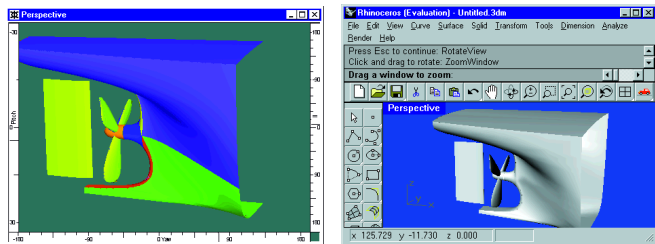


October 2001 Newsletter

Maxsurf 9 Released

More speed, higher accuracy, batch hydrostatics and more...

Formation Design Systems is pleased to announce yet another upgrade to the suite of Maxsurf software. As usual this upgrade is automatically being sent to members of our Maxsurf Subscription Program. Several significant enhancements have been made to Maxsurf and its accompanying suite of programs. In particular the calculation of all surface contours is now both faster and more accurate. This affects all programs in the suite and results in even higher levels of accuracy in the calculation of hydrostatic, stability and performance data.



Improved intersections

Maxsurf now calculates intersections between surfaces more accurately, refining and adding data points in areas of high curvature at High and Highest precisions. This helps to eliminate areas that may previously have displayed faceting or unfairness in the intersection line. This refinement of the intersection lines also results in more accurate trimming of the surfaces and resolves some problems that occurred in Hydromax due to small gaps existing between intersecting surfaces.

Wider use of trimming

Trimming has been extended to all areas of Maxsurf so that dialogs that previously looked at only the untrimmed surface now take into account the effects of trimming. These include the Grid Spacing, Frame of Reference, Size Surfaces, Zero Point, Girth, Parametric Transformation, and Hydrostatics calculation dialogs.

Export of trimmed surfaces

The improvements in trimming have also been extended

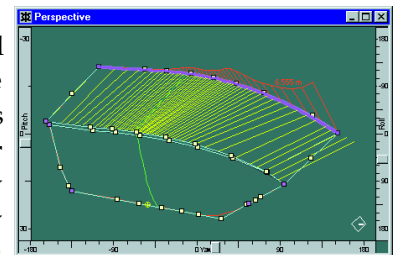
to the export of surfaces via the IGES NURBS format. In the past, IGES files exported from Maxsurf could lose complex trimming data when imported into other programs such as Microstation or Rhino. We have been able to resolve the vast majority of these problems with the result that in virtually all cases, trimmed surfaces can be transferred to other programs with no problems (see picture at left).

Numerical control point editing

Most users will have used the double-click option to change the position of a single control point numerically. We have upgraded this feature so that a group of control points may be selected and edited numerically. This is very convenient if for example, you wish to align all the control points on a column to a particular longitudinal position.

Curvature porcupines

In addition to the usual display of curvature indicators in waterlines and other planar contours, it is now possible to display curvature porcupines on the edges of developable surfaces as well as along any feature lines within a surface.

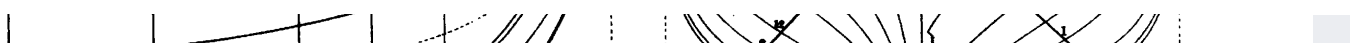


New Hydromax Features

Hydromax has undergone the most significant changes of all the Maxsurf programs in this release, with many important modifications to make it even more functional. Foremost among these is the ability to perform basic batch processing.

Batch Processing

With a single Batch Analysis command, you can set Hydromax to run Large Angle Stability and Equilibrium



analyses for all combinations of load and damage cases. This provides users with a simple and consistent way of carrying out the many combinations of analyses required to ensure compliance with class criteria. Any criteria which have been set are evaluated at the end of each analysis and included in the report.

Results are written to a tab delimited text file. This data file may be imported directly into Microsoft Excel or Word for post processing and report generation. Results are also accumulated in the report window.

DF point	Type	First DF at	Second DF	Freeboard m
1 Port Exhaust	Potential downflood	N/A	N/A	0.721
2 Stbd Exhaust	Potential downflood	N/A	N/A	0.721
3 Port Accom Entr	Downflooding point	138.28	Not immer	2.969
4 Stbd Accom Entr	Downflooding point	116.98	Not immer	2.969

Increased number of load cases

When analysing hydrostatic behaviour of more complex vessels, it is quite easy to require a large number of load cases to be considered. To accommodate this, Hydromax allows the user to select the maximum number of loadcases they are likely to use, up to a maximum of 25 cases.

Enhanced downflooding points

Hydromax 9 includes an extended range of downflooding point capabilities which will allow users to take full advantage of batch processing. Downflooding points are now a subset of a class of Key Points. There are several other types of Key Points including, Potential downflooding points, Embarkation points and Immersion Points. As in previous versions of Hydromax, downflooding points are used to calculate the downflooding angle which is then used in criteria evaluation.

Name	Position m	Offset m	Height m	Type	Linked to
1 Port Exhaust	-7.5	-3.3	2.5	Potential downflooding po	N/A
2 Stbd Exhaust	-7.5	3.3	2.5	Potential downflooding po	N/A
3 Port Accom Entr	-4	-0.5	4.7	Downflooding point	Main Aft
4 Stbd Accom Entr	-4	0.5	4.7	Downflooding point	Main Aft
5 Port Life Raft	-6	-3	4.7	Embarkation point	N/A
6 Stbd Life Raft	-6	3	4.7	Embarkation point	N/A
7 Fwd Life Raft	12	0	4.7	Embarkation point	N/A

Downflooding points may be linked to tanks or compartments. Points which are linked to tanks or compartments which are damaged in the currently selected damage case, will be ignored when computing the downflooding angle. These downflooding points will appear in italics and prefixed with an asterisk in the DF Angles table of the Results window.

Height/Freeboard above free surface

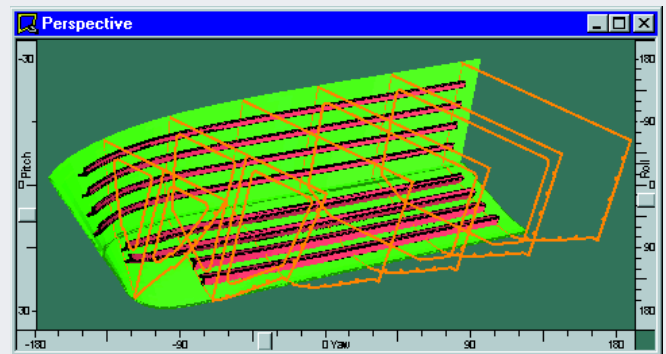
As analysis progresses, the freeboard of each Key Point is calculated for each vessel condition. The freeboard displayed in the results table is for the vessel condition currently displayed in the Design view. Hence if the display is changed, for example by using the Select View from Data command (Data menu), the Key Point freeboards will be updated. Negative freeboards, i.e. where the Key Points are immersed, are displayed in red. The freeboard calculated is the vertical distance of the Key Point above the local free surface, hence the local free surface height if a waveform is selected will be taken into account. The freeboard is recalculated after each Equilibrium and Specified Conditions analysis.

Additional results measurements

Two new results, maximum deck inclination and trim angle, are provided after Upright Hydrostatics, Large Angle Stability, Equilibrium and Specified Conditions analyses. They are displayed at the bottom of the results table. Maximum deck inclination gives a measure of the greatest deck inclination in any direction rather than simply looking at deck inclination in the direction of heel or trim. Deck camber and initial deck slope are not taken into account.

Workshop Improvements

This release now allows you to specify rendering using OpenGL. You can activate this by choosing the Smooth Shading option in the Render dialog. At this stage, frames are rendered as wireframe objects rather than shaded objects.



AutoCAD 14, 2000 Import

DXF import of cutouts now accepts lightweight polylines as typically exported from AutoCAD 14 and AutoCAD 2000 dxf files. DXF import for cutouts, and for backgrounds and markers in Maxsurf, now takes into account User Coordinate Systems and additional entities including POINTs, 3DFACEs and ARCs.

Formation Design Systems
 P O Box 1293
 Fremantle WA 6959
 Australia

Tel +61-8-9335 1111
 Fax +61-8-9335 1111
 Email info@formsys.com.au