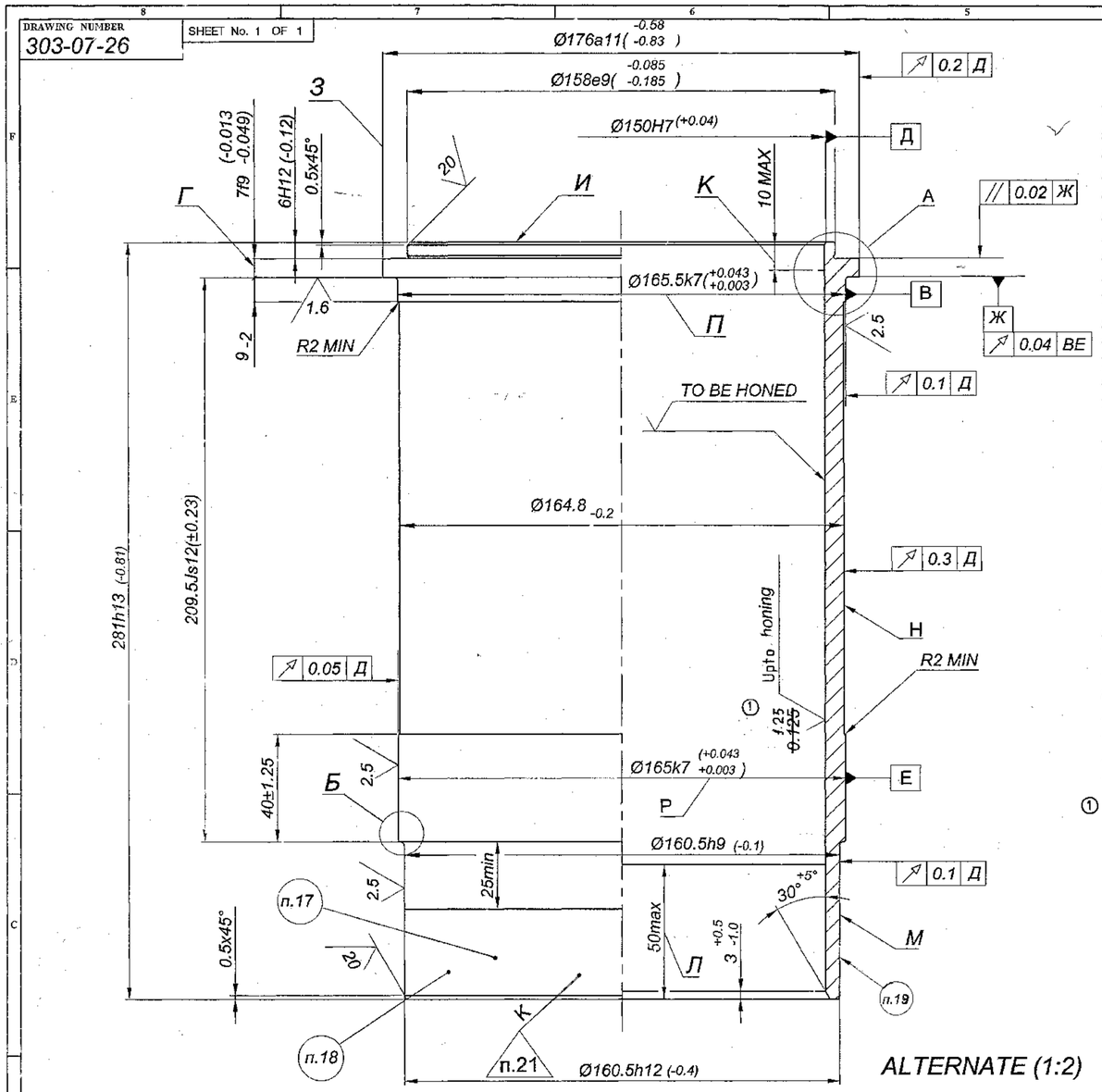
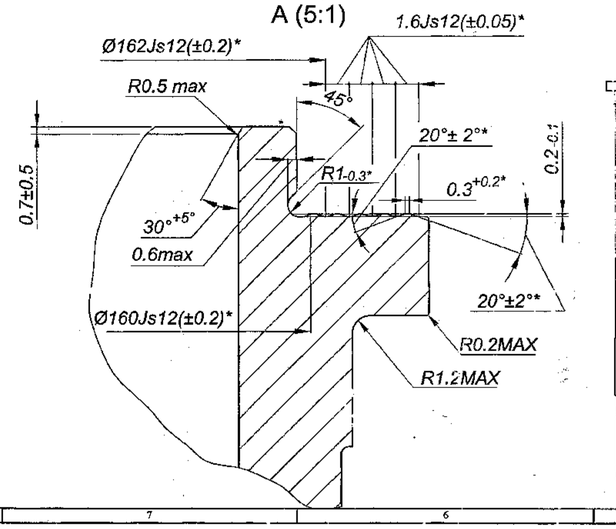
DRAWING NUMBER 303-07-26 | SHEET No. 1 OF 1

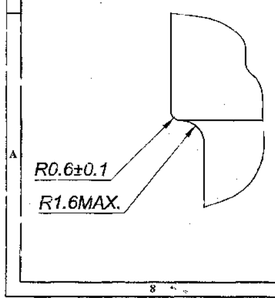


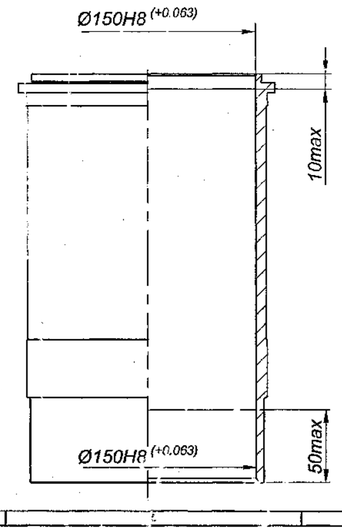
ALTERNATE (1:2)

A (5:1)



Б (5:1)





11. Surface roughness of surface 'Д' should be introduced with thin grid of cavities to a depth of 6....20 microns, width 20....100 microns having area between them with high micro unevenness of 0.6...1.3 microns. The Portion of "plateau" should contain 60-80% of total area of surface 'Д'. Cavities should be honed with crossed and inclined to the axis of surface 'Д' at an angle of 45°.... 60°. Assessment of fitness of surface roughness (Micro geometry) should be carriedout as per already checked specimen or standard surface roughness recorder.

12. Deviation of surface flatness Ж should be checked by bluing as per instruction ИЛ-613-85. The imprint of bluing should be uniform along the circumference and width 1.8mm min.

13. Allowance of saddle formation and barrel-formation of surface 'Д' should be 0.016mm.

14. Allowance of ovality (semi difference of diameter) of surface 'Д' should be 0.016mm.

15. Liner should be checked for airtightness with air pressure of 400 kPa (4 kgf/cm^2)min. in a water tank for 3 minutes. Occurance of air bubbles is not allowed.

16. *Dimensions are ensured with tool.

17. To be marked with Electrograph or colour as per instruction ИЛ -581-85, solution No.3, No.4 minimum value of dimension 'Г' rounded upto 0.01mm,letter type ПО-6 GOST 26.008-85.

18. To be marked with Electrograph or colour as per instruction ИЛ -581-85, solution No.3, No.4 maximum value of dimensions П and Р rounded upto 0.01mm,letter size ПО-6 GOST 26.008-85.

19. To be marked with Electrograph or colour as per instruction ИЛ -581-85, solution No.3, No.4 serial number of part and melt No.in the blank, letter size ПО-6 GOST 26.008-85.

20. To be marked with Electrograph or colour as per instruction ИЛ -581-85, solution No.3, No.4, Drawing No:303-07-26.

21. To be stamped with Electrograph or colour as per instruction ИЛ -581-85,solution No.3, No.4, Letter size ПО-6 GOST 26.008-85.

(1) 22. Requirements are given for forging as per TTM-120-99.

1. Inspection group II as per technical requirement TT-11.

2. Material specification;- Cast Iron: Chemical composition is in % as follows:
C=3.0...3.3; Si=1.7...2.1; Mn=1.0...1.3; P≤0.15; S≤0.12;
Cr= 0.45...0.75; Ni=0 9...1.2; Md=0.4...0.8; Cu=0.3...0.6.

3. Hardness HB 217...285 (d=3.6...4.1mm).Difference in hardness shown in one liner should not exceed 30 units. Minimum three measurements should be taken.

4. Ultimate strength of breakage is $\sigma_б$ ≥300 Mpa (30 kgf/mm^2). Test are to be carried out as per GOST 1412-85. Microstructure of special cast-iron should be as per GOST 3443-87; lamellate Graphite - plate ПГа 15-180 distribution of ПГр 1,3,4 is allowed on section - ПГр 7. Metallic -Base; lamellar perlite and Sorbitized-ferrite, upto 4%, phosphate eutectic in view of separate inclusions and broken grid, case harden not more than 10% of total quantity sorbite base, presence of carbo phosphate eutectic are allowed in view of separate inclusions and broken grid not more than 10% quantity.

5. Checking of mechanical properties and micro -structure is to be carriedout separately on a casting specimen from melts.
One out of 200 castings is subjected to full analysis with checked mechanical properties, microstructure of samples,cutout from lines.(In this case reduction $\sigma_б$ upto 260 MPa (26Kgf/mm^2) is allowed). When unsatisfactory results of mechanical properties or structures are found, repeat the analysis for doubled quantity of casting from the subsequent melts.

6. After preliminary machining operation, liners are subjected to artificial aging for relieving the internal stress.

7. Liners should not have cavities, porosities, cracks, microporosity, flash slag, inclusions and other defects.

8. The following defects are not allowed on surface 'Д': except pin-hole like porosity, elements as a result of flaking of graphite not exceeding as per dimensions and depth of individual pores of 0.3mm on sections Л and К,and also clear blow holes by measuring not more than 2 mm and depth 1 mm maximum, in quantity maximum 3 nos, located at a distance of 30 mm, one after another on section Л and К.

9. Individual blow holes are allowed:
a) Maximum 3 Nos on surface 'З' upto the size 1.6 mm maximum, depth 1 mm max at a distance of 2mm min. from the edge;
b) On surfaces Ж and И maximum 2 Nos at a size of 1 mm max; located at a distance of 2 mm min. from the edge.
c) On surface B maximum 4 Nos having size of 3 mm maximum and depth 1 mm maximum.
d) On surface E and M 4 Nos maximum having a size of 2 mm and depth 1 mm maximum; located at a distance of 2 mm min. from the groove edges;
e) On surface H, 5 Nos maximum having size of 3 mm and depth 1 mm max.

10. Difference in value of end play of surfaces 'B' and 'E' while measuring in one plane should not exceed 0.03 mm.

(1A)* Cb 303-00-23-01
Cb 303-01-23-01

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

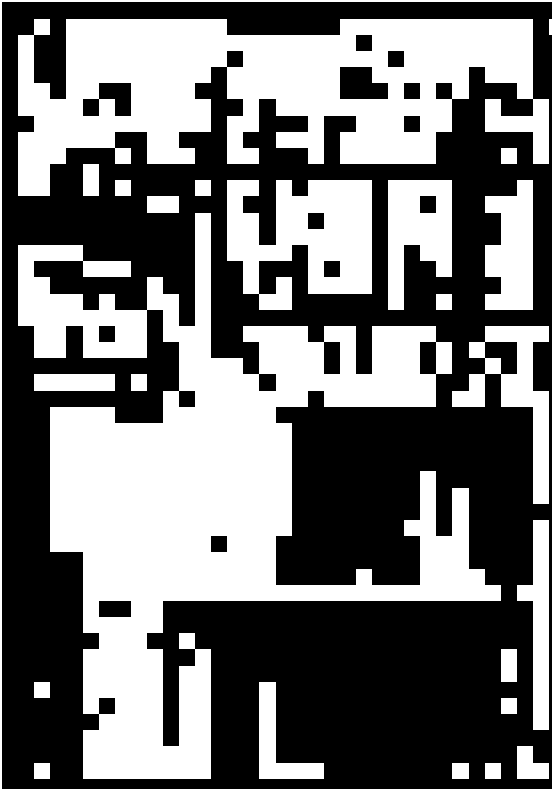
EST. WT (Kg)	TO BE STAMPED OR MARKED WHERE INDICATED THUS # (LETTERS)
7.110	

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

ISSUE	DATE	NATURE OF AMENDMENTS
1A	14.08.15	USED ON Nos. ADDED BASED ON Notn No. 196-09 (F-164)
1	10.11.08	NOTN.No: 431-06 (F-158)
A	09.07.08	00.CORRECTION.

DRN	MATERIAL :- SEE-ABOVE	USED ON :- CB 303-00-23 * CB 303-01-23
CHD		
APPD		
DATE 02.02.07	CONTROLLERATE OF QUALITY ASSURANCE (HEAVY VEHICLES) AVADI	
SCALE:- 1 : 1		
DIMENSIONS IN mm	TITLE:- LINER (A)	
TOLERANCE ON DIMNS UNLESS OTHERWISE STATED IS : 2102 - 69		
ALL THREADS TO CONFORM TO IS : 4218 Pt. IV	D S CAT NUMBER	DRAWING NUMBER 303-07-26

DPG. INDIANISED BASED ON RUSSIAN ORIGINAL ISSUE - NIL

F-3 40/165

SIZE A1