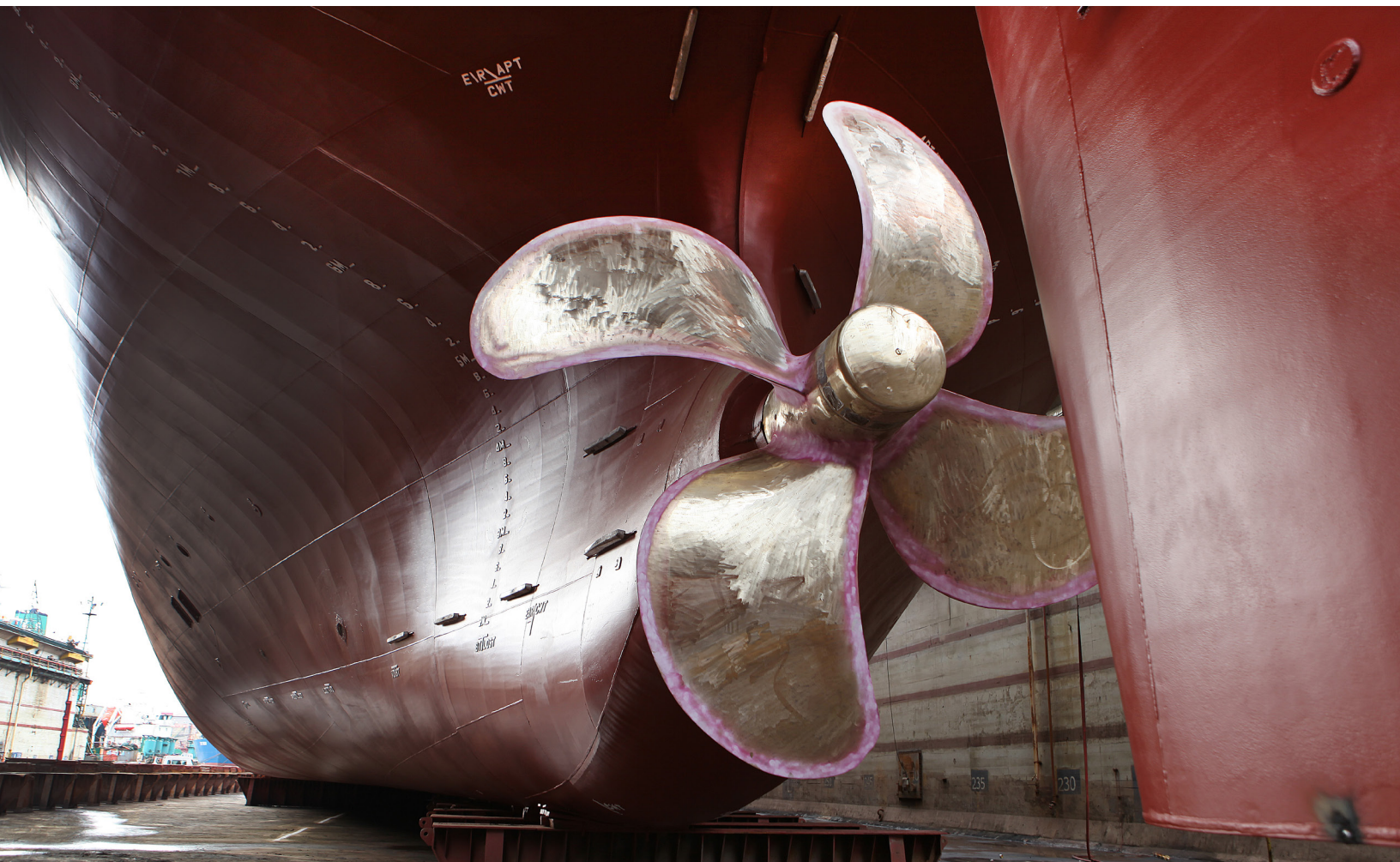




Precise alignment of propulsion,
steering and weapon systems pays off



Optimize your vessel's performance.

MARINE ALIGNMENT

Accurate shaft alignment is critical for the safe and reliable operation of a ship during its lifetime. Propulsion system components such as support bearings, stern tubes, engine shafts and propeller shafts must be set on a common rotational centerline to protect one of the ship's most important assemblies. From excessive vibration and leaky bearing seals to failed shafts, misalignment is responsible for 50% of the breakdowns experienced with rotating machinery, making proper alignment a critical issue for many types of marine vessels.

The precision of optics

Ship manufacturers and re-builders depend on optical alignment systems every day for a good reason. Optical alignment allows you to evaluate geometric relationships such as straightness, level, parallelism, squareness and flatness between various components – and do this in a manner that is easy to see and understand.

as bore sighting. In this application, a precision optical instrument (an alignment telescope) is mounted on a portable base positioned just beyond the stern tube aft bearing. The rotational centerline is defined by orienting the instrument precisely to the engine output shaft or to targets in the intermediate bearings. Subsequent measurements are taken at the remaining bearings and stern

“...misalignment is responsible for 50% of the breakdowns experienced with rotating machinery...”



How it works

A precision optical instrument called an alignment telescope is mounted to a portable base. The “scope” is aligned with reference targets, defining an accurate and repeatable optical centerline. All measurements are made using proven optical techniques that you can see, understand and verify. It's simple and very accurate.

tube bosses to define deviations from the optical centerline. Mapping the components identifies the required line-boring or mechanical adjustments to straighten the bores. With an AlignCam system, field technicians make real-time adjustments while watching the target image from anywhere on the job site using a wireless mobile device.

Aligning critical components

Establishing the crankshaft centerline and aligning the propulsion support components is commonly known

Bore sighting is also effective in marine applications like ship steering systems and weapons deployment.

Proven technology

For naval ships and subs, coast guard cutters, commercial freighters, private yachts and everything in between, optics are a preferred method for precisely aligning propulsion, steering and weapon systems. Marine vessels have a variety of bore and shaft centerline configurations ideally suited for optical alignment.

Accurate results

Marine applications often require big things to be measured within small tolerances. Alignments of ± 0.001 inch over 17 feet are possible – that's 3 times thinner than a human hair!

Reliably tough

Optical instruments are specifically designed to provide high precision

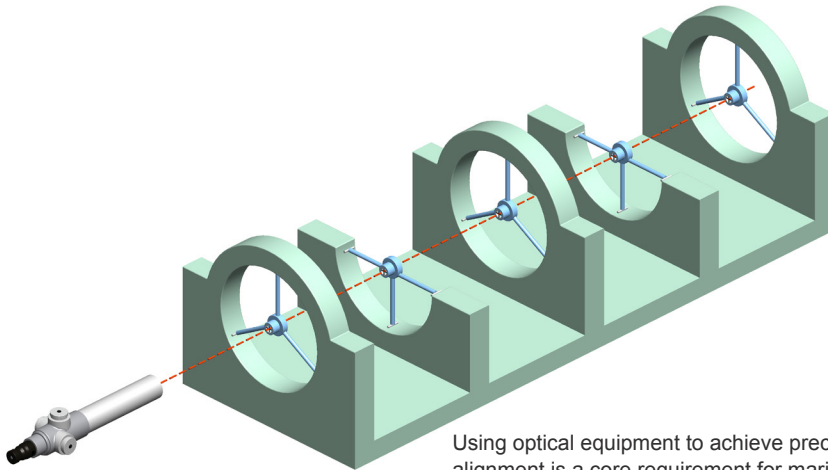
measurements in tough shipyard environments. Free your workspace of traditional wires and mounts that create tripping hazards and require sag calculations. There's no complex software to troubleshoot or issues with ambient light and temperature. Just instruments that perform for decades to their original manufactured tolerances.

Manageable operation

Optical alignment principles are easy to implement because your maintenance people already apply them mechanically. You'll appreciate the easy set-up, precise operation and consistent performance of the optical alignment measurement process.

Return on investment

Precision alignment is a core requirement for marine propulsion and steering systems, so it's not a surprise when our customers tell us our systems pay for themselves within months, with cost benefits continuing to grow year after year. The system is simple and the results are precise. Alignments are easily managed by your own people on your schedule.



Using optical equipment to achieve precision alignment is a core requirement for marine propulsion and steering systems. The system is simple and the results are precise.

Benefits

- Proper load distribution in support bearings
- Reduced vibration in rotating components
- Reduced critical failures such as bent or broken shafts
- Reduced main engine crankshaft web deflections for longer engine life
- Improved mesh on reduction gears, minimizing gear stress and noise
- Proper alignment of periscope components and assemblies
- Efficient weapon deployment through alignment of torpedo trays and tubes

Precision optical alignment solution for the shipbuilding industry

We have the right solution for you

Brunson offers a full line of optical alignment tools that can be customized to your needs. Contact us today and let us help you optimize your vessel's performance.

Experience you can trust

Alignment services

Let our alignment services team help you. Our team of expert field service professionals has decades of experience servicing industrial machinery. We understand how to work to your schedule in all kinds of environments. Contact us to discuss a field service engagement and learn how precision alignment can help maximize your throughput and quality.

Comprehensive training

Experience the same success our field service teams enjoy through our expert training and application courses. We provide optical alignment training at our Kansas City facility, as well as customized on-site training to meet your specific needs.

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