



MODULE		M	3
NUMBER OF TEETH		Z	22
BASIC RACK	PROFILE ANGLE	α_a	20°
	ADDENDUM COEFFICIENT	f_a	1
	BOTTOM CLEARANCE COEFFICIENT	c_a	0.25
ADDENDUM MODIFICATION COEFFICIENT		ξ	0
DEGREE OF ACCURACY AS PER GOST 1643-72			Cm 8-7-7
BASE TANGENT LENGTH		α	23,065 _{-0,13}
TOLERANCE ON BASE TANGENT LENGTH VARIATION		δ_{α}	0,038
COMPOSITE ERROR	TOTAL	δ_{α}	0,13
	DOUBLE FLANK	δ_{α}	0,045
TOLERANCE ON RADIAL RUNOUT OF TEETH RIM		E_s	0,065
BASE PITCH	NOMINAL VALUE	t_0	8,856
	LIMIT DEVIATIONS	ΔB_{t_0} ΔH_{t_0}	$\pm 0,018$
BEARING PATTERN OF STANDARD GEAR TEETH	IN FACEWIDTH	%	AT LEAST 45
	IN HEIGHT	%	AT LEAST 60
TOLERANCE ON TOOTH PROFILE		δ_f	0,02
TOLERANCE ON TOOTH DISTORTION		δ_B	0,017
BASE CIRCLE DIAMETER		d_0	62,019
RADIUS OF INVOLUTE CURVATURE AT THE BEGINNING OF CONTACT		ρ_0	0
RADIUS OF INVOLUTE CURVATURE AT THE END OF CONTACT PROFILE		ρ_c	18,286
INVOLUTE DEVELOPMENT		φ	33°47'14"
DESIGNATION OF MATING GEAR DRAWING			20-06-135-2

EXPLANATORY NOTE :-

- 7 MATERIAL QUOTED : 18X2H4MA (18X2H4BA) TY 14-1-381-72.
18X2H4MA (18X2H4BA) = GRADE OF STEEL - CHROMIUM-NICKEL-MOLYBDENUM STEEL.
- (a) CHEMICAL COMPOSITION : % (AS PER GOST 4543-71)
C = 0.14 - 0.20 , Si = 0.17 - 0.37 , Mn = 0.25 - 0.55
Cr = 1.35 - 1.65 , Ni = 4.0 - 4.40 , Mo = 0.30 - 0.40
P = 0.025 (max) , S = 0.025 (max) , Cu = 0.30 (max)
- (b) HEAT TREATMENT CONDITIONS : (AS PER GOST 4543-71)
HARDENING TEMPERATURE = °C
(a) IN FIRST HARDENING OR NORMALIZING = 950
(b) IN SECOND HARDENING = 860
(c) COOLING MEDIUM = AIR OR OIL.
TEMPERING TEMPERATURE °C = 200
COOLING MEDIUM = AIR OR OIL.
- (c) MECHANICAL PROPERTIES : (AS PER GOST 4543-71)
YIELD POINT Kgf/mm² (max) = 85
ULTIMATE TENSILE STRENGTH Kgf/mm² (max) = 115
RELATIVE ELONGATION % (max) = 12
RELATIVE REDUCTION ALONG ACROSS SECTION (max) = 50
IMPACT STRENGTH Kgf/cm² = 10 (max)

- INSPECTION GROUP III AS PER TECHNICAL REQUIREMENTS T.T.-11 HRC 35 TO 45 EXCEPT FOR PLACES SPECIALLY MENTIONED.
- UNSPECIFIED LIMIT DEVIATIONS OF DIMENSIONS ARE AS FOLLOWS : FOR HOLES - AS PER A7 ; SHAFTS - AS PER B7 ; OTHERS - AS PER C.M.6.
- WHILE GRINDING TEETH, TOOTH FLANK MAY NOT BE GROUND AT DISTANCE OF NOT MORE THAN 0.2 MM FROM THE TOOTH SPACE. SMOOTH MESHING OF GEAR TEETH SHOULD NOT BE DISTURBED WHEN RUNNING-IN WITH A STANDARD WITHOUT CLEARANCE.
- MASTER GEAR AS PER GOST 6512-74.
- CHECK GEAR TEETH FOR PROPER MESHING BY USING PRUSSIAN BLUE DURING THE PART RUN-IN WITH A STANDARD WITH OUT CLEARANCE AS PER INSTRUCTIONS N.B. 42. BEARING PATTERN (ALONG WIDTH AND HEIGHT OF TOOTH) SHOULD CORRESPOND TO THE VALUES SPECIFIED IN TABLE GIVEN IN DRAWING.
- CHECK THE PART BY USING THE MAGNETIC FLAW-DETECTOR AS PER INSTRUCTIONS N.B. 20-17.

HOLE DESIGNATION AS PER GOST 6033-80	
MODULE	M 1
NUMBER OF TEETH	Z 41
PROFILE ANGLE OF BASIC RACK	α_a 30°
SPACE WIDTH ALONG PITCH CIRCLE CHORD	s_a 1,57
PITCH CIRCLE DIAMETER	d_a 41

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

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

DRN	APPD	MATERIAL :-	USED ON :-
CHD	TCD	18X2H4MA(18X2H4BA)	CB 20-07-04
APPD	DATE	TY 14-1-381-72.	
DATE	SCALE	CONTROLLERATE OF QUALITY ASSURANCE (HEAVY VEHICLES)	
SCALE		A V A D I	
DIMENSIONS IN mm.		TITLE	
TOLERANCE ON DIMNS UNLESS OTHERWISE STATED IS 2102-69		GEAR	
ALL THREADS TO CONFORM TO		D S CAT NUMBER	DRAWING NUMBER
26	13.7.89		20-07-16
25	13.7.89		
ISSUE	DATE	NATURE OF AMENDMENTS	

DRAWING INDIANISED BASED ON RUSSIAN ORIGINAL ISS UE - 24. AMDT No. 1386 - 81

