The Ultimate in Precision
Engine Rebuilding Capability

Teterin has dedicated engine rebuilding bays for large gas and diesel engines and smaller ExDES engines.

The rebuild bays are equipped with overhead cranes, work benches and spare parts racks.

Engines are rebuilt in accordance with engine manufacturer specifications and customer requirements, using genuine or aftermarket spare parts as specified.

Ex-DES engines are rebuilt then dynamometer tested and gas emissions tested in the Teterin Engine Test Cell prior to delivery.

Teterin Engine Test Cell

- Taylor DX 33 600kW Engine Dynamometer (ECU capable)
- Gas Analysis Testing: CO / CO2 / NOX
- Dyn Pro Instrumentation
- PC based data acquisition and control system
- Control room fitted with high resolution zoom cameras

Metrology

- Discovery II D-28 Fixed Bridge CMM (Coordinate Measuring Machine)
- 564 individually identified calibrated measuring equipment
- All standard test pieces calibrated by NATA
- Electronic register of all measuring equipment

LARGE DIESEL & GAS ENGINES

- Jenbacher Type 3, 4 and 6
- MWM 2020, 2016 series
- Deutz TGC620, TBD620
- MTU
- MAN

SMALL ExDES ENGINES

- Cat 3126, 3306
- MWM 4.10 TAC
- Perkins 1006, 1104
# Engine Component Reconditioning Capability

We recondition components for all major diesel and gas engines, such as Cat, Cummins, MTU, Waukesha, Jenbacher, MAN, MWM, White Superior, ALCO and EMD.

All engine components are chemically cleaned in a hot caustic bath prior to entering the Survey section where they are dimensionally inspected and an Opening Report prepared. Components are QA inspected to the Teterin Quality Standard prior to product release then painted and packaged ready for dispatch with a Closing Report.

## ENGINE BLOCKS
- Chemical cleaning
- Full survey and reports
- Fluorescent magnetic particle inspection
- Pressure testing
- Laser alignment inspection
- Reboring, honing, resleeving
- Tunnels – boring, saddle repairs, inserts & thermal arc spraying
- Thrust repairs
- Fit upper liner, fit lower liner, insertion and final boring
- Cam tunnel resleeving
- Cam follower/lifter bore resleeving
- All cylinder block damage repairs
- Head bolt/stud – thread resleeving
- Water passage hole repairs
- Dowel hole repairs
- Metal spray and machine top decks
- Water jacket electrolysis / corrosion repairs
- Repairs to idle gear locations
- Honing

## CYLINDER HEADS
- Chemical cleaning
- Fluorescent magnetic particle detection
- Dye penetrant detection
- Pressure testing
- Valve guide replacement
- Valve seat replacement / single point machining
- Valve face grinding
- Injector tube replacement
- Injector seat machining
- Pre-combustion chamber replacement and thread repairing
- Head surface machining
- Manifold repairs
- Fit helicoils / keyserts / loc–inserts
- Oil cooler cleaning / flushing / pressure testing
- Intercooler cleaning, flushing and pressure testing

## CRANKSHAFTS
### Survey:
- Chemical cleaning
- Fluorescent magnetic particle inspection
- Check for straightness
- Check diameters
- Check surface finish, flatness and hardness
- Check threads, nose, keyways, thrusts, seal areas

### Work Scope:
- Removal oil gallery plugs
- Crankshaft straightening
- Chrome reclamation of journals
- Seal area reclamation
- Grind journals
- Micro polish journals
- Balance crankshaft
- Shot peening

## CONRODS
### Survey:
- Fluorescent magnetic particle inspection
- Check for bend
- Check alignment
- Check length
- Measure little end and tunnel
- All measurements by Fixed Bridge CMM

### Work Scope:
- Resize tunnel
- Rebush and machine
- Proof test little end bush

## OTHER
- Water and oil pumps and pump housings
- Manifolds, gears, compressors and radiator fans
- Large wheel hub / spindle repairs
- Marine propeller shafts
- Wind turbine main shafts
- Rail rolling stock wheels and axles
- Large hemisphere repairs
- Large planetary gear repairs
- Large trunnion repairs
- Large differential repairs
- Special sleeve manufacturing
- Lower & upper liner sleeve manufacturing
- Driveline repairs
- Engine fan repairs and reblading and balancing
## Engine Component Reconditioning Capacity

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## Machine Capacity

### GRINDING

| **CNC Crankshaft Grinder** | Max. swing over bed 1,100mm | Max. grinding dia. 250mm | Max. length between centres 4,600mm | Max. weight 2,500kg | Max. shoulder dia. 450mm |
| **Man. Crankshaft Grinders (x4)** | Max. swing over bed 1,300mm | Max. grinding dia. 275mm | Max. length b/w centres 4,500mm | Max. weight 3,000kg | Max. shoulder dia. 400mm |
| **Face Cylindrical Grinding** | Max. dia. 850mm | Max. face width 170mm |
| **Internal Planetary Grinder** | Max. wheel dia. 400mm | Max. length of bore 700mm | Table clamping size 970mm x 770mm | Max. weight 1,000kg |
| **Surface Grinding (x2)** | Max. length 1,000mm | Max. width 300mm | Max. height 600mm |

### MILLING AND BORING

| **CNC Valve Facing** | Max. length 1,370mm | Max. width 500mm | Max. height 820mm | Machining capacity 20mm to 163mm |
| **NC Mills (x4)** | Max. travel length 5,000mm | Max. travel height 2,000mm | Max. travel width 900mm |
| **CNC Lathes (x2)** | Max. dia. 360mm | Max. swing over bed 530mm | Max. swing over cross slide 330mm | Max. length between centres 600mm |
| **Cylinder Liner Honing (x3)** | Max. dia. 355mm | Max. stroke 900mm |
| **Drilling** | Height 2,000mm | Radial arm length 2,400mm |