

# Brett Weintz

County Limerick, Ireland, +353 (0)87 383 5043

## Career Summary

Experience in technical engineering roles ranging from the shop floor and seagoing operation to ship repair/ modification and design of ship systems as well as investigations of failures/ problems. Knowledge, drive and diligence to achieve successful repairs/ investigations under difficult circumstances.

## Current Position

Consultant engineer (director), Brabon Engineering Services Limited. Since February 2019.

Services include; shaft alignment calculations and measurements (bore alignment, bearing loads by jacking and bending strain) as well as failure investigations on all types of machinery (with dynamic measurements) and engineering design/ assessment.

## Recent Position

Senior Surveyor, Lloyd's Register Technical Investigation Department (TID). Jan 2007 to Nov 2018.

Investigation of failures and problems concerning ship main propulsion and auxiliary machinery. Involving; on-site inspections, measurements with temporary instrumentation installations for alignment, strain and vibration as well as planning trials, data analysis, modelling and producing formal reports. Required working with all stakeholders to expedite the investigation/ repair tasks and return the vessel to service.

Project management of investigations as well as development of proposals and cost estimates.

Particular investigations included:

- Failures of sterntube bearings. Involved identifying the cause(s) of the bearing damage and supervision of bearing replacement/ repair. Included alignment measurements (bearing jacking, bending strain and bore offsets), design modifications and adjustments, e.g. prescribing the sterntube aft bearing slope.
- Measurement and analysis of propeller dynamic forces and moments as well as propeller shaft radial displacement on a (twin screw) new-build ferry (in China). Involved design and installation of arrangement with strain gauges on propeller shaft aft end connected to underwater radio telemetry equipment as well as (10 off) proximity probes measuring radial displacement within the sterntube.
- Failure of a main propulsion thrust block bearing. Involved sea trial measurements of static bearing loads, dynamic shaft bending, shaft orbits, vibration and bearing temperature.
- Failures and damage of large end/ marine head bearings on medium speed diesel engines.
- Fatigue failure in crankshaft of medium speed diesel engine.
- Failure of a main diesel-electric generator set flexible drive coupling during paralleling.
- Failures of LNG turbo-machinery high-speed (gearing) bearings.
- Fatigue fracture of main propulsion propeller shaft.
- Torsional vibration failures of elastic coupling in a medium speed, two engine input, geared reduction main propulsion drive. This involved sea trials measurement, analysis and modelling.
- Sea trials measurement of propeller induced vibration in the after end of a passenger vessel.
- Sea trials and modelling of torsional vibrations in a trolling/ slipping clutch type propulsion drive.
- Calculations of shaft torsional, lateral and axial vibration as well as alignment loads for new-build design.
- Sea trials measurement of structural resonance in the accommodation block of a VLCC.

## Skills

- Machinery damage/ failure investigations and inspections.
- Measurement instrumentation including; strain gauging (inc. telemetry), proximitors, encoders.
- Computer based data acquisition equipment and sensors.
- Matlab/ Scilab (e.g. analysis of dynamic signals), Ansys and AutoCad software tools.
- Writing formal reports.

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## Qualifications

Academic           BE (Hons), Mechanical Engineering, NSW Institute of Technology, Sydney, 1988  
Professional       Member of the Institution of Mechanical Engineers (since 1999)

## Previous Professional Experience

1999 - 2007       BAE Systems – CS&S Naval, Design Services Consultancy

Developed design guidance for the replacement of main gear wheels of Type-23 frigates. Involved working with the manufacturer to extend the fatigue life of the gearing by only replacing the pinion wheels.

Design project leader for the re-engine of a Minehunter vessel. Design work included; machinery layout, auxiliary system design as well as the analysis of shock, acoustic signature & magnetic signatures.

Project leader in a study of marine air conditioning & cooling system design. Including; design tools, ambient temperatures, design standards, alternative system designs and efficiency initiatives.

Development of an aircraft carrier catapult steam system design. Included; investigating system transient characteristics, boiler output, condenser capacity, feed water requirements and system design options. Produced design reports, system diagrams and layout drawings.

Design studies including an alternative propulsion system layout for a major new-build warship, a study of the life-limiting design aspects of a naval boiler, and review of a new propulsion electric motor design.

1996 – 1999       Yarrow Shipbuilders – Forward Design Group

Worked as a marine Design Engineer supporting shipbuilding bids. Design tasks included the firemain, auxiliary sea water and the chilled water systems for a major warship bid. Included an analysis of survivability of alternative system layouts. Modelling machinery arrangements for a 1,000 Tonne concept vessel having combined waterjet and propeller propulsion.

1993 – 1995       Royal Australian Navy – On-site Naval Representative (Superintendent)

Naval Representative for the intermediate docking of the 2,600 Tonne warship HMAS SWAN. This included defining the work packages with ship's staff, writing equipment repair work scopes, and evaluating competing shipyard tenders. Also included liaison with all parties during refit activity, negotiating growth work and tracking physical/ financial progress. Naval Representative for the 3 month docking of the 350 Tonne landing craft HMAS BETANO & the 7 month refit of the 600 Tonne HMAS PROTECTOR that involved similar duties.

1993 – 1995       Royal Australian Navy – FIMA Perth Contract Maintenance Section

Responsible for contracting ship repair and maintenance work as well as monitored annual expenditure against budget. Part of a team that wrote and managed contracts for commercial Maintenance Management and Technical Support for a Naval tanker vessel.

1987 – 1992       Royal Australian Navy – HMAS SWAN Assistant MEO

Successful progression through Boiler Room & Engine Room watchkeeping positions. Attained Engineering Officer of the Watch in charge of the plant and a watchkeeping team at sea.

1983 – 1987       Hunter Industries P/L, Silverwater Sydney

Trade apprenticeship in Fitting and Machining with a gearcutting and general engineering works.  
(Fitting & Machining Trade Certificate, Sydney Technical College, 1987)