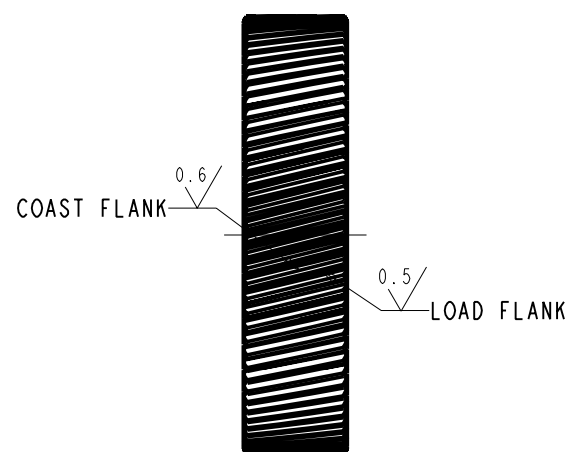
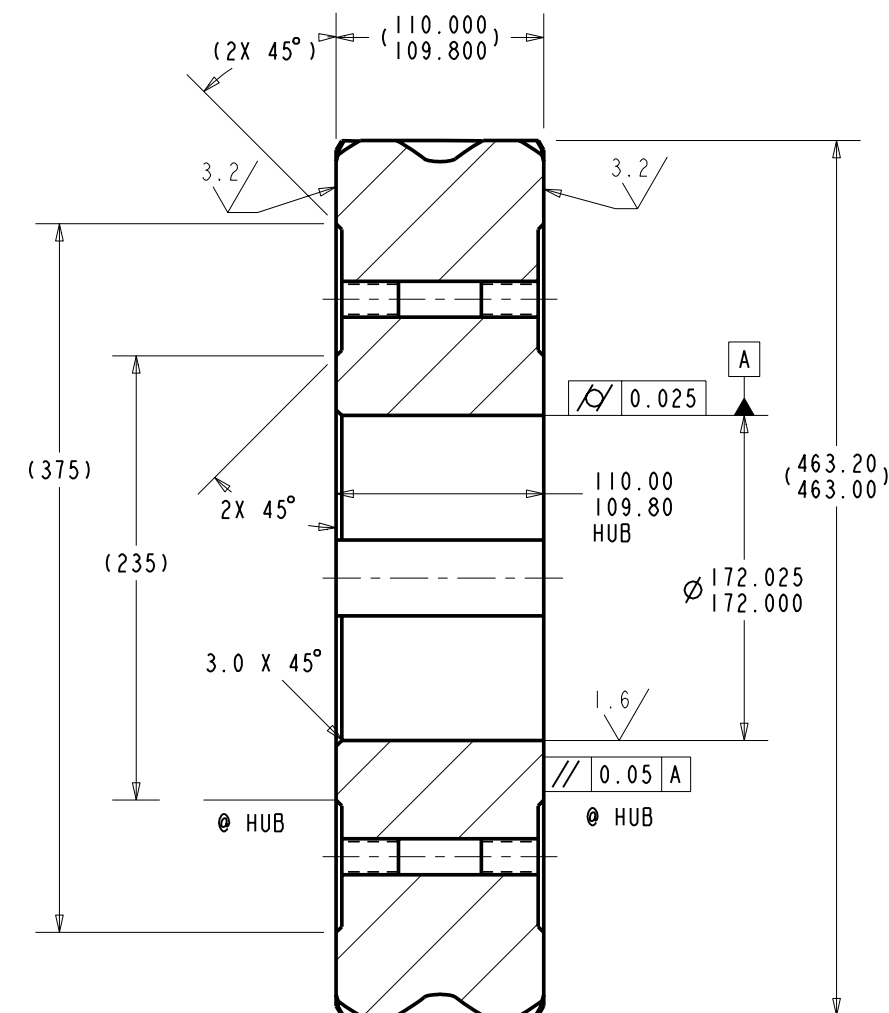
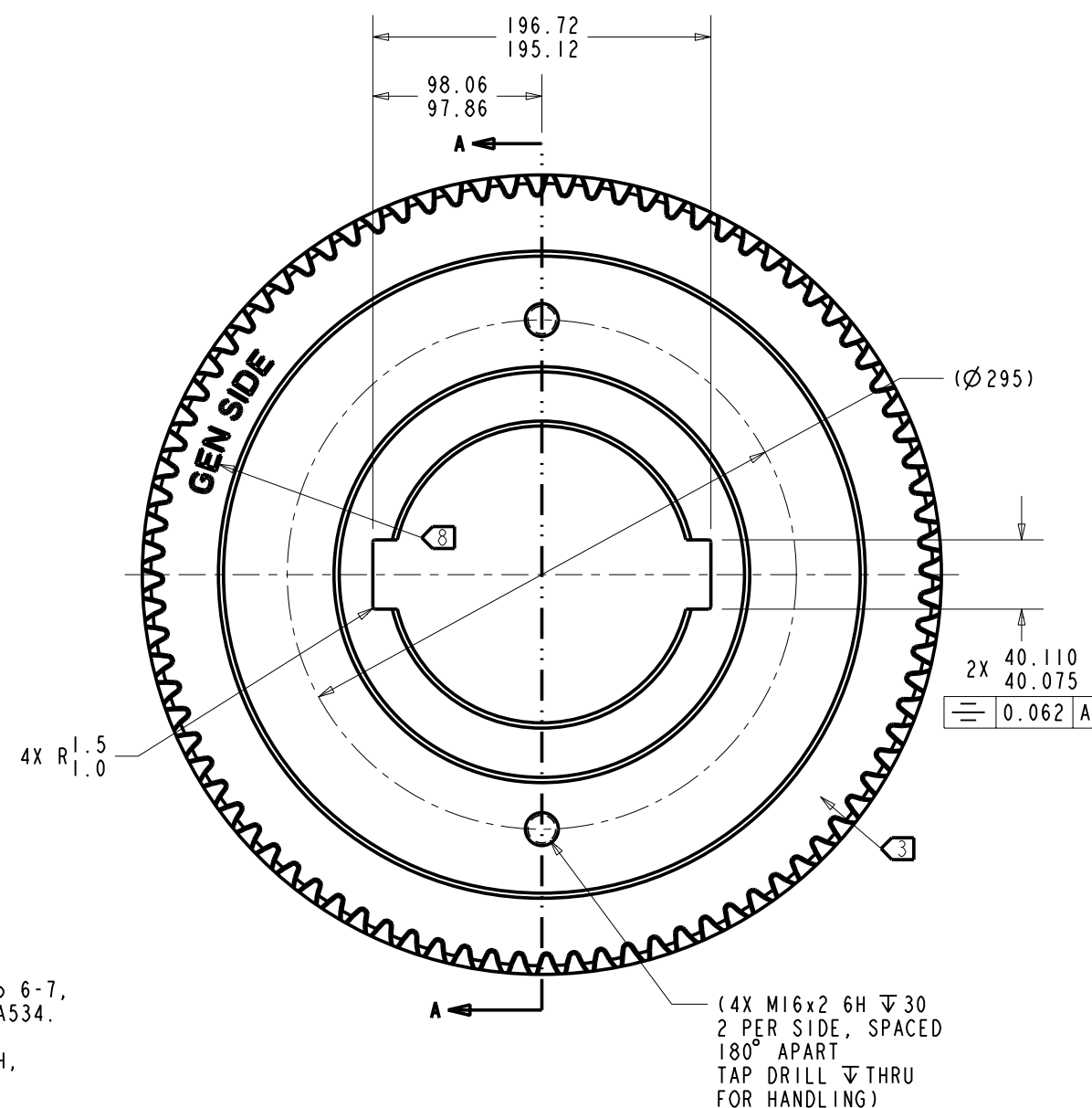


SCALE 0.125



SCALE 0.125



SECTION A-A

NOTES:

1. MATERIAL: SAE E9310; ALT. E9310H, 4820, 4820H, 18 CrNiMo 6-7, 17 CrNiMo 7 STEEL BAR OR FORGING. CLEANLINESS PER ASTM A534.
2. HEAT TREAT: CARBURIZE TEETH 1.0/1.3 EFFECTIVE CASE DEPTH, HARDEN TO 58/61 Rc. CORE HARDNESS 28 Rc. MIN. \varnothing 440mm, REMAINDER OF SURFACES OPTIONAL. PROCESS PER AGMA 2001 D-04 GRADE 2. CASE DEPTH IS ON FINISHED GEAR TEETH, AFTER GRINDING. KEEP THREADS SOFT

3. IDENTIFY WITH PART NUMBER, SUPPLIER CODE NUMBER, MANUFACTURERS LOT NUMBER, AND REV. LEVEL.

4. REMOVE SHARP EDGES AND BURRS.

5. GROUND TOOTH FLANKS AND FULL ROOT FILLET MUST BLEND WITHOUT GRIND NOTCH.

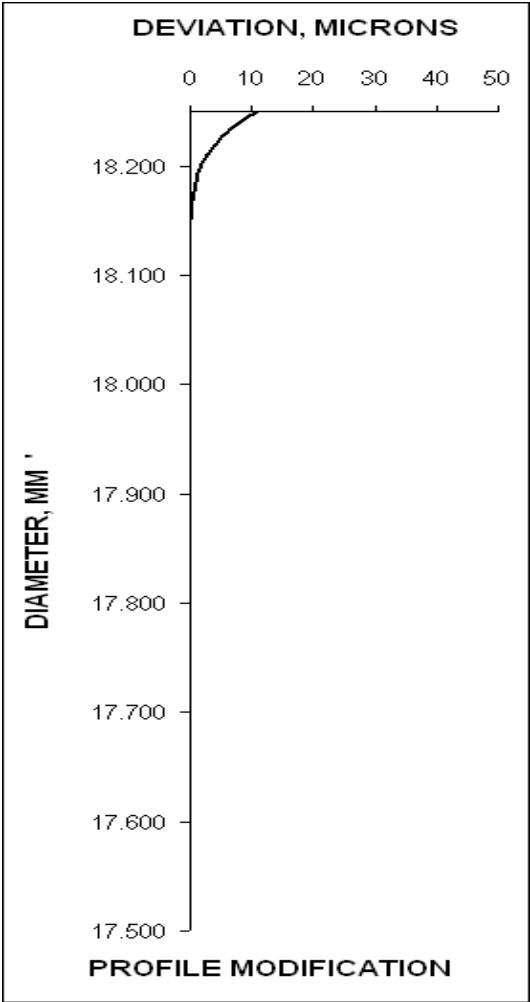
6. HELICAL GEAR TEETH MUST MEET GRIND TEMPER REQUIREMENTS OF AGMA 2007 CODE GRADE FB-1.

7. RADIAL ALIGNMENT OF GEAR TEETH TO OTHER FEATURES NOT REQUIRED.

8. IDENTIFY AS SHOWN FOR PROPER ASSEMBLY TO LOAD FLANK.

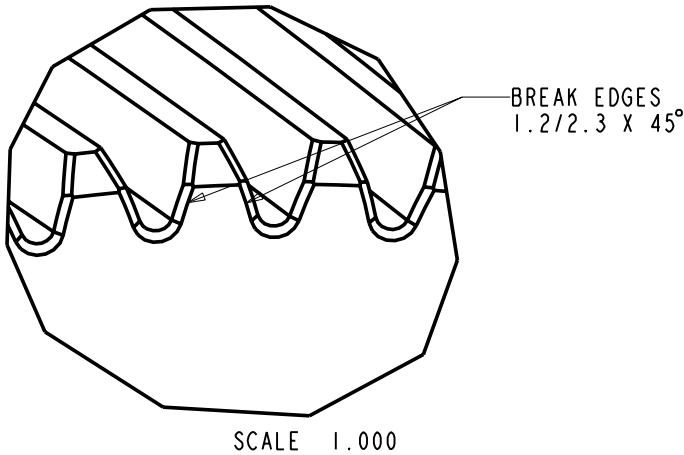
REV	CHANGED FROM	BY	DATE	APVD	REPORT ERRORS & CHANGES REMOVE ALL SHARP EDGES DIMENSIONS ARE IN MM UNSPECIFIED TOLERANCES:	Powertrain Engineers Inc W293 N3819 Round Hill Circle Pewaukee Wi, 53072			
A	RELEASED	PEI	8/27/07		DECIMALS: FINISH: ANGLES:	TITLE			
B	RELEASED FOR DESIGN REVIEW	PEI	11/29/07		X, ±1.0 Ra 3.2 µm < ±0.5 ,X ±0.5 ,XX ±0.25	GEAR, HIGH SPEED			
					COPYRIGHT © NOT TO BE REPRODUCED OR USED TO MAKE OTHER DRAWINGS OR MACHINERY.	SIZE B	FIRST USED ON	DWG NO. 251241	REV B
					DRAWN CHECKED	SCALE: 0.250	WEIGHT: 114.860 Kgs	SHEET 1 OF 2	

HELICAL GEAR DATA	
Number of Teeth	88
Normal Module	5.0000
Normal Pressure Angle	20.0000
Whole depth Constant (REF)	2.400
Oper pitch diameter (mm)	456.0000
Gen Pitch diameter (mm)	453.4700
Profile shift coefficient X2	0.2024
Base diameter (mm) (REF)	424.5815
Major Diameter max (mm)	463.200
Form Diameter (mm)	447.287
Root Diameter (REF) (mm)	439.401
Tool Tip Radius min (mm)	1.95
Generating Helix Angle	14.0000
Hand of helix	Left
Lead	5713.8308
Number of teeth in Mate	22
Center Distance (mm)	285.000
Norl cir backlash w/ Mate (min/max) (mm)	0.3 / 0.2
Quality per AGMA 2015, Datum Surface	A-B
Grade, active flank	5
Grade, coast flank	6
Trans Cir TT on Gen Dia, Min (mm)	8.299
Trans Cir TT on Gen Dia, Max (mm)	8.354
Size over 9 balls (max/min) (mm)	467.691 / 467.555
Span over 12 teeth (max/min) (mm)	176.7 / 176.65



START OF INVOLUTE (ROOT)	17.6370	in.
END OF INVOLUTE (TIP)	18.2685	in.

Diameter mm.	Diameter in.	Relief, 1/10,000 inches	Relief, microns
447.981	17.6370	0.0	0.00
459.310	18.0831	0.0	0.00
459.522	18.0914	0.0	0.00
459.735	18.0998	0.0	0.00
459.948	18.1082	0.0	0.00
460.161	18.1166	0.0	0.01
460.376	18.1250	0.0	0.03
460.591	18.1335	0.0	0.07
460.806	18.1420	0.1	0.16
461.022	18.1505	0.1	0.31
461.238	18.1590	0.2	0.56
461.456	18.1675	0.4	0.95
461.673	18.1761	0.6	1.53
461.892	18.1847	0.9	2.37
462.110	18.1933	1.4	3.54
462.330	18.2020	2.0	5.12
462.550	18.2106	2.8	7.23
462.770	18.2193	3.9	9.99
462.991	18.2280	5.3	13.52
463.213	18.2367	7.1	17.99
463.435	18.2455	9.3	23.58
463.658	18.2542	12.0	30.47
463.694	18.2557	12.8	32.39
463.730	18.2571	14.0	35.65
463.766	18.2585	15.9	40.29
463.802	18.2599	18.2	46.30
463.839	18.2614	21.1	53.71
463.875	18.2628	24.6	62.54
463.911	18.2642	28.7	72.81
463.947	18.2656	33.3	84.55
463.984	18.2671	38.5	97.80
464.020	18.2685	44.3	112.60



REPORT ERRORS & CHANGES REMOVE ALL SHARP EDGES DIMENSIONS ARE IN MM. UNSPECIFIED TOLERANCES: DECIMALS: FINISH: ANGLES:			Powertrain Engineers Inc W293 N3819 Round Hill Circle Pewaukee Wi, 53072				
TITLE			GEAR, HIGH SPEED				
X, ±0 ,X ±0.1 ,XX ±0.01			Ra 6,3 µm		∠ ±0.5		
COPYRIGHT © NOT TO BE REPRODUCED OR USED TO MAKE OTHER DRAWINGS OR MACHINERY.			SIZE B	FIRST USED ON	DWG NO. 251241	REV B	
DRAWN	PEI	DATE	SCALE:	0.250	WEIGHT:	114.860 kgs	SHEET 2 OF 2
CHECKED							