1. Record Nr. UNINA9910956985003321 Autore Barrass C. B **Titolo** Ship stability for masters and mates // C. B. Barras, D. R. Derrett Amsterdam;; Boston,: Elsevier / BH, 2012 Pubbl/distr/stampa **ISBN** 9780080970943 008097094X Edizione [Seventh edition.] Descrizione fisica 1 online resource (xiv, 567 pages): illustrations (black and white) Altri autori (Persone) DerrettD. R Disciplina 623.8/171 623.8171 Soggetti Stability of ships Naval architecture Lingua di pubblicazione Inglese **Formato** Materiale a stampa Livello bibliografico Monografia Note generali Description based upon print version of record.

Nota di bibliografia

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Nota di bibliografia

Includes bibliographical references and index.

Figure 6.2

Nota di contenuto Front Cover; Dedication; Ship Stability for Masters and Mates;

Linking Ship Stability and Ship Motions; Chapter 1 - Group Weights, Water Draft, Air Draft, and Density; Group Weights in a Ship; Effect of Change of Density when the Displacement is Constant; Effect of Density on Displacement when the Draft is Constant; Chapter 2 - Transverse Statical Stability; Introduction; Definitions; The Metacenter; Equilibrium; Correcting Unstable and Neutral Equilibrium; Stiff and Tender Ships; Negative GM and Angle of Loll; The GM Value Chapter 3 - Effect of Decreasing Free Surface on Stability; Correcting an Angle of Loll; Chapter 4 - TPC and Displacement Curves; Introduction; TPC Curves; Displacement Curves; Chapter 5 - Form Coefficients; The Coefficient of Fineness of the Waterplane Area (Cw); The Block Coefficient of Fineness of Displacement (Cb); The Midships Coefficient (Cm); The Prismatic Coefficient (Cp); Chapter 6 - Discussion on LCB Position Relative to Amidships; Observations Regarding Figure 6.1; Formulae Used for Figure 6.1; Observations and Formulae Regarding

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Observations and Formulae Regarding Figure 6.3; Chapter 7 - Quadrature - Simpson's Rules for Areas and Centroids; Areas and Volumes; Areas of Waterplanes and Similar Figures Using Extensions of

Simpson's Rules; Volumes of Ship Shapes and Similar Figures; Appendages and Intermediate Ordinates; Areas and Volumes Having an Awkward Number of Ordinates; Centroids and Centers of Gravity; Summary; Chapter 8 - Quadrature - Simpson's Rules for Moments of Inertia; The Theorem of Parallel Axes; Summary; Chapter 9 -Quadrature - Simpson's Rules for Centers of Pressure on Transverse Bulkheads

Centers of Pressure by Simpson's Rules; Summary; Chapter 10 - KB, BM, and KM Calculations and Graphics on Metacentric Diagrams; To Find KB; To Find Transverse BM; Metacentric Diagrams; Chapter 11 - Final KG Plus 20 Reasons for Rise in KG; Twenty Reasons for a Rise in G; Chapter 12 - Angle of List Considerations - Text, Calculations, and Graphics; Summary; Chapter 13 - Angle of Heel - Effects of Suspended Weights; Conclusions; Summary; Chapter 14 - Angle of List Due to Bilging of Side Compartments; Summary; Chapter 15 - Heel Due to Turning; Chapter 16 - Angle of Loll

To Calculate the Angle of Loll; Angle of List; Angle of Loll; Chapter 17 - Moments of Statical Stability; The Moment of Statical Stability at a Small Angle of Heel; The Moment of Statical Stability at a Large Angle of Heel; Chapter 18 - Aspects of Trim - The Main Factors Involved; The Moment to Change Trim 1 cm (MCT 1 cm or MCTC); To Find the Change of Draft Forward and Aft Due to Change of Trim; The Effect of Shifting Weights Already on Board; Chapter 19 - Trim Calculations - Changing Conditions of Loading; The Effect of Loading, Discharging, and Moving Weights; Using Trim to Find the Position of the Center of Flotation

Understanding ship stability - the ability of a ship to return to an initial state after disturbing forces and moments - is critical for all maritime students and professionals studying for a deck or engineering certificate of competency, or seeking promotion to a higher rank within marine or naval companies or institutions. The seventh edition of this classic text provides a comprehensive introduction to all aspects of ship stability and ship strength, squat, interaction and trim, materials stresses and forces, with numerous worked examples to assist masters, mates and engineering office

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