

Dimension Sheet

| <i>General</i> | <i>Pinion</i> | <i>Gear</i> |
|--------------------------------|---------------|-------------|
| Number of Teeth | 5 | 76 |
| Module, <i>mm</i> | | 3.3020 |
| Face Width, <i>mm</i> | 48.956 | 33.020 |
| Pinion Offset (BC), <i>mm</i> | 70.739 | |
| Pressure Angle - Concave, ° | 16° 58' 39" | |
| Pressure Angle - Convex, ° | 23° 1' 20" | |
| Limit Pressure Angle, ° | -3° 25' 22" | |
| Shaft Angle, ° | 90° | |
| Transverse Contact Ratio | 0.8755 | |
| Face Contact Ratio | 3.4941 | |
| Modified Contact Ratio | 3.6021 | |
| Outer Cone Distance, <i>mm</i> | 111.177 | 127.049 |
| Mean Cone Distance, <i>mm</i> | 86.549 | 110.384 |
| Pitch Diameter, <i>mm</i> | | 250.952 |
| Addendum, <i>mm</i> | 5.900 | 0.665 |
| Dedendum, <i>mm</i> | 1.525 | 6.642 |
| Working Depth, <i>mm</i> | 6.648 | 6.416 |
| Whole Depth, <i>mm</i> | 7.425 | 7.307 |
| Outside Diameter, <i>mm</i> | 38.629 | 251.161 |

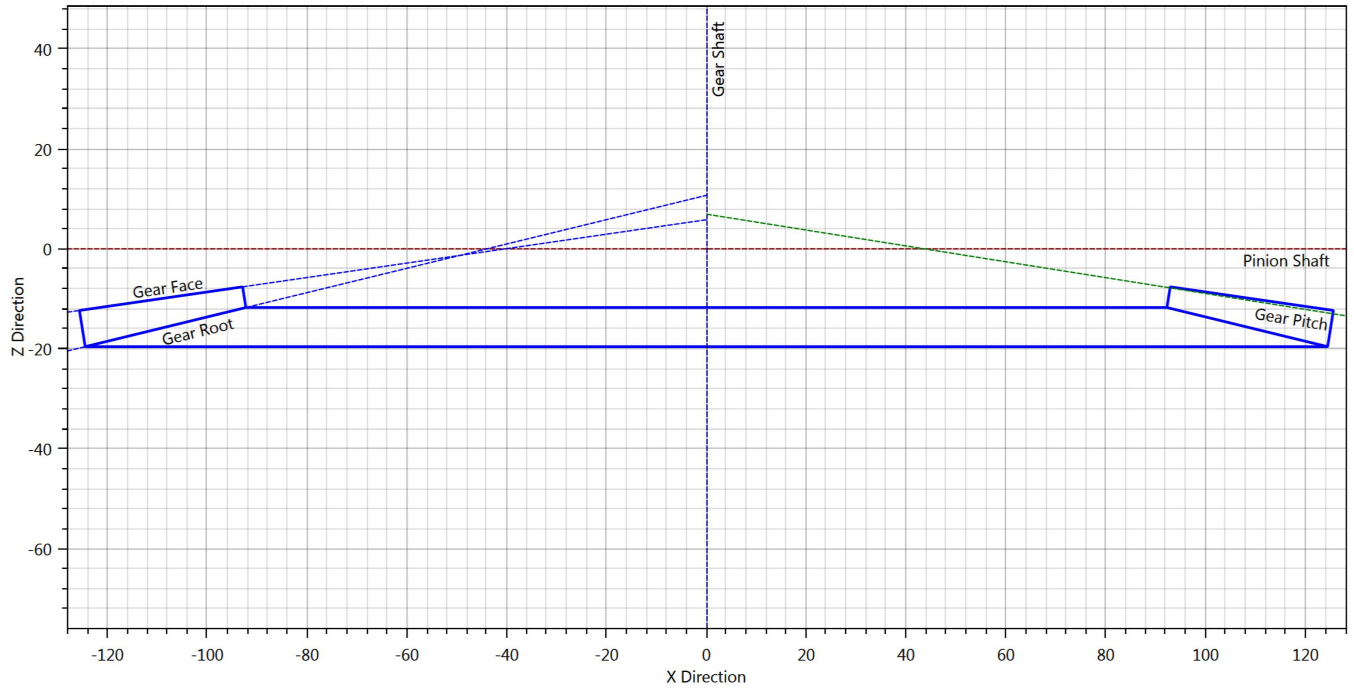
| <i>Tool</i> | <i>Pinion</i> | <i>Gear</i> |
|---|------------------|-------------|
| Cutter Radius | 2.5 in (63.5 mm) | |
| Cutter Radius (Theoretical), <i>mm</i> | | |
| Gear Finishing Point Width (Calc.), <i>mm</i> | | 2.200 |
| Finishing Point Width, <i>mm</i> | | 2.200 |
| Roughing Point Width, <i>mm</i> | | |
| Outer Slot Width, <i>mm</i> | 2.179 | 2.200 |
| Mean Slot Width, <i>mm</i> | 2.179 | 2.200 |
| Inner Slot Width, <i>mm</i> | 2.179 | 2.200 |
| Finishing Cutter Blade Point, <i>mm</i> | 1.250 | 1.250 |
| Stock Allowance, <i>mm</i> | -0.005 | 0.000 |
| Max. Radius - Cutter Blades, <i>mm</i> | 1.604 | 1.604 |
| Max. Radius - Mutilation, <i>mm</i> | 1.858 | 2.238 |
| Max. Radius - Interference, <i>mm</i> | 0.945 | 2.909 |
| Max. Cutter Edge Radius, <i>mm</i> | 0.893 | 1.588 |
| Calculated Cutter Number | | |
| Max. No. Blades in Cutter | | |
| Duplex Sum. of Dedendum Angles, ° | | |
| Ratio of Involute/Outer Cone | | 1.0723 |
| Ratio of Involute/Mean Cone | | 1.2342 |
| Gear Angular Face - Concave, ° | | 28° 43' 48" |
| Gear Angular Face - Convex, ° | | 31° 54' 33" |
| Gear Angular Face - Total, ° | | 31° 7' 9" |

| <i>Input</i> | <i>Pinion</i> | <i>Gear</i> |
|------------------------------------|---------------|-------------|
| Mean Gear Radius, <i>mm</i> | | 0.000 |
| KTT | | T2DS |
| CUTM | | 1 |
| Spiral Angle, ° | 47° | |
| Calculated Gear Pitch Angle, ° | | 80° 58' 32" |
| Number Blade Groups | | |
| Effective Cutter Radius, <i>mm</i> | | |
| Slot Width % Blade Pt., % | | |

| <i>Geometry</i> | <i>Pinion</i> | <i>Gear</i> |
|---|---------------|-------------|
| Pitch Apex Beyond Cross Pt., <i>mm</i> | 2.079 | 6.927 |
| Face Apex Beyond Cross Pt., <i>mm</i> | -3.550 | 5.816 |
| Root Apex Beyond Cross Pt., <i>mm</i> | -0.495 | 10.702 |
| Pitch Apex To Crown, <i>mm</i> | | |
| Face Angle Junction To Cross Pt., <i>mm</i> | | |
| Crown To Cross Pt., <i>mm</i> | 107.569 | 12.343 |
| Front Crown To Cross Pt., <i>mm</i> | 59.436 | |
| Mean Circular Thickness, <i>mm</i> | | |
| Outer Normal Topland, <i>mm</i> | 0.924 | 2.643 |
| Mean Normal Topland, <i>mm</i> | 1.621 | 2.562 |
| Inner Normal Topland, <i>mm</i> | 2.297 | 2.629 |
| Pitch Angle, ° | 6° 55' 41" | 80° 58' 32" |
| Circular Pitch, <i>mm</i> | | |
| Face Angle of Blank, ° | 10° 31' 8" | 81° 46' 21" |
| Inner Face Angle of Blank, ° | | |
| Root Angle, ° | 6° 18' 44" | 76° 19' 4" |
| Outer Spiral Angle, ° | 52° 44' 26" | 20° 45' 46" |
| Mean Spiral Angle, ° | 47° 23' 30" | 7° 13' 30" |
| Inner Spiral Angle, ° | 43° 21' 59" | -7° 36' 11" |
| Hand of Spiral | LH | RH |
| Driving Member | | PIN |
| Direction of Driver Rotation | | REV |
| Min. Outer Normal Backlash, <i>mm</i> | | 0.102 |
| Max. Outer Normal Backlash, <i>mm</i> | | 0.152 |
| Dedendum Angle, ° | | |
| Gear Manufacturing Process | | FORMATE® |
| Depthwise Tooth Taper | | Full Duplex |
| Face Width in % Cone Distance, % | | 25.9901 |
| Depth Factor - K | | 3.4000 |
| Addendum Factor - C1 | | 0.0900 |
| Offset Angle, ° | 5° 47' 47" | 39° 43' 57" |

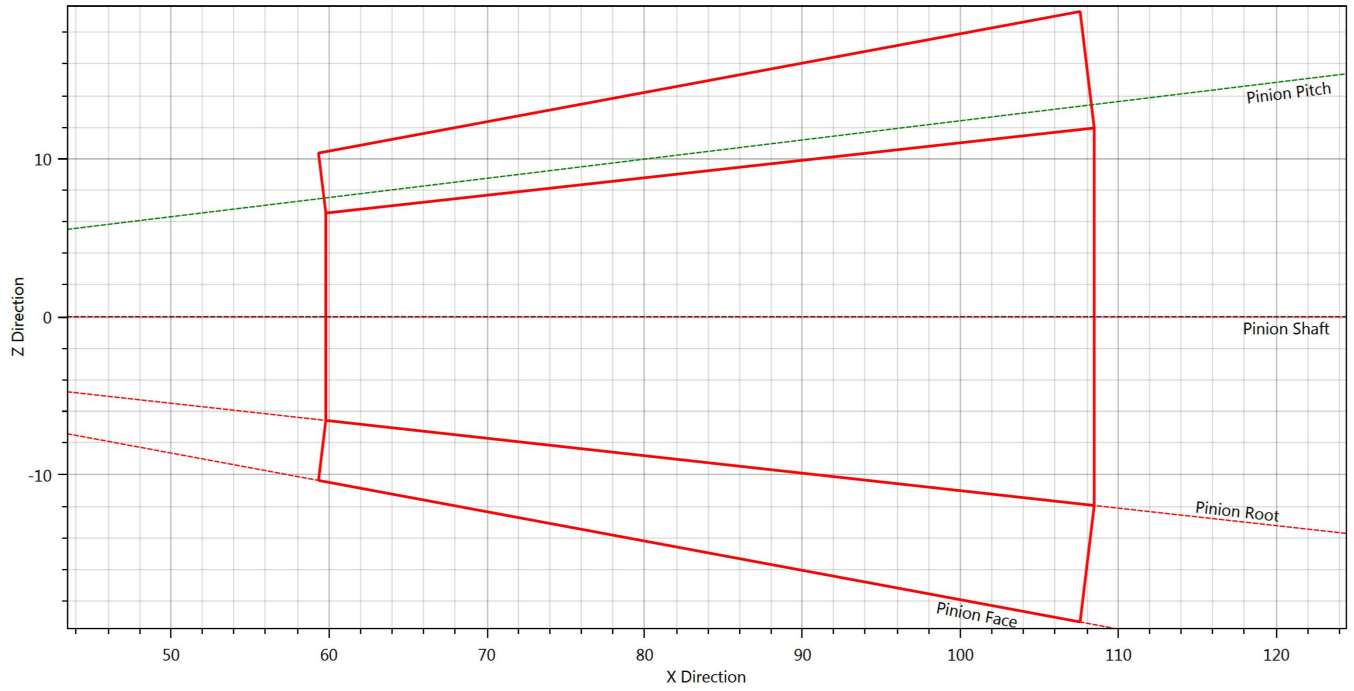
| <i>Stress</i> | <i>Pinion</i> | <i>Gear</i> |
|------------------------------------|---------------|-------------|
| Geometry Factor-Strength-J | 0.3647 | 0.4467 |
| Strength Factor - Q | 20.2178 | 1.6100 |
| Cutter Edge Radius Used, <i>mm</i> | 0.889 | 1.651 |
| Cutter Radius Factor - KX | 1.0394 | |
| Factor - MN | 0.4650 | |
| Strength Balance Desired | | STRS |
| Strength Balance Obtained - STRS | | 0.0702 |
| Geometry Factor Durability - I | | 0.3367 |
| Durability Factor - Z | 9301.7051 | 2385.8370 |
| Scoring Factor - X | | |
| Efficiency at 30000 PSI | | 91.4766 |
| Geometry Factor-Scoring-G | | |
| Root Line Face Width, <i>mm</i> | | |
| Profile Sliding Factor | 0.0022 | 0.0049 |
| Lengthwise Sliding Factor | 0.0032 | 0.0339 |
| Resultant Sliding Factor | 0.0038 | 0.0342 |
| Axial Factor CW (-IN/+OUT) | 2.7822 | 0.0627 |
| Axial Factor CCW (-IN/+OUT) | -2.3063 | 0.1040 |
| Sep. Factor CW (-ATT/+SEP) | 0.5919 | 0.0457 |
| Sep. Factor CCW (-ATT/+SEP) | 1.9711 | -0.0051 |

Gear Axial



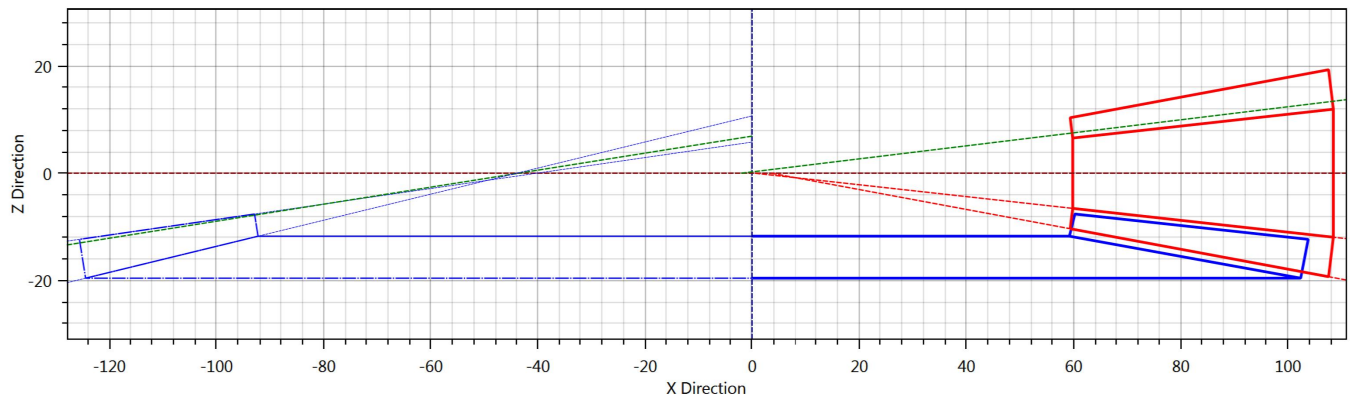
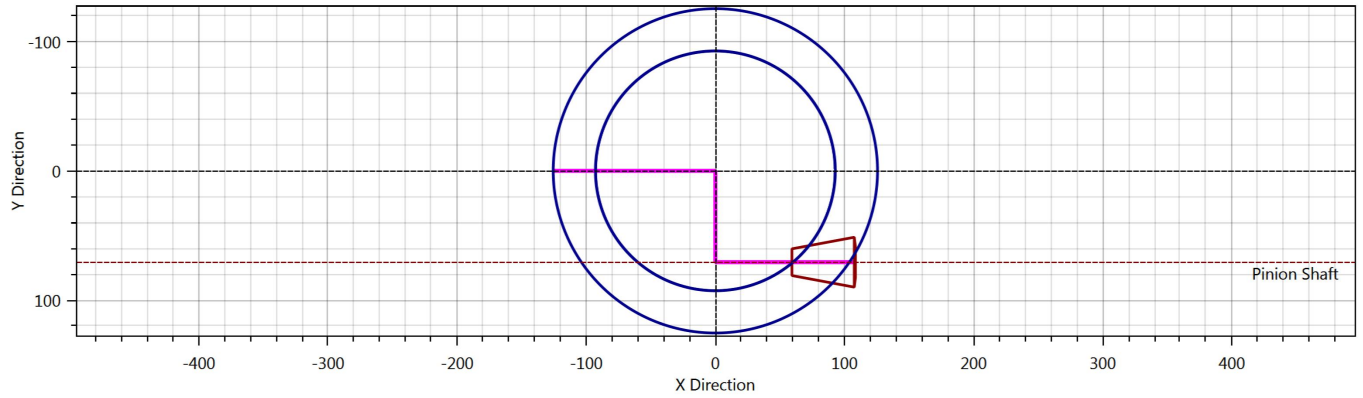
Gear Axial

Pinion Axial



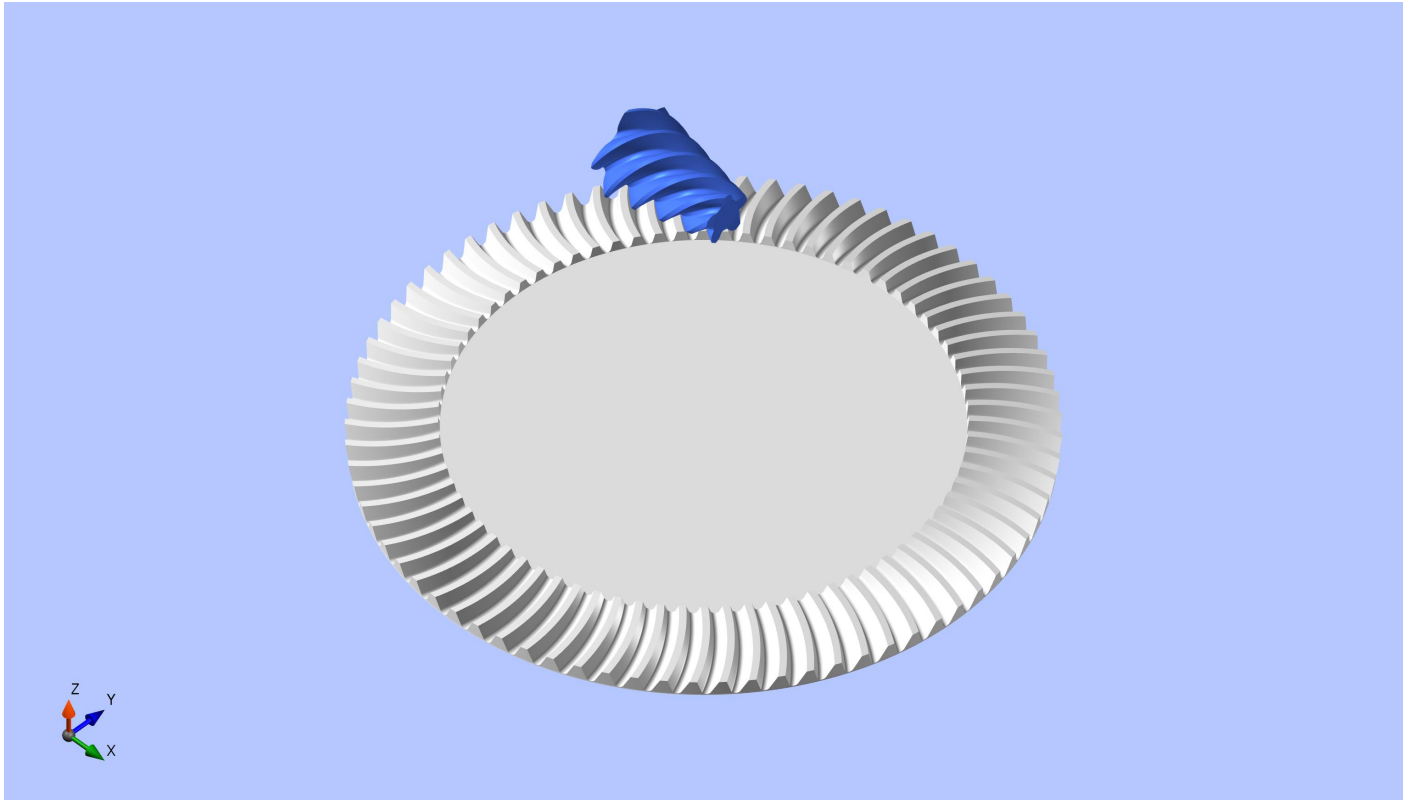
Pinion Axial

Gearset Axial



Gearset Axial

3D Gearset



3D Gearset