



1. Inspection group II as per instructions IT-11.
2. Gear teeth and surfaces B, B, A, X, 3 should be carburized for teeth and surfaces X and 3, h = 0.6 - 0.9 mm HRC ≥ 54; for surfaces B, B, A, h = 0.4 mm, HRC ≥ 50.
3. For non-carburized surfaces, HRC 35 - 43.
4. Unspecified tolerances on dimensions should be as per accuracy class 7, OST 1010.
5. Gear teeth edges should be rounded-off with radius 0.2 mm or blunted with chamfer 0.2 X 45°.
6. Profile of transition curve at the root of gear rim should be ensured by tool having the fillet radius of initial profile in accordance with table of parameters.
7. Run-out of pitch cone relative to the axis of surface A not exceeding 0.1 mm should be checked on a mandrel which thrusts against face B.
8. Before heat-treatment run-out of tooth tip cone relative to the axis of surface A should not exceed 0.08 mm.
9. Play of surface B relative to the axis of surface A should not exceed 0.03 mm on φ 90 mm.
10. Radial run out of surface I relative to the axis of surface A should not exceed 0.02 mm.
11. Out-of-roundness of surface I should not exceed 0.02 mm.
12. Surface B should be checked by blueing, the imprint should be uniform and cover at least 85% of surface.
13. Component should be checked using magnetic-field flaw detector, technical requirements and acceptance rules being in accordance with instructions TTMB 17.
14. Technical requirements and acceptance rules for splines are in accordance with instructions UB-19.
15. The teeth meshing should be checked by blueing and rolling with standard gear in accordance with instructions UB-13.
16. If the teeth have been checked as per instructions UB-13, the teeth thickness may not be checked.
17. Teeth of gear rim roots may be increased by 0.2 mm max as compared with preliminary cutting, provided a tooth is not undercut.
18. Dimension E may be increased to 8.16 mm on two tooth spaces.
19. If the component is used as a spare part, the coating permitted is chemical oxidizing oil finishing.
20. Surface I may be carburized.
21. Alternate material: Steel 18X2H 4BA TY 14-1-381-72.
22. Splines should be checked with a complex gauge with the following true dimensions: tooth thickness is 8 mm. External diameter is 58.1 mm, and internal diameter is 51.96 mm.
23. To be punched. Component may be marked by electro-chemical method as per instructions PH-32 or by electric-spark method.
25. Dimensions should be ensured by tool.

TIP CIRCLE MODULE	m	4.5
NUMBER OF TEETH	Z	24
TOOTH TYPE		100% MC
PROFILE ANGLE	α	20°
COEFFICIENT OF ADDENDUM	x_a	0.8
COEFFICIENT OF RADIAL CLEARANCE	x_c	0.2
FILLET RADIUS	r_f	1-0.3
COEFFICIENT OF SHIFT	x	0
TOOTH THICKNESS MODIFICATION COEFFICIENT	y	0
PITCH ANGLE	δ	56°48'36"
ACCURACY		
TOOTH THICKNESS ALONG CHORD	s_e	7.07 - 6.11
CHORDAL HEIGHT	h_e	3.66
SHAFT ANGLE	Σ	90°
PITCH CONE RADIUS	R_e	67.9
REFERENCE DIAMETER	d_e	108
ROOT CONE ANGLE	δ_f	52°20'37"
TOOTH HEIGHT	h_e	8.1
DESIGNATIONS OF MATING WHEEL DRAWING		308-54-3 3308-168.3/2 402-30-7

CONVENTIONAL DESIGNATION OF HOLE AS PER GOST 1138-58	
NUMBER OF TEETH	Z 24

EXPLANATORY NOTE:-

MATERIAL QUOTED:
18X2H 4BA TY 14-1-381-72.
HOT ROLLED CHROMIUM-NICKEL-TUNGSTEN STEEL, CALIBRATED BARS OF INCREASED QUALITY TO TY 14-1-381-72.
CHEMICAL COMPOSITION (AS PER GOST 4543-71)
CARBON = 0.14-0.20; SILICON = 0.17-0.37;
MANGANESE = 0.25-0.55; NICKEL = 4.00-4.40;
CHROMIUM = 1.35-1.65; TUNGSTEN = 0.90-1.20

PHOSPHORUS = 0.025 (MAX); SULFUR = 0.025 (MAX);
COPPER = 0.30 (MAX)

MECHANICAL PROPERTIES (AS PER GOST 4543-71)
YIELD POINT Kgf/mm^2 = 80
ULTIMATE TENSILE STRENGTH Kgf/mm^2 = 105
PERCENTAGE OF ELONGATION = 12
REDUCTION IN AREA % = 50
IMPACT STRENGTH Kgf/cm^2 = 12

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

EST. MASS TO BE STAMPED OR MARKED WHERE INDICATED THUS * LETTERS:
0.82 kg
ALL SHARP EDGES AND CORNERS TO BE REMOVED UNLESS OTHERWISE STATED MACHINED CORNERS TO HAVE R OUTSIDE R INSIDE EQUIVALENT CHAMFERS ARE PERMISSIBLE.

DRN	CHD	JCC	APPD	DATE	SCALE	DIMENSIONS IN mm	TOLERANCE ON DIMNS UNLESS OTHERWISE STATED IS 2102-69	TITLE	D'S CAT NUMBER	ISSUE NUMBER
				15-6-88	1:1			CRANK SHAFT GEAR		3305-17-1
B	12-10-80	SC1	CORRECTION							
A	24-0-87	ALTY	WAS: BK 86-62							
ISSUE	DATE	NATURE OF AMENDMENTS								

