Synthesis Lectures on
Ocean Systems Engineering

SYNTHESIS
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Fidaa Karkori

Ship Vibration 2

Propulsion Shafting Alignment

Springer

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There is, one knows not what sweet mystery about this sea, whose gently awful stirrings seem to speak of some hidden soul beneath...

—Herman Melville

For Yasminah Chloe Francheska

Preface

This text has been written to provide a comprehensive approach to the propulsion shafting alignment process and examines in detail the design and the design review process. It also addresses production practices as well as the inspection and verification of the shafting alignment condition. A reduction in damage to propulsion shafting, bearings, seals and coupling bolts, main engine bearings and propulsion gear meshes as well as a reduced risk of environmental pollution are some of the immediate benefits of an appropriate and correct approach to shafting alignment.

This text primarily focuses on alignment issues in alignment-sensitive propulsion systems, such as those on VLCCs, ULCCs, large bulk carriers and large container vessels. The following designs are specifically addressed:

- Direct drive propeller installations
- Low speed diesel installations
- Systems with relatively short and rigid shafting
- Installations with no forward stern tube bearing
- Vessels with a relatively flexible hull structure
- Twin screw propulsion

Insight is also offered into alignment issues with turbine or electric gear-driven installations that fall into any of the above categories. Although the focus of this book is on vessels with alignment-sensitive installations, the same criteria and approach apply equally to all propulsion shafting installations.

Southampton, UK — Fidaa Karkori
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