



Raycar
GEAR & MACHINE CO.

CAPABILITIES

Since opening its doors in 1989, Raycar has become a full service CNC manufacturing facility with the latest in technology to produce precision gears of AGMA Class 12 or better. **We have over 30,000 square feet of manufacturing space.** We are **ISO 9001:2008** certified and can provide material and process certifications as required by customers. We are your source for high quality fine and medium pitch spur gears, helical gears, internal spur gears, internal helical gears, crown gears, pump gears, planetary gears and splined shafts.



Raycar has high volume turning abilities. Our **CNC Lathes** are equipped with 10, 12 and 15-inch chucks which permit us to turn gear blanks up to 23 inches in diameter and fitting parts up to 50 inches long. Our cross-trained, experienced operators use Master Cam X6 and ESPRIT with the latest version of gear software for both 2D and 3D programming and tooling design.

*OD ID Hard Turning
is Regularly
Included in Raycar's
CNC Lathe Process Routing*



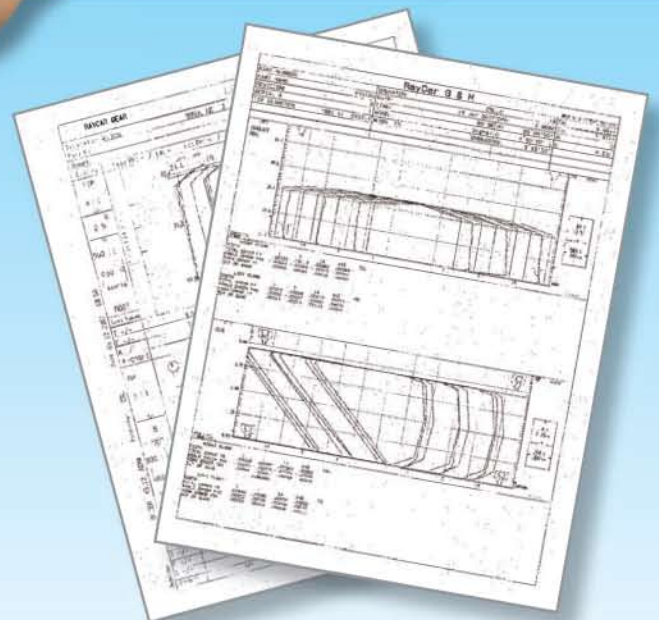
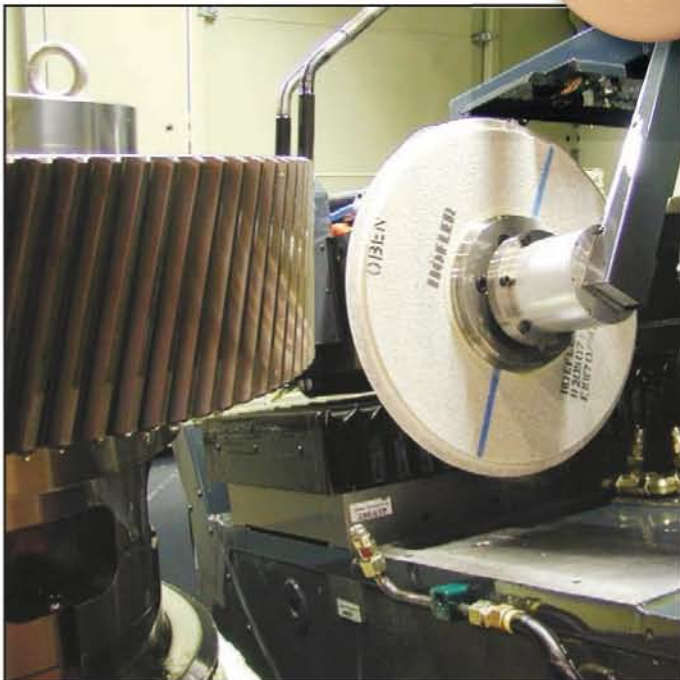
CNC Lathes, CNC Machining Centers, Bridgeport Type Mills, ID Grinders, CNC OD Grinder, Davis Keyseater and Wire EDM Machine complete with gear software are all part of Raycar's complete machining support equipment. These machines complement our **CNC Gear Grinding Machines, CNC Gear Hobbing Machines, CNC Gear Shaping Machine and Manual Shaping Machines** which allow us to manufacture precision gears to customer specifications. Raycar takes pride in the fact that most gear operations are kept in-house, enabling us to better control quality and on-time delivery.

Hobbing is the most common method for cutting gear teeth. Raycar is modernly equipped with two **Mitsubishi CNC Hobbing Machines and an NC Hobbing Machine.** Our newer **CNC Hobbing Machines** are outfitted with high accuracy worm table designs resulting in increased accuracy on high production applications. Both machines have increased feed rates on all axes and increased table and spindle rotational speeds to improve Raycar's productivity. These machines also provide Raycar with the ability to cut multiple gears using one setup, allow operators the option to use single tooth cutters and cut external keyways when necessary. Our experienced operators can hob any gear up to 20 inches in diameter and shafts of approximately 30 inches long. Our wide variety of tooling allows us to cut any standard or metric requirement and maintain AGMA Class 9.



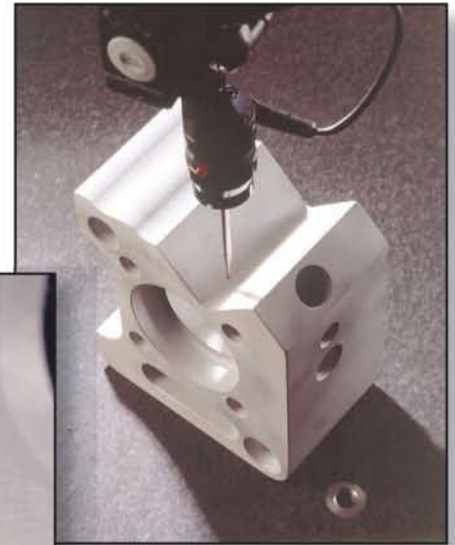
Shaping is another method of gear cutting. Raycar's **Mitsubishi CNC Shaper** offers dramatically shortened changeover time and heavy duty high speed operation including internal and external helical cutting. We have the capacity to shape a maximum external diameter of approximately 15.75 inches and a maximum internal diameter of 9.84 inches. Raycar's experienced operators are knowledgeable in the setup of our manual **Fellows Gear Shapers**, as well as, the programming of our **CNC Shaper**.

When extremely smooth, quiet operation is necessary, gear grinding is performed. Raycar is equipped with modern, full-axis **Hofler CNC Gear Grinders**. We have the capacity to grind practically any tooth profile and lead modifications including crown, taper, tip relief, and just about any imaginable modification up to 27.8 inches in diameter. Raycar can consistently achieve and exceed AGMA class 12 quality gears. Analytical gear charts are provided to all customers.



Gear Charts are Regularly Produced on Raycar's Analytical Inspection Equipment

Quality gears are always top priority at Raycar. Our newer, highly technological equipment is a key ingredient in assisting our skilled quality control personnel with test for lead, profile and pitch diameter run-out on gears. Our newer **Analytical Gear Inspection Equipment** produces gear charts for complete customer satisfaction. Raycar is **ISO 9001:2008** certified and calibrates regularly to comply with the standards. Control of Raycar's documented ISO system is done on QT-9 Quality Management software and Job Boss software is always used to control job routing information to eliminate error on repeat jobs. Our newer **Analytical Gear Inspection Equipment** produces gear charts for complete customer satisfaction.



INSPECTION SERVICES FEATURING

- *First piece inspections for each and every job*
- *In-Process inspections following each operation during manufacturing*
- *Final inspections always conducted prior to shipping*
- *Complete inspection reports and Gear Charts accompany every shipping part*
- *Nital Etching available upon customer request*
- *Surface Roughness Testing available*



Raycar
GEAR & MACHINE CO.
Complete Gear Manufacturing

ISO 9001:2008 CERTIFIED

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