Tips & Tricks

Deleting in tables

You can select rows in the various data tables and, where appropriate, use the Delete key to delete the selected rows. For example this is a quick way to remove a large number of markers.

Trimming Surfaces

A quick check list to ensure that surface trimming works correctly -

- Make sure all surfaces to be trimmed penetrate clearly through the trimming surfaces at all precisions. Don't try and just have the surfaces touch.

- Check all intersection lines before starting trimming. The most common cause of unexpected results when trimming is that the intersection lines have not formed as expected. You can click on an intersection line to select it to check that it is one continuous contour. Also, try showing all surfaces, then turn on intersections, then hide all surfaces except the surface you are interested in. This will clearly show all of the intersection lines on that surface.

- When you point to an intersection line with the mouse, the names of the surfaces which form it will be displayed at the bottom left hand corner of the window.

- If you have a surface which is only used to trim other surfaces, trim that surface away completely so that its contours and offsets don't appear in your output data.

Subscription Program

Maxsurf users are supplied with updates to programs free of charge for one year after the date of purchase. After this period our subscription program will keep you up to date with the latest software versions.

A modest annual subscription fee ensures that you receive updates to all programs on CD as soon as each new version is released. It also entitles you to unlimited technical support via phone, fax or email.

Release Notes

With each new release of our software, we issue a release note which describes the difference between that version and the preceding version. It's important to review this note before installing and using the new version to ensure that you are aware of any changes. The release note is provided in printed form and is also available in Adobe Acrobat PDF format on the installers page on the CD.

Current Software Versions

The following is a list of programs currently offered by Formation Design Systems. Please contact your local distributor for pricing information.

Maxsurf Pro	Windows 9.6	Macintosh 7.2
Maxsurf Plus	Windows 9.6	Macintosh 7.2
Maxsurf /T	Windows 9.6	Macintosh 7.2
Maxsurf Academic	Windows 9.6	Macintosh 7.2
Hydromax Pro	Windows 9.6	Macintosh 7.2
Hydromax /S	Windows 9.6	Macintosh 7.2
Workshop	Windows 9.6	Macintosh 2.2
Workshop /P	Windows 9.6	Macintosh 2.2
Prefit	Windows 9.6	Macintosh 7.2
Span	Windows 9.6	Macintosh 7.2
Hydrolink	Windows 9.6	Macintosh 7.2
Hullspeed	Windows 9.6	Macintosh 2.2
Seakeeper	Windows 9.6	Not Available
Multiframe 4D	Windows 8.52	Macintosh 5.2
Multiframe 3D	Windows 8.52	Macintosh 5.2
Multiframe 2D	Windows 8.52	Macintosh 5.2
Section Maker	Windows 8.52	Macintosh 5.2
Steel Designer	Windows 8.52	Not Available
Neoform	Windows 4.6	Macintosh 2.2

For more information of any of the products above, please contact us for a brochure, or see our web site at www.formsys.com.

Contact www.formsys.com

Formation Design Systems Pty Ltd
PO Box 1293, Fremantle WA 6959, Australia
Tel: +61 8 9335 1522 Fax: +61 8 9335 1526
Email: info@formsys.com
Web Site: www.formsys.com

or Contact your nearest distributor

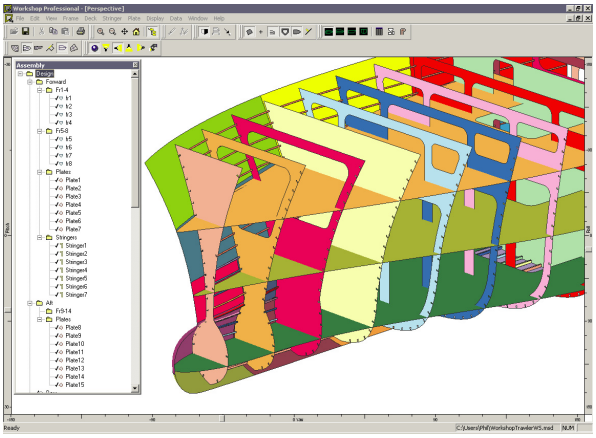
MAXSURF NEWS

Integrated Naval Architecture & Ship Construction Software

June 2003 Newsletter

Maxsurf Version 9.6 Released

Formation Design Systems is pleased to announce the release of Maxsurf v9.6. If you are a member of our subscription program, you will automatically be receiving your upgrade CD. Should you wish to join the subscription program, please see the details listed on the back page of this newsletter.



Workshop 9.6 includes assemblies and individual part colouring and visibility

This release focuses on a large number of improvements to Workshop including plate forming and assemblies of parts, sounding pipes in Hydromax, better management of markers in Maxsurf, improved Autocad compatibility and a raft of other enhancements.

Workshop - Assemblies

Version 8.5 of Maxsurf introduced the concept of assemblies to make it easier to manage designs with large numbers of surfaces. In version 9.6 we have now extended this concept to Workshop where grouping parts together into assemblies makes management of structure dramatically easier. Workshop shares the assembly structure with Maxsurf so that changes in either program will be reflected in both environments. Plates and stringers are automatically placed in the same assembly as the surface on which they lie.

The assembly tree view allows the user to move items from one assembly to another, quickly hide or show all the parts in an assembly and also control the visibility of individual parts. In addition, each part can now be assigned its own colour. These new capabilities combine to make it significantly faster and easier to identify individual parts and manage the creation of vessel structure.

Plate Forming

The major enhancement to this release of Workshop is the addition of a range of functions providing information for forming plates. The range of functions include forming templates and pin jigs. All of the plate forming information can be displayed in 3D in the usual graphical views, in tabular form in the Data window and in a local part view in the Part window.

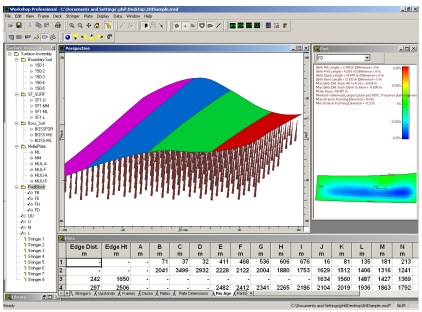


Plate pin jigs can be defined, drawn and rendered

UCS (User Coordinate Systems)

This release marks the debut of UCS (User Coordinate Systems) in the Maxsurf range. This allows you to specify the location and orientation of a local coordinate system for working on an individual part. At present this is for plates only but in future this will be extended to other parts and to surfaces in Maxsurf. Users of Autocad and similar CAD programs will be familiar with the UCS concept. A UCS can be specified simply by clicking on two points in a plate mesh. The first point defines the origin of the axis and the second point defines the direction of the local x axis. The y and z axis directions are determined from the surface normal at the origin so that the z axis is

parallel to the surface normal. Because of this it's important that you have set up the Outside Arrows for your surfaces correctly before using this command. Once your UCS is set up correctly, you can use the Part window to display Plan, Profile and Body Plan views of the plate relative to its UCS.

Plate Templates

Plate templates are commonly used when forming doubly curved (non-developable) plates. These are a number of cross-sectional templates spaced along the baseline of the plate. (The baseline is defined by the x axis of the plate's UCS.) When cut out from plywood or similar material, the templates can be used to check the shape of the plate while it is being formed. This new function allows the user to add any number of templates at a range of spacings in a manner similar to the grid spacing options in Maxsurf. The resulting templates can be drawn and rendered in the graphical windows and displayed in the plate views in the Part window. The new template view is a body plan view with each template offset downwards so that each shape can be clearly seen without overlap from others.

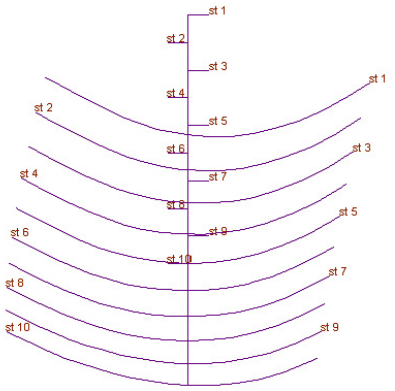


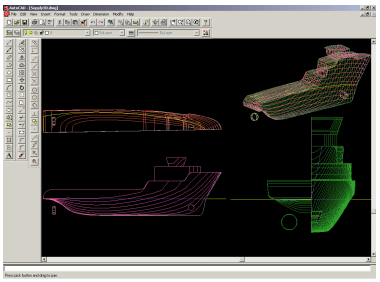
Plate templates provide accurate forming information

Pin Jigs

Pin jigs are commonly used to support formed plates during attachment of interior structure. Workshop now automatically produces a pin jig plan and table of pin jig heights for each plate. It can also render a view of the resulting pin jig layout. Annotations on the pin jig plan indicate the angle of the frames of the ship relative to the pin jig.

Autocad and ShipConstructor Compatibility

We are continuing to strive for wide ranging and seamless data exchange between Maxsurf and other CAD and CAM systems. In the recent past we have improved data exchange with Rhino and other NURB surface based packages and in the latest release we have added ShipConstructor export from Workshop. ShipConstructor from Albacore Research (www.albacoreresearch.com) is widely used in shipyards to create parts and manage ship construction. The new export function exports plates, frames, decks and stringers from Workshop in a format readable by ShipConstructor.


Autocad & ShipConstructor compatibility

We have also upgraded DXF export in Workshop and other programs to export Autocad compatible colours in the DXF file. This ensures that drawings received in Autocad now look the same as they do in Maxsurf. Customising your colour settings in Maxsurf or Workshop will result in your custom colours being transferred to Autocad.

Maxsurf - Marker Management

For some time now we have been adding functions to assist with the fitting of existing hull shapes into Maxsurf. These include the background image display, genetic algorithm surface fitting and DXF background functions. Management of markers has now been enhanced so that you can automatically sort markers, draw lines connecting markers on the same section and generate a Maxsurf grid based on the imported markers. All of these combine with the existing functions to make matching a surface to an existing offsets file much faster.

Hydromax - Sounding Pipes

Sounding pipes have been added to tanks in Hydromax in this release. If no sounding pipe is defined, Hydromax will automatically create a vertical one from the lowest to the highest point of the tank. However if you wish to define a sloping or cranked pipe, this can be easily achieved by adding points to the sounding pipe definition. Sounding pipes are drawn and rendered in the 3D views and displayed in their own table in the Input window. In addition, the user can now define the spacing of increments used for tank soundings. This makes for easy production of tank calibration tables.

Hullspeed - Transom Sterned Vessels

Two new resistance algorithms have been added to Hullspeed's capabilities.

The Compton algorithm is designed for resistance prediction of typical coastal patrol, training or recreational powerboat type hull forms with transom sterns operating in the displacement and semi-planing regimes. The algorithm is based on a regression analysis of experimental data determined from a

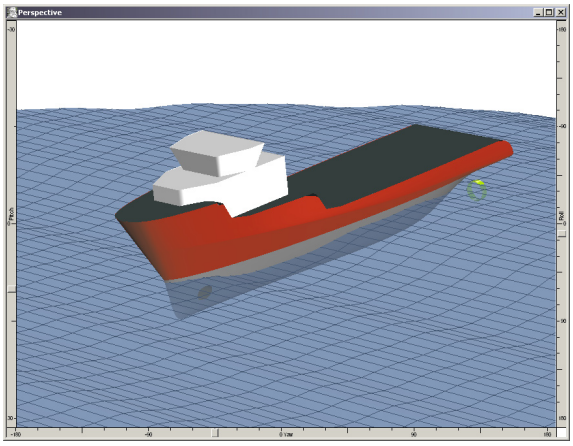
systematic series of six transom-stern hull form models.

The new Fung resistance method is suitable for resistance prediction of larger displacement ships with transom sterns. The algorithm is based on regression analysis of a large number of model test data sets (739 models and over 10 000 data points).

As always, good results require that the vessel's hull form parameters should fall within the allowable limits of the algorithm. These limits are explained in detail in the release note and Hullspeed user manual.

Seakeeper Free Surface Calculation

Seakeeper includes some new options for the free sea surface by modelling regular or irregular waves. Once a surface has been calculated, a real time movie of vessel and sea motions



Seakeeper now calculates response in regular or irregular waves

can be produced. The addition of a grid allows the sea surface to be more clearly visualised in the rendered view.

User Profile - Tenix Defence

Tenix Defence Marine Division is one of Australia's leading designers and builders of naval, paramilitary and commercial vessels. With particular skills in naval systems design and integration, the Division provides design, build and support services on both the east and west coasts of Australia.

Tenix owns major dockyards at Williamstown (Victoria, Australia) and Henderson (Western Australia), and a module construction site at Whangarei, New Zealand. In addition to these shipbuilding facilities, Tenix Marine has several smaller sites around Australia providing specialist technical support services. The division provides ship repair, dry-docking, maintenance, refit and support services for commercial ship

A new coastguard vessel designed and built by Tenix

operators and for the Australian Navy.

Maxsurf users since 1997, Tenix uses the full range of software for initial design, stability analysis, ship motions prediction and plate development. Hull, superstructure and appendages are modelled in Maxsurf and then passed to Hydromax for stability analysis. Workshop is used for laying out stringers and for shell plate expansion. Part geometry is then passed on to Autocad and Mechanical Desktop for further detailing.

Naval Architect Tu Mai explains, "Using the Maxsurf software has helped us to improve our design and production efficiency. We used to use an outside service, now we are able to control the whole process and produce part information that production are happy with. The process is also quicker and cheaper than it was before."

Marine Division has designed, built and delivered more than 200 naval, paramilitary and technically advanced commercial vessels. More information on Tenix can be found at www.

Tenix is also active in construction of non-defence vessels such as the Naturaliste

tenix.com.