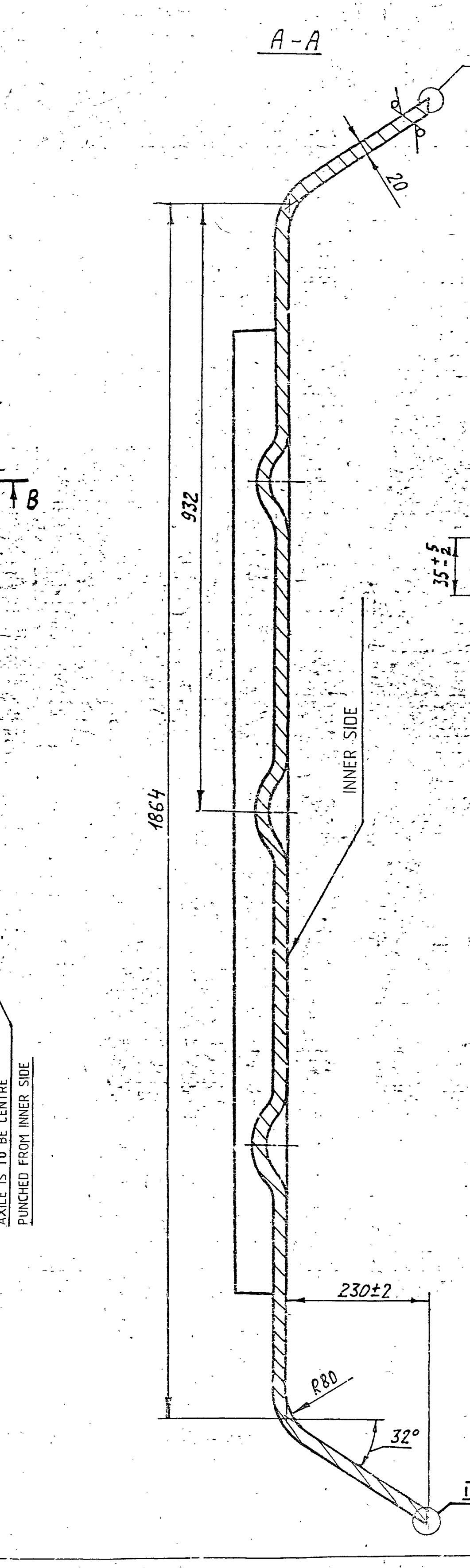
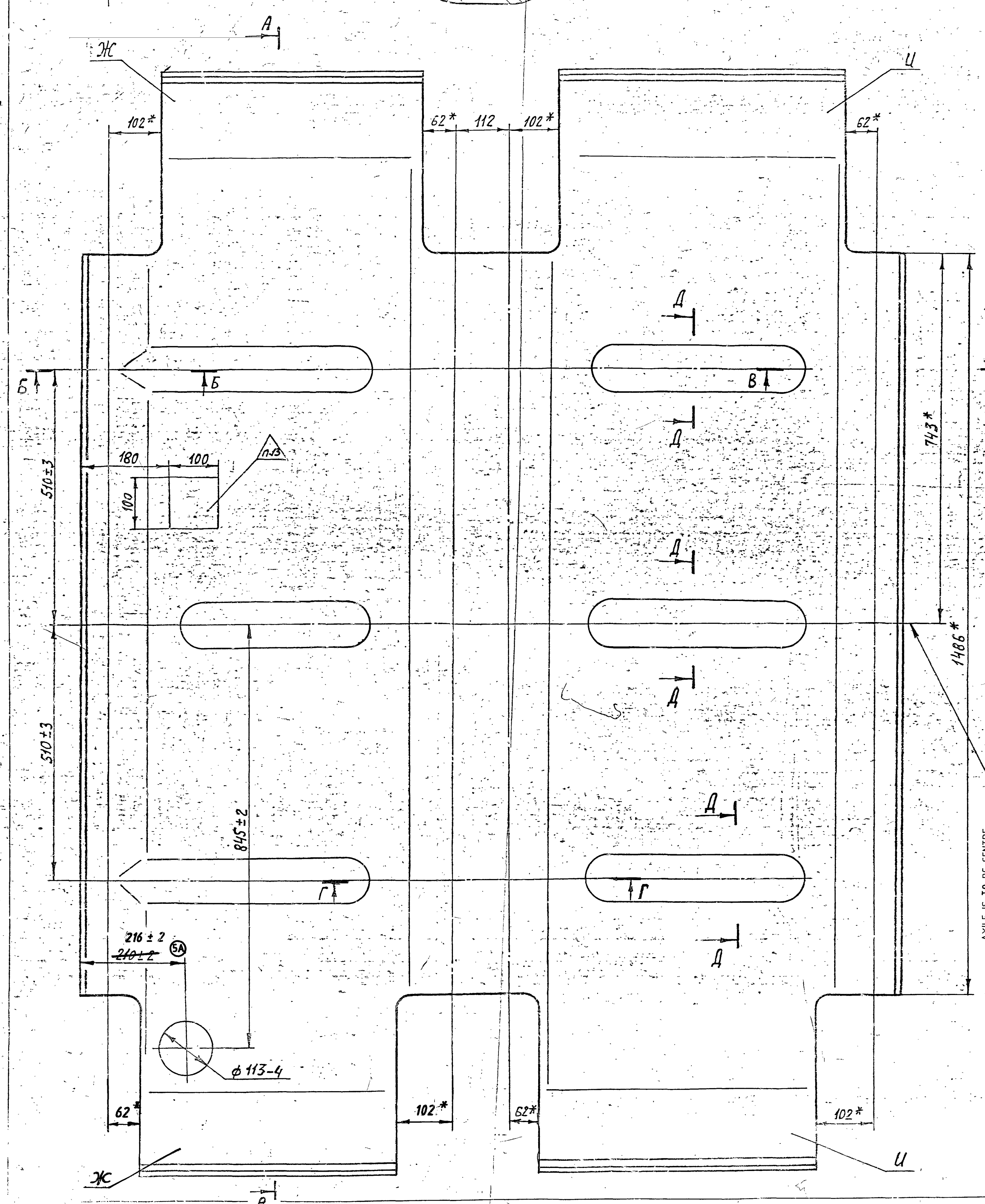
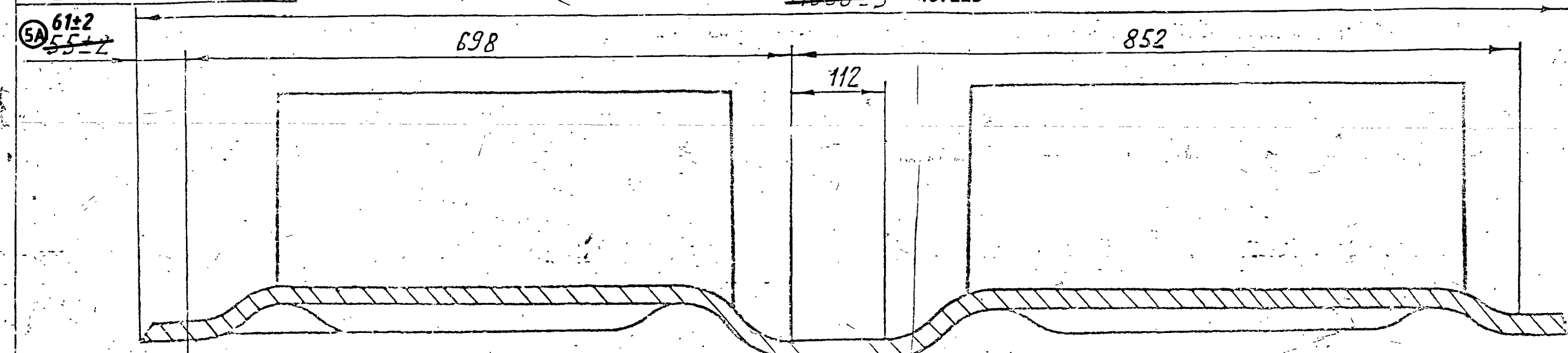
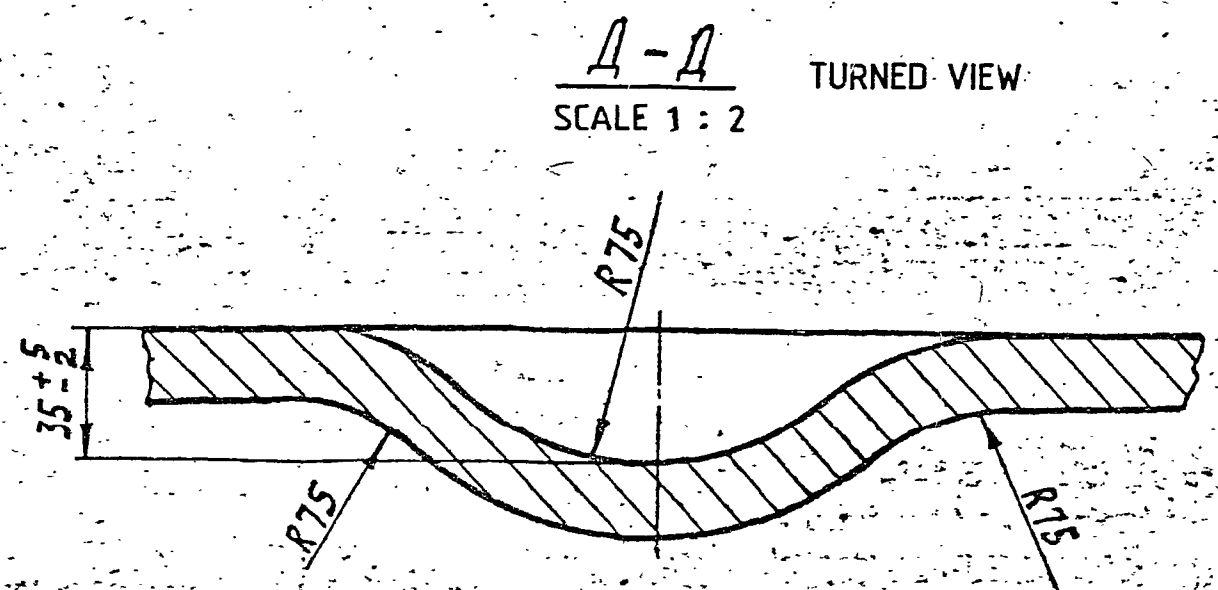
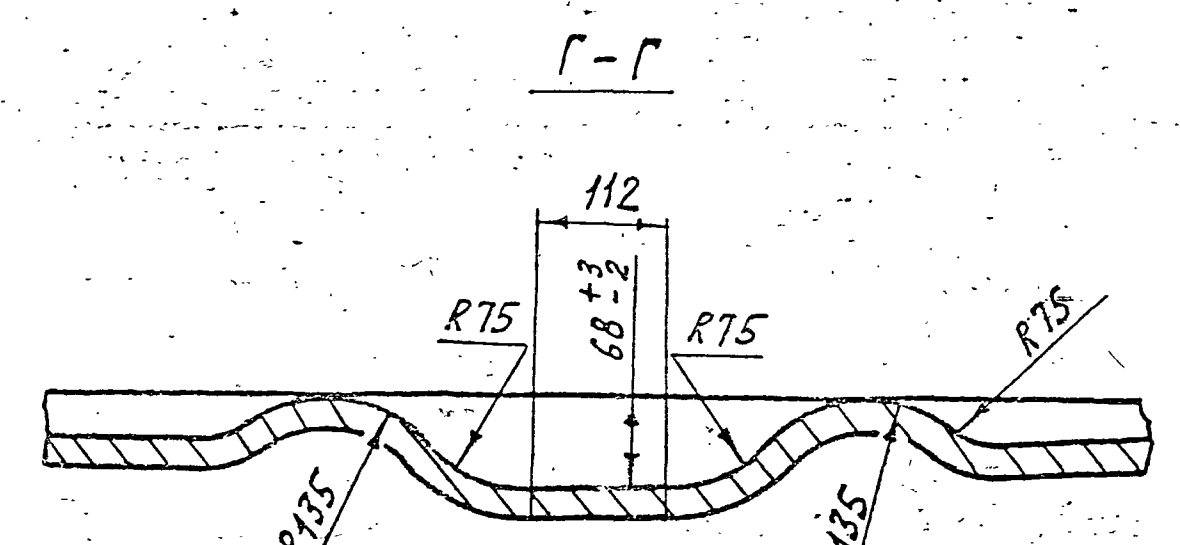
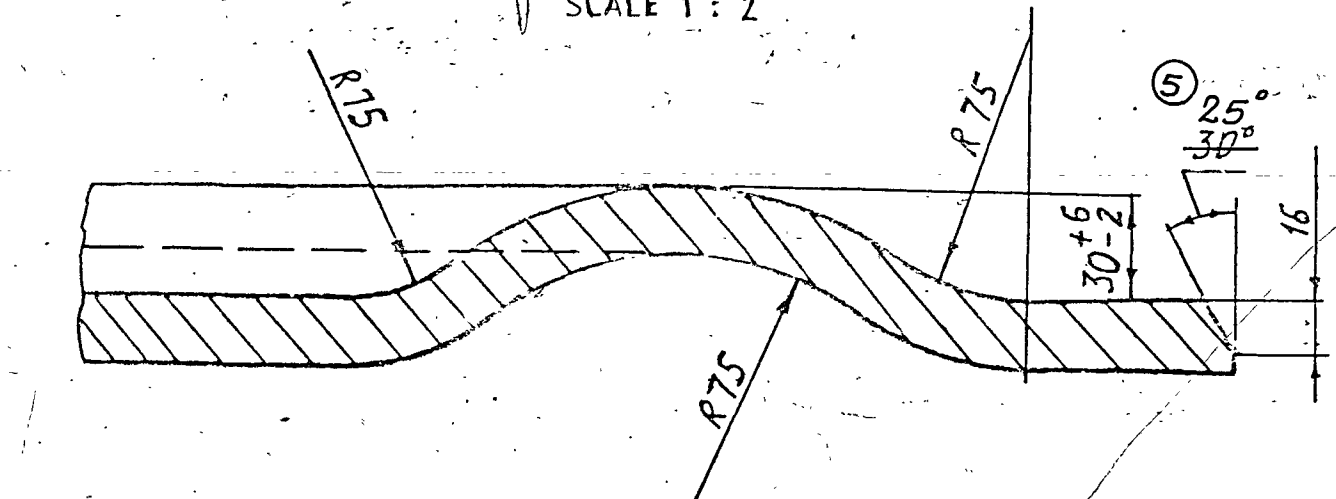
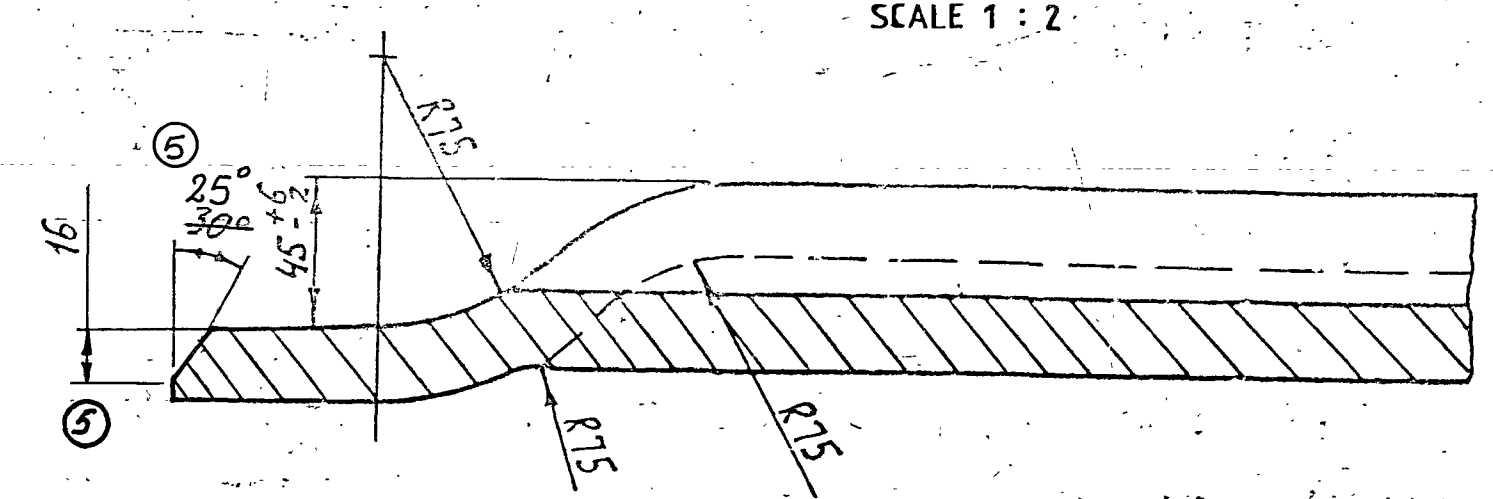


DRAWING NUMBER
172.01.010.2

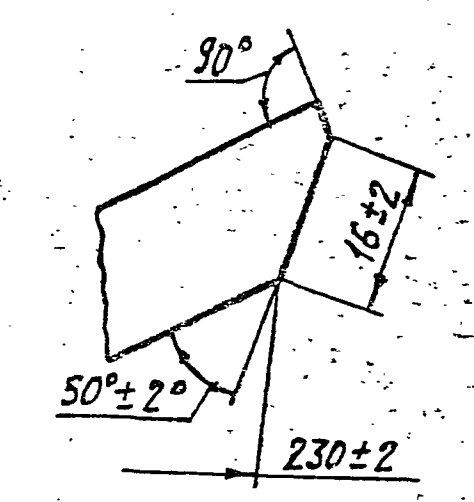


B-B
SCALE 1:2

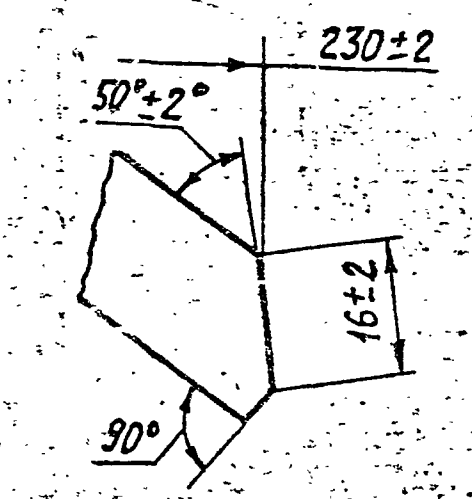
B-B
SCALE 1:2



I
SCALE 1:1



III
SCALE 1:1



1. Grade of steel heat treatment, methods of testing and acceptance to be accordance to the existing list of components manufactured from special steel. Hardness medium.
2. Rules of quality inspection and acceptance of flame - cut edges to be as per OST B3 - 4302 - 80.
3. Buckling of flat surface can be upto 4MM max. towards inside and 5 MM max. towards outside.
4. Nonfitting of the profile templet (Constructed according to the nominal dimensions) in places of bending of R 80 and 32° can be 8 MM max. on every side and 3MM max at upper edges. R 80 may be checked with a local templet.
5. Natural thinning of metal upto 17 MM in the place of bending is allowed.
6. Corners may be rounded along the profile to R 5 MM.
7. Ejector punch marks upto 3 MM deep and upto 6 to 7 MM are allowed on the component surface.
8. Deviation of stamped profile from the templet made according to the nominal dimensions and its shift from the true position can be 5 MM maximum, except otherwise specified.
9. Bent sections "A" should be in one plane with sections "U" (non-flatness not to be checked).
11. Permissible on dimensions marked with *, is the machining allowance specified in the technological process.
12. Radii of curvature to be 20 MM, max.
13. To be marked on inner side.

ORG. CREATED BASED ON RUSSIAN ORIGINAL ISSUE 4

PILOT SAMPLE SHOULD BE APPROVED BY A H S P BEFORE BULK PRODUCTION.		DRN	CHD	TEC	APPD	DATE	SCALE	DIMENS	UNIT	MATERIAL	USEL	INF
EST. MASS	TO BE STAMPED OR MARKED WHERE INDICATED THUS # LETTERS)											
566.19 Kg												
ALL SHARP EDGES AND CORNERS TO BE REMOVED UNLESS OTHERWISE STATED MACHINED CORNERS TO HAVE R OUTSIDE R INSIDE EQUIVALENT CHAMFERS ARE PERMISSIBLE.		5A	25-9-90	SCT	AMDT	(LT. No. 0848726/404 DT. 14-9-90)						
		5	02.6.88	Amdt	List	No 6 Part II Book 2						
		ALL THREADS CONFORM TO		D S CAT NUMBER		DRAWING NUMBER						
						172.01.010-2						

Sl. No.	Nomenclature & Drawing No.	Manufacturing Technology & Testing /Inspection Facilities required to produce the item		Must be possessed by the vendor in his own premises (List of Plant & Machinery and Testing/Inspection facility to be submitted)	COMPLIANCE	Must be possessed by the vendor in his own premises (or) may be out sourced. (Name and Address of sub-contractor, list of Plant & Machinery and Testing / Inspection facility to be submitted).	COMPLIANCE
1	HULL BOTTOM FRONT PLATE Drg.No. 172.01.009-15 LF.No. 6201001031	Technology 1	RAW MATERIAL			Under taking by Vendor that vendor will procure Raw material from SAIL (Who is the approved source of Raw material for HVF as of now) or any other source approved by HVF in future or Russia OEM with suitable documents proof required.	
2	BOTTOM PLATE FRONT Drg.No. 172.01.009-9 LF.No. 6206801680						
3	FLOOR PLATE MIDDLE Drg.No . 172.01.010-2 LF.No. 6206801111						
4	MIDDLE PLATE OF HULL BOTTOM Drg.No. 172.01.010-8 LF.No. 6201001032						
5	REAR PLATE OF HULL BOTTOM Drg.No. 172.01.011-5 LF.No. 6201201136						

Manufacturing Technology & Testing /Inspection Facilities required to produce the item		Must be possessed by the vendor in his own premises (List of Plant & Machinery and Testing/ Inspection facility to be submitted	COMPLIANCE	Must be possessed by the vendor in his own premises (or) may be out sourced.(Name and Address of sub-contractor, list of Plant & Machinery and Testing / Inspection facility to be submitted).	COMPLIANCE
Technology 2	GAS CUTTING			CNC Gas Cutting Machine:- Capacity to cut 20 mm thick plate.	
Technology 3	HEATING FOR FORMING AND HARDENING	Gas Fired Chamber Furnace : 3000X5500 MM , Loading temperature in furnace : 900-1000°C Heating temperature : 900-980 °C Heating time : 20-40 minutes. Holding time : 40-70 minutes with facilities:- Rotary loading unit 7T , Over Head Crane 10T & Water bath.			
Technology 4	FORMING	Hydraulic Press - 10000 T Pressing Force 7500-10000T Holding time 10-15 seconds. Transfer time of blank from furnace till complete dipping in water Max. 4 minutes. Cooling time in water Min.1.5 minutes Water temperature 20-40°C Straightening Hydraulic Press 400T.			

	Manufacturing Technology & Testing /Inspection Facilities required to produce the item	Must be possessed by the vendor in his own premises (List of Plant & Machinery and Testing/ Inspection facility to be submitted	COMPLIANCE	Must be possessed by the vendor in his own premises (or) may be out sourced.(Name and Address of sub-contractor, list of Plant & Machinery and Testing / Inspection facility to be submitted).	COMPLIANCE
Technology 5	HIGH TEMPERING	Gas Fired Chamber Furnace : 3000X5500 MM Loading temperature in furnace : 570-620°C Heating temperature : 580-620 °C Heating time : 1.0 -1.50 Hrs Holding time : 1.0 -1.50 Hrs Transfer time Max.4 minutes, Cooling time in water Minimum 2 minutes water temperature 20 - 60 °C with facilities:- Rotary loading unit 7T, Over Head Crane 10T & mechanized bath.			
Technology 6	SURFACE TREATMENT			Shot Blasting Machine	
Technology 7	MILLING			Vertical Milling Center	
Technology 8	TESTING	Surface Table for inspection, Measuring instruments, profile/receiver gauges. Portable / Universal Hardness testing equipments.			

Sl. No.	Nomenclature & Drawing No.	Manufacturing Technology & Testing /Inspection Facilities required to produce the item		Must be possessed by the vendor in his own premises (List of Plant & Machinery and Testing/ Inspection facility to be submitted	COMPLIANCE	Must be possessed by the vendor in his own premises (or) may be out sourced.(Name and Address of sub-contractor, list of Plant & Machinery and Testing / Inspection facility to be submitted).	COMPLIANCE
1	SHEET STREN BOTTOM Drg.No. 175.01.007-4 LF No.6206801291	Technology 1	RAW MATERIAL			Under taking by Vendor that vendor will procure Raw material from SAIL (Who is the approved source of Raw material for HVF as of now) or any other source approved by HVF in future or Russia OEM with suitable documents proof required.	
2	HULL REAR LOWER PLATE Drg.No. 175.01.007-5 LF No.6201201126						
		Technology 2	GAS CUTTING			CNC Gas Cutting Machine:- Capacity to cut 20 mm thick plate.	
		Technology 3	BENDING	Bending in cold condition Load under closed die : 3500T Holding time in die: 5-10 sec Straightening Hydraulic Press 400T.			

Manufacturing Technology & Testing /Inspection Facilities required to produce the item		Must be possessed by the vendor in his own premises (List of Plant & Machinery and Testing/ Inspection facility to be submitted	COMPLIANCE	Must be possessed by the vendor in his own premises (or) may be out sourced.(Name and Address of sub-contractor, list of Plant & Machinery and Testing / Inspection facility to be submitted).	COMPLIANCE
Technology 4	HARDENING	Gas Fired Chamber Furnace : 3000X5500 MM Loading temperature in furnace : 860-950°C Heating temperature : 880-950 °C Heating time : 40-60 minutes. Holding time : 45-75 minutes Transfer time . Max.4 Minutes Cooling time in water: 6-8 Minutes Temperature of water: 30-45°C with facilities:- Quenching press 1600 T Rotary loading unit 7T , Over Head Crane 10T			
Technology 5	HIGH TEMPERATURE TEMPERING	Gas Fired Chamber Furnace : 3000X5500 MM Loading temperature in furnace : 570-640°C Heating temperature : 570-640 °C Heating time : 60-90 minutes. Holding time : 60-90 minutes Transfer time . Max.4 Minutes Cooling time in water: 3-5 Minutes Temperature of water: 30-45°C with facilities:- Quenching press 1600 T Rotary loading unit 7T , Over Head Crane 10T			
Technology 6	SURFACE TREATMENT			Shot Blasting Machine	
Technology 7	TESTING	Surface Table for inspection, Measuring instruments, profile/receiver gauges. Portable / Universal Hardness testing equipments.			