

Intact Stability Calculations

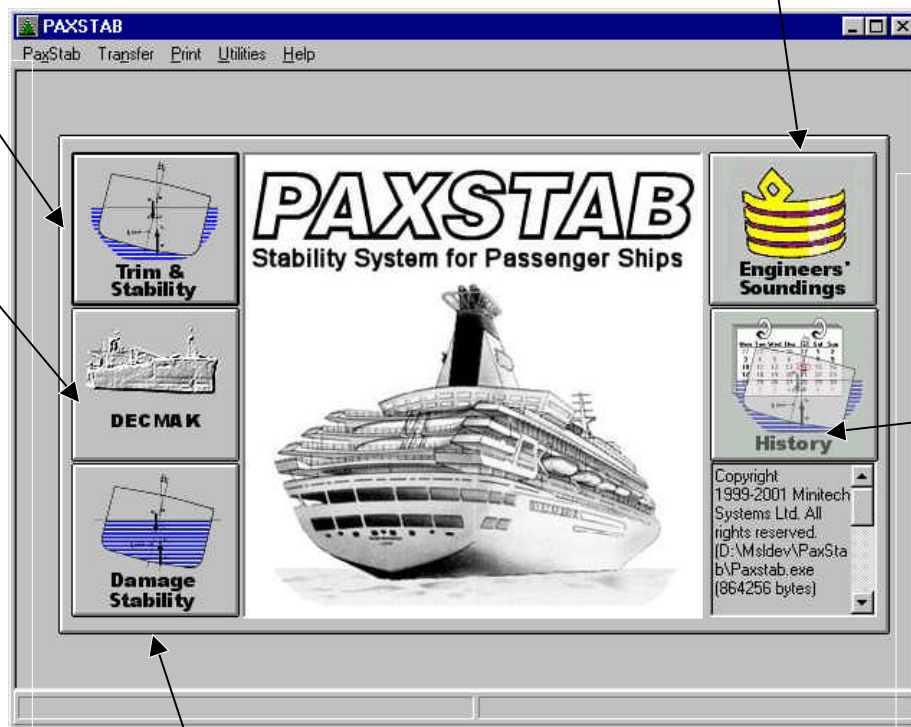
Trim & Stability is used for calculating displacement, drafts, trim, angle of heel, KG, GM and checks these results against statutory, flag state and the owner's own operating restrictions. Can link to the Damage Stability module to provide some of the data necessary for damage stability calculation

... getting ship's Engineers involved

Engineers' Soundings is an optional module which can be used by ship's engineers to record volumes, weights & soundings. Links to Trim & Stability module to provide data for use in intact stability calculations.

Damage Control Procedures

Decmak (Decision Support System) guides the ship's officer through all of the procedures to deal with a damage situation including, minimising the angle of heel, isolating the compartments which are damaged etc. Links to the Damage Stability module to provide data for damage stability calculations.



Keeping a History of Loading Conditions

History Module enables ships to "land" departure conditions electronically and for shore management to retain these for the period required by the flag state.

Damage Stability Calculations

Damage Stability calculates drafts, trim, angle of heel, KG, GM after damage and checks results against statutory requirements.

(Due for Release 2003)

Overview

PAXSTAB's Trim & Stability Module is a computerised Stability System designed specifically for passenger ships consisting of five software modules;

PAXSTAB Trim & Stability for day to day use by ship's officers to calculate the ship's intact stability condition at departure, on arrival and whilst at sea.

PAXSTAB Engineers' Soundings for use by ship's engineers to record the volumes, weights and soundings which are required for intact stability calculations.

PAXSTAB History module which enables the shore management to store the ships departure conditions for the period required by the flag state.

PAXSTAB Damage Control Procedures to guide ship's officers through the procedures which are necessary for dealing with an incident involving damage.

PAXSTAB Damage Stability for calculating the ship's stability during and after damage has been sustained.

PAXSTAB is easy to use by ships's officers and engineers, even if they have little of no previous computer experience .

At the heart of PAXSTAB is a database which contains all of the ship's stability characteristics and its various compartments as well as details of the procedures and ship's equipment necessary for damage control.

PAXSTAB - T&S

PAXSTAB's Trim & Stability Module is a computerised Stability System designed specifically for passenger ships which enables the ship's officer to quickly and accurately calculate the ship's intact stability condition.

At the heart of PAXSTAB is a database which contains ALL the ship's stability characteristics as well as details of its various compartments. To calculate a condition, all the ship's officer has to do is supply the volume, weight or sounding for each compartment. Using the supplied weights in conjunction with the stability database, the program automatically calculates displacement, drafts, GM, GZ and areas under the curve for a range of heel angles.

A summary of these results is continuously displayed in a status window at the top of the the screen

All of the calculations which are necessary to keep this summary up to date are performed instantaneously each time a volume, weight or sounding is entered by the officer

PAXSTAB also compares these results with the various statutory and company restrictions which apply to the ship. Failure to comply with these requirements, causes warnings to be displayed on the screen. In this way, the officer receives immediate feedback as to the effects of adding or removing each individual weight.

PAXSTAB – Engineers' Soundings

PAXSTAB's Engineers' Soundings Module can be used by ship's engineers to record volumes, weights & soundings for fuels, lubricants and other engine room liquids. For soundings, the module automatically obtains the corresponding volume and converts volume to weight using the S.G. for the tank contents. On completion, a summary sheet can be produced which provides a permanent record showing the contents of each compartment and the total weights of each type of liquid.

Soundings are then transferred via a network connection or by floppy disk to PAXSTAB's Trim & Stability module where they are used to automatically update the "Live" stability condition.

PAXSTAB - History

PAXSTAB's History Module provides the means by which the ship's departure condition can be landed electronically and for these to be retained by the shore management for the period required by the flag state.

The module automatically logs when each condition is received and again when it is automatically deleted at the end of the required "history" period

History conditions for the entire fleet can be scanned to identify conditions where the ship has failed to comply with statutory or company operating restrictions.

DECMAC–Damage Control Procedures

Whenever an incident occurs onboard a ship resulting in damage to the hull, there are an array of statutory rules, company regulations and advisory guidelines which define the procedures for dealing with the incident

Naturally, some of these procedures are of a general nature and always apply in the event of a particular type of damage, irrespective of which ship it occurs on. Others vary according to the design of the ship and the equipment with which it is fitted.

DECMAC has been designed as an aid to help the ship's officer follow procedures which comply with the various statutory and company requirements taking into account the features of each particular ship.

Using a database that describes the ship's equipment and the procedures relevant to the particular type of damage, DECMAC leads the officer step by step through the actions necessary to deal with the situation. This includes giving specific instructions and requesting information from the officer so that DECMAC can determine the most appropriate course of action. Where appropriate DECMAC's instructions are accompanied by detailed lists of actions to take, location, type of equipment and any additional information which is relevant.

When used for Damage Control, DECMAC guides the ship's officer through all of the standard procedures which are necessary to:

- Minimise the effects of any hull damage which may have occurred.
- Assess and monitor the extent of the damage.
- Lower the vertical centre of gravity.
- Avoid excessive angles of heel.
- Isolate watertight compartments in which damage has been sustained.
- Secure all intact compartments to prevent further ingress of water as the hull is submerged to the 'bilged' water line.

Damage Stability (due for release 2003):-

PAXSTAB's Damage Stability uses a model of the ships hull form in conjunction with volumes, weights and soundings from the current "Live" condition and information gathered from Decmak Damage Control Procedures program (optional) to calculate the vessels stability during and after damage to the hull. The program automatically calculates drafts, KG/GM, angle of heel and constructs the GZ curve at each stage of flooding.

System Requirements: Windows 95/98, NT, 2000 or XP, 32 MB RAM, 30MB free hard disk space and a printer.