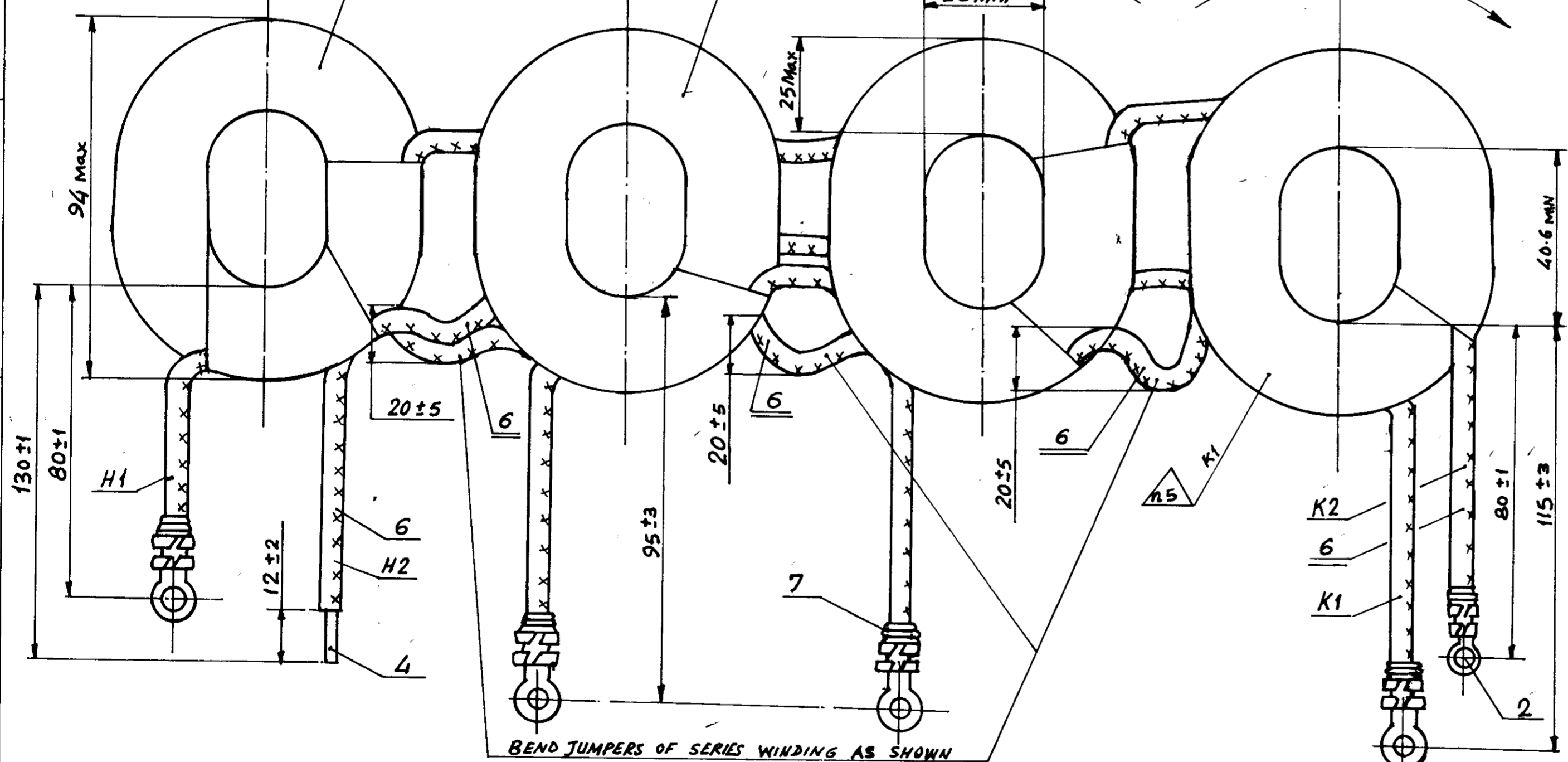
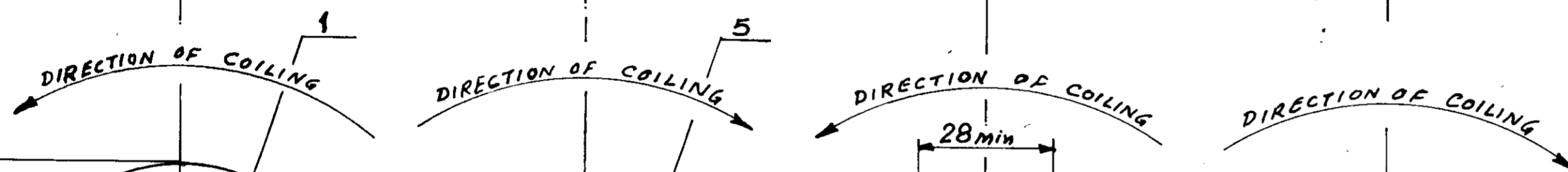
COILS BEFORE FORMATION



COILS AFTER FORMATION



85 ± 3 85 ± 3 85 ± 3



BEND JUMPERS OF SERIES WINDING AS SHOWN IN THE DRAWING

1. Series coil consists of 2 turns, winding is done with wire Ref. No. 4
2. Insulate the coils and the jumpers between the shunt coils by semi over lapping, using tape, Ref. No. 5.
3. Band the terminal with thread Ref. No. 7.
4. Imprignate ^{H#} Coils with varnish 5T-988, GOST 6244-70, and coat varnish ϕ -95, GOST 8018-70.
5. Marking should be done.
6. Solder the series winding end with tin nOCCY-40-2, GOST 21930-76.
7. Coat the band with varnish HJ - 286 TY 6-10-1290-78.

EQ. MATERIAL :- IS:350 Sn40Sb TO IS: 193-82.

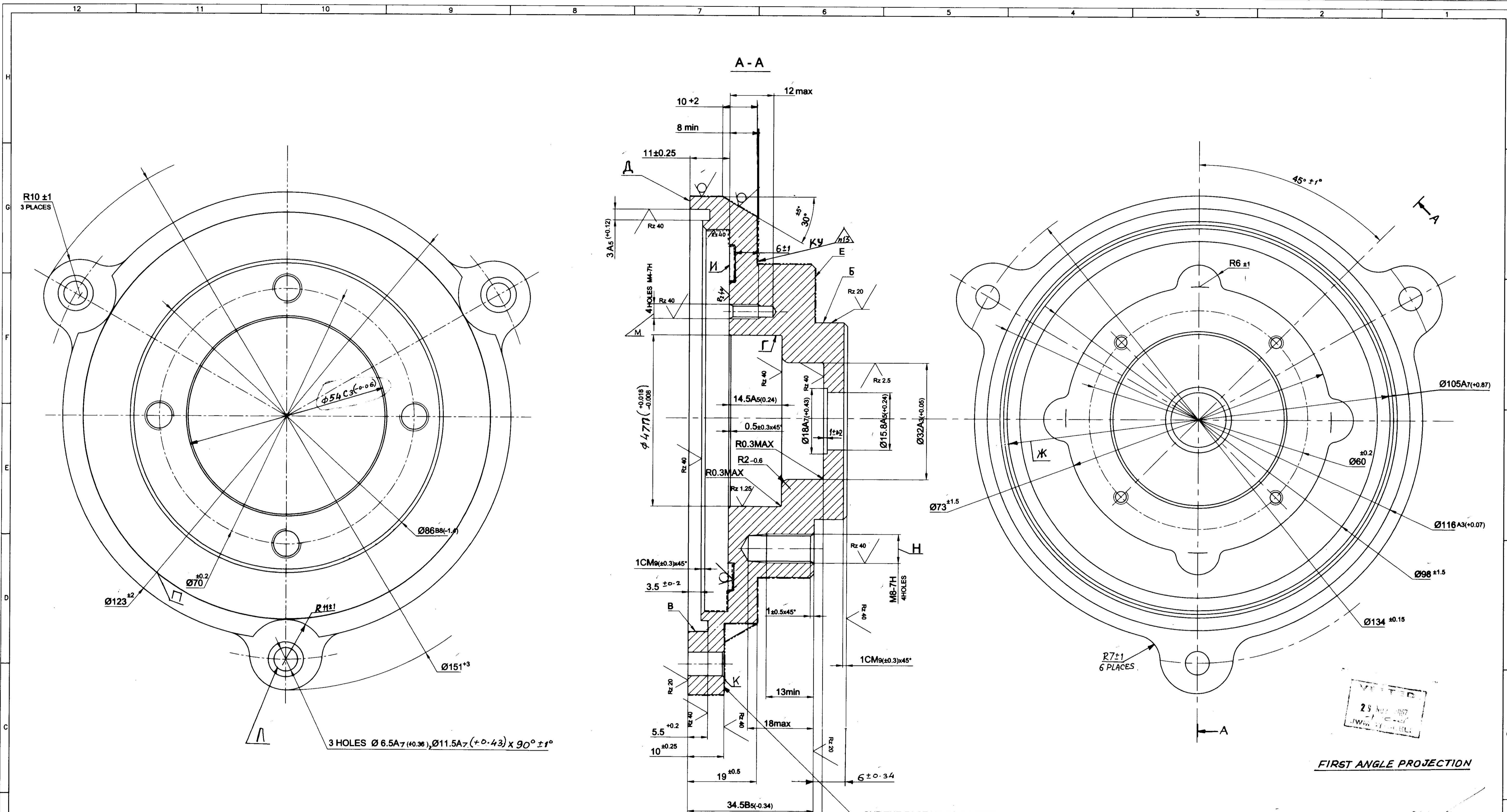
VETTED
25 FEB 2003
JWM/STD-CELL

FIRST ANGLE PROJECTION

इन आरेखों तथा इसके साथ की सम्पूर्ण सामग्री का स्वत्वभित्कर भारत सरकार रक्षा मंत्रालय की भारतीय आयुध निर्माणियों के पास है। भारतीय आयुध निर्माणियों के महानिदेशक की लिखित अनुमति के बिना इनकी नकल या किसी भी रूप में इनके उद्धरण या इनमें समाहित सूचना किसी अनधिकृत व्यक्ति को उपलब्ध नहीं कराई जानी चाहिए।
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मूलमाप व अन्वयोजन
NOMINAL SIZE & FIT

| संख्या NO. OFF | विवरण DESCRIPTION | पुर्जा क्र. PART NO. | पदार्थ MATERIAL | मानक STANDARD | परिमाण DIMENSIONS | 650g MASS |
|---|----------------------|-------------------------|--------------------|------------------|----------------------|--------------|
| <p>सामान्य सहिष्णुता GENERAL TOLERANCE</p> <p>रेखिक परिमाण LINEAR DIMENSION</p> <p>कोणिक परिमाण ANGULAR DIMENSION</p> | | | | | | |
| <p>मापक 'म्यू एम' में VALUE IN 'μm'</p> | | | | | | |
| <p>संख्या संशोधन NO. OFF</p> | | | | | | |
| <p>संशोधन ALTERATION</p> | | | | | | |
| <p>2003</p> | | | | | | |
| <p>SHUNT & SERIES COILS (ASSEMBLY DRAWING)</p> | | | | | | |
| <p>मापमान SCALE 1:1</p> | | | | | | |
| <p>मशीनी औजार आदिरूप फैक्टरी, अम्बरनाथ MACHINE TOOL PROTOTYPE FACTORY, AMBERNATH</p> | | | | | | |
| <p>कार्यालय OFFICE VMT</p> | | | | | | |
| <p>हस्त बदला REPLACED BY</p> | | | | | | |
| <p>आरेखन क्र. DRAWING NO. MB/7 2 - 030 CB</p> | | | | | | |



1. ALTERNATE MATERIAL IS PIG IRON C412-28, GOST 1412-70.
2. ALL UNSPECIFIED PATTERN DRAFTS ARE OF 2°
3. UNSPECIFIED CASTING RADII SHOULD NOT EXCEED 3mm.
4. BLUNT SHARP EDGES WITH RADIUS NOT EXCEEDING 0.5mm OR CHAMFERING ≈ 0.5x45°
5. RADIAL PLAY OF SURFACE B AND B WITH RESPECT TO AXIS OF HOLE F SHOULD NOT EXCEED 0.1mm.
6. FACE RUN OUT OF SURFACE A WITH RESPECT TO AXIS HOLE F SHOULD NOT EXCEED 0.1mm.
7. DISPLACEMENT OF HOLES N WITH RESPECT TO CONTOUR OF LUGS SHOULD NOT EXCEED 1mm.
8. WHILE MACHINING THE SURFACE B INCISION OF CUTTING TOOL TO DEPTH AND WIDTH UPTO 1mm ON SURFACE E IS ALLOWED.
9. WHILE MACHINING THE DIAMETER * INCISION OF CUTTING TOOL TO A DEPTH AND WIDTH UPTO 1.5mm ON SURFACE N IS ALLOWED.
10. LIMIT DEVIATIONS BETWEEN ANY HOLES /- BY ANGLE ±5° AND HOLES M, H- BY ANGLE ±10°
11. COATING ON SURFACE K APPLY ENAMEL MA-12, BLACK GOST 9754-76 III *
12. VARNISH- PAINT COATING SHOULD BE DONE IN COMPLIANCE WITH OST 3-1928-73.
13. MARKING SHOULD BE DONE.

FIRST ANGLE PROJECTION

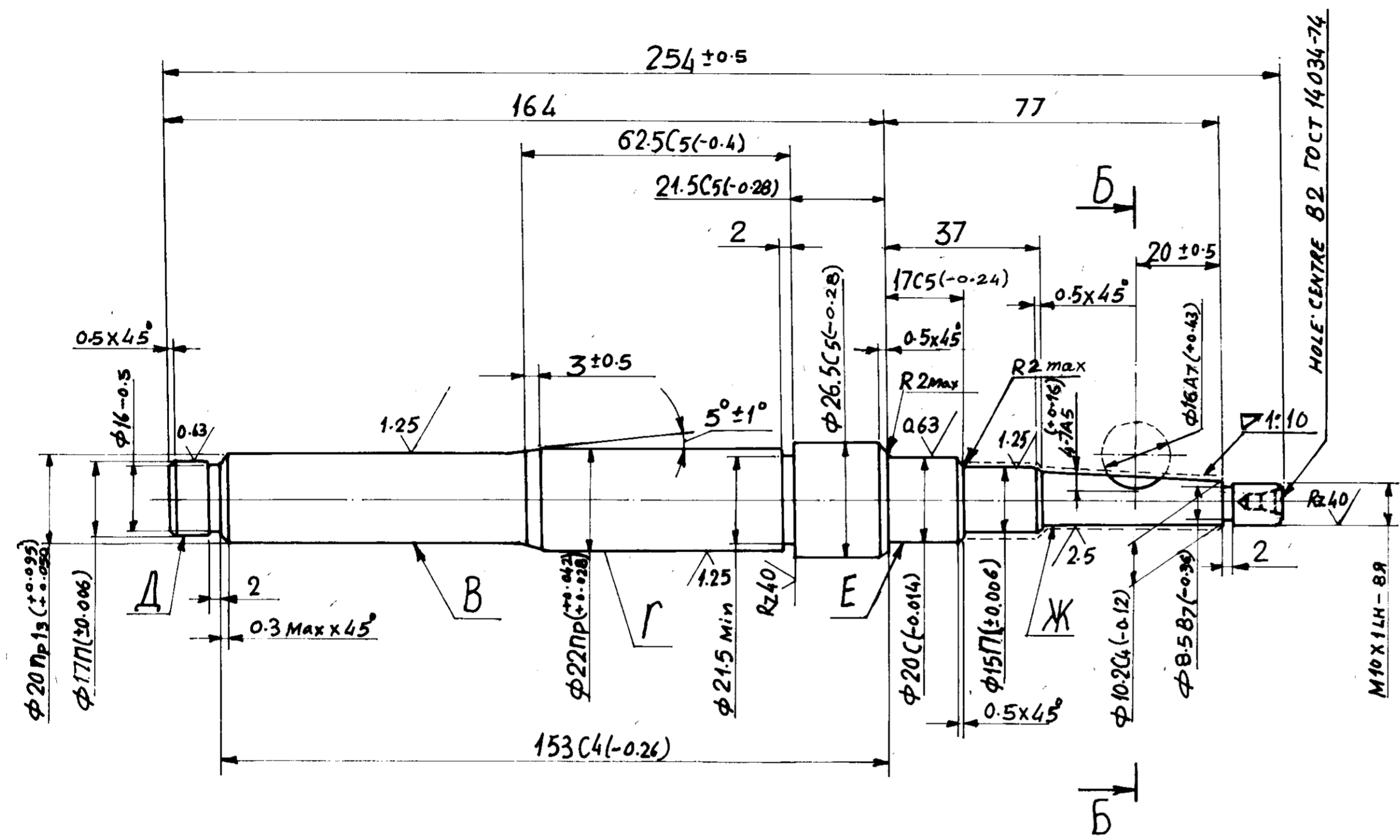
** PIG IRON C4 15-32 GOST-1412-70

इन आरेखों तथा इसके साथ की सम्पूर्ण सामग्री का स्वामित्व भारत सरकार तथा मंत्रालय की भारतीय अनुसंधान विभागों के पास है। भारतीय अनुसंधान विभागों के मसहरेक की लिखित अनुमति के बिना इसकी नकल या किसी भी रूप में इसके उद्धार या इनमें समाहित सूचना किसी अनधिकृत व्यक्ति को उपलब्ध नहीं कराई जानी चाहिए।

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| COVER | | ** | | 1-3 | | | | | | | | | | | | | | | | |
|---|---|---------------------|-------------------|---------------------|--------------------|---------------------------------------|--------------------------------------|---|-------------------------------|-------------------|------|-------------|----------|------|---------|------|----------|------|-----------|------|
| संख्या NO. OFF. | विवरण DESCRIPTION | पुर्जा नं. PART NO. | पदार्थ MATERIAL | मानक STANDARD | परिमाणु DIMENSIONS | अधिकारिता AUTHORITY | वजन WEIGHT (Kg) | | | | | | | | | | | | | |
| <table border="1"> <tr> <th colspan="2">सामान्य सहिष्णुता, GENERAL TOLERANCE</th> </tr> <tr> <th>रेखिक परिमाण LINEAR DIMENSION</th> <th>मानक TOLERANCE</th> </tr> <tr> <td>0-30</td> <td>±0.1</td> </tr> <tr> <td>30-120</td> <td>±0.2</td> </tr> <tr> <td>120-315</td> <td>±0.3</td> </tr> <tr> <td>315-1000</td> <td>±0.5</td> </tr> <tr> <td>1000-2000</td> <td>±0.8</td> </tr> </table> | | | | | | | सामान्य सहिष्णुता, GENERAL TOLERANCE | | रेखिक परिमाण LINEAR DIMENSION | मानक TOLERANCE | 0-30 | ±0.1 | 30-120 | ±0.2 | 120-315 | ±0.3 | 315-1000 | ±0.5 | 1000-2000 | ±0.8 |
| सामान्य सहिष्णुता, GENERAL TOLERANCE | | | | | | | | | | | | | | | | | | | | |
| रेखिक परिमाण LINEAR DIMENSION | मानक TOLERANCE | | | | | | | | | | | | | | | | | | | |
| 0-30 | ±0.1 | | | | | | | | | | | | | | | | | | | |
| 30-120 | ±0.2 | | | | | | | | | | | | | | | | | | | |
| 120-315 | ±0.3 | | | | | | | | | | | | | | | | | | | |
| 315-1000 | ±0.5 | | | | | | | | | | | | | | | | | | | |
| 1000-2000 | ±0.8 | | | | | | | | | | | | | | | | | | | |
| <table border="1"> <tr> <th colspan="2">कोणिक परिमाण ANGULAR DIMENSION</th> </tr> <tr> <th>मानक TOLERANCE</th> <th>VALUE IN MIN</th> </tr> <tr> <td>1-10</td> <td>±1'</td> </tr> <tr> <td>10-40</td> <td>±2'</td> </tr> <tr> <td>40-100</td> <td>±3'</td> </tr> <tr> <td>100</td> <td>±10'</td> </tr> </table> | | | | | | | कोणिक परिमाण ANGULAR DIMENSION | | मानक TOLERANCE | VALUE IN MIN | 1-10 | ±1' | 10-40 | ±2' | 40-100 | ±3' | 100 | ±10' | | |
| कोणिक परिमाण ANGULAR DIMENSION | | | | | | | | | | | | | | | | | | | | |
| मानक TOLERANCE | VALUE IN MIN | | | | | | | | | | | | | | | | | | | |
| 1-10 | ±1' | | | | | | | | | | | | | | | | | | | |
| 10-40 | ±2' | | | | | | | | | | | | | | | | | | | |
| 40-100 | ±3' | | | | | | | | | | | | | | | | | | | |
| 100 | ±10' | | | | | | | | | | | | | | | | | | | |
| <table border="1"> <tr> <th>संख्या NO. OFF.</th> <th>संशोधित पुर्जा नं. और विवरण MODIFIED PART NO. AND DESCRIPTION</th> <th>सूचक INDEX</th> <th>संशोधन ALTERATION</th> <th>2003</th> <th>दिनांक DATE</th> <th>नाम NAME</th> </tr> <tr> <td></td> <td></td> <td></td> <td></td> <td></td> <td>16.01</td> <td>VML</td> </tr> </table> | | | | | | | संख्या NO. OFF. | संशोधित पुर्जा नं. और विवरण MODIFIED PART NO. AND DESCRIPTION | सूचक INDEX | संशोधन ALTERATION | 2003 | दिनांक DATE | नाम NAME | | | | | | 16.01 | VML |
| संख्या NO. OFF. | संशोधित पुर्जा नं. और विवरण MODIFIED PART NO. AND DESCRIPTION | सूचक INDEX | संशोधन ALTERATION | 2003 | दिनांक DATE | नाम NAME | | | | | | | | | | | | | | |
| | | | | | 16.01 | VML | | | | | | | | | | | | | | |
| COVER FROM THE SIDE OF DRIVE | | | | मापमान SCALE 2:1 | | जांचा CHECKED 17/11/07 | | | | | | | | | | | | | | |
| मशीनी जौजार आदिरूप फैक्टरी, अम्बरनाथ MACHINE TOOL PROTOTYPE FACTORY, AMBERNATH | | | | कार्यालय OFFICE VMT | | ड्रॉइंग नं. DRAWING NO. MB II 2-11-01 | | | | | | | | | | | | | | |

Rz 80 (✓)



1. Radial play of surface B and surface Γ with respect to surface A and surface E should not exceed 0.05mm.
2. Blunt sharp edges of key-way on the tapering surface of shaft along the perimeter not exceeding R 0.5mm.
3. Unspecified limit deviations of dimensions are ±0.25mm.
4. Coating :- Chrome-plating, 6 microns thickness on surface *

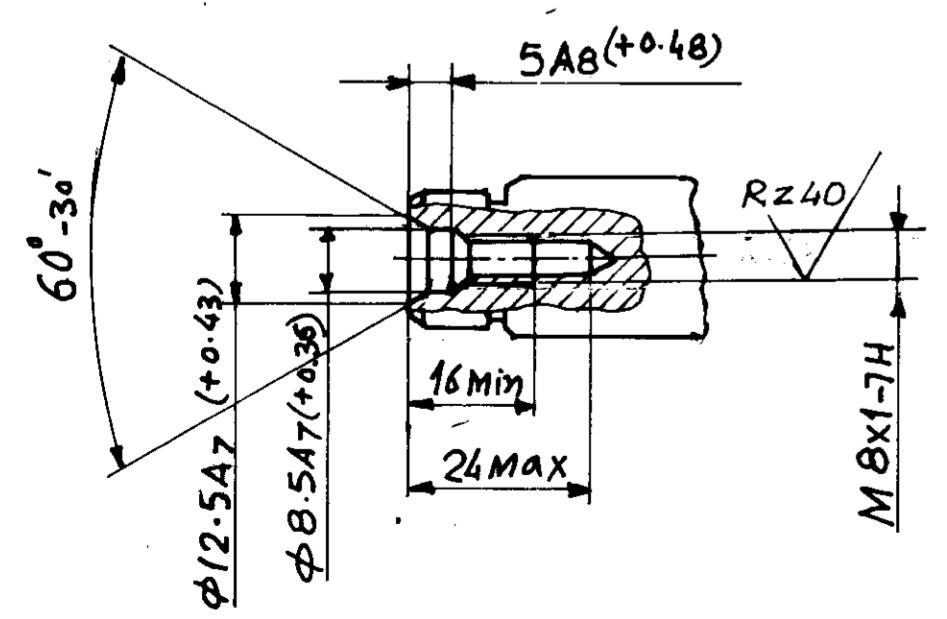
EQ. MATERIAL :- C40, IS : 2073 - 70 OR EN8, BS : 970.

5-6
M 2:1
4rw (-0.010 / -0.055)

VETTED
29 NOV 2007
JWM/STD-CELL

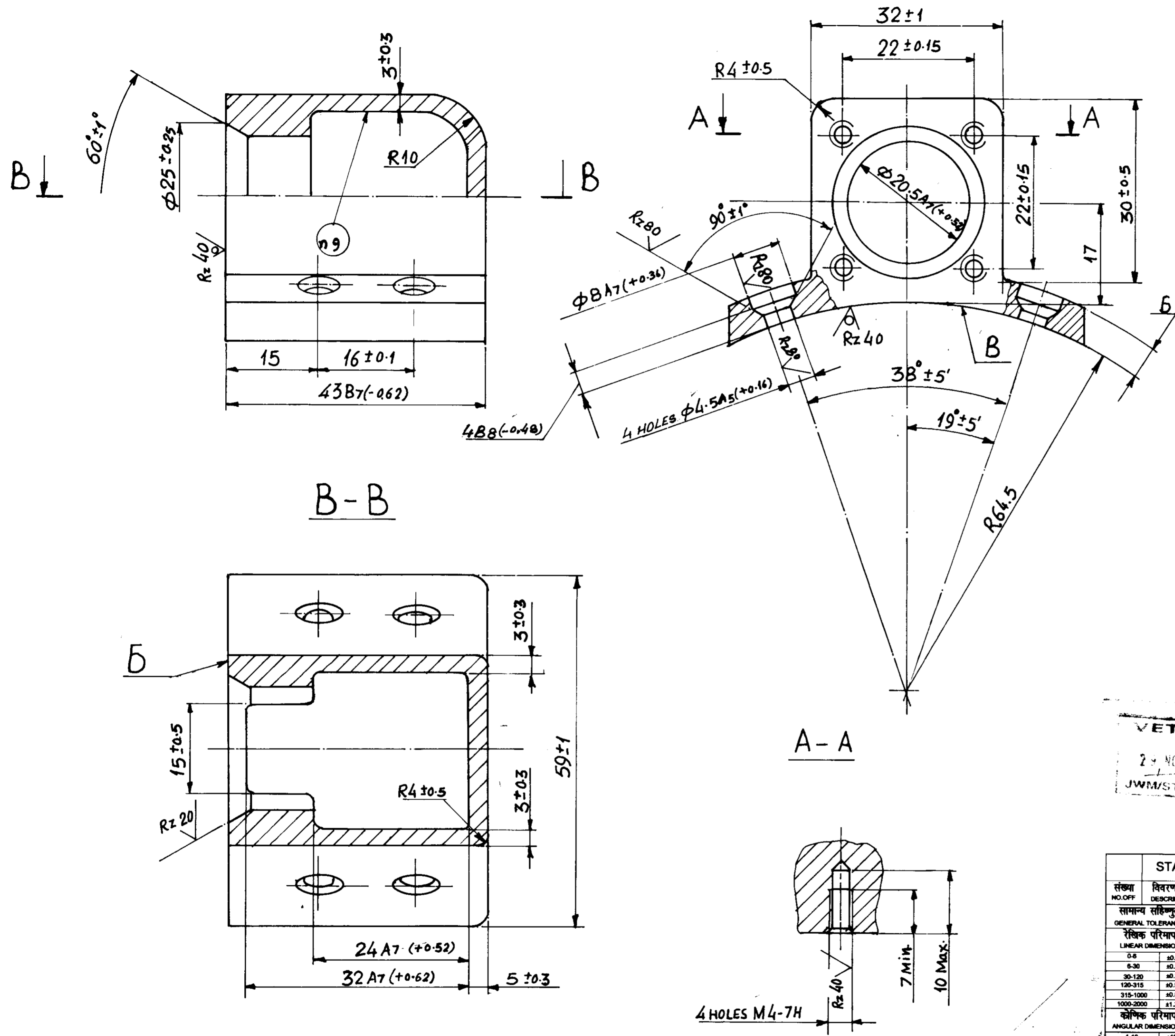
FIRST ANGLE PROJECTION

* STEEL 40, GOST 1050-74



इन आरेखों तथा इसके साथ की सम्पूर्ण सामग्री का स्वत्व अधिकार भारत सरकार रक्षा मंत्रालय की भारतीय आयुध निर्माणियों के पास है। भारतीय आयुध निर्माणियों के महानिदेशक की लिखित अनुमति के बिना इनकी नकल या किसी भी रूप में इनके उद्धरण या इनमें समाहित सूचना किसी अनधिकृत व्यक्ति को उपलब्ध नहीं कराई जानी चाहिए।
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| SHAFT | | * | | 0.58 | | |
|--|--|-------------------------|----------------------|----------------------------|---------------------------------------|-------------|
| संख्या NO. OFF | विवरण DESCRIPTION | पुर्जा क्र. PART NO. | पदार्थ MATERIAL | मानक STANDARD | परिमाण DIMENSIONS | MASS (kg) |
| सामान्य सहिष्णुता GENERAL TOLERANCE | | | | | | |
| रेखिक परिमाण LINEAR DIMENSION | | | | | | |
| 0-4 | ±0.1 | | | | | |
| 5-30 | ±0.2 | | | | | |
| 30-120 | ±0.3 | | | | | |
| 120-315 | ±0.5 | | | | | |
| 315-1000 | ±0.8 | | | | | |
| 1000-2000 | ±1.2 | | | | | |
| कोणिक परिमाण ANGULAR DIMENSION | | | | | | |
| 1-10 | ±1' | | | | | |
| 10-50 | ±30' | | | | | |
| 50-100 | ±20' | | | | | |
| 100 | ±10' | | | | | |
| मापक 'म्यू एम' में VALUE IN 'μm' | | | | | | |
| - | >25 | | | | | |
| ∇ | 8-25 | | | | | |
| ∇∇ | 1.8-8 | | | | | |
| ∇∇∇ | 0.025-1.8 | | | | | |
| ∇∇∇∇ | <0.025 | | | | | |
| संख्या NO. OFF | संबंधित पुर्जा क्र. DRG. NO. OF ASSOCIATED PART | सूचक INDEX | संशोधन ALTERATION | 2003 | दिनांक DATE | नाम NAME |
| | | | | | 13.1 | Ronde |
| | | | | | 14.1.03 | lt |
| मापमान SCALE | आरेखित DRAWN | जाँचा CHECKED | अनुमोदित APPROVED | द्वारा बदला REPLACED BY | द्वारा बदला REPLACED FOR | |
| 1:1 | | | | | | |
| मशीनी औजार आदिरूप फैक्टरी, अम्बरनाथ MACHINE TOOL PROTOTYPE FACTORY, AMBERNATH | | | | कार्यालय OFFICE | Code-38 | |
| मूलमाप व अन्वयोजन NOMINAL SIZE & FIT | | | | विचलन DEVIATION | आरेखण क्र. DRAWING NO. MB/72-10-02 | |



1. Casting radii should not exceed 3mm.
2. Pattern drafts are 2° towards decreasing of dimensions.
3. Unspecified limit deviations of dimensions are $\pm 0.25\text{mm}$ and of angular dimension is $\pm 30'$.
4. Blunt sharp edges by chamfering $\approx 0.3\text{mm} \times 45^\circ$ and with radius $\approx 0.3\text{mm}$
5. Weld joints and traces due to pushers are not allowed on surface B.
6. Impregnation with varnish B-725F, TY6-10-866-75 under vacuum is allowed.
7. Check the water permeability with excess air pressure of 0.3atm.
8. Coating :- Anodically oxidized, chromated or chemically oxidised, fluorinated. Paint enamel Mf-12, black, GOST 9754-76 III ~~✗~~, except on surface B.
9. Varnish paint coating should be done in compliance with OST 3 - 1928 - 73.
10. Number of press mould and socket number are allowed to mark by type 3 as per H0.010.007.

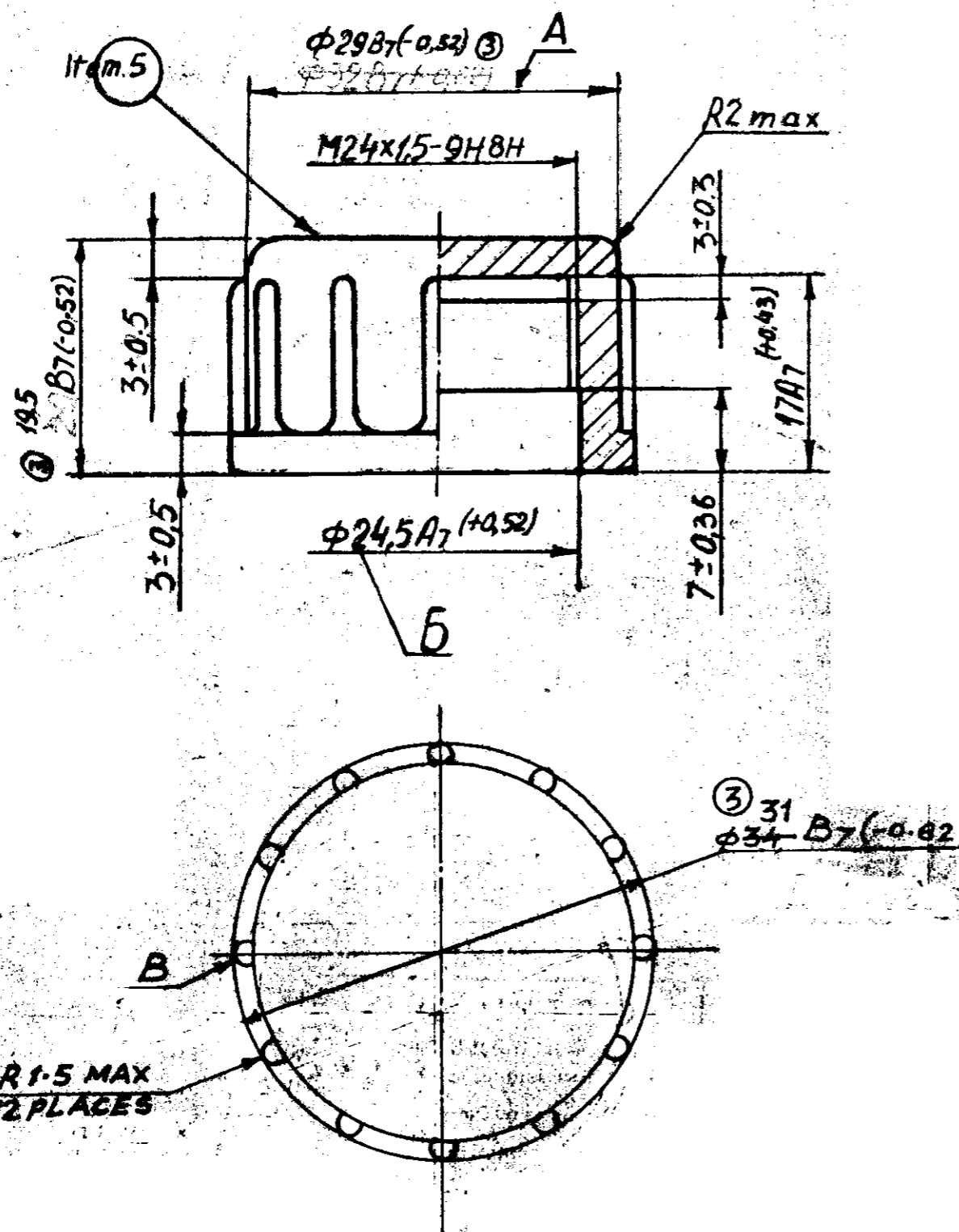
VETTED
24 NOV 2007
JWM/ST/DEL

EQ. MATERIAL :- GRADE 4600 to IS : 617-75

FIRST ANGLE PROJECTION

| STAND | | Alloy A12 GOST - 2685 - 75 | | 65g | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|--|--|-------------------------------|----------------------|----------------------------|----------------------|--|--|----------------------------------|--|-----|------|------|------|--------|------|---------|------|----------|------|-----------|------|-----------------------------------|--|------|-----|-------|------|--------|------|------|------|-------------------------------------|--|---|-----|---|------|----|-------|-----|-----------|------|--------|
| संख्या NO.OFF | विवरण DESCRIPTION | पुर्जा क्र. PART NO. | पदार्थ MATERIAL | मानक STANDARD | परिमाण DIMENSIONS | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| <table border="1"> <tr> <th colspan="2">सामान्य सहिष्णुता GENERAL TOLERANCE</th> </tr> <tr> <th colspan="2">रेखिक परिमाण LINEAR DIMENSION</th> </tr> <tr> <td>0-6</td> <td>±0.1</td> </tr> <tr> <td>6-30</td> <td>±0.2</td> </tr> <tr> <td>30-120</td> <td>±0.3</td> </tr> <tr> <td>120-315</td> <td>±0.5</td> </tr> <tr> <td>315-1000</td> <td>±0.8</td> </tr> <tr> <td>1000-2000</td> <td>±1.2</td> </tr> <tr> <th colspan="2">कोणिक परिमाण ANGULAR DIMENSION</th> </tr> <tr> <td>1-10</td> <td>±1'</td> </tr> <tr> <td>10-30</td> <td>±30'</td> </tr> <tr> <td>30-100</td> <td>±20'</td> </tr> <tr> <td>>100</td> <td>±10'</td> </tr> <tr> <th colspan="2">मापक 'म्यू एम' में VALUE IN 'μm'</th> </tr> <tr> <td>∇</td> <td>>25</td> </tr> <tr> <td>∇</td> <td>8-25</td> </tr> <tr> <td>∇∇</td> <td>1.8-8</td> </tr> <tr> <td>∇∇∇</td> <td>0.025-1.6</td> </tr> <tr> <td>∇∇∇∇</td> <td><0.025</td> </tr> </table> | | | | | | सामान्य सहिष्णुता GENERAL TOLERANCE | | रेखिक परिमाण LINEAR DIMENSION | | 0-6 | ±0.1 | 6-30 | ±0.2 | 30-120 | ±0.3 | 120-315 | ±0.5 | 315-1000 | ±0.8 | 1000-2000 | ±1.2 | कोणिक परिमाण ANGULAR DIMENSION | | 1-10 | ±1' | 10-30 | ±30' | 30-100 | ±20' | >100 | ±10' | मापक 'म्यू एम' में VALUE IN 'μm' | | ∇ | >25 | ∇ | 8-25 | ∇∇ | 1.8-8 | ∇∇∇ | 0.025-1.6 | ∇∇∇∇ | <0.025 |
| सामान्य सहिष्णुता GENERAL TOLERANCE | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| रेखिक परिमाण LINEAR DIMENSION | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 0-6 | ±0.1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 6-30 | ±0.2 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 30-120 | ±0.3 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 120-315 | ±0.5 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 315-1000 | ±0.8 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1000-2000 | ±1.2 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| कोणिक परिमाण ANGULAR DIMENSION | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1-10 | ±1' | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 10-30 | ±30' | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 30-100 | ±20' | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| >100 | ±10' | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| मापक 'म्यू एम' में VALUE IN 'μm' | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| ∇ | >25 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| ∇ | 8-25 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| ∇∇ | 1.8-8 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| ∇∇∇ | 0.025-1.6 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| ∇∇∇∇ | <0.025 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| संख्या NO.OFF | संबंधित पुर्जों का आरेखण क्र. DRG. NO. OF ASSOCIATED PART | सूचक INDEX | संशोधन ALTERATION | 2003 | दिनांक DATE | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| STAND | | | | मापमान SCALE | आरेखित DRAWN | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | 2:1 | 05-04 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | जाँचा CHECKED | 6/1/03 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | अनुमोदित APPROVED | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | द्वारा बदला REPLACED BY | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | हेतु बदला REPLACED FOR | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | आरेखण क्र. DRAWING NO. | MBN 2 - 00 - 02 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| मशीनी औजार आदि रूप फैक्टरी, अम्बरनाथ MACHINE TOOL PROTOTYPE FACTORY, AMBERNATH | | | | कार्यालय OFFICE | Code-38 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | VMT | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

इन आरेखणों तथा इसके साथ की सम्पूर्ण सामग्री का स्वत्व अधिकार भारत सरकार रक्षा मंत्रालय की भारतीय आयुध निर्माणियों के पास है। भारतीय आयुध निर्माणियों के महानिदेशक की लिखित अनुमति के बिना इनकी नकल या किसी भी रूप में इनके उद्धरण या इनमें समाहित सूचना किसी अनधिकृत व्यक्ति को उपलब्ध नहीं कराई जानी चाहिए।
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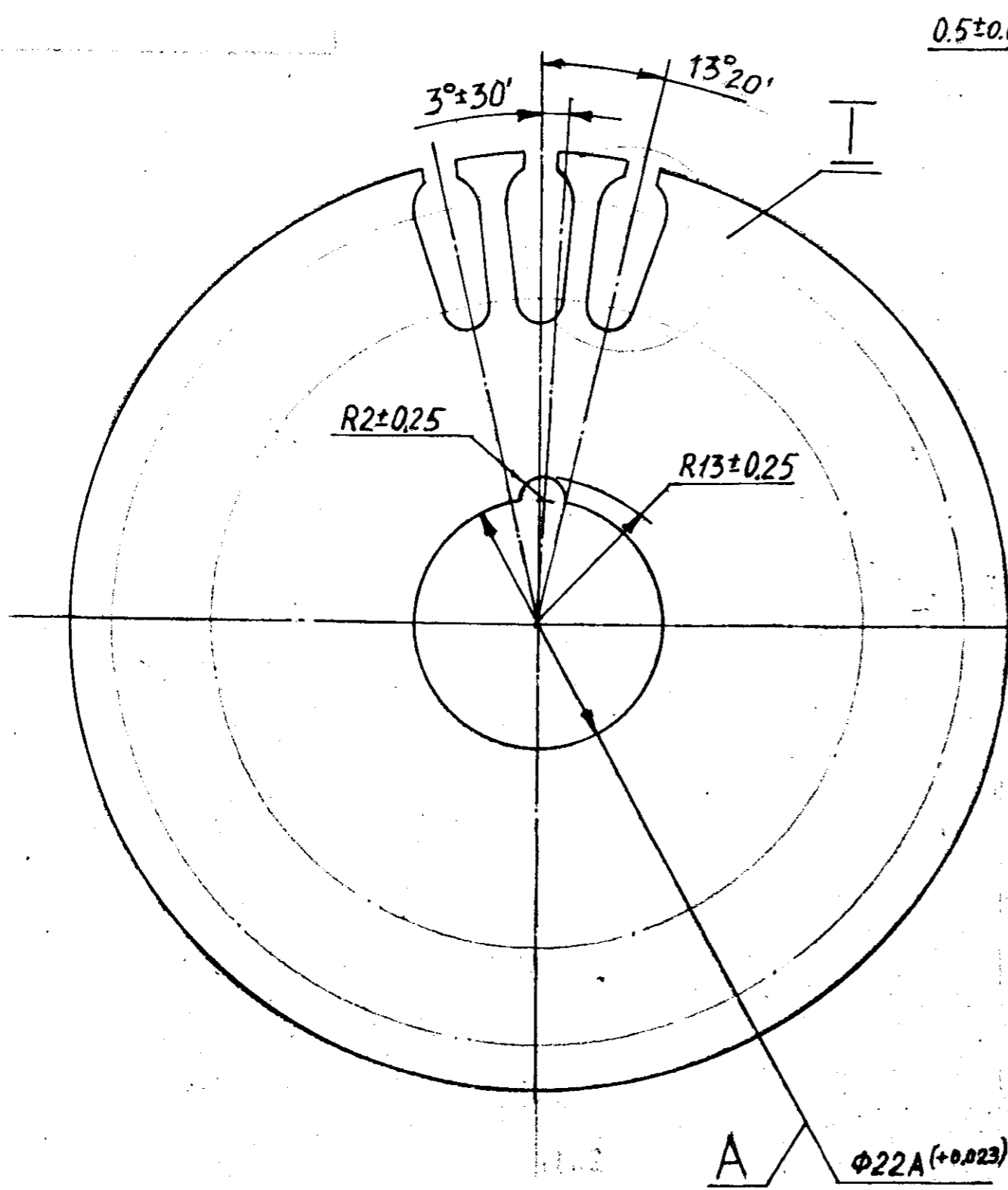
1. Alternate material:-Phenoplast Y4-080-02
GOST 5689-73
2. Tapering of 1° towards decreasing of dimension A and 4° towards the increasing dimension B are allowed.
3. Unspecified radii should not exceed 1mm.
4. Angle displacement of ribs B ±1° from the true position is allowed.
5. Mark socket number of mould and the designation of part by embossed type as per HD.010.007.
6. Other requirements are as per OST B-84-1602-78.

VETTED
29 NOV 2007
JWM/STD-CELL

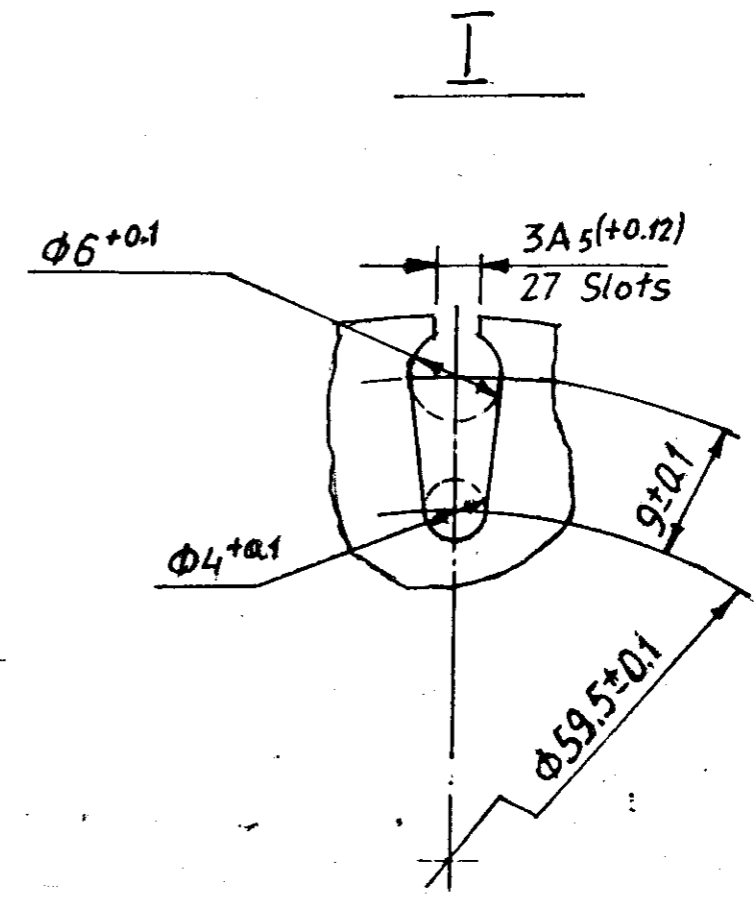
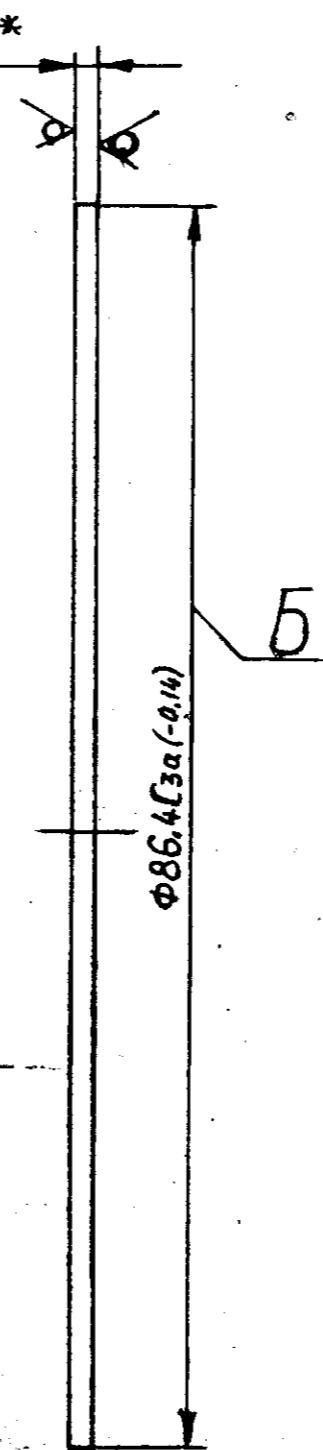
D-571 ECKB

X9-10945

| | | | |
|--|--|--------|-------|
| CHECKED CONTROLLERATE OF INSPECTION | TRANSPORTING CAP | WEIGHT | SCALE |
| | | 12.89g | 2:1 |
| | | SHT | SHTS |
| | Phenoplast 03-010-02 black GOST 5689-73 | 146 | 146 |



0.5±0.05*



1. * Dimension is given for references, other dimensions are provided with tools.
 2. Angular deviation upto 30' between any two slots placed at a distance, is allowed.
 3. Misalignment of diameter A with respect to diameter B not exceeding 0.1mm is allowed.
- Ⓐ EQ. MATERIAL: HR NGO GRADE 260/300 To IS: 648

A Φ22A(+0.023)

I-571

VETTED
29 NOV 2007
JW/JOYD-CELL

MB 60-07-04

| | |
|-----------|---------------------------|
| 00804-101 | Ⓐ EQ. MATERIAL ADDED. |
| DATE | ISSUE NATURE OF AMENDMENT |

CONTROLLER
INSPECTION

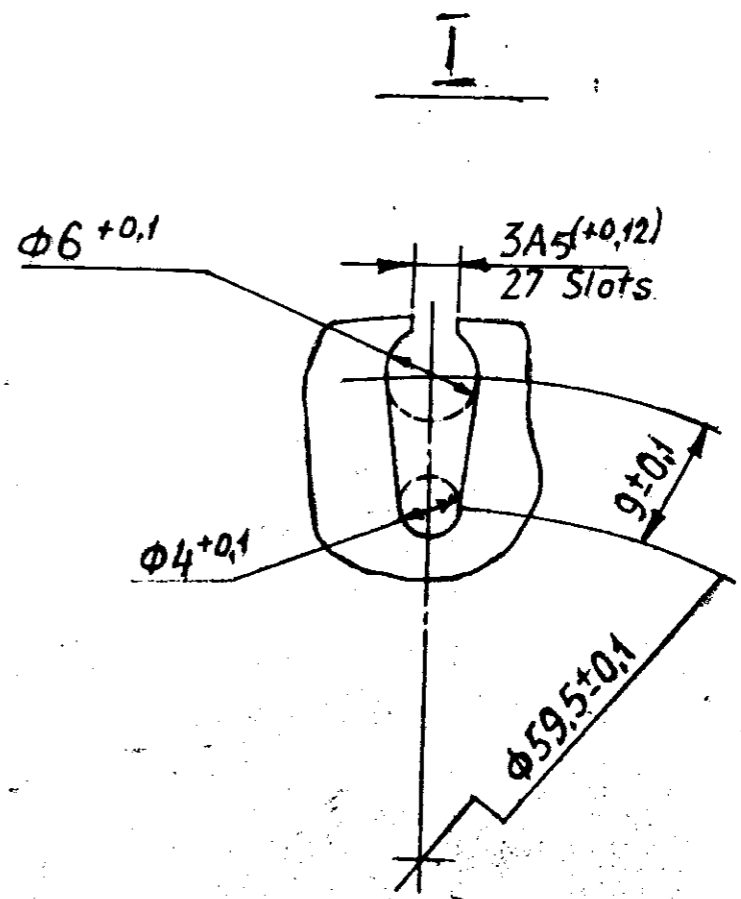
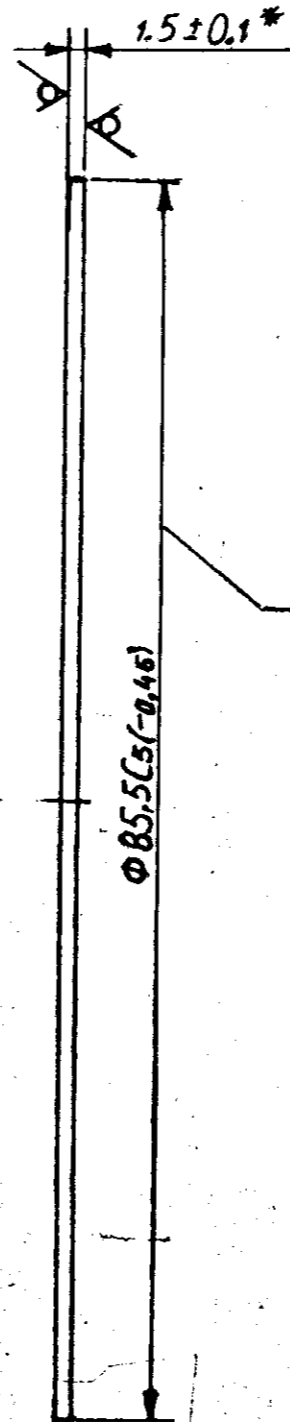
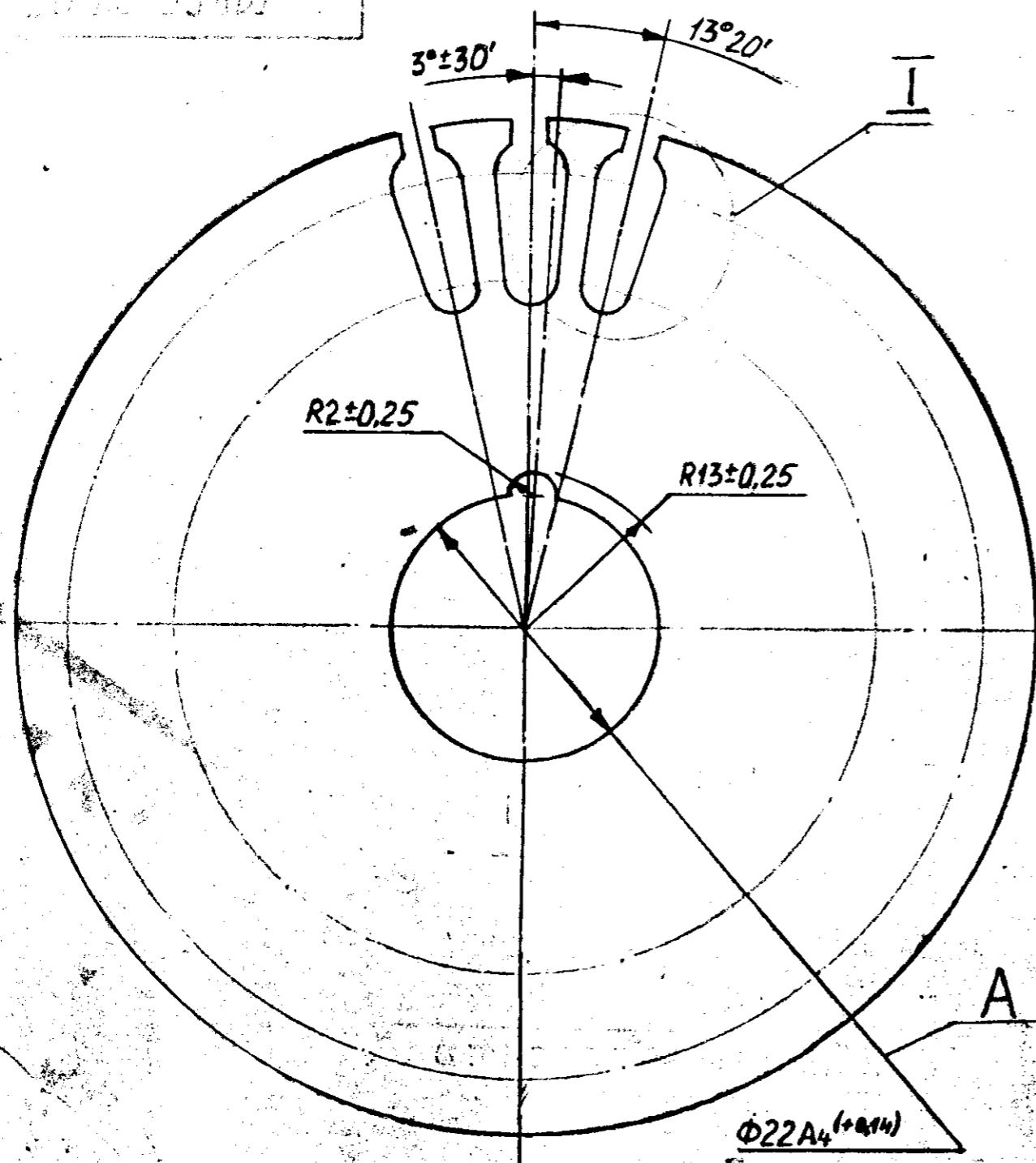
IRON SHEET OF ARMATURE

Sheet 0.5-H-1-HT-1212
GOST 21427 3-75

132 2:1

115/146

2007-07-05



- * Dimension is given for references, other dimensions are provided with tools.
- Angular deviation, between any two slots placed at distance, upto 30' is allowed.
- Misalignment of diameter A with respect to diameter B not exceeding 0.1mm is allowed

VETTED
29 NOV 2007
JVL/STD-CELL

[ECKU]

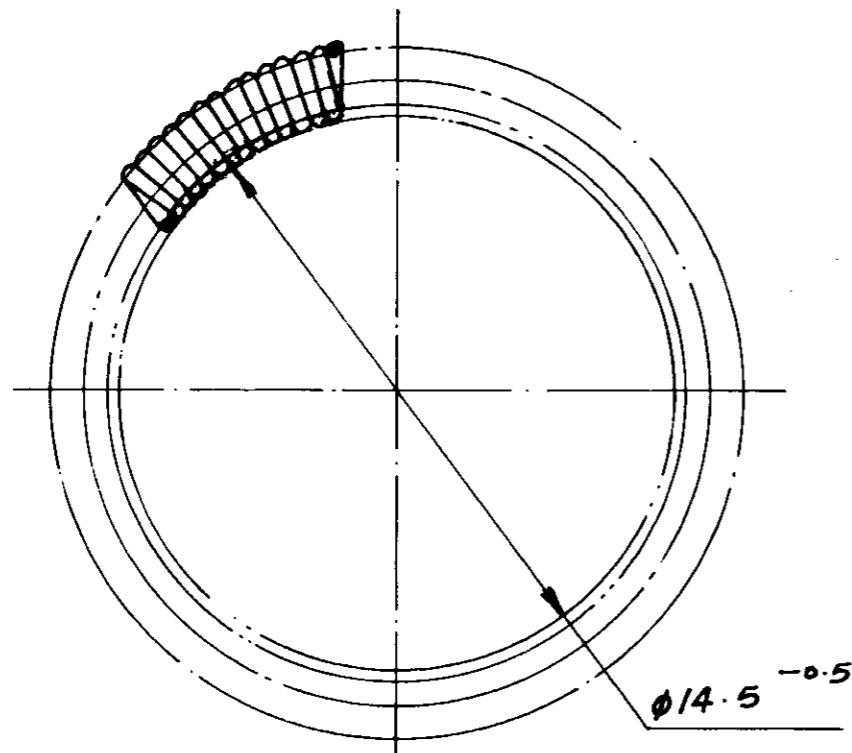
MB60-07-05

CONTROLLED BY
INSPECTION

**EXTREME
INSULATING SHEET**
Card board 3B1.5
FOCT 2824-75

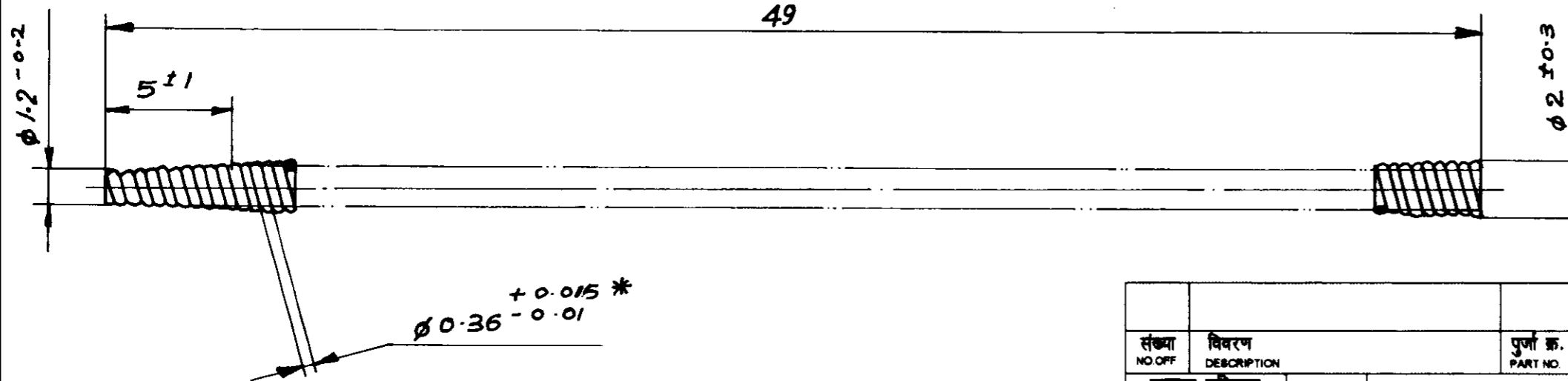
| | |
|---------|-----|
| SCALE | 2:1 |
| 5-5g | |
| 116/146 | |

D-571



1. Direction of winding - right, smooth, without gaps between the coils.
2. For checking the internal diameter of spring $\phi 14.5$ in its working position, the left tapering end of the spring is screwed in to the right, and not less than 4 turns should be engaged. Checking of $\phi 14.5$ is carried out with bar of diameter $\phi 14.5 - 0.25$ while the spring should be supported on the bar and should not have gaps between the coils on the surface adjoined to the bar.
3. Excess portion of the cylindrical section of the spring is allowed to be removed to give the desired diameter, $\phi 14.5$.
4. The part is made of wire $\phi 0.4 (\pm 0.02)$.
5. Total length of the spring (wire) when developed - 780mm.
6. Coatng :- Cadmium, 10microns thick.
7. * Dimension is given for references.

VETTED
29 NOV 2007
JVM/STD-CELL



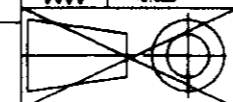
* Wire I - 0.36
TY 14-4-823-77

FIRST ANGLE PROJECTION

इन आरेखों तथा इसके साथ की सम्पूर्ण सामग्री का स्वत्वाधिकार भारत सरकार तथा मंत्रालय की भारतीय आयुध निर्माणियों के पास है। भारतीय आयुध निर्माणियों के महानिदेशक की लिखित अनुमति के बिना इनकी नकल या किसी भी रूप में इनके उद्धरण या इनमें सम्मिलित सूचना किसी अनधिकृत व्यक्ति को उपलब्ध नहीं कराई जानी चाहिए।
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मूलमाप व अन्वयोजन
NOMINAL SIZE & FIT

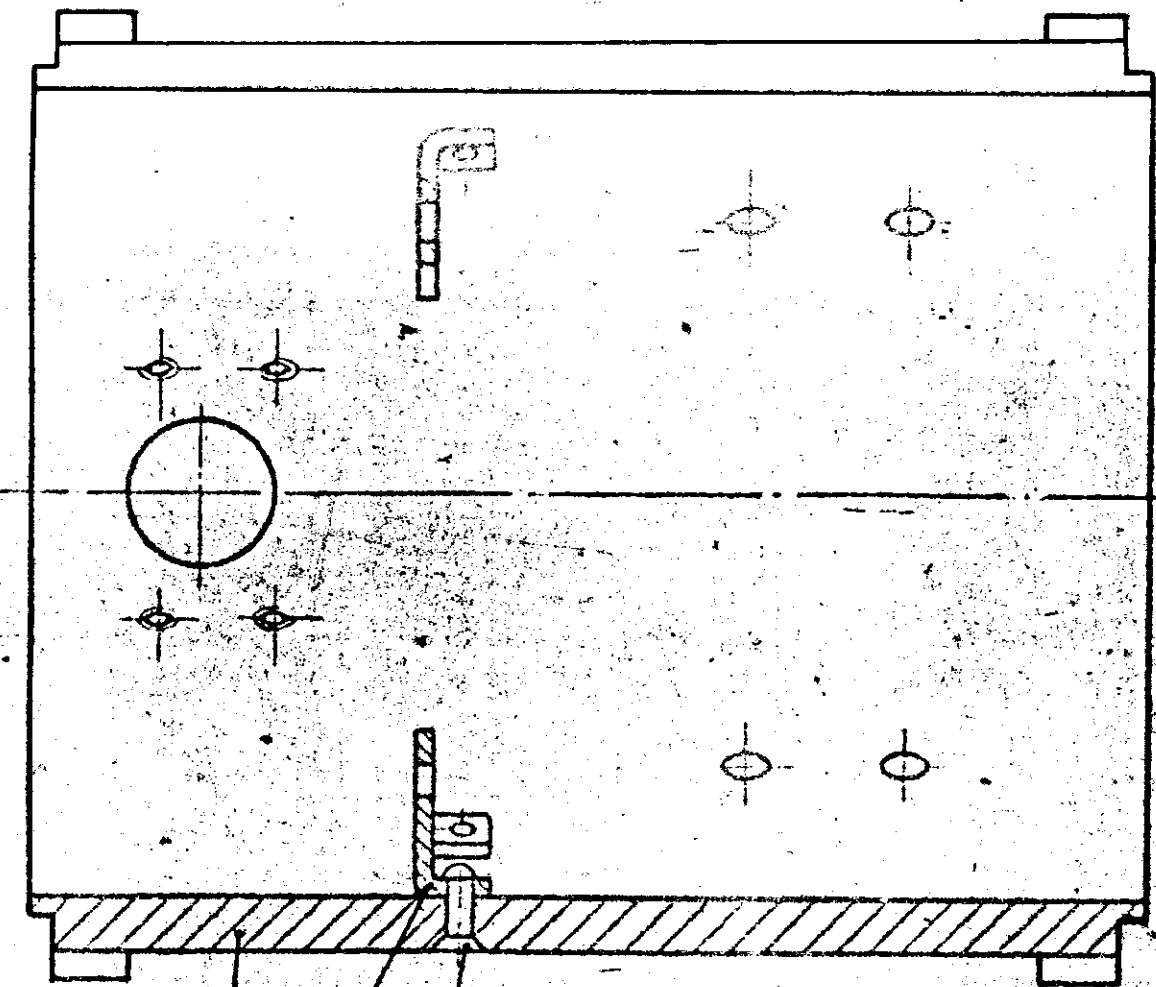
विचलन
DEVIATION



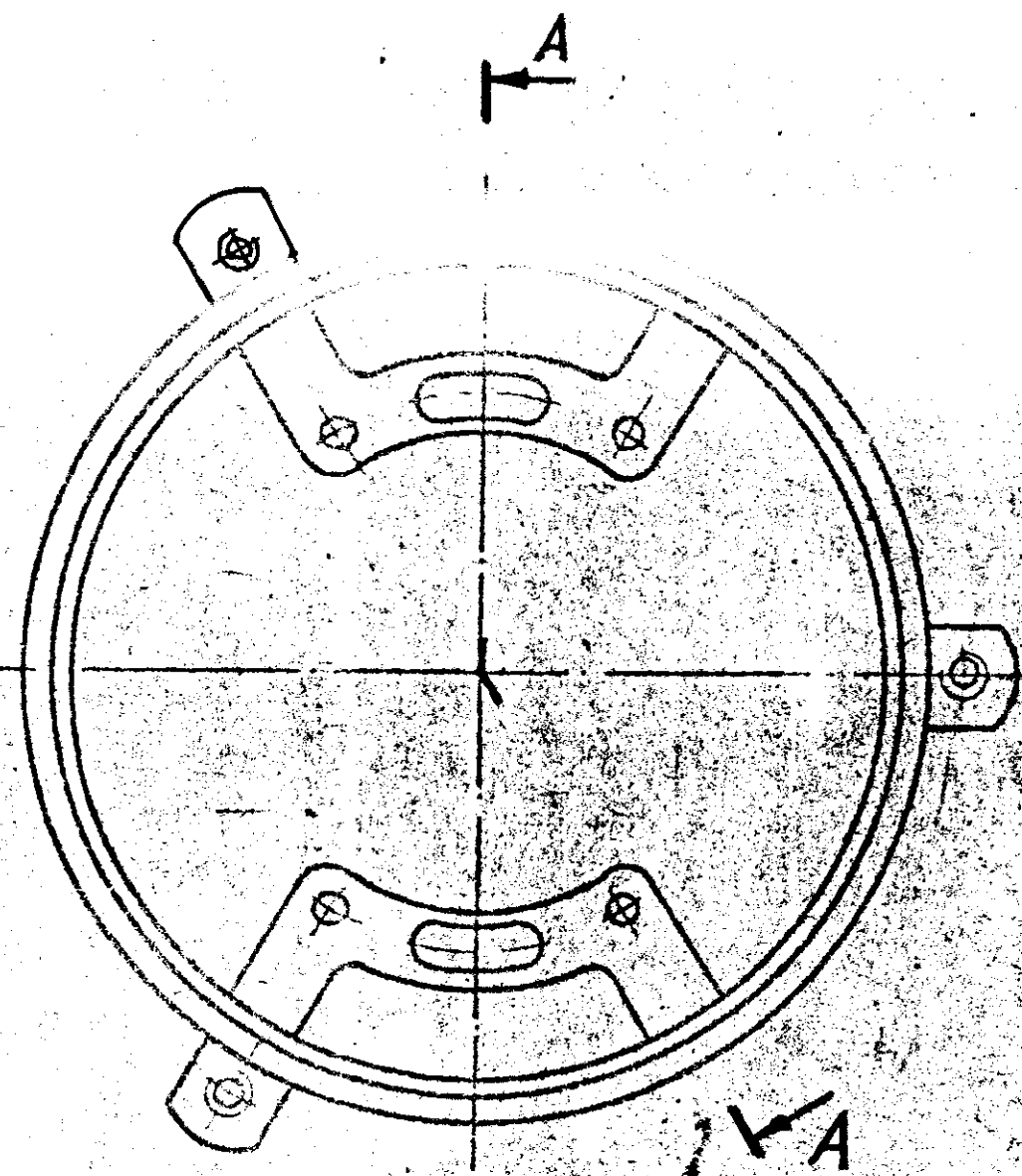
| संख्या NO. OFF | विवरण DESCRIPTION | पुर्जा क्र. PART NO. | पदार्थ MATERIAL | मानक STANDARD | परिमाण DIMENSIONS | MASS |
|--|----------------------|-------------------------|--------------------|------------------|----------------------|------|
| | | | | | | 0.8g |
| * सामान्य सहिष्णुता GENERAL TOLERANCE | | | | | | |
| रेखिक परिमाण LINEAR DIMENSION | | | | | | |
| 0-6 | ±0.1 | | | | | |
| 6-30 | ±0.2 | | | | | |
| 30-120 | ±0.3 | | | | | |
| 120-315 | ±0.5 | | | | | |
| 315-1000 | ±0.8 | | | | | |
| 1000-2000 | ±1.2 | | | | | |
| कोणिक परिमाण ANGULAR DIMENSION | | | | | | |
| 1-10 | ±1° | | | | | |
| 10-50 | ±30' | | | | | |
| 50-100 | ±20' | | | | | |
| >100 | ±10' | | | | | |
| मापिक 'म्यू एम' में VALUE IN 'μm' | | | | | | |
| - | >25 | | | | | |
| ∅ | 8-25 | | | | | |
| ∅∅ | 1.6-8 | | | | | |
| ∅∅∅ | 0.025-1.6 | | | | | |
| ∅∅∅∅ | <0.025 | | | | | |
| संख्या संशोधन NO. OFF ALTERATION | | | | | | |
| संबंधित पुर्जा क्र. आरेख क्र. DRG. NO. OF ASSOCIATED PART | | | | | | |
| सूचक INDEX | | | | | | |
| संशोधन ALTERATION | | | | | | |
| 2003 DATE | | | | | | |
| नाम NAME | | | | | | |
| मापमान SCALE | | | | | | |
| आरेखित DRAWN | | | | | | |
| 21/103 | | | | | | |
| जाँचा CHECKED | | | | | | |
| 6/1/03 | | | | | | |
| अनुमोदित APPROVED | | | | | | |
| द्वारा बदला REPLACED BY | | | | | | |
| केतु बदला REPLACED FOR | | | | | | |
| आरेख क्र. DRAWING NO. | | | | | | |
| MB171-04-05 | | | | | | |
| मशीनी औजार आदिरूप फैक्टरी, अम्बरनाथ MACHINE TOOL PROTOTYPE FACTORY, AMBERNATH | | | | | | |
| कार्यालय OFFICE | | | | | | |

300W

A-A



1 2 3



1. Secure rivet Ref. No. 3 with the sealant Y-30M,
GOST 13489-79 and rivet over flush with surface of body.

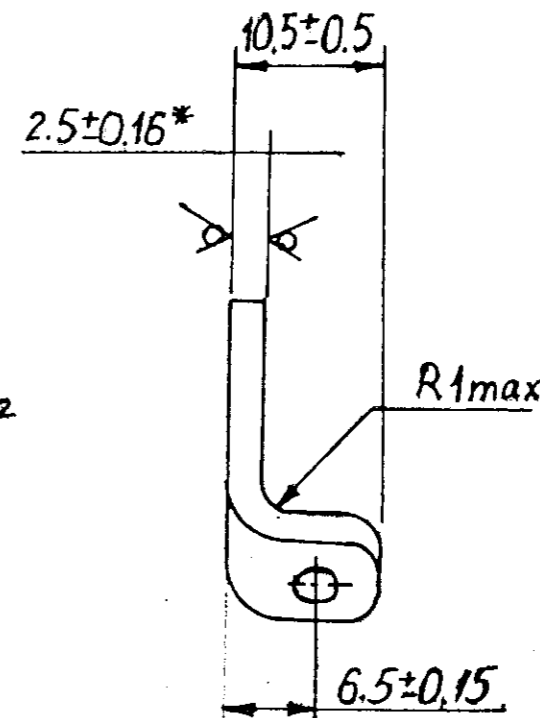
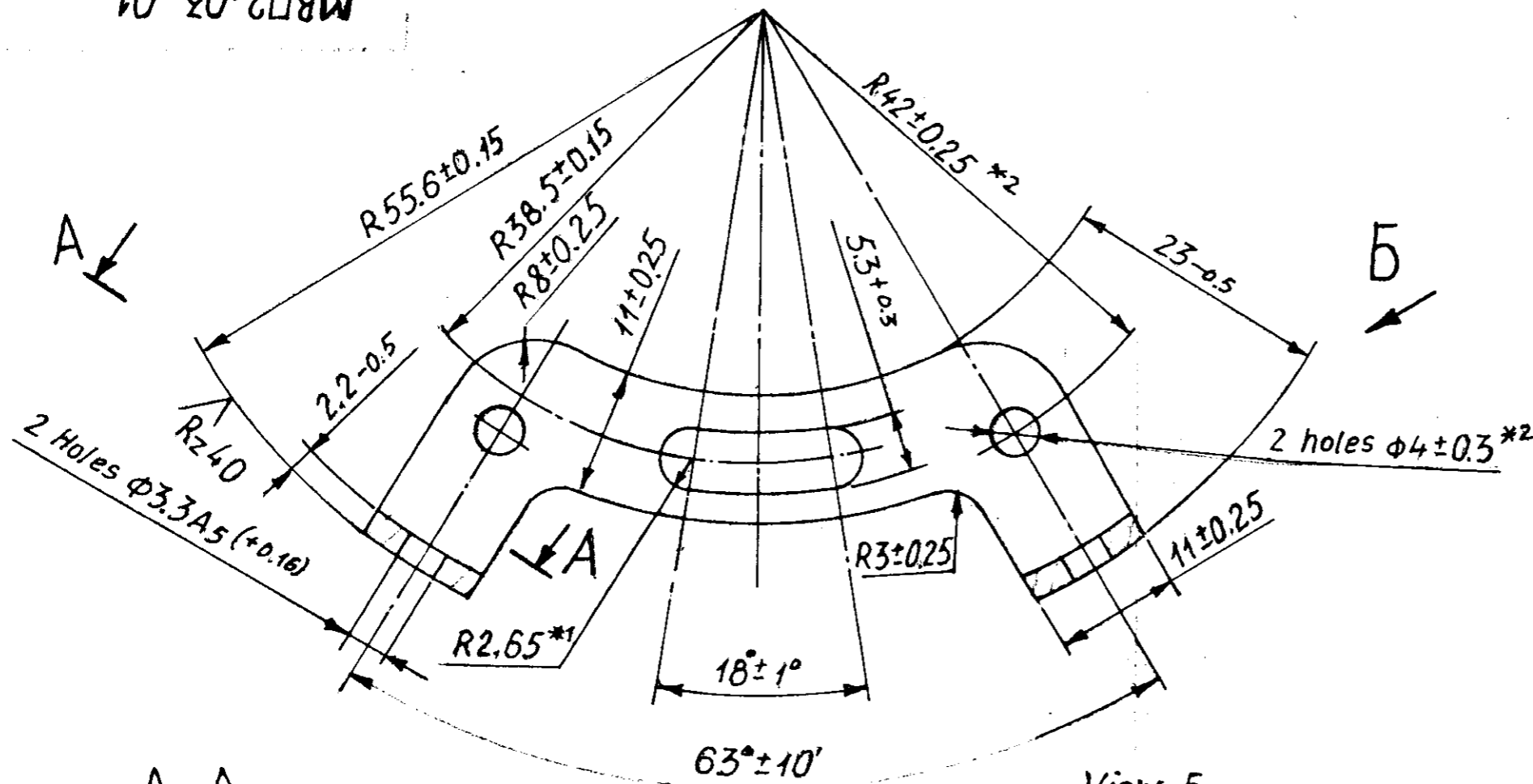
VETTED
25 FEB 2008
JWM/STD-CELL

| INSPECTION (REV) | MBN2-03-00C5 | | | | | |
|---------------------|--|--|--------|-------|-------|-----|
| | BODY WITH ANGLE PIECES (ASSY DT9) | <table border="1"> <tr> <th>WEIGHT</th> <th>SCALE</th> </tr> <tr> <td>2.935</td> <td>1:1</td> </tr> </table> | WEIGHT | SCALE | 2.935 | 1:1 |
| | WEIGHT | SCALE | | | | |
| 2.935 | 1:1 | | | | | |
| SHT | SHTS | | | | | |

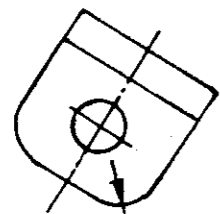
Чароб. No
 1177

MBП2-03-01

Rz 80 ✓(✓)

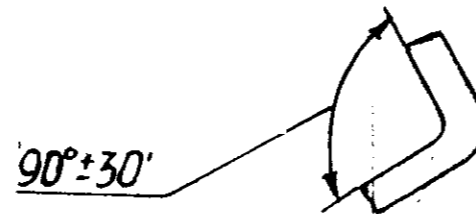


A-A



R3±0.25

View B



90°±30'

1. * Dimension is given for references.
 2. *1 Dimension is provided with tools.
 3. *2 Technological dimensions.
 4. Blunt sharp edges $R \approx 0,3\text{mm}$.
 5. Coating: -Zinc-plated, 21 microns thick, chromated.
Chromatization solution is as per V4252-78.
- Ⓐ EQ. MATERIAL: GRADE D: IS: 513-86

VETTED
29 NOV 2007
JWM/STD-CELL

D-571

MBП2-03-01

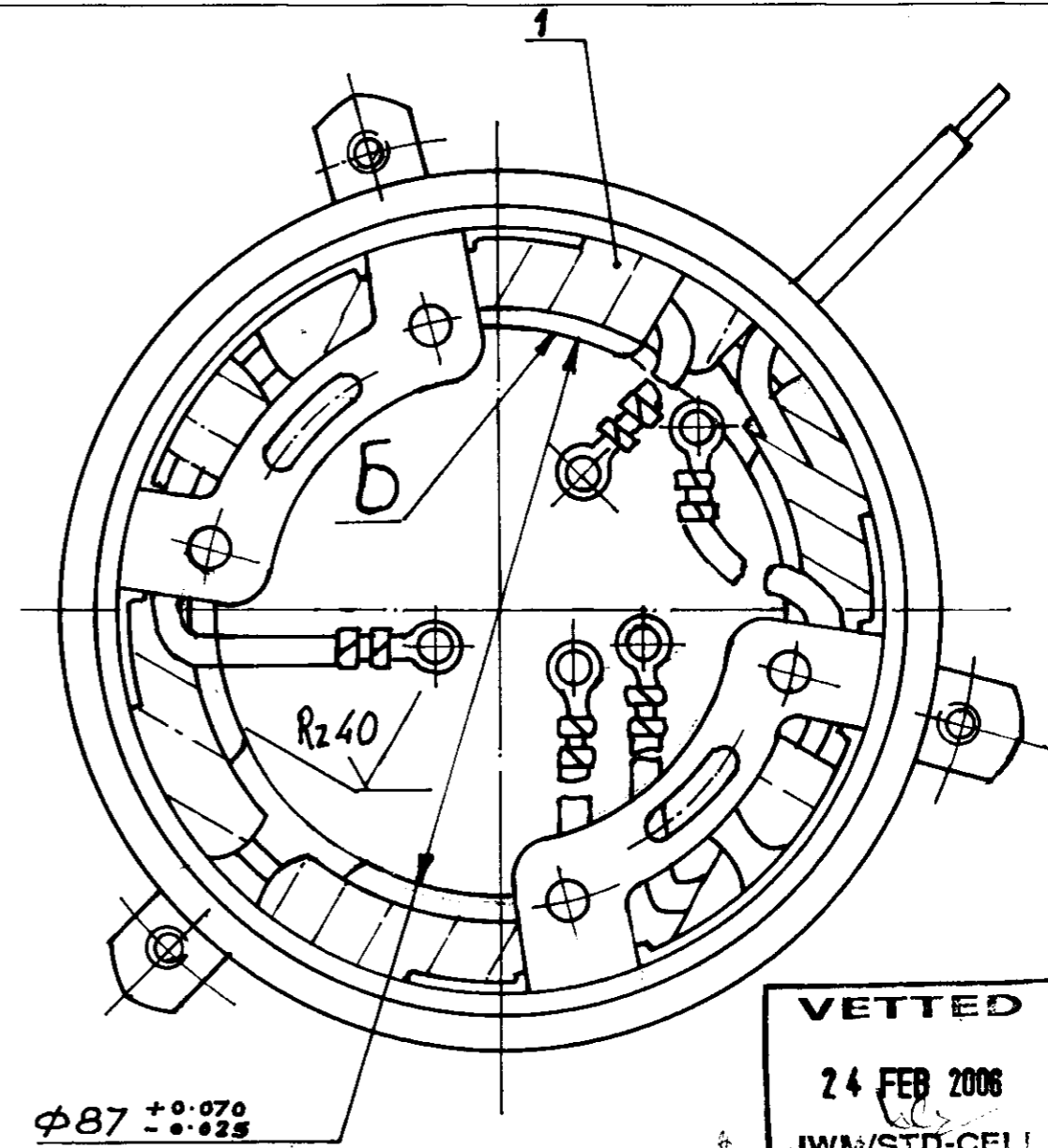
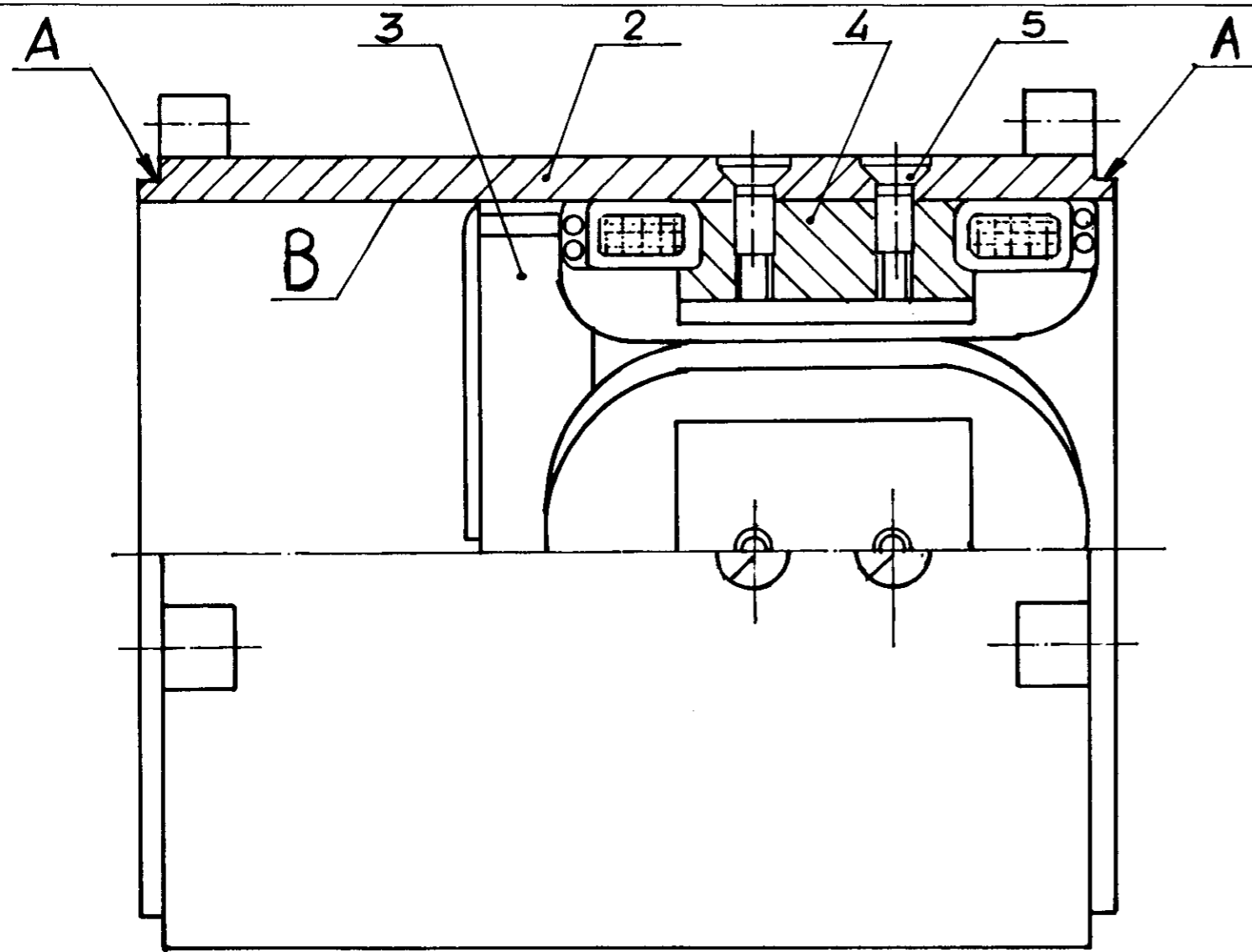
00804-10
EQ. MATERIAL: GRADE D: IS: 513-86
DATE: 10/08/2007
DECLINE: 10/08/2007

ANGLE PIECE

| | |
|------|-------|
| DATE | SCALE |
| 15/8 | 2:1 |

Sheet Б 2 5 ГОСТ 19904-74
II- ВГ-08 КН ГОСТ 9045-70

108/146



VETTED
24 FEB 2006
JWM/STD-CELL

$\phi 87 \begin{matrix} +0.070 \\ -0.025 \end{matrix}$

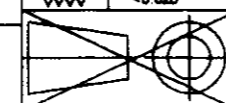
1. Coat the lateral surfaces of the pole with enamel XB - 124, grey GOST 10144-74 before assembling.
2. Secure screw Ref. No. 5 with sealant Y-30, M, GOST 13489-79.
3. Radial play of the surface B with respect to surface A should not exceed 0.15mm.
4. After assembling the body with the poles, surface B should be coated with enamel XB - 124, grey, GOST 10144-74.
5. Presence of enamel paints on the coils of surface B is permissible.

FIRST ANGLE PROJECTION

इन आरेखों तथा इसके साथ की सम्पूर्ण सामग्री का स्वत्व अधिकार भारत सरकार रक्षा मंत्रालय की भारतीय आयुध निर्माणियों के पास है। भारतीय आयुध निर्माणियों के महानिदेशक की लिखित अनुमति के बिना इनकी नकल या किसी भी रूप में इनके उद्धरण या इनमें समाहित सूचना किसी अनधिकृत व्यक्ति को उपलब्ध नहीं कराई जानी चाहिए।
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मूलमाप व अन्वयोजन
NOMINAL SIZE & FIT

विचलन
DEVIATION

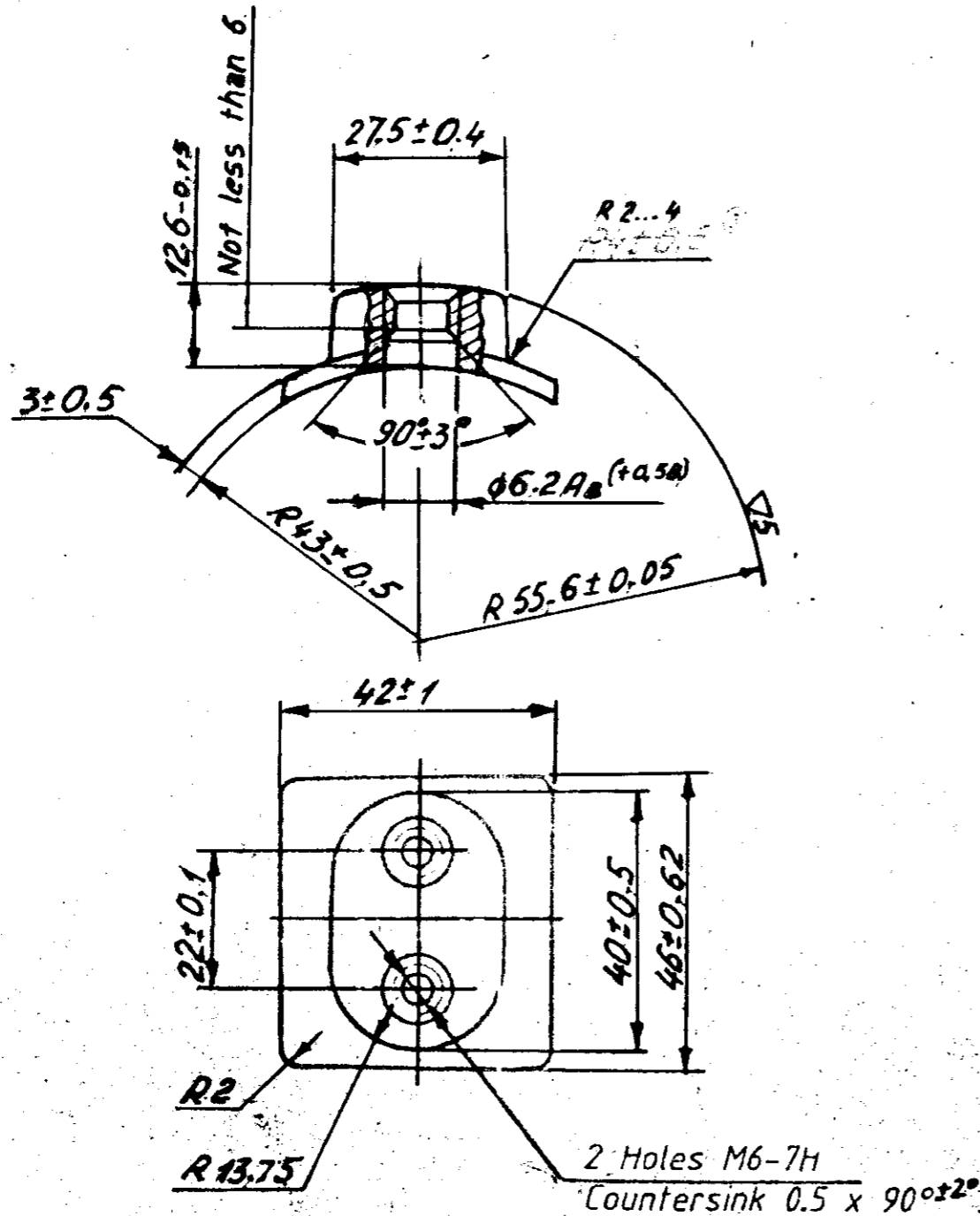


| BODY (ASSY. DRG.) | | | | | | 4.1 |
|--|----------------------|------------------------|--------------------|------------------|----------------------|---|
| संख्या NO. OFF | विवरण DESCRIPTION | पुर्जा क्र. PART NO | पदार्थ MATERIAL | मानक STANDARD | परिमाण DIMENSIONS | MASS (Kg) |
| सामान्य सहिष्णुता GENERAL TOLERANCE | | | | | | |
| रेखिक परिमाण LINEAR DIMENSION | | | | | | |
| 0-6 | ±0.1 | | | | | |
| 6-30 | ±0.2 | | | | | |
| 30-120 | ±0.3 | | | | | |
| 120-316 | ±0.5 | | | | | |
| 315-1000 | ±0.8 | | | | | |
| 1000-2000 | ±1.2 | | | | | |
| कोणिक परिमाण ANGULAR DIMENSION | | | | | | |
| 1-10 | ±1' | | | | | |
| 10-90 | ±30' | | | | | |
| 90-100 | ±20' | | | | | |
| >100 | ±10' | | | | | |
| मापोंक 'म्यू एम' में VALUE IN 'μm' | | | | | | |
| - | >25 | | | | | |
| ▽ | H-25 | | | | | |
| ▽▽ | 1.0-8 | | | | | |
| ▽▽▽ | 0.025-1.6 | | | | | |
| ▽▽▽▽ | <0.025 | | | | | |
| BODY (ASSY. DRG.) | | | | | | मापमान SCALE 1:1 |
| मशीनी औजार आदिरूप फैक्टरी, अम्बरनाथ MACHINE TOOL PROTOTYPE FACTORY, AMBERNATH | | | | | | कार्यालय OFFICE VMT |
| 2003 | | | | | | दिनांक DATE 4-1-2003 |
| नाम NAME R. K. Singh | | | | | | आरेखित DRAWN जाँचा CHECKED अनुमोदित APPROVED |
| द्वारा बदला REPLACED BY | | | | | | हेतु बदला REPLACED FOR |
| आरेखण क्र. DRAWING NO. MBD 2 - 04 - 00 CB | | | | | | |

10-0-250

2 All 100000

Ворточковая с резьбой



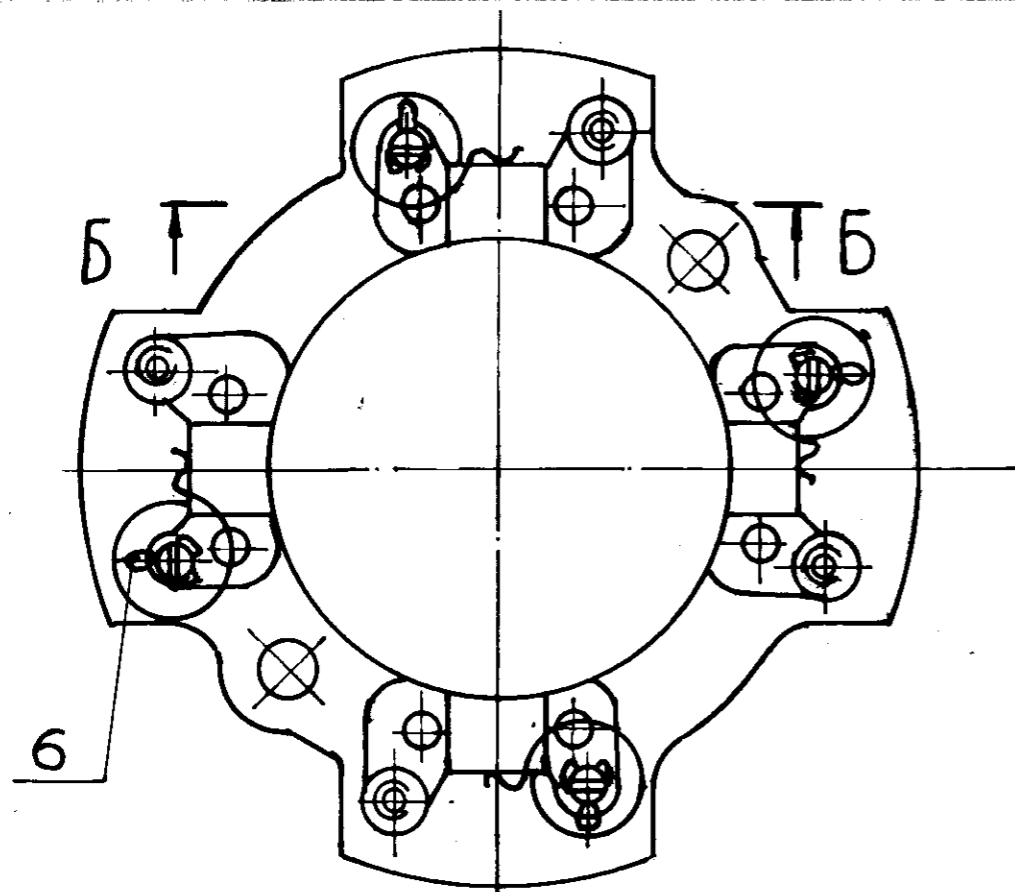
1. Taper should not exceed 3° towards decreasing of dimension.
 2. Rounding off of sharp edges R_f is allowed.
 3. Permissible displacement of dimension is 27.5 ± 0.4 .
 4. May be made by through cutting of thread M6-7H.
 5. Burrs are not allowed.
- (A) EQ MATERIAL: C10 IS: 2073-70 OR EN 1A EN 18 BS: 970

0108

VETTED
29 NOV 2007
JWW/STD-CELL

| | |
|------------------------------|----------------------------|
| 00804-14 JWW | (A) EQ MATERIAL ADDED |
| 30-08-2000 DCI NO DATE | ISSUE NATURE OF AMENDMENTS |

| | | | |
|-----------------------------------|-----------------------|-----------|-------|
| CONTROLLERATE OF INSPECTION | MB72-04-01 | WEIGHT | SCALE |
| | POLE | 125 g | 1:1 |
| | Steel 10 ГОСТ 1050-74 | 110 / 146 | |

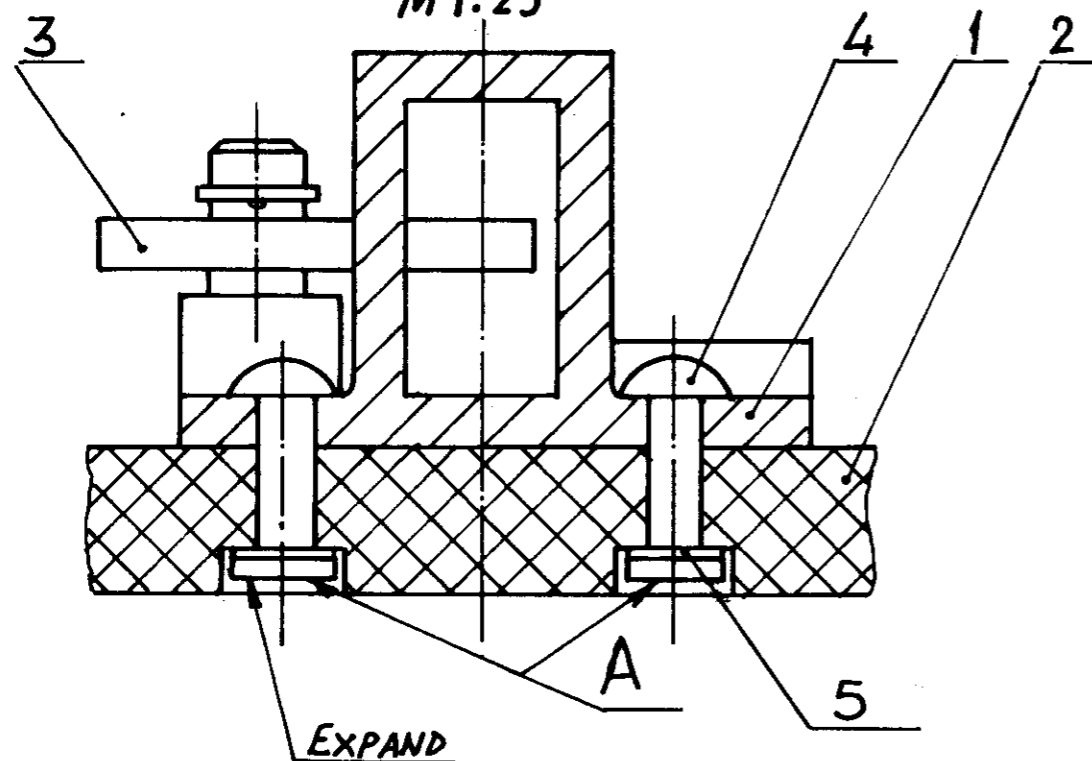


1. DEVIATIONS FROM THE ALIGNMENT OF WINDOW AXIES OF OPPOSITE BRUSH HOLDERS SHOULD NOT EXCEED 0.2 MM.

2. RIVET HEADS, REF. NO. 4 AND SURFACE A SHOULD BE COATED WITH ENAMEL XB-124, GREY. GOST 10144-74.

VETTED
24 FEB 2006
JWM/STD-CELL

B-B
M1:25



FIRST ANGLE PROJECTION

| BRUSH ARM (ASSY. DRG) | | | | | | 0.09 | |
|--|----------------------|------------------------|--------------------|------------------|----------------------|---------------------------|-----------------|
| सख्या NO OFF | विवरण DESCRIPTION | पुर्जा क्र. PART NO | पदार्थ MATERIAL | मानक STANDARD | परिमाण DIMENSIONS | अभ्यांकित REMARKS | MASS (kg) |
| सामान्य सहिष्णुता GENERAL TOLERANCE | | | | | | | |
| रेखिक परिमाण LINEAR DIMENSION | | | | | | | |
| 0 - 6 ± 0.1 | | | | | | | |
| 6 - 30 ± 0.2 | | | | | | | |
| 30 - 120 ± 0.3 | | | | | | | |
| 120 - 315 ± 0.5 | | | | | | | |
| 315 - 1000 ± 0.8 | | | | | | | |
| 1000 - 2000 ± 1.2 | | | | | | | |
| कोणिक परिमाण ANGULAR DIMENSION | | | | | | | |
| 1 - 10 ± 1° | | | | | | | |
| 10 - 50 ± 30' | | | | | | | |
| 50 - 100 ± 20' | | | | | | | |
| > 100 ± 10' | | | | | | | |
| मापक 'म्यू.एम.' म VALUE IN 'μm' | | | | | | | |
| ~ > 25 | | | | | | | |
| ▽ 8 - 25 | | | | | | | |
| ▽▽ 1.6 - 8 | | | | | | | |
| ▽▽▽ 0.025 - 1.6 | | | | | | | |
| ▽▽▽▽ < 0.025 | | | | | | | |
| BRUSH ARM (ASSY. DRG.) | | | | | | मापमान SCALE | आरेखित DRAWN |
| | | | | | | 1:1 | 20-1-03 |
| | | | | | | जांचा CHECKED | Rt |
| | | | | | | अनुमोदित APPROVED | |
| | | | | | | द्वारा बदला REPLACED | BY |
| | | | | | | हेतु बदला REPLACED | FOR |
| | | | | | | आरेखण क्र. DRAWING NO. | |
| | | | | | | VMT | MBN2-05-00C5 |

इन आरेखणों तथा इसके साथ की सम्पूर्ण सामग्री का स्वत्वाधिकार भारत सरकार, रक्षा मंत्रालय की भारतीय आयुध निर्माणियों के पास है। भारतीय आयुध निर्माणियों के महानिदेशक की लिखित अनुमति के बिना इनकी नकल या किसी भी रूप में इनके उद्धरण या इनमें समाहित सूचना किसी अनधिकृत व्यक्ति को उपलब्ध नहीं कराई जानी चाहिए।
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| | |
|--|--------------------|
| मूलमाप व अन्वायोजन NOMINAL SIZE & FIT | विचलन DEVIATION |
|--|--------------------|

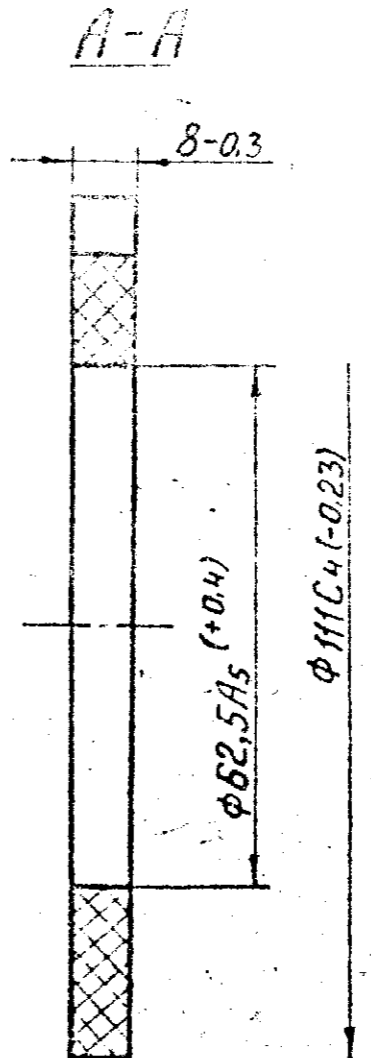
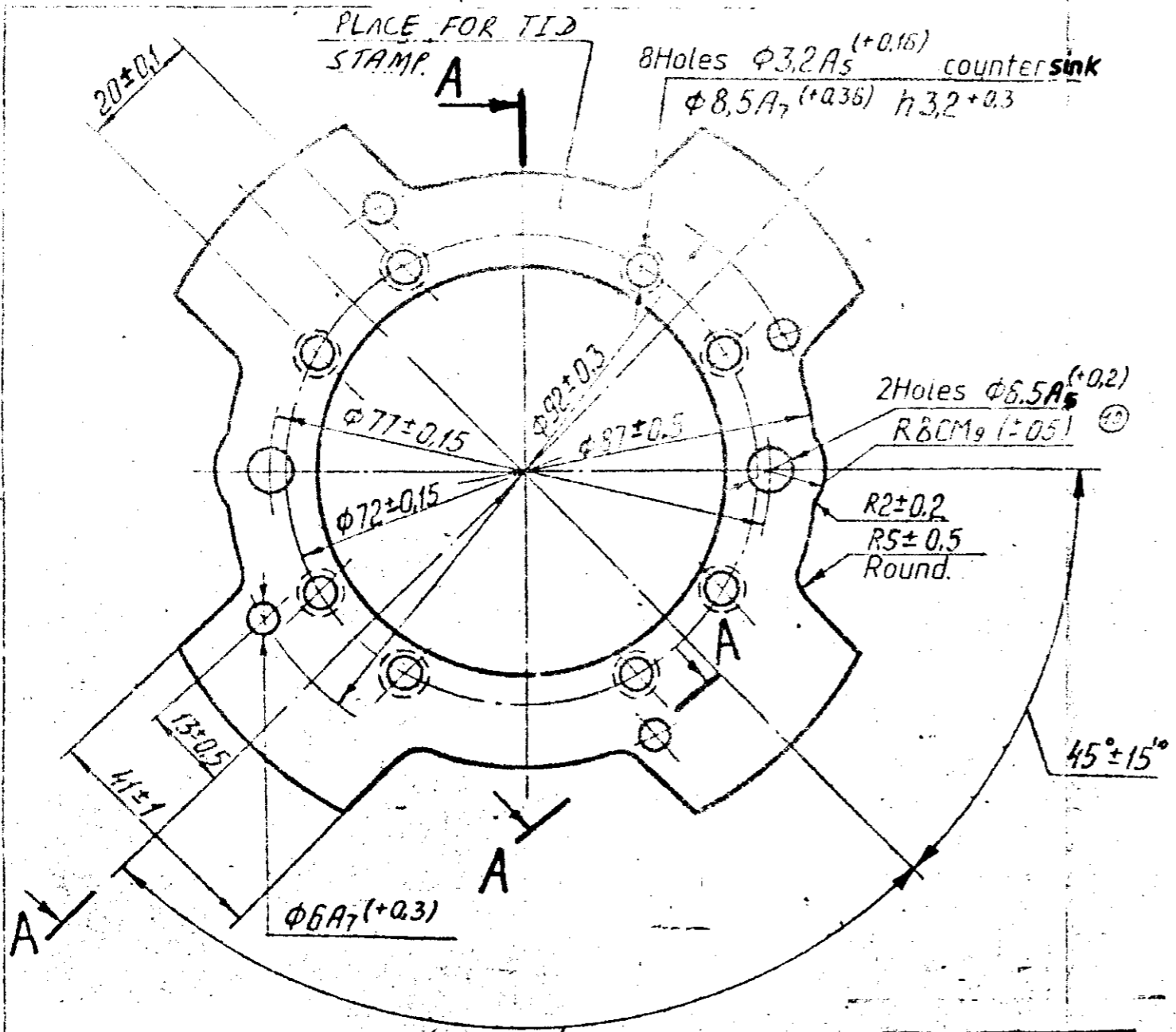
मशीनी औजार आदिरूप फैक्टरी, अम्बरनाथ
MACHINE TOOL PROTOTYPE FACTORY, AMBARNATH

कार्यालय
OFFICE
VMT

Traced from CQA (ICV) original drg. Seal No. 2586
Date 30-5-02

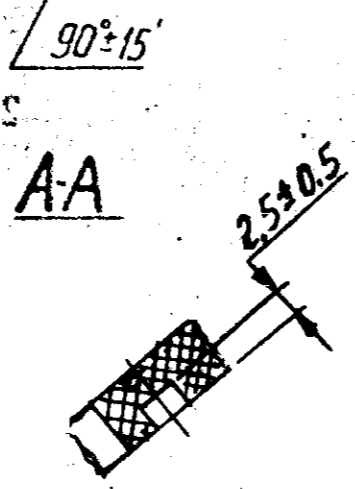
10-50-008W

2



1. Misalignment of diameter $\phi 111C_4(-0.23)$ with respect to $\phi 62.5 A_5(+0.4)$ should not exceed 0.15mm.
2. Machine finish of surfaces of holes should not less than Rz 80 ✓
3. Blunt all the sharp edges of holes.
4. Spot facing opening is allowed.
5. Method of marking should be non -impact.
6. Tapering towards decreasing of body should not exceed 1°.

VETTED
 29 NOV 2007
 JW.MSTD-CELL



MB П 2-05-01

CONTROLLERATE
 OF
 INSPECTION

BRUSH ARM

Press-material AT-4C
 GOST 20437-75

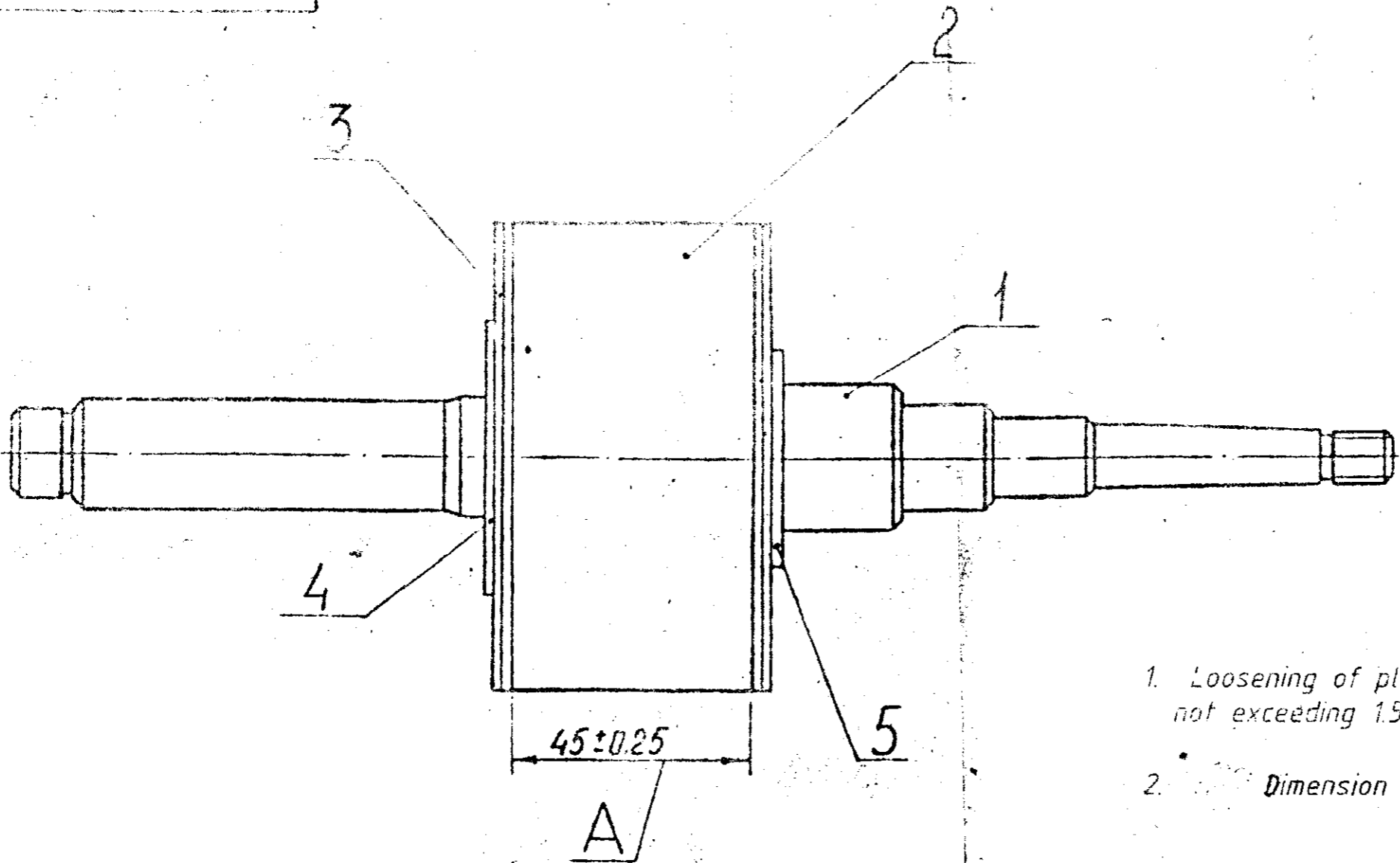
| | |
|--------|-------|
| WEIGHT | SCALE |
| 65g | 1:1 |
| SHT | HTS |
| 113 | 146 |

10932
 151359

3700-00000

Сipac No MBn2-10-00

7136

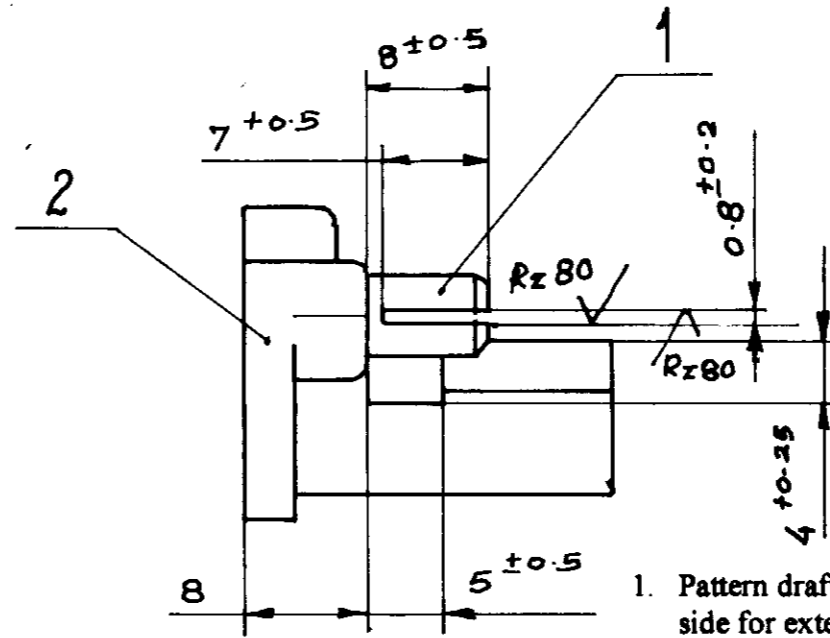
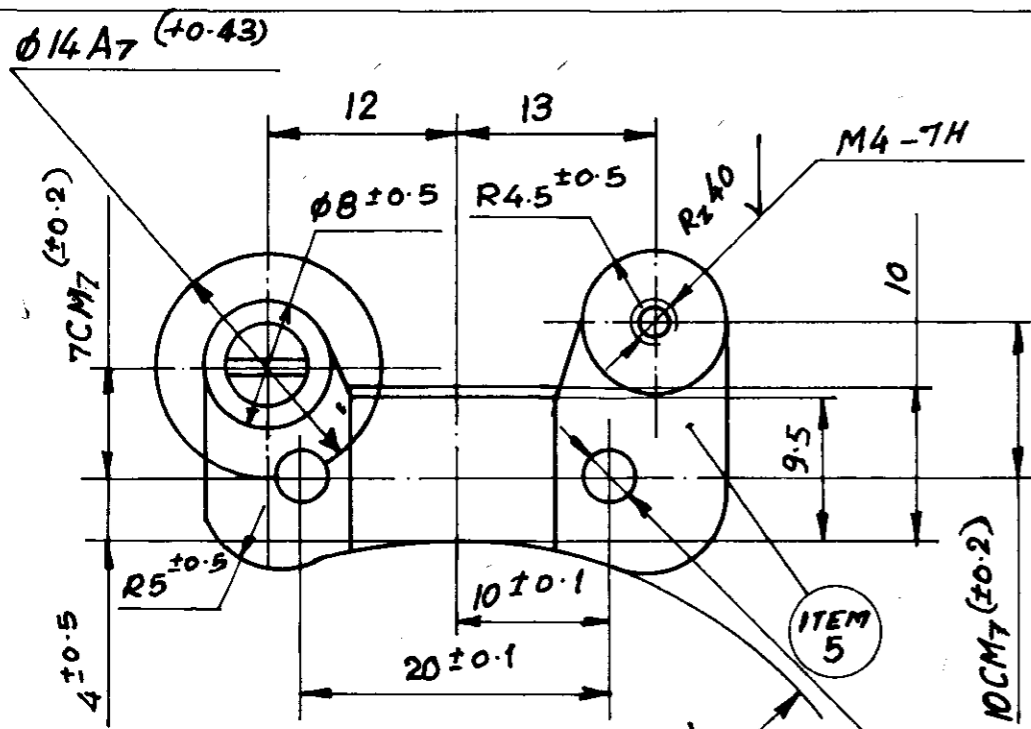


1. Loosening of plates along the external diameter, not exceeding 1.5mm, above dimension A is allowed.
2. Dimension A ^{is obtained by placing the necessary} number of parts Ref. No. 2

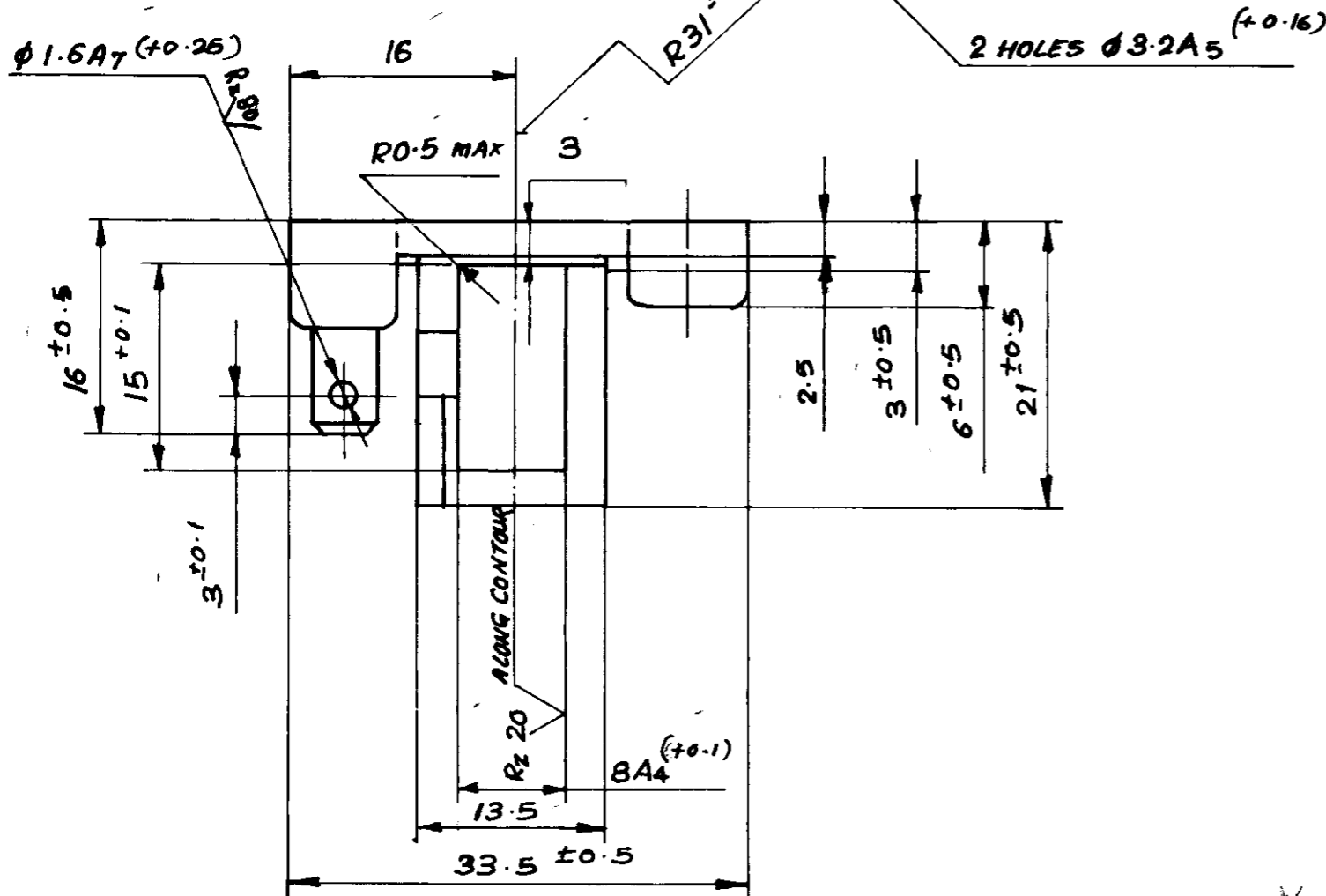
VETTED
 25 FEB 2008
 WINGSD-CELL

D:571 **ECKE**

| | | |
|------------|--------------|-------|
| INSPECTION | MBn2-10-00CB | |
| | WEIGHT | SCALE |
| | 2.2 | 2:1 |
| | SHT | SHTS |
| | 77/106 | |



1. Pattern drafts should ^{not} exceed 2° towards the increased side for external dimensions, for internal dimensions towards decreased side.
2. Unspecified radii should not exceed 2mm.
3. Rolling of axle, Ref. No. 1 is not allowed.
4. Unspecified limit deviations of dimensions ±0.25mm, and of angular dimensions ±30'.
5. Mark the serial number of press mould and the socket number, in type No. H0.010.007.
6. Coating :- Zinc-plated, 6 microns thick, chromated Composition of the solution for chromatisation is as per M -252-78.



VETTED
25 FEB 2008
JWM/STD-CELL

FIRST ANGLE PROJECTION

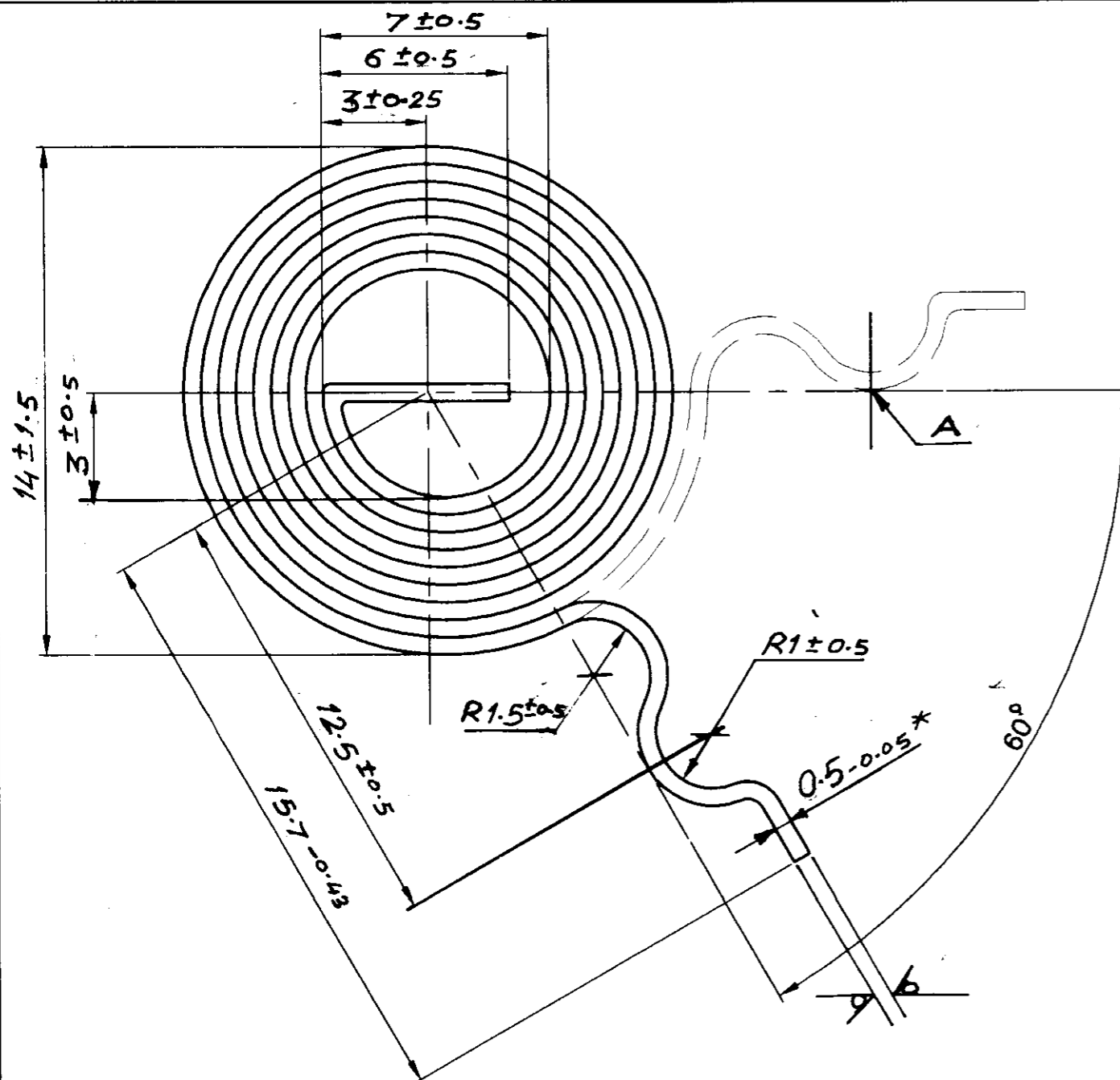
| BRUSH HOLDER (Assy. Drg.) | | | | | | 10g | |
|--|----------------------|-------------------------|--|--------------------|----------------------|----------------------------|-----------------|
| संख्या NO. OFF | विवरण DESCRIPTION | पुर्जा क्र. PART NO. | पदार्थ MATERIAL | मानक STANDARD | परिमाण DIMENSIONS | MASS | |
| सामान्य सहिष्णुता GENERAL TOLERANCE | | | | | | | |
| रेखिक परिमाण LINEAR DIMENSION | | | | | | | |
| 0-8 | ±0.1 | | | | | | |
| 8-30 | ±0.2 | | | | | | |
| 30-120 | ±0.3 | | | | | | |
| 120-316 | ±0.5 | | | | | | |
| 316-1000 | ±0.8 | | | | | | |
| 1000-2000 | ±1.2 | | | | | | |
| कोणिक परिमाण ANGULAR DIMENSION | | संख्या NO. OFF | संबंधित पुर्जा क्र. DRG. NO. OF ASSOCIATED PART | सूचक INDEX | संशोधन ALTERATION | दिनांक DATE | नाम NAME |
| 1-10 | ±1° | | | | | 2003 | |
| 10-60 | ±30' | | | | | | |
| 60-100 | ±20' | | | | | | |
| >100 | ±10' | | | | | | |
| मापक 'म्यू एम' में VALUE IN 'μm' | | | | | | | |
| - | >25 | | | | | | |
| 7 | 8-25 | | | | | | |
| 77 | 1.6-8 | | | | | | |
| 777 | 0.025-1.6 | | | | | | |
| 7777 | <0.025 | | | | | | |
| BRUSH HOLDER Assy. Drg. | | | | | | मापमान SCALE | आरेखित DRAWN |
| | | | | | | 2:1 | 5/1/03 |
| | | | | | | | 7/1/03 |
| | | | | | | | |
| | | | | | | द्वारा बदला REPLACED BY | |
| | | | | | | हेतु बदला REPLACED FOR | |
| | | | | | | आरेखण क्र. DRAWING NO. | |
| | | | | | | MB 2 - 14 - 00 CB | |
| मशीनी औजार आदिरूप फैक्टरी, अम्बरनाथ MACHINE TOOL PROTOTYPE FACTORY, AMBERNATH | | | | कार्यालय OFFICE | VMT | | |

इन आरेखों तथा इसके साथ की सम्पूर्ण सामग्री का स्वतन्त्र अधिकार भारत सरकार रक्षा मंत्रालय की भारतीय आयुध निर्माणियों के पास है। भारतीय आयुध निर्माणियों के मन्त्रालय की लिखित अनुमति के बिना इनकी नकल या किसी भी रूप में इनके उद्धरण या इनमें समाहित सूचना किसी अनधिकृत व्यक्ति को उपलब्ध नहीं कराई जानी चाहिए।
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मूलमाप व अन्वयोजन
NOMINAL SIZE & FIT

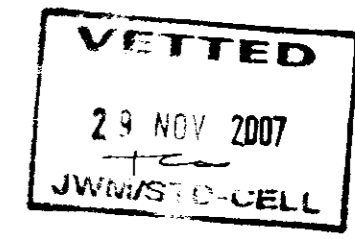
विचलन
DEVIATION





1. H.R.A 72 75.
2. * Dimensions is given for reference.
3. Number of working coils = 4.
4. Spring width may be increased, because of the projection of turns and deviation from the plane of the spring end may be upto 4mm.
5. Angle of twisting may be changed depending on the heat-treatment and the material when the spring is coiled.
6. After heat treatment, contact of coils is not allowed.
7. Pressure of spring in point A should be P 300 +150gf.
8. Coating :- Chemically oxidized / varnished $\Gamma \emptyset - 95$, GOST 8018-70.

FIRST ANGLE PROJECTION



EQ. MATERIAL :- SPRING STEEL STRIP 80C6 ; IS:2507-75.

* Band Y 8A-C-0-5
GOST 2283-79

| SPRING | | * | | | 23g | |
|--|----------------------|---|--------------------|----------------------|----------------------------|----------------------|
| संख्या NO.OFF | विवरण DESCRIPTION | पुर्जा क्र. PART NO. | पदार्थ MATERIAL | मानक STANDARD | परिमाण DIMENSIONS | MASS |
| सामान्य सहिष्णुता GENERAL TOLERANCE | | | | | | |
| रेखिक परिमाण LINEAR DIMENSION | | | | | | |
| 0-6 | ±0.1 | | | | | |
| 6-30 | ±0.2 | | | | | |
| 30-120 | ±0.3 | | | | | |
| 120-315 | ±0.5 | | | | | |
| 315-1000 | ±0.8 | | | | | |
| 1000-2000 | ±1.2 | | | | | |
| कोणिक परिमाण ANGULAR DIMENSION | संख्या NO OFF | संबंधित पुर्जा क्र. DRG. NO OF ASSOCIATED PART | सूचक INDEX | संशोधन ALTERATION | 2003 | दिनांक DATE |
| 1-10 | ±1' | | | | | |
| 10-50 | ±30' | | | | | |
| 50-100 | ±20' | | | | | |
| > 100 | ±10' | | | | | |
| मापक 'म्यू एम' में VALUE IN 'μm' | | | | | | |
| - | >25 | | | | | |
| ▽ | 8-25 | | | | | |
| ▽▽ | 1.8-8 | | | | | |
| ▽▽▽ | 0.025-1.6 | | | | | |
| ▽▽▽▽ | <0.025 | | | | | |
| SPRING | | | | | मापमान SCALE | आरेखित DRAWN |
| | | | | | 5:1 | 6/1/03 |
| | | | | | जोड़ा CHECKED | 6/1/03 |
| | | | | | अनुमोदित APPROVED | |
| | | | | | द्वारा बदला REPLACED BY | |
| | | | | | हेतु बदला REPLACED FOR | |
| | | | | | आरेखण क्र. DRAWING NO. | |
| | | | | | | MH1 - 03 - 03 |

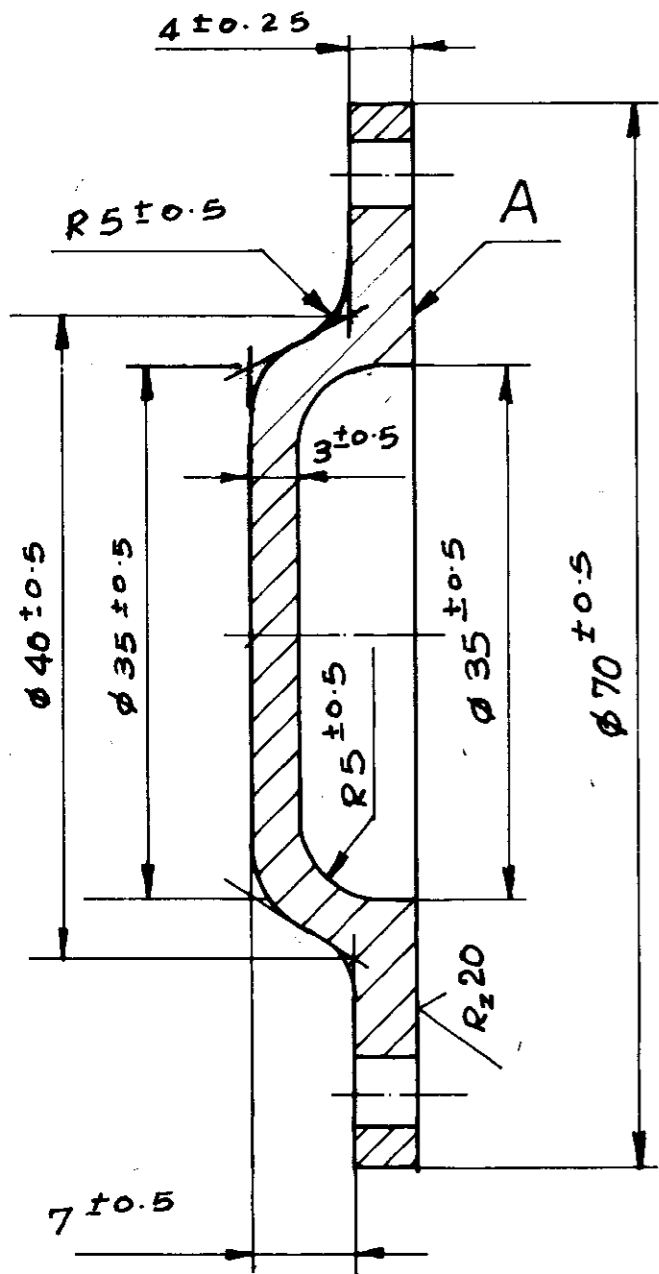
इन आरेखणों तथा इसके साथ की सम्पूर्ण सामग्री का स्वत्व अधिकार भारत सरकार रक्षा मंत्रालय की भारतीय आयुध निर्माणियों के पास है। भारतीय आयुध निर्माणियों के महानिदेशक की लिखित अनुमति के बिना इनकी नकल या किसी भी रूप में इनके उद्धरण या इनमें सम्मिलित सूचना किसी अनधिकृत व्यक्ति को उपलब्ध नहीं कराई जानी चाहिए।
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मूलमाप व अन्वयोजन
NOMINAL SIZE & FIT

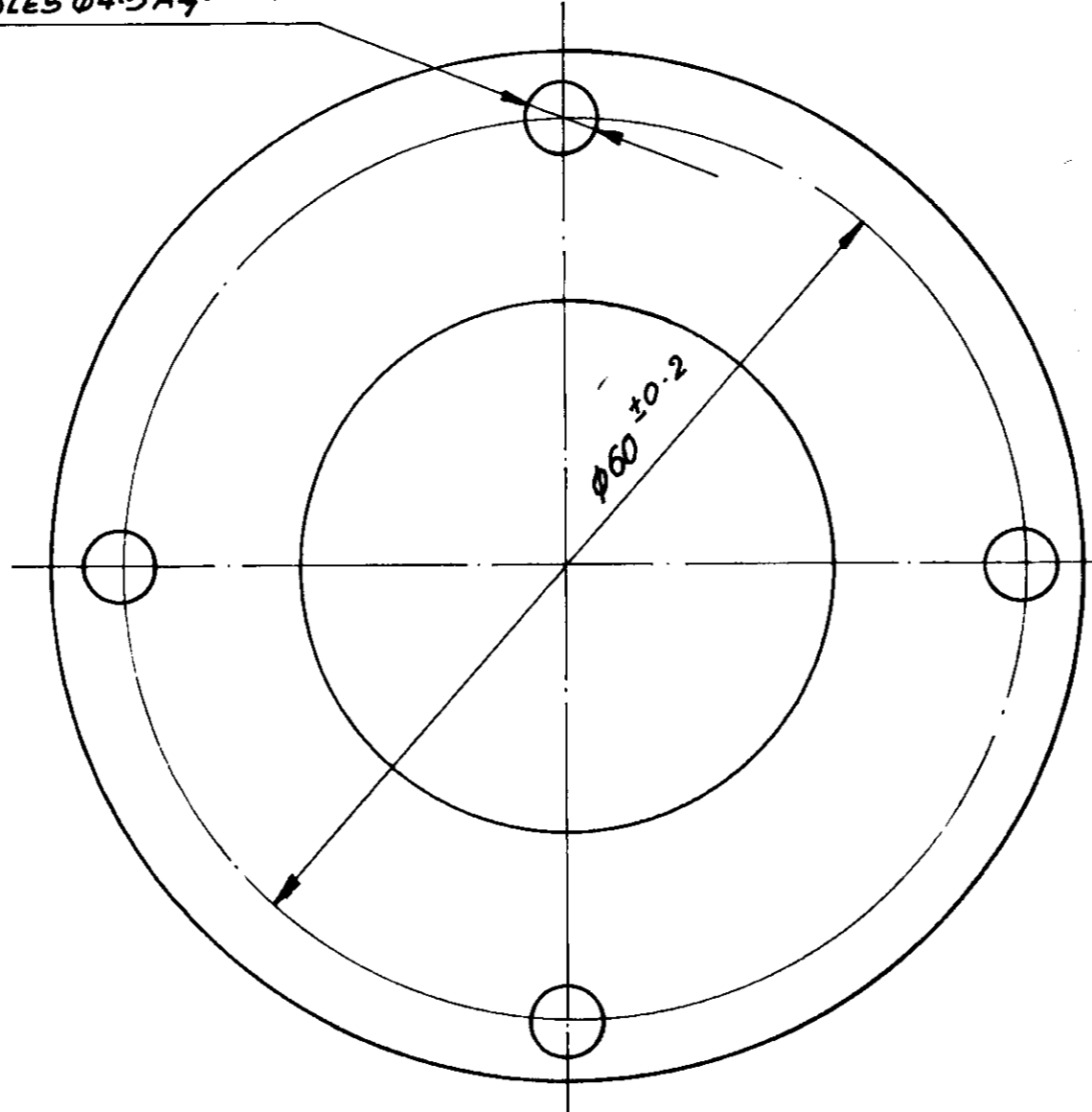
विचलन
DEVIATION

मशीनी औजार आदि रूप फैक्टरी, अम्बरनाथ
MACHINE TOOL PROTOTYPE FACTORY, AMBERNATH

कार्यालय
OFFICE
VMT



4 HOLES $\phi 4.5 A_7^{(+0.3)}$



3. Pattern draft is 2° towards the decreasing of dimensions.
4. Marking may not be done by casting process.
6. Pusher traces are not allowed on surface A.
7. Impregnation under vacuum with varnish B π -725F, Technical specification TY6-10-866-75 is allowed.
8. Check water proof ness, with excess air pressure of 0.3 atmos.
9. Limit angle deviation between any holes is $\pm 10'$.
10. Coating :- Anodically oxidised, oiled or chemically oxidised, fluoride plated or chemically oxidised, parkarized / enamel M π -12, black, GOST 9754-76, III, ✕, except on surface A.
11. Varnish - paint coating method is selected in compliance with OST 3-1928-73.

FIRST ANGLE PROJECTION

1. Alternate material is
Cast I - OST 3-4227-79
A π 9KT5 GOCT 2685-75

EQ. MATERIAL :- GRADE 4450 TO IS : 617-75

* Cast I - OST 3-4227-79
A π 2A GOST 2685-75

VETTED
29 NOV 2007
JWM/STD-CELL

| COVER | | * | | 0.045 | | | |
|--|----------------------|-------------------------|--|------------------|----------------------|----------------------------|------------------------|
| संख्या NO. OFF | विवरण DESCRIPTION | पुर्जा क्र. PART NO. | पदार्थ MATERIAL | मानक STANDARD | परिमाण DIMENSIONS | अध्यक्षित REMARKS | WEIGHT (kg) |
| सामान्य सहिष्णुता GENERAL TOLERANCE | | | | | | | |
| रेखिक परिमाण LINEAR DIMENSION | | | | | | | |
| 0-6 | ±0.1 | | | | | | |
| 6-30 | ±0.2 | | | | | | |
| 30-120 | ±0.3 | | | | | | |
| 120-315 | ±0.5 | | | | | | |
| 315-1000 | ±0.8 | | | | | | |
| 1000-2000 | ±1.2 | | | | | | |
| कोणीय परिमाण ANGULAR DIMENSION | | संख्या NO. OFF | संबंधित पुर्जा क्र. DRG. NO. OF ASSOCIATED PART | सूचक INDEX | संशोधन ALTERATION | 2003 | दिनांक DATE |
| 1-10 | ±1' | | | | | | |
| 10-50 | ±30' | | | | | | |
| 50-100 | ±20' | | | | | | |
| >100 | ±10' | | | | | | |
| मापक 'म्यू एम' में VALUE IN 'μm' | | | | | | | |
| - | >25 | | | | | | |
| ▽ | 8-25 | | | | | | |
| ▽▽ | 1.6-8 | | | | | | |
| ▽▽▽ | 0.025-1.6 | | | | | | |
| ▽▽▽▽ | <0.025 | | | | | | |
| COVER | | | | | | मापमान SCALE | आरेखित DRAWN |
| | | | | | | 2:1 | 3/1 |
| | | | | | | जाँचा CHECKED | 6/11/03 |
| | | | | | | अनुमोदित APPROVED | Red |
| | | | | | | द्वारा बदला REPLACED BY | |
| | | | | | | हेतु बदला REPLACED FOR | |
| मशीनी औजार आदिरूप फैक्टरी, अम्बरनाथ MACHINE TOOL PROTOTYPE FACTORY, AMBERNATH | | | | | | कार्यालय OFFICE | आरेखण क्र. DRAWING NO. |
| | | | | | | VMT | Ba8 - 040 - 000 |

इन आरेखों तथा इसके साथ की सम्पूर्ण सामग्री का स्वत्वाधिकार भारत सरकार रक्षा मंत्रालय की भारतीय आयुध निर्माणियों के पास है। भारतीय आयुध निर्माणियों के मकाननिदेशक की लिखित अनुमति के बिना इनकी नकल या किसी भी रूप में इनके उद्धरण या इनमें सम्प्लित सूचना किसी अनधिकृत व्यक्ति को उपलब्ध नहीं कराई जानी चाहिए।
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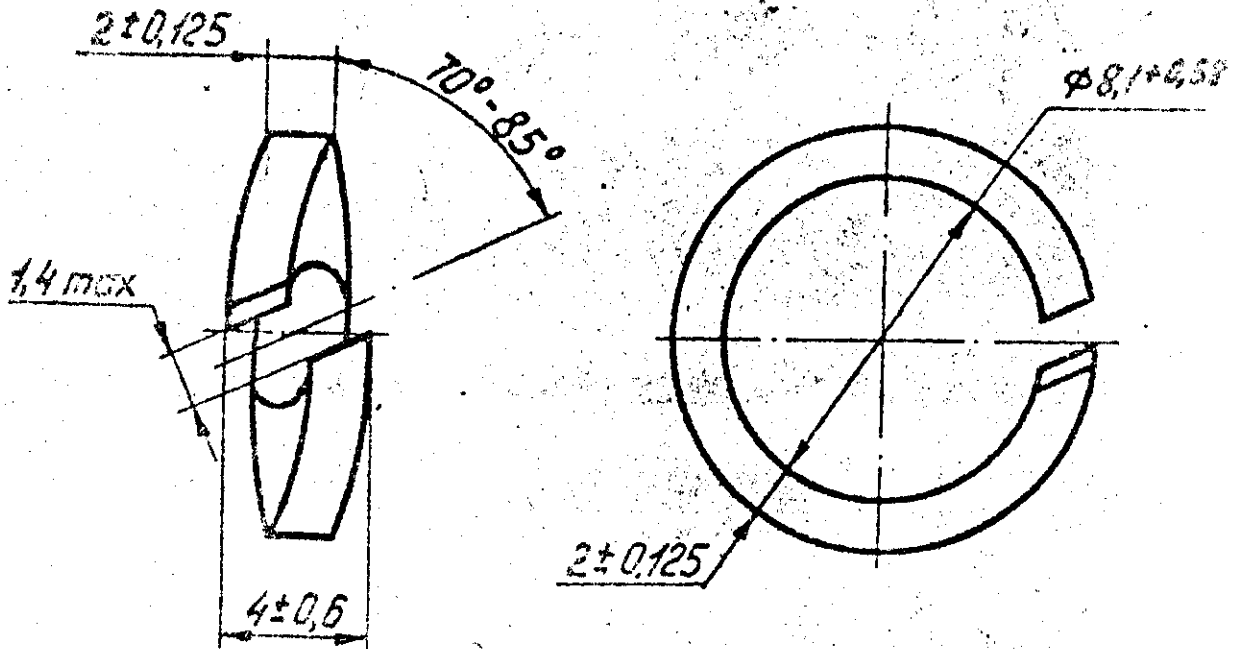
मूलमाप व अन्वयोजन
NOMINAL SIZE & FIT

विचलन
DEVIATION

E004-X

2

57100 (35211-2)



| DESIGNATION | * | COATING | PERMISSIBLE COATING |
|-------------|----|-------------------------------|---|
| X-4069 | 06 | Chemically parkerised, oiled. | Chemically oxidised, oiled. Zinc-plated 6 microns thick. |

VETTED
29 NOV 2007
JWIA/D-CELL

~~22 NOV 2004~~
Chyfa

Ⓐ EQ. MATERIAL : 75C6 IS: 2507-75
Technical requirements are as per GOST 6402-70.

| | |
|--|-----------------------|
| 00504-100 08.2000 DEC NO DATE | Ⓐ EQ. MATERIAL ADDED. |
| ISSUE | NATURE OF AMENDMENTS |

D-571 **ECKA**

X-4069

WASHER 8-65T *
GOST 6402-70

0.998 5:1

INSPECTION

82

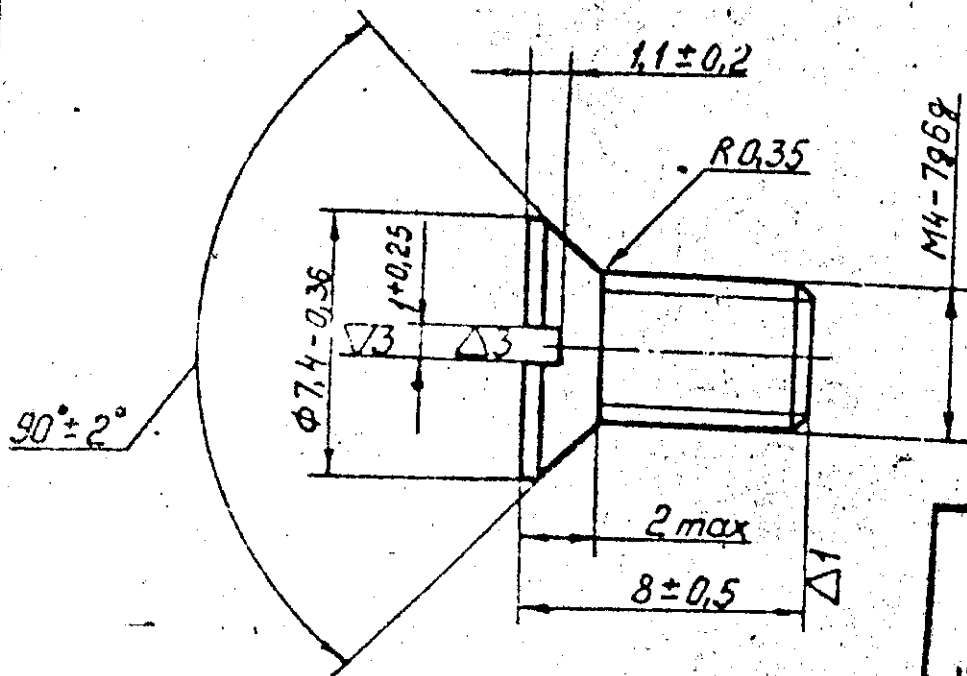
Steel 65T GOST 1050-74

136/46

1804-XL

▽4(▽)

MBN-2A



VETTED
29 NOV 2007
JWIWSTD-CELL

| DESIGNATION. | * | COATING. |
|--------------|-----|--|
| 7X-4081 | 016 | Zinc-plated 6 microns thick, chromated. Solution for chromatisation as per V-252-78. |

1. Limit deviations from the alignment of axis heads and spline with respect to axis of bar is 0.3mm.

2. Technical requirements are as per GOST 1759-70.

22 NOV 2004

Chiper

Duplicate copy is made with GOST 17475-72.

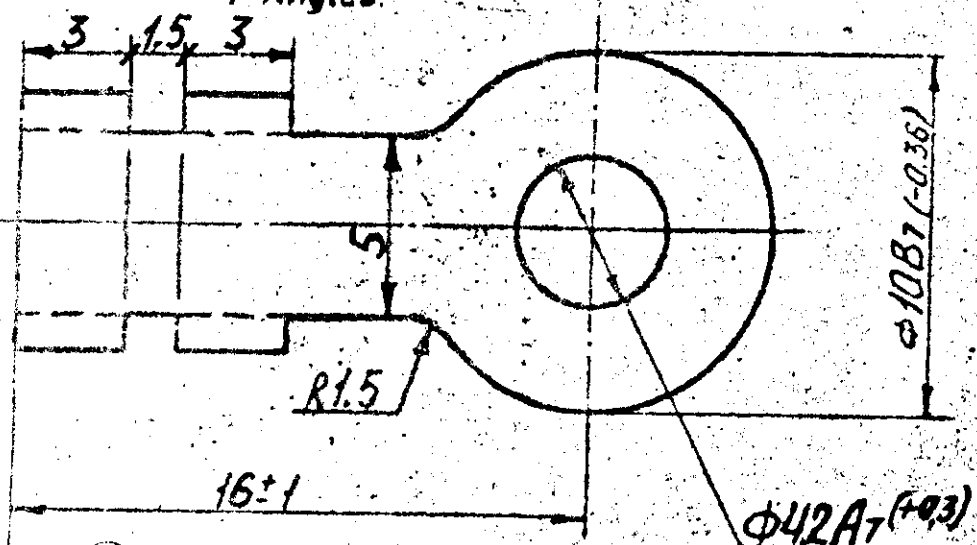
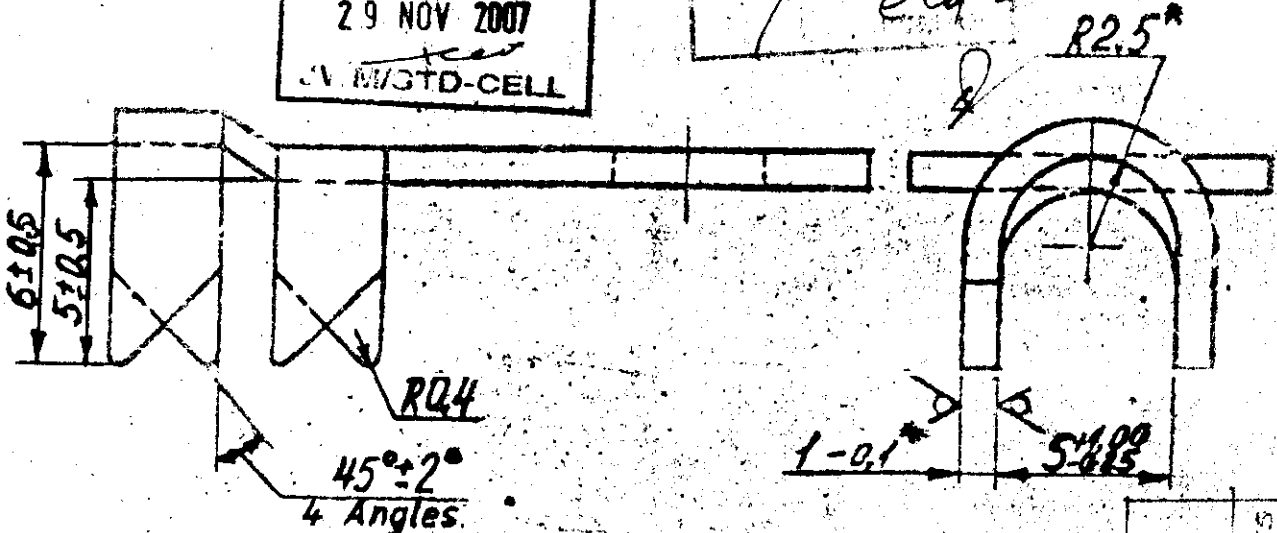
D-571

| | | | | |
|---|------------------|---------|---------|-------|
| APPROVED | M. VASL | 7X-4081 | | |
| CHECKED | <i>M. Vasl</i> | | | |
| CONTROLLERATE OF INSPECTION (ICV) (76) | SCREW | | WEIGHT | SCALE |
| | MA-7g6g X 8.36 * | | 0.84g | 5:1 |
| | Gost 17475-72 | | SHT | SHTS |
| Steel 10 GOST 1050-74 | | | 130/146 | |

19904-LX

R280
✓

VETTED
29 NOV 2007
CV M/STD-CELL



| | | |
|------------|---------------------|----------------------------|
| 00804-1CV | EQ. MATERIAL ADDED. | ISSUE NATURE OF AMENDMENTS |
| (A) | | |
| 24-08-2000 | REC'D NO | DATE |

(A) EQ. MATERIAL: BRASS, CUZ77.37 IS: 410-77

- * Dimensions are given for references.
- Provide unspecified limit deviations of dimensions with tolerance of $\pm 0.25\text{mm}$.
- Coating: -Tin- bismuth (99.8) 9 microns thickness.

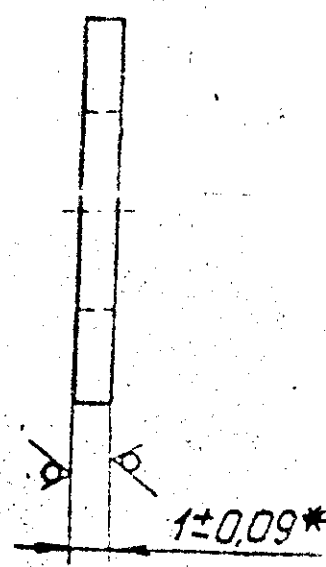
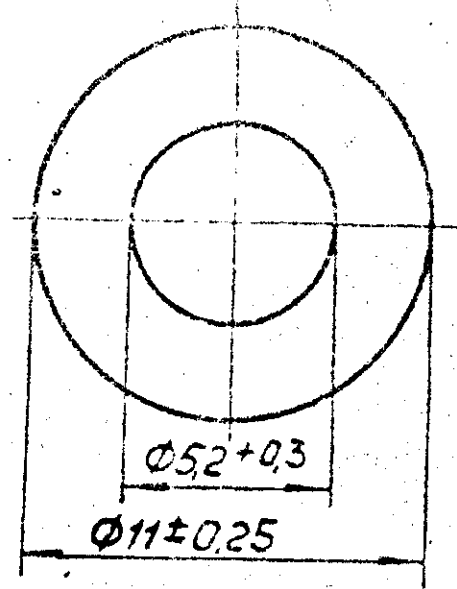
D-571

| | | | |
|--|--------------|----------|-------|
| DESIGNED | M. V. S. U. | X7-10661 | |
| CHECKED | H. M. Shaikh | | |
| CONTROLLERATE OF INSPECTION (ICV) | (90) | LUG | |
| | | WEIGHT | SCALE |
| | | SHT | SHTS |
| Sheet No PM 10 J 63 | | 1-2 gms | 5:1 |
| FOCT 931-78 | | 144 | 146 |

ГОСТ 1904-74
ГОСТ 16523-70

R200
✓

7107-2



| DESIGNATION. | COATING. |
|--------------|---|
| 8X-1497. | Zinc-plated 6 microns thick, Solution for chromatzation is as per VI- 252 - 78. |

| | |
|-----------------------|---------------------------------|
| EQ. MATERIAL ADDED | ISSUE NATURE OF AMENDMENT |
| ④ | |
| 00804-10V 10/10/07 | 29.09.2007 DCCU NO. DATE. |

* Dimension is given for references.

④ EQ. MATERIAL: GRADE D' IS: 513-86

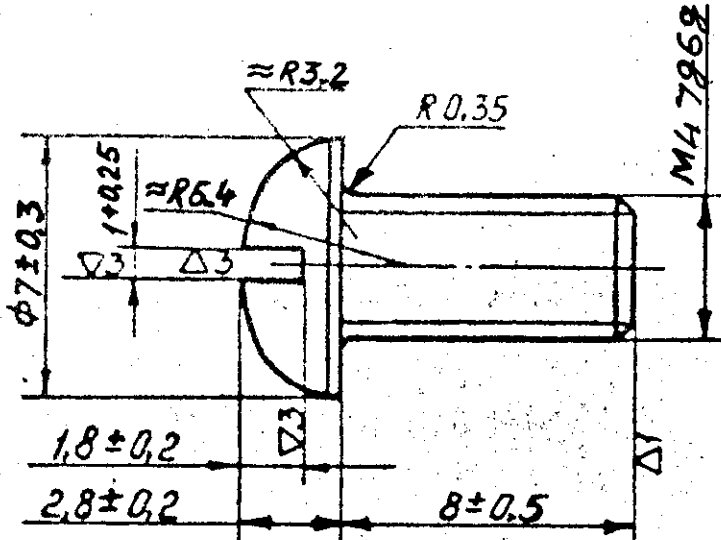
VETTED
29 NOV 2007

22 NOV 2004
Plated 571
JUN/OCT 2004

| | |
|------------|--|
| APPROVED | 8X-1497 |
| CHECKED | WASHER |
| CONTROLLER | 0.6g 5:1 |
| INSPECTION | Sheet 510 ГОСТ 19904-74 4-II-10 ГОСТ 16523 70 |
| (77) | 131/146 |

1151-X8

▽4(▽)



| DESIGNATION | * | COATING. |
|-------------|-----|---|
| 8X-1541 | 016 | Zinc-plated, 6 microns thick, chromated. Solution for chromation is as per M-252-78. |

1. Limit deviations from the alignment of head axes and spline with respect to axis of bar is 0.3mm.
2. Technical requirements are as per GOST 1759-70.

VETTED
29 NOV 2007
JVW/STD-CELL

22 NOV 2004
Elyan

Duplicate copy is made with GOST 17473-72.

D-571



ECKD

8X-1541

SCREW
M4-7969X8-36 *
ГОСТ17473-72

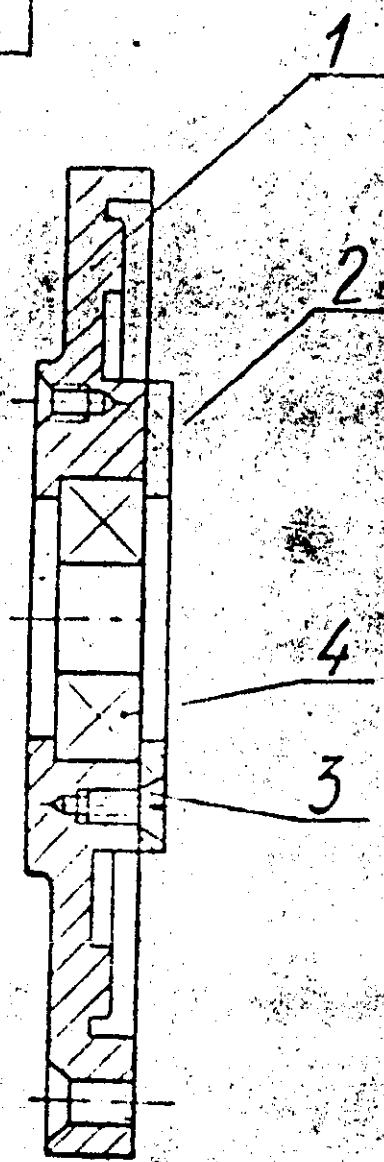
1186

Wire 3.45-10 ГОСТ5663-79

1/32/146

INSPECTION (78)

50000027 3E0



VETTED
 25 FEB 2008
 JWM/STD-CELL

Put screw Ref. No. 3 on enamel XB-124, grey, GOST 10144-74 and paint the screw head with the same enamel.

Handwritten mark

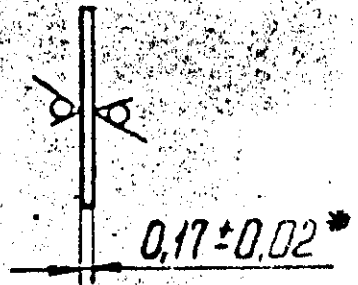
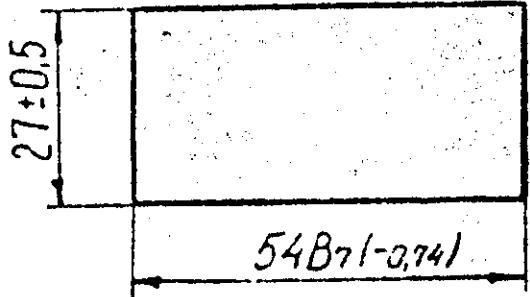
D. 571

| | | | |
|---|---|----------------|-------|
| APPROVED | <i>M. V. A. S.</i> | B86.170 002 CE | |
| CHECKED | <i>M. P. S.</i> | | |
| CONTROLLERATE OF INSPECTION (ICV) (36) | COVER FROM THE SIDE OF COMMUTATOR | WEIGHT | SCALE |
| | ASSEMBLY DRAWING | 0.4 | 1:1 |
| | | SHT | SHTS |

70-10-0000

Material Code
P/N: 7-15-00

Crab No



* Dimension is given for references.

VETTED
 29 NOV 2007
 JWM/STD-CELL

RESERVED

22 NOV 2004
elja

D-571

REC-105

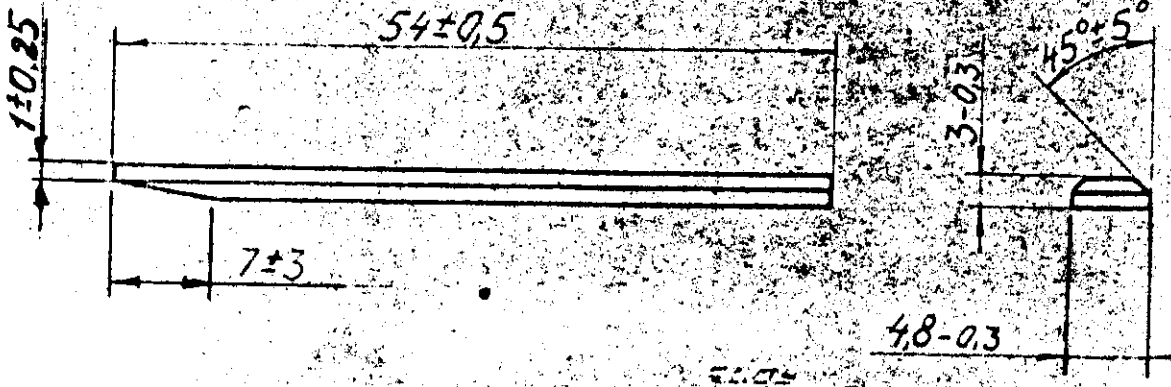
H

MB55-01-02

| | | | |
|---|----------|---|--------------|
| APPROVED | REVISION | MB55-01-02 | |
| CHECKED | DATE | INSULATION OF SLOT | WEIGHT SCALE |
| CONTROLLERATE OF INSPECTION (ICV) (46) | | | 0.49ms 1:1 |
| | | Fibreglass cloth ГТТ-27Л-ПЭ-969-0.17 Т.У.16-503124-73 | SHT SHTS |
| | | | 100/146 |

MB55-01-03

90 Δ 26



Moisture contents in wood should not exceed 15%.

VETTED
 29 NOV 2007
 JWM/STO-GELL

22 NOV 2004
[Signature]

D-571

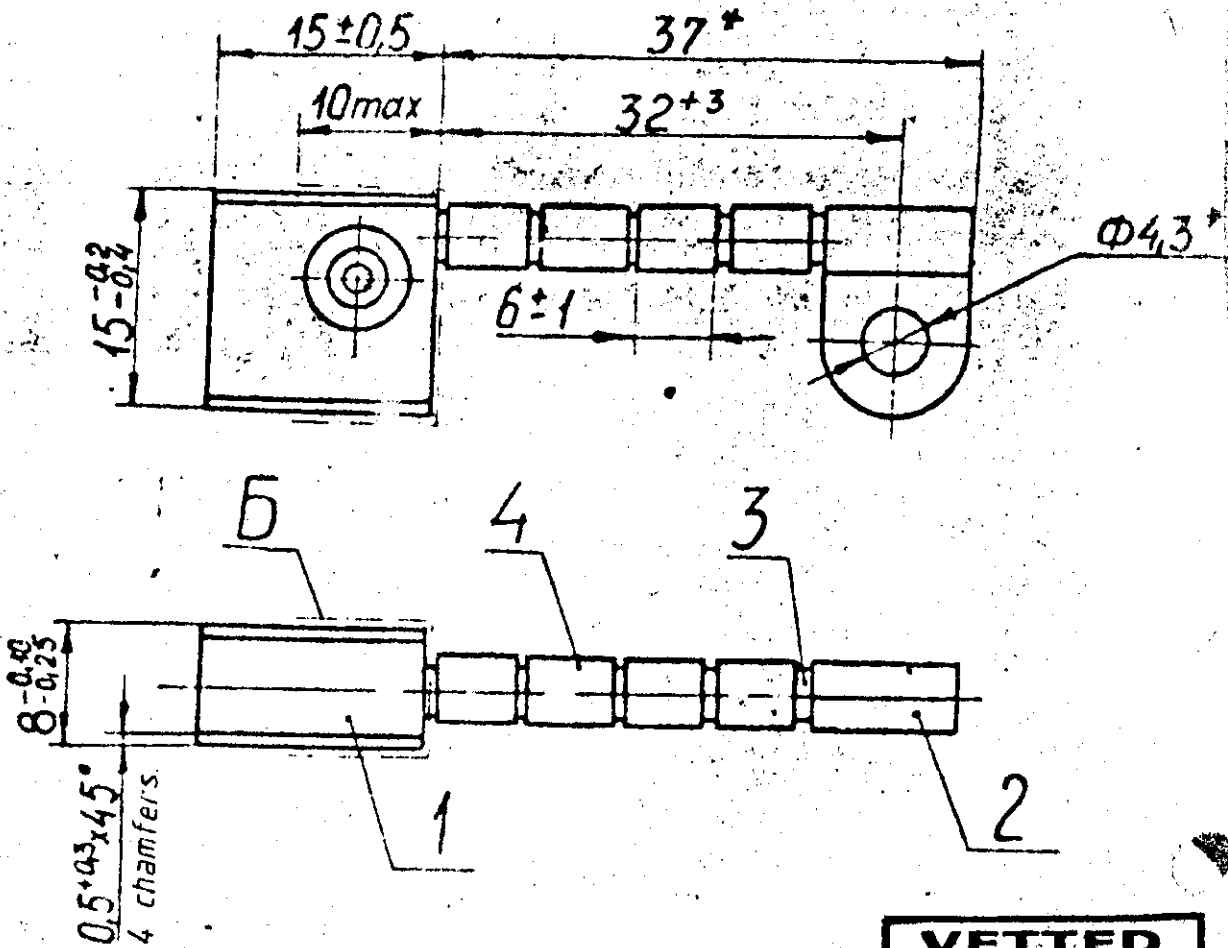
| | | | |
|--|---------|----------------------------------|-------|
| APPROVED | BY NAME | MB 55-01-03 | |
| DATE | | | |
| CONTROLLERATE OF INSPECTION (ICV) | (48) | WEDGE OF SLOT | |
| | | PLY WOOD, TYPE 2 ГОСТ 2695-71 | |
| | | WEIGHT | SCALE |
| | | SHT | SHTS |
| | | 102/146 | 2:1 |

9000 00-000W

Перб номер
M860-05-00

Српоб №

№ 0000/0000/0000



VETTED
24 FEB 2008
JWM/STD-CELL

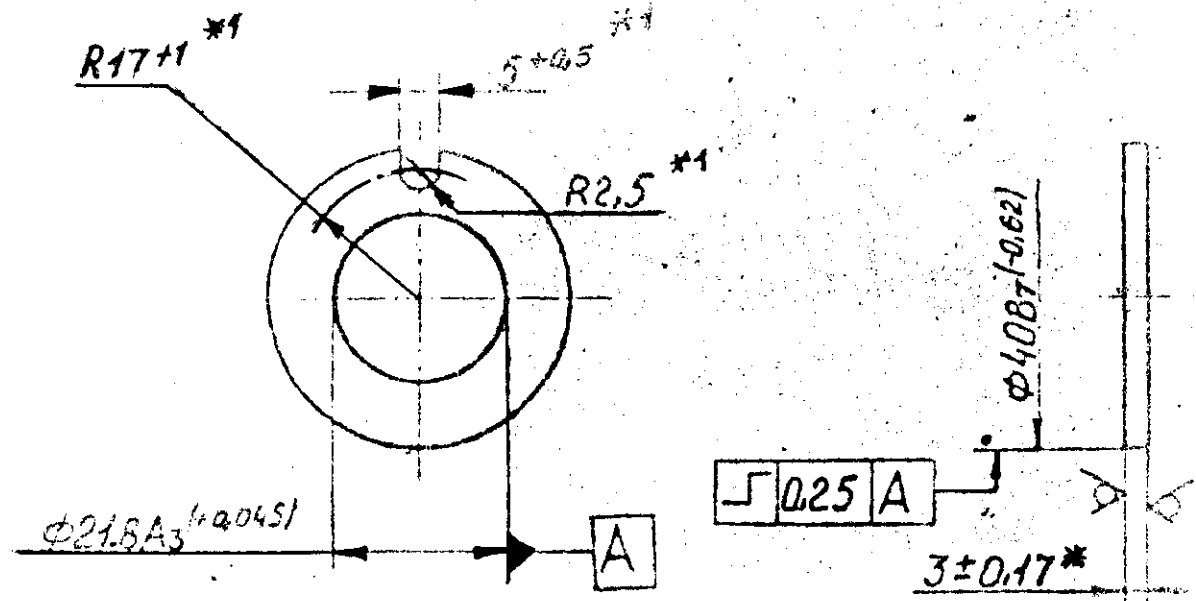
1. * Dimensions are given for references.
2. Fix the wire to brush as in by flaring.
3. Electrical contact resistance between the brush and wire should not exceed 2.5 M. ohms.
4. Solder the 2 Lug with solder ПОС-40, GOST 21930-76.
5. Coating of surface 6 M 1050.
6. Mark as per GOST 2332-75.

| | | | |
|---|-------------------------------------|--------------|-------|
| APPROVED | <i>[Signature]</i> | MB60-05-00CB | |
| CHECKED | <i>[Signature]</i> | | |
| CONTROLLERATE OF INSPECTION (ICV) (34) | BRUSH TYPE K1-7 ASSEMBLY DRAWING | WEIGHT | SCALE |
| | | 9.5g | 2:1 |
| | | SHT | SHTS |
| | | 88/146 | |

0.5/1

22.11.01W

Rz80



- * Dimension is given for references.
 - * Dimensions are provided with tools.
- Coating:-
 3. A Zinc-plated, 21 microns thick, chromatised.

Solution of chromatisation is as per
 N- 252 - 78.

(A) EQ MATERIAL: GRADE D IS : 513-86

EQ MATERIAL ADDED

00804-100

ISSUE NO.

VETTED
 29 NOV 2007
 JWM/STD-CELL

Chiyu

D-571
ECK

MB 60-07-06

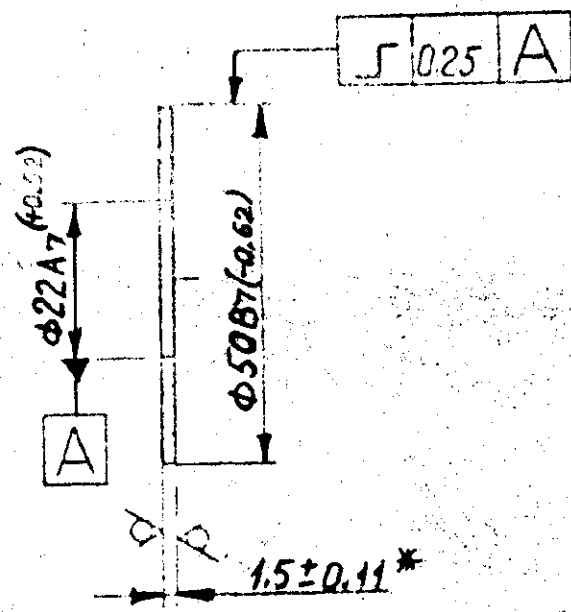
WASHER

| | |
|-----|------|
| WEI | 1:1 |
| 20g | |
| SHT | SHTS |

Sheet B 3 ГОСТ 19904-74
 4-II-10 ГОСТ 16523-70

117/146

63



| | |
|---------------------|-------------------------|
| EQ. MATERIAL ADDED. | |
| ① | ISSUE NATURE OF CHANGES |
| 0804-1CV | SECTION |
| | DATE |

- * Dimension is given for references.
- Coating:-Zinc-plated, 21 microns thick, chromatinized.

Solution for chromatinization is as per VI - 252 - 78.

① EQ. MATERIAL : GRADE D IS: 513-66

VETTED
29 NOV 2007
JWM/STD-CELL

22 24
Elip
D-571

MB 60-07-07

WASHER OF
ARMATURE

WEIGHT
169ms 1:1

Sheet Б 1-5 ГОСТ 19904-74
4- II-10 ГОСТ 16523-70

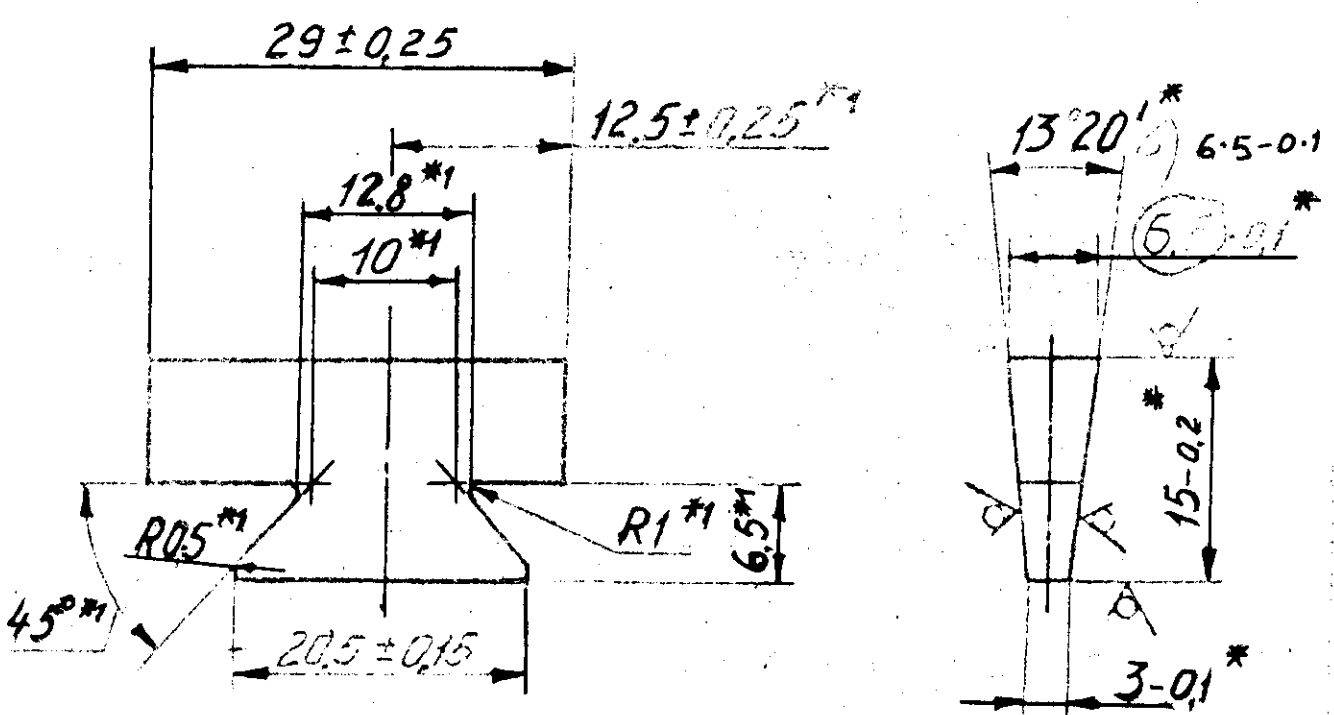
118/146

CONTROL RATE
INSPECTION

64

1-80-0954

Rz160



1. * Dimensions are given for references.
2. *1 Dimensions are provided with tools.
3. Unspecified limit deviations of dimensions — $\pm 0.1\text{mm}$,
angular deviations — $\pm 30'$.

VETTED
 29 NOV 2007

 JWM/STD-CELL

22 NOV 2004

 D-571

MB 60-08-01

APPROVED
 DATE
 SIGNATURE

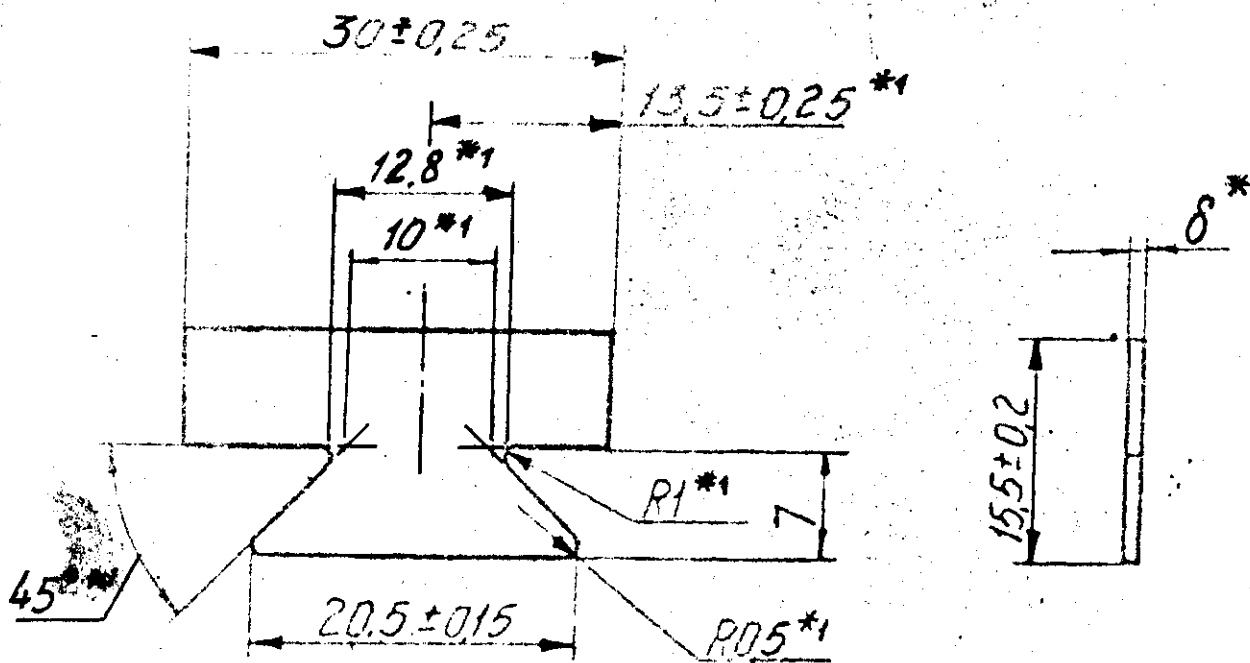
**PLATE
 COMMUTATOR**

commutator profile nkm-
 6-5x3x15-H-13° 20'
 M1 GOST 3588-70

| | |
|--------|----------|
| WEIGHT | 15g |
| SCALE | 2:1 |
| SIT | |
| DATE | 11/11/06 |

(65)

MB60-08-02



| DESIGNATION. | DIMENSION δ , MM. | MASS g. |
|--------------|--------------------------|---------|
| MB 60-08-02 | 0.7 ± 0.08 | 0.8 |
| -01 | 0.8 ± 0.08 | 0.85 |
| -02 | 0.6 ± 0.07 | 0.75 |

- * Dimension is given for references.
- *¹ Dimensions are provided with tools.
- Unspecified limit deviations of dimensions — ± 0.1 mm, angular deviation — 30° .

22
Elif
A

VETTED
 29 NOV 2007
 JWM/STD-CELL

MB 60-08-02

INSULATION PLATE

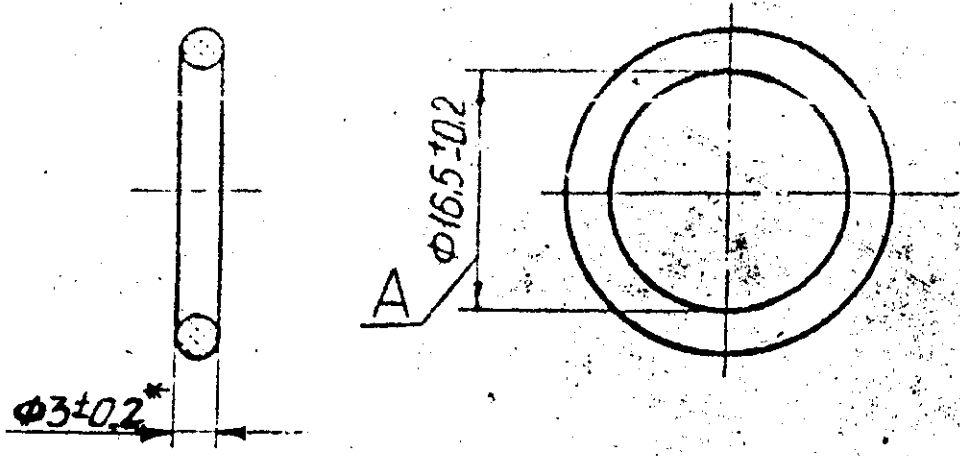
see Table 2:1

Mica nitek ϕ W δ
 GOST 2196-75

120 | 146

MB63-124

MB. 51-000



1. * Dimensions are subjected to compulsory checking, but dimension A is provided with tool, and should be checked periodically at least once per 3 months.
 2. Other Technical requirements are as per Technical Specifications, 005 216-75.
 3. Alternate material is rubber H0-68-1 Technical Specifications, 005 216-75.
- ④ EQ. MATERIAL: NITRILE RUBBER BA-70 BS: 2751-82.

82
 2004
Elyse
 3006-2000
 DEC 2000
 DATE

| | |
|------------|-----------------------|
| 00804-111 | ④ EQ. MATERIAL ADDED. |
| ISSUE DATE | NATURE OF AMENDMENTS: |

D-571

VETTED
 29 NOV 2007
 JWM/STD-CELL

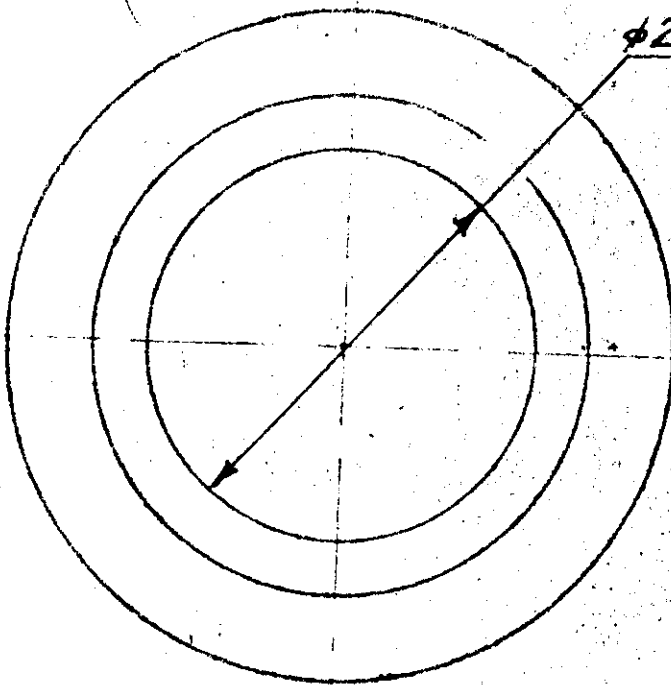
MB63-124

| | | | | |
|----------------------------|----------|------------------------------|-----------|-------|
| APPROVED | REVISION | RING | WEIGHT | SCALE |
| CHECKED | | | 0.433g | 2:1 |
| CONTROL DATE OF INSPECTION | | RUBBER 98-1 TY 005 216-75 | SIT | SIT |
| | | | 106/11/16 | |

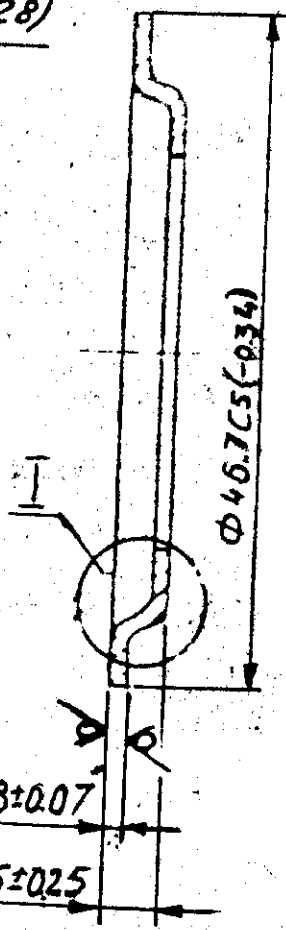
50

ECKA

REVISION



$\phi 27A5(+0.28)$



$\phi 46.7C5(-0.34)$

0.8 ± 0.07

2.5 ± 0.25

$\frac{I}{M5:1}$

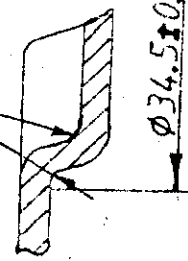
VETTED
29 NOV 2007
JW/J/STD-CELL

| | |
|-------------|---------------------|
| DESIGNATION | EQ. MATERIAL ADDED |
| DATE | NATURE OF AMENDMENT |

22 NOV 2004

22 NOV 2004

Chaper



$R0.5 \pm 0.25$

$\phi 34.5 \pm 0.34$

| DESIGNATION | COATING |
|-------------|--|
| MB-177-31 | Zinc-plated, 21 microns thick chromated. Solution for chromation is ^{upper} N-252-78. |
| -01 | Cadmium-21 microns thick, chromated. |

* Dimension is given for references.

④ EQ. MATERIAL: GRADE IS: 513-86

D-571

MB-177-31

WASHER OF THE BEARING

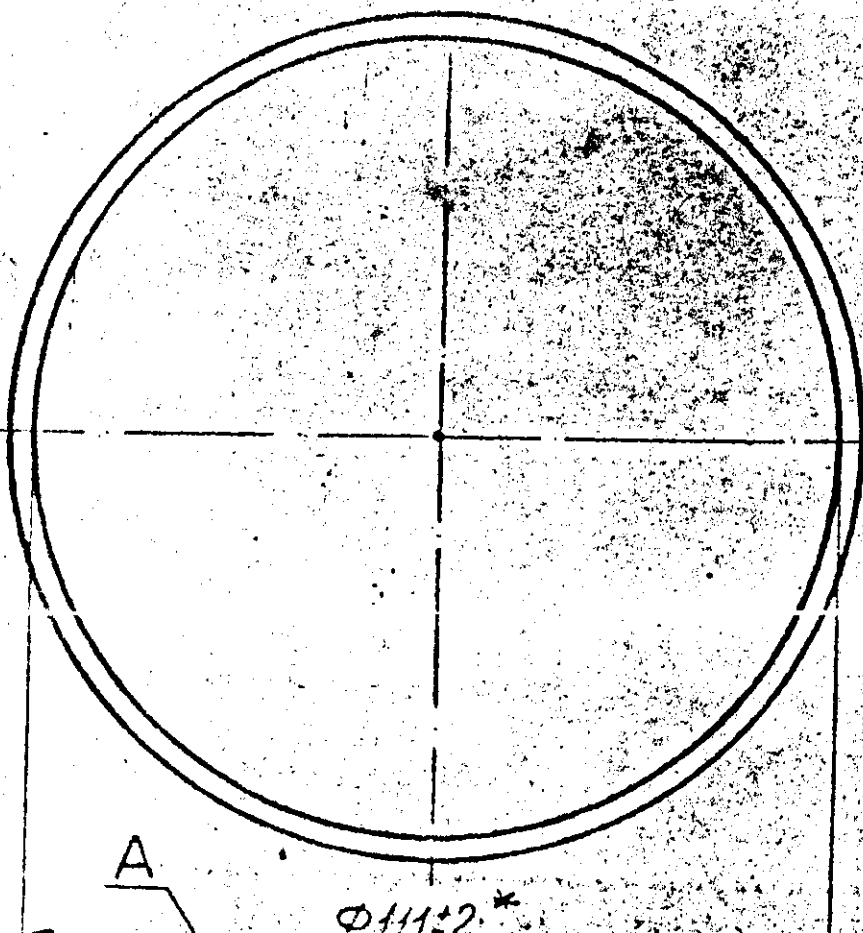
Sheet 50-8 GOST 19904-74
II-BF-08 Kn Gost 9045-70

127/146

73

40 33 1100V

$\Phi 3 \pm 0.5$



| | |
|---------------------|----------------------------|
| 00804-15V 2/1/75 | EQ. MATERIAL ADDED. |
| 00804-15V 2/1/75 | ISSUE NATURE OF AMENDMENT. |

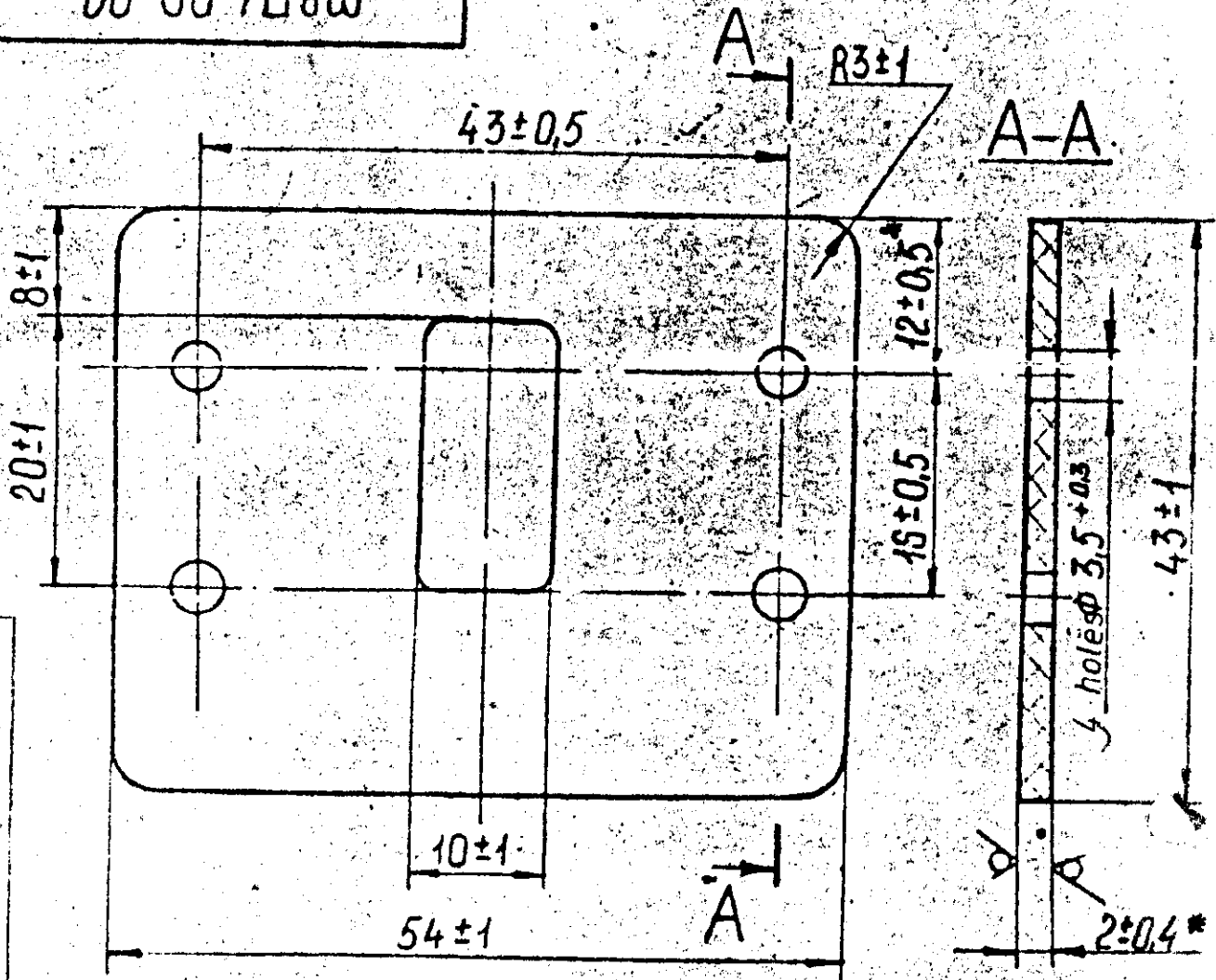
- * Dimension is provided with tools.
 - Alternate material is rubber 633 TY 005 216-75.
 - Other Technical requirements are as per TY 005 216-75.
- Ⓐ EQ. MATERIAL: CHLOROPENE/NITRATE RUBBER C60 BS 2752-82

VERIFIED
20 104 2007
JW/STD-CELL

| | | | | |
|---|--|-----------------------------|--------|-------|
| APPROVED | | MB-11-00-04 | WEIGHT | SCALE |
| CHECKED | | | 5 gms | 1:1 |
| CONTROLLERATE OF INSPECTION (ICV) (40) | | RING | SHT | SHTS |
| | | Rubber 640 TY 005 216-75 | 94/146 | |

60-00-118W

0
118П2.000



| | | |
|--------------------|--------------|---------------------|
| EQ. MATERIAL ADDED | ISSUE | NATURE OF AMENDMENT |
| (A) | | |
| 100804-101 | DECISION NO. | DATE |
| 08.2.000 | | |

1. The gasket is made of plates as per Technical specifications TY 38 005 838-70.
2. * Dimension is given for references.
3. Other Technical requirements are as per Technical Specification TY 005 216-75.

22 NOV 2004
Chiz

(A) EQ. MATERIAL: RUBBER No 6 (TYPE B) BS AU-106-65

VALUED
 29 NOV 2007
J. Williams
 J. WILLIAMS D-CELL

ECKO

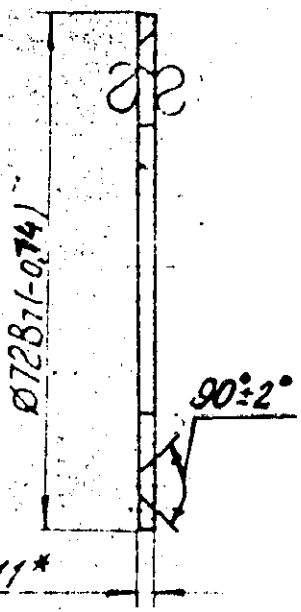
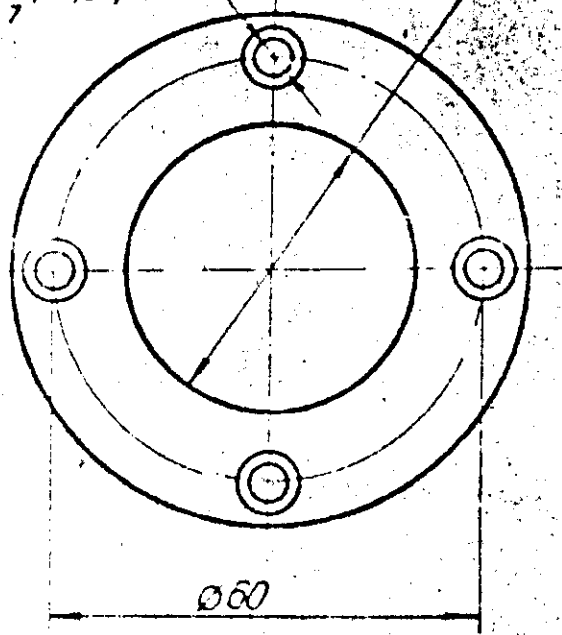
MBП1-00-09

| | | | |
|--|---|--------|--------|
| CONTROLLERATE OF INSPECTION (ICV) | GASKET | WEIGHT | SCALE |
| | | 88 | 2:1 |
| (45) | PLATE 254311-2 RUBBER 4326-1 TY 005 216-75 | SHT | SMTS |
| | | | 99/146 |

MBN1-04-03

▽3(▽)

4 Holes
 $\varnothing 4.5A_7 (+0,3)$
 $\varnothing 7.5A_7 (+0,35)$
 $\varnothing 40A_7 (+0,52)$



08.2.000
 DCED NO
 DATE
 ISSUE NATURE OF AMENDMENT
 EQ MATERIAL ADDED
 (A)

1. Deviations of centres of holes from the true position should not exceed 0.2mm.
2. Coating:-Zinc-plated, 21 microns thick, chromated. Composition of solution after chromatization is as per N-252-78.
4. Washer is made of steel 08 KnBF II A.
5. * Dimension is given for references.

(A) EQ MATERIAL: GRADE D IS 513-86

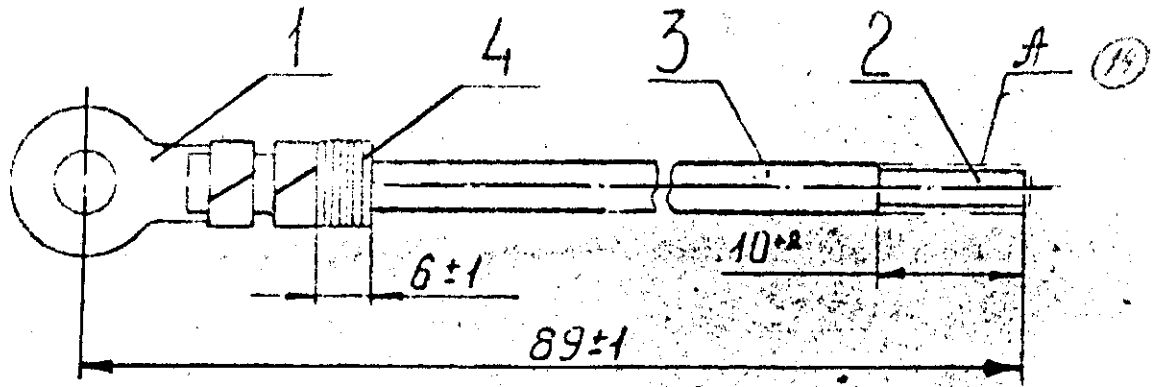
22 NOV 2004
 D-571
Chit

VETTED
 29 NOV 2007
 JIV/wi/STD-CELL

| | | | | |
|--|--|--|---------------|--------|
| APPROVED | | MBN1-04-03 | | |
| CHECKED | | | WASHER | WEIGHT |
| CONTROLLERATE OF INSPECTION (ICV) | | Steel Sheet B 1.5 GOST 19904-74 4 II 10 GOST 16523-70 | 40g | 1:1 |
| | | | NET | SPCS |

(57)

MBП1-14-00



Crimp lug Ref. No. 1 and solder it with tin
03 GOST 860-75.

Coat surface A with Hot-plating, 03, GOST 860-75.

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25 FEB 2008
JWM/STD-CELL

| FORMAT | ZONE | REF. NO. | DESIGNATION | DESCRIPTION | QTY. | REMARKS |
|--------|------|----------|-------------|--|--------|---------|
| | | | | <u>PARTS</u> | | |
| 11. | | 1 | X7-10661 | Lug. | | |
| | | | | <u>MATERIALS</u> | | |
| | | 2. | | Wire ПБД-2.12 GOST 16513-79. | 80MM. | |
| | | 3. | | Tube I ТЭС-3 GOST 10699-72. | 65MM. | |
| | | 4. | | Thread, in 12 folds, of high strength, glossy. GOST 6309-73. | 150MM. | D.571 |

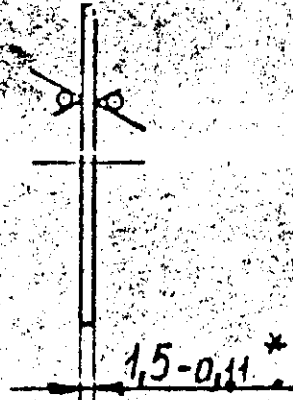
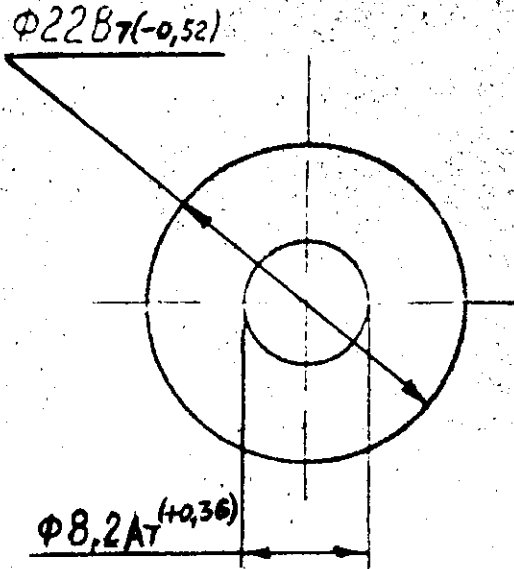
VETTED
29 NOV 2007
JWM/STD-CELL

| | | | |
|--|--------------------|------------|-------|
| APPROVED | IS. YAS. | MBП1-14-00 | |
| CHECKED | <i>[Signature]</i> | | |
| CONTROLLERATE OF INSPECTION (ICV) | LEAD | WEIGHT | SCALE |
| | | 4.69 | 2:1 |
| | | SHT | SHTS |
| | | 59/146 | |

MBN2-00-05

Rz80

V/M



| | | |
|--------------------|-----------|----------------------|
| EQ. MATERIAL ADDED | ISSUE | NATURE OF AMENDMENTS |
| (A) | | |
| 00804-ICV | DC C/P No | DATE |
| | 08-2000 | |

1. HRC 40.....47.
2. * Dimension is given for references.
3. Coating, Chromatized, oxidised, oiled.

(A) EQ MATERIAL: 80 C6, IS: 2507-75

22 NOV 2004
Chitra

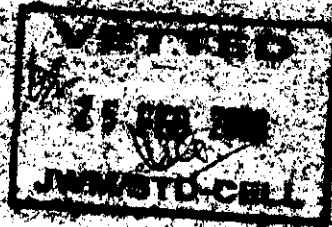
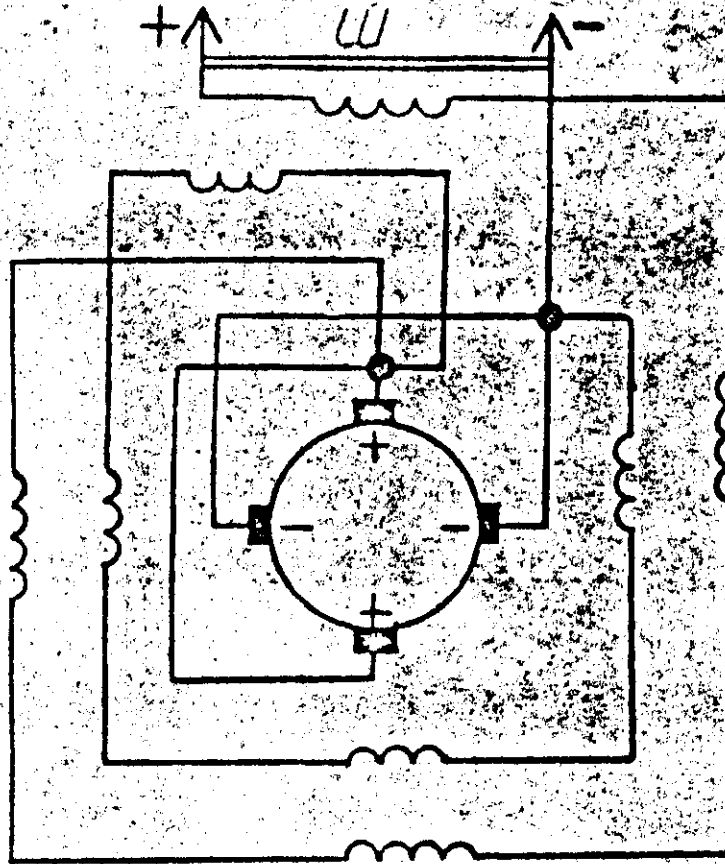
VETTED
 29 NOV 2007
 JWL/S TD-CELL

D-571

| | | | |
|--|-------|-----------------|--------------|
| APPROVED | M.VAS | MBN 2-00-05 | |
| CHECKED | | WEIGHT | SCALE |
| CONTROLLERATE OF INSPECTION (ICV) | (42) | 4.8ms | 2:1 |
| | | SHT | SHTS |
| | | 96/146 | |
| | | Band Y8 A-C-1.5 | TOCT 2283-79 |

MBN2-00-0133

MBN2-000



| Symbol | DESCRIPTION | QTY | REMARKS |
|--------|--------------------------------|-----|---------|
| W | Plug WPF20n2. W6FE0.364.108 TY | 1 | |
| | | | D.571 |

| | | | |
|--|---------|----------------------------|--------------|
| APPROVED | M. VASU | MBN2-00-0133 | |
| CHECKED | | ELECTRIC MOTOR MBN-2 | WEIGHT SCALE |
| CONTROLLERATE OF INSPECTION (ICV) | | Electric schematic diagram | SHTS SHTS |
| | | | 43/146 |

(4)

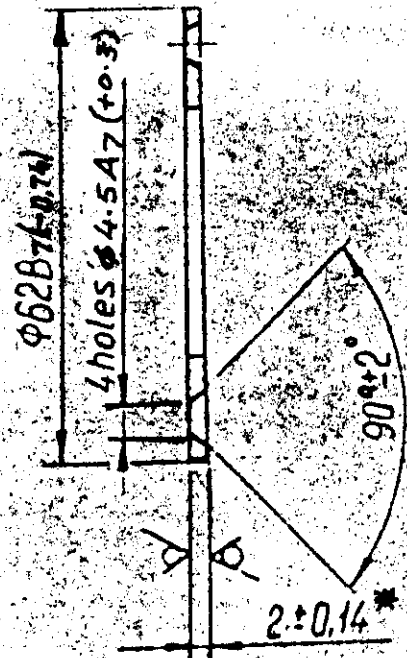
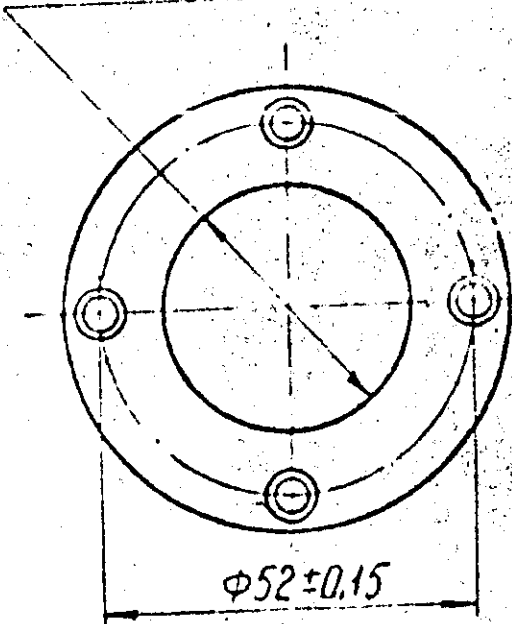
MBП 2-01-03

Rz80

✓✓

222 2000000000
836 170.002

$\Phi 34A7 (+0.62)$



1. Alternate material A 2 GOST 19904-74
II - BГ-08 Kn GOST9045-70.
 2. * Dimension is given for references.
 3. Coating: -Zinc-plated, 24 microns thick, chromated. Condition of the solution for chromatization, is as pec. V-252-78.
- Ⓐ EQ MATERIAL: GRADE D, IS: 513-86

22
104
Elonka

| | | |
|-------------|-------|-----------------------|
| 00804-10V | Ⓐ | EQ MATERIAL ADDED. |
| 29.08.2007 | ISSUE | NATURE OF AMENDMENTS. |
| DEC 10 2007 | DATE | |

D-571

ECKU

VETTED
29 NOV 2007
JWM/STP

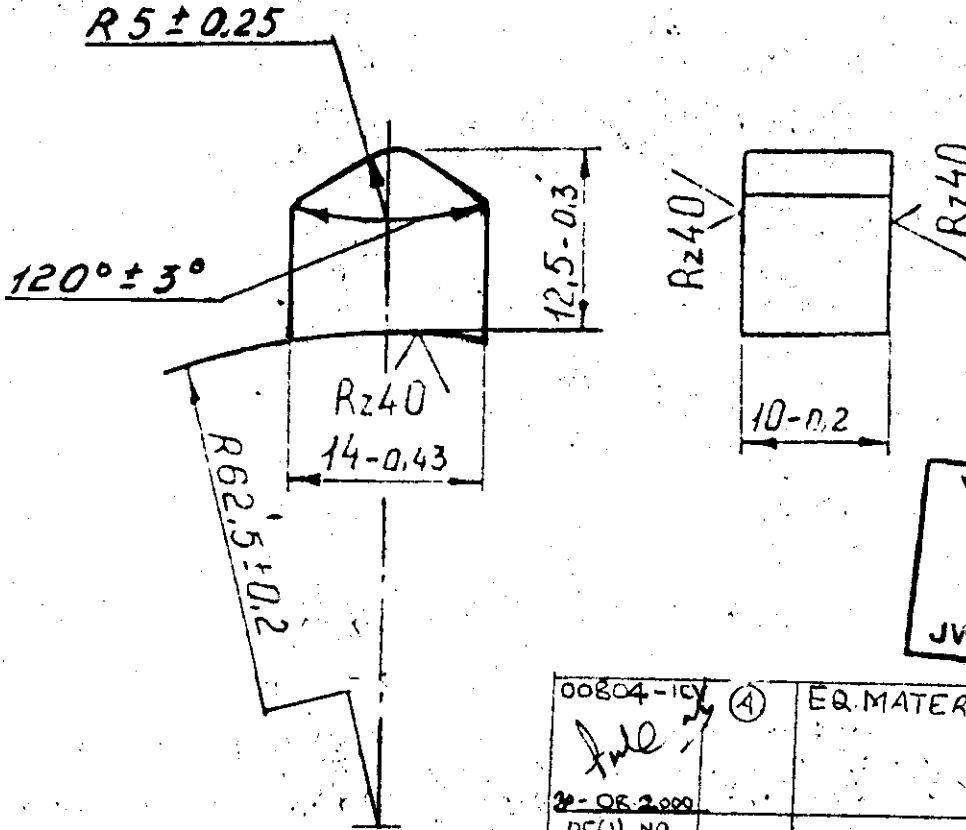
MBП 2-01-03

| | | | | |
|----------|---------------------------------------|------------------------|---------|------|
| APPROVED | CONTROLLERATE OF INSPECTION (CV) (47) | WASHER | WEIGHT | 1:1 |
| ISSUED | | | 40g | |
| | | Sheet B2 ГOCT 19904-74 | SHT | SHTS |
| | | 4 II-10 ГOCT 16523-70 | 101/146 | |

MBN2-02-02

Rz80

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VETTED
 29 NOV 2007
 JWM/STD-CELL

| | | |
|-------------|-------|----------------------|
| 00804-104 | (A) | EQ. MATERIAL ADDED |
| <i>file</i> | | |
| 2-OR-2000 | | |
| DC(I) NO | ISSUE | NATURE OF AMENDMENTS |
| DATE | | |

Blunt sharp edges with chamfering $\approx 0.5\text{mm} \times 45^\circ$
 or radius $\approx 0.3\text{mm}$.

(A) EQ MATERIAL: "C14, C20 TO IS: 2073-70" OR
 "EN 1A, EN 1B - BS - 970"

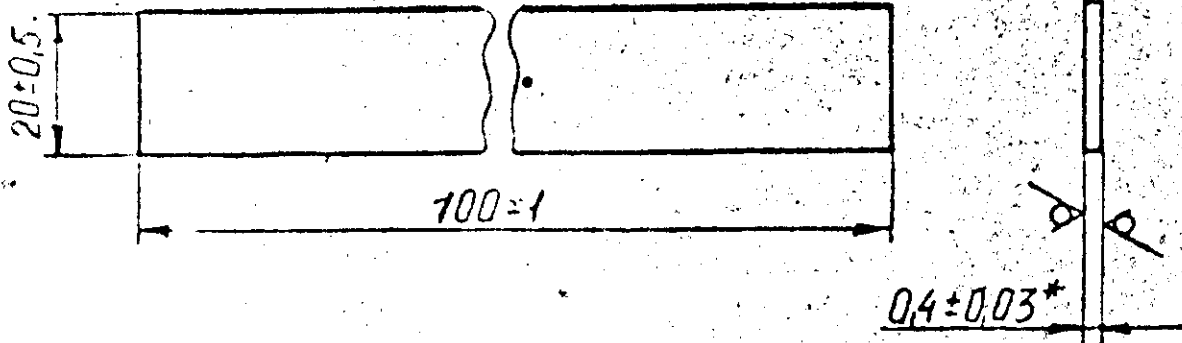
22 NOV 2004

Clips
D-571
h

| | |
|--------------|----------------------|
| APPROVED | MBN2-02-02 |
| CONTROL RATE | LUG |
| INSPECTION | Steel 15 OCT 1050-74 |
| (52) | 106/11/6 |

MBN2 003

MBN2-16-17



* Dimension is given for references.

VETTED
 29 NOV 2007
 SWAISTO-CELL

22 NOV 2004
 [Signature]

3125

58

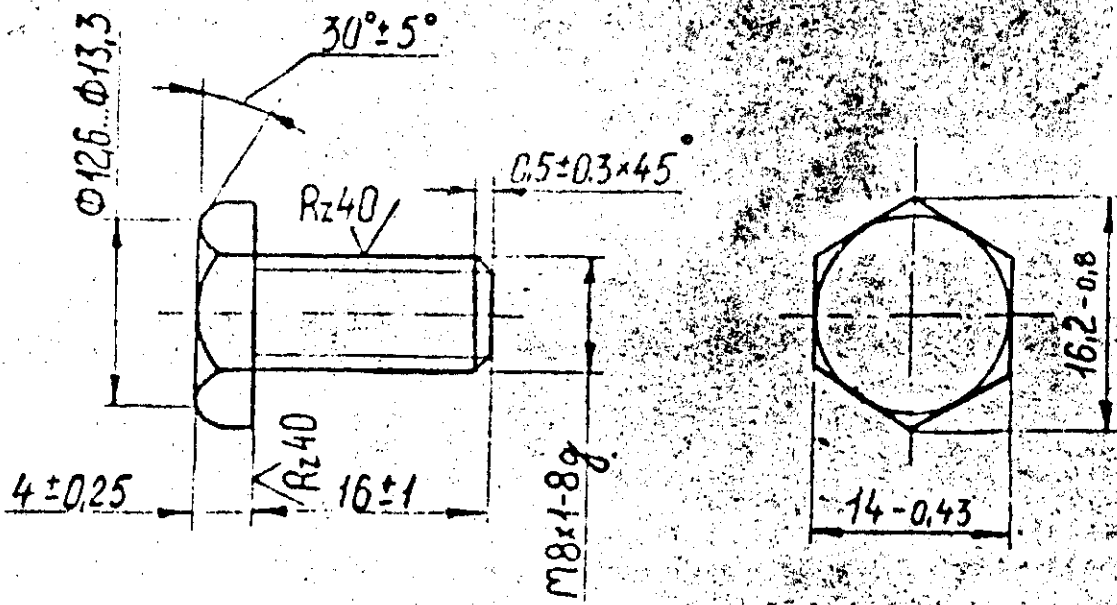
D.571

ЕСКД

| | | | |
|---|-------------------|----------|--------|
| APPROVED | M. V. [Signature] | MBN2 003 | |
| CHECKED | [Signature] | GASKET | WEIGHT |
| CONTROLLERATE OF INSPECTION (ICV) (39) | | | SCALE |
| | | SHT | SHTS |
| Card board ЭBC 0.4 ГОСТ 2824-75 | | 72 | 1:1 |
| | | 93 | 146 |

500-2100

RZCU
✓(✓)



1. Alternate material is steel 10,15 GOST 1050-74.
2. Misalignment of head with respect to the axis of bar should not exceed 0,4mm.
3. Coating:-Zinc-plated 9 microns thick, chromated. Composition of the solution for chromatization is as per V-252-78.
4. Other Technical requirements are as per GOST 1759-70.

Ⓐ EQ. MATERIAL: C10, C14 TO IS: 2073-70, OR EN 1A EN1B BS 970

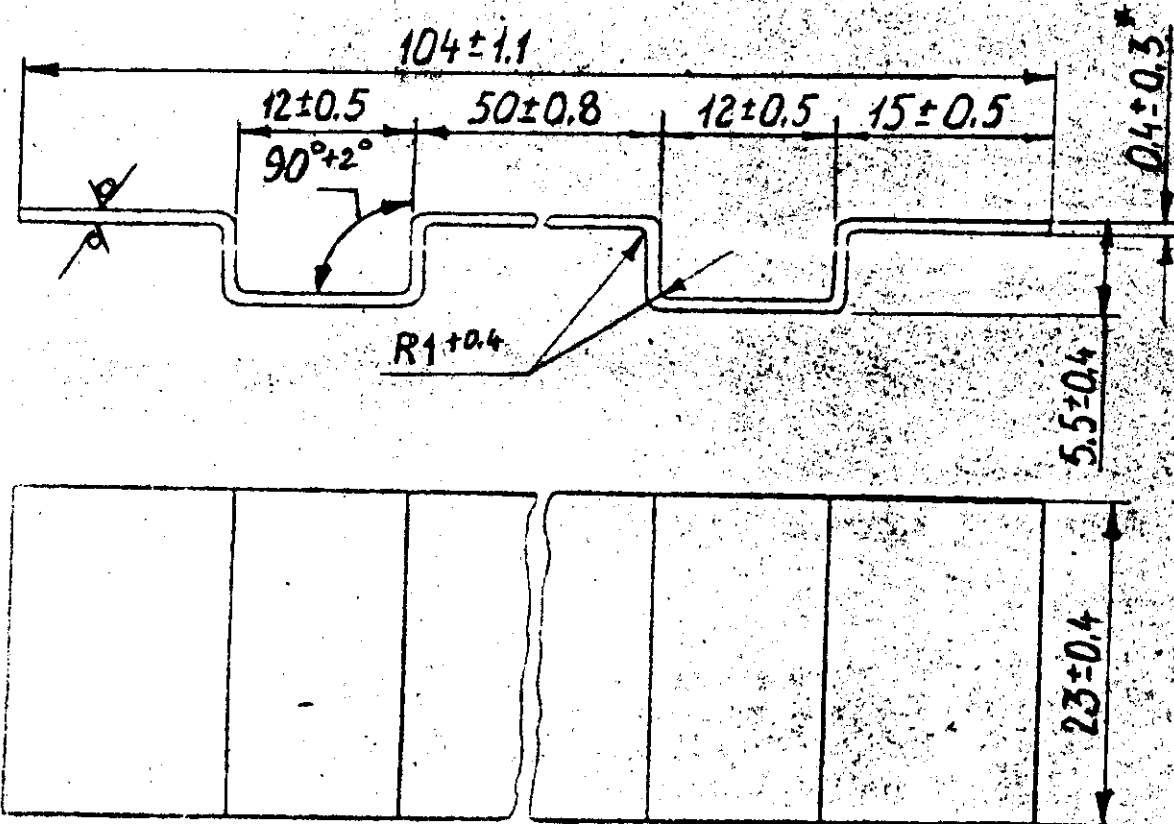
VETTED
29 NOV 2007
JWING D-CELL

| | |
|--|----------------------|
| DOCS/REV 21 ✓ V.08.2000 DEC/NO DATE | Ⓐ EQ. MATERIAL ADDED |
| ISSUE | NATURE OF AMENDMENTS |

D-571

| | | | |
|--|------------------------|------------------|-------|
| APPROVED | | MBП 2-005 | |
| CHECKED | | | |
| CONTROLLERATE OF INSPECTION (ICVI) (41) | BOLT | WEIGHT | SCALE |
| | | 9.67g | 2:1 |
| | | SHT | SHTS |
| | Steel A12 ГОСТ 1414-75 | 95/11/6 | |

МБП2.008



* Dimension is given for references.

VETTED
 29 NOV 2007
 JWM/GTD/CBL

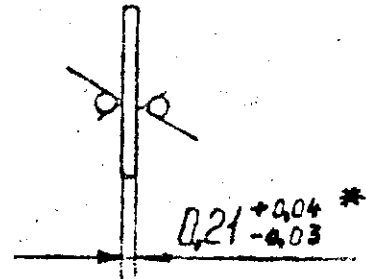
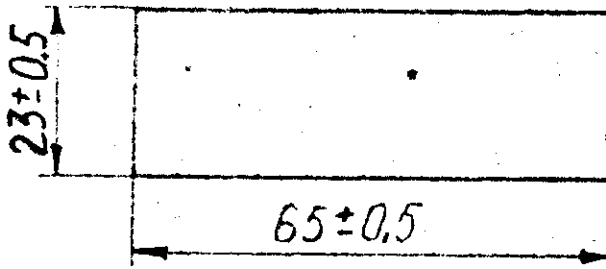
22 NOV 2004

D-571

ЕСКД

| | | | |
|------|------------------------------------|-----------------|-------|
| | | МБП2.008 | |
| | | GASKET | |
| | | WEIGHT | SCALE |
| | | 2 g | 2:1 |
| | | SPT | SHTG |
| (44) | card board 3BC 0.4 ГОСТ 2824-75 | 98/146 | |

Hand-drawn



* Dimension is given for references.

VETTED
29 NOV 2007
JWM/STD-CELL

~~22 NOV 2004~~
Eliza

D-571

0000

MB 12-09-01

INSULATION
OF FRONT PARTS

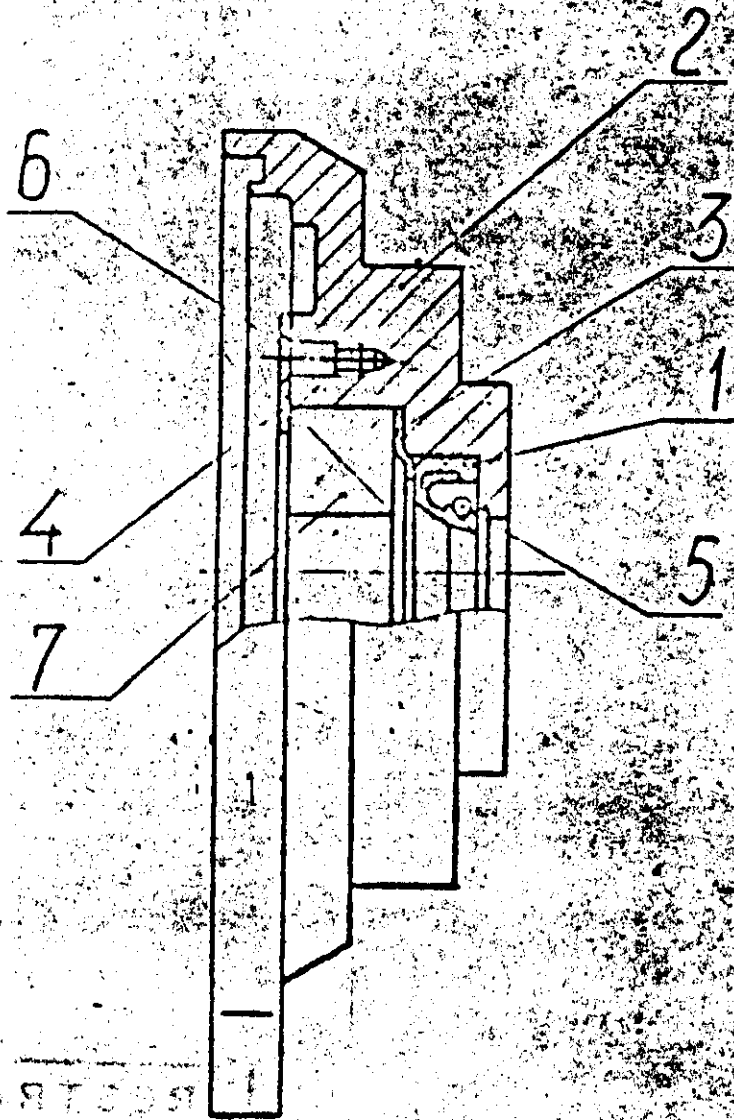
0.65g 1:1

Mica tape $\lambda\phi K-TT-0-21$
GOST 4268-75

121 / 11/16

(67)

MBП2-11-00СБ



VETTED
 75 FEB 78
 AMMTO CELL

43
 12.5.11

1. Secure screws Ref.No.6 with enamel XB-124, grey, GOST 10144-74 and coat the head of the screw with the same enamel.

2. While assembling fill the ^{sealing ring} space with grease UNATIM-201, GOST 6267-74.

D.571

APPROVED
 CHECKED *MKG*
 CONTROLLERATE
 OF
 INSPECTION
 (ICV) (26)

MBП2-11-00СБ

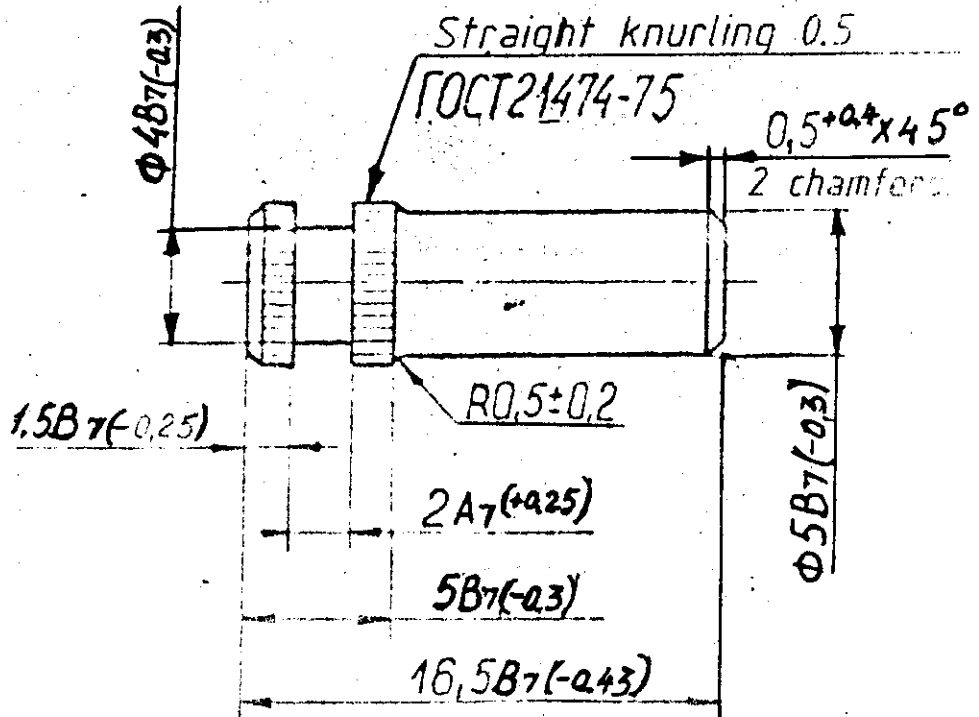
COVER FROM THE
 SIDE OF DRIVE
 (Assy DT9)

| | | |
|-----|--------|-------|
| | WEIGHT | SCALE |
| | 14 | 1:1 |
| SHT | SHTS | |
| | 79/146 | |

MBП2-14-01

R.25

| | |
|----------------------|----------------------------|
| EQ. MATERIAL ADDED | ISSUE NATURE OF AMENDMENT. |
| Ⓐ | |
| 60504-10 10.04.07 | DATE |
| 08.20.08 | ISSUE NO. |



Straight knurling 0.8, GOST 21474-75 is allowed.

Ⓐ EQ. MATERIAL: "C10, C-14 TO IS 2073" OR "EN 1A EN 1B BS-970" (2073-70)

22 / 2007
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VETTED
29 NOV 2007
CELL

D-571

MBП2-14-01

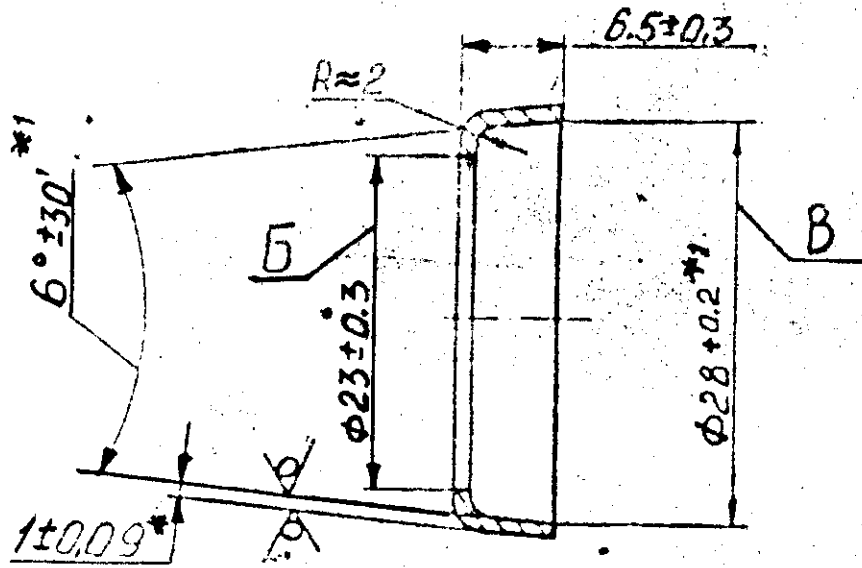
AXLE

258 4:1

70

steel A12, ГOCT 1414-75

124/140



| | |
|--------------------|---------------------------|
| EQ. MATERIAL ADDED | ISSUE NATURE OF AMENDMENT |
| | |

1. Alternate material is steel A 1 GOST 19904-74.
II - BF-08Kn GOST 9045-70.
2. * Dimension is given for references.
3. *1 Dimension is provided with tool.
4. Misalignment of hole B with respect to hole B should not exceed 0.25mm.
5. On external surface belt due to die clamping to a depth not exceeding 0.25mm and width not exceeding 3mm is allowed.
6. Other Technical Requirements are as per Technical specification 005 216-75 (Appendix-1).

Ⓐ EQ. MATERIAL: GRADE DD, IS: 513-86

VETTED
29 NOV 2007
JVM/STD-CELL

22.11.2004
D-571
2

MBN2-15-01

REINFORCING RING

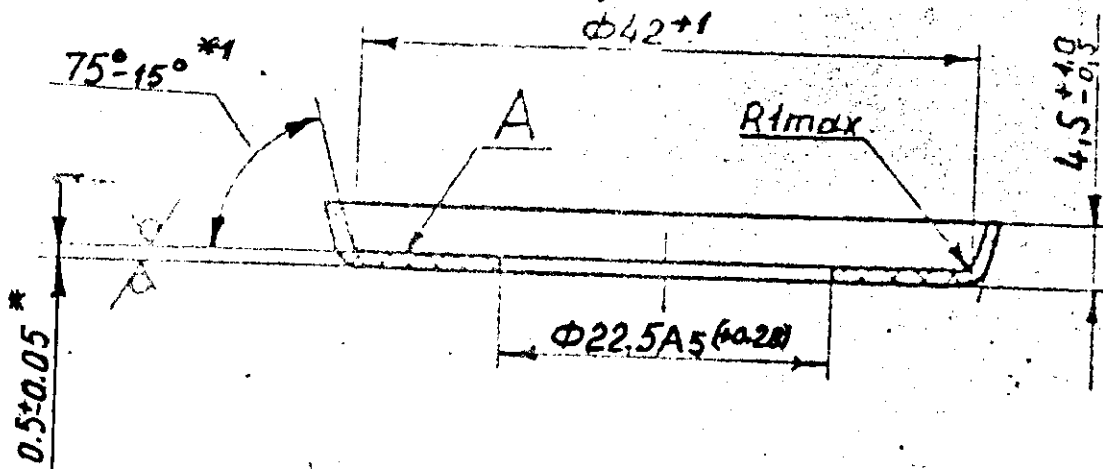
2:1

Sheet B1 GOST 19904-74
4-II-10 GOST 16523-70

125/116

71

MBП2-16-01



1. * Dimension is given for references.
2. * Dimension is provided with tool.
3. Breakage is not allowed.
4. Nonflatness of surface A should not exceed $3 \mu m$.
5. Foldings on the tapering surface of washer are allowed.

VETTED
 29 NOV 2007
 JWM/STB-CELL

22.11.04
 D-574
 [Signature]

ECK

13

| | | | |
|------------------------------------|--|--------|---------|
| MBП2-16-01 | | WEIGHT | SCALE |
| WASHER | | 148ms | 2:1 |
| card board 3B-10.5 ГОСТ 2824-75 | | SHT | SHTS |
| | | | 126/114 |

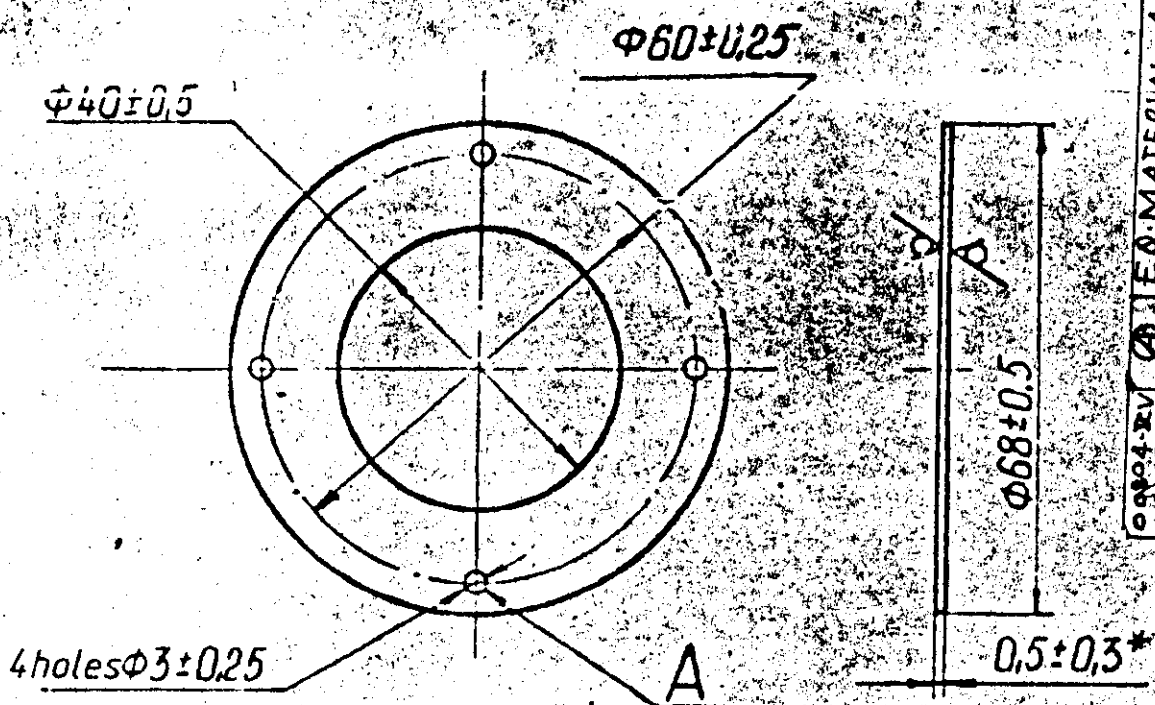
CONTROLERATE
 OF
 INSPECTION (72)

МБПЧ.120

Перв. пр. ч. мем
МБПЧ.120

Склад. No

Литератур. No докум.
Полн. и дата



| | |
|--|---------------------------|
| EQ. MATERIAL ADDED | ISSUE NATURE OF AMENDMENT |
| 0 0004-REV EQ. MATERIAL ADDED DATE 20-08-2000 DECISION NO DATE | |

1. Gasket is made of plate as per Technical Specifications Ty 38 005 838-70.

2. * Dimension is given for reference, other dimensions are provided with tools.

3. Limit deviations of hole A in angle are $\pm 10^\circ$.

4. Other Technical requirements are as per Technical Specifications Ty 005 216-75.

Ⓐ EQ. MATERIAL: RUBBER, No. 6 (TYPE B) BS AU 106-65.

22.10.2004
 2004
 Eli/2
 J.VI/2004

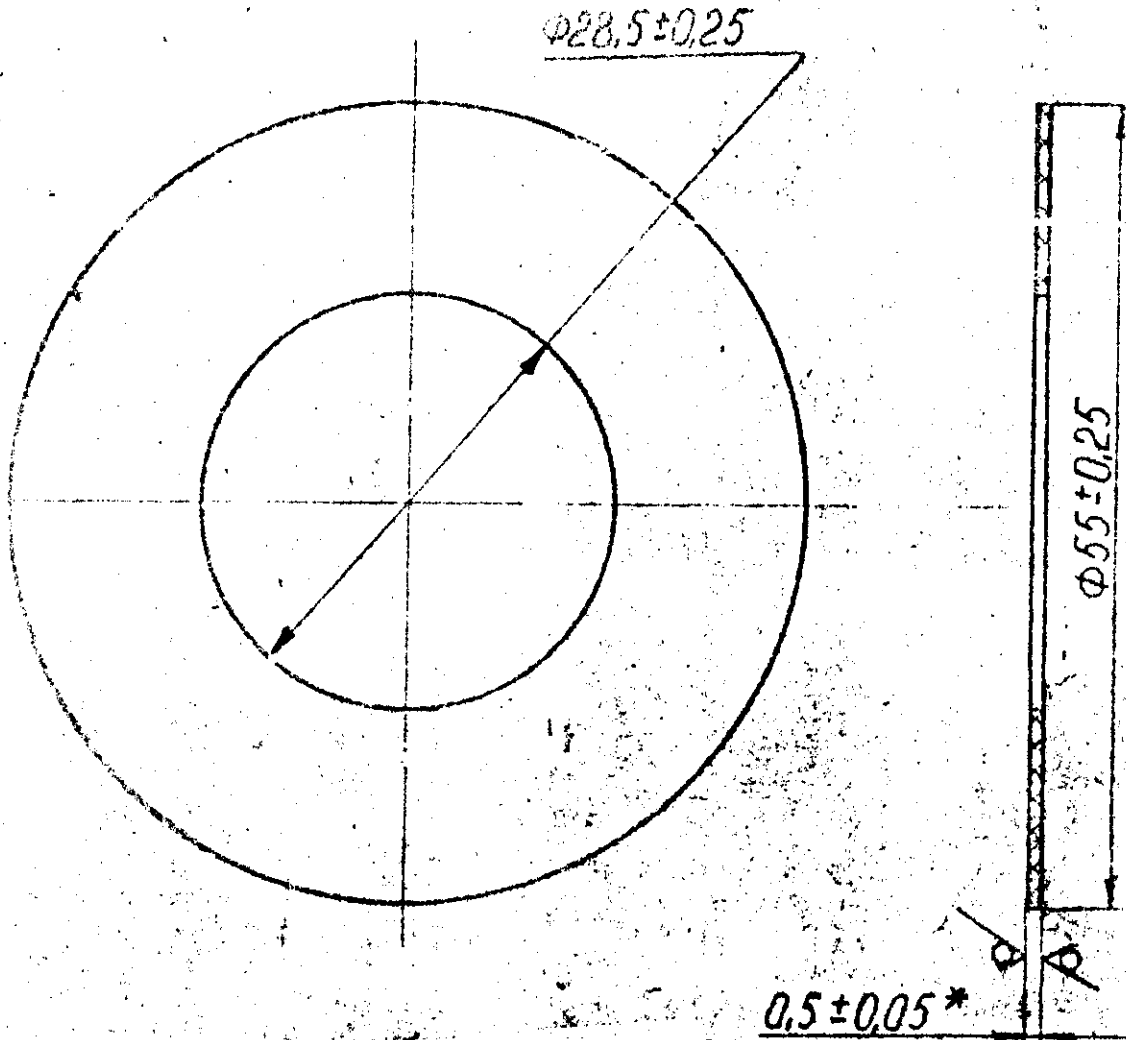
5218

VETTED
 20 NOV 2007
 JWM/STD-CELL

2-571

| | | | |
|--|--------|----------|-------|
| APPROVED | M VASU | МБПЧ.120 | |
| CHECKED | | | |
| CONTROLLERATE OF INSPECTION (ICV) | (49) | GASKET | |
| | | WEIGHT | SCALE |
| | | 1.2 g | 1:1 |
| PLATE 254311-0.5 RUBBER 4326-1 TY00521675 | | SMT | SMTS |
| | | 103/146 | |

ГА-10-326



* Dimension is given for reference.

VETTED
29 NOV 2007

22 NOV 2007
[Signature]

101
[Signature]

0-571

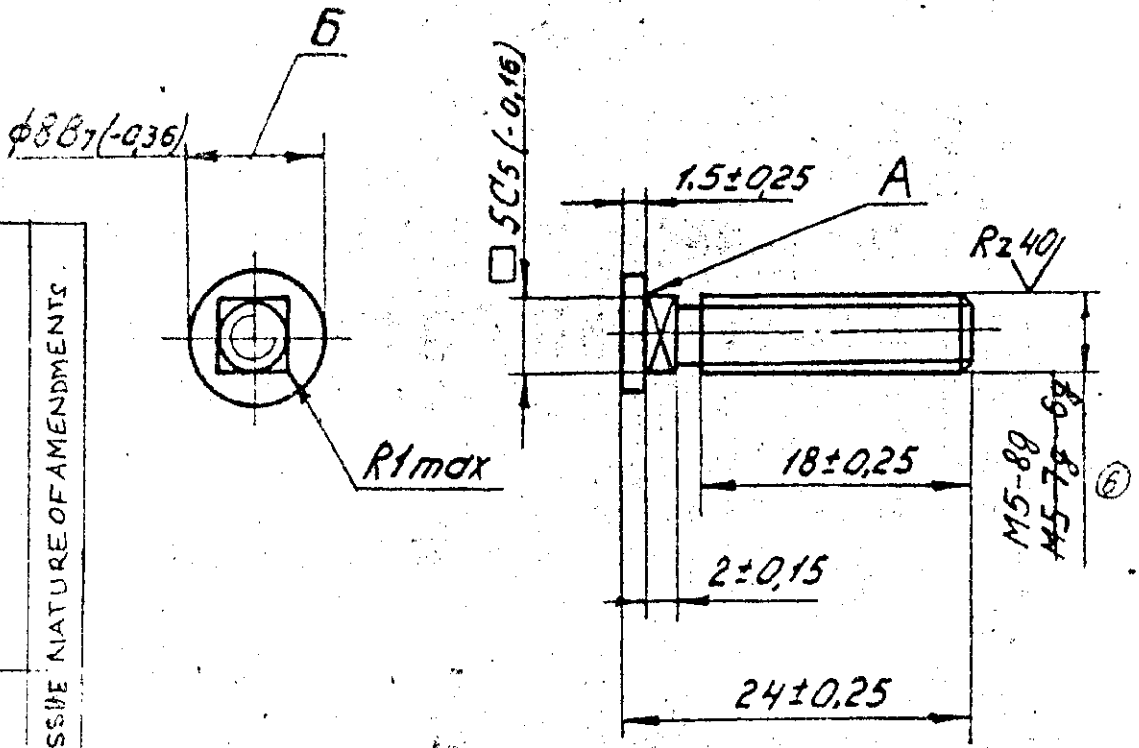
ВКК

| | | | | |
|---|--------------|-----------------------------------|--------|-------|
| APPROVED | - N. VASIL | ГА-10-326 | | |
| CHECKED | M. M. et al. | | WEIGHT | SCALE |
| CONTROLLERATE OF INSPECTION (ICV) (75) | | WASHER | 0.7g | 2:1 |
| | | | SHT | SMTS |
| | | Card board 38 0.5 GOST 2824-75 | 129 | 146 |

175001-1X

Rz 80 (V)

MIS-83



| | |
|------------|----------------------------|
| 0980470 | ISSUE NATURE OF AMENDMENTS |
| 09.08.2000 | |
| 0000 NO | |
| DATE | |

| DESIGNATION. | COATING. |
|--------------|--|
| X1 - 10097U, | Zinc-plated, 6 microns thick, chromated. |

VETTED
29 NOV 2007
JWM/STD-CELL

1. Excess of metal is allowed on surface A with thickness not exceeding 0.5mm in the limits of diameter B.

2. Other technical requirements are as per GOST 1759-70.

④ EQ. MATERIAL : MILDSTEEL C-10 IS : 2073-70 OR EN 1A EN 18 BS-970

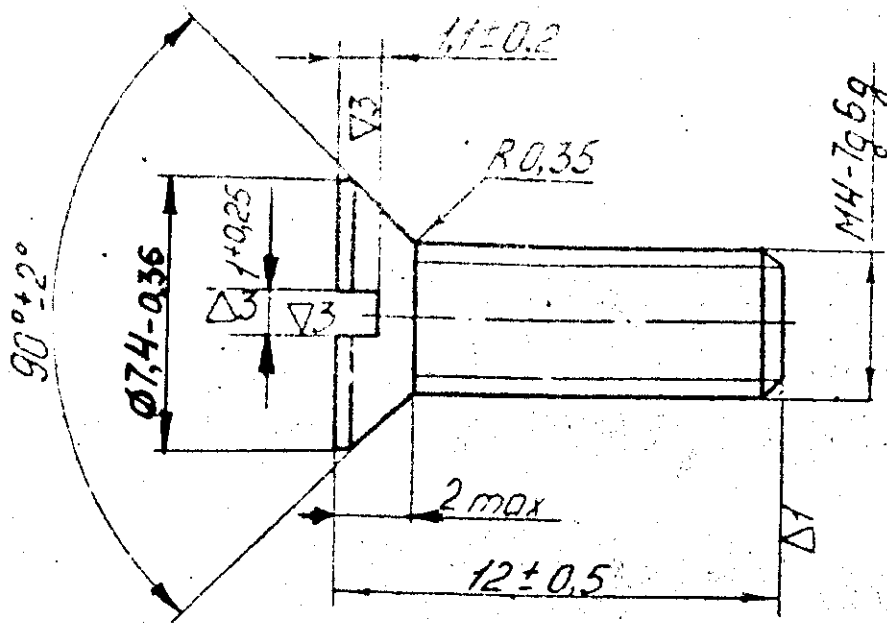
22 NOV 2004

Chitra
D-518

| | | | |
|--|----------------|--------------------------|---------|
| APPROVED | M. VASU | X1-10097U | |
| CHECKED | <i>M. Vasu</i> | BOLT | |
| CONTROLLERATE OF INSPECTION (ICV) (83) | | WEIGHT | SCALE |
| | | 3.25 | 2:1 |
| | | SHT | SHTS |
| | | Wire 4 4-10 GOST 5663-79 | 137/146 |

99901-X

△4/△1



| DESIGNATION. | * | COATING. |
|--------------|-----|--|
| X1 - 10556. | 016 | Zinc-plated, 6 microns thick, chromatised. Solution for chromatisation is as per M-252-78. |

1. Limit deviations from the alignment of head axes and spline with respect to axis of bar is 0.3mm.
2. Technical requirements are as per GOST 1759-70.

22 NOV 2004

Eliza

D-571

Duplicate is made with GOST 17475-72.

VETTED
29 NOV 2004
+ CACI
D-571 D-CEL

X1-10556

APPROVED
CHECKED
CONTROLLERATE
OF
INSPECTION
(84)

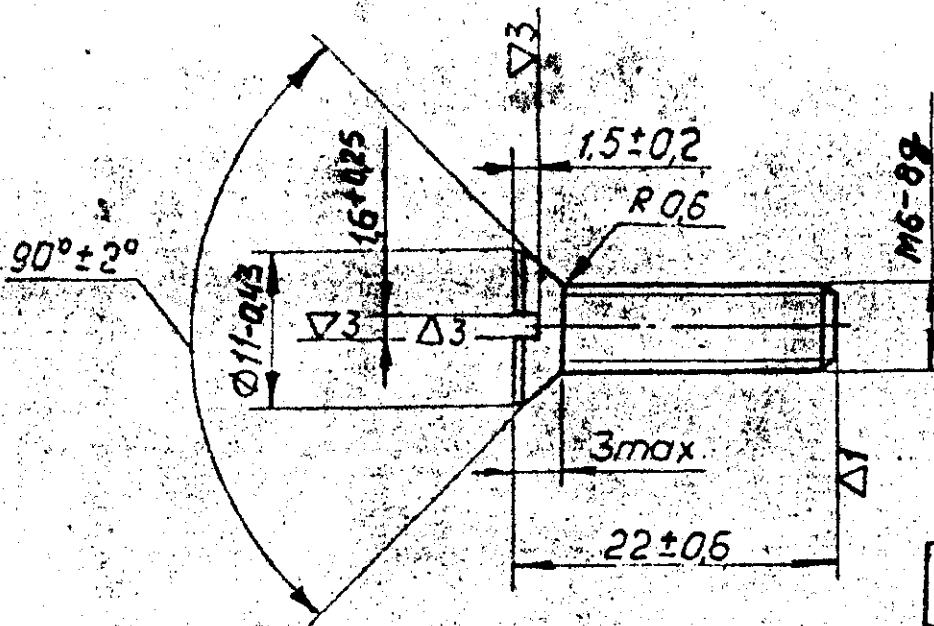
SCREW
M4-7g6g x 12.36 *
GOST 17475-72
Steel 10, GOST 1050-74

| | |
|--------|-------|
| WEIGHT | SCALE |
| 1.15g | 5:1 |
| SHT | SHTS |
| 138 | 146 |

03101-1X

▽4(▽)

MB17-2



ECKD

| DESIGNATION. | * | COATING. |
|--------------|-----|--|
| X1-10750. | 016 | Zinc-plated 6 microns thick, chromated. Composition of solution for chromatization is as per VI-252-78. |

1. Limit deviation from the alignment of head axes and spline with respect to the axis of bar is 0.4mm.
2. Technical requirements are as per GOST 1759-70.

22 NOV 2007
[Signature]

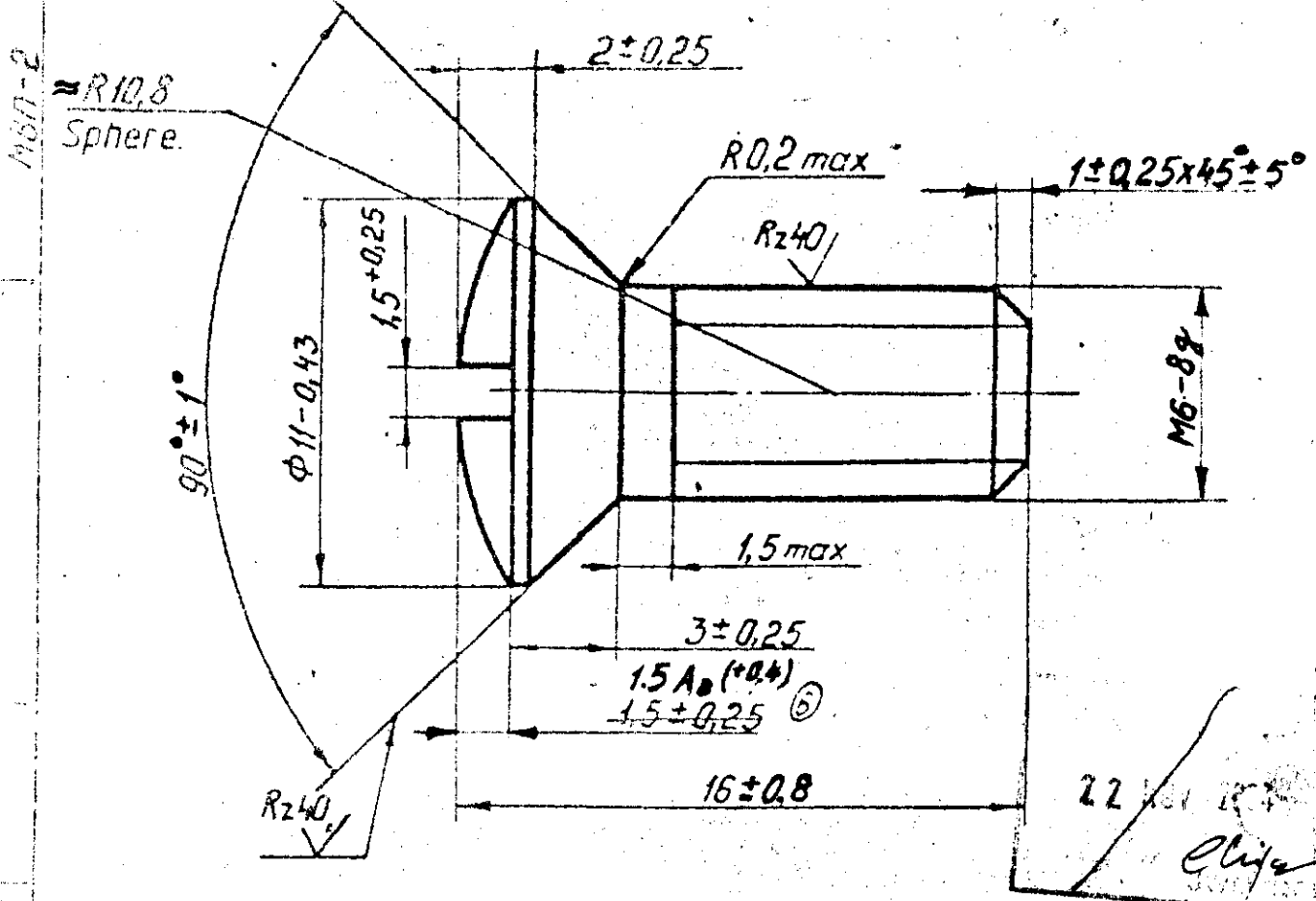
VETTED
29 NOV 2007
JWM/STD-CELL

Duplicate copy is made with GOST 17475-72.

| | | | |
|---|------------------------|-----------------|---------|
| APPROVED | [Signature] | X1-10750 | |
| CHECKED | H.M. Shaikh | | |
| CONTROLLERATE OF INSPECTION (ICV) (85) | SCREW M6 x 2236* | WEIGHT | SCALE |
| | ГОСТ 17475-72 | 4.64 g | 2:1 |
| | Steel 10, ГОСТ 1050-74 | SHT | SHTS |
| | | | 139/146 |

59501 IX

K280 ✓(✓)



| DESIGNATION | COATING |
|-------------|---|
| X1-10965. | Zinc-plated, 6 microns thick, chromated. Solution for chromatisation is as per VI-252-78. |

VETTED
29 NOV 2007
JVVW/STD-CELL

Limit deviations from the alignment with respect to axis of bar, with head axis is 0.3mm, with the axis of spline is 0.4mm.

2. Curburise h 0.1.....0.3mm. H R C 54.....57.
3. Technical requirements are as per GOST 1759-70.

X1-10965

SCREW

4.5g 5:1

steel 10 GOST 1050-74

140/146

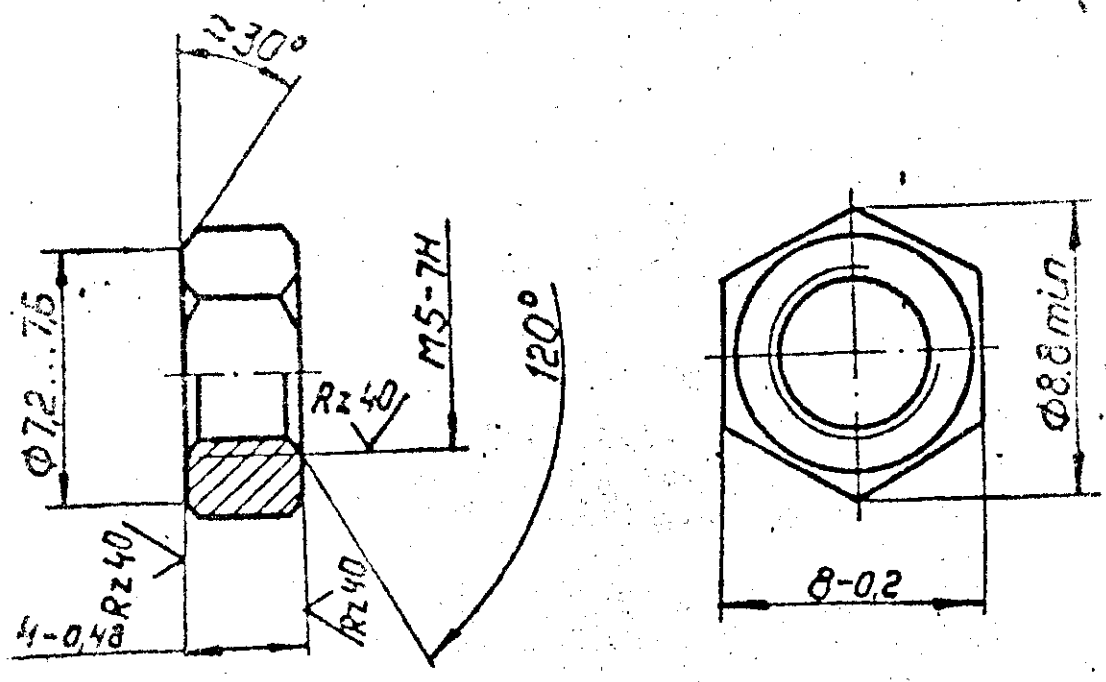
86

M. V. V. S. M. P. G. A. S. S.

D-57
M. K. I.

02007 02 R280/ (M)

MTE-53



| | |
|--------------|--|
| DESIGNATION. | COATING. |
| X2-10630. | Zinc-plated 6 microns thick chromitized. |

1. Alternate material is steel 10, GOST 1050-74.
2. Limit displacements of axis of hole with respect to faces are 0.25mm.
3. Other Technical requirements are as per GOST 1759-70.

(A) E.Q. MATERIAL: C10 C14 IS: 2073 OR ENIA BS. 970

22 OCT 2004

Clayton

VETTED
29 NOV 2007
JWW/S D. SELL

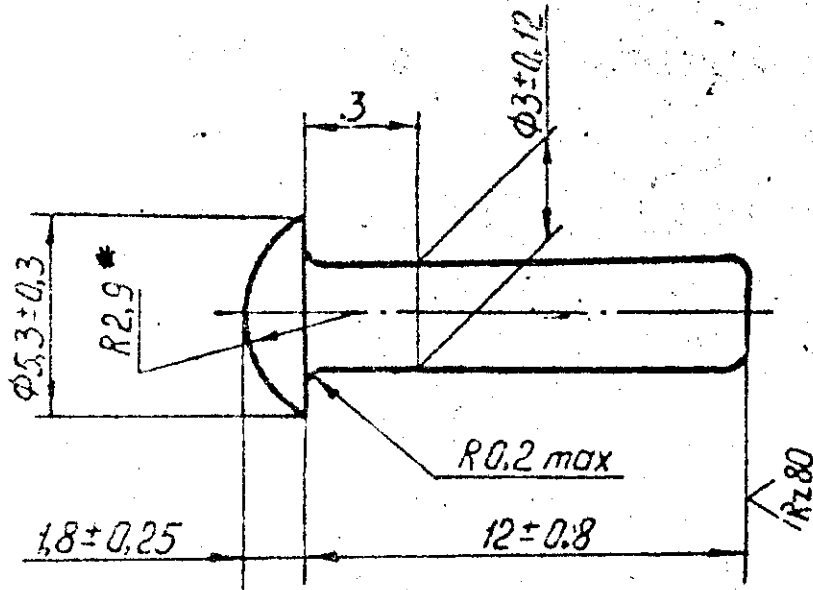
N D-571

| | | | |
|---|----------------|-----------------|---------|
| APPROVED | M. V. S. S. S. | X2-10630 | |
| CHECKED | H. M. S. K. I. | | |
| CONTROLLERATE OF INSPECTION (ICV) (87) | NUT | WEIGHT | SCALE |
| | | 1.29MS | 47 |
| Steel A 12, ГОСТ 1414-75 | SHT | SHTS | 141/146 |

06801-9X

Rz40 ✓ (✓)

M67-2



| DESIGNATION | * | COATING |
|-------------|-----|--|
| X6-10890 | 016 | Zinc-plated, 6 microns thick, chromated. Condition of solution for chromatisation is as per VI-252-78. |

- * Dimension is given for references.
- Displacement limit of head axes with respect to the axis of bar is 0.2mm.
- Other Technical requirements are as per GOST 10304-70.

22

Eliver

Duplicate copy is made with GOST 10299-68.

D-571

VETTED
29 NOV 2009
JW/STG-CELL

X6-10890

RIVET 3 x 12.01

GOST 10299-68

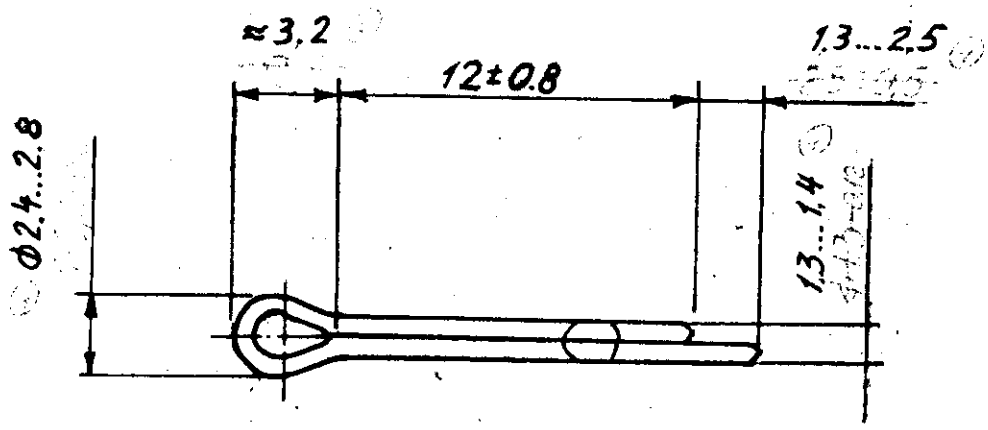
Steel 10, ГОСТ 1050-74

0.485g 5:1

143/146

89

1. 17.17



Coating - Zinc-plated 6 microns thick, chromated.
 Solution for chromatization is as per
 U - 252 = 78.

VETTED
 29 NOV 2007
 JWM/STD-CELL

22 11 2004
 Olyga

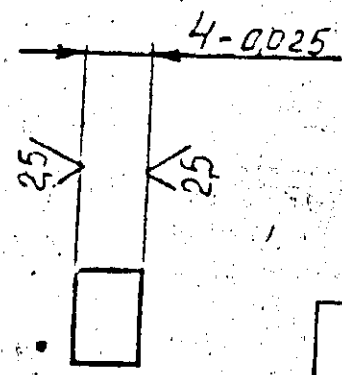
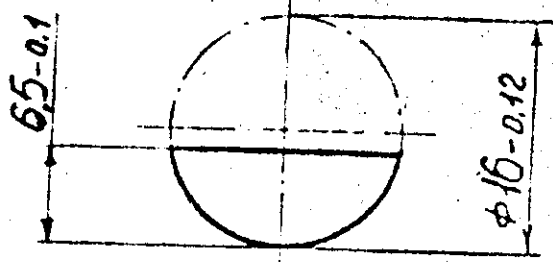
Duplicate copy is taken from GOST 397-79.

D-571

| | | | |
|---|-----------------------|-------------------------------------|--------------------------------|
| APPROVED | 14 NOV 2007 | X9-10-81 | |
| CHECKED | <i>M. K. Gorbunov</i> | | |
| CONTROLLERATE OF INSPECTION (ILV) (91) | | SPLIT PIN 1-6x12-016 GOST 397-79 | |
| | | Steel 10, GOST 1050-74 | WEIGHT 0.185 4:1 SHT SHT |
| | | 145/146 | |

11496-A

Kz80 ✓ (✓)



VETTED
 29 NOV 2007
[Signature]
 JWM/STD-CELL

H R C 35.....40.

④ EQ. MATERIAL: CA0 IS: 2073-70 OR ENG BS 970

| | |
|--|---------------------------|
| EQ. MATERIAL ADDED. | ISSUE NATURE OF AMENDMENT |
| ④ | |
| 00804-11V <i>[Signature]</i> 2-08-2008 | |

22 Nov 2004

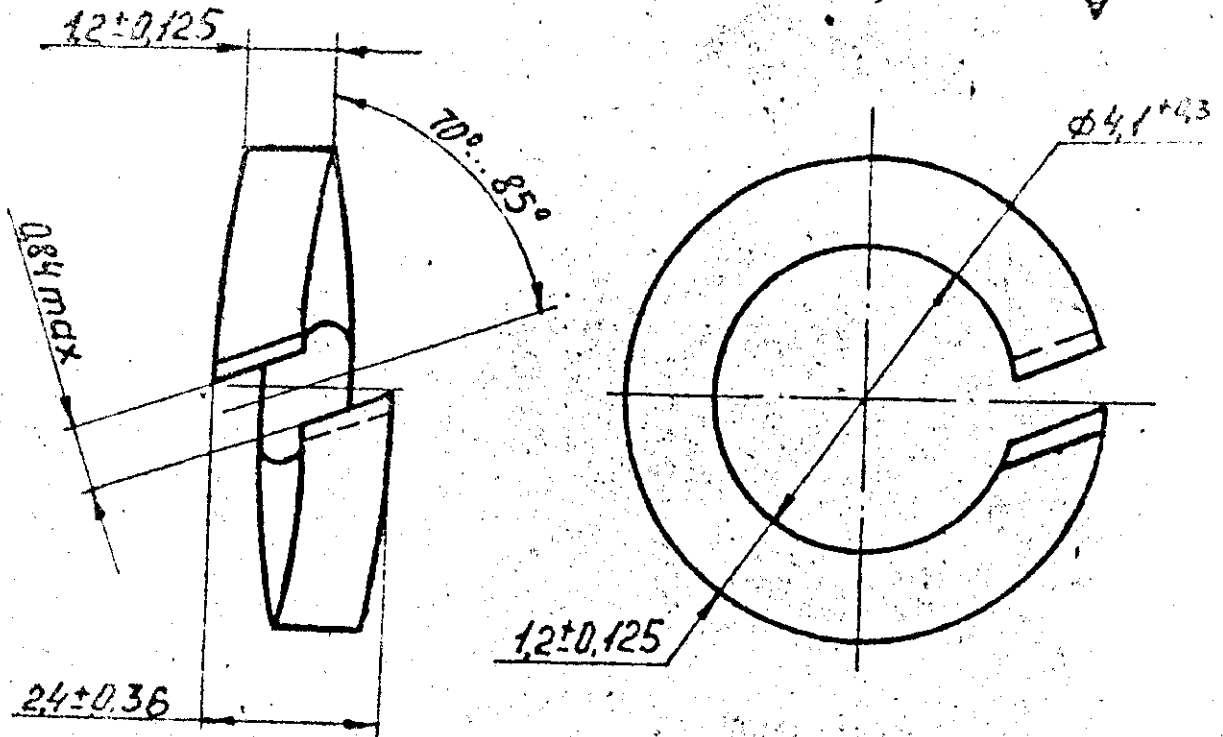
D-57H

ECK

[Handwritten mark]

| | | | |
|--------------------------------------|-----------------------|---------|-------|
| APPROVED | <i>[Signature]</i> | X-261 U | |
| CHECKED | <i>[Signature]</i> | | |
| CONTROLLERATE OF INSPECTION (IEV) ⑤③ | KEY | WEIGHT | SCALE |
| | | 2.39ms | 2.1 |
| | | SHT | S4.5 |
| | steel 40 TOCT 1050-74 | 107/146 | |

GFUP-X



| DESIGNATION. | - * | COATING. | PERMISSIBLE COATING. |
|--------------|-----|-------------------------------|---|
| X-1012 | 06 | Chemically parkarized, oiled. | Chemically parkerised, oiled, Zinc-plated 6 microns thick, chromated, cadmium $6 \mu\text{m}$ thick, chromated. |

Technical requirements are as per GOST 6402-70.
 Ⓐ EQ. MATERIAL: 75 C6 IS: 2507-75

VETTED
 29 NOV 2007
 JAWWSTB CELL

Handwritten signature: *Elip...*
 Stamp: D-57I
 Stamp: ECKA

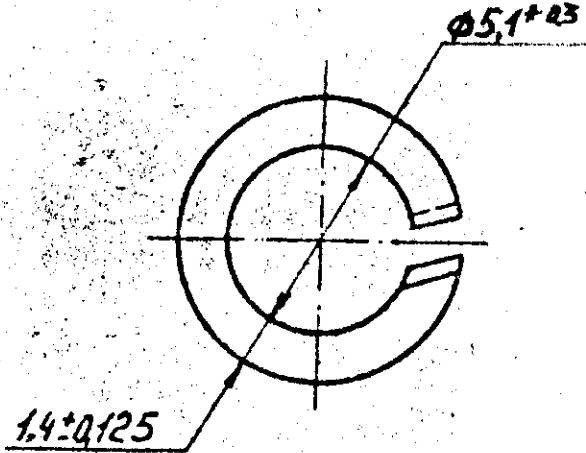
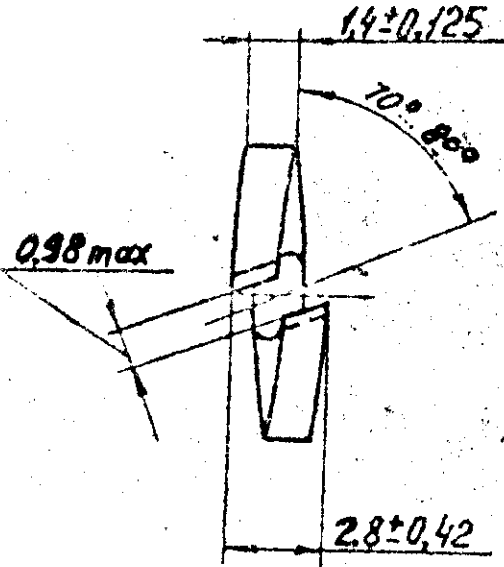
| | |
|--------------------|-----------------------------|
| EQ. MATERIAL ADDED | ISSUE NATURE OF AMENDMENTS. |
| Ⓐ | DATE: 26.08.2008 |

| | | | | |
|-----------------|--------------------|-------------------------|--------|---------|
| APPROVED | <i>[Signature]</i> | X-1012 | WEIGHT | SCALE |
| CHECKED | <i>[Signature]</i> | | 0,189g | 10:1 |
| CONTROLLER RATE | | WASHER 4.65T * | UNIT | SMTS |
| | | GOST 6402-70 | | |
| | | Steel 65T, GOST 1050-74 | | 134/146 |

1004-X



1004



| DESIGNATION | * | COATING | PERMISSIBLE COATING |
|-------------|----|------------------------------|---|
| X-4001 | 06 | Chemically parkerised oiled. | Chemically parkerised, oiled. Cadmium ^{coat} 6 microns thick, chromated. |

VETTED
29 NOV 2007
JWM/STD-CELL

Technical requirements are as per GOST 6402-70.

Ⓐ EQ. MATERIAL: 75C6 IS: 2507-75

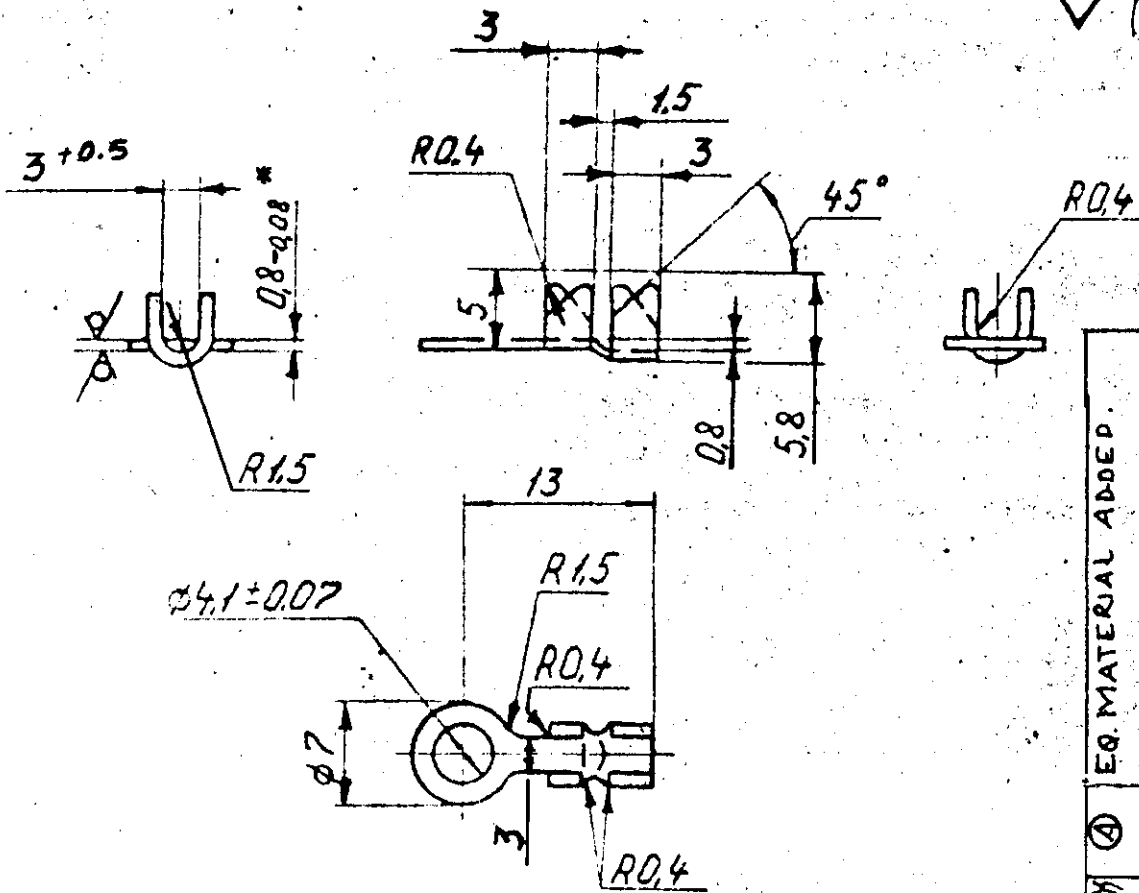
| | | | |
|----------------------|-------------------------------|----------------------------|---------------|
| 22 Nov 2004 Chiga | 00804-1C | Ⓐ EQ. MATERIAL ADDED | D-571 ECLA |
| | 30 682000 DECLD NO DATE | ISSUE NATURE OF AMENDMENTS | |

X-4001

| | | | |
|--------------------|------------------------|-----------|-------|
| INSPECTION NOV. 01 | WASHER 565Г * | WEIGHT | SCALE |
| | GOST 6402-70 | 0.315 gms | 5:1 |
| | Steel 65Г GOST 1050-74 | 135 | 146 |

1-УГБ-132

Rz80
 ✓ (✓)



1. * Dimension is given for references.
 2. All dimensions have tolerance of ± 0.25 and angular tolerance of $\pm 30'$, if not specified otherwise.
 3. Coating:- Tin-Bismuth (97) 9. micron thickness.
- Ⓐ EQ. MATERIAL: BRASS SHEET-CU ZN 37 IS: 4-10-77.

| | |
|---------------------|----------------------|
| EQ. MATERIAL ADDED. | NATURE OF AMENDMENTS |
| Ⓐ | |
| 08.04.13 | 08.08.2000 |
| DATE | DATE |

3102

22 11 2004

Signature

VETTED
 D 571
 29 NOV 2007
 CELL

| | | | |
|-----------------|---------|--------------------|-----------|
| APPROVED | BY VASU | 1-УГБ-132 | |
| CHECKED | | WEIGHT | SCALE |
| CONTROLLER AT F | | 0.59ms | 2:1 |
| INSPECTION | | SHT | SHTC |
| INSPECTION (51) | | Sheet AnPM 0.8 163 | 105 11/16 |
| | | ГОСТ 931-78 | |

| REF. NO. | ZONE | DESIGNATION | DESCRIPTION | QTY | REMARKS |
|----------|------|-------------|---|-----|----------|
| | | | STANDARD ARTICLES | | |
| 22 | | | Screw M4-6g x 8.36.016 GOST 17473-72. | 4 | 8X-1541 |
| 23 | | | Screw M4-6g x 10.36.016 GOST 17473-72. | 8 | 8X-1548 |
| 24 | | | Screw M4-6g x 12.36.016 GOST 17475-72. | 4 | X1-10556 |
| 25 | | | Screw M6 x 22.36.016 GOST 17475-72. | 6 | X1-10750 |
| 26 | | | Washer 4 65Г 06 GOST 6402-70. | 8 | X-1012 |
| 27 | | | Washer 5 65Г 06 GOST 6402-70. | 2 | X-4001 |
| 28 | | | Washer 8 65Г 06 GOST 6402-70. | 1 | X-4069 |
| 29 | | | Plug WPF 20 n2 ЭW6 ГЕО 364 108 ТУ. | 1 | |

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MBn 2-000
ELECTRIC MOTOR
MBn 2

REMARKS
 SHT 3 PITS 4

| FORMAT | ZONE | REF. NO. | DESIGNATION | DESCRIPTION | QTY | REMARKS |
|--------|------|----------|----------------------|--|-----|---------|
| | | | | <u>ENTERPRISE DOCUMENTS.</u> | | |
| | | | И - 225-68. | Preparation of grease for <i>h...</i> Instruction. | | |
| | | | И - 252-78. | Technical instruction. | | |
| | | | | <u>BRANCH DOCUMENTS.</u> | | |
| | | | OCT 3-1928-73. | Coating of varnish paints. Classification selection and designation. | | |
| | | | OCT 3-4227-79. | Casting with non-ferrous alloys General Technical specifications | | |
| | | | OCT 6-05-66-78. | Cotton cloths and asbestos, impregnated with phenylformaldehyde resins and varnishes. Technical specifications. | | |
| | | | OCT 16 0.505.001-80. | Copper wires of circular cross-section with enamel insulations on the basis of polyethers. Technical specifications. | | |
| | | | ГЕО. 364.108 ТУ. | Plug connectors of cylindrical type, WPF. Particular Technical Specifications. | | |
| | | | ТУ 005 216-75. | Technical rubberised articles, plates and rubber mixes for the special machines and engines to them. | | |

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**ELECTRIC MOTOR
MBn-2
LIST OF ref documents**

| | |
|---------|--------|
| WEIGHT | SCALE |
| SHT 1 | SHTS 9 |
| 1.5/100 | |

| DESIGNATION | DESCRIPTION | TYPE |
|------------------|--|------|
| TY6-10-866-75. | Varnish Bп-725, Bп-725Г, enamel Bп-725, aluminium colour. | |
| TY6-10-1290-78. | Varnish HU-286, black Technical Specifications. | |
| TY6-10-1314-77. | Resine MA-0121. | |
| TY14-4-823-77. | Carbon steel spring wire, Technical Specifications. | |
| TY16-503.124-73. | Compact film-glass-fabric. Technical Specifications. | |
| TY16-505.967-77. | Wire of hyper sensitive bending for automotive electrical equipment. Technical Specifications. | |
| TY38.005.838-70. | Rubberised parts and plates for aviation equipment. Technical Specifications. | |
| TY48-1-210-74. | Soldering wire, grade nCp K0 Mr 3. | |

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 M. VASU

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| CHECKED | | ELECTRIC MOTOR MBп-2 List of ref documents | WEIGHT | SCALE |
| CONTROLLERATE OF INSPECTION (ICV) | | | SHT 2 | SHTS 9 |
| | | | 116/1106 | |

| NO. | QTY | DESIGNATION. | DESCRIPTION. | QTY | REMARKS. |
|-----|-----|---------------|---|-----|----------|
| | | GOST 1412-70. | Grey iron casting. | | |
| | | GOST 1414-75. | Structural steel of improved and highly improved quality for cutting. | | |
| | | GOST 1759-70. | Bolts, screws, studs and nuts. Technical Specifications. | | |
| | | GOST 2060-73. | Brass bars. | | |
| | | GOST 2196-75. | Commutator micanite insulator. Technical Specifications. | | |
| | | GOST 2214-78. | Electro insulating varnish cloth. Technical Specifications. | | |
| | | GOST 2283-79. | Cold rolled band made of spring steel. Technical Specifications. | | |
| | | GOST 2332-75. | Brushes for electrical motors. | | |
| | | GOST 2685-75. | Aluminium and tin alloys. Marks, technical requirements and testing methods. | | |
| | | | | | D. 571 |

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| CONTROLLERATE OF INSPECTION (ICV) | | List of Ref. Documents | QTY 4 QTY 9 |
| | | | 48/146 |

| DESIGNATION | DESCRIPTION | QTY | REMARKS |
|---------------|--|-----|---------|
| GOST 2695-71. | Plywood sheets. | | |
| GOST 2824-75. | Electro insulating board. | | |
| GOST 3325-55. | Ball and tapered roller bearings. Fits | | |
| GOST 3568-70. | Copper profile for the commutators of electric motors. | | |
| GOST 4268-75. | Mica tape. Technical Specifications. | | |
| GOST 4514-78. | Tape for electric industry. Technical Specifications. | | |
| GOST 6244-70. | Electric insulating ^{varnish} impregnating of marks ET-980 , ET-988. | | |
| GOST 6267-74. | Lubricant UMATIM-201. | | |
| GOST 6309-73. | Cotton sewing threads. | | |
| | | | D. 571 |

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 MBn-2
 List of Ref. documents

WEIGHT SCALE
 5 - 9
 49/1116

| DESIGNATION. | DESCRIPTION. | QTY | REMARKS |
|------------------|---|-----|---------|
| GOST 9754-76. | Enamel Mn-12 of different colours. | | |
| GOST 10144-74. | Enamel XB-124 of different colours and XB-125. | | |
| GOST 10156-78. | Varnished glass cloth for insulation. Technical Specifications. | | |
| GOST 10299-68. | Rivet with semicircular head of standard accuracy, dimensions. | | |
| GOST 10699-72. | Electro insulating varnish, tubes made of fibre glass. | | |
| GOST 12232.6-76. | Lug for electric motor brushes. Design and dimensions. | | |
| GOST 12707-77. | Phosphatizing primers. Technical Specifications. | | |
| GOST 13489-79. | Sealant, grade Y-30M and YT-31. Technical Specifications. | | |
| GOST 14034-74. | Central holes, dimensions. | | |
| GOST 15152-69. | Rubberised technical articles for tropical regions. General technical requirements. | | |

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ELECTRIC MOTOR MBn2
List of Ref documents

WEIGHT SCALE

SHT 7 PNTS 9
51/146

| FORMAT | ZONE | REF. NO. | DESIGNATION | DESCRIPTION |
|--------|------|----------|------------------|---|
| | | | GOST 16513-75. | Winding wires with cotton insulations. Technical Specifications. |
| | | | GOST 16523-70. | Carbon steel sheet of high grade and ordinary grade for general use. |
| | | | GOST 17473-72. | Button head screws(Standard accuracy). Design and dimensions. |
| | | | GOST 17475-72. | Button head screws(Standard accuracy). Design and dimensions. |
| | | | GOST 18251-72. | Adhesive band on fabric base. |
| | | | GOST 19904-74. | Cold rolled steel sheet. Size range. |
| | | | GOST 20437-75. | Mould material AF-4. |
| | | | GOST 21427.3-75. | Electro technical hot rolled thin steel sheet. |
| | | | GOST 21474-75. | Straight and cross knurling Shape and basic dimensions. |

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| CHECKED | <i>M. Vasu</i> | ELECTRIC MOTOR MBM-2 List of Ref documents | WEIGHT SCALE |
| CONTROLLERATE OF INSPECTION (ICV) | | | SHT. 8 PPTS 9 |
| | | 52/146 | |

DESIGNATION.

DESCRIPTION.

GOST 21930-76.

Soldering-tin-lead casted
in pigs.

Technical Specifications.

GOST 23436-79.

Cable insulating paper for
insulation of power cables
with voltage upto 35 KV
inclusively.

Technical Specifications.

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(ICV)

ELECTRIC MOTOR MBn-2
List of Ref documents

SHT 9 SHTS 9

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| DESIGNATION | DESCRIPTION | PARENT UNIT | REMARKS |
|---|---------------------------------|---|--------------------|
| DOCUMENTS | | | |
| МВП 000 ТУ | SPECIFICATION | | |
| МВП 000 ПС | CERTIFICATE | | |
| МВП 2. 02 ГЧ | ELECTRIC MOTOR | | |
| | OUT LINE DRAWING | | |
| МВП 2. 00. 01 ЭЗ | ELECTRIC MOTOR МВП 2 | | |
| | SCHEMATIC DIAGRAM | | |
| МВП 2. 000 ВС | PARTS LIST | | |
| МВП 2. 000 ВД | LIST OF REF DOCUMENTS | | |
| ASSY. DRAWINGS | | | |
| МВП 2 - 000 | ELECTRIC MOTOR МВП 2 | 675-38-СБЗ | |
| МВП 1 - 14 - 00 | LEAD | МВП 2 - 000 | |
| МВП 2 - 010 | COMMUTATOR | МВП 2. 16. 00 | |
| МВП 2. 020 | SHUNT COILS | МВП 2. 030 | |
| МВП 2. 030 | SHUNT & SERIES COILS | МВП 2. 04. 00 | |
| МВП 2. 02. 00 | BODY | МВП 2. 03. 00 | |
| МВП 2. 03. 00 | BODY WITH ANGLE PIECE | МВП 2. 04. 00 | |
| МВП 2. 04. 00 | BODY | МВП 2. 000 | |
| МВП 2. 05. 00 | BRUSH ARM | МВП 2. 000 | |
| МВП 2. 10. 00 | SHAFT WITH IRON ARMATURE | МВП 2. 16. 00 | |
| МВП 2 11. 00 | COVER FROM THE SIDE OF DRIVE | МВП 2. 000 | |
| МВП 2. 14. 00 | BRUSH HOLDER | МВП 2. 05. 00 | |
| МВП 2. 15. 00 | SEALING RING | МВП 2. 1. 00 | |
| | | | |
| APPROVED | <i>[Signature]</i> | МВП 2. 000 СП ELECTRIC MOTOR МВП 2 | |
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| CONTROLLERATE OF QUALITY ASSURANCE (ICV) | | SHY 1 SHY 7 1 OF 146 | <i>[Signature]</i> |

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| DESIGNATION | DESCRIPTION | PARENT UNIT | REMARKS |
|-------------|--------------------|-------------|---------|
| MBП2.06.00 | ARMATURE | MBП2.000 | |
| MB60.05.00 | BRUSH TYPE K1-7 | MBП2.000 | |
| Ba6.170.002 | COVER FROM THE | MBП2.000 | |
| | SIDE OF COMMUTATOR | | |
| | | | |
| | | | |
| | PARTS | | |
| MBП2.002 | COVER FROM THE | Ba6.170.002 | |
| | SIDE OF COMMUTATOR | | |
| MBП2.00.02 | STAND | MBП2.000 | |
| MBП2.003 | GASKET | MBП2.16.00 | |
| MBП1.00.04 | RING | MBП2.000 | |
| MBП2.005 | BOLT | MBП2.000 | |
| MBП2.00.05 | WASHER | MBП2.000 | |
| MBП2.00.06 | UNION | MBП2.000 | |
| MBП2.008 | GASKET | MBП2.04.00 | |
| MBП1.00.09 | GASKET | MBП2.000 | |
| MB55.01.02 | INSULATION OF SLOT | MBП2.16.00 | |
| MBП2.01.03 | WASHER | Ba6.170.002 | |
| MB55.01.03 | WEDGE OF SLOT | MBП2.16.00 | |
| MBП4.120 | GASKET | MBП2.000 | |
| MB63-124 | RING | MBП2.000 | |
| 1-ЦГБ-132 | LUG | MBП2.030 | |
| MBП2.02.02 | LUG | MBП2.02.00 | |
| X-2614 | KEY | MBП2.000 | |
| MBП2.03.03 | ANGLE PIECE | MBП2.03.00 | |
| MH1-03-03 | SPRING | MBП2.05.00 | |

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CONTROLLERATE OF
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(ICV)

ELECTRIC MOTOR
MBП2

SHEET 2 SHEETS 7
2 OF 146

| DESIGNATION | DESCRIPTION | PARENT UNIT | REMARKS |
|--------------|---------------------------|----------------|---|
| MBП2.04.01 | POLE | MBП2.04.00 | |
| MBП1.04.03 | WASHER | MBП2.11.00 | |
| MBП1.04.05 | SPIRAL RING SHAPED | MBП2.11.00 | |
| | SPRING FOR RUBBER | | |
| | SEALING RING | | |
| MBП2.05.01 | BRUSH ARM | MBП2.05.00 | |
| 8x-525 | RIVET | MBП2.05.00 | |
| MB 60.07.04 | IRON SHEET OF ARMATURE | MBП2.10.00 | |
| MB 60.07.05 | EXTREEM INSULATING SHEET | MBП2.10.00 | |
| MB 60.07.06 | WASHER | MBП2.10.00 | |
| MB 60.07.07 | WASHER OF ARMATURE | MBП2.10.00 | |
| MB 60.08.01 | PLATE COMMUTATOR | MBП2.010. | |
| MB 60.08.02 | INSULATION PLATE | MBП2.010 | |
| MEП2.09.01 | INSULATION OF FRONT PARTS | MBП2.16.00 | |
| MBП2.10.02 | SHAFT | MBП2.10.00 | |
| MBП2.11.01 ✓ | COVER FROM THE SIDE | MBП2.11.00 | |
| | OF DRIVE | | |
| MBП2.14.01 | AXLE | MBП2.14.00 | |
| MBП2.15.01 | REIN FORCING RING | MBП2.15.00 | |
| MBП2.16.01 | WASHER | MBП2.16.00 | |
| MB177.31 | WASHER OF THE BEARING | MBП2.11.00 | |
| Ba 8.040.000 | COVER | MBП2.000 | <div style="border: 1px solid black; padding: 5px; text-align: center;"> VETTED 29 NOV 2007 <i>[Signature]</i> TEST'D-CELL </div> |
| ГA-10-326 | WASHER | MBП2.16.00 | |
| 7x-4081 | SCREW M4 7g 6g X8. | MBП2.11.00 | |
| | 36. GOST 17475-72 | Ba 6.170.002 - | |
| 8x-1497 | WASHER | MBП2.000 | |

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(ICV)**

ELECTRIC MOTOR
MBП2

SHT 3 SHES 7

3 OF 146

| DESIGNATION | DESCRIPTION | PARENT UNIT | REMARKS |
|-------------|--|-------------|---------|
| 8x-1541 | SCREW M4-7g6g X8.36 GOST 17473-72 | MBП2.000 | |
| 8x-1548 | SCREW M4-7g6g X10.36 D16, GOST 17473-72 | MBП2.000 | |
| X-1012 | WASHER 4.65Г * GOST 6402-70 | MBП2.000 | |
| X-4001 | WASHER 5.65Г * GOST 6402-70 | MBП2.000 | |
| X-4069 | WASHER 8.65Г * GOST 6402-70 | MBП2.000 | |
| X1-10097 u | BOLT | MBП2.000 | |
| X1-10556 | SCREW M4-7g6g X12.36, GOST 17475-72 | MBП2.000 | |
| X1-10750 | SCREW M6 X22.36 * GOST 17475-72 | MBП2.000 | |
| X1-10965 | SCREW | MBП2.04.00 | |
| X2-10630 | NUT | MBП2.000 | |
| X3-10588 | WASHER | MBП2.05.00 | |
| X6-10890 | RIVET 3X12.01 GOST 10299-68 | MBП2-03-00 | |
| X7-10661 | LUG | MBП1-14-00 | |
| X9-10-81 | SPLIT PIN 1.6X12. D16 GOST 397-79 | MBП2.05.00 | |
| X9-10945 | TRANSPORTING CAP D16S | MBП2.000 | |

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ELECTRIC MOTOR
 MBП2

SHT 4 SHTS 7
 4 OF 146

| DESIGNATION | DESCRIPTION | PARENT UNIT | REMARKS |
|-------------|---|------------------------------------|--|
| | <u>STANDARD ITEMS</u> | | |
| - | PLUG WPT 20 P2 JW6 ГЕО 364 108 TY | МВП2-000 | |
| - | GLASS VARNISHED CLOTH ЛСКЛ-155-0.15 X15, GOST 10156-78 | МВП2-000 | |
| - | WIRE ПБЭ 2.12 GOST 16513-79 | МВП1-14-00 | |
| - | TUBE I ТЭС-3 GOST 10699-72 | МВП1-14-00 МВП2.030 МВП2.020 | |
| - | THREAD, IN 12 FOLDS, OF HIGH STRENGTH, GLOSSY GOST 6309-73 | МВП1-14-00 | |
| - | PRESS MATERIAL, АГ-4С, GOST 20437-75 | МВП2-010 | |
| - | WIRE ПЭТВ-2, 0.5 OST 16.0.505.001-80 | МВП2-020 | |
| - | WIRE ПО Г00 1.5 TY 16-505.967-77 | МВП2.020 | |
| - | VARNISHED CLOTH ПХМ-105 0.17, WIDTH 15±1, GOST 2214-78 | МВП2.020 | <div style="border: 2px solid black; padding: 5px;"> <p>VETTED</p> <p>29 NOV 2007</p> <p><i>[Signature]</i></p> <p>INVESTIG-CELL</p> </div> |
| - | VARNISHED CLOTH ПХМ-105 0.17, WIDTH 25±1, GOST 2214-78 | МВП2.020 | |

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(ICV)

ELECTRIC MOTOR
МВП2

SHT 5 SHTS 7
5 OF 146

| DESIGNATION | DESCRIPTION | PARENT UNIT | REMARKS |
|-------------|--|------------------------|--|
| - | WIRE ПЛ 0.75 GOST 9125-74 | МБП2.020 | |
| - | TAPE A-20 GOST 18251-72 | МБП2.020 МБП2.16.00 | |
| - | PAPER K-120, WDT H 20 GOST 23436-79 | МБП2.020 | |
| - | WIRE ПБФ-2.12 GOST 16513-79 | МБП2.030 | |
| - | TAPE M-20-48, grade 1 GOST 4514-78 | МБП2.030 МБП2.16.00 | |
| - | THREADS, GLARING WHITE OR BLACK "SPECIALLY STRENGTHENED" FOLD IN 12 GOST 6309-73 | МБП2.030 | |
| - | STEEL 10 GOST 1050-74 | МБП2.030 | |
| - | RIVET 3x12.01.016 GOST 10299-68 | МБП2.03.00 | |
| - | COTTER PIN 1.6x 12.016 GOST 397-79 | МБП2.05.00 | |
| - | BEARING 80204 GOST 7242-70 | МБП2.11.00 | <div style="border: 2px solid black; padding: 5px; text-align: center;"> VETTED 29 NOV 2007 <i>For</i> JWM/STD-CELL </div> |
| JIC'S | ALUMINIUM ALLOY AЛ2, GOST 2685-75 | МБП2.14.00 | |

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**ELECTRIC MOTOR
МБП2**

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| SHT 6 | SHTS 7 |
| 6 OF 146 | |

| DESIGNATION | DESCRIPTION | PARENT UNIT | REMARKS |
|-------------|--|--------------|---------|
| - | RUBBER 3825 TY 005.210-75 | MBП2 - 15.00 | |
| - | WIRE ПСР 1.81MM GOST 7019-71 | MBП2 - 16.00 | |
| - | THREAD IN 12 FOLDS "SPECIALLY HARDEN"00 GLAZY WHITE, GOST 6309-73 | MBП2 - 16.00 | |
| - | CORD-INSULATING TUBE, TY 17 PCΦCP 44-5873-77 | MBП2 - 16.00 | |
| - | VARNISHED GLASS CLOTH ЛСБ-120/130 0.15 GOST 10156-78 | MBП2 - 16.00 | |
| - | BRUSH МГС 5 GOST 2332-75 | MB60.05.00 | |
| - | LUG 4Φ Г2-1.5 GOST 12232.6-76 | MB60.05.00 | |
| - | WIRE ЛШ-1.5 GOST 9125-74 | MB60.05.00 | |
| - | TUBE ТКС-3 GOST 10699-72 | MB60.05.00 | |
| - | BEARING 80203 GOST 7242-70 | BA6.170.002 | |

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(ICV)

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ELECTRIC MOTOR
MBП2

SHT 7 SHTS 7

7 OF 1416

| QTY | DESIGNATION | DESCRIPTION | QTY | REMARKS |
|-----|----------------|---------------------------|-----|----------|
| | | <u>TECHNICAL PAPERS.</u> | | |
| 12. | MBn 2-03-00CB. | Assembly drawing. | | |
| | | <u>ASSEMBLY UNITS.</u> | | |
| 11. | 1 MBn 2-02-00. | Body. | 1 | |
| | | <u>PARTS.</u> | | |
| 12. | 2 MBn 2-03-01. | Angle piece. | 2 | |
| | | <u>STANDARD ARTICLES.</u> | | |
| | | Rivet 3 x 12.01.016 | | |
| | 3. | GOST 10299-68. | 4 | X6=10890 |

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| CONTROLLEKATE OF INSPECTION (17) | MBn 2-03-00 BODY WITH ANGLE PIECES | <table border="1"> <tr> <td>WEIGHT</td> <td>SCALE</td> </tr> <tr> <td>SHT 1</td> <td>SHTS 1</td> </tr> <tr> <td colspan="2" style="font-size: 1.5em;">70 / 146</td> </tr> </table> | WEIGHT | SCALE | SHT 1 | SHTS 1 | 70 / 146 | |
| WEIGHT | SCALE | | | | | | | |
| SHT 1 | SHTS 1 | | | | | | | |
| 70 / 146 | | | | | | | | |

| DESIGNATION. | | DESCRIPTION. | QTY | REMARKS |
|--------------|-----------------|--------------------------|-----|---------|
| | | <u>TECHNICAL PAPERS.</u> | | |
| 13. | MBn 2-04-00CB. | Assembly drawing. | | |
| | | <u>ASSEMBLY UNITS.</u> | | |
| 11. | 1. MBn 2.030. | Shunt and series coils. | 1 | |
| 11. | 2. MBn 2-03-00. | Body with angle pieces. | 1 | |
| | | <u>PARTS.</u> | | |
| 11. | 3. MBn 2.008. | Gasket. | 2 | |
| 12. | 4. MBn 2-04-01. | Pole. | 4. | |
| 11. | 5. X1-10965. | Screw. | 8 | |

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| APPROVED | M. YAO | MBN 2-04-00 | |
| CHECKED | <i>M. Yao</i> | BODY | WEIGHT SCALE |
| CONTROLLED DATE OF INSPECTION (ICV) | | | SHT 1 SNTS 1 |
| | | | 72/146 |

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| NO. | QTY | DESIGNATION | DESCRIPTION | QTY | REMARKS |
|-----|-----|-----------------|---|-----|--------------------|
| | | | <u>TECHNICAL PAPERS.</u> | | |
| 13. | | MBn2.010 CB. | Assembly drawings. | | |
| | | | <u>PARTS.</u> | | |
| 11. | 1. | MB 60-08-01. | Commutator plate. | 27 | |
| 11. | 2. | MB 60-08-02. | Insulation plate. | 27 | Selection see item |
| 11. | 3. | MB 60-08-02-01. | Insulation plate. | 27 | -Do- |
| 11. | 4. | MB 60-08-02-02. | Insulation plate. | 27 | -Do- |
| | | | <u>MATERIALS.</u> | | |
| | 5. | | Press-material, AF-4C GOST 20437-75. | 80 | |

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| | | | |
|---|----------------|---|-------------|
| APPROVED | M. VASU | MBn 2-010 COMMUTATOR | |
| CHECKED | <i>M. Vasu</i> | | |
| CONTROLLERATE OF INSPECTION (CV) <i>A (B)</i> <i>(B)</i> | | | 1 60/116 |

| DESIGNATION. | | DESCRIPTION. | QTY | REMARKS |
|--------------|---|--|-----|---------|
| | | <u>TECHNICAL PAPERS.</u> | | |
| 11. | MBn 2-11-00CB. | Assembly drawing. | | |
| | | <u>ASSEMBLY UNITS.</u> | | |
| 22 | 1. MBn 2-15-00. | Sealing ring | 1 | |
| | | <u>PARTS.</u> | | |
| 24. | 2. MBn 2-11-01. ✓ | Cover from the side of drive. | 1 | |
| 11 | 3. MB-177-31. | Washer of the bearing. | 1 | |
| 11. | 4. MBn 1-04-03. | Washer. | 1 | |
| 12. | 5. MBn 1-04-05. | spiral spring shaped Spring for Rubber sealing Ring. | 1 | |
| | | <u>STANDARD ARTICLES.</u> | | |
| 6. | <div style="border: 1px solid black; padding: 5px; width: fit-content;"> <p>VETTED</p> <p>29 NOV 2007</p> <p>JWM/STD CELL</p> </div> | Screw M4-6g x 8.36.016 GOST 17475-72. | 4 | 7X-4081 |
| 7. | | Bearing 80204 GOST 7242-70. | 1 | |
| | | | | D. 571 |

| | | | |
|---|--------------------|-------------------------------------|--------------|
| APPROVED | M. V. S. U. | MBn 2-11-00 | |
| CHECKED | <i>M. V. S. U.</i> | COVER FROM THE SIDE OF DRIVE | WEIGHT SCALE |
| CONTROLLERATE OF INSPECTION (ICV) (25) | | | SIT 1 SITS 1 |
| | | | 78 |

| NO. | DESIGNATION | DESCRIPTION | QTY | REMARKS |
|-----|----------------|--------------------------------------|-----|---------|
| | | <u>TECHNICAL PAPERS.</u> | | |
| 12. | MBn 2-14-00CB. | Assembly drawing. | | |
| | | <u>PARTS.</u> | | |
| 11. | 1 MBn 2-14-01. | Axle. | 1 | |
| | | <u>MATERIALS.</u> | | |
| | 2. | Aluminium alloy AN2 GOST 2685-75. | 7.5 | 2 |

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| | | |
|---|-------------|--|
| APPROVED CHECKED | MBn 2-14-00 | BRUSH HOLDER |
| CONTROLLERATE OF INSPECTION (27) | | WEIGHT SCALE SHI 1 SMTS 1 80/146 |

| QTY | REMARKS | DESCRIPTION | DESIGNATION |
|-----|---------|-------------------------------|----------------|
| | | <u>TECHNICAL PAPERS</u> | |
| 22. | | Assembly drawing. | MBn 2-15-00CB. |
| | | <u>PARTS</u> | |
| 11. | 1 | Reinforcing ring. | MBn 2-15-01. |
| | | <u>MATERIAL</u> | |
| 2. | | Rubber 3825 TY 005.216-75. | |
| | 7 | | |

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| | | | | | | | | |
|--|-------------------------|--|---------------|--------------|-------|--------|--------|--|
| APPROVED | | MBn 2-15-00 | | | | | | |
| CHECKED | <i>NSC/John</i> | | | | | | | |
| CONTROLLERATE OF INSPECTION (29) | SEALING RING | <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 50%;">WEIGHT</td> <td style="width: 50%;">SCALE</td> </tr> <tr> <td>SHT 1</td> <td>SHTS 1</td> </tr> <tr> <td colspan="2" style="text-align: center;">82/146</td> </tr> </table> | WEIGHT | SCALE | SHT 1 | SHTS 1 | 82/146 | |
| | WEIGHT | SCALE | | | | | | |
| SHT 1 | SHTS 1 | | | | | | | |
| 82/146 | | | | | | | | |

| QTY | REMARKS | DESCRIPTION | DESIGNATION |
|-------------------------|---------|---------------------------------------|-----------------|
| <u>TECHNICAL PAPERS</u> | | | |
| 22. | | Assembly drawing. | MBn 2-16-00 CB. |
| <u>ASSEMBLY UNITS</u> | | | |
| 11. | 1. | Commutator. | MBn 2.010. |
| 11. | 2. | Shaft with armature iron. | MBn 2-10-00. |
| <u>PARTS</u> | | | |
| 11. | 3. | Gasket. | MBn 2.003. |
| 11. | 4. | Insulation on front parts | MBn 2-09-01. |
| 11. | 5. | Washer. | MBn 2-16-01. |
| 11. | 6. | Washer. | GA-10-326. |
| 11. | 7. | Insulation of slot. | MB 55-01-02. |
| 11. | 8. | Wedge of slot | MB 55-01-03. |
| <u>MATERIAL</u> | | | |
| 9. | | Wire nCB 1,81MM GOST 7019-71. | 29 M |
| 10. | | Tape A-20 GOST 18251-72. | 200 MM |
| 11. | | Tape M-20-48, type 1 GOST 4514-78. | 300 MM |

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| | | | |
|--|-----------------|-------------------|--------------|
| APPROVAL | M. YASU | MBn2-16-00 | |
| FIELD | <i>Militsky</i> | ARMATURE | WEIGHT SCALE |
| CONTROLLERATE OF INSPECTION (ICV) | | SHT 1 SHTS 2 | 84/146 |
| | (31) | | |

| DESIGNATION | DESCRIPTION | QTY | REMARKS |
|-------------|---|-----|---------|
| 12. | Thread in 12 folds "Specially harden" 00 glazy white, GOST 6309 F73 | 750 | MM |
| 13. | Cord -insulating tube TY 17 PCPCP 44-5873-77 | 200 | MM |
| 14. | Varnished glass cloth ACB-120/130 0.15 GOST 10156-78 | 1 | M |

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| | | | | | |
|---|--------------------|--------|--------|--|--|
| APPROVED | MBN 2-16-00 | | | | |
| INSPECTED | ARMATURE | WEIGHT | SCALE | | |
| CONTROLLERATE OF INSPECTION. (ICV) | | SHT 2 | SHTS 2 | | |
| | | 85/146 | | | |

| QTY | REMARKS | DESCRIPTION | DESIGNATION |
|-----|---------|--|--------------|
| | | <u>TECHNICAL PAPERS</u> | |
| 1 | | Assembly drawing | MBn 2020 CB. |
| | | <u>MATERIALS</u> | |
| 1 | | Wire n3TB- 2 0.5 OCT 16.0.505.001-80. | |
| | | | 510 |
| 2 | | Wire n0 T00 1.5 TY 16-505.967-77. | |
| | | | 950MM |
| 3 | | Varnished cloth nxM-105 0.17, GOST2214-78. Width 15±1. | |
| | | | 4.8M |
| 4 | | Varnished cloth nxM-105 0.17 GOST2214-78 Width 25±1. | |
| | | | 0.2M |

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|---|------------------------|--------------------|-----------------------------|
| CHECKED | M. VASU | MBn2-020 | WEIGHT SCALE |
| CONTROLLERATE OF INSPECTION (ICV) | <i>M. Vasu</i> (11) | SHUNT COILS | SHT 1 SHTS 2 62/11/16 |

| NO. | DESIGNATION. | DESCRIPTION. | QTY | REMARKS |
|---|--------------|--|--------|---------|
| 5. | | Varnish cloth nxM-105 0.17, GOST 2214-78 Width 15±1. | 0.1M | |
| 6. | | Wire nW, 0.75 GOST 9125-74. | 0.33M | |
| 7. | | Tape A 20 GOST 18251-72. | 1.6M | |
| 8. | | Tube T3C 3 GOST 10699-72. | 0.29M | |
| 9. | | Paper K-120 GOST 23436-79 Width 20. | 0.04M. | |
| <div data-bbox="941 1424 1263 1637" data-label="Text"> <p style="border: 1px solid black; padding: 5px; display: inline-block;"> VETTED 29 NOV 2007 JWM/STD-CELL </p> </div> | | | | |
| | | | | D. 571 |

| | | | | | | | | | |
|-----------------------------------|--------|--------------------|--|--------|-------|-------|--------|---------|--|
| REMOVED | M VASU | MBN2-020 | | | | | | | |
| CHECKED | | SHUNT COILS | <table border="1" style="width: 100%;"> <tr> <td>WEIGHT</td> <td>SCALE</td> </tr> <tr> <td>SHT 2</td> <td>ENTS 2</td> </tr> <tr> <td colspan="2" style="text-align: center;">63.1146</td> </tr> </table> | WEIGHT | SCALE | SHT 2 | ENTS 2 | 63.1146 | |
| WEIGHT | SCALE | | | | | | | | |
| SHT 2 | ENTS 2 | | | | | | | | |
| 63.1146 | | | | | | | | | |
| CONTROLLERATE OF INSPECTION (ICV) | | | | | | | | | |

5 INFORMATION ABOUT PRESERVATION

ELECTROMOTOR IS Preserved with oil K - 17 COST 10877-7
FOR INTERPLANT SHIFTING WITH OIL K - 17 for Storage at
store houses; in sealed cover for along times storage at
store houses cover for along times storage at store houses
(cross-out which are not necessary)

Preservation period 0.5 ; 5 ; 8 Years
(Crosscut which are not necessary)

Preservation date _____
TIB (dept) _____

Remarks: In future working corrections in the
certificates issued by typographic process, should
be agreed by customer's Representative.

- xx -

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1. BASIC TECHNICAL DATA AND CHARACTERISTICS

- 1 Rated voltage - 27 V D.C
- 2. Nominal power - 300 Watts
- 3. Rotational speed - 3400 ^f /min
- 4. Armature rated current - 23,5A
- 5. Design - Waterproof
- 6. Working conditions - Continuous while immersion of drive in water till face of Body.
- 7. Circuit diagram - Double wire
- 8. Mass - 9.4 kg
- 9. Silver content - 0.08424 gram

2. DELIVERY SET

- 2.1 Electric motor - 1 piece
- 2.2 Certificate - 1 piece

3 ACCEPTANCE CERTIFICATE

Electric motor conforms to specifications MB.0007 and acknowledged fit for use

TIB (dept) _____
Customer's Representative _____

4. GUARANTEE OBLIGATIONS

Guarantee period of electromotor is 500 motor hours of operation of main engine. In 6000 or 10000 hrs of use in conformity with guarantee life on section.

Storage life of electromotors preserved as per section 74, at user of storehouses should not exceed 3 years while packaging to sealed covers as per OCY 2-2007 more than 6 years

Remarks: Electromotor is not sealed



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NUMBER 810 000 DC

SHEET. 1 OF 3

SUPERSEDES.

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ALBUM No-26

TECHNICAL DOCUMENTS FOR

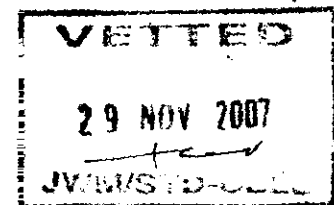
ARTICLE 84/08487A-03-06-0007

PASS PORT MBП-2

ELECTRIC MOTOR MBП-2

CERTIFICATE

MBП-000PC



CONTROLLERATE OF INSPECTION
(INFANTRY COMBAT VEHICLES)
SECUNDERABAD

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Appendix

LIST OF
DOCUMENTS TO WHICH REFERENCE IS MADE IN
TECHNICAL SPECIFICATIONS:

| Nomenclature of document | Designation of document | Number of pages of technical specifications at which documents reference is given: |
|--|-------------------------|--|
| 1. Procedure of approving using of commercial article | GOST 2.117-71 | 26 |
| 2. Electric/driven machines common testing methos. | GOST 11828-75 | 13 |
| 3. Reagents sodium chloride technical specifications | GOST 4233-77 | 20 |
| 4. Assembly units and parts of tracked vehicles. Methods and means of preservation | OCT B3-2381-74 | 5.26.27 |
| 6. Electrical equipment of special ransport vehicles | OCT B3-1164-72 | 2.45.5a,26 |

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Project
Hyderabad.

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ELECTRIC MOTORS MB/7
TECHNICAL SPECIFICATIONS
MB/7 .000 Ty

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- h) Rated torque - 0.085 kgf.M.
- i) Direction of rotation of shaft - Clock wise
- j) Weight, max. . 9.4 kg.

1.1.2 Over all dimensions of electric motor are as per drawing MB7 - 0274

1.2 CHARACTERISTICS:

1.2.1 Overall dimensions, mounting dimensions and appearance of electric motor should correspond to drawing MB7 - 0274 and set of papers in accordance with the specifications MB7 2-000.

1.2.2 Electric motor should with stand test at a rotational speed of 6000 RPM for 2 minutes without damages and residual deformation.

1.2.3 Electric motor should:

- a) Consume current not exceeding 10A and generate rotational speed not exceeding 5000RPM at a voltage of during 27V, ideal run;
- b) Have clock wise rotation of shaft;
- c) Consume current not exceeding 23.5 A at rated voltage and rated power and has rotational speed of atleast 3400RPM.
- d) Have commutator over heating of not more than 130°C at rated voltage and rated power when the driving part of electric motor is dipped in water to the face of body same commutator over heating temperature is allowed after one ^{hour} of idle run of electric motor without dipping into water.

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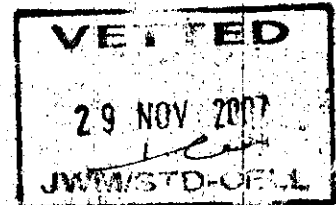
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1.2.12 Electric motor should withstand 100 hours of running during bench test in order to ensure the service life of 1000 operating hours.

1.3 Completeness of set.

1.3.1 Set includes
a) Electric motor
b) Certificate.



1.4 MARKING:

1.4.1 Marking of electric motor should be carried out in compliance with the set of papers as per specification MB7 2.000.

1.5 PACKING:

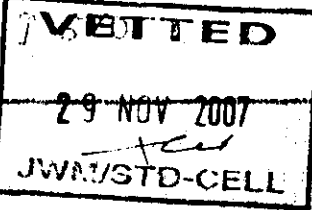
1.5.1 Packing and preservation of electric motor are carried out in compliance with the requirements of OST B3-1164-72 and with effective packing drawing.

Preservation of articles supplied as spare parts, is carried out considering the requirements of OST B3-2381-74.

2. ACCEPTANCE RULES:

2.1 Present technical specifications OST BB-1164-72 and sets of papers in compliance with specifications MB7 2.000 are the basic documents for manufacturing testing and acceptance of electric motor.

Each motor should undergo technological rev-up at idle run for a period of 30 minutes.



2.2 All the trade articles should be checked by incoming TID before installing in electric motor. Scope and method of incoming control are set by agreement with customer's representative.

2.3 Testing of electric motor is sub divided into approval, periodical and type tests.

2.4 Each motor is subjected to approval test in scope and procedure as per table 1.

Electric motors are ^{subjected} subjected for acceptance by batches containing 30 to 60 pieces.

2.5 Conduct the periodical test twice in a year on two samples in scope and procedure given in table 1.

2.6 Type tests are conducted when it is necessary to check electric motor for compliance with the requirements of present technical specifications, in case of basic changes in diagram, design or manufacturing technology of motor, affecting operating properties; when the service life of electric motor is to be checked and measures approved for eliminating the defects are to be taken; and also for initial batches of full-scale production.

Necessity to conduct type tests including service life test is determined and approved by manufacturer and customer's representative in scope sufficient for checking the effectiveness of taken measures or service life according to the test programme, guided by the types of tests given in table 1.

Table:1

| Types of tests and checks | Item number | | Category test | | |
|---|------------------|-----------|-----------------------|-------------------------|--------------|
| | Require ments | Procedure | Appro -val test | Perio -dical test | Type test |
| 1. Checking for completeness of set and conformity with drawing | 1.2.1 | 3.2 | + | + | + |
| 2. Test at higher rotational speed | 1.2.2 | 3.3 | + | + | + |
| 3. Checking of functional parameters | | | | | |
| a) Checking of no-load current | 1.2.3a | 3.4a | + | + | + |
| b) Checking of correctness of direction of rotation of shaft | 1.2.3a | 3.4a | + | + | + |
| c) Checking of rated parameters | 1.2.3 | 3.4 | + | + | + |
| d) Checkings of over heating of commutator | 1.2.3 | 3.4 | - | + | + |
| 4. Insulation resistance test: | | | | | |
| q) under normal climatic conditons | 1.2.4 | 3.5 | + | + | + |
| b) Under increased temperature conditions | 1.2.4 | 3.5 | - | + | + |
| c) Under increased humidity conditions | 1.2.4 | 3.5 | - | + | + |

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| 1 | 2 | 3 | 4 | 5 | 6 |
|--|--------|------|---|---|---|
| 5. Testing for dielectric strength | 1.2.5 | 3.6 | + | + | + |
| 6. Testing for water resistance | 1.2.10 | 3.7 | + | + | + |
| 7. Testing for interchangeability | 1.2.6 | 3.8 | + | + | + |
| 8. Testing for absence of design members and assembly units with resonance frequency in electric motor | 1.2.7 | 3.9 | - | - | + |
| 9. Testing for effect of increased relative humidity | 1.2.9 | 3.10 | - | + | + |
| 10. Testing for effect of increased ambient air temperature | 1.2.9 | 3.12 | - | + | + |
| 11. Testing for effect of lower ambient air temperature | 1.2.9 | 3.11 | - | + | + |
| 12. Testing for resistance effect of frost and dew | 1.2.9 | 3.13 | - | - | + |
| 13. Testing for effect of sea (salty) fog | 1.2.9 | 3.14 | - | + | + |
| 14. Testing for effect of cyclic changes of temperature | 1.2.9 | 3.15 | - | + | + |

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| 1 | 2 | 3 | 4 | 5 | 6 |
|--|--------|------|---|---|---|
| 15. Vibrant strength test | 1.2.9 | 3.16 | - | + | + |
| 16. Impact strength test | 1.2.9 | 3.17 | - | + | + |
| 17. Testing for effect of max (x) x x atmospheric pressure reduced: | | | | | |
| a) down to 460mm Hg | 1.2.9 | 3.18 | - | - | + |
| b) down to 170 mm Hg | 1.2.9 | 3.18 | - | - | + |
| 18. Testing for guarantee life | 1.2.11 | 3.19 | - | + | + |
| 19. Service life test | 1.2.12 | 3.20 | - | - | + |
| 20. Testing for effect of single impacts | 1.2.9 | 3.21 | - | - | + |
| 21. Testing for effect of fumes of antifreeze and fules and oils | 1.2.9 | 3.22 | - | - | + |
| 22. Testing for effect of γ and β back ground | 1.2.9 | 3.23 | - | - | + |
| 2.3 Testing for radio interference level: | 1.2.8 | 3.24 | - | - | + |

Designations \checkmark + tests conducted
 \checkmark - tests not conducted.

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- REMARKS:
1. Testing for di-electric insulation strength is to be carried out after testing insulation resistance.
 2. Sequence for conducting the vibration strength test and impact strength test is determined by procedure of testing.
 3. Checking for water resistance is carried out during periodical and type tests after guaranteed life test.

3. TEST METHODS:

- 3.1 All tests are conducted at normal climatic conditions except those where the climatic conditions are specially mentioned.

Characteristics of normal climatic conditions:

- a) Temperature of ambient air - $+25$ to $\pm 10^{\circ}\text{C}$
- b) Relative humidity of air - 45 to 80% *mm.*
- c) Atmospheric pressure - 630 to 800 *mm.*

NOTE: Relative humidity should not exceed 70% at a temperature of more than 30°C .

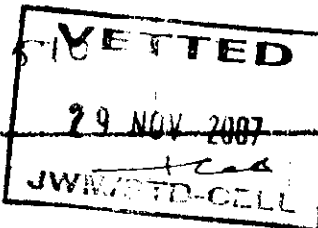
Instrumentation should have accuracy class not below 1.

- 3.2 Check visually the completeness ^{of} set of electric motor, conformity with the requirements of drawings, quality of assembly external finish and absence of loose fasteners and check the mounting and overall dimensions with the help of instrumentation.

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Technological running is carried out at 27V under no load.

- 3.3 Test the motor at higher rotational speed under no load by changing the supply voltage.

Measure the rotational speed by stroboscope. Read the time from the moment when the present rotational speed is attained.

Electric motor is considered to have passed the test if it meets the requirements of item 1.2.2 of present technical specifications.

- 3.4 Carry out checking of functional parameters of electric motor in the following manner:

- a) Check the no-load current of motor after it runs for 5 to 6 sec under no load at 27Vots.

Electric motor is considered to have passed the test if it meets the requirements of item 1.2.3 a of present technical specifications.

- b) Check the proper direction of rotation of shaft simultaneously with the no-load current check.

Electric motor is considered to have passed the test, ~~is~~ if satisfied the requirements of item 1.2.3 d of present technical specifications.

- c) Check the rated parameters of electric motor on ~~break~~ test set (*under load) ensuring a torque of 0.085kgf.m. at a rotational speed of 3400 RPM after 30 minutes of operation at no-load.

Apply a breaking torque of 0.085 kgf.m (torque 0.085 kgf.m corresponds to rated power 300W) to the -

to the motor and after 1 minute of operation of electric motor at rated voltage and torque 0.035 kgf.m. measure consumed current and rotational speed.

Electric motor is considered to have passed the test if it meets the requirements of item 1.2.3d of present technical specifications.

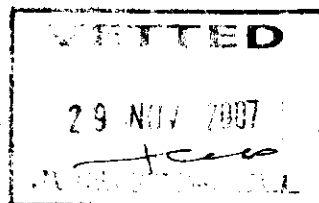
d) Measure the overheating of commutator with thermocouple by extrapolation of cooling curve to the time of disengagement in correspondance with GOST 11828-75, After running the electric motor for 1.5 hrs under rated voltage and with rated power while the driving part of motor to the face of body of electric motor is dipped in water having a temperature not exceeding 25°C or after running the motor for 1 hr at no-load under rated voltage.

To take measurement, thermocouple is brought to the commutator through a hole in the body of electric motor used for the plug connector.

Electric motor is considered to have passed the test if it is satisfied the requirements of item 1.2.3d of present technical specifications.

NOTE: Check parameters as per item 3.4d after all the tests.

3.5 Insulation resistance test is carried out by 500V- DC megohmmeter. Measure the insulation resistance between the body of electric motor and any contact of the plug connector,



Electric motor is considered to have passed the test if the measured insulation resistance value corresponds to the requirements of item 1.2.4 of present technical specifications (for respective test conditions).

3.6 Check the dielectric insulation strength at high-voltage test set having power of atleast 0.5KVA by feeding a full testing voltage for 1 minute.

Testing voltage is applied between the body and any contact of the plug connector.

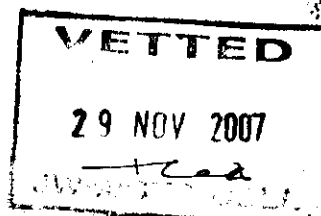
Electric motor is considered to have passed the test, if during the check breakdown or surface flash-over did not occur.

NOTE:1. It is allowed to reduce the time keeping insulation under a voltage to 1 sec by simultaneously increasing the test voltage upto 625 V (effective value)

2. In case of subsequent checks of electric motor before installation in vehicle testing voltage is fixed by 80% from rated value preset by the requirements of present technical specifications.

3.7 Water resistance test:

a) Dip the motor at switched-off and cold conditions in a tank filled with water having ambient air temperature for 1.5 minutes when acceptance test is conducted. Before immersing, dry air is forced through union into the motor for five minutes to obtain gauge pressure of 0.25 ± 0.05 atm.



meets the requirements set forth in items of acceptance test of present technical specifications after their substitution.

NOTE: Check as per item 3.8 is carried out before setting parts of electric motor on sealent.

3.9 Testing for the absence of resonance of members is carried out during type test after visual inspection. Electric motor in switched-off conditions is fixed to the plat-form of vibration stand.

Test the motor in two mutually perpendicular positions in one of which the shaft of electric motor is positioned horizontally, in the other one vertically with out-put end of the shaft downwards as per the standards of table 2 while smoothly changing the vibrator frequency in each sub range.

Table 2

| Frequency, subranges Hz | Amplitude value | |
|-------------------------|-----------------|------------------|
| | Acceleration, g | Displacement, mm |
| from 5 upto 10 | 0.05-0.30 | |
| above 10 upto 20 | 0.30-1.00 | 0.5-0.8 |
| above 20 upto 25 | 1.00-2.00 | |
| above 25 upto 40 | 2.00 | 0.3 |

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NOTE: Check is carried out by one of the following methods, by acceleration or displacement.

Time for passing each subrange should be sufficient to detect the resonance, but it should not exceed the 2 minutes. Check the absence of resonance of members and assembly units of electric motor visually or with the help of devices during the test.

Electric motor is considered to have passed the test, if there is no resonance of members or assembly units in the range of the above-mentioned frequencies, and if no mechanical damages is detected during visual inspection.

3.10 While testing the electric motor for the effect of increased relative humidity the motor with preserved out-put end of shaft (in switched-off conditions) is placed in constant-humidity cabinet with relative air humidity of 93 to 97% and temperature of 20 to 25°C and kept in it for 5 days.

The humidity may be increased upto 98% and temperature upto plus 35°C, due to the fluctuations of ambient air temperature and the modes of operation of equipment used.

Not later than 3 min cabinet after removing the electric motor from constant humidity check:

- a) Insulation resistance as per the procedure of item 2.5 of present technical specifications.
- b) Parameters as per procedure of item 3.4 of present technical specifications.

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c). Absence of corrosion, except locating surfaces, anticorrosive protection of which has not been provided with the drawings.

d). Condition of paint and varnish coatings.

After keeping the electric motor for 24 hrs at normal climatic conditions check the insulation resistance and also di-electric insulation strength as per procedure of item 3.5 3.6 of present technical specifications.

Electric motor is considered to have passed the test if the parameters and insulation resistance correspond to the requirements of items 1.2.3 and 1.2.4 of present technical specifications; there are no separations of paint and varnish coatings and corrosion traces and if di-electric strength and insulation resistance corresponds to requirements of items 1.2.4a and 1.2.5 of present technical specifications after keeping the electric motor at normal climatic conditions.

3.11 Electric motor in switched-off condition is placed inside the cold chamber temperature of which is brought down to minus 50°C and maintained with an accuracy of $\pm 3^{\circ}\text{C}$ while testing for the effect of lower ambient air temperature.

Electric motor is kept in the chamber for 4 hrs after attaining the above-mentioned temperature, after which the current consumption is checked as per the procedure of item 3.4C of present technical specifications in the chamber or not later than 3 minutes after removing from the chamber in the normal climatic conditions, in this case, electric motor itself should start to rotate and run at the prescribed duty not later than 3 minutes after

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switching on the motor at the rated voltage and rated power. Check the electric motor for water resistance as per procedure of item 3.7a of present technical specifications after keeping it at normal climatic conditions for 4 hrs.

Electric motor is considered to have passed the test, if the current consumption does not exceed 22.5 and continuous or periodical flow of air bubbles is not observed while checking the motor for water resistance.

REMARK: It is allowed to place the electric motor in cold chamber, temperature of which is brought to -50°C before hand. In so doing electric motor is kept in the chamber for 4.5 hrs.

3.12 Set the hot chamber temperature to $+50^{\circ}\text{C}$ and maintain it with an accuracy of $\pm 3^{\circ}\text{C}$ while testing for the effect of higher ambient air temperature.

Keep the electric motor in the hot chamber under idle chamber condition for 3 hrs and then run it at no-load for 1 hr at 27V. This done, the electric motor is removed from hot chamber and not later than 3 min after this the motor is checked by switching it on three times at rated voltage as per the procedure of item 3.4C of present technical specifications. In so doing, the electric motor current is checked.

Electric motor is considered to have passed the test, if it is serviceable after three switchings on and consumes a current not exceeding 23.5A.

3.13 Electric motor in switched-off condition is placed in the cold chamber and kept in it at a temperature of $-20\pm 5^{\circ}\text{C}$ for 2 hrs. While testing for the effects of frost and dew.

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This done, the electric motor is removed from the chamber, placed in normal climatic conditions and run at no load at a voltage of 27V. for 1 hr in so doing, measure current consumption. Immediately after switching on and every 30 minutes under the conditions of formation of frost and dew. As per procedure of item 2.4C of present technical specifications.

Electric motor is considered to have passed ^{the} test, if during the ^{time} of holding in normal climatic conditions after removal from cold chamber while testing as per procedure of item, 3.4C of present technical specifications it consumes a current not exceeding 23.5A.

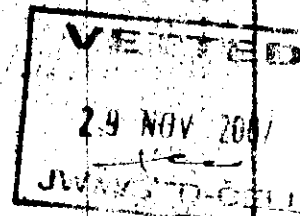
3.14

Electric motor with preserved end of the shaft, is placed in the chamber, the temperature of which is set to 27-30°C while testing for effect of sea (salty) fog, and subjected to effect of salty fog. Conduct visual inspection for the absence of damaged paint- and -varnish coatings before placing the motor in the chamber.

Electric motor is arranged in the chamber so that during testing splashes of solution and also drops from ceiling, walls and suspension system do not fall on it.

Sprayer salt solution which is prepared by dissolving sodium chloride in distilled water as per GOST 4233-77 in amounts of 3363 g/l by using fog is created by spraying centrifugal aerosol apparatus. Fog should possess a degree of dispersion of 1 to 10 microns (95% of drops) and water content of 2 to 3 g/m³.

Spray the solution for 15 minutes, every 45 min. Total testing time is 2 days. Duration of test is taken from the moment of first spraying of solution.



After the completion of the test the motor is cleaned with a ^{wash} after soaked in distilled water after which it is dried for 1 hr at temperature $\pm 55 \pm 2^\circ\text{C}$ cooled subsequently and then subjected to visual inspection.

Electric motor is considered to have passed the test if there are no traces of corrosion of base metal and damage to paint-and -varnish coatings

3.15 Electric motor in switched-off condition is subjected to three cyclic temperature changes, followed one after the other continuously while testing for resistance to cyclic temperature changes.

Each cycle is carried out in the following way:

Electric motor is placed in the cold chamber, the temperature of which is set upto -50°C before hand and kept at this temperature for 4 hrs.

Electric motor is transferred immediately from cold chamber to hot chamber having temperature 65°C and kept in it at this temperature for 4 hrs.

Holding time in hot and cold chambers is counted from the moment of attaining the given air temperature in the chamber after loading the electric motor.

Electric motor is removed from hot chamber after the completion of last cycle of testing and is kept under normal climatic conditions for 4 hrs.

This done, motor is visually inspected, checked for serviceability as per procedure of item 1.2.3 to present technical specifications.

The electric motor is considered to have passed

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the test if its parameters meet the requirements of item 1.2.3c of present technical specifications.

NOTE: It is allowed to carry out the test for resistance to cyclic temperature changes in one chamber with the rate of temperature changes of atleast 0.5°C per minute.

3.16 Vibration strength test of electric motor is carried out when it is switched off. Conduct visual inspection of motor before testing.

Electric motor is mounted on the vibration stand with single-component ^{max} verticle vibration in vertical position with output end of shaft downwards and subjected to tests by methods of fixed frequency as per standards given in table 3.

Table.3

| Fixed frequency | Amplitude value | | Total testing time, h |
|-----------------|-----------------|-----------------------------|-----------------------|
| | Acceleration, G | Displacement | |
| 10 | 1.0 | 2.0 | 3.0 |
| 20 | 2.0 | 1.0 | 9.0 |
| 30 | 3.0 | 0.8 | 6.0 |
| 40 | | 0.6 | 4.5 |
| 50 | | 0.4 | |
| 60 | 4.0 | 0.3 | |
| 80 | | corresponds to acceleration | 1.5 |
| 100 | | | |
| 120 | | | |

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NOTE: Test is performed by one of the methods:
As per acceleration or displacement.

Vibration strength test is conducted simultaneously with guaranteed life test under the following conditions:
1/4 of total vibration time before the guaranteed life, test, 1/2 of total vibration time in the middle of vibration test and 1/4 of total vibration time after guaranteed life test.

Carry out visual inspection after testing and check parameters as per procedure of items 3.4a and 3.4c of present technical specifications

Electric motor is considered to have passed the test if during visual inspection of mechanical damages is detected and parameters correspond to the requirements of items 1.2.3a, 1.2.3c of present technical specifications.

3.17 Impact strength test of electric motor is conducted in switched-off condition in the middle of the guaranteed life test. Carry out its visual inspection before testing.

Electric motor is set on the stand in vertical position with output end of shaft downwards and is subjected to impacts as per standards given in table.4

Table.4

| Acceleration, g | Duration, ms | Total number of impacts | Number of impacts per minute. |
|-----------------|---------------|-------------------------|-------------------------------|
| 15 | from 10 to 15 | 2000 | upto 100 |

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After testing carry out visual inspection ^{and} check parameters as per procedure of ~~items~~ ^{items} 3.4a 3.4c of present technical specifications.

Electric motor is considered to have passed the test if during visual inspection mechanical damages is not detected, and parameters correspond to the requirements of items 1.2.3a, 1.2.3c of present technical specifications.

3.18 Testing ^{for} effect of lower atmospheric pressure is carried out in pressure chamber at a temperature of $+25 \pm 10^{\circ}\text{C}$.

Carry out visual inspection before testing, and check the parameters of electric motor as per procedure of item 2.4c of present technical specifications.

Electric motor is placed in pressure chamber, and pressure in it is brought down to 460 MM Hg. After which motor is switched on at idle run for 30 minutes at 29V. This done, the electric motor is removed from pressure chamber and the checking of parameters is carried out as per procedure of item 3.4c of present technical specifications. After this pressure of 170mm Hg is set ⁱⁿ the pressure chamber and electric motor in switched-off condition is kept in it under these conditions for 2 hrs. Then pressure in the chamber is gradually raised to the normal one, electric motor is removed from chamber, visual inspection of it is carried out ^{and} parameters are checked as per procedure of item 3.4a of present technical specifications.

Electric motor is considered to have passed the test, if its parameters correspond to requirements of item 1.2.3a of present technical specifications.

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Electric motor is considered to have passed the test, if its parameters correspond to requirements of item 1.2.3a of present technical specifications.

3.19 Gauranteed life test is carried out with water pump as per drawing 432.83.011 Cd 3. or 54.83.78cd A.

Electric motor with water pump and additional hydraulic resistance of 0.5 atm is switched on at a voltage of 27V for 60hrs. at a voltage of 27V and 29V for 20 hrs sespectively. Electric motor is operated by cycles with a duration of 5 hrs. Interval between cycles is till the electric motor cools completely. Driving part of electric motor is dipped in water having temp not exceeding 25°c to the face of body.

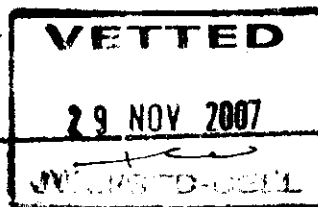
Run the electric motor for 1 hr at 27V after gauranteed life test.

Visual inspection and checking of parameters, as per procedure of item 3.4a 3.4c of present technical specifications are carried out after gauranteed life test.

Electric motor is considered to have passed the test. ^{It} retains serviceability and parameters meet the requirements of items 1.2.3a 1.2.3c of present technical specifications.

3.20 Test the ^{electric} electric motor for service ^{life} as per procedure of item 2.16, and 3.19 of present technical specifications.

Electric motor is considered to have passed the test for service life if it retains serviceability after testing additionally for 30 minutes.



NOTE: Number of hours of guaranteed life test is counted for service life test.

3.21 Compliance of electric motor and its installation with the requirements for resistance to single impacts with greater accelerations is to be confirmed by full-scale tests on vehicle with the combined report being made.

3.22 Before working out the procedures of bench test for effect of fumes of antifreeze and fuels and oils compliance of electric motor with these requirements to be confirmed by full-scale tests on the main article with combined report being made.

3.23 Testing for effect of γ and h background not carried out. Compliance with given item of requirements is ensured by the electric motor design.

3.24 Compliance of electric motors with the requirements of item 1.2.3 of present technical specifications is confirmed by full-scale test on the main article, with the combined test report being made.

4. TRANSPORTATION AND STORAGE:

4.1 Packed electric motors be transported by any type of transport which ensures protection against atmospheric precipitation and mechanical damage.

4.2 Storage of electric motor is to be carried out in correspondance with the requirements of OST B 3-1164-72 and OST B3-3381-74.

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5. OPERATING (USAGE) INSTRUCTIONS:

5.1 Electric motor should be used under conditions and modes corresponding to the requirements of present technical specifications.

5.2 Electric motor should be used with its the driving part being dipped to the face of body in water.

Motor is allowed to run idle without dipping for atleast 1 hr:

5.3 Electric motor should be used in compliance with GOST 2.117-71.

5.4 Servicing during operation^{iv} is in conformity with the requirements of operating instructions of vehicle.

6. SUPPLIER'S GUARANTEE

6.1 Electric motor should be accepted by technical inspection department of manufacturing plant.

Supplier guarantees the conformity of electric motor with the requirements of present technical specifications and trouble-free operation provided that user observes conditions of operation, transportation and storage which are set with the technical specifications.

Guarantee period is set as 500 operating hours of main engine for 6000 to 8000 km of running in conformity with the guarantee of vehicle.

Guarantee storage life of electric motors, preserved in consideration with OST B3-2381-74 in customer's store houses should not exceed 5 years; or while 8 years while packed in sealed covers as per-

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LIST OF APPENDICES:

1. List of documents to which reference is made in technical specifications.
2. Electric motor MB11-2 but line drg. MB1102. TY

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