



# CAPABILITY STATEMENT

[WAGEARS.COM.AU](http://WAGEARS.COM.AU)

# About Us

Established in 1987, WA Gears Pty Ltd is a family-owned business that has been servicing Western Australia for over 34 years. We specialise in gear engineering and manufacturing, gearbox repairs and CNC machining.

The Managing Directors, Michael Sussa and Daniel Sussa, along with our dedicated team, are focused on building lasting partnerships and relationships with our clients. We understand the disruption that our clients face when a gear box or critical component fails, and the need to minimise downtime. We are responsive, transparent, and always available to provide quality service and advice at competitive prices.

Our core values are Safety, Quality and Trust.



# Our Facilities

Our facilities consist of a purpose-built 1,000 sqm workshop and a large secure lay-down area. We are located at the Australian Marine Complex in Henderson, which is 30 minutes from the Perth CBD.

Our workshop is equipped with 35 machines, including 20 machines dedicated to gear cutting and grinding, and the latest CNC machinery.

We operate a temperature-controlled inspection room for quality control on all our work and for calibration of measuring instruments. We undertake regular and stringent maintenance checks of our machinery and equipment to ensure that we always manufacture quality products for our clients.



# Who We Service

We are the trusted service provider to some of the biggest OEM gear box manufacturing companies in the world and we are proud to partner with them in manufacturing spare parts for products used on mine sites all over Australia and overseas.

The bulk of our work involves servicing the energy and resource industry – whether it is manufacturing a small gear drive for a pipeline valve or a gear for a crusher, we are committed to providing our clients with excellent products and solutions.

Amongst many other clients, we also service the marine industry with the manufacturing of winch gears, and the agricultural industry with spare parts for wheat harvesters and tractors.



*Minerals & Resources*



*Drilling & Exploration*



*Marine & Defence*



*Construction and Earthmoving*



*Energy*



*Agriculture & Farming*



*Food & Beverage*



*Printing & Packaging*



*Cranes & Lifting*



*Engineering & Manufacturing*



# Our Machines & Equipment

We have a range of machines and equipment designed to manufacture gears from 20mm in diameter to 1.8m in diameter. A complete list is set out below, which provides us with the capability to support various industries with different manufacturing requirements.

## GEAR CUTTING AND GRINDING MACHINES

### **Niles 630C Gear Grinder with Crowning**

Capacity: 700mm Diameter, 16 Module

### **MAAG SH150/180 Gear Shaper**

Capacity: 1800mm x 400mm Stroke, 30 Module

Internal attachment for ring gears to 1500mm Diameter

### **Lorenz EN12 Hobbing Machine**

Capacity: 1400mm diameter x 600mm travel

Tangential fly cutting head

### **WMW-Niles CNC Gear Hobbing Machine with Turning Capability**

Capacity: 350mm diameter x 4000mm long, 10 Module

### **Modul Hobbing Machine**

Capacity: 800mm diameter x 500mm travel, 10 Module

### **Pfauter CNC Gear Shaper**

Capacity: 1000mm diameter x 250mm stroke

### **2 x Demak Gear Hobber**

Capacity: 400mm diameter x 300mm travel

### **Barber Colman 16-36 Hobber**

Capacity: 400mm diameter x 1000mm travel

### **Fellows 36-6 Gear Shaper**

Capacity: 1000mm diameter x 150mm stroke

### **2 x Fellows 6A**

Capacity: 450mm diameter x 125mm stroke

### **2 x Sykes V10A Gear Shapers with Rack Cutting Attachment**

Capacity: 300mm diameter x 60mm stroke, racks to 1000mm long

### **Gleason 12 Bevel Generator**

Capacity: 600mm diameter

### **3 x Sunderland Gear Planers**

Capacity: 1400mm diameter x 230mm stroke

### **Oerlikon Thread Mill**

Capacity: 200mm diameter x 2000mm long

### **Mikron Instrument Hobber**

Capacity: 50mm diameter

**Various gear testers for checking gear centre distance and worm wheels for running and contact testing.**

## **CNC MACHINES**

### **Goodway GLS 3300M**

3 axis Lathe with live tooling and C Axis. Capacity: 450mm diameter x 700mm long.

### **Goodway GLS 3300YL**

4 axis Lathe with live tooling, Y & C axis. Capacity: 400mm diameter x 1250mm long.

### **Hitachi Seiki V65**

3 axis CNC Milling with 500mm diameter 4th axis table.

Capacity: 1250mm = X 650mm = Y 800mm = Z 1500Kg table load.

### **Eastar CNC-350 Slotting Machine**

3 axis with auto indexing. Capacity: 1000mm swing x 350mm stroke.

## **MANUAL MACHINES**

### **4 Centre Lathes up to 1000mm Swing**

### **Bridgeport Mill with Slotting Attachment**

### **Manford Mill NT40 Taper**

### **Jones and Shipman 1051Cylindrical Grinder**

Capacity: 200mm diameter x 700mm long

### **Heald Rotary Surface Grinder**

Capacity: 400mm diameter

### **Gripwell Slotter 250mm Stroke**

### **Kao Ming Universal Tool and Cutter Grinder**

### **Kapp Hob Sharpening Machine**

## **ANCILLARY EQUIPMENT**

### **Overhead Crane**

### **Gantry & Jib Cranes**

### **Forklift**

### **Press**

### **Bandsaw**

### **MIG & ARC Welders**

### **Vapour Blasting Machine**

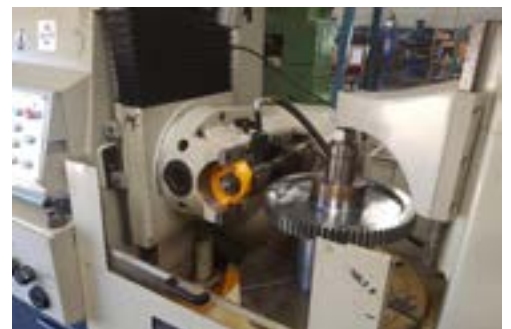
### **Furnace**



*Our MAAG SH150/180  
capable of cutting gears to  
1.8m diameter*



*EN12 Lorenz Hobber cutting a  
worm gear*



*800mm Modul Hobber*



*Fellows 36 – 6 Gear Shaper*

# Gear Manufacturing

## OUR SKILLS AND EXPERTISE

Our clients rely on our skills and expertise to undertake:

- Gear cutting only, which is a service generally provided to other engineering businesses who supply pre-machined blanks;
- Gear manufacturing in accordance with drawings and specifications supplied by our clients, including the heat treatment of gears;
- Reverse engineering of broken or worn samples.

We manufacture gears from various materials, including:

- 1045 carbon steel, 4140 and 4340 alloy steels, and 4317 case hardening steel
- Various types of bronzes and nylons.

We can reproduce gears made by any other manufacturer and from anywhere in the world. We also maintain a record of all drawings for clients for repeat orders, which is beneficial in a breakdown situation where efficiency is critical.

## TYPES OF GEARS

The types of gears that we manufacture include:

- Spur & Helical Gears from 20mm up to 1.8 metres Diameter, 0.5 Module to 30 Module
- External Spline shafts 350mm Diameter to 4 metres Long
- Internal Splines and Gears 1.5 metres Diameter to 400mm Face
- Sprockets and Timing Pulleys to 1.5 metres Diameter
- Worm Gears to 1.2 metres Diameter
- Worm shafts to 1.5m long
- Geared Racks
- Cluster Gears
- Blind Hole Splines and Keyways
- Straight & Spiral Bevel Gears to 600mm Diameter





*Splined input shafts*



*700mm diameter wheel & gear*



*Helical gear grinding*



*Helical compressor gears*



*Gearbox components for a submarine*



*Planet carrier spline cutting*



*Funk pump box gears*



*Hardened spur pinion shaft*



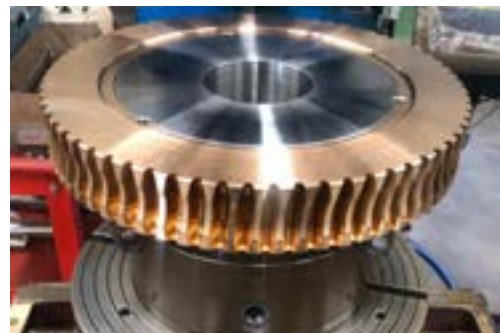
*2500mm spline shaft cutting*



*Pump drive spline bushes*



*Nylon HTD timing pulley*



*400mm diameter worm wheel*



*Worm and worm wheel set*



*Quad sprocket*



*Large gear final machining on lathe*



*600mm diameter internal clutch rings*



*Straight bevel gear set for gantry crane*



*Spiral bevel gears*

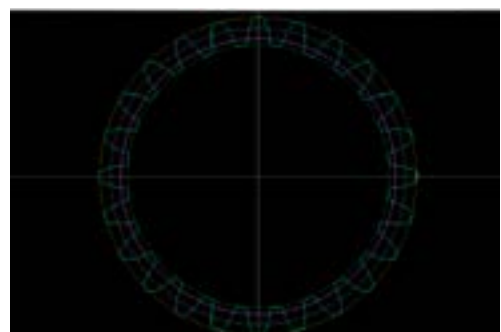


*800mm diameter planetary ring gear*



*One piece cluster gear*

**We use Gear CAD Software to design and modify gears for optimum performance.**





# Industrial Gearbox Repairs

Our team of gear experts can help with the inspection and repair of various types of industrial gearboxes such as planetary, speed reducers, exciters, worm boxes, winches, and many others.

What sets us apart from other industrial gearbox repair shops is that we have the capability to reverse engineer gearbox components using proper inspection equipment and manufacture new gearing at our facility in Henderson.

Our gearbox repair services include:

- Inspection
- Problem analysis
- Quoting
- Manufacture new gearing
- Supply upgraded components, if applicable
- Supply of couplings (splined, keyed, geared)
- Ratio changes
- Painting and load testing on request





*Helical reducer*



*Rail gearbox*



*Jack screw worm gearbox*



*Helical reducer*



*Planetary reducer gearbox  
final stage*



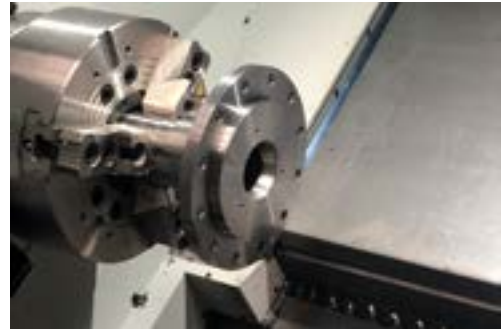
# CNC Machining

In addition to gear manufacturing, we provide CNC machining services to our clients at competitive prices.

Our CNC machining capabilities include:

- Pins and bushes
- Multi axis machining
- API threads and drill spindles
- Boring and keyways
- Shafts and couplings
- Slotting with a capacity of 350mm face width and 1000mm diameter
- Precision cylindrical grinding
- Milling





# Stock Replacement Parts

We manufacture and stock many types of standard gear and spline replacement parts to suit various drilling and earth moving machinery (such as, Atlas Copco/Epiroc, Gardner Denver, Schramm, Funk, Terex, CAT and Hitachi).

We can also modify these standard components to meet our clients' requirements.

The types of components that we manufacture and stock, include:

- Rotation Head Gears for all types of Drill Rigs
- Pump Box Drive Gears
- Splined Adaptors
- Slew Drive Pinions
- Final Drive Components
- Compressor Helical Gears
- Drifter Parts
- Vibrating Screen Exciter Gears
- Crane Wheel Drive Gears and Pinions
- Machine Tool Gears





*Rotation head gears*



*Chuck & Pinions*



*Drifter Chuck & Gear*



*Pump box input shafts*



*Pump box gears*

# Our Experience - Case Studies

## STACKER/RECLAIMER SLEW PINIONS

We were approached by a mining services provider that was experiencing many failures from the OEM slew pinions driving their various applications. After careful analysis by WA Gears, it was concluded that the gear material and heat treatment was insufficient for the application and that the gear geometry at the root of the teeth profile was incorrect.

We resolved this issue by using a different material and heat treatment procedure and machining the gear teeth with a full form radius to create a stronger gear tooth. Our client has advised that after many years of service the pinions manufactured by WA Gears are still working well.





## **ROCK BREAKER PINION SHAFT**

A client was experiencing rapid wear of their OEM rock breaker pinion shaft. To extend the life of the gears, we suggested new pinion shafts with a harder material and tighter machining tolerances of the tooth profile. We used our reverse engineering skills to manufacture the new pinion shafts and provide a long-lasting solution for our client.



## **PUMP DRIVE GEARS**

A drilling client was having problems with constant failure of their pump drive gears due to fretting between the spline of the internal output shaft and the gear. To solve this problem for our client, we manufactured the gears in one piece to eliminate the fretting on the splines and the need for regular maintenance. This demonstrates our ability to modify standard parts and designs to suit our clients' requirements.



# Contact Us

Our manufacturing facility is located within the Australian Marine Complex.

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