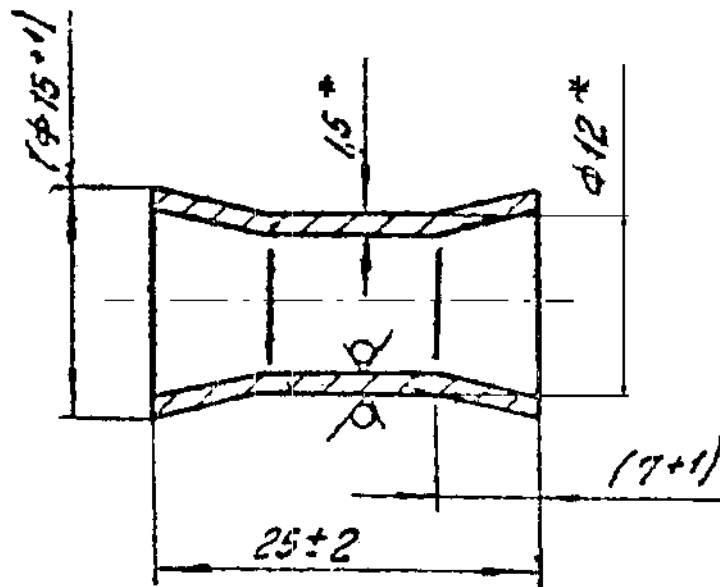


730-03-57

At 380



1. Alternate material is A5 GOST 11069-74.
2. Dimensions in brackets are given after assembly.
3. * Dimensions are given for reference.

APPROVED

M VASU

730-03-57

CHECKED

CONTROLLERATE
 OF
 QUALITY ASSURANCE
 (ICV)

BRANCH PIPE

WEIGHT

SCALE

0.006

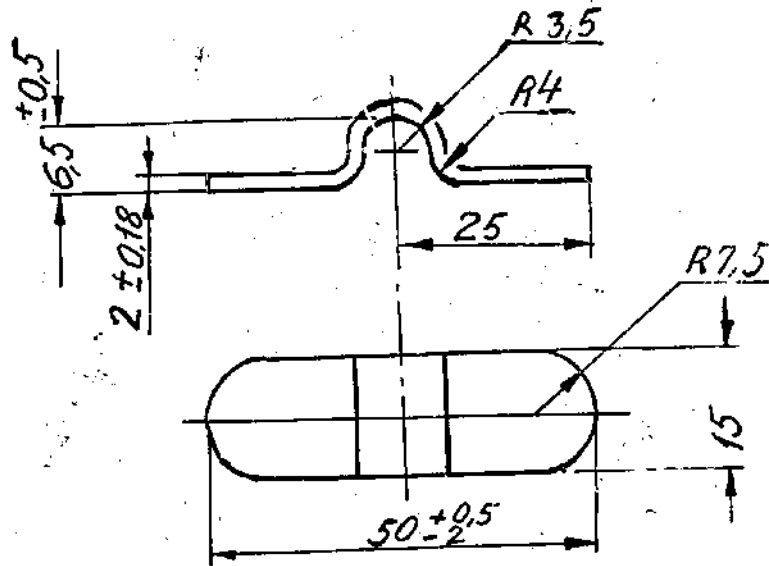
2:1

SHT 1

SHTS 1

ROUND TUBE 12x15 A MГ 2 M
 GOST 18475 - 73

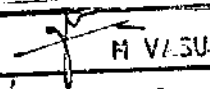
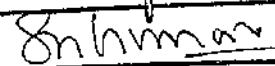
8-97-99L



1. Perform dimensions without deviations with an accuracy of $\begin{matrix} +1.0 \\ -0.5 \end{matrix}$ mm.
2. Alternate material is steel 08KП, GOST 1050-74.
3. Blunt sharp edges.

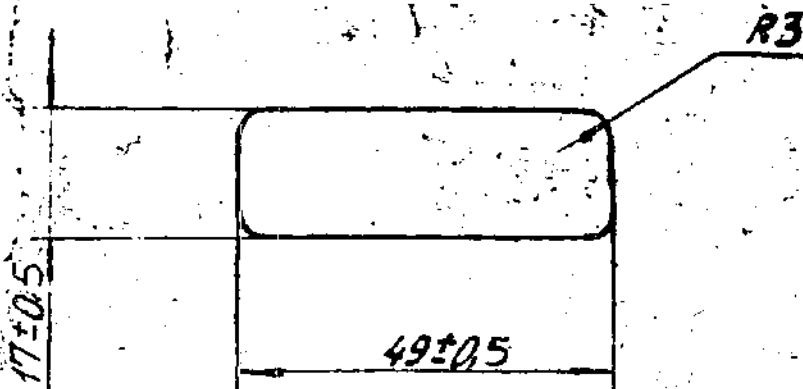
1150
2/6

USED ON. 765-03-C5179

APPROVAL	 H. VASU	765-03-8		
CHECKED	 S. Ivanov	HINGE	WEIGHT	SCALE
CONTROLLERATE OF INSPECTION (ICV)			0.0145	
		SHT	SHTS	
		10 GOST 1050-74		

11-50-591

All around



Thickness is 1 mm.

1. Blunt sharp edges.
2. Alternate material is M2 and M3, GOST 859-78.

114
 114-11-01-01
 114-11-01-01

USED ON-765-03-C6166

APPROVED
 CHECKED *Shuman*

765-03-11

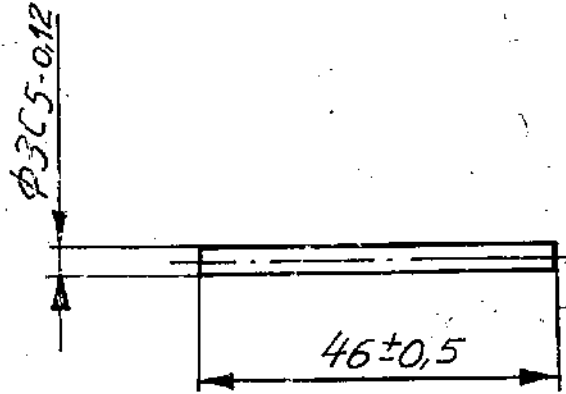
CONTROLLERATE
 OF
 INSPECTION
 (ICV)

PARTITION

SHEET APPROX. 1.0 M1
 GOST 495-77

WEIGHT	SCALE
0.0065	1:1
SHT	SHTS

71-20-99L



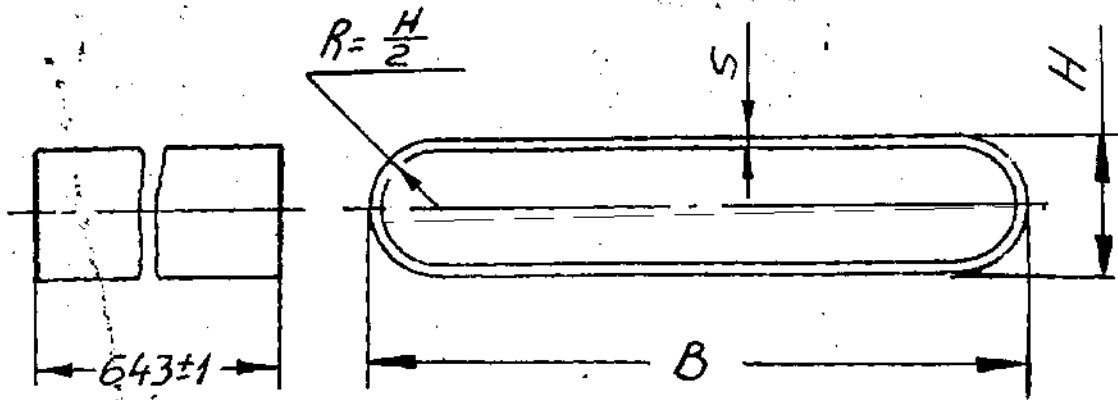
- 1. Non-straightness should not exceed 0.5 mm over the length of part.

1. 2. 3. 4. 5. 6. 7. 8. 9. 10. 11. 12. 13. 14. 15. 16. 17. 18. 19. 20. 21. 22. 23. 24. 25. 26. 27. 28. 29. 30. 31. 32. 33. 34. 35. 36. 37. 38. 39. 40. 41. 42. 43. 44. 45. 46. 47. 48. 49. 50. 51. 52. 53. 54. 55. 56. 57. 58. 59. 60. 61. 62. 63. 64. 65. 66. 67. 68. 69. 70. 71. 72. 73. 74. 75. 76. 77. 78. 79. 80. 81. 82. 83. 84. 85. 86. 87. 88. 89. 90. 91. 92. 93. 94. 95. 96. 97. 98. 99. 100.



USED ON. 765-03-C5175

| | | | |
|--|---------------------------|-----------------|-------|
| APPROVED | <i>[Signature]</i> H VASU | 765-03-12 | |
| CHECKED | <i>[Signature]</i> | WEIGHT | SCALE |
| CONTROLLERATE
OF
INSPECTION
(ICV) | | 0.0026 | 1:1 |
| | | SHT | SHTS |
| | | 20 GOST 1050-74 | |

765-03-86/88

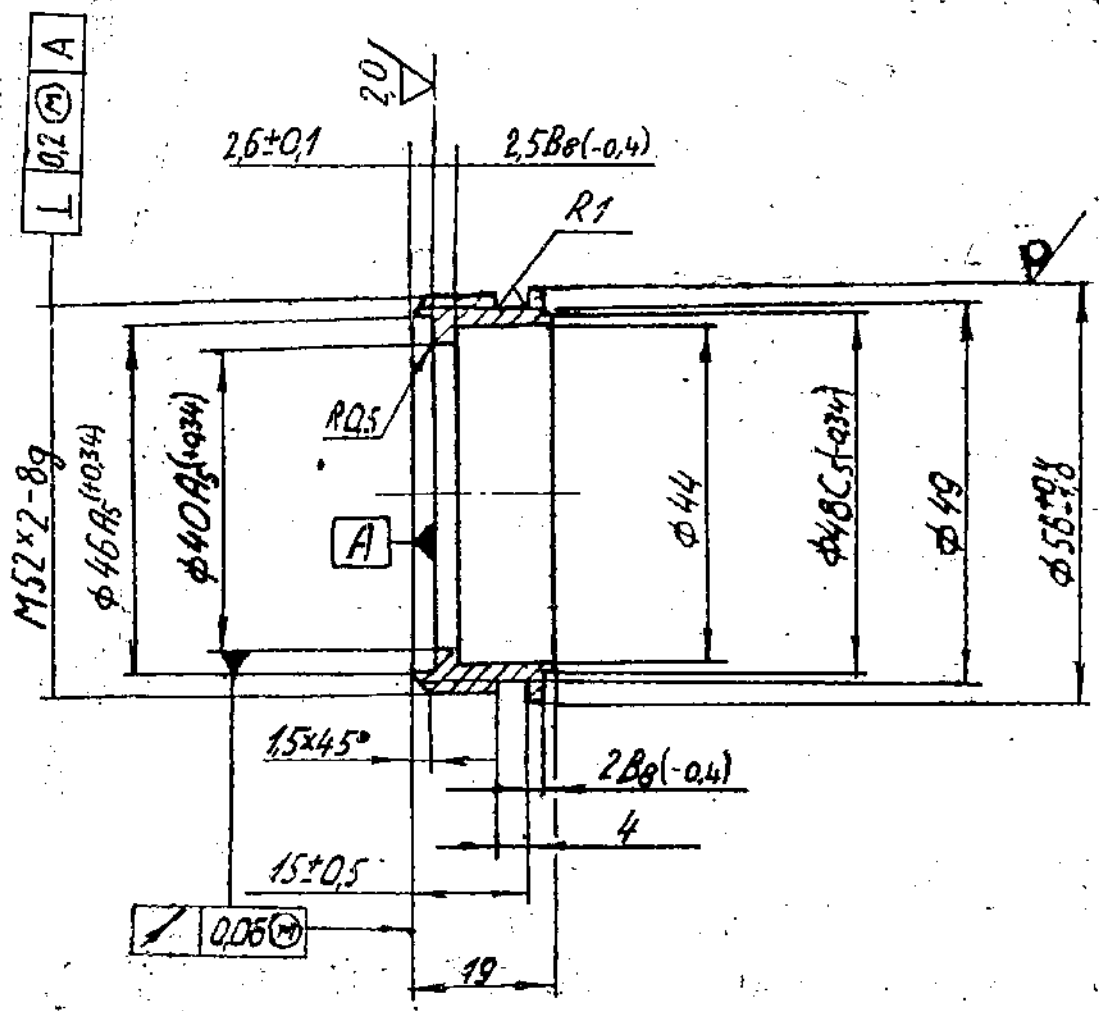


| DESIGNATION | BxHxS | WEIGHT | USED ON |
|-------------|---------------|--------|--------------|
| 765-03-86 | 19,5x2,5x0,25 | 0.0611 | 765-03-05165 |
| 765-03-87 | 17x3,5x0,25 | 0.0554 | 765-03-05169 |
| 765-03-88 | 17x3,5x0,4 | 0.0878 | 765-03-05169 |

| | | | | |
|--|---|---|--------|-------|
| APPROVED | 
M VASU | 765-03-86/88 | | |
| CHECKED |  | PIPE
TABLE DRAWING | WEIGHT | SCALE |
| CONTROLLERATE
OF
INSPECTION
(ICV) | | | SHT | SHTS |
| | | PIPE ДНОxT BxHxSx
0-643 П96 GOST 2936-75 | | |

765-03-91

Rz 80 / (✓)



1. Alternate material is steel cm5, GOST 380-71, steel 25, 30, GOST 1050-74.
2. Unspecified limit deviations of dimensions are as follows:
 For holes -as per A₇
 for shafts -as per B₇

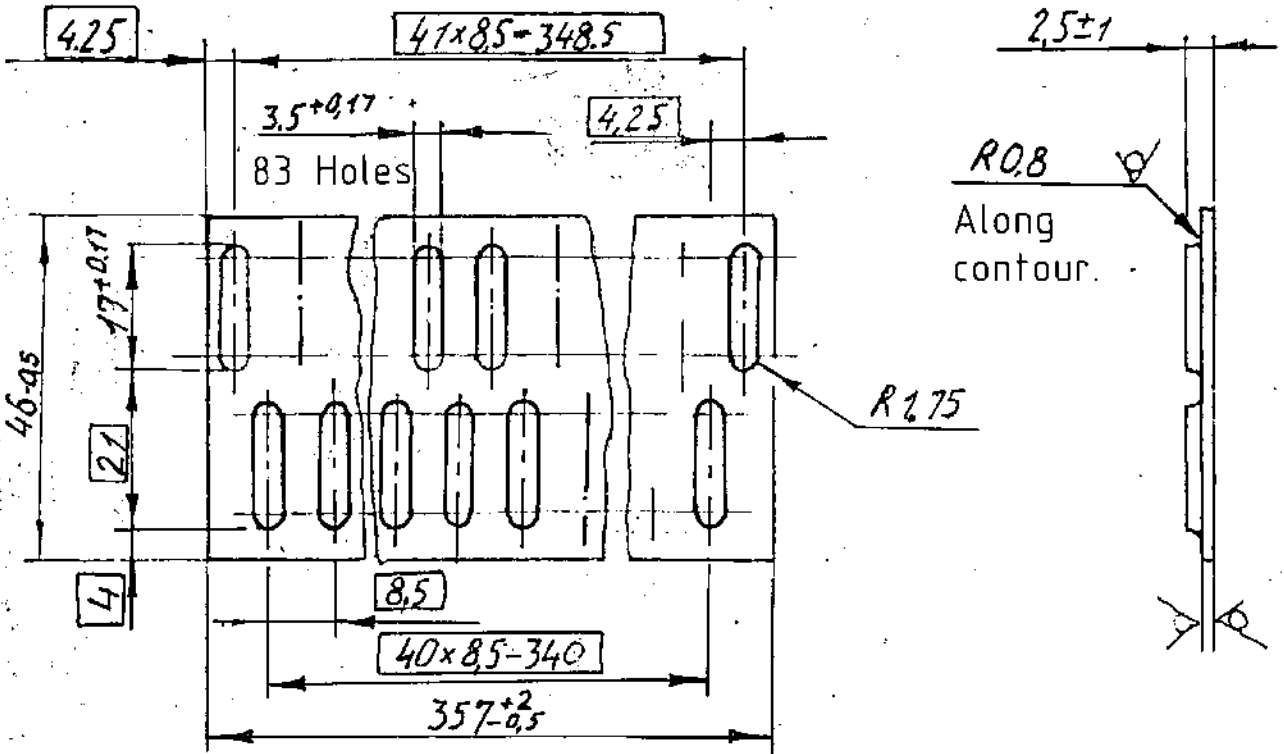
3. Coating: M9

USED ON: 765-03-06, 81

| | | | |
|--|-----------------------|-----------|-------|
| APPROVED | | 765-03-91 | |
| CHECKED | | FLANGE | |
| CONTROLLERATE
OF
INSPECTION
(ICV) | STEEL 20 GOST 1050-74 | WEIGHT | SCALE |
| | | 0,069 | 1:1 |
| | | SH1 | SHTS |

765-03-92

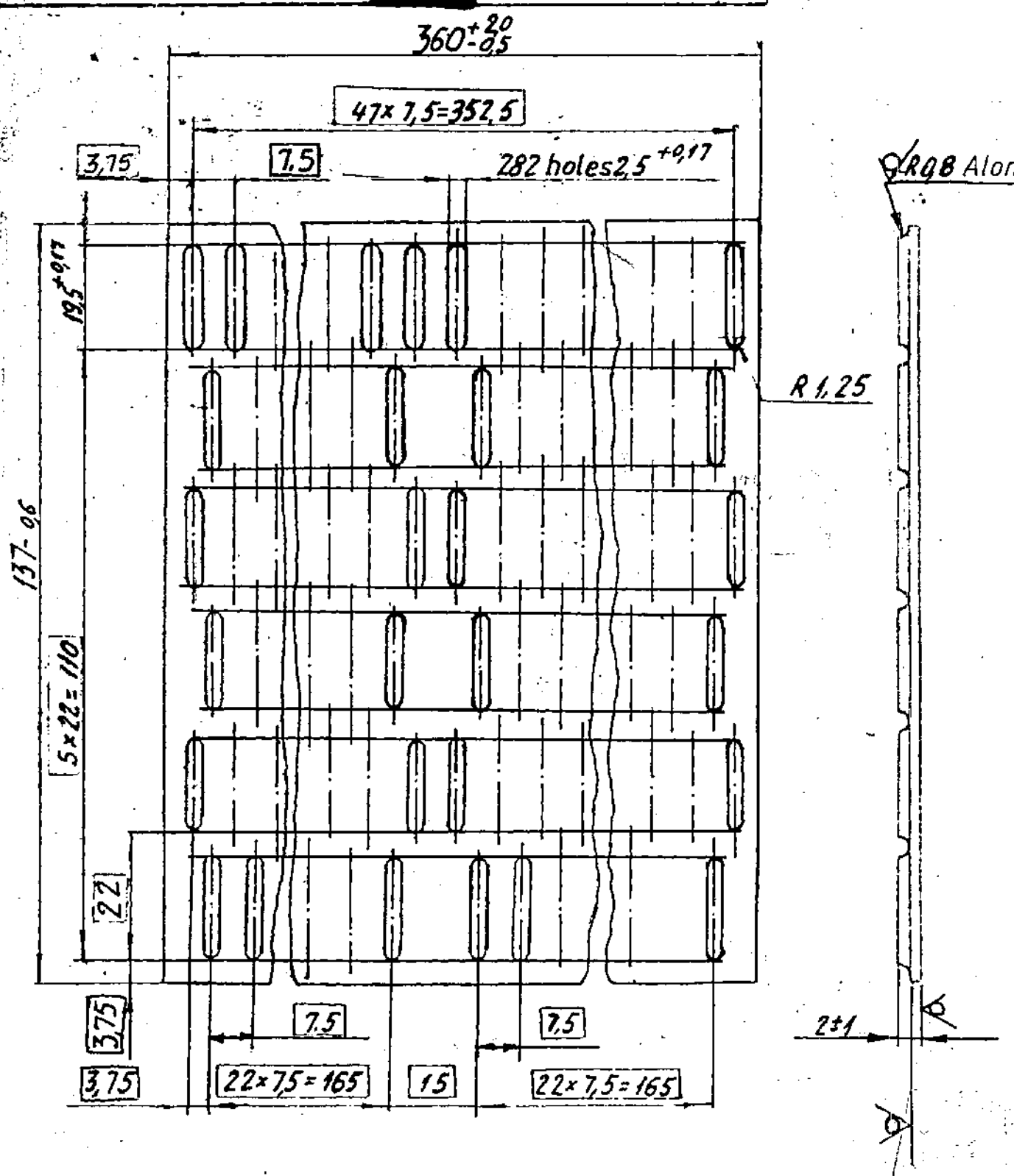
R160



1. Alternate material is band 0.1M2M and 0.1M3M, GOST 20707-75.
2. Displacement of centres of holes from true position should not exceed 0,15 mm.
3. Die knock-out traces not exceeding 0,3 mm in depth are allowed. Dents are not allowed.
4. Beading of holes may be broken.

USED ON. 765-03-C5167

| | | | |
|--|------------------------------|-----------|--------|
| APPROVED | <i>[Signature]</i>
H VASU | 765-03-92 | |
| CHECKED | <i>[Signature]</i> | PLATE | WEIGHT |
| CONTROLLERATE
OF
INSPECTION
(ICV) | | | SCALE |
| | | SHT | SHTS |
| BAND 0.1 П63Т
GOST 20707-75 | | | 0.014 |



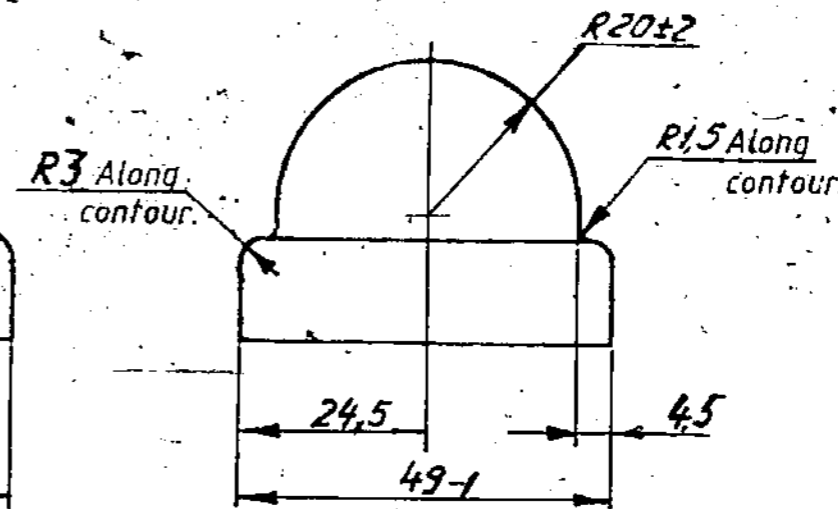
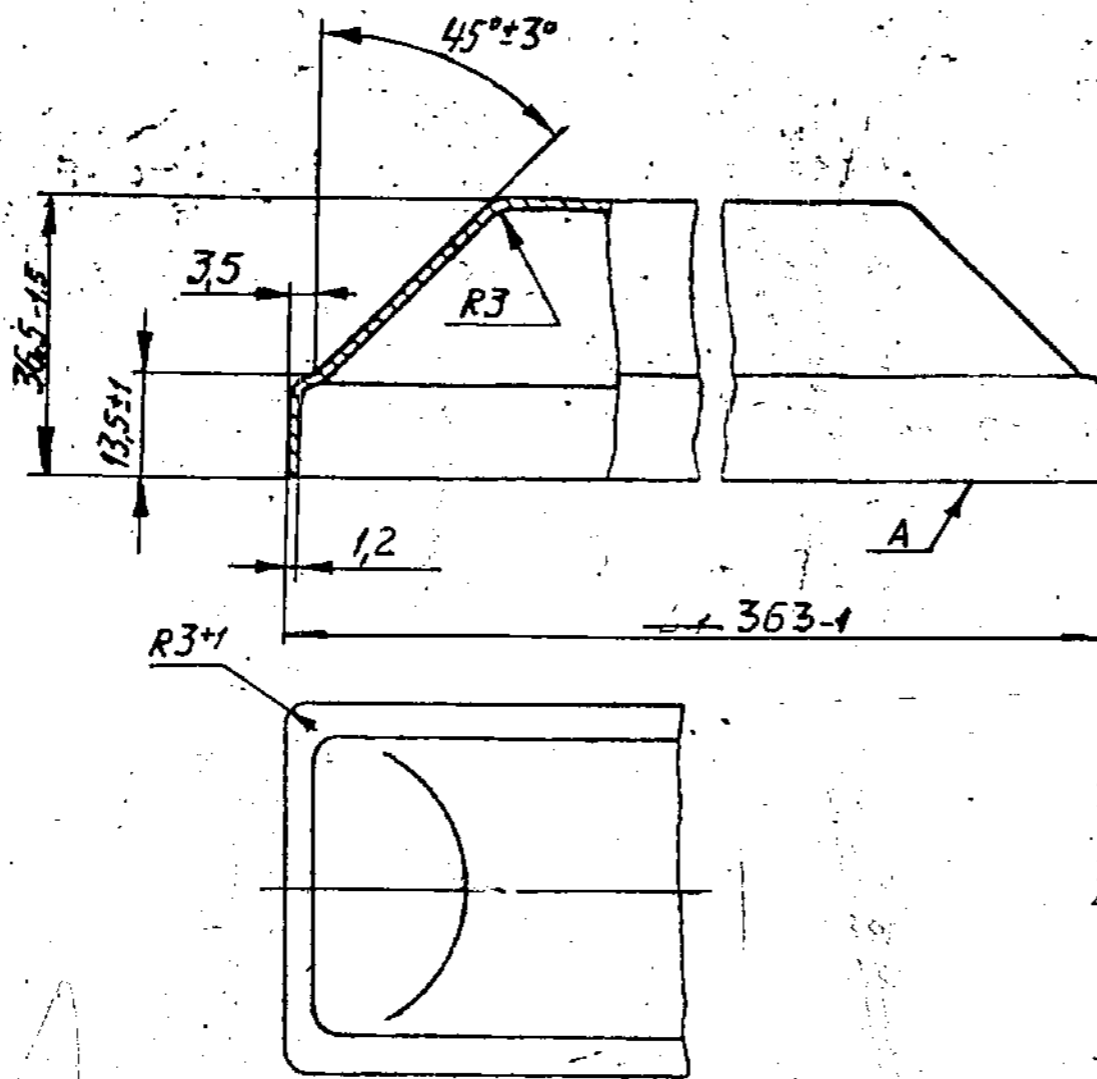
- 1) Alternate material is band 0,1 M2T_{avd} 0,1M3T GOST 20707-75.
- 2) Die knock-out traces not exceeding 0,3 mm in depth are allowed, Dents are not allowed.
- 3) Displacement of centres of holes from true position should not exceed 0,15 mm.
- 4) Beading of holes may be broken.

USED ON-765-03-C5165

| | | | |
|--|--------------------|----------------------------------|--------------|
| APPROVED | H VASU | 765-03-95 | |
| CHECKED | <i>[Signature]</i> | PLATE | WEIGHT SCALE |
| CONTROLLERATE
OF
INSPECTION
(ICV) | | | 0.042 |
| | | BAND 0.1 M 63 T
GOST 20707-75 | SNT |

Проверено и дано
 1995 г. 11.11
 Л. П. Васильева

765-03-98-99L
 25/16-03-97/98

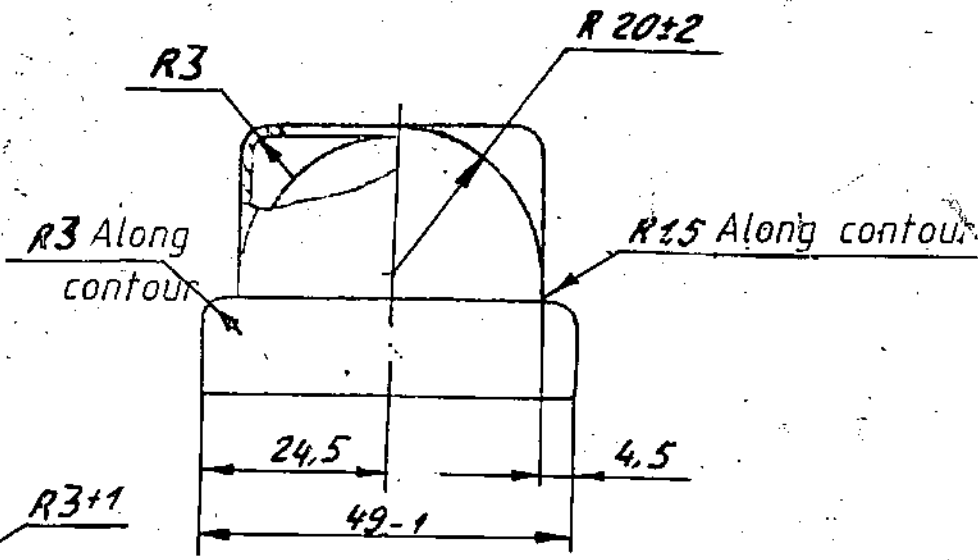
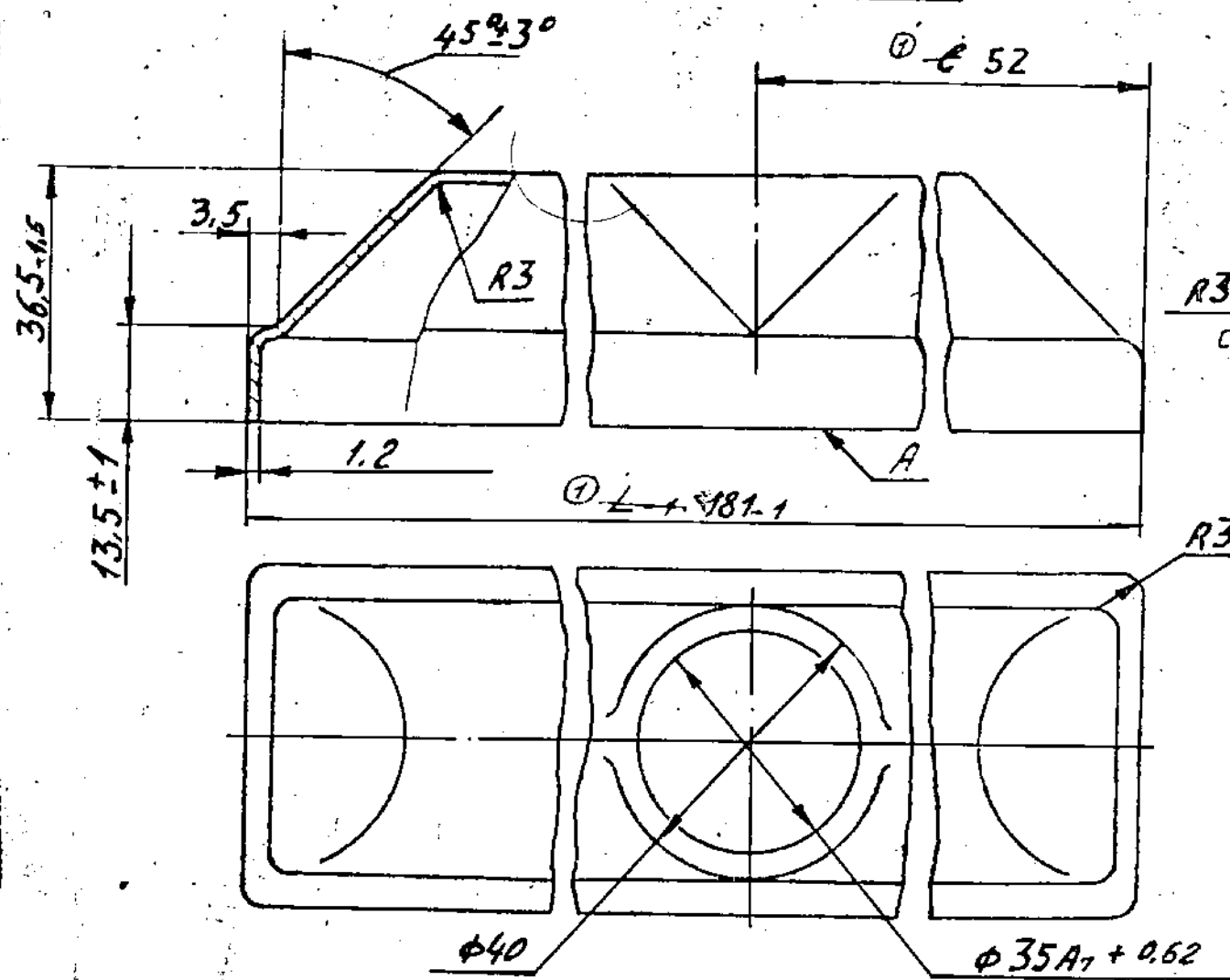


- 1) Thinning of material to 1,0 mm is allowed after stamping.
- 2) Perform dimensions without deviations with an accuracy of $\pm 0,5$ mm.
- 3) Local cracks and fissures may be welded up with wire $\pi 63$, GOST 15527-70.
- 4) Header may be made from parts with subsequent butt welding and *dressing*^{The} welds from outside.
- 5) Non-flatness of surface A should not exceed 1,5 mm.

USED ON: 765-03-05 152

№ докум. 15-4016
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 Подпись и дата

| | | | |
|---|---------------|--------------------------------------|-------|
| APPROVED | <i>H VASU</i> | 765-03-98 | |
| CHECKED | <i>Suhmer</i> | HEADER | |
| CONTROLLERATE
OF
INSPECTION
(IC V) | | WEIGHT | SCALE |
| | | 0.350 | 1:1 |
| | | SHT | SHTS |
| | | SHEET ДНРХМ 1-2
HA 63-GOST 931-78 | |

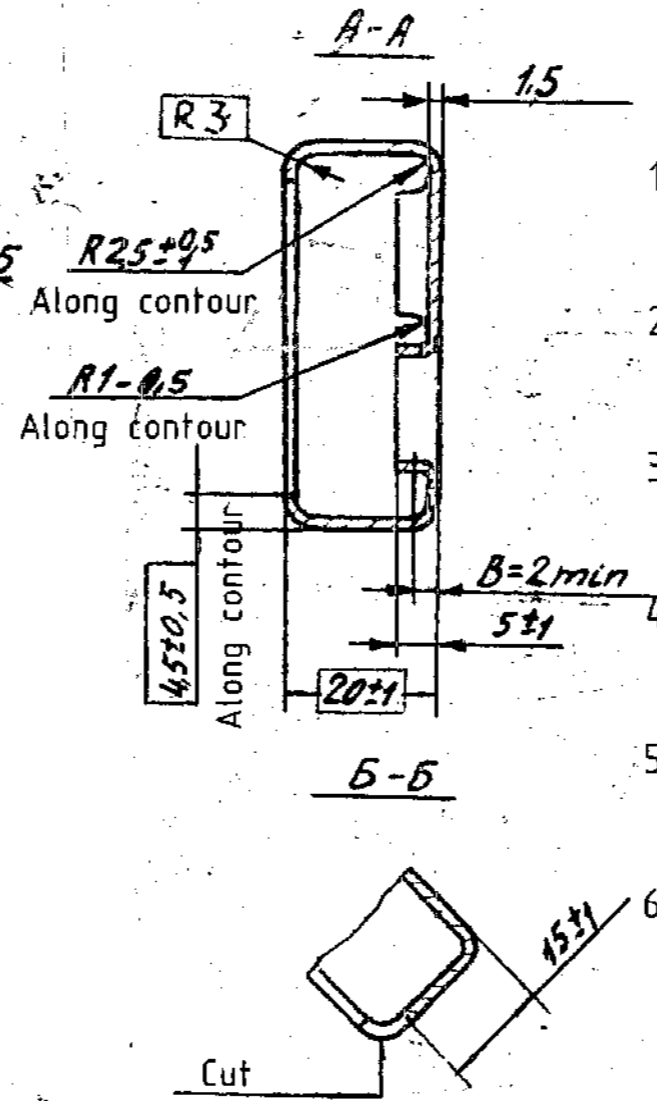
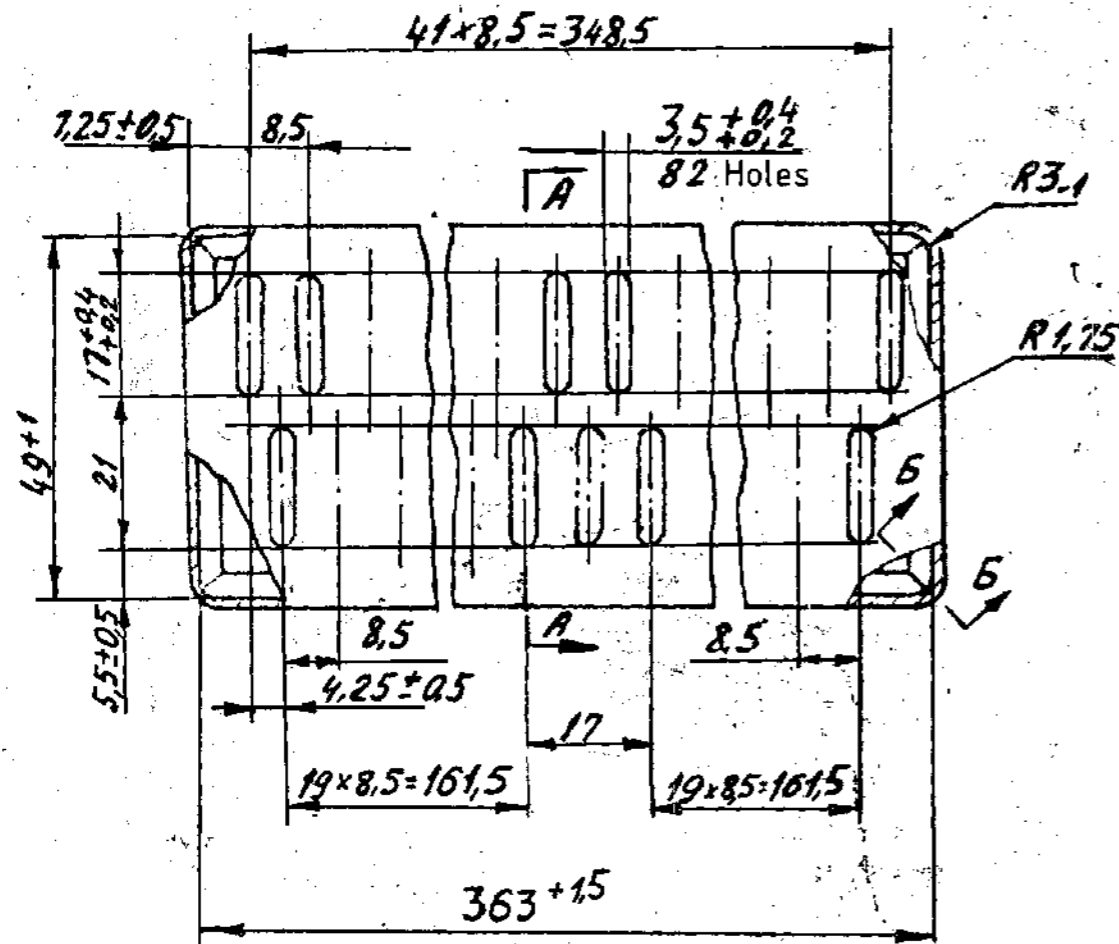


- 1) Thinning of material to 1,0 mm is allowed after stamping.
- 2) Perform dimensions without deviations with an accuracy of $\pm 0,5$ mm.
- 3) Local cracks and fissures may be welded up with wire $\text{S}163$, GOST 15527-70.
- 4) Header may be made from parts which should be butt-welded and welds should be dressed from outside.
- 5) Non-flatness of surface A should not exceed 1,5 mm.

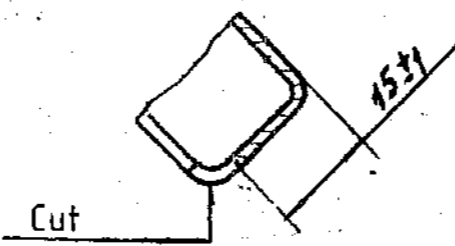
USED ON.765-03-0615A

| | | | |
|--|--|--|--|
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| | | | |
| | | | |
| | | | |

| | | | | |
|--|---------------|------------|--------|-------|
| APPROVED | <i>M VASU</i> | 765-03-100 | | |
| CHECKED | <i>Suhmas</i> | HEADER | WEIGHT | SCALE |
| CONTROLLERATE
OF
INSPECTION
(ICV) | | | 0-158 | 1:1 |
| | | SHEET | SHTS | |
| SHEET 4 ПРХ М 1.2 НР 163
GOST 931-T8 | | | | |



1. Part may be made as per conventional dotted line with subsequent welding with $\Sigma 63$ GOST 15527-70.
2. Breaks of flanges upto dimension B are allowed on radii of holes.
3. Part may be made by welding corners with wire GOST 15527-70.
4. Deviations of centre holes from their true position should not exceed 0,15 mm.
5. Carryout machining in assembly as per dimensions given in .
6. Part may be made from two parts followed by butt welding.

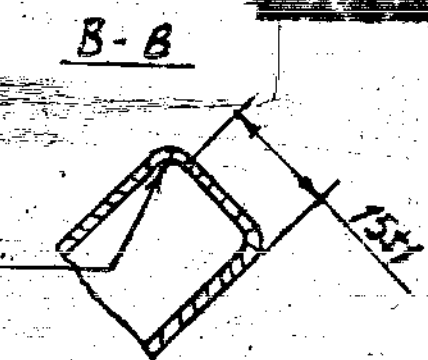
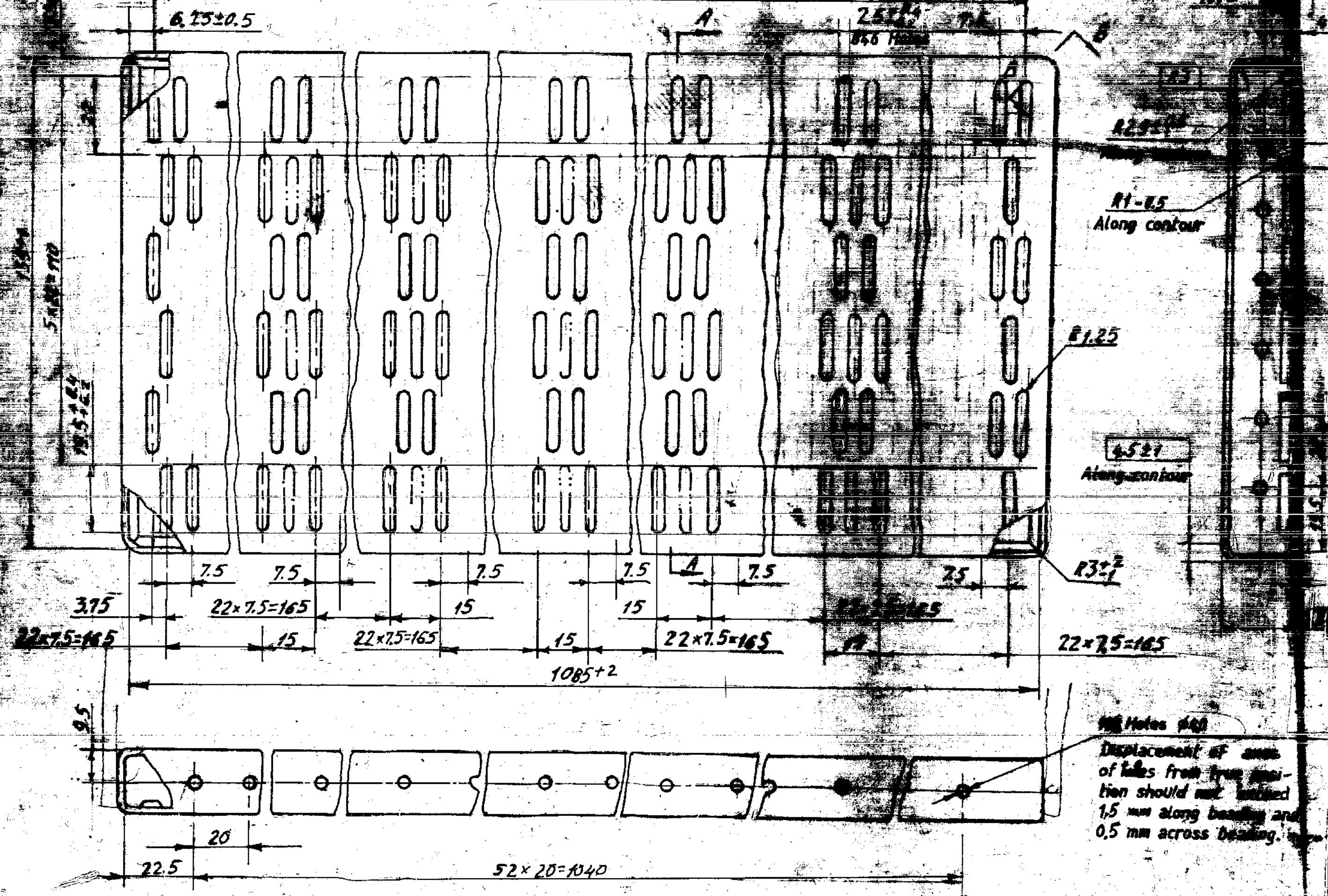



USED ON 765-03-C5168

| | | | |
|--|--------------------|------------------------------------|-----------|
| APPROVED | <i>[Signature]</i> | 765-03-102 | |
| CHECKED | <i>[Signature]</i> | WEIGHT | SCALE |
| CONTROLLERATE
OF
INSPECTION
(ICV) | | TUBE BOARD | 0.430 1:1 |
| | | PLATE АПРХМІ-5НДЛ63
GOST 931-78 | SHT SHTS |

765-03-125

$143 \times 7.5 = 1072.5$



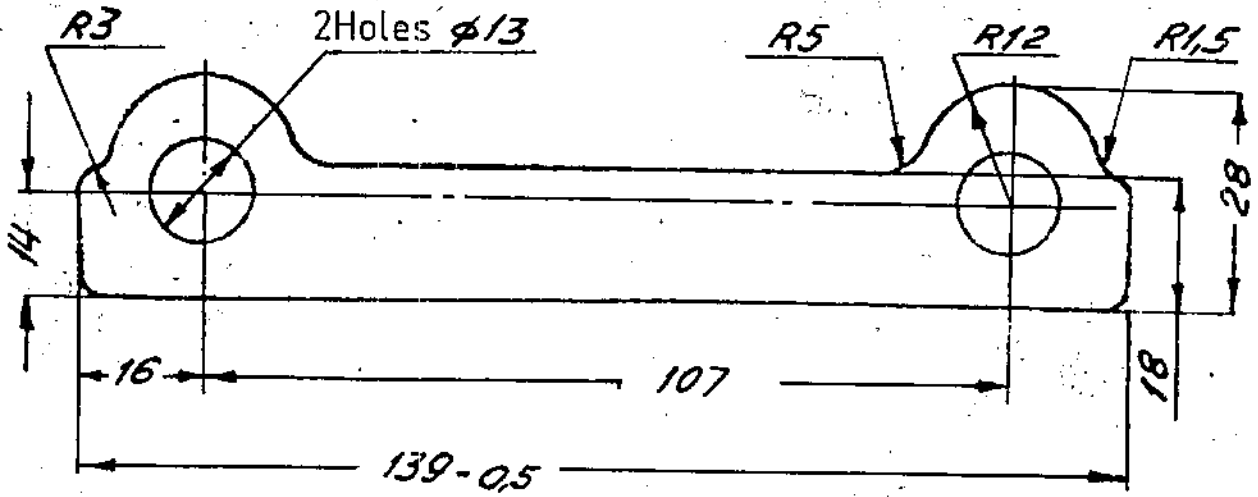
- 1) Part may be made as per conventional dotted line with subsequent welding $\Lambda 63$, GOST 15277-70.
- 2) Breaks of material are allowed on beading of the holes. The depth of break should not cover the radius of change of beading to part planes.
- 3) Part may be made with corners beaded with wire $\Lambda 63$.
- 4) Displacement of centres of holes from true position should not exceed 0,15 mm.
- 5) Carry out machining as per drawing given in  in assembly.
- 6) Part may be made from band $\Lambda \text{PH M H} \Lambda 63$, GOST 2208-75.

$\frac{155}{26}$

| | | | |
|--|--|----------------------|-------|
| APPROVED | | USED ON 765-03-05164 | |
| CHECKED | | 765-03-125 | |
| CONTROLLERATE OF INSPECTION (ICV) | | WEIGHT | SCALE |
| | | 1.63 | 1:1 |
| SHEET $\Lambda \text{PH M H} \Lambda 63$ GOST 931-78 | | SHT | SHTS |
| | | 48 | OF 92 |

765-03-126

2



Thickness is 1 mm.

1. Blunt sharp edges.
2. Perform dimensions without deviations with an accuracy of ± 0.5 mm.
3. Part may be made from sheet ДПРХМ1.0 М2 and ДПРХМ1.0 М3 GOST 495-77 and from sheet ДПРХМ1.НДЛ63, GOST 931-78.

USED ON 765-03-05164

APPROVED

[Signature] H VASU

765-03-126

CHECKED

[Signature]

WEIGHT SCALE

0.025 1:1

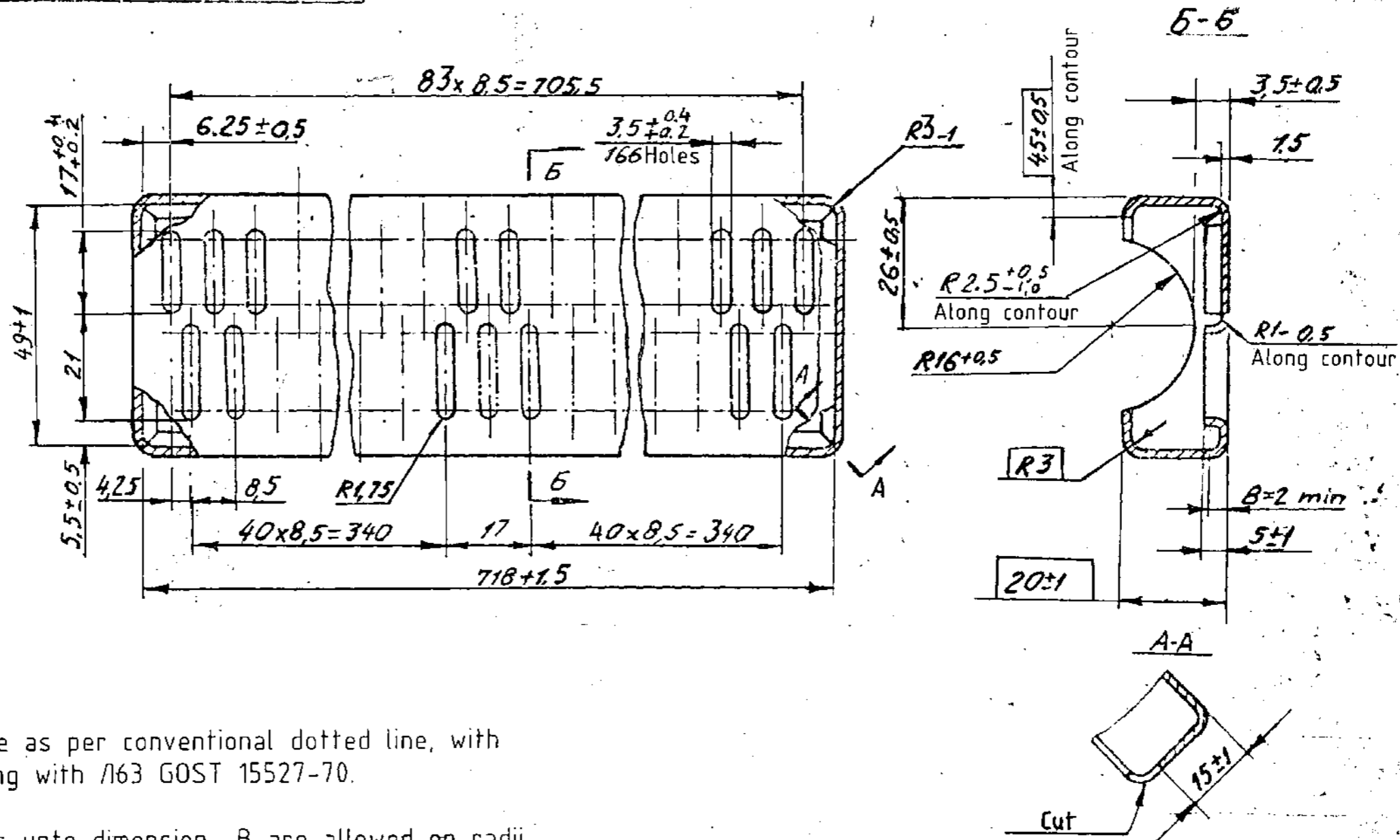
CONTROLLERATE
OF
INSPECTION
(ICV)

PARTITION

SHT SHTS

SHEET ДПХМ1.0 М1
GOST 495-77

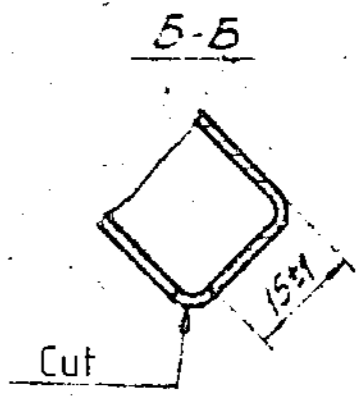
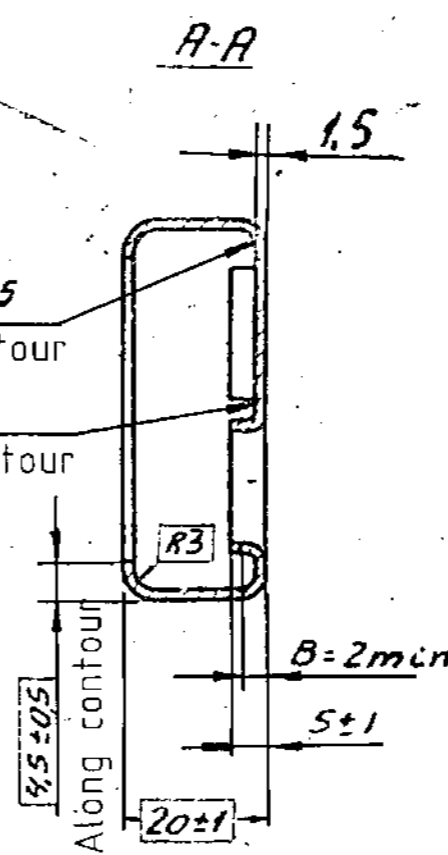
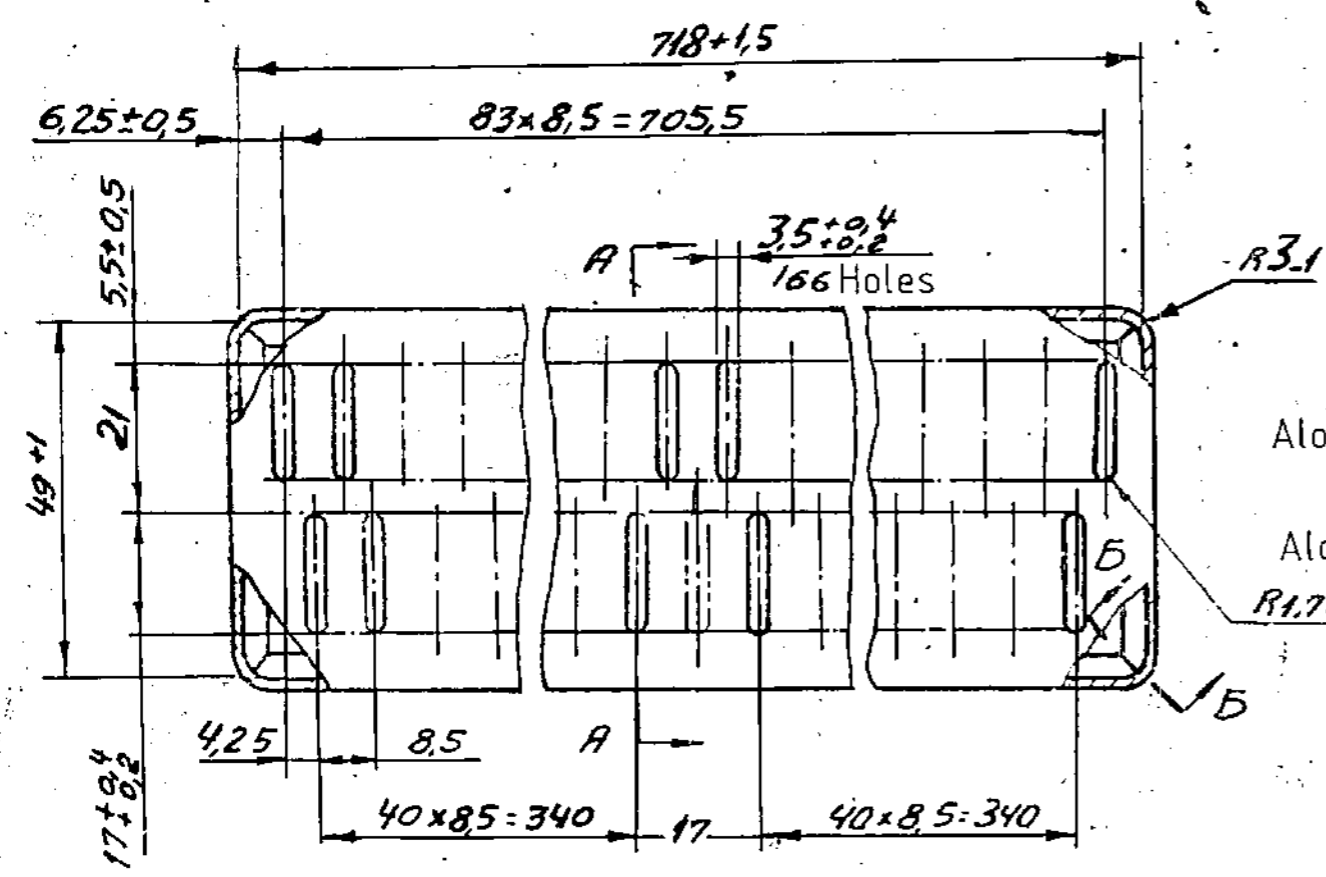
765-03-128



1. Part may be made as per conventional dotted line, with subsequent welding with А63 GOST 15527-70.
2. Breaks of flanges upto dimension B are allowed on radii of holes.
3. Part may be made by welding corners with wire А63 GOST 15527-70.
4. Displacement of centres of holes from their true position should not exceed 0.15 mm.
5. Carryout machining in assembly as per dimensions given in

USED ON 765-03-C5166

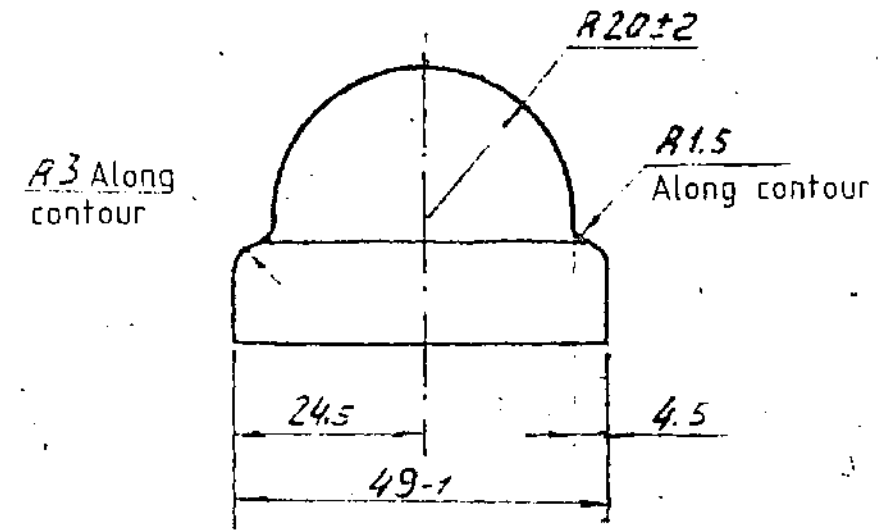
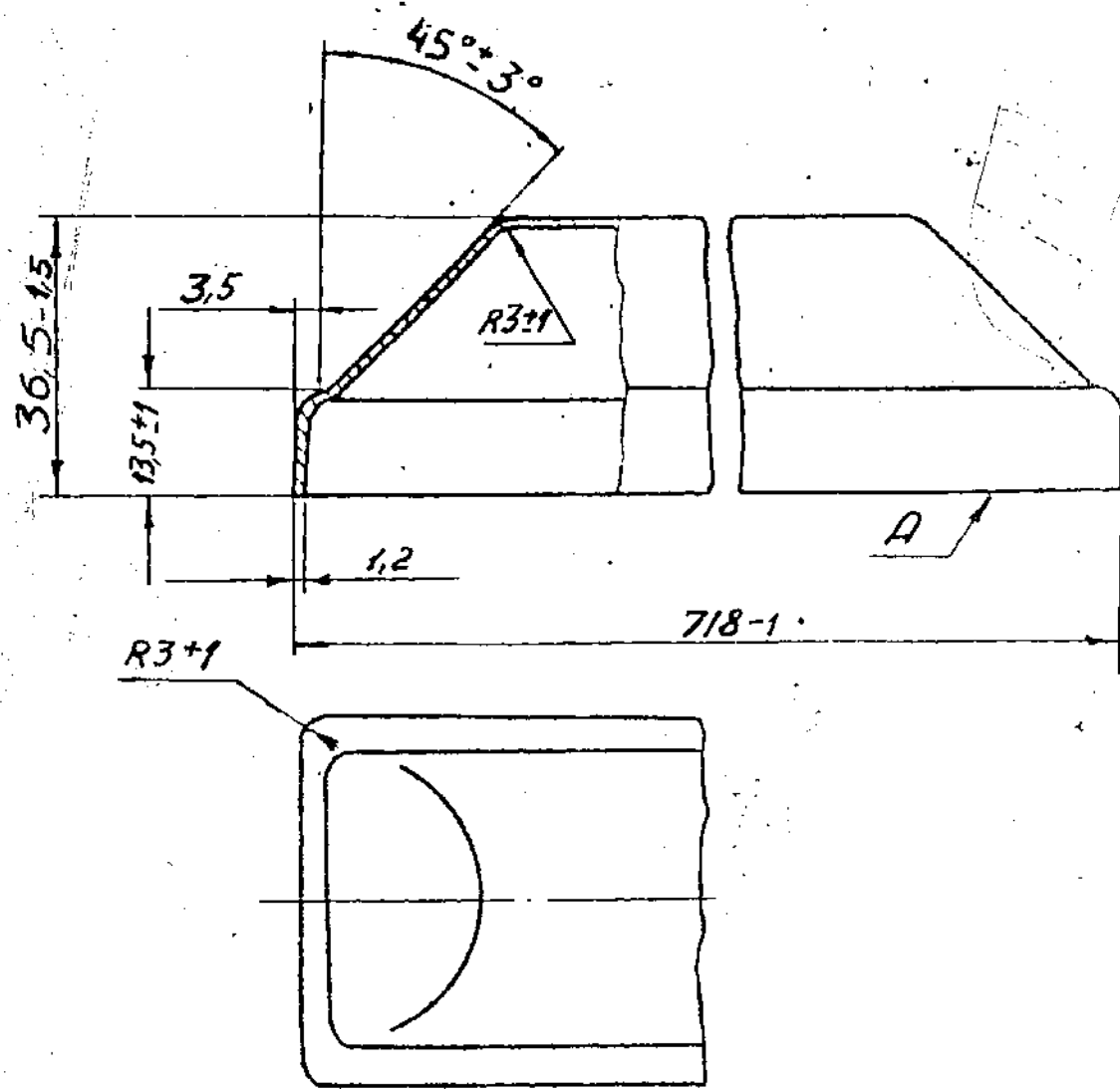
| | | | | |
|---|--------------------|---------------------------------------|--------|-------|
| APPROVED | <i>[Signature]</i> | 765-03-128 | WEIGHT | SCALE |
| CHECKED | <i>[Signature]</i> | | 0.810 | 1:1 |
| CONTROLLERATE
OF
INSPECTION
(ICVI) | | TUBE BOARD | CNT | SMTS |
| | | PLATE АПР x MI-5HА А63
GOST-931-78 | | |



- Part may be made as per conventional dotted line with subsequent welding with $\Lambda 63$ GOST 15527-70.
- Breaks of flanges upto dimension B are allowed on radii of holes.
- Part may be made by welding the corners with wire $\Lambda 63$.
- Displacement of centres of holes from their true position should not exceed 0.15 mm.
- Carryout machining in assembly as per dimensions given in

USED ON. 765-03-C5166

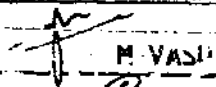

| | | | |
|--|--|--|-------|
| APPROVED | | 765-03-129 | |
| CHECKED | | TUBE BOARD | |
| CONTROLLERATE
OF
INSPECTION
(ICV) | | WEIGHT | SCALE |
| | | 0.820 | 1:1 |
| | | SHT | SHTS |
| | | PLATE ДПРХМ15 НР $\Lambda 63$
GOST 931-78 | |

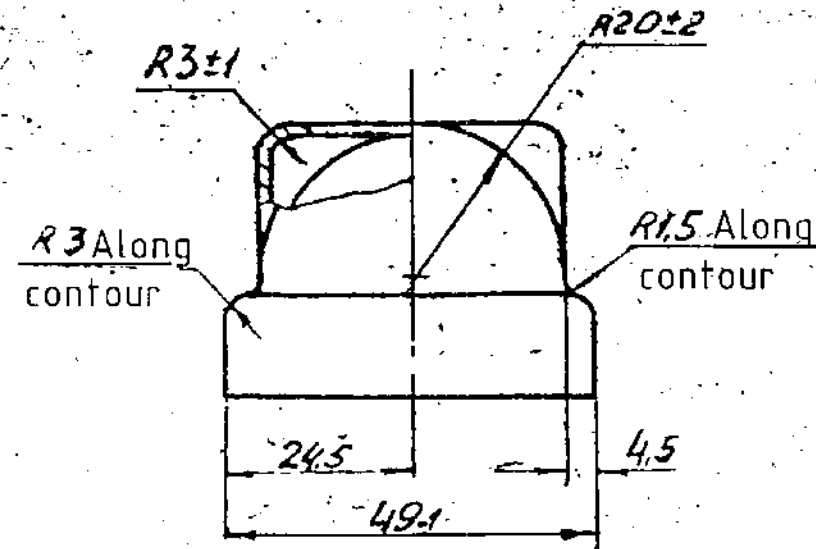
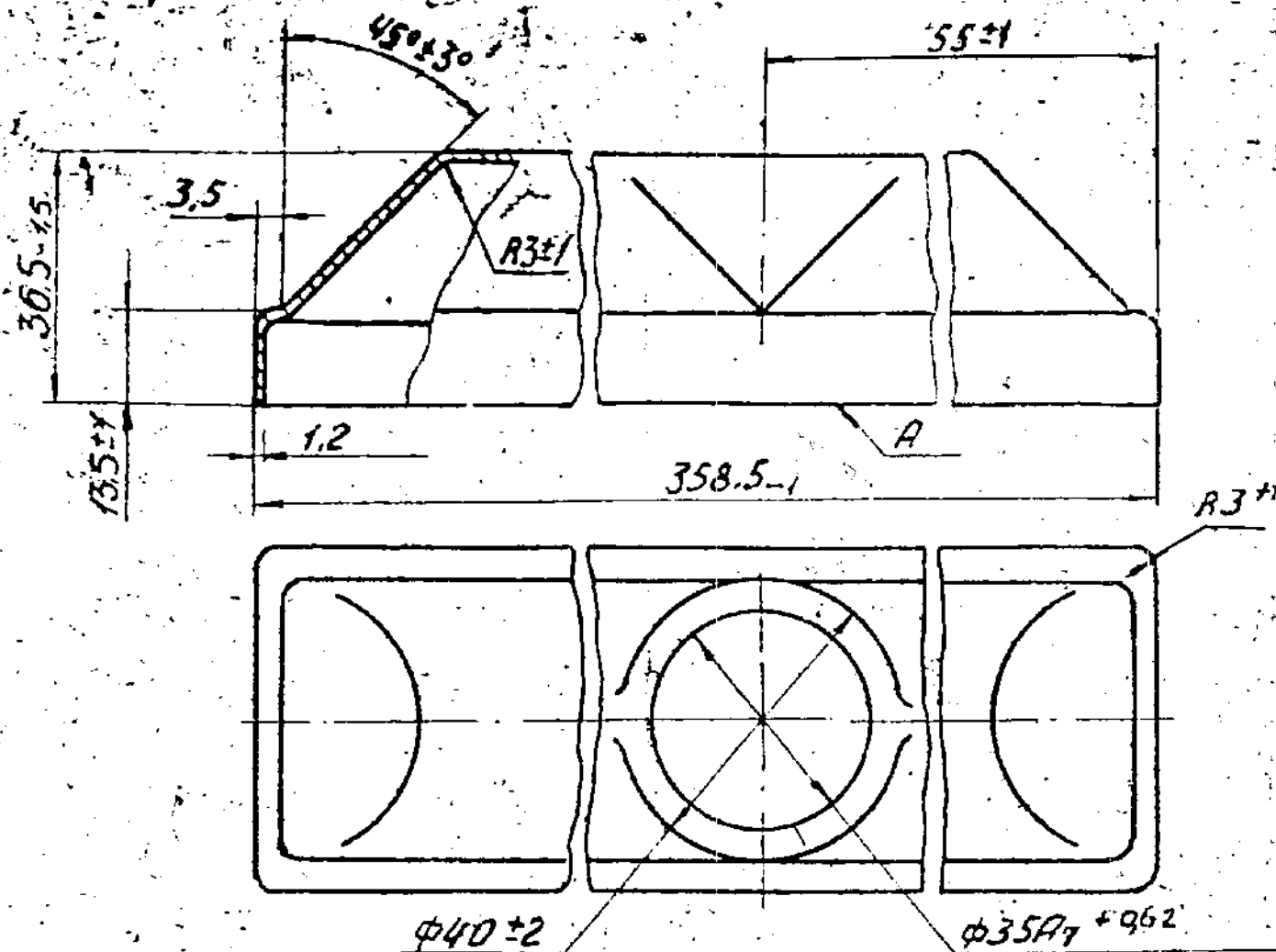


1. Blunt sharp edges.
2. Thinning of material to 1 mm is allowed after stamping.
3. Perform dimensions without deviations, with an accuracy of ± 0.5 mm.
4. Local cracks and fissures may be welded-up with wire $R63$, GOST 15527-70.
5. Header may be made from parts which should be butt-welded and welds should be dressed from outside.
6. Non-flatness of surface A should not exceed 15 mm.

USED ON 765-03-C5175

X157
20

| | | | |
|--|---|--|-------|
| APPROVED |  | 765-03-130 | |
| CHECKED |  | HEADER | |
| CONTROLLERATE
OF
INSPECTION
(ICV) | | WEIGHT | SCALE |
| | | 0,662 | 1:1 |
| | | SHT | SMTS |
| | | SHEET АПР x M 1:2 НА Л63
GOST-931-78. | |



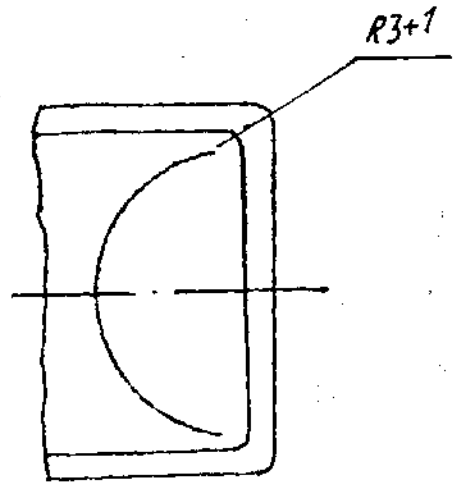
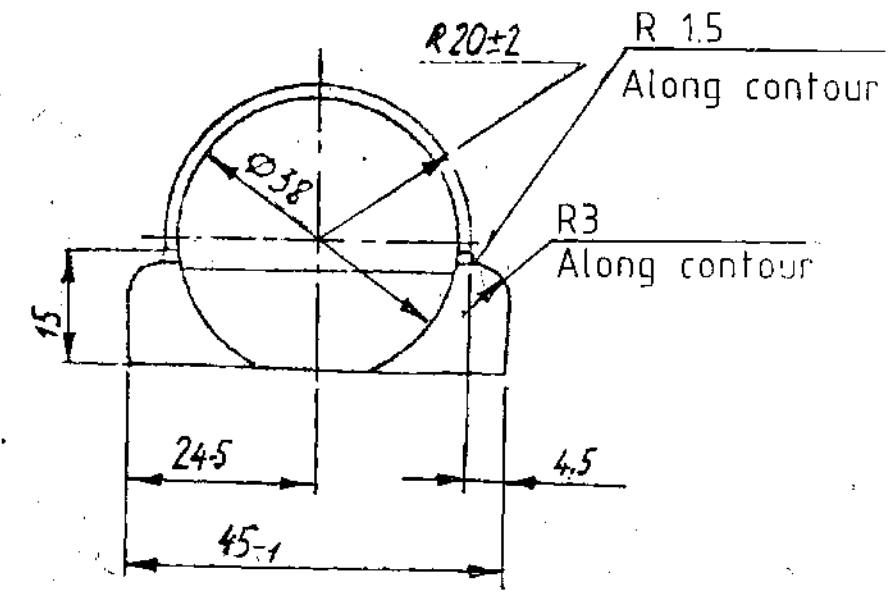
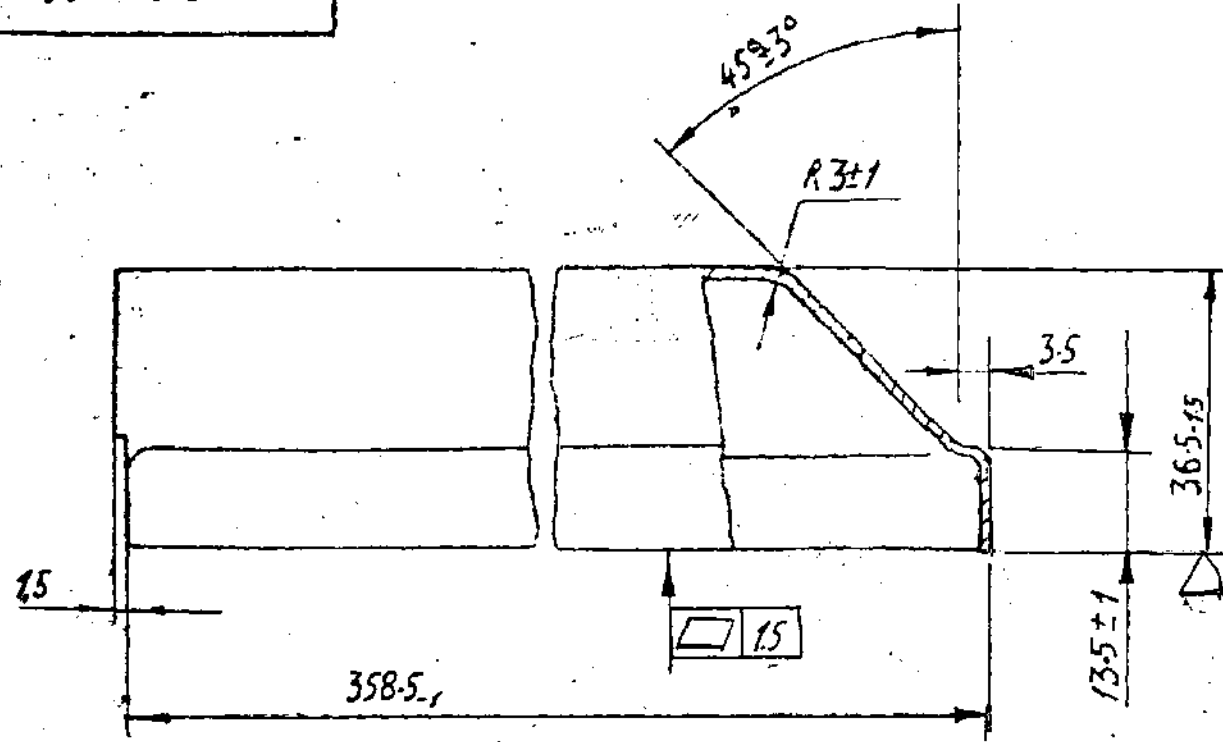
1. Blunt sharp edges.
2. Thinning of material to 1 mm is allowed after stamping.
3. Perform dimensions without deviations with an accuracy of ± 0.5 .
4. Local cracks and fissures may be welded-up with wire $\Lambda 63$, GOST 15527-70.
5. Header may be made from parts which should be butt-welded and welds should be dressed from outside.
6. Non-flatness of surface A should not exceed 1.5 mm.

USED ON: 765-03-05176

Handwritten marks: 410, 410

| | | | |
|--|---------------------------|---------------------------------------|-------|
| APPROVED | <i>[Signature]</i> M VASU | 765-03-131 | |
| CHECKED | <i>[Signature]</i> LB | HEADER | |
| CONTROLLERATE
OF
INSPECTION
(ICV) | | WEIGHT | SCALE |
| | | 0.410 | |
| | | SHT | SHTS |
| | | SHEET ДПРХ М12 НА Л 63
GOST 931-78 | |

Взам. штамп. в штаб. № 11001. Поименно в штаб. № 11001. Поименно в штаб. № 11001. Поименно в штаб. № 11001.



1. Unspecified limit deviations of dimensions are ± 0.5 mm.
2. Thinning of material to 1 mm is allowed after stamping.
3. Local cracks and fissures may be welded-up with wire $\Lambda-63$, GOST 15527-70.
4. Header may be made from parts which should be butt-welded and welds should be dressed from outside.

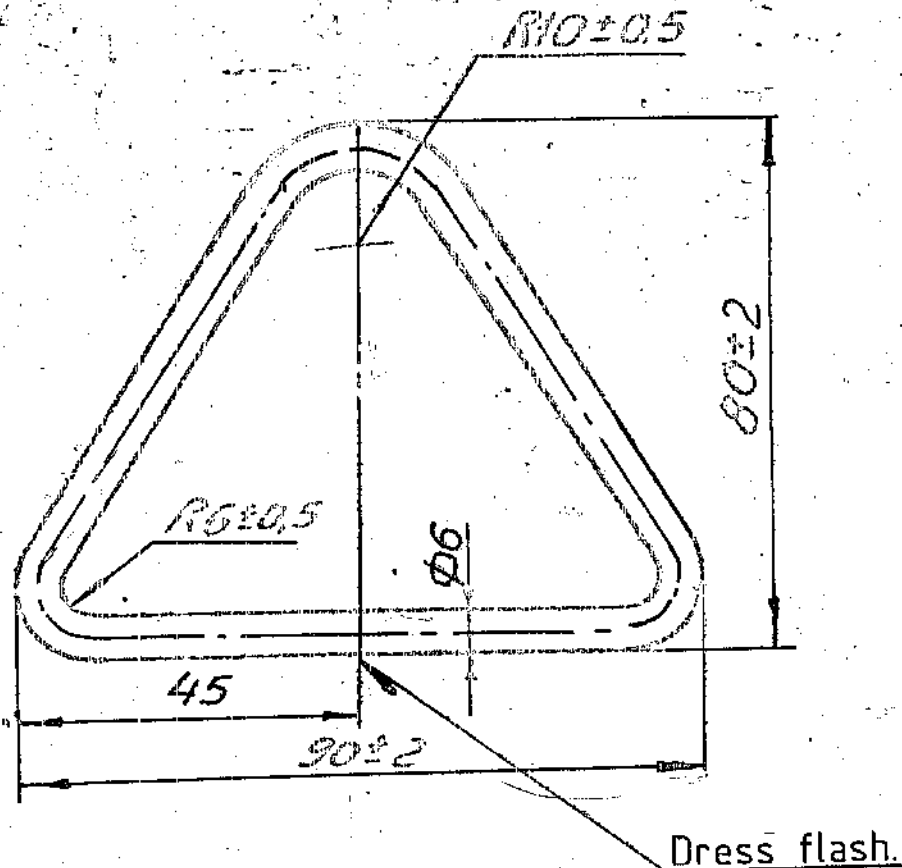
USED ON 765-03-05177

420

УТВЕРЖДЕНО: _____
 ДИЗАЙНЕР: _____
 ПРОЕКТОР: _____
 ИНЖЕНЕР: _____
 ТЕХНИЧЕСКИЙ НАДЗОР: _____

| | | | |
|--|--|-------------------------------------|-------|
| APPROVED | | 765-03-132 | |
| CHECKED | | HEADER | |
| CONTROLLERATE
OF
INSPECTION
(ICV) | | WEIGHT | SCALE |
| | | 0.338 | 1:1 |
| | | SHT | SHTS |
| | | SHEET АПР×М1.2 НАП63
GOST 931-78 | |

765-03-135



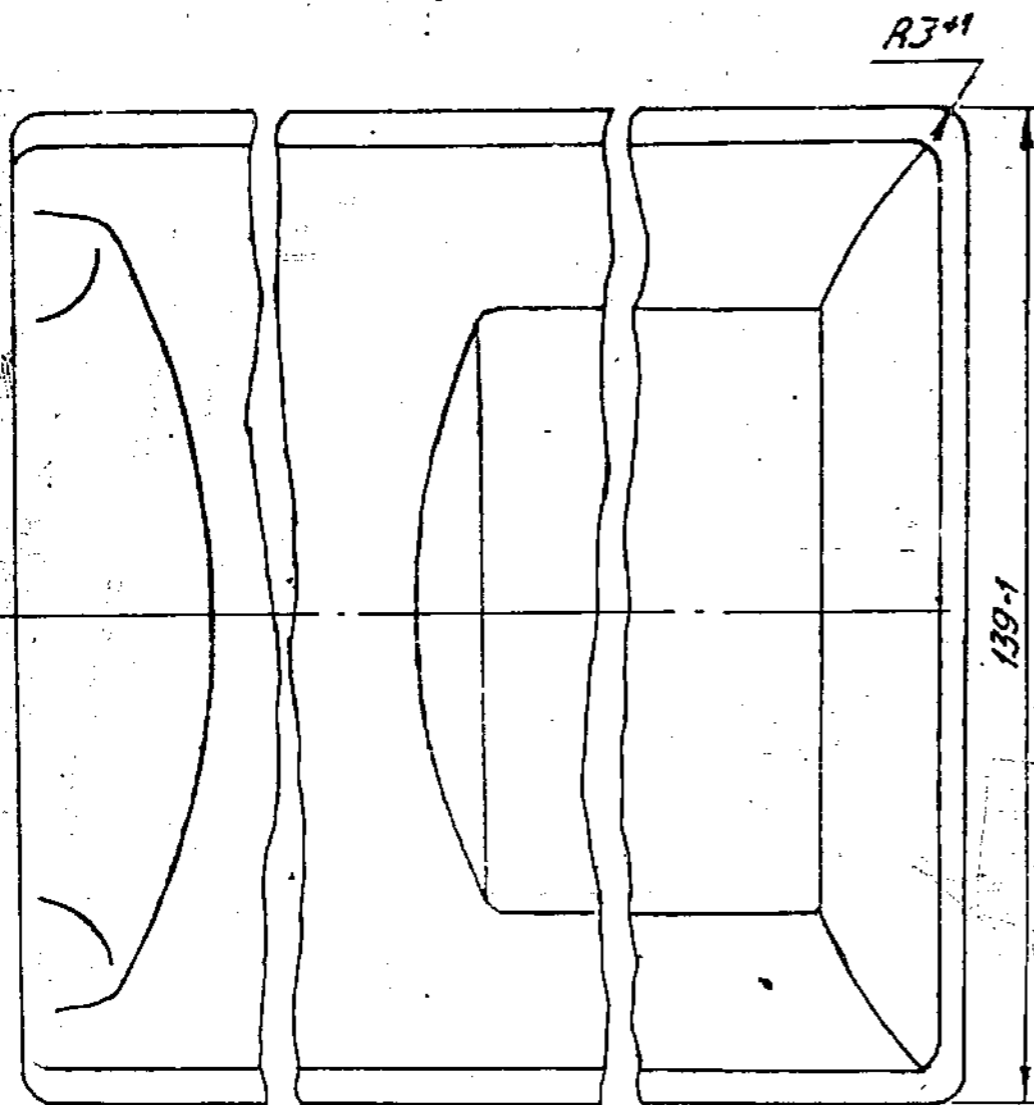
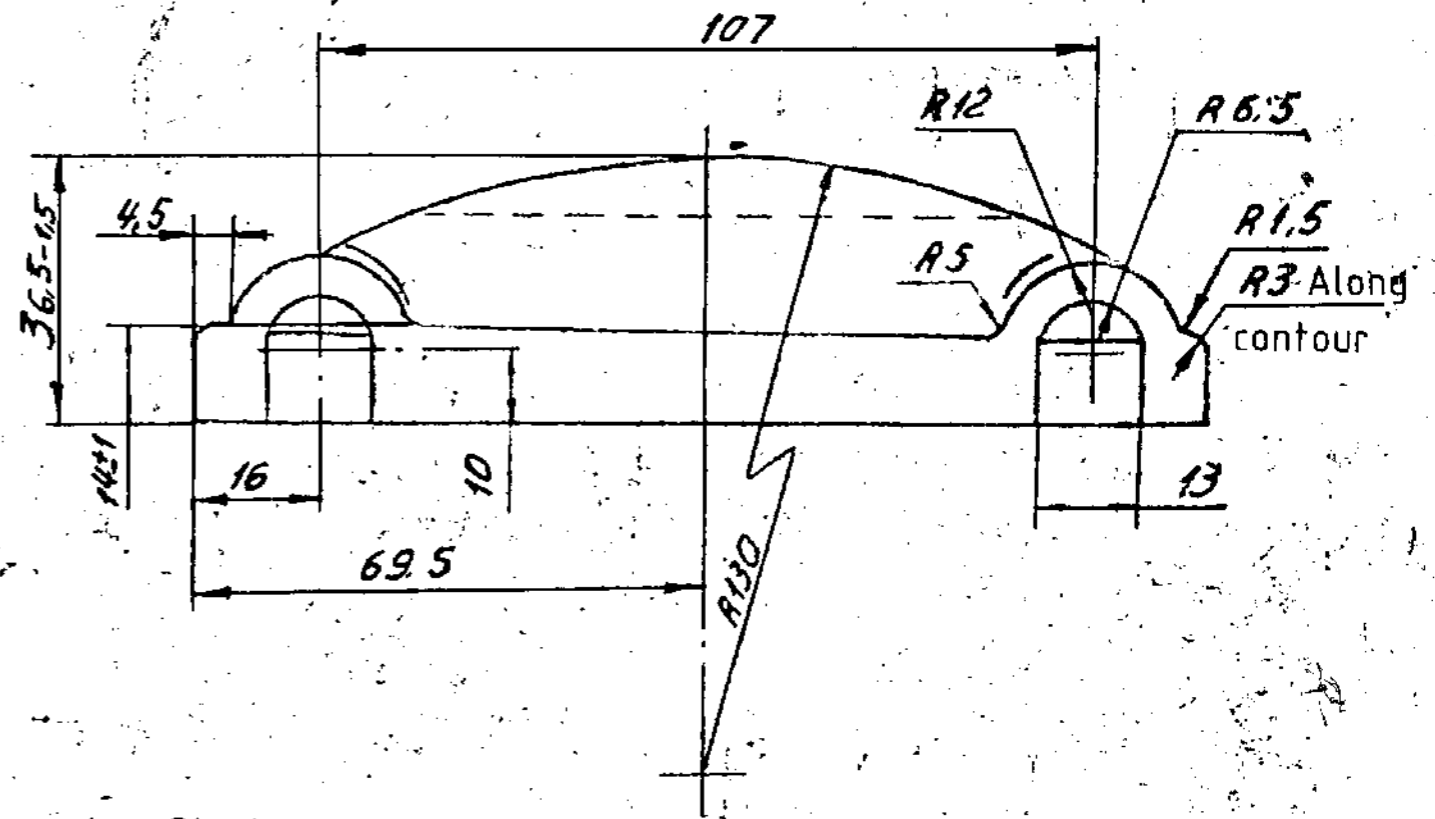
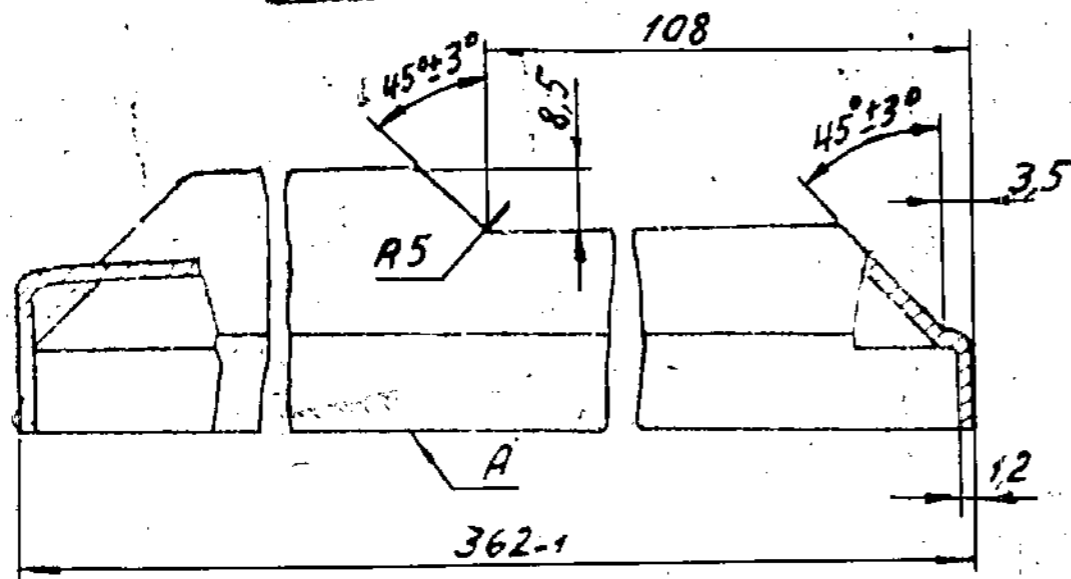
1. Alternate material is Low-carbon wire, GOST 17305-71 or wire KC, GOST 792-67.
2. Gas welding is allowed.

USED ON 765-03-05179

Handwritten signature and date

| | | | |
|--|---------------------------|------------------------------|--------------|
| APPROVED | <i>[Signature]</i> H VASU | 765-03-135 | |
| CHECKED | <i>[Signature]</i> | | WEIGHT SCALE |
| CONTROLLERATE
OF
INSPECTION
(ICV) | | HANDLE | |
| | | | 0.05 1:1 |
| | | SHT | SHTS |
| | | WIRE 6.0-C-I
GOST 3282-74 | |

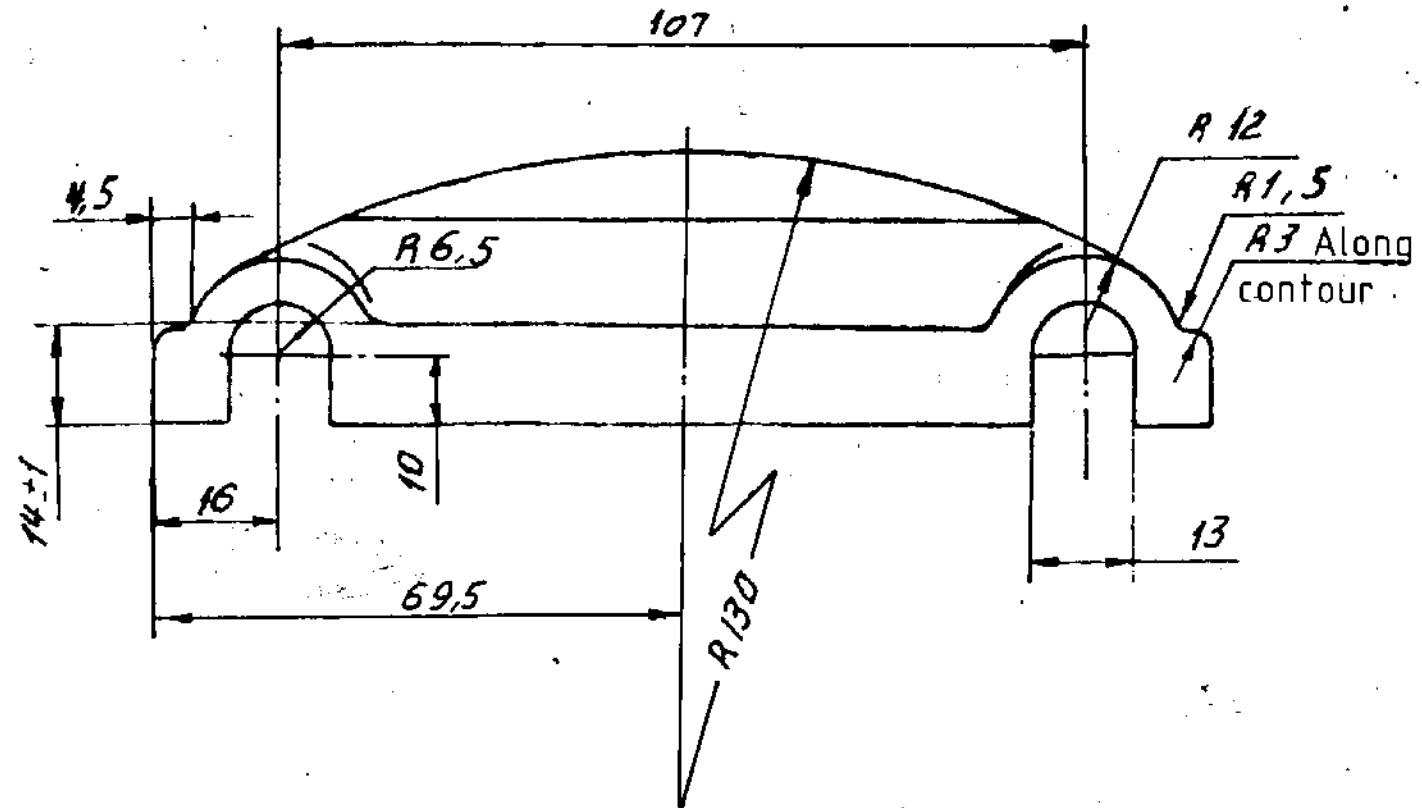
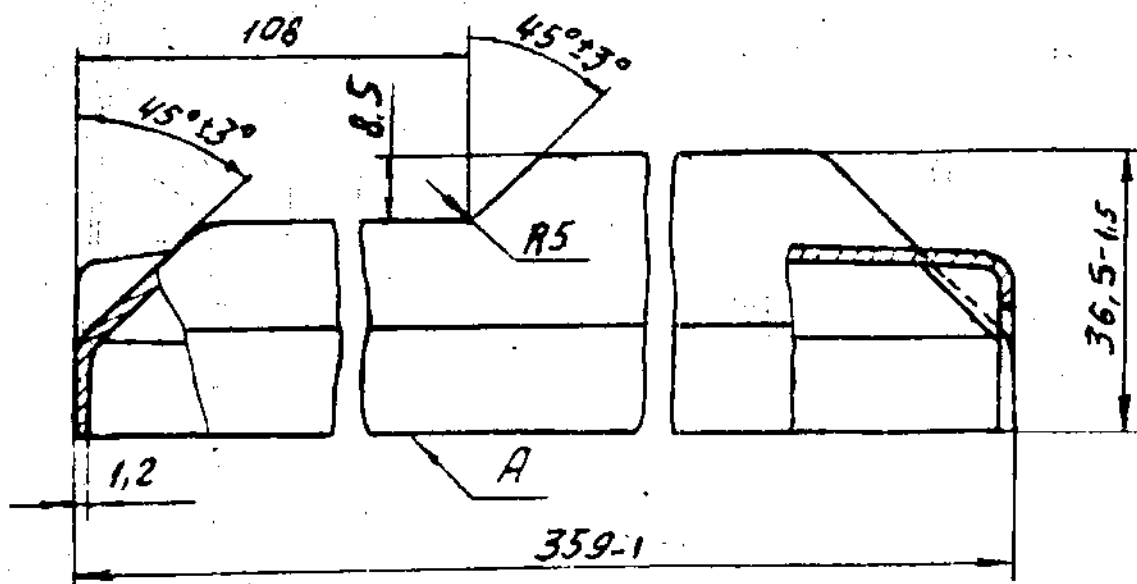
765-03-136



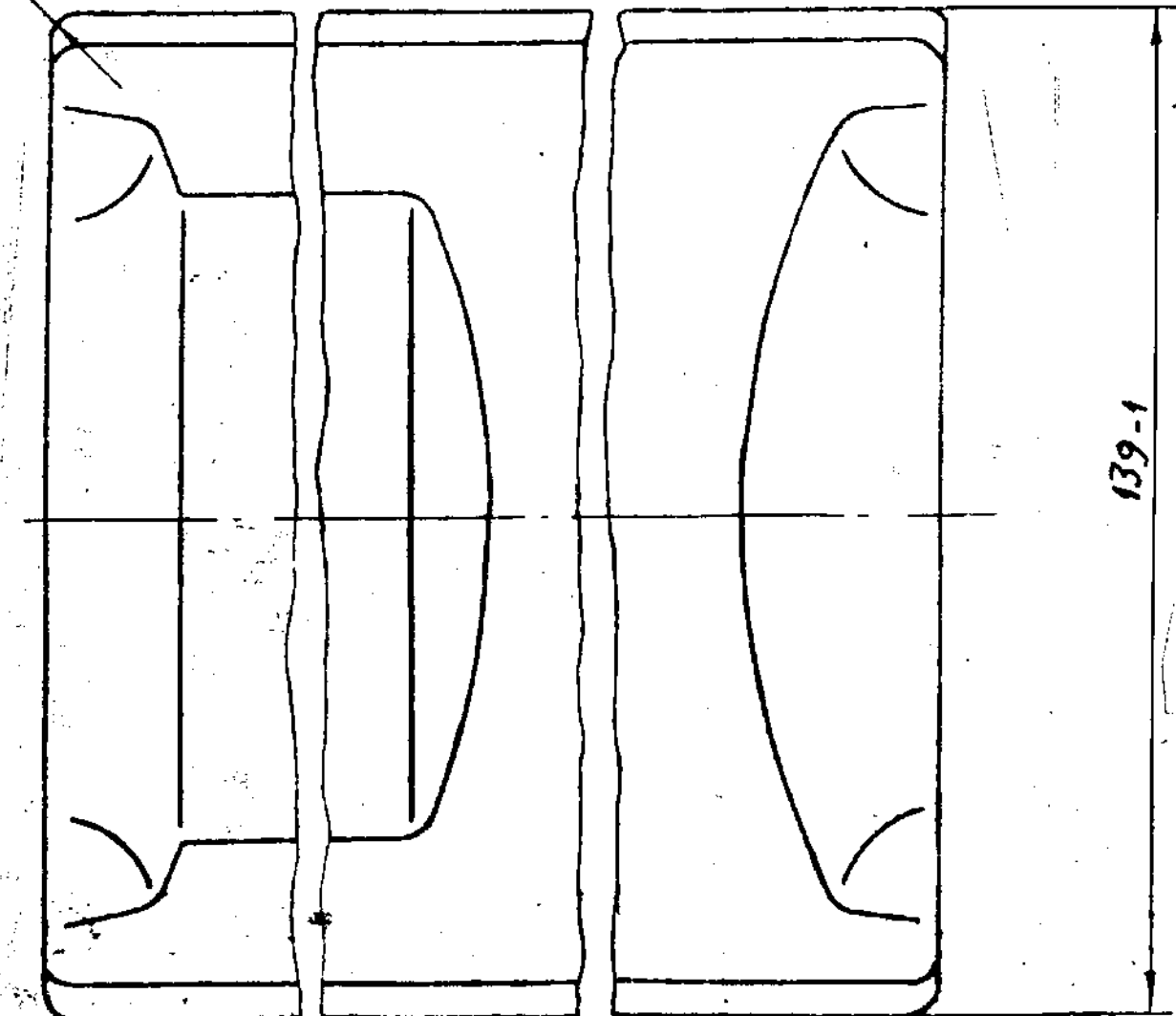
1. Blunt sharp edges.
2. Thinning of material is allowed after stamping upto 1.0 mm.
3. Perform dimensions without deviations with an accuracy of ± 0.5 mm upto 80 mm and ± 1 mm above 80 mm.
4. Local cracks and fissures may be welded with wire $\phi 63$, GOST 15527-70.
5. Non-flatness of surface A should not exceed 15 mm.
6. Unspecified stamping radii are R3.
7. Cut in corners followed by welding and dressing is allowed.

USED ON. 765-03-05179

| | | | |
|---|---------------|---------------------------------------|-------|
| APPROVED | <i>H VASU</i> | 765-03-136 | |
| CHECKED | <i>Suhman</i> | HEADER | |
| CONTROLLERATE
OF
INSPECTION
(CV) | | WEIGHT | SCALE |
| | | 0.670 | 1:1 |
| | | SHT | SHTS |
| | | PLATE АПР×М 1.2 НВ П63
GOST 931-78 | |



R3*



1. Blunt sharp edges.
2. Thinning of material is allowed after stamping upto 1.0 mm.
3. Perform dimensions without deviations with an accuracy ± 0.5 mm upto 80 mm and ± 1 mm above 80 mm.
4. Local cracks and fissures may be welded with wire $\Lambda 63$, GOST 15527-70.
5. Non-flatness of surface A should not exceed 15 mm.
6. Unspecified stamping radii are R3.
7. Cut in corners followed by welding and dressing is allowed.

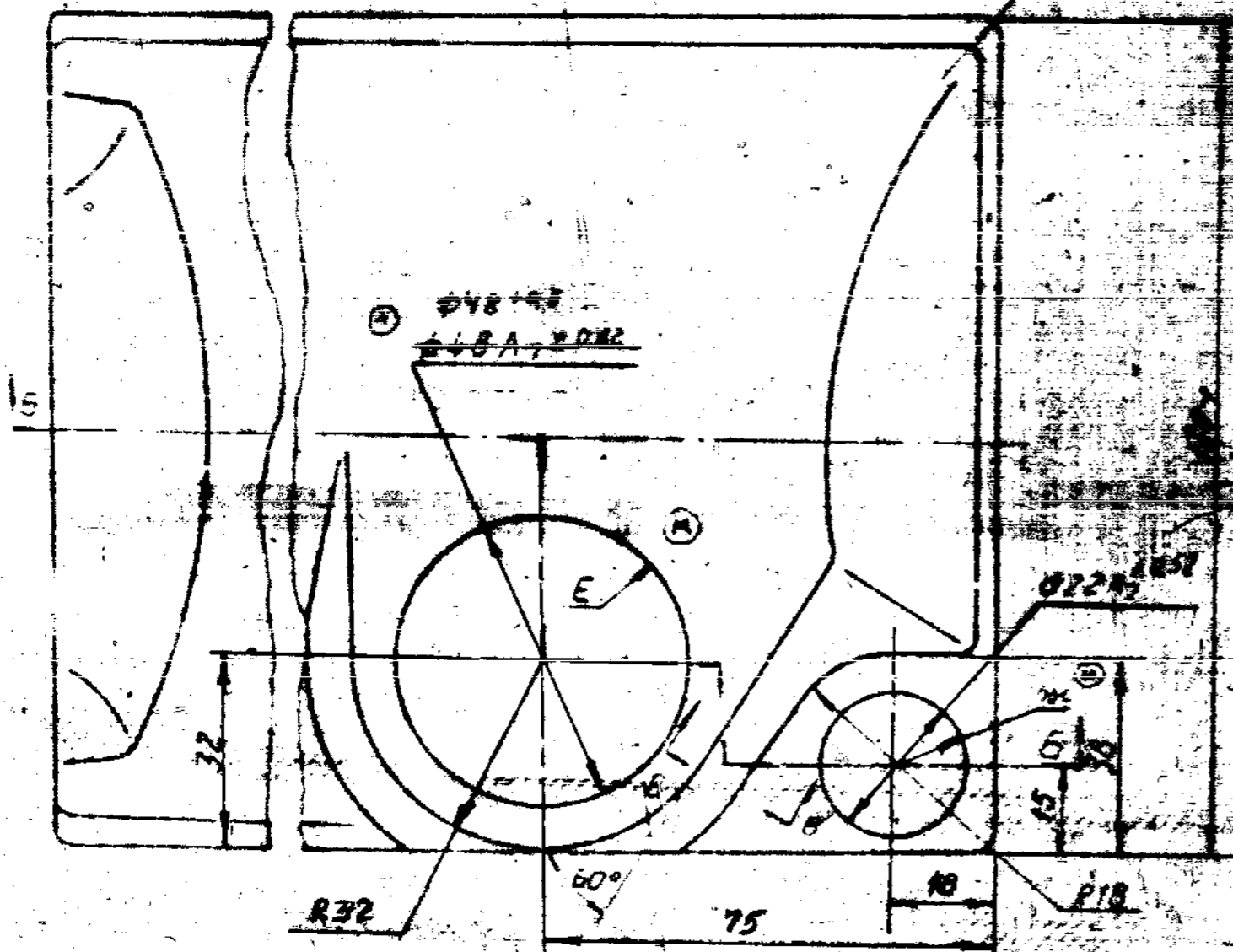
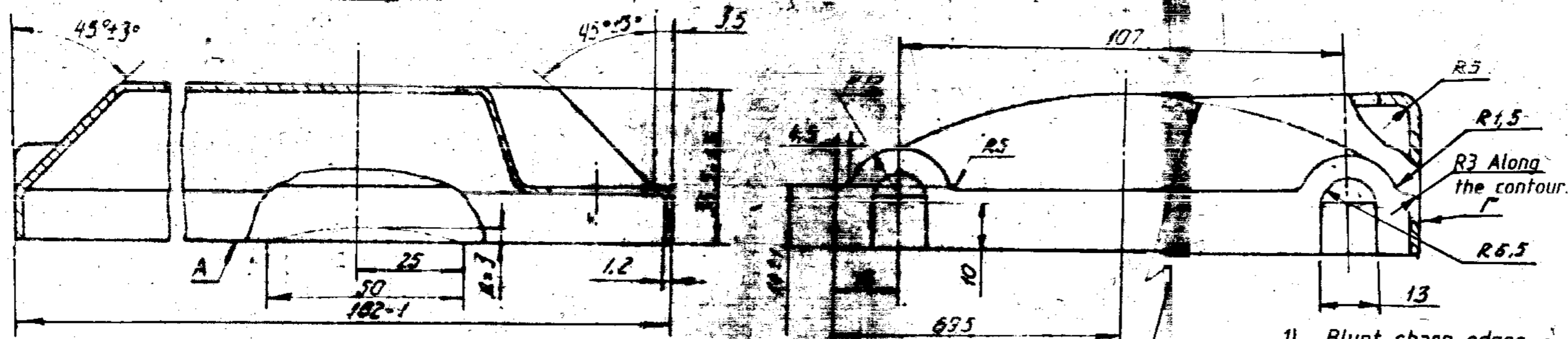
Handwritten note: 45°

| | | | |
|--|----------------|---|-------|
| APPROVED | <i>M VASU</i> | 765-03-137 | |
| CHECKED | <i>Sukhman</i> | HEADER | |
| CONTROLLERATE
OF
INSPECTION
(ICV) | | WEIGHT | SCALE |
| | | 0.660 | 1:1 |
| | | SHT | SHTS |
| | | PLATE Λ ПРХМ 1.2 HR
$\Lambda 63$ GOST 931-78 | |

USED ON. 765-03-C5180

765-03-138

5-6



9) Out of roundness surface E not exceeding 1.3mm and surface Ж not exceeding 1mm is allowed.

- 1). Blunt sharp edges.
- 2). Thinning of metal is allowed after stamping upto 1.0 mm.
- 3). Perform dimensions without deviations, with an accuracy $\pm 0.5^{mm}$ upto 80 and $\pm 1^{mm}$ above 80 mm.
- 4). Local cracks and fissures may be welded with wire А63 GOST 15527-70.
- 5). Non-flatness of surface A should not exceed 1.5mm.
- 6). Unspecified stamping radii are R3.
- 7). Cut in corners followed by welding and dressing is allowed.
- 8). Contraction of metal is allowed on wall Γ at a height A, in compliance with conventional dotted-line.

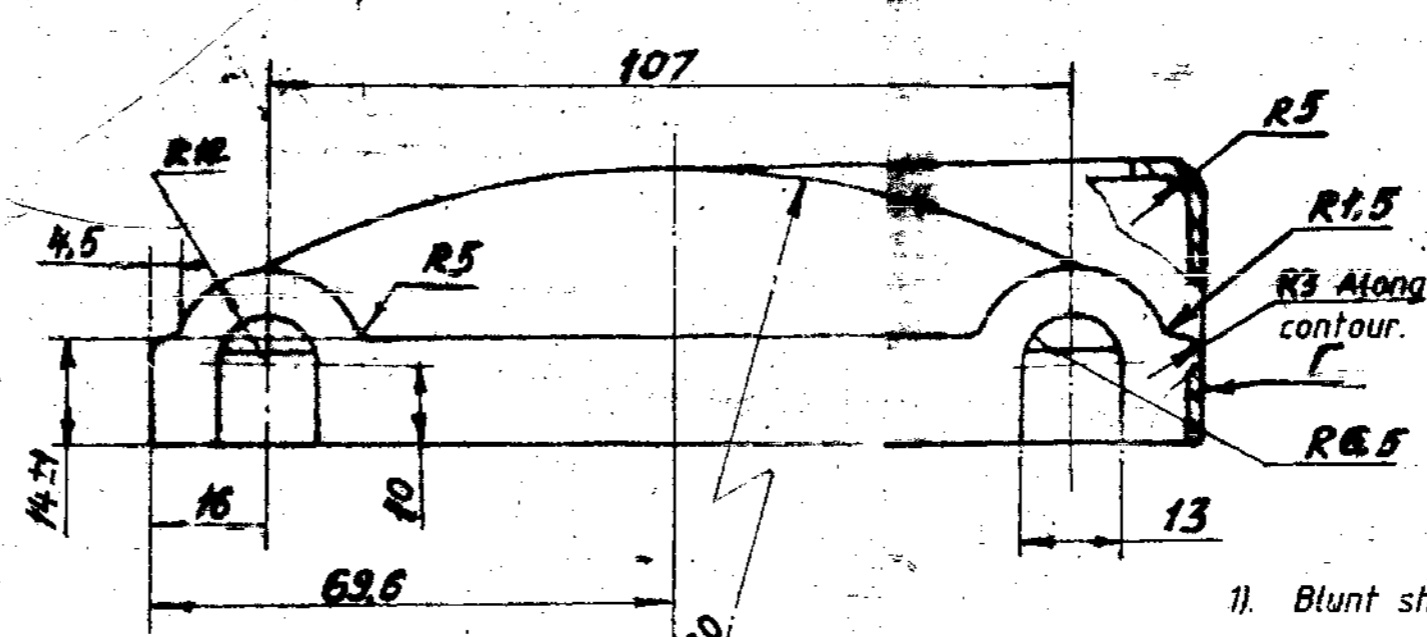
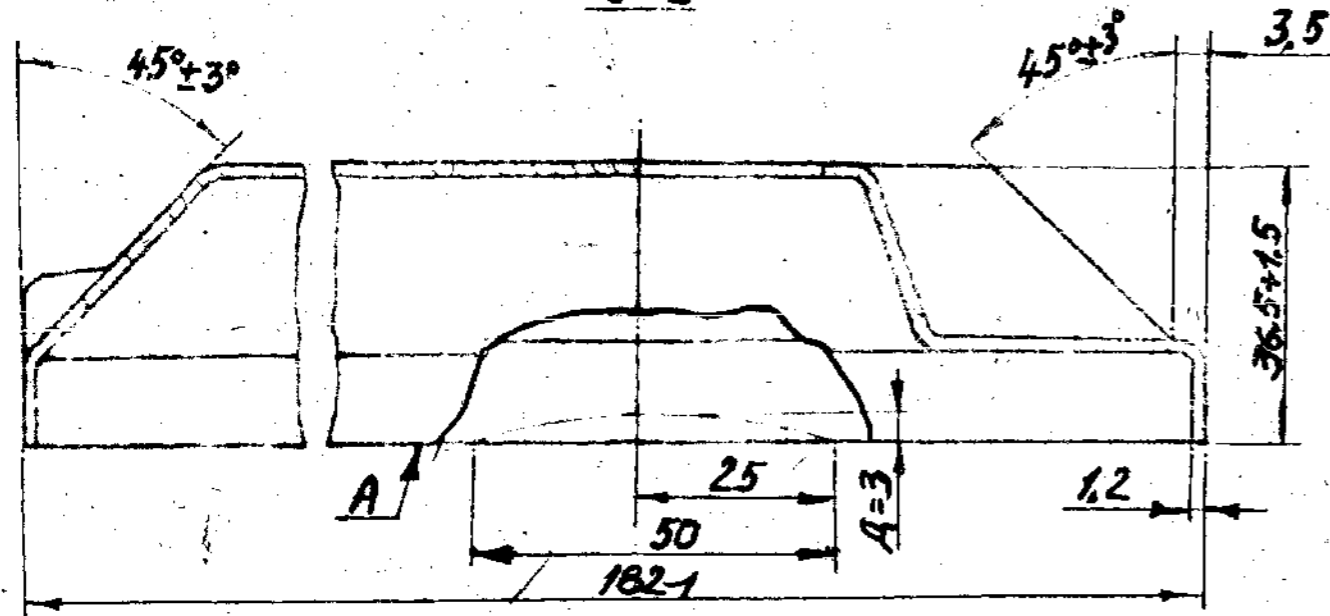
USED ON: 765-03-08181

| | | | |
|--------------------------------|--------|------------------------------------|--------------|
| D | M VASU | 765-03-138 | |
| | Shumar | | |
| TROLLERATE OF INSPECTION (ICV) | HEADER | | WEIGHT SCALE |
| | | | 0.34 1:1 |
| | | | SH1 SHTS |
| | | PLATE АНРХМ 1.2 НАЛ 63 GOST 931-78 | 58 OF 92 |

1. 2. 3. 4. 5. 6. 7. 8. 9. 10. 11. 12. 13. 14. 15. 16. 17. 18. 19. 20. 21. 22. 23. 24. 25. 26. 27. 28. 29. 30. 31. 32. 33. 34. 35. 36. 37. 38. 39. 40. 41. 42. 43. 44. 45. 46. 47. 48. 49. 50. 51. 52. 53. 54. 55. 56. 57. 58. 59. 60. 61. 62. 63. 64. 65. 66. 67. 68. 69. 70. 71. 72. 73. 74. 75. 76. 77. 78. 79. 80. 81. 82. 83. 84. 85. 86. 87. 88. 89. 90. 91. 92. 93. 94. 95. 96. 97. 98. 99. 100.

765-03-139

6-6

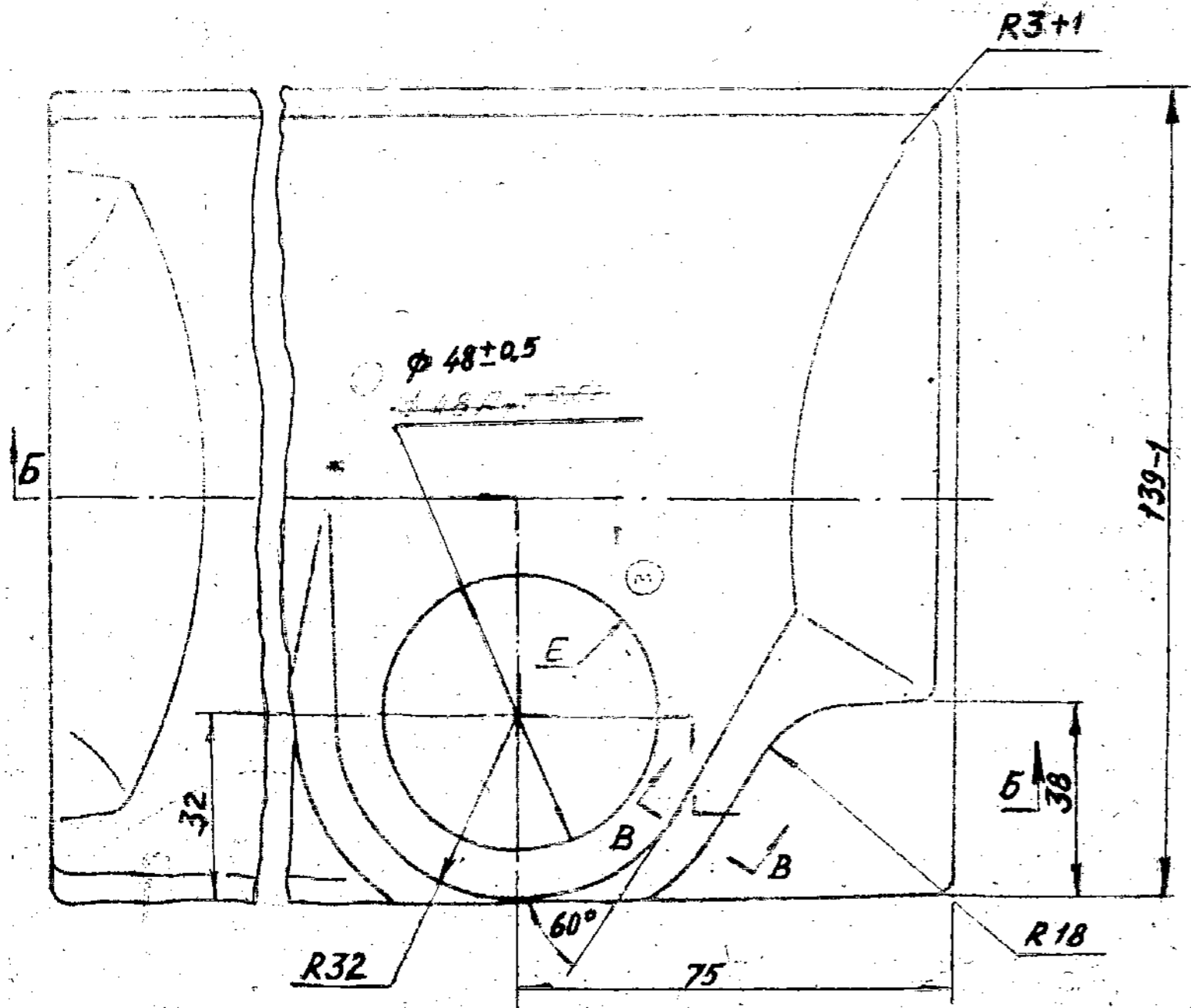


B-B



- 1). Blunt sharp edges.
- 2). Thinning of metal is allowed after stamping upto 1.0 mm.
- 3). Perform dimensions without deviations with an accuracy ± 0.5 mm upto 80^{mm} and ± 1 ^{mm} above 80-mm
- 4). Local cracks and fissures may be welded with wire $\Lambda 63$ GOST 15527-70.
- 5). Non-flatness of surface-A should not exceed 1.5 mm.
- 6). Unspecified stamping radii are R3.
- 7). Cut in corners followed by welding and dressing is allowed.
- 8). Contraction of metal is allowed on wall Γ at a height A in compliance with conventional dotted-line.
- 9). Out of roundness of surface E not exceeding 1.3mm is allowed.

USED ON -765-03-05182



APPROVED
CHECKED
CONTROL STATE
OF
INSPECTION
(ICV)

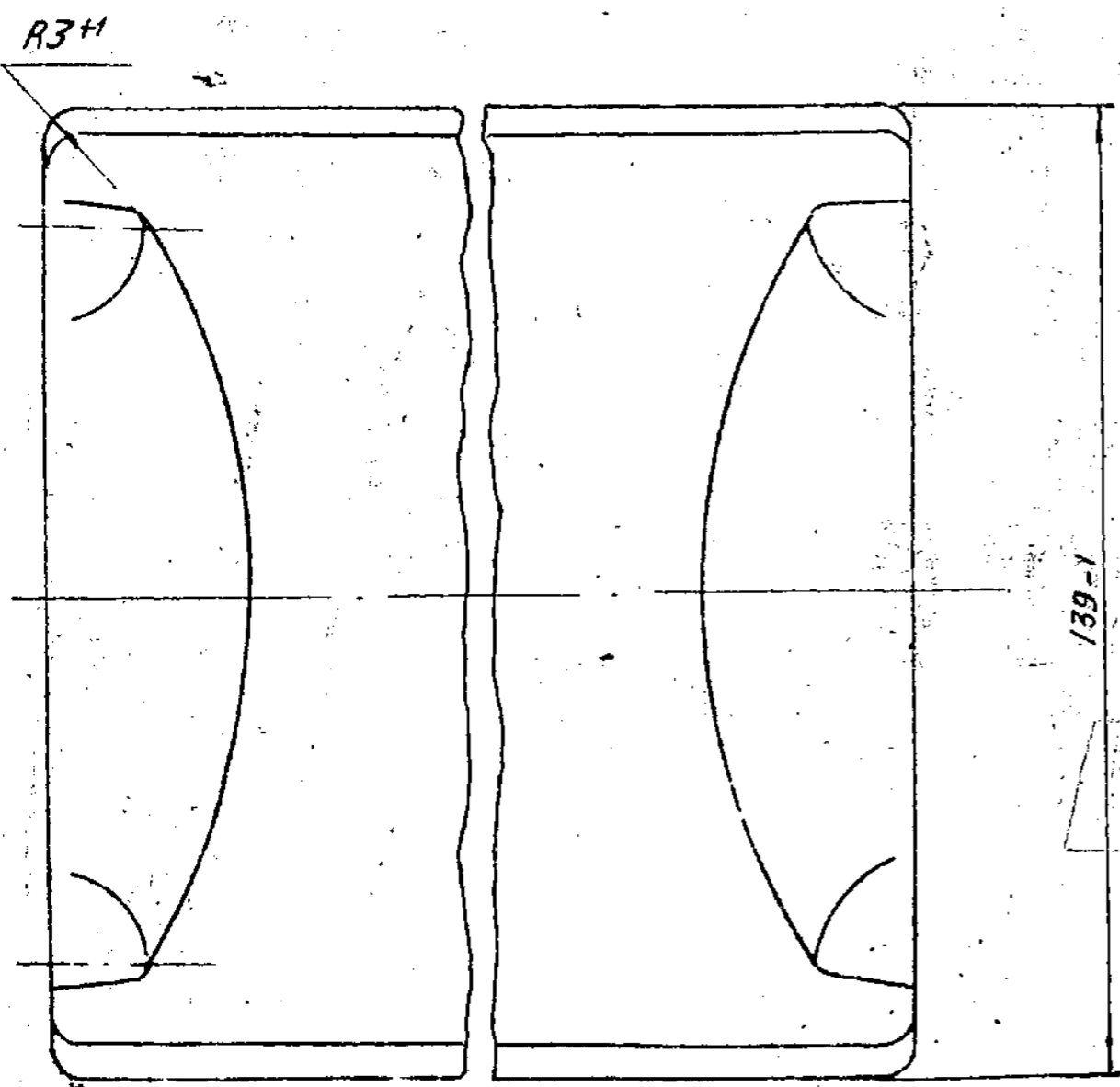
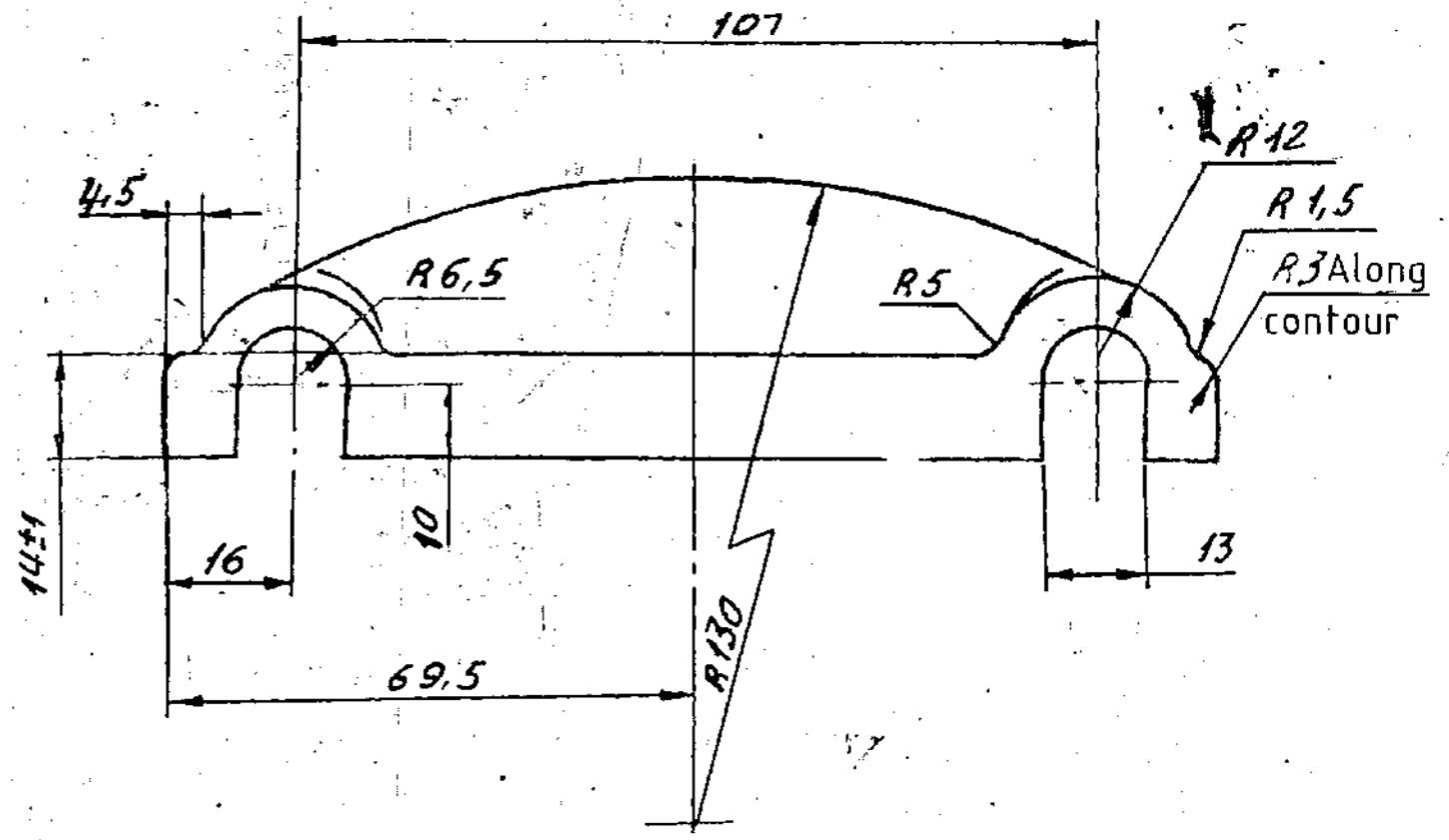
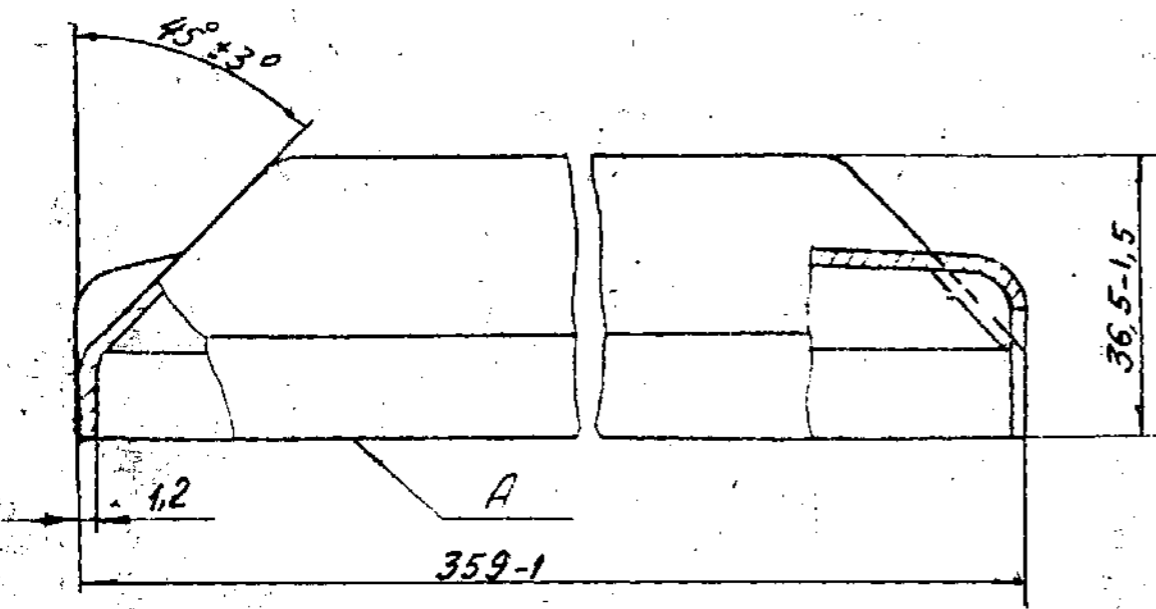
765-03-139

HEADER

PLATE Λ П P X M 1.2 H A Λ 63
GOST 931-78

0.340 1:1
59 OF 92

X15
40

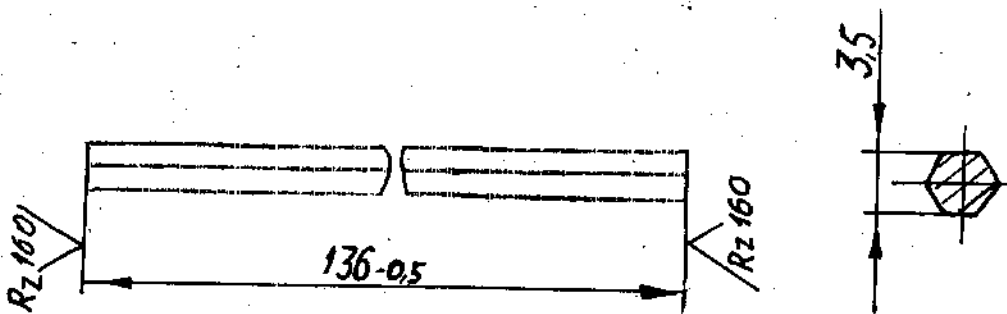


1. Blunt sharp edges.
2. Thinning of material to 1 mm is allowed after stamping.
3. Perform dimensions without deviations with accuracy of ± 0.5 mm upto 80 mm and ± 1 mm above 80 mm.
4. Local cracks and fissures may be welded-up with wire $\Lambda 63$ GOST 15527-70.
5. Non-flatness of surface A should not exceed 1.5 mm.
6. Unspecified stamping radii are R3.
7. Cut in corners followed by welding-up and dressing is allowed.

| | | | |
|--|-------------------------------|---|-------|
| APPROVED | <i>[Signature]</i>
H. VASU | 765-03-140 | |
| CHECKED | <i>[Signature]</i> | HEADER | |
| CONTROLLERATE
OF
INSPECTION
(ICV) | | WEIGHT | SCALE |
| | | 0.650 | 1:1 |
| | | SHT | SMTS |
| | | SHEET ДПР ХМ НД $\Lambda 63$
GOST 931-78 | |

765-03-141

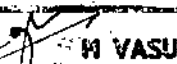

(N/A)



1. Non-flatness should not exceed 0.6 mm, over the length 140 mm.

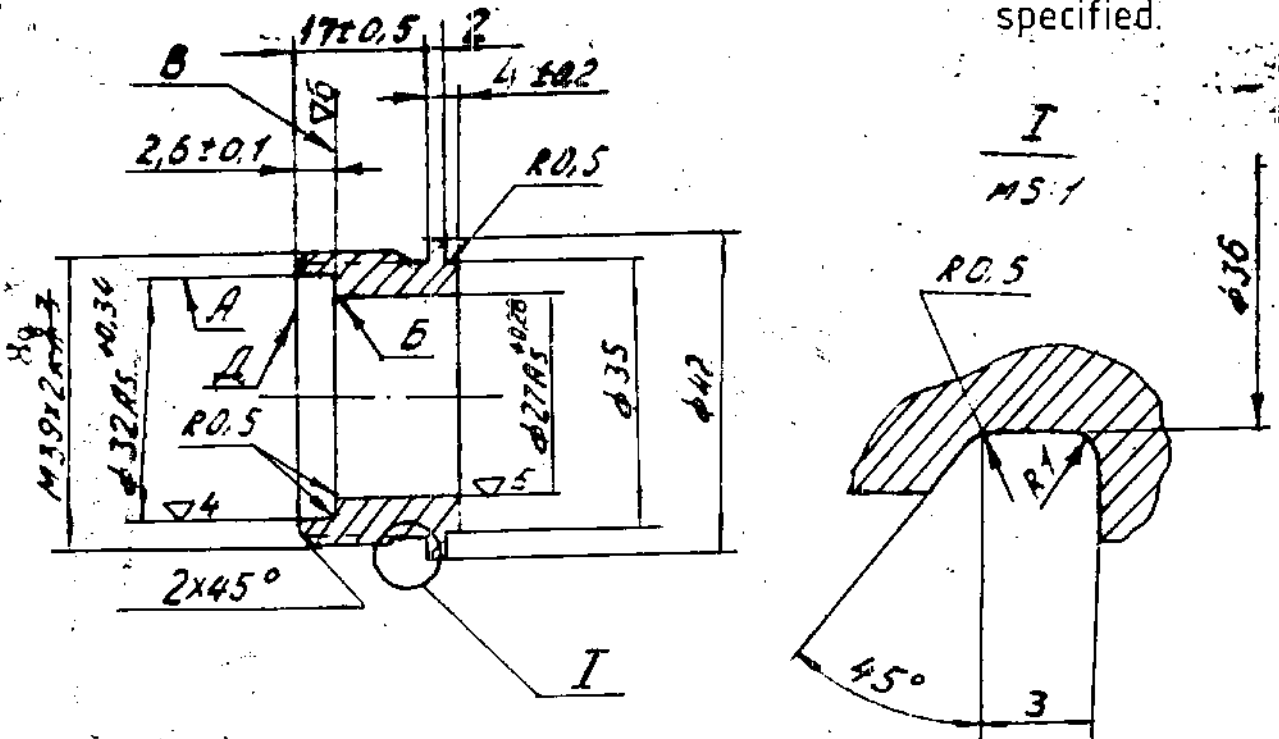
X159
47

USED ON-765-03-05179

| | | | |
|--|--|----------------------|-----------|
| APPROVED |  H VASU | 765-03-141 | |
| CHECKED |  | DISTANCE PIECE | |
| CONTROLLERATE
OF
INSPECTION
(ICV) | | WIRE PШГНМ 35 | SCALE 1:1 |
| | | AC 59-1 GOST 1066-75 | SHT SHTS |

765-03-152

Unless otherwise specified.

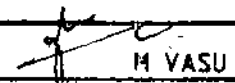



1. Blunt sharp edges.
2. Run-out of surface A with respect to surface B should not exceed 0.08 mm (Qualified tolerance).
3. Non-squareness of surface B to surface B should not exceed 0.1 mm over a length 15 (Qualified tolerance).
4. Perform dimensions without deviations as per accuracy class 7, OST 1010.
5. Alternate material is steel cm3cn GOST 380-71 and 10, 15, 20 GOST 1050-74 and 15Г, 20Г GOST 4543-71.
6. Butt-end play of surface D with respect to surface B should not exceed 0.06 mm (Qualified tolerance).



USED ON 765-03-05154

| | | | |
|--|---------------------------|-----------------|-------|
| APPROVED | <i>[Signature]</i> # VASU | 765-03-152 | |
| CHECKED | <i>[Signature]</i> | FLANGE | |
| CONTROLLERATE
OF
INSPECTION
(ICV) | | WEIGHT | SCALE |
| | | 0.08 | 1:1 |
| | | SHT | SHTS |
| | | 20 GOST 1050-74 | |



| DESIGNATION | DESCRIPTION | REQUIRED FOR | QTY | TOTAL | REMARKS | MARKING ABOUT CHANGE |
|--------------------------------------|---|--------------|-----|-------|---------|-------------------------|
| 765-03-K6 | RADIATORS. | | | | | |
| 765-03-cb152 | Header | 765-03-cb162 | 1 | 1 | | |
| 765-03-cb154 | Header | 765-03-cb162 | 2 | 2 | | |
| LY2/ICVS 2930-000533
765-03-cb161 | Cooler Oil Vehicular
Oil radiator | 765-03-K6 | 1 | 1 | | REF. DC(U)
01007-1CV |
| LY2/ICVS 2930-000534
765-03-cb162 | Cooler Oil Vehicular
Radiator Kna | 765-03-K6 | 1 | 1 | | REF. DC(U)
01007-1CV |
| 765-03-cb164 | Stock of Tubes | 765-03-cb178 | 1 | 1 | | |
| 765-03-cb165 | Section | 765-03-cb164 | 3 | 3 | | |
| 765-03-cb166 | Stock of Tubes | 765-03-cb161 | 1 | 1 | | |
| 765-03-cb167 | Section | 765-03-cb168 | 1 | 1 | | |
| 765-03-cb168 | Stock of Tubes | 765-03-cb162 | 1 | 1 | | |
| 765-03-cb169 | Section | 765-03-cb166 | 2 | 2 | | |
| 765-03-cb175 | Header | 765-03-cb161 | 1 | 1 | | |
| 765-03-cb176 | Header | 765-03-cb161 | 1 | 1 | | |
| 765-03-cb177 | Header | 765-03-cb161 | 1 | 1 | | |
| 765-03-cb178 | Water radiator | 765-03-K6 | 1 | 1 | | |
| 765-03-cb179 | Header | 765-03-cb178 | 2 | 2 | | |
| 765-03-cb180 | Header | 765-03-cb178 | 2 | 2 | | |
| 765-03-cb181 | Header | 765-03-cb178 | 1 | 1 | | |
| 765-03-cb182 | Header | 765-03-cb178 | 1 | 1 | | |
| 765-03-cb183 | Header | 765-03-cb178 | 1 | 1 | | |

| | | | |
|--|---|------------|--------|
| APPROVED | 
M VASU | 765-03-C16 | |
| CHECKED |  | RADIATORS | |
| CONTROLLERATE
OF
INSPECTION
(ICV) | | WEIGHT | SCALE |
| | | SHT 2 | SHTS 7 |
| | | 2 OF 2 | |



| DESIGNATION | DESCRIPTION | REQUIRED FOR | QTY | TOTAL | REMARKS | MARKING ABOUT CHANGE |
|-------------|-------------|--------------|-----|-------|-----------|----------------------|
| 765-03-8 | Hinge. | 765-03-cb179 | 2 | 4 | | |
| | | 765-03-cb180 | 2 | 4 | | |
| 765-03-11 | Partition. | 765-03-cb166 | 1 | 1 | | |
| | | 765-03-cb168 | 1 | 1 | | |
| 765-03-12 | Spacer | 765-03-cb175 | 13 | 13 | | |
| | | 765-03-cb176 | 6 | 6 | | |
| | | 765-03-cb152 | 6 | 6 | | |
| | | 765-03-cb177 | 6 | 6 | | |
| | | 765-03-cb154 | 3 | 6 | | |
| 765-03-86 | Tube | 765-03-cb165 | 282 | 846 | | |
| 765-03-87 | Tube | 765-03-cb169 | 79 | 158 | | |
| 765-03-88 | Tube | 765-03-cb167 | 82 | 82 | | |
| | | 765-03-cb169 | 4 | 8 | | |
| 765-03-91 | Flange | 765-03-cb181 | 1 | 1 | | |
| | | 765-03-cb182 | 1 | 1 | | |
| 765-03-92 | Plate | 765-03-cb167 | 125 | 125 | | |
| | | 765-03-cb169 | 125 | 250 | | |
| 765-03-98 | Header | 765-03-cb152 | 1 | 1 | | |
| 765-03-95 | Plate | 765-03-cb165 | 212 | 636 | max, qty. | |
| 765-03-100 | Header | 765-03-cb154 | 1 | 2 | | |
| 765-03-102 | Tube Board | 765-03-cb168 | 2 | 2 | | |
| 765-03-125 | Tube Board | 765-03-cb164 | 2 | 2 | | |
| 765-03-126 | Partition. | 765-03-cb164 | 5 | 5 | | |
| 765-03-128 | Tube Board | 765-03-cb166 | 1 | 1 | | |

| | | | |
|---|--|------------|--------------|
| APPROVED |  H VASU | 765-03-cn6 | |
| CHECKED |  | RADIATORS | WEIGHT SCALE |
| CONTROLLERATE
OF
INSPECTION
(IC V) | | | SHT 3 SHTS 7 |
| | | 1A 3 OF 92 | |

| DESIGNATION | DESCRIPTION | REQUIRED FOR | QTY | TOTAL | REMARKS | MARKING ABOUT CHANGE |
|-------------|------------------|--------------|-----|-------|---------|----------------------|
| | Primer | 765-03-cb161 | | | | |
| | φЛ-03-Ж | 765-03-cb162 | | | | |
| | GOST 9109-76 | 765-03-cb172 | | | | |
| | | | | | | |
| | Solder Л63 | 765-03-cb161 | | | | |
| | GOST 15527-70 | 765-03-cb164 | | | | |
| | | 765-03-cb166 | | | | |
| | | 765-03-cb168 | | | | |
| | | 765-03-cb179 | | | | |
| | | 765-03-cb176 | | | | |
| | | 765-03-cb177 | | | | |
| | | 765-03-cb180 | | | | |
| | | 765-03-cb181 | | | | |
| | | 765-03-cb182 | | | | |
| | | 765-03-cb152 | | | | |
| | | 765-03-cb154 | | | | |
| | | 765-03-cb175 | | | | |
| | | | | | | |
| | Solder 4 | 765-03-cb164 | | | | |
| | НОЦЦУ 30-2 | 765-03-cb166 | | | | |
| | GOST 21930-76 | 765-03-cb168 | | | | |
| | | 765-03-cb179 | | | | |
| | | 765-03-cb180 | | | | |
| | | 765-03-cb181 | | | | |
| | | 765-03-cb182 | | | | |
| | | 765-03-cb183 | | | | |
| | | | | | | |
| | SolderНОЦЦУ 30-2 | 765-03-cb178 | | | | |
| | GOST 21931-76 | | | | | |

| | | | | |
|---|--|------------|--------|--|
| APPROVED |  M VASU | 765-03-сн6 | | |
| CHECKED |  | RADIATORS | | |
| CONTROLLERATE
OF
INSPECTION
(IC V) | | WEIGHT | SCALE | |
| | | SHT 6 | SHTS 7 | |

| DESIGNATION | DESCRIPTION | REQUIRED FOR | QTY | TOTAL | REMARKS | MARKING ABOUT CHANGE |
|-------------|-----------------|--------------|-----|-------|---------|----------------------|
| | Solder | 765-03-cb165 | | | | |
| | 4НОССУ 18-2 | 765-03-cb167 | | | | |
| | GOST 21930-76. | 765-03-cb169 | | | | |
| | | 765-03-cb152 | | | | |
| | | 765-03-cb154 | | | | |
| | | 765-03-cb175 | | | | |
| | | 765-03-cb176 | | | | |
| | | 765-03-cb177 | | | | |
| | Solder Пcp-45 | 765-03-cb182 | | | | |
| | GOST 19738-74. | 765-03-cb179 | | | | |
| | | 765-03-cb180 | | | | |
| | | 765-03-cb181 | | | | |
| | | 765-03-cb183 | | | | |
| | Enamel n φ -223 | 765-03-cb161 | | | | |
| | Brown | 765-03-cb162 | | | | |
| | GOST 14923-78. | | | | | |
| | Enamel n φ -223 | 765-03-cb178 | | | | |
| | Green | | | | | |
| | GOST 14923-78. | | | | | |
| | Solder | 765-03-cb164 | | | | |
| | НОССУ 30-2 | 765-03-cb161 | | | | |
| | GOST 21931-76. | 765-03-cb162 | | | | |
| | | 765-03-cb166 | | | | |
| | | 765-03-cb168 | | | | |

| | | | |
|---|--|------------|--------|
| APPROVED |  M VASU | 765-03-cn6 | |
| CHECKED |  | RADIATORS | |
| CONTROLLERATE
OF
INSPECTION
(IC V) | | WEIGHT | SCALE |
| | | SHT 7 | SHTS 7 |
| | | 24 | |

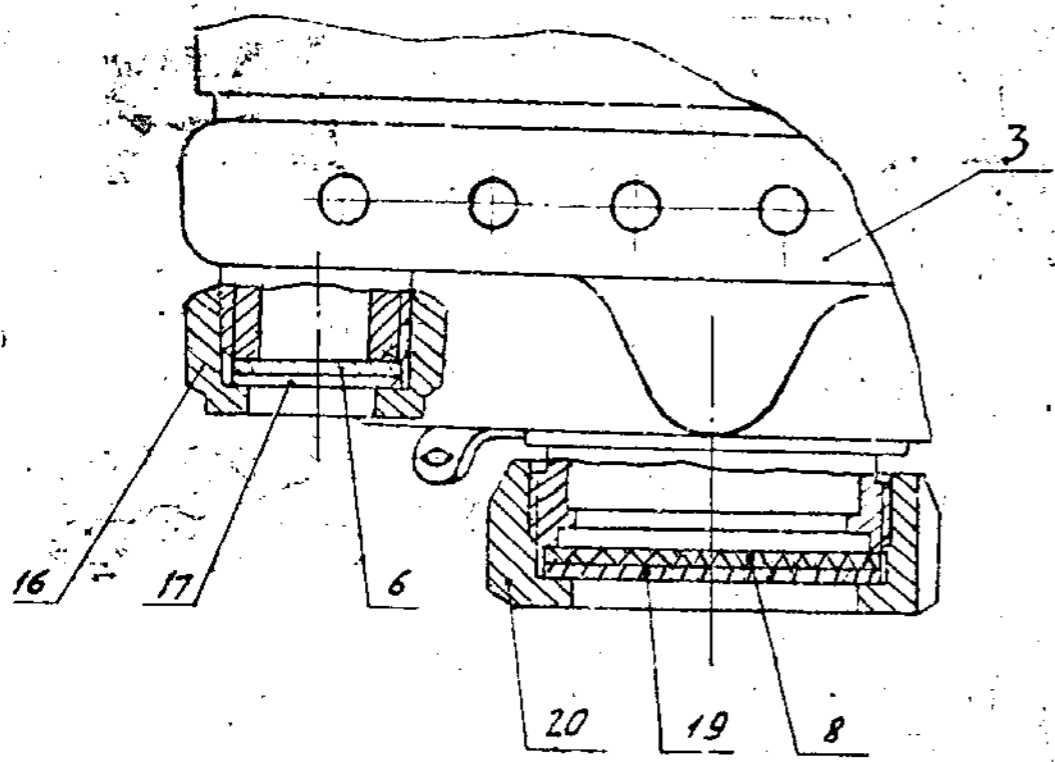
765-03-K6

USED ON. 765-C6116.

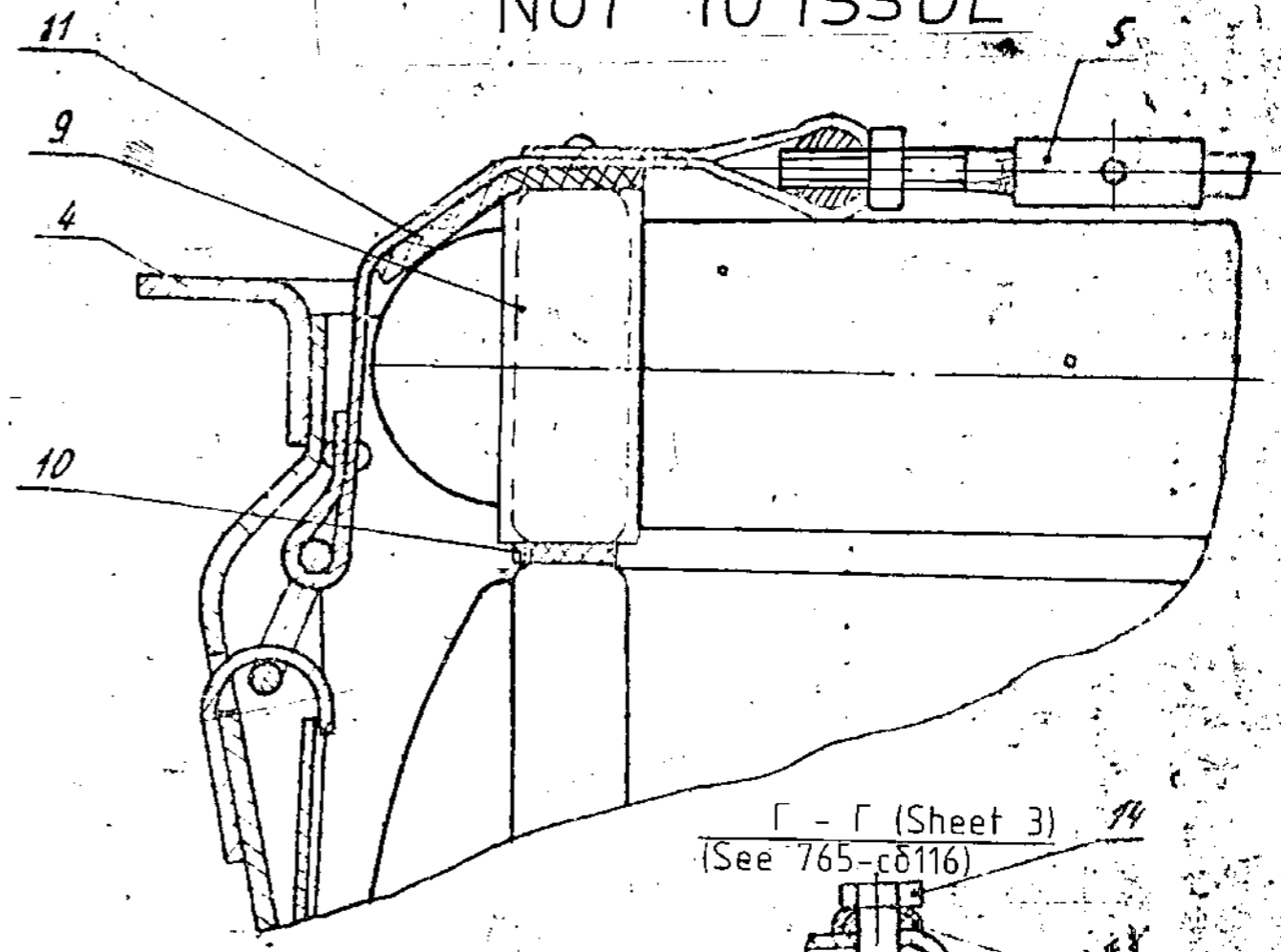
| DESIGNATION | DESCRIPTION | QTY. | REMARKS |
|----------------------|--|------|----------------------|
| 765-03-c8178 | Water radiator | 1 | |
| | | | |
| | | | |
| LY2/ICVS 2930-000534 | | | |
| 765-03-c8162 | Gear box and steering gear | 1 | REF. DC(1) 01007-ICV |
| | unit radiator. Cooler Oil Vehicular | | |
| LY2/ICVS 2930-000533 | | | |
| 765-03-c8161 | Oil cooler Cooler Oil Vehicular | 1 | REF. DC(1) 01007-ICV |

| | | | | |
|--|----------------|-------------------------|-----------|-------|
| APPROVED | M. VASU | 765-03-K6 | 67 of 342 | |
| CHECKED | | | | |
| CONTROLLERATE
OF
INSPECTION
(ICV) | | RADIATOR
AND COOLERS | WEIGHT | SCALE |
| | | | 120.00 | |
| | | | SHT | SHTS |

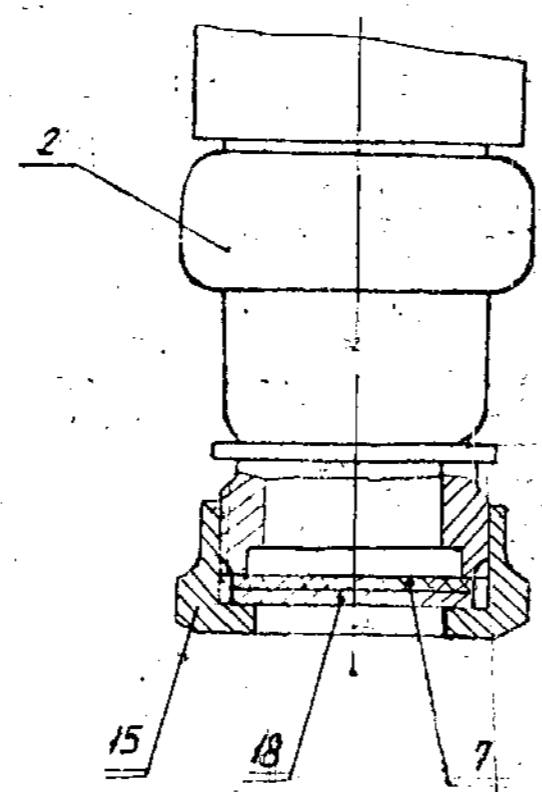
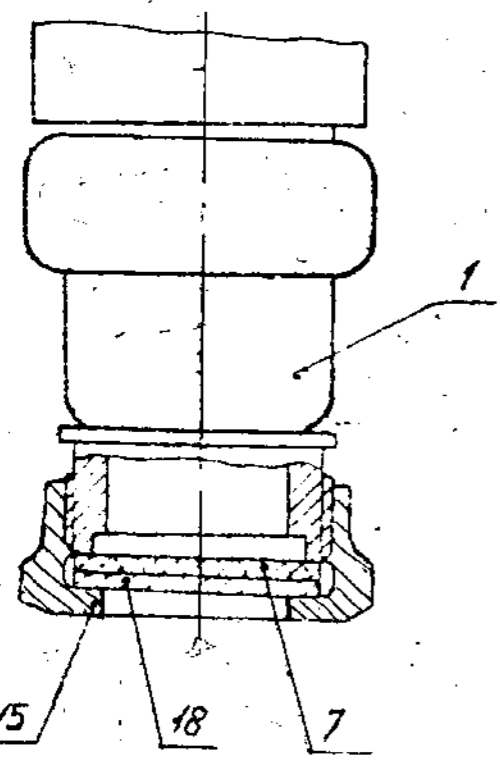
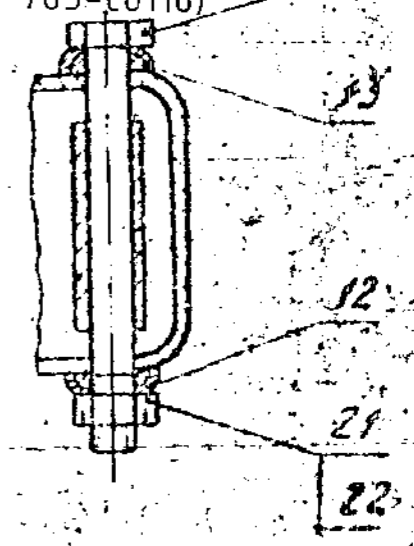
765-03-KB



NOT TO ISSUE

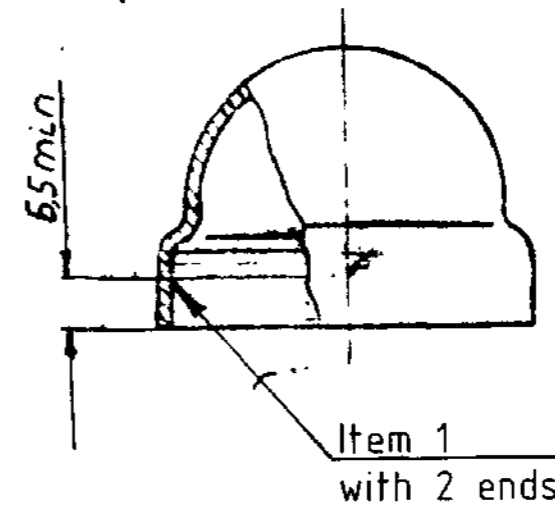
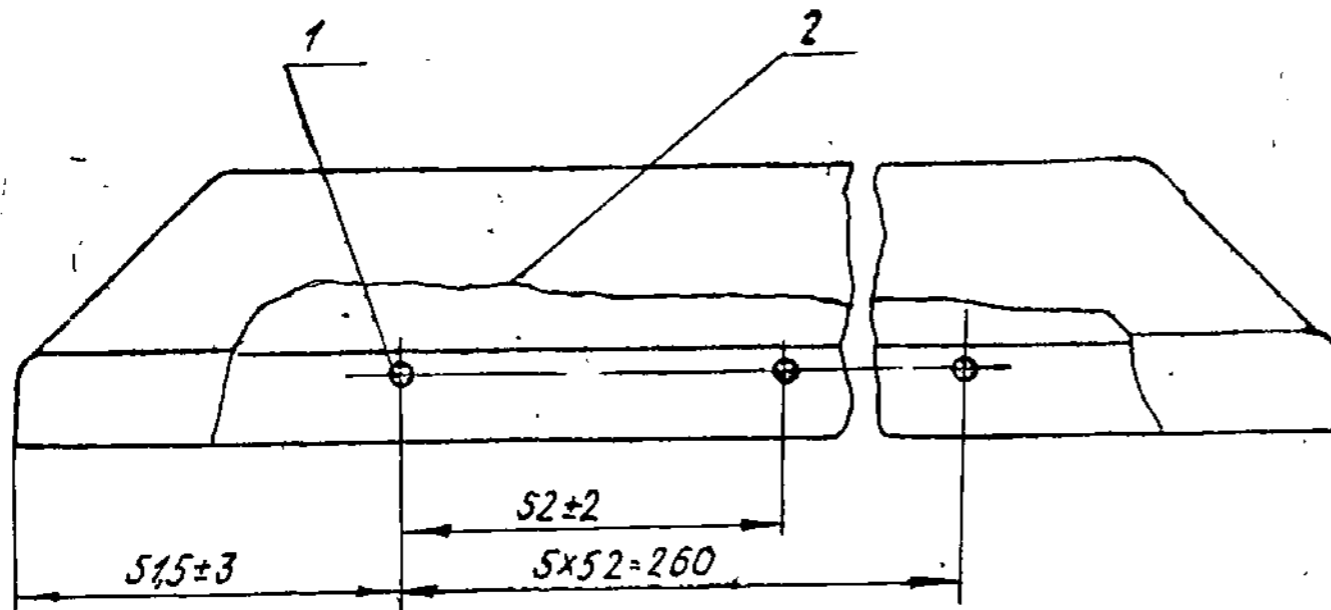


Γ - Γ (Sheet 3) 14
(See 765-c0116)



| | | | |
|---|---------------|---|---------------------|
| APPROVED | <i>M VASU</i> | 765-03-KB | |
| CHECKED | <i>Suhman</i> | RADIATOR AND COOLER
(ASSEMBLY DRAWING) | WEIGHT SCALE
1:1 |
| CONTROLLERATE
OF
INSPECTION
(IC V) | | SHT | SHTS |

765-03-KB



- 1 Brazing solder $\mathcal{N}63$ GOST 15527-70
- 2 Warpage of walls should not exceed 2 mm
- 3 Coating ГОР4 ПОССУ 18-2 or ГОР4 ПОССУ 30-2 GOST 21930-76

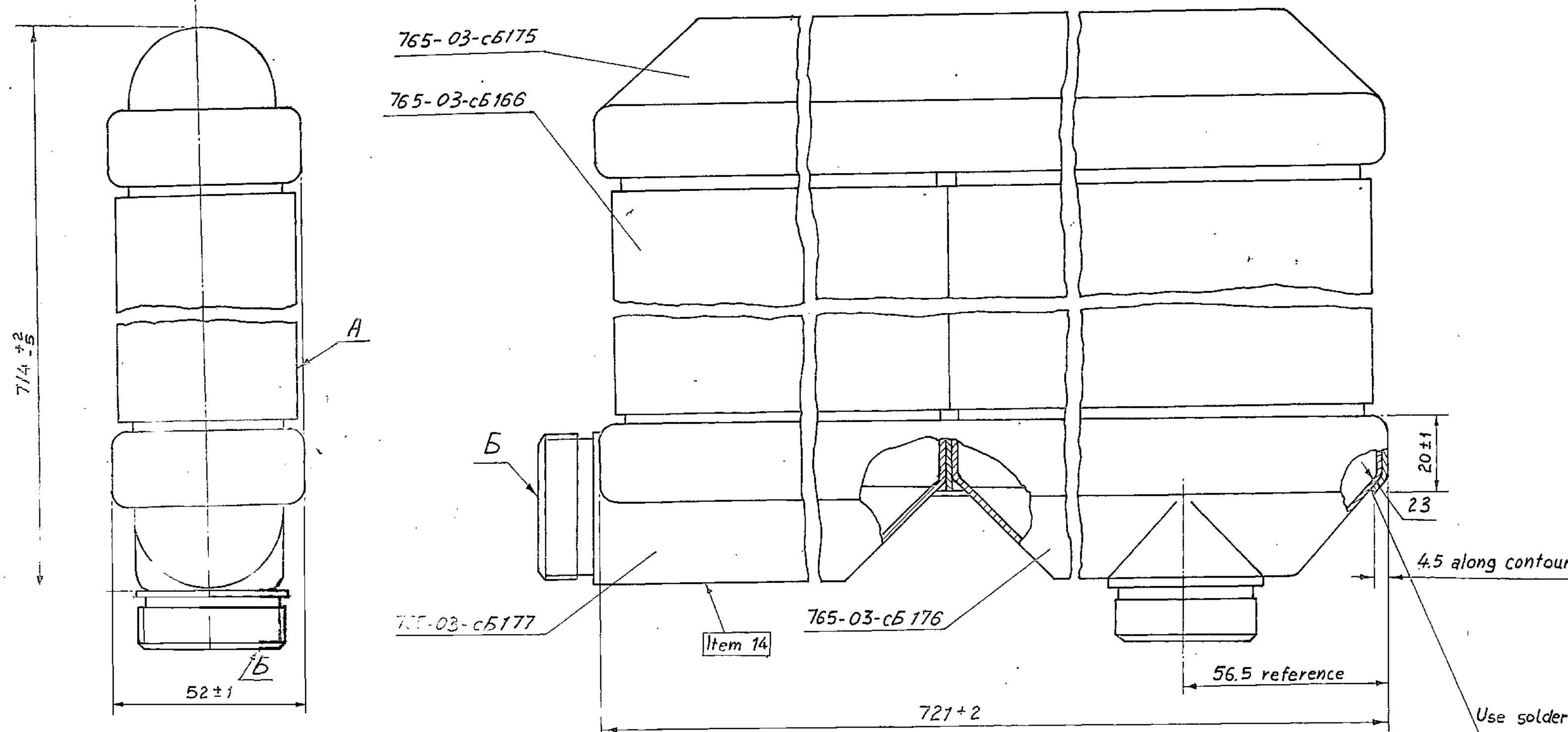
USED ON - 765-03-C6162

Handwritten signature and initials

| | | | |
|-----------------------------------|--------------------|------------------------------|----------------|
| APPROVED | <i>[Signature]</i> | И. ВАСИ | 765-03-CD152CB |
| CHECKED | <i>[Signature]</i> | | |
| CONTROLLENATE
OF
INSPECTION | | HEADER
(ASSEMBLY DRAWING) | |
| | | WEIGHT | SCALE |
| | | 0-368 | 1:1 |
| | | SHI | SHTS |

TECHNICAL CONDITIONS

1. AFTER SOLDERING, CARRY OUT NEUTRALIZATION OF THE INNER SURFACE.
2. TEST WITH WATER AT A TEMPERATURE OF 75° TO 85°C AND A PRESSURE OF 8kg/CM². FOR ATLEAST 0.5 MINUTES. LEAKAGE IS NOT ALLOWED.
3. IN CASE OF LEAKAGE, IT IS PERMITTED TO PERFORM BACK-UP SOLDERING FOLLOWED BY TESTING.
4. TEST THE OIL COOLER BY SHAKING IT ON VIBRATING FIXTURE WHICH PROVIDES THE HEIGHT OF OIL COOLER AND TABLE FREE FALL OF 50mm (ON TIMBER WITH FELT OR RUBBER GASKET UNDER TIMBER) WITH FREQUENCY EQUAL TO 80±10 VIBRATIONS PER MINUTE, OIL COOLER SHOULD BE PLACED HORIZONTALLY AND FILLED WITH WATER AT A PRESSURE OF 1 Kg/cm² DURATION OF TESTING SHOULD BE ATLEAST 2 MINUTES. NO LEAKAGE IS ALLOWED. SUBJECT ONE OIL COOLER FROM BATCH OR ONE OIL COOLER OUT OF TWENTY TO TEST BY SHAKING CHECK THE WHOLE BATCH IF LEAKAGE IS DETECTED.
5. TEST FOR LEAK PROOFNESS WITH AIR IN WATER BATH AT A PRESSURE OF 1 Kg/cm² FOR ATLEAST 0.5 min. AFTER TESTING BY SHAKING FORMATION OF AIR BUBBLES IS NOT PERMITTED.
6. PASSIVATE AFTER TESTING.
7. DRY THE OIL COOLER FROM INSIDE AND OUTSIDE. MOITURE IS NOT ALLOWED.
8. NON FLATNESS OF SURFACE A SHOULD NOT EXCEED 2 mm.
9. APPLY PRIMER φA -03 GOST 9109-76 ON THE EXTERNAL SURFACE EXCEPT THREADS, TUBES & PLATES AND PAINT WITH ENAMEL ПФ-223, BROWN, GOST 14923-78.
10. DRYING MAY BE CARRIED OUT WITH OIL MT-16n GOST 6360-58 AT A TEMPERATURE OF 100° TO 110°C.
11. PRESENCE OF FREE SOLDER IS NOT ALLOWED INSIDE THE HEADERS. THIS REQUIREMENT IS PROVIDED TECHNOLOGICALLY BY SHAKING ON STAND AND CIRCULATION OF OIL.
12. NON SQUARENESS OF SURFACES B TO SURFACE A SHOULD NOT EXCEED 1.5 mm. OVER THE LENGTH OF 36 mm.
13. INSERT PLUGS, AFTER FINAL ACCEPTANCE, IN TO THE HOLES, SECURE THEM WITH WIRE AND SEAL.
14. MARK THE MANUFACTURE'S MARK, No. OF ASSEMBLY UNIT, AND SERIAL No. WITH RUBBER SEAL.
15. HEADERS MAY BE SOLDERED WITH STACK USING SOLDER noc-40, GOST 21931-76.
16. CHECK THREADING OF FLANGES AFTER SOLDERING.
17. SOLDERED JOINT OF FLANGE 765-03-153 WITH TUBE BOARD 765-03-128 SHOULD BE STRENGTHENED BY COVERING THE WHOLE THICKNESS OF FLANGE BEAD, SOLDER MAY FLOW INTO GROOVE.

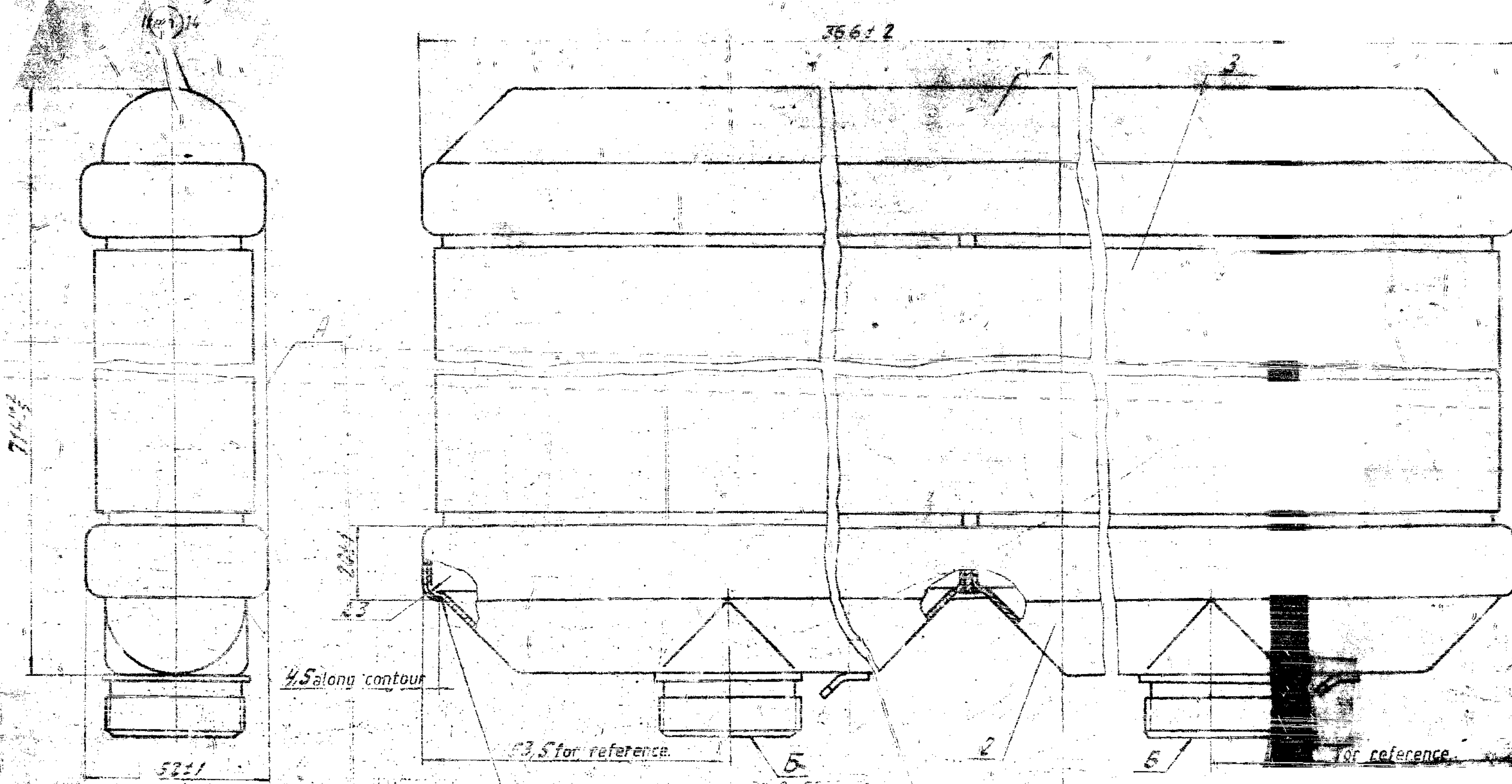


Use solder noccy-30-2 GOST 21931-76
 Before soldering clearance between the beading of tube board partition and header contour should not exceed 0.5 mm.
 Tube board may be fitted in this case, clearance in corners at partition should not exceed 1.6 mm

| Sl.No | DESIGNATION | DESCRIPTION | QTY | REMARKS |
|-------|--------------|----------------|-----|---------|
| 1 | 765-03-c5166 | STACK OF TUBES | 1 | |
| 2 | 765-03-c5175 | HEADER | 1 | |
| 3 | 765-03-c5176 | HEADER | 1 | |
| 4 | 765-03-c5177 | HEADER | 1 | |

| | | | |
|---|--|---|--|
| ORGL MATERIAL | DCG/MS
A DATE | ISSUE | AMENDMENTS |
| ALL SHARP EDGES & CORNERS TO BE ROUNDED OFF.
DRG. NOT TO BE SCALED | ALL THREADS TO CONFORM TO SPECIFICATION. | STAMP OR ETCH, PART NO., MANUFACTURER'S NAME & YEAR OF MFR. | |
| SCALE:- 1:1 | TOLERANCE ON DIMENSIONS UNLESS OTHERWISE SPECIFIED | USED ON:- 765-03-K6 | |
| DATE :- 30-01-03 | DRN. [Signature] | WT :-(Kg) 20.3 | 765-03-cb161
OIL COOLER |
| | TCD. [Signature] | | |
| | CHD. [Signature] | | |
| | APD. [Signature] | | |
| CONTROLLERATE OF QUALITY ASSURANCE (INFANTRY COMBAT VEHICLES) | | | |

DRAWING NO. 75-03-cb161



1. After soldering, carry out radiography of the joint surfaces.
2. Test the cooler by supplying a temperature of 75° to 85°C and pressure of 8 kg/cm² for at least 0.5 minutes. Leakage is not allowed.
3. In case of detection of leakage it is permitted to solder up and then test the cooler.
4. Test cooler by shaking on vibration table which creates 50 mm height of free fall of radiator with table (on timber with felt or rubber gasket under timber) at a frequency equal to 80 ± 10 vibrations per minute. Cooler should be filled with water under a pressure of 1 kg/cm². Duration of testing should be at least 2 minutes. No leakage is allowed.
- Subject one cooler from batch or one cooler from every twenty pieces to vibration test.
- Check the whole batch when leakage is detected.
5. Test cooler for leak proofness with air in water bath at a pressure of 1 kg/cm² for at least 0.5 minutes after vibration test. Formation of air bubbles is not allowed.
6. Passivate after testing.
7. Let the cooler dry inside and outside. Moisture is not allowed.
8. Nonflatness of surface A should not exceed 2 mm.
9. Apply primer ПД-03, GOST 9109-76, on to external surfaces, except thread, tubes and fins, and paint them with enamel ПЭ-223 brown, GOST 14923-78.
10. Drying may be carried-out with oil МТ-160, GOST 6360-59, at a temperature of 100° to 110°C.
11. Presence of free solder is not allowed inside headers. It is technologically provided by shaking on vibration table and pumping oil through.
12. Non squareness of surfaces B to surface A should not exceed 1 mm over the length of 36 mm.
13. After final acceptance plug holes, lock with wire and seal.
14. Mark trade mark, unit No., and serial No. using a rubber stamp.

15. Headers may be soldered to shaft tubes with solder noc-40, GOST 21931-76.
16. Check thread of flanges after soldering.

| | |
|---------------|--|
| 01007-ICV | DS CAT No. ADDED & NOMENCLATURE WAS |
| 03-11-85 | COOLER GEAR BOX AND STEERING GEAR UNIT |
| RECORD & DATE | ISSUE AMENDMENTS |

| Slab Designation | Description | Qty | Remarks |
|--------------------|----------------|-----|---------|
| 1. 765-03-c8152 | Header | 1 | |
| 2. 765-03-c8154 | Header | 2 | |
| 3. 765-03-c8166 | Stack of tubes | 1 | |
| | Primer ПД-03 | | |
| | Enamel ПЭ-223 | | |
| | Brown | | |
| USED ON: 765-03-K6 | | | |

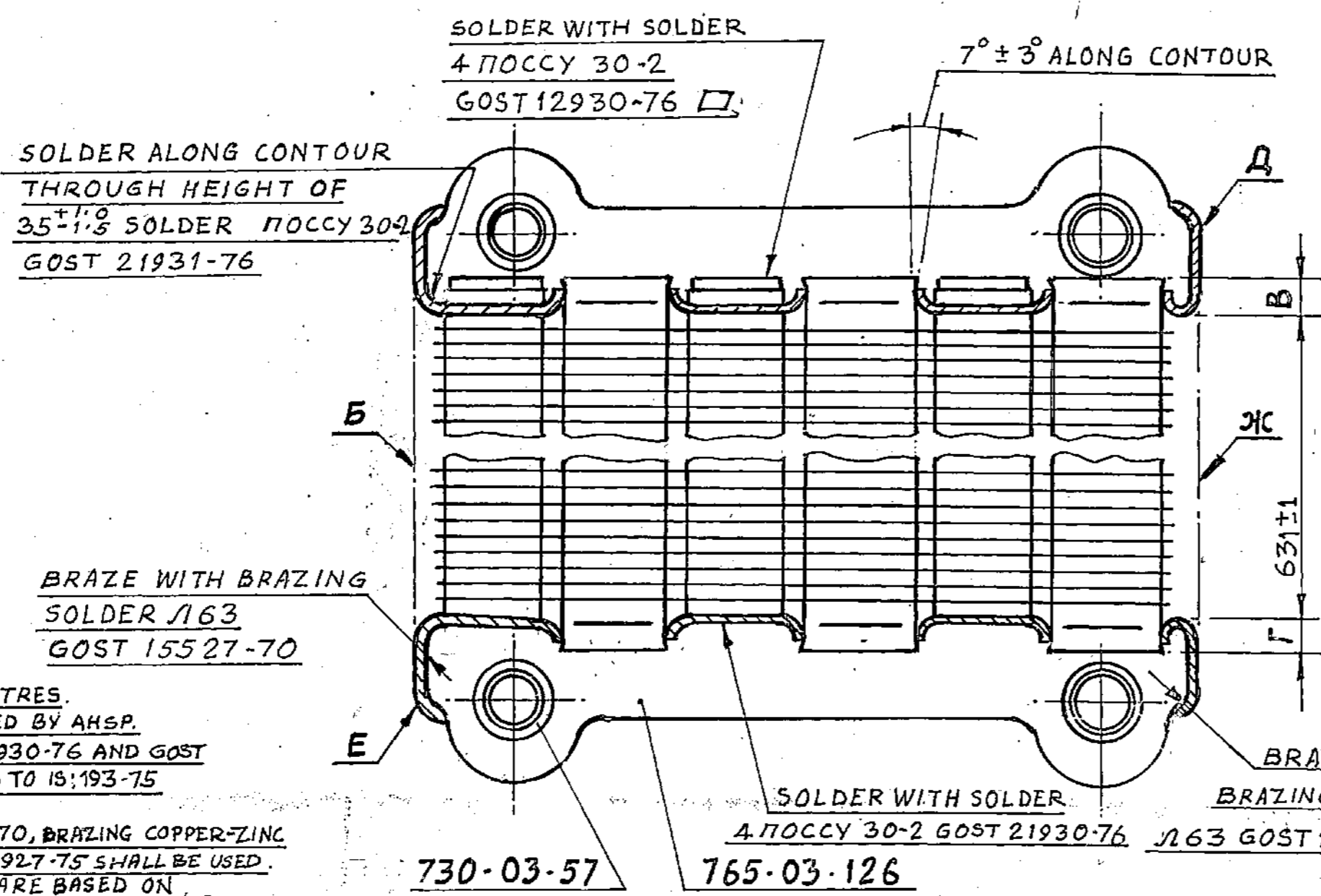
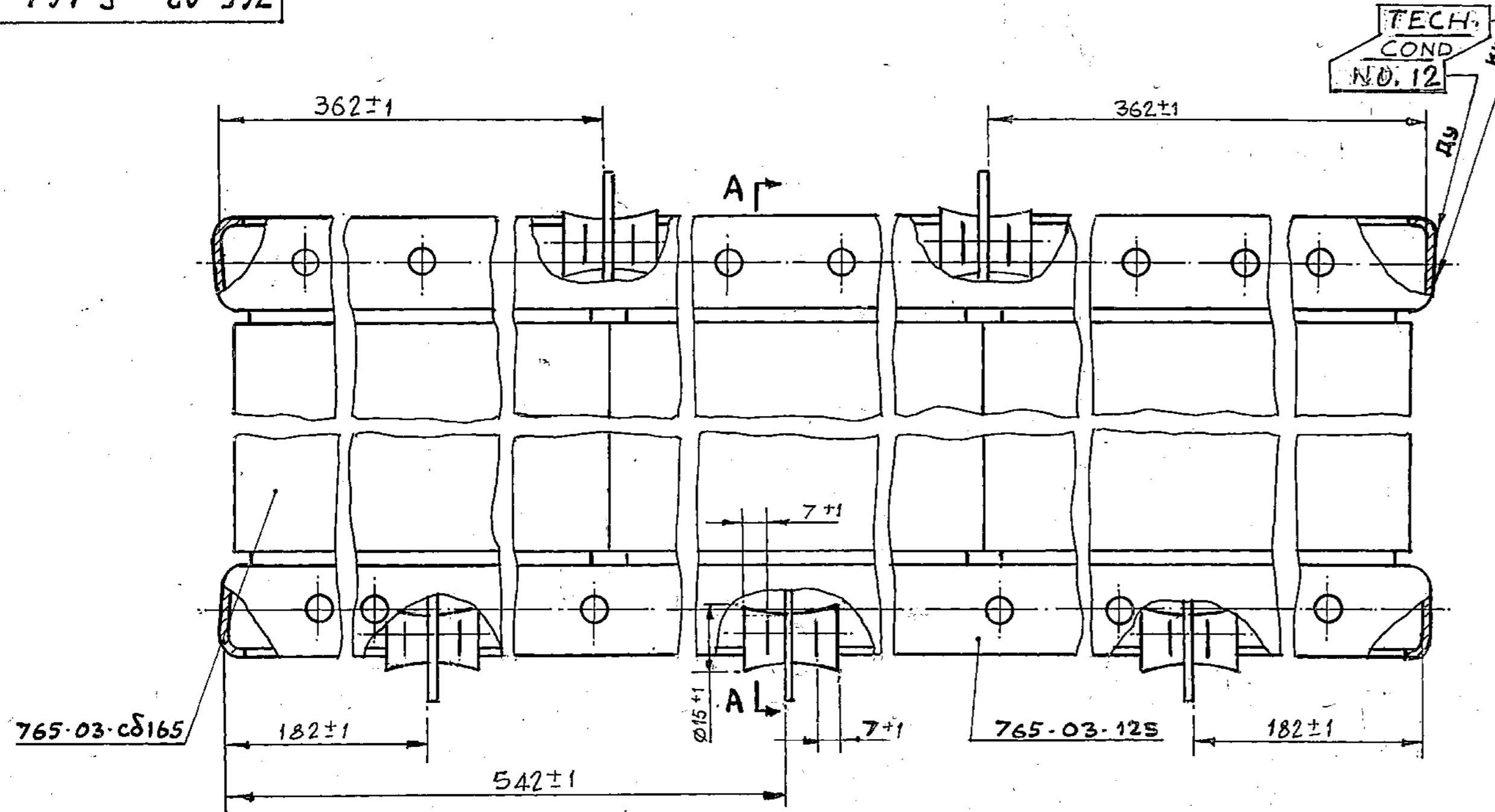
| | | | |
|-----------------------------------|-------------------|---|---------------------------------|
| APPROVED | H VASU | 765-03-c8162 | DS CAT No. LV2/ICVS 2930-000534 |
| CHECKED | S. N. M. M. M. V. | | |
| CONTROLLERATE OF INSPECTION (ICV) | | COOLER OIL VEHICULAR COOLER GEAR BOX AND STEERING GEAR UNIT | SCALE 1:1 |
| | | | 18 of 92 |

Solder with solder alloy Sn-2, GOST 21631-76. Before soldering clearance between the leading of board partition and header contour should not exceed 0.5 mm. Tube board may be matched in this case. Clearance on general partitions should not exceed 1.6 mm.

765-03-с8164

TECHNICAL CONDITIONS

1. THREE CORE SECTIONS SHALL BE ASSEMBLED WITH TUBE BOARDS ON EITHER SIDES. COOLING FINS ON ONE SIDE OF THE CORE SECTIONS MAY BE ROLLED IF NECESSARY.
2. NON-PERPENDICULARITY OF TUBES AND TUBE BOARDS SHALL BE WITHIN 3.0 MM. OVER FULL LENGTH OF TUBES.
3. DIFFERENCE IN DIMENSIONS 'B' AND 'Г' SHALL NOT EXCEED 2.0 MM.
4. NON-FLATNESS OF SURFACE 'B' AND 'Ж' SHALL BE WITHIN 2.0 MM.
5. TUBE ENDS SHALL BE SOLDERED TO TUBE BOARDS USING SOFT SOLDER GRADE Sn30 Sb TO IS: 193-75.
6. EXCESS SOLDER AND DENTS ON SURFACES OF TUBES SHALL NOT BE PERMITTED. REDUCTION IN SECTIONAL AREA OF TUBES AT ENDS UP TO 30% SHALL BE PERMITTED.
7. EXCESS SOLDER ON FINS SHALL NOT BE PERMITTED. SOLDER ON 0.25% OF THE FINS-PERIMETER ON NOT MORE THAN 3 FINS ADJACENT TO THE TUBE BOARDS ON EACH SIDE SHALL BE PERMITTED.
8. BENDING OF FINS SHALL NOT BE PERMITTED. LOCAL SAGGING OF FINS UP TO 2.0 MM. FROM THE TRUE POSITION OVER THE FULL LENGTH OF FINS SHALL BE PERMITTED PROVIDED THE PITCH BETWEEN COOLING FINS IS MAINTAINED WITHIN SPECIFIED LIMITS.
9. TUBE BOARD SHALL BE PRESSED FIRMLY AT PLACES 'A' AND 'E' IN ASSY.
10. STACK OF TUBES SHALL BE PRESSURE TESTED BY IMMERSION IN WATER AT ROOM TEMPERATURE AND SUBJECTED TO AN INTERNAL PRESSURE OF 3 Kg/cm² FOR 30 SECONDS USING COMPRESSED AIR. NO LEAKAGE OF AIR SHALL BE PERMITTED.
11. TUBE LEAKAGE AT BUTT-ENDS MAY BE STOPPED BY RE-SOLDERING WITH SOFT SOLDER GRADE Sn30 Sb TO IS: 193-75. RE-SOLDERING OF BUTT ENDS ON MORE THAN TWO TUBES ON ANY ONE SIDE SHALL NOT BE PERMITTED.
12. STACK OF TUBES SHALL BE FLUSHED AND WASHED. INTERNAL CLEANLINESS OF CORE-SECTIONS SHALL CONFORM TO THE REQUIREMENTS SPECIFIED IN APPENDIX 'C' TO IS: 7611-75.



| ITEM LIST | | | | |
|-----------|--------------|-------------|------|---------|
| R.NO | PART NO. | DESCRIPTION | QTY. | REMARKS |
| | 765-03-с8165 | SECTION. | 3 | |
| | 765-03-125 | TUBE BOARD | 2 | |
| | 765-03-126 | PARTITION | 5 | |
| | 730-03-57 | BRANCH PIPE | 10 | |
| | | SOLDER Л63 | | |

NOTE:-

1. ALL DIMENSIONS ARE IN MILLIMETRES.
2. PILOT SAMPLE SHOULD BE GOT APPROVED BY AHSP.
3. FOR SOLDER ПОССЫ 30-2 TO GOST 21930-76 AND GOST 21931-76 SOFT SOLDER Gde Sn30 Sb TO IS: 193-75 SHALL BE USED.
4. FOR BRAZING WIRE Л63 GOST 15527-70, BRAZING COPPER-ZINC ALLOY WIRE Gde BA Cu Zn 4 TO IS: 2927-75 SHALL BE USED.
5. THE ABBREVIATIONS AND SYMBOLS ARE BASED ON RUSSIAN SPECIFICATIONS.

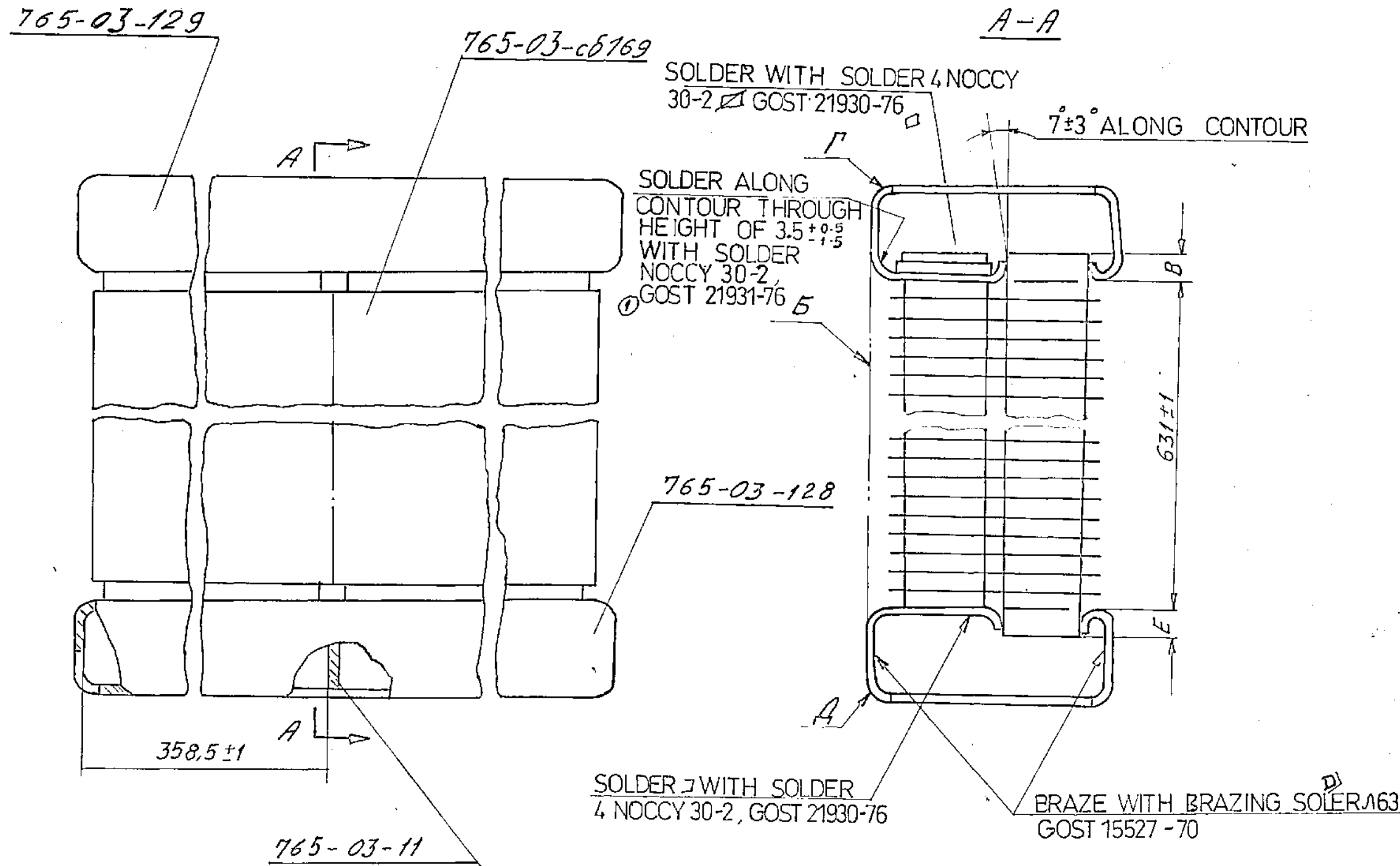
| MATERIAL | DCI (NO. & DATE) | ISSUE | AMENDMENTS |
|--|------------------|-------|---|
| ALL SHARP EDGES & CORNERS TO BE ROUNDED OFF. DRG. NOT TO BE SCALED | | | STAMP OR ETCH PART NO. MANUFACTURER'S NAME & YEAR OF MFR. |
| SCALE: - 1:1 | | | USED ON:- 765-03-с8178 |
| DATE: - 29-1-92 | | | |
| DRN. [Signature] | WT: -(KG) | | |
| TCD. [Signature] | 101 | | |
| CHD. [Signature] | | | |
| APD. [Signature] | | | |
| STACK OF TUBES | | | |
| 765-03-с8164 | | | |
| CONTROLLERATE OF QUALITY ASSURANCE
(INFANTRY COMBAT VEHICLES) | | | |

A-A

99180-03-09L

TECHNICAL CONDITIONS

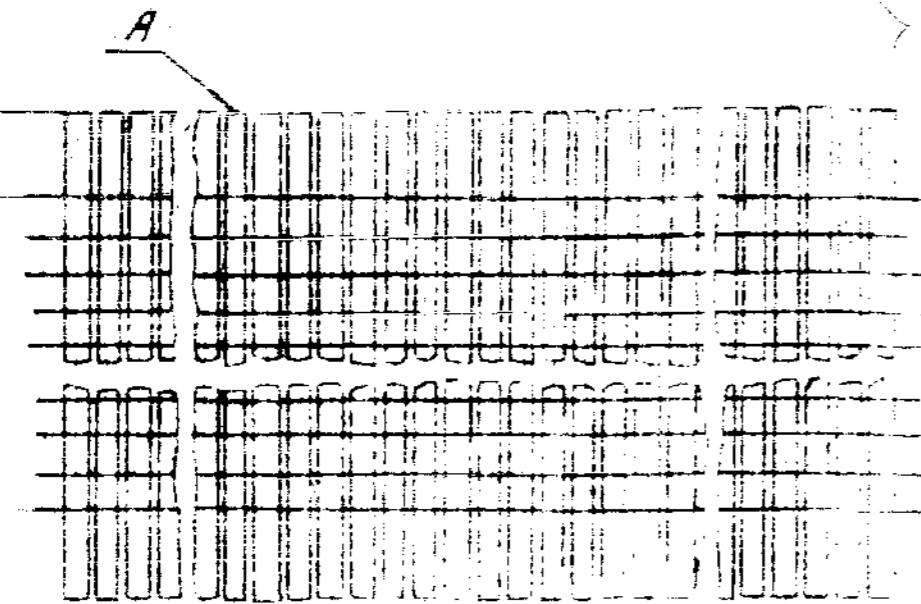
1. NON-SQUARENESS OF TUBES AND TUBE BOARDS SHOULD NOT EXCEED 3mm OVER THE LENGTH OF TUBES.
2. DIFFERENCE IN DIMENSIONS 'B' AND 'E' SHOULD NOT EXCEED 2mm.
3. EXCESS METAL AND DENTS ON SURFACE OF TUBES AND FINNS, BENDINGS OF FINNS AND REDUCTION OF SECTION OF TUBES BY MORE THAN 30% ARE NOT ALLOWED. SOLDER BULGING NOT EXCEEDING 0.25 OF THE FIN PERIMETER IS ALLOWED ON NOT MORE THAN THREE FINNS, LOCATED NEAR TUBE BOARDS.
4. IN CASE OF TUBE LEAKAGE, SOLDER IT FROM TWO BUTTENDS WITH SOLDER NOCCY 30-2, GOST 21931-76. NUMBER OF SOLDERED TUBES IN THE ENTRY SHOULD NOT EXCEED THREE PIECES.
5. CARRY OUT SQUEEZING OF TUBE BOARDS AT POINTS 'Г' AND 'Б' IN ASSEMBLY.
6. TEST THE STACK OF TUBES FOR LEAK PROOFNESS BY SUPPLYING AIR IN WATER BATH AT A PRESSURE OF 1kg/Cm2 FOR 0.5 MIN. AIR LEAKAGE IS NOT ALLOWED.
7. IT IS ALLOWED TO SOLDER SECTION WITH TUBE BOARDS USING SOLDER NOC-40, GOST 21931-76.



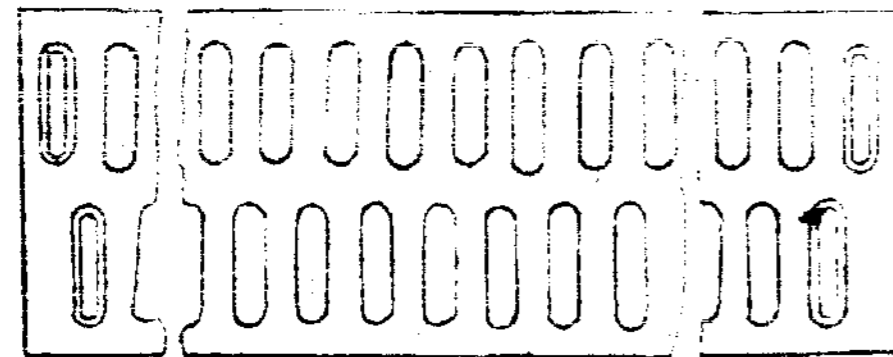
| REF NO | DESIGNATION | DESCRIPTION | QTY | REMARKS |
|--------|--------------|--------------------|-----|---------|
| | | BRAZING SOLDER #63 | | |
| | 765-03-129 | TUBE BOARD | 1 | |
| | 765-03-128 | TUBE BOARD | 1 | |
| | 765-03-11 | PARTITION | 1 | |
| | 765-03-c8169 | SECTION | 2 | |

| | | | |
|--|--|--|------------|
| NEAREST EQVT MATERIAL | | | |
| ORGL MATERIAL | DCUING A DATE | ISSUE | AMENDMENTS |
| ALL SHARP EDGES & CORNERS TO BE ROUNDED OFF. | ALL THREADS TO CONFORM TO SPECIFICATION. | STAMP OR ETCH, PART NO. MANUFACTURER'S NAME & YEAR FR. | |
| ERG. NOT TO BE SCALED | | USED ON:- | |
| SCALE:- 1:1 | TOLERANCE ON DIMENSIONS UNLESS OTHERWISE SPECIFIED | | |
| DATE :- 27-01-03 | | | |
| DRN. | WT: (kg) | STACK OF TUBES | |
| TCD. (mm) | 17.12 | | |
| CHD. | | 765-03-Sb166 | |
| APD. (mm) | | | |
| CONTROLLERATE OF QUALITY ASSURANCE
(INFANTRY COMBAT VEHICLES) | | | |

620±2, Arrange 125 plates,
pitch 5±1



765-03-88



765-03-92

170 reference.

- 1) Do not press tube into hole.
- 2) Ends of tubes A should be in one plane. Deviation from plane should not exceed 1 mm.
- 3) Dents are not allowed on tubes and plates.
- 4) Non-squareness of tubes and plates should not exceed 3 mm over the length of tubes.
- 5) Solder plates to tubes by dipping the section into bath with solder 4noccy 18-2 GOST 21930-76. Excess solder on tubes and plates is not allowed. Poursoldering between treaded surface of holes in plates and tubes is not allowed.

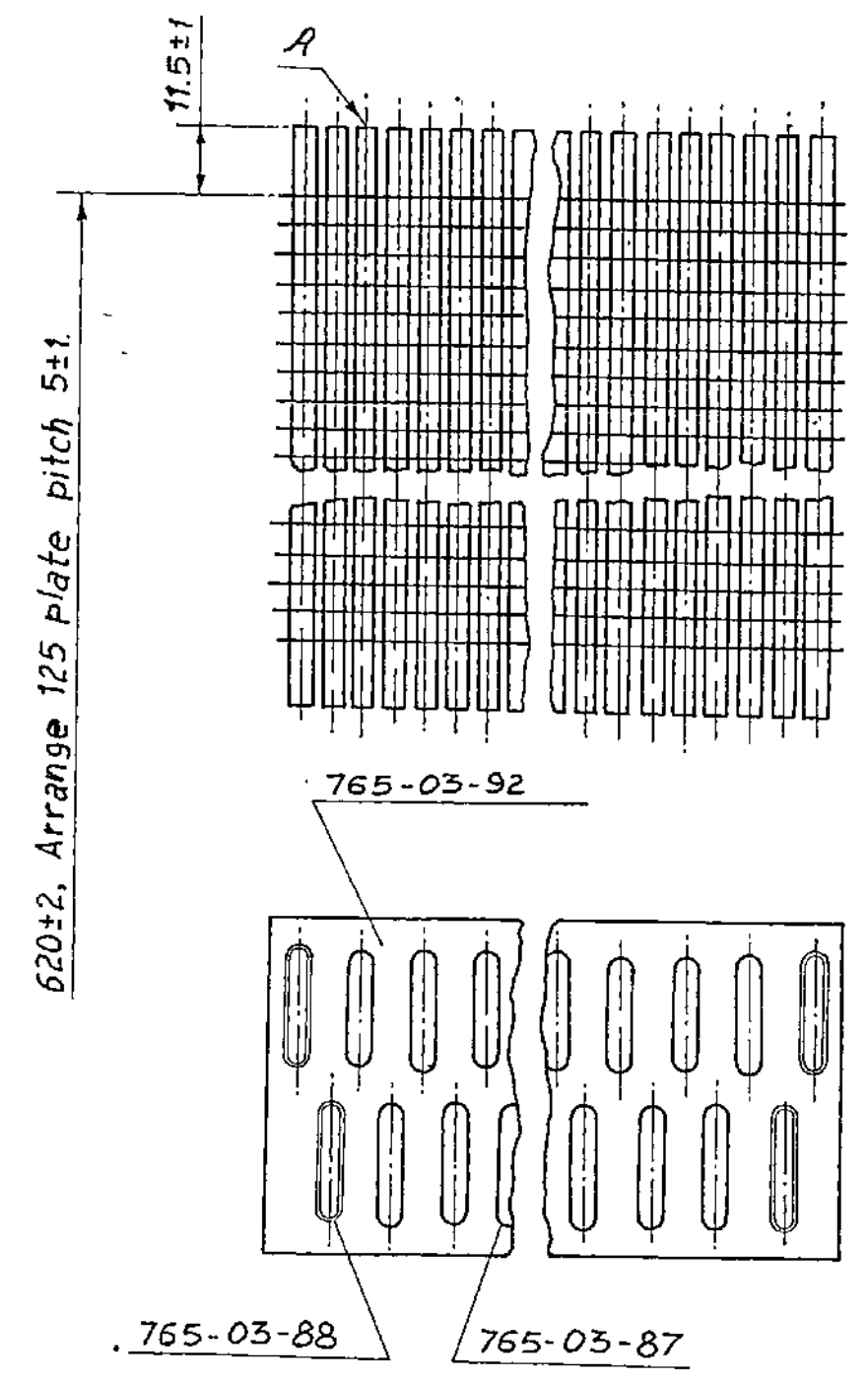
Local poor soldering of tubes with plates along the radii is allowed. Number of poorly soldered tubes along the radii should not exceed 10% of visible section sides.
- 6) Clearance between plate and tube along radii before soldering should not exceed 0.5mm.
- 7) Displacement of cooling plates from common plane over the long sides should not exceed 1mm.
- 8) Carry-out soldering of plates to tubes with solder 4noccy 30-2, GOST 21930-76 or 4noc-40 GOST 21930-76.
- 9) Bending of edges on plates is allowed on lateral sides.

| Designator | Description | Qty | Remarks |
|---------------|-------------|-----|---------|
| ✓ 765-03-92E1 | Plate | 125 | |
| ✓ 765-03-88E1 | Tube | 82 | |
| | | | |
| | | | |
| | | | |
| | | | |

USED ON: 765-03-C6168

| | | | |
|--|---------------------------|--------------|-------|
| APPROVED | <i>[Signature]</i> M VASU | 765-03-c6167 | |
| CHECKED | <i>[Signature]</i> | SECTION | |
| CONTROLLERATE
OF
INSPECTION
(ICV) | | WEIGHT | SCALE |
| | | 10.53 | 1:1 |
| | | SHT | SHTS |

DRAWING RE-TRACED ON 29-01-03



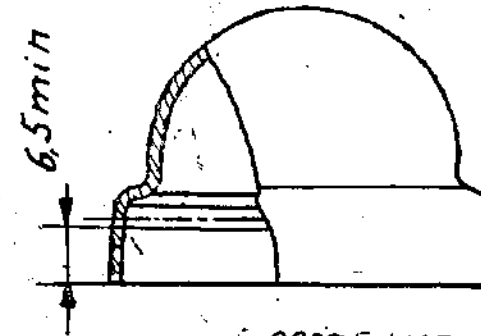
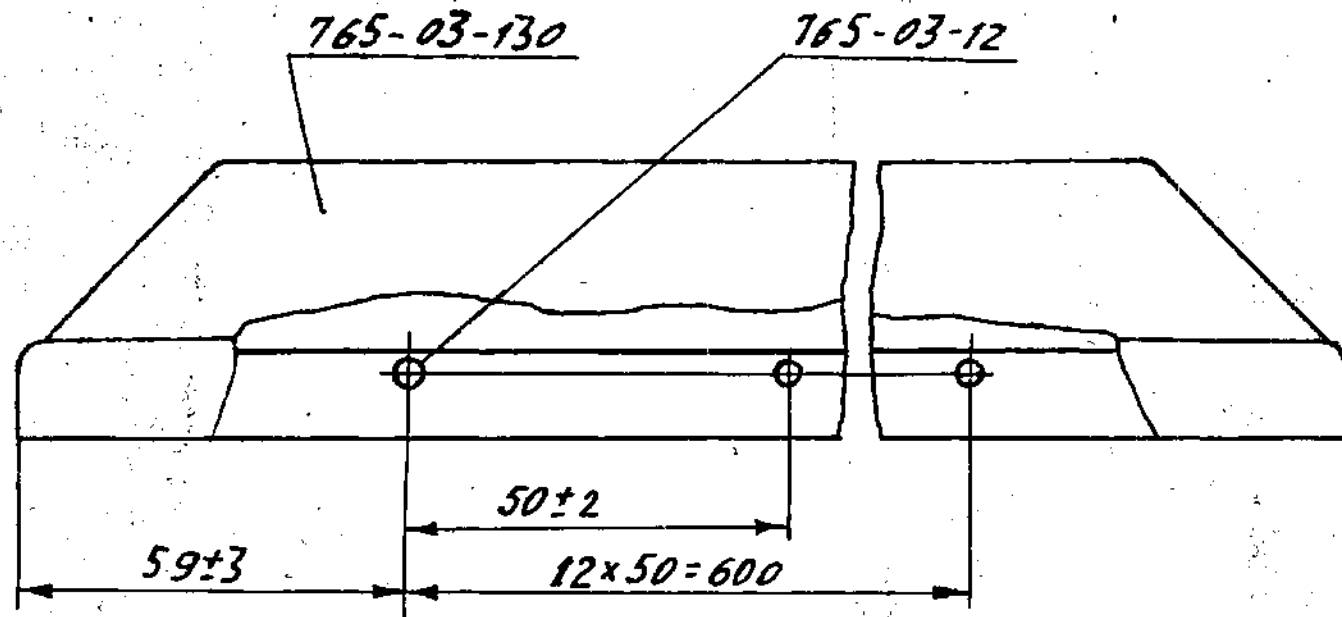
TECHNICAL CONDITIONS

1. ENDS OF TUBES A SHOULD BE IN ONE PLANE. DEVIATION FROM PLANE SHOULD NOT EXCEED 1mm.
2. DENTS ARE NOT ALLOWED ON TUBES AND PLATES.
3. NON-SQUARENESS OF TUBES AND PLATES SHOULD NOT EXCEED 3mm, OVER THE LENGTH OF TUBES.
4. SOLDER PLATES TO TUBES BY DIPPING THE SECTION INTO BATH WITH SOLDER 4 nocy 18-2, GOST 21930-76. EXCESS SOLDER ON TUBES AND PLATES IS NOT ALLOWED. POOR SOLDERING BETWEEN THE BEADED SURFACES OF HOLES IN PLATES AND TUBES IS NOT ALLOWED. LOCAL POOR SOLDERING OF TUBES WITH PLATES ALONG THE RADII IS ALLOWED. NUMBER OF POORLY SOLDER TUBES ALONG THE RADII SHOULD NOT EXCEED 10% OF VISIBLE SECTION SIDES.
5. CLEARANCE BETWEEN PLATE AND TUBE ALONG RADII BEFORE SOLDERING SHOULD NOT EXCEED 0.5mm.
6. DISPLACEMENT OF COOLING PLATES FROM COMMON PLANE OVER THE LONG SIDES SHOULD NOT EXCEED 1mm.
7. PLATES MAY BE SOLDERED TO TUBES WITH SOLDER 4nocy 30-2 GOST 21930-76 or 4 noc-40, GOST 21930-76.
8. BENDING OF EDGES ON PLATES IS ALLOWED ON LATERAL SIDE.

| REF. No. | DESIGNATION | DESCRIPTION | QTY | REMARKS |
|----------|-------------|-------------|-----|---------|
| | 765-03-87 | TUBE | 79 | |
| | 765-03-88 | TUBE | 4 | |
| | 765-03-92 | PLATE | 125 | |

| | | | | |
|--|-----------|--|-------|--|
| MATERIAL | | DCI No. & DATE | ISSUE | AMENDMENTS |
| ALL SHARP EDGES & CORNERS TO BE ROUNDED OFF. | | ALL THREADS TO CONFORM TO SPECIFICATION. | | STAMP OR ETCH, PART NO. MANUFACTURER'S NAME & YEAR OF MFR. |
| DRG. NOT TO BE SCALED | | TOLERANCE ON DIMENSIONS UNLESS OTHERWISE SPECIFIED | | USED ON:-
765-03-cb166 |
| SCALE:- 1:1 | | | | |
| DATE :- 29-01-03 | | | | |
| DRN. | WT :-(kg) | 765-03-cb169 | | |
| TCD. | 8.0 | | | |
| CHD. | | | | |
| APD. | | | | |
| SECTION | | | | |
| CONTROLLERATE OF QUALITY ASSURANCE (INFANTRY COMBAT VEHICLES) | | | | |

765-03-6175



BRAZE WITH SP63
 GOST 15527-70, ON
 2 SIDES.

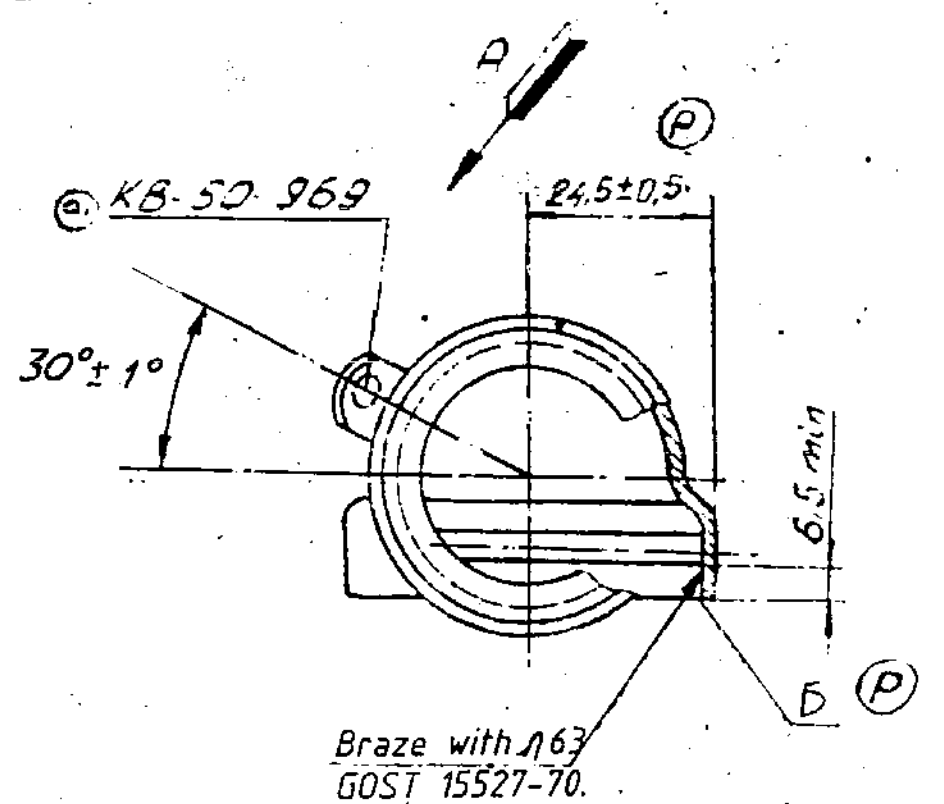
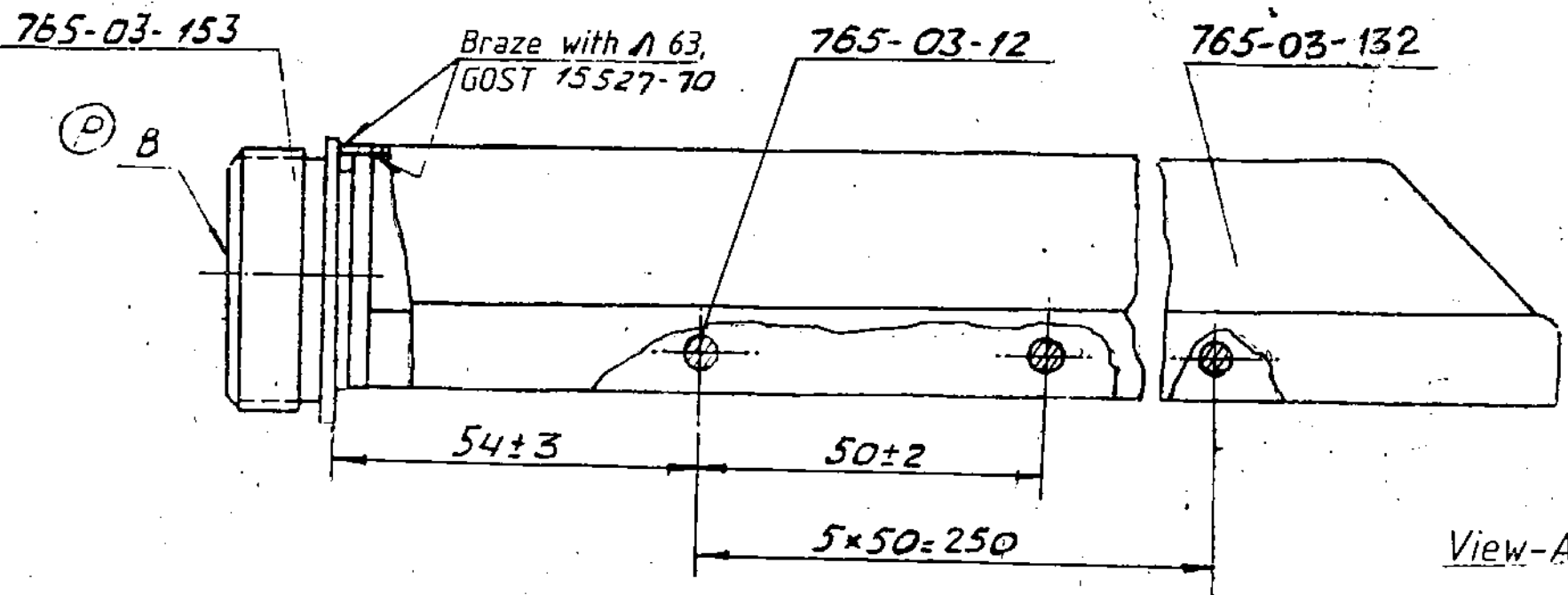
1. Warpage of walls should not exceed 2 mm.
2. Coating: FOP 4HOCCy 18-2 or FOP 4HOCCy 30-2, GOST 21930-76.

| REF NO. | Designation | Description. | qty | Remarks. |
|---------|--------------|--------------------------------|-----|----------|
| 1 | 765-03-12 ✓ | Spacer | 13 | |
| 2 | 765-03-130 ✓ | Header | 1 | |
| | | Brazing solder SP63 . | | |

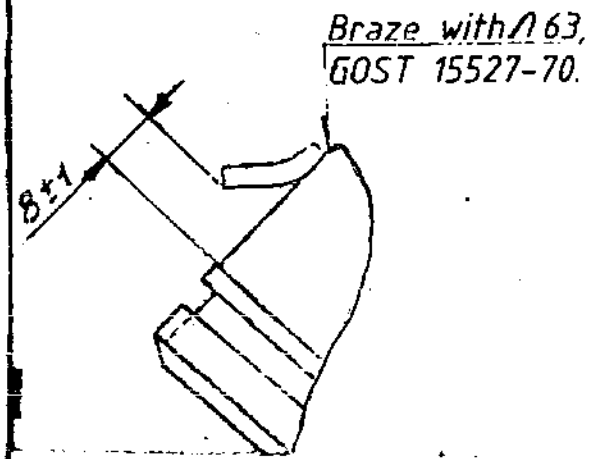
USED ON 765-03-C6161

| | | | |
|--|---------------------------|--------------|--------------|
| APPROVED | <i>[Signature]</i> M VASU | 765-03-C6175 | |
| CHECKED | <i>[Signature]</i> | HEADER | WEIGHT SCALE |
| CONTROLLERATE
OF
INSPECTION
(ICV) | | | 0.76 |
| | | ENT | SHTS |

765-03-08-177



- 1). Warpage ^{of} walls should not exceed 2mm.
- 2). Test header for leak proofness with water at a pressure of 1 kg/cm², leakage and sweating are not allowed. It is allowed to carryout test by supplying air in water bath at a pressure of 0.3kg/cm² or pouring kerosene.
Air leakage or appearance of traces of kerosene on chalk coated seams under test is not allowed.
- 4). Coating: TOP, 4nocy 18-2, TOP, 4noc-40 or TOP, 4nocy 30-2, GOST 21930-76.
- 5). Non-squareness of surface B to surface B̄ should not exceed 1 mm over the length of 36mm.

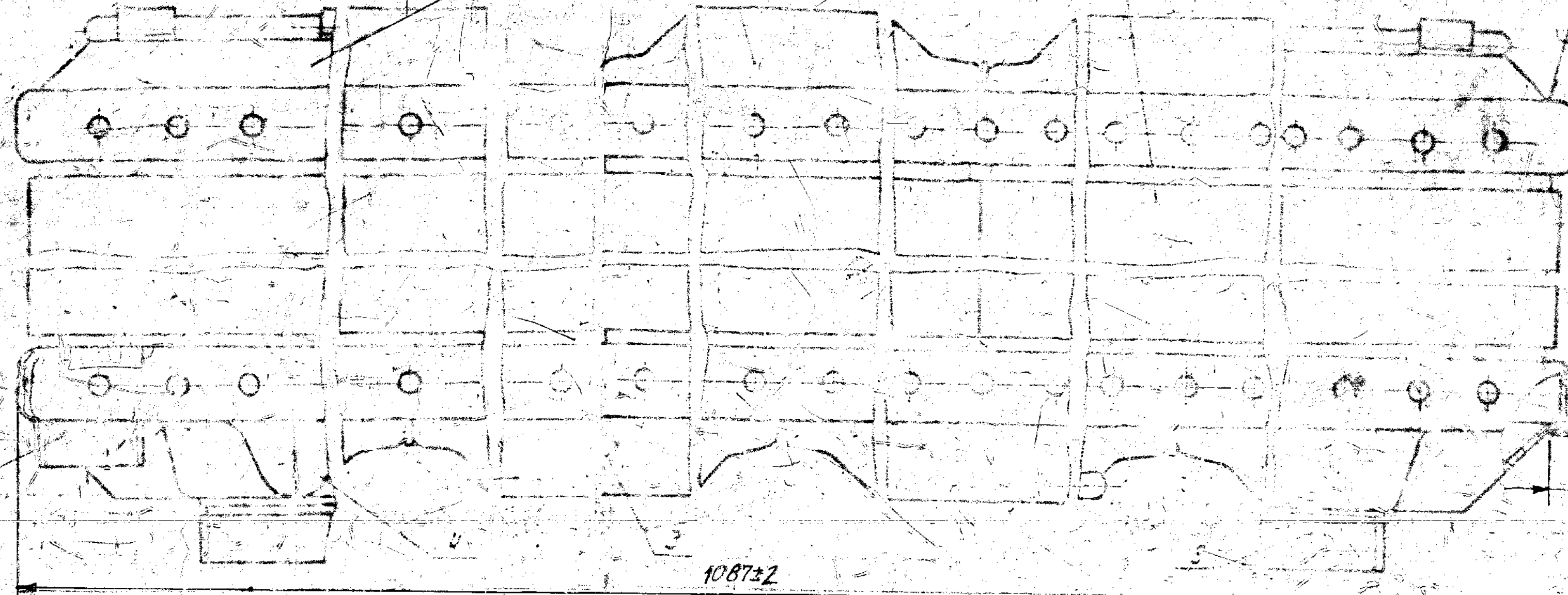
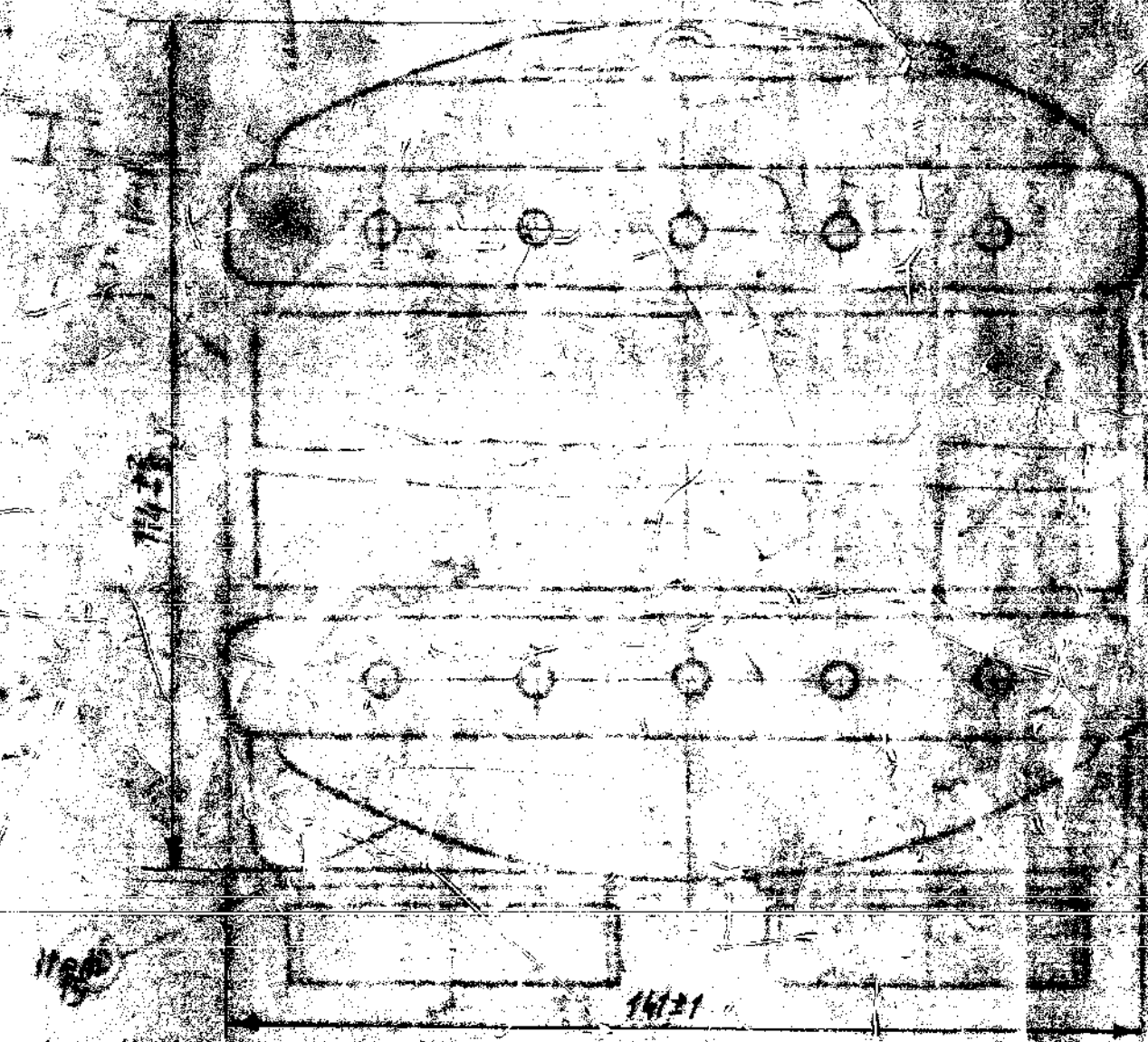


| REF. | Description | Designation | Qty | Remarks |
|------|---------------|-----------------|-----|---------|
| | | Solder А 63 | | |
| 4 | 765-03-153 E✓ | Flange | 1 | |
| 3 | KB-50-969 | Lug for sealing | 1 | |
| 2 | 765-03-132 E✓ | Header | 1 | |
| 1 | 765-03-12 E✓ | Spacer | 6 | |

USED ON: 765-03-C6161

| | | | |
|-----------------------------------|---------------------------|--------------|--------------|
| APPROVED | <i>[Signature]</i> M VASU | 765-03-C6177 | |
| CHECKED | <i>[Signature]</i> | HEADER | WEIGHT SCALE |
| CONTROLLERATE OF INSPECTION (ICV) | | | 0.467 1:1 |
| | | SHT SHTS | |
| | | 27 of 92 | |

| | | | |
|----|-----|------------|---|
| 7 | - | 765-03-153 | 2 |
| 3 | 57 | 765-03-132 | 1 |
| 12 | 765 | 765-03-12 | 6 |
| 3 | 63 | KB-50-969 | 1 |

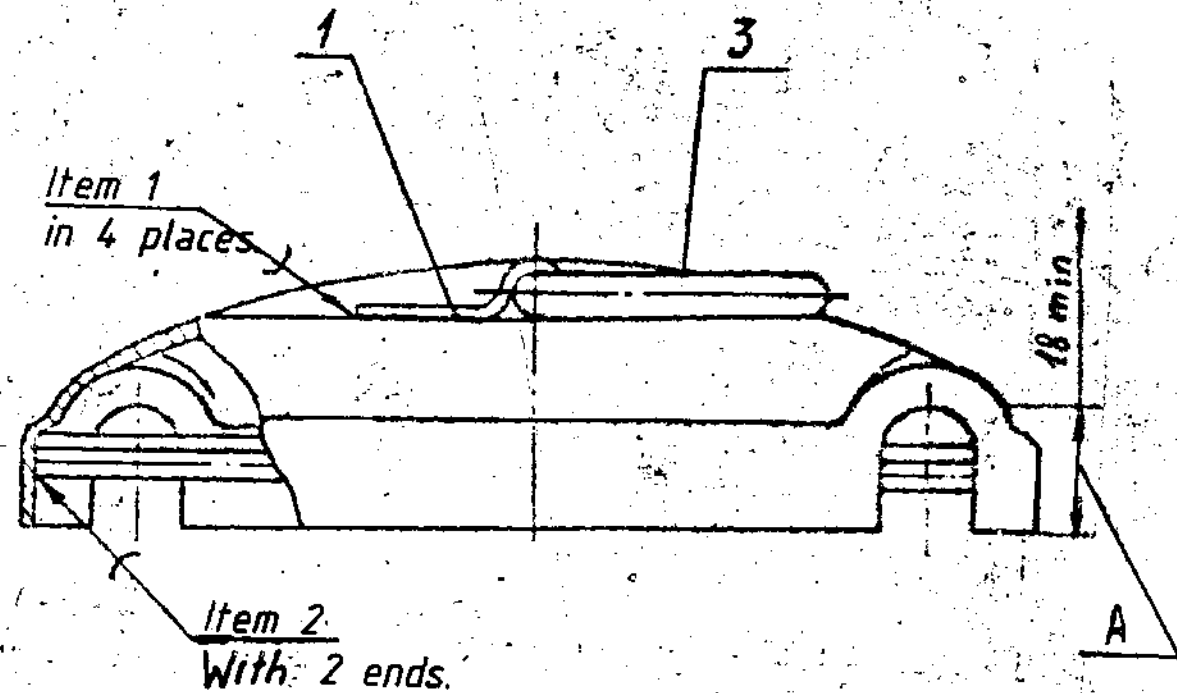
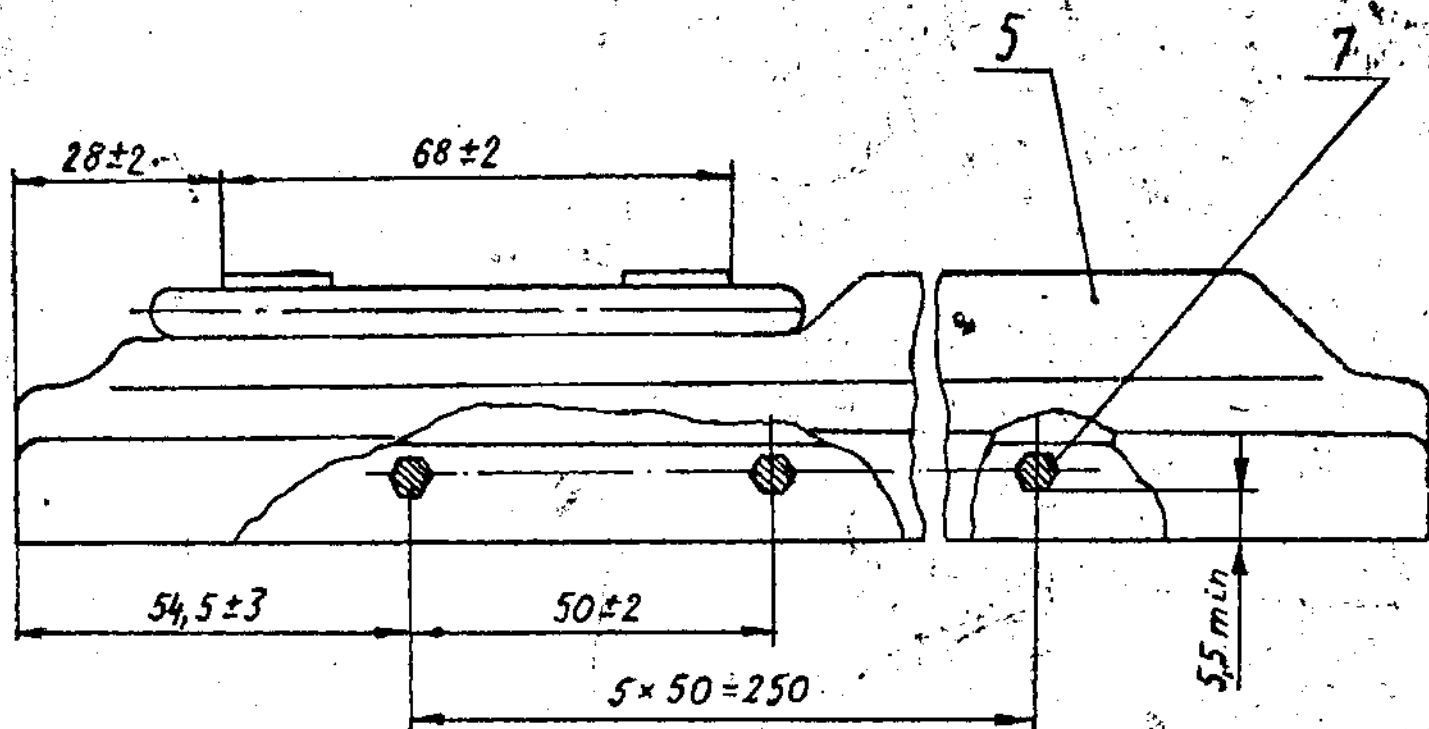


1. Apply primer ПЭ-63 в ГОСТ 9109-76 on to the external surface, except pipe threads and fins and paint with enamel ПЭ-223 ГОСТ 14927-76.
2. Non-flatness of surfaces A and B should not exceed 0.2 mm.
3. When expanding out is allowed from beading of tube board in the area of flange B for a length of 25 mm and depth not exceeding 2 mm, followed by soldering, providing clearance between pipe union and tube board.
4. Solder ПССВ-50 2 ГОСТ 1931-76. Before soldering, clearance between the beading of tube board, partitions and header contour should not exceed 0.5 mm. Tube board may be fitted in this case gap in corners of partitions should not exceed 1.6 mm.
5. Check threads of flanges after soldering.
6. Dry the water radiator from our side, moisture is not allowed.
7. Soldering in tube board holes should be carried out after expanding into the emergence of solder at joints along the total perimeter of tube boards.
8. After the soldering, carry out neutralization of the inner surfaces under sides of the water radiator may have remnants of passivating solution.
9. Perform test with water at a temperature 75° to 85°C and at a pressure 3 kg/cm² for at least 0.5 minutes. Leakage is not allowed. Test with air may be carried out in water bath at a pressure 3 kg/cm² for 7 minutes and air leakage is not allowed.
10. In case of detection of leakage, it is permitted to re-brake followed by test.

11. Test the water radiator by shaking on vibration table, which simulate free fall of radiator with table from 50 mm height on timber with felt or rubber gasket under bar) with frequency equal to 80 ± 10 vibrations per minute. Radiator should be in horizontal position and should be filled with water under pressure 1 kg/cm², duration of testing should be 2 minutes min. Leakage is not allowed. Subject one radiator from batch or one radiator after every twenty to test by shaking. Test the whole batch when leakage is detected.
12. After test by shaking, check it with air for air tightness in water bath at pressure 1 kg/cm² for not less than 0.5 mm. Emergence of air bubbles is not allowed.
13. Passivate after testing.
14. Stop holes with plugs after final acceptance, lock with wire and seal.
15. Use rubber stamp to mark manufacturer's label, No. of work and serial no.

USED ON - 765-03-K1

| | | | |
|--------------------------------|--------------------|---------------------------------|--------------|
| APPROVED | <i>[Signature]</i> | 765-03-c8178C5 | WEIGHT SCALE |
| CHECKED | <i>[Signature]</i> | | 10T OF 1:1 |
| CONTROLLER OF INSPECTION (ICV) | | WATER RADIATOR ASSEMBLY DRAWING | SHT S-TS |
| | | | 29 OF 92 |



- 1). Brazing solder А63 GOST 15527-70.
- 2). Brazing solder ncp 45 GOST 19738-74.
- 3). Warpage of walls should not exceed 2mm.
- 4). Carryout tin plate at height A from outside all along the contour using solder 4 nocy 30-2 GOST 21930-76. Tin plating on the inner surface is allowed.
- 5). Coating of rop4nocy 18-2 GOST 21930-76 is allowed.

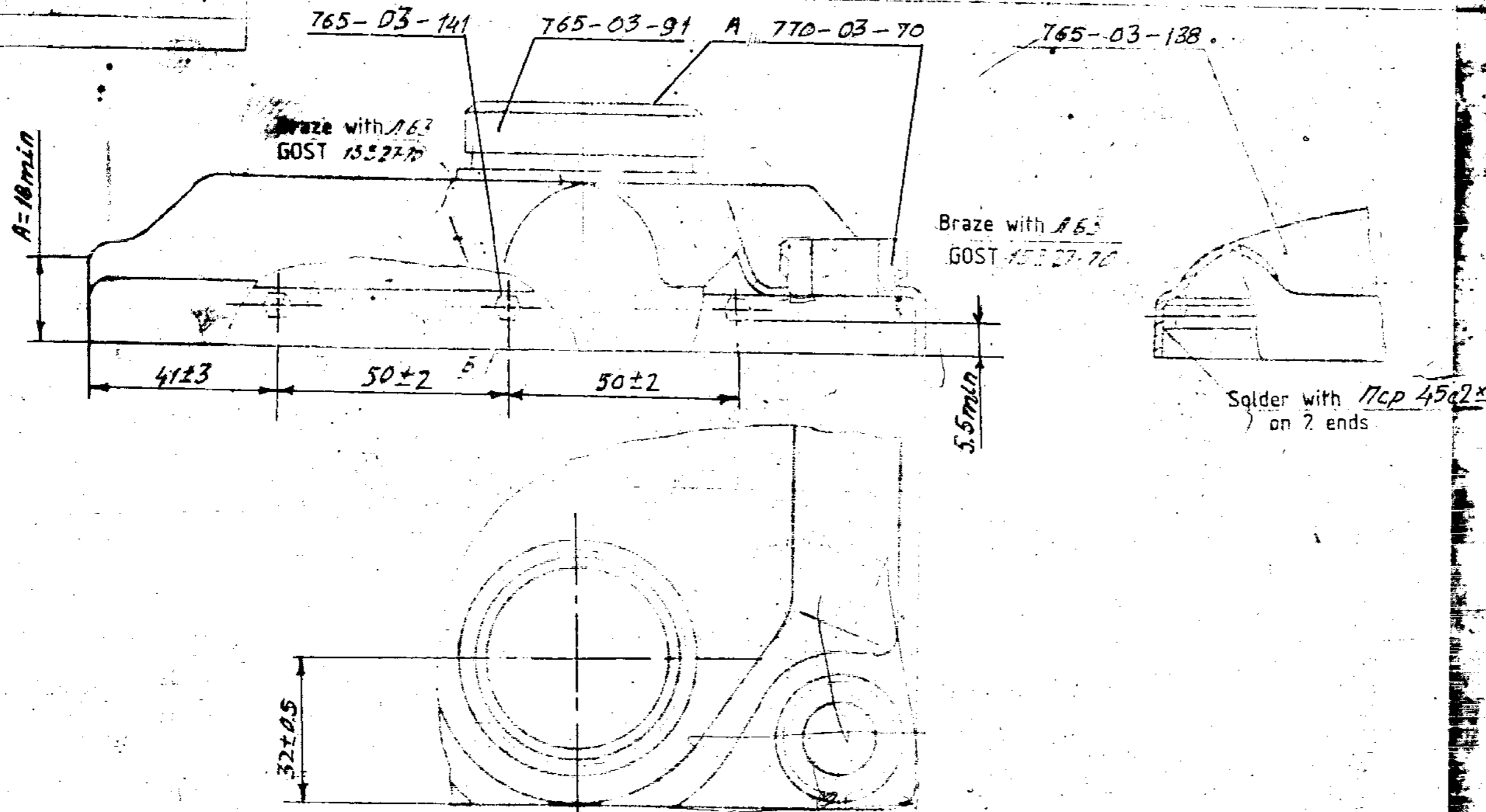
② npon

Handwritten signature and date: 2/2/78

USED ON.765-03-C5 178

| | | | |
|--|-----------------------------|----------------------|--------------|
| APPROVED | <i>[Signature]</i> H. VASHI | 765-03-c8180c5 | WEIGHT SCALE |
| CHECKED | <i>[Signature]</i> | | 0,890 1:1 |
| CONTROLLERATE
OF
INSPECTION
(ICV) | | HEADER
(ASSY DRG) | SMT S ITS |
| | | | |

1843-EO-554



1. Warpage of walls should not exceed 2mm.
3. Test header for leak proofness with water at a pressure of 1kg/cm². Leakage and sweating are not allowed. It is allowed to carry out test by supplying air in water bath at a pressure of 0,3kg/cm² or by pouring kerosene. Air leakage or appearance of traces of kerosene on chalk-coated seams under test is not allowed.
4. Carryout tin-plating with solder 4 nocy 30-2, GOST 21930-76 at height A from out side along the entire contour; tin-plating on inner surfaces is allowed. Protect the thread of flange 770-03-70 from tin-plating.
5. Permissible coating: ГОП. 4nocy 18-2, GOST21930-76.
6. Non parallelity of surface A and surface B should not exceed 1mm over the length of 50mm.
7. Additional brazing of flange 765-03-91 on inner side is allowed.

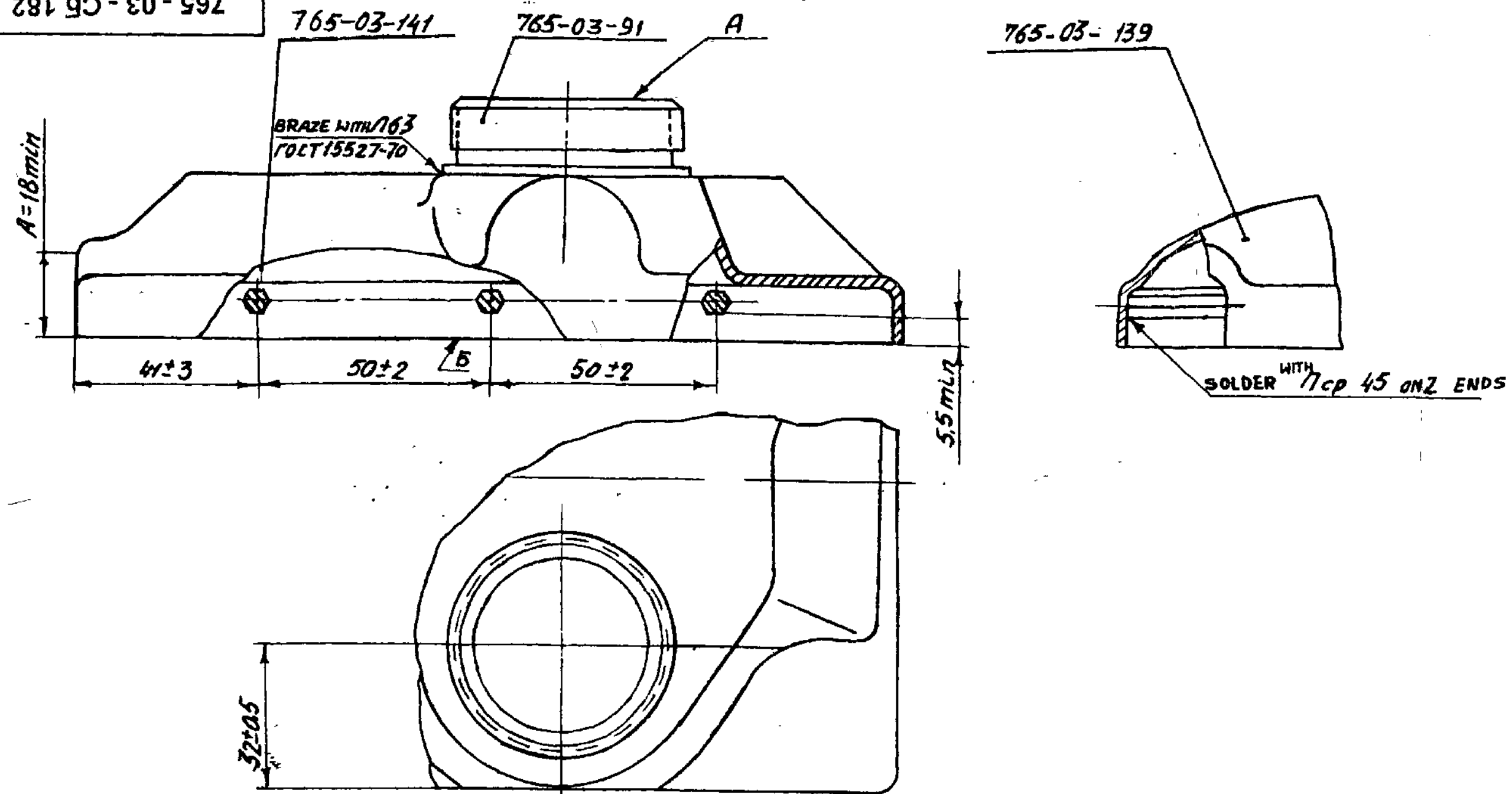
X159
23

| | | | |
|-----------------|--------------------|-------------|-----|
| | Brazing solder 163 | | |
| | Solder ncp-45 | | |
| | Solder nocy 30-2 | | |
| 770-03-70 | Flange | | 1 |
| ✓ 765-03-141 E✓ | Distance Piece | | 3 |
| ✓ 765-03-138 E✓ | Header | | 1 |
| ✓ 765-03-91 E✓ | Flange | | 1 |
| Ref. No. | Designation | Description | Qty |

USED ON: 765-03-c6178

| | | | |
|-----------------------------------|-----------------|--------------|-------|
| APPROVED | <i>M VASU</i> | 765-03-c6181 | |
| CHECKED | <i>S. Kumar</i> | HEADER | |
| CONTROLLERATE OF INSPECTION (ICV) | | WEIGHT | SCALE |
| | | 0.5 | 1:1 |
| | | SHT | SHTS |
| | | 34 OF 92 | |

765-03-C5 182



1. WAR PAGE OF WALLS SHOULD NOT EXCEED 2 mm
2. TEST HEADER FOR LEAK PROOF NESS WITH WATER AT A PRESSURE OF 1 Kg /cm². LEAKAGE AND SWEATING ARE NOT ALLOWED IT IS ALLOWED TO CARRY OUT TEST BY SUPPLYING AIR IN WATER BATH AT A PRESSURE OF 0.3 Kg/cm² OR BY POURING KEROSENE. AIR LEAKAGE OR APPEARANCE OF TRACES OF KEROSENE ON CHALK - COATED SEAMS UNDER TEST IS NOT ALLOWED.
3. CARRY OUT TIN -PLATING WITH SOLDER 4 NOCCY 30-2 GOST 21930-76 AT HEIGHT A FROM OUT SIDE ALONG THE ENTIRE CONTOUR, TIN PLATING ON INNER SURFACES IS ALLOWED
4. PERMISSIBLE COATING TOP 4 NOCCY 18-2 GOST 21930-76.
5. NON PARALLELITY OF SURFACE A AND B SHOULD NOT EXCEED 1 mm OVER THE LENGTH OF 60mm
6. ADDITIONAL BRAZING OF H 765 - 03 -91 ON INNER SIDE IS PERMITTED.

| Ref No | DESIGNATION | DESCRIPTION | Qty | REMARKS |
|--------|-------------|--------------------|-----|---------|
| | 765-03-91 | FLANGE | 1 | |
| | 765-03-141 | SPACER | 3 | |
| | 765-03-139 | HEADER | 1 | |
| | | SOLDER ncp -45 | | |
| | | SOLDER noccoy 30-2 | | |
| | | SOLDER Ω-63 | | |

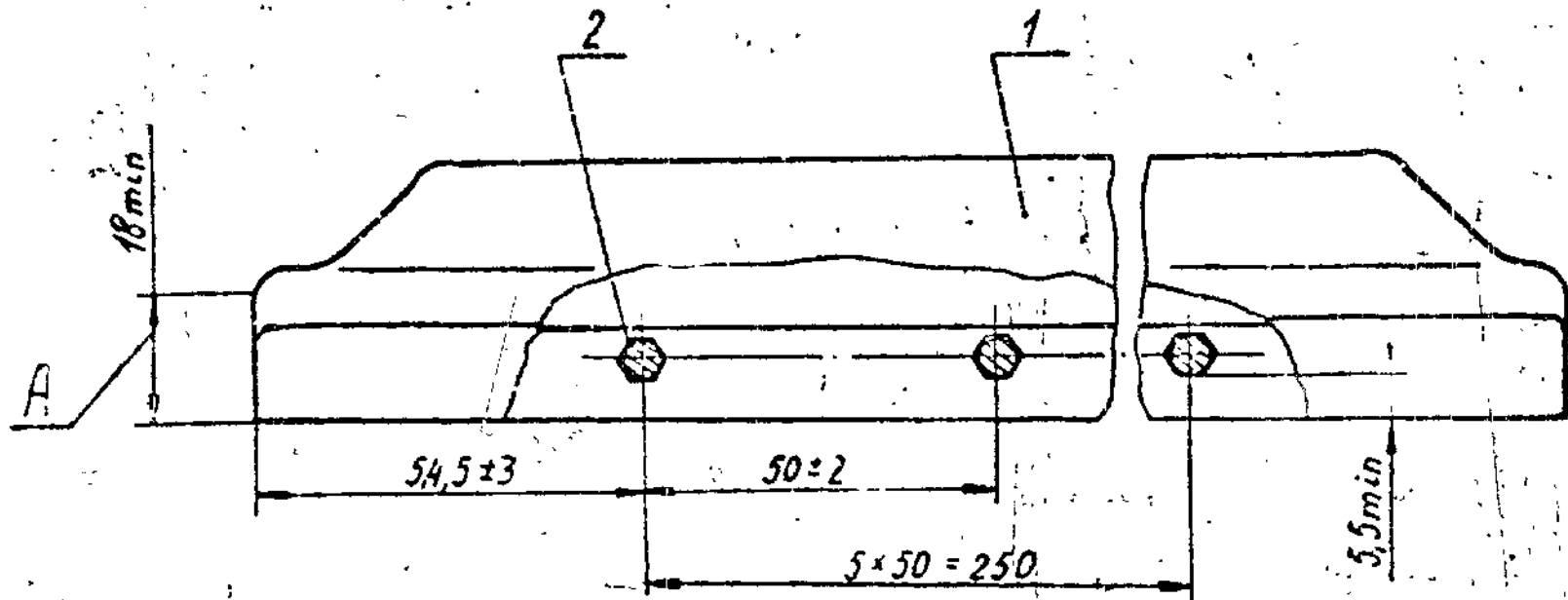
TECHNICAL CONDITIONS INDIANISED

1. FLANGE PART No. 765-03-91 SHALL BE BRAZED TO HEADER PART No. 765-03-139 FROM OUT SIDE USING COPPER ZINC ALLY GRADE BA Cu Zn 4 TO IS : 2927-75.
2. ADDITIONAL BRAZING OF FLANGE PART No. 765-03-91 FROM INSIDE SHALL BE PERMITTED.
3. SPACER (DISTANCE PIECE, PART No. 765-03-141) SHALL BE BRAZED AT BOTH ENDS WITH COPPER- SILVER ALLOY GRADE Cu- Ag 15 TO IS. 2927-75.
4. WAR PAGE OF WALLS OF HEADER ASSEMBLY. ON BRAZING OF SPACERS SHALL NOT EXCEED 2 mm.
5. NON PARALLELISM OF FACE A WITH RESPECT TO FACE B SHALL NOT EXCEED 1 mm. OVER LENGTH OF 60 mm.
6. OUT SIDE SURFACE OF HEADER UP TO THE HEIGHT A ALONG THE FULL CONTOUR SHALL BE COATED WITH TIN LEAD SOLDER GRADE Sn 30 Sb TO IS: 193-77. COATING ON INNER SURFACE IN THE PROCESS SHALL BE PERMITTED.
7. FABRICATED HEADER ASSEMBLY. SHALL BE PRESSURE TESTED FOR LEAKAGE USING ANY OF THE 3 METHODS GIVEN BELOW.
 - a). USING WATER UNDER PRESSURE OF 1 Kg / cm² .LEAKAGE OR SWEATING SHALL NOT BE PERMITTED
 - b). USING AIR IN WATER BATH AT A PRESSURE OF 0.3 Kg/cm² .NO AIR BUBBLE THROUGH HEADER SHALL BE PERMITTED.
 - c). POURING KEROSENE IN THE HEADER ASSEMBLY. APPEARANCE OF TRACES OF KEROSENE ON CHALK COATED SEEMS, BENDS etc. SHALL NOT BE PERMITTED.

NOTE:-

- 1). ALL DIMENSIONS ARE IN mm.
- 2). PILOT SAMPLE SHOULD BE GOT APPROVED BY A H S P.

| | | | |
|--|--|--|----------------------------------|
| NEAREST EQVT MATERIAL | | | |
| | | 00865
DC(I) No
A DATE | DRAWING IS REVISED AND RETRACED. |
| ORGL MATERIAL | | ISSUE | AMENDMENTS |
| ALL SHARP EDGES & CORNERS TO BE ROUNDED OFF. | ALL THREADS TO CONFORM TO SPECIFICATION. | STAMP OR ETCH, PART NO. MANUFACTURER'S NAME & YEAR OF MFR. | |
| DRG. NOT TO BE SCALED | TOLERANCE ON DIMENSIONS UNLESS OTHERWISE SPECIFIED | USED ON:-
765-03-C5 178 | |
| SCALE:- 1:1 | | | |
| DATE :- 08-03-2001 | | | |
| DRN. <i>[Signature]</i> | WT :-(Kg) | HEADER | |
| TCD. <i>[Signature]</i> | 0.75 | | |
| CHK. <i>[Signature]</i> | | DRAWING NO | PART NO |
| APD. <i>[Signature]</i> | | 765-03-C5 182 | |
| CONTROLLERATE OF QUALITY ASSURANCE (INFANTRY COMBAT VEHICLES) | | | |



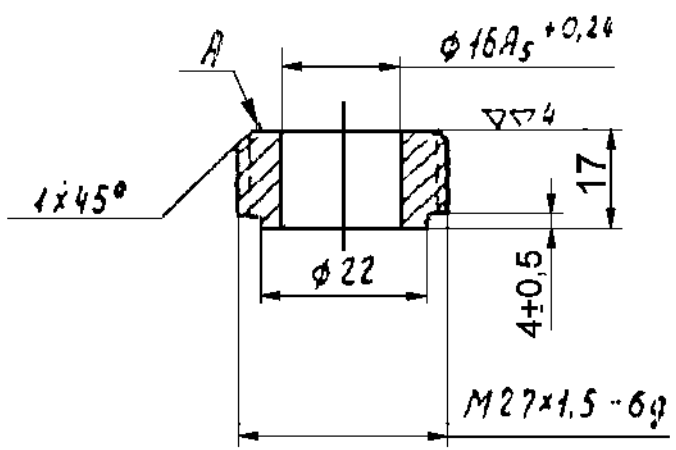
- 1) Brazing solder $n\phi 45$ GOST 19738-74.
- 2) Warpage of walls should not exceed 2,0 mm
- 3) Carryout tin plate at height A from outside all along the contour using solder 4 nocy 30-2 GOST 21930-76 tin plating on inner surfaces may be allowed.
- 4) Coating of Top 4 nocy 18-2 GOST 21930-76 is allowed.

USED ON 765-03-08178

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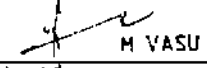
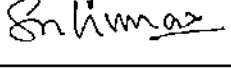
| | | | |
|--|----------------------------|----------------|-------|
| APPROVED | <i>[Signature]</i> II VASU | 765-03-08183CB | |
| CHECKED | <i>[Signature]</i> | HEADER | |
| CONTROLLERATE
OF
INSPECTION
(ICV) | | WEIGHT | SCALE |
| | | 0.75 | 1:1 |
| | | SHT | SHTS |

▽₃ Unless stated otherwise.



TECHNICAL SPECIFICATIONS.

1. Non-squareness of axis of thread with respect to butt-end A should not exceed 0,15 mm within over all dimensions of part.
2. Provide diametrical dimensions specified without deviations as per accuracy class 7_k length - as per accuracy class 8, OCT 1010.
3. Alternate material is steel cm 3cn, GOST 380-71, and steel 10, 15, 25, GOST 1050-74.
4. Coating: M.9,

APPROVED  M VASU
 CHECKED 
 CONTROLLERATE
 OF
 QUALITY ASSURANCE
 (ICV)

770-03-70

FLANGE

20 GOST 1050-74

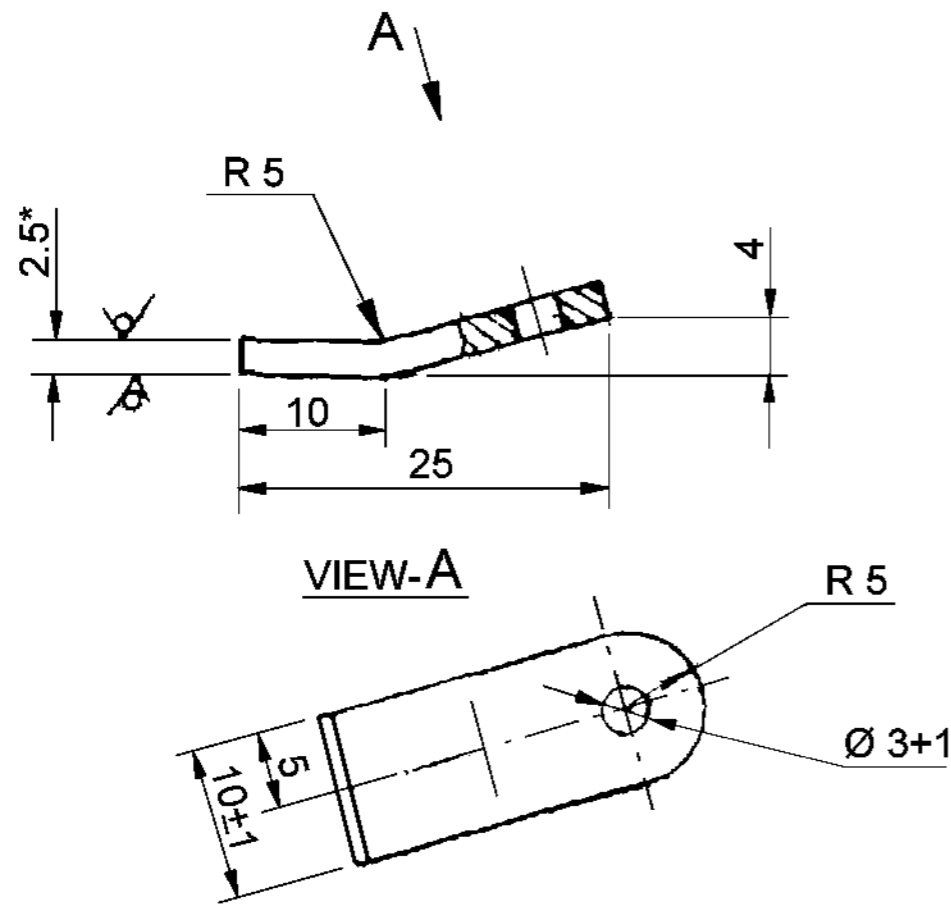
| | | |
|-----|--------|-------|
| | WEIGHT | SCALE |
| | 0.03 | 1:1 |
| SHT | SHTS | |

TECHNICAL CONDITIONS

1. ALTERNATE MATERIAL IS Cm2cn, Cm5cn GOST 380-71. AND STEEL 08nc, 10kn, 15, 20, 25 AND 30 GOST 1050-74.
2. UNSPECIFIED LIMIT DEVIATIONS OF DIMENSIONS ARE ± 0.5mm.
3. * DIMENSION IS GIVEN FOR REFERENCE.

EQ. MATERIAL:- 1) GRADE Fe330 TO IS 1079-88 OR
 2) COLD ROLLED STEEL STRIP GRADE-D(1/2H) TO IS: 4030-73
 OR 3) GRADE Fe330 TO IS:5986-92

Ⓐ EQ. MATERIAL: CRS TO IS: 513-86 GRADE 'D'.



VIEW-A

ALL DIMENSIONS ARE IN mm.

| | | | | |
|--|--|--|-------|----------------------------------|
| NEAREST EQ. MATERIAL | | 00849-ICV
16-01-2001 | Ⓐ | EQ. MATERIAL ADDED. |
| SHEET 25, GOST 19903-74
4-n-10, GSOT16523-70 | | 00825-ICV
31-10-2000 | | DRAWING REVISED
AND RETRACED. |
| ORGL MATERIAL:- | | DC(I)No.
& DATE | ISSUE | AMENDMENTS |
| ALL SHARF EDGES & COR-
NERS TO BE ROUNDED OFF | ALL THREADS TO CONFORM
TO SPECIFICATION | STAMP OR ETCH, PART No.
MANUFACTURER's
NAME & YEAR OF MFR. | | |
| DRG. NOT TO BE SCALED | TOLERANCE ON DIMENSIONS
UNLESS OTHERWISE
SPECIFIED | USED ON:
765-03-Sb154 | | |
| SCALE: 2:1 | | | | |
| DATE: 30-10-2000 | | | | |
| DRN. [Signature] | WT :- (Kg) | KB-50-969 | | |
| TCD. [Signature] | 0.006 | | | |
| CHD [Signature] | | LUG FOR SEALING | | DS CAT No. |
| APPD [Signature] | | | | |
| CONTROLLERATE OF QUALITY ASSURANCE
(INFANTRY COMBAT VEHICLES) | | | | |