



PropCad™

Propeller CAD for Design & Manufacturing

What Is PropCad?

PropCad is software for the geometric modeling of marine propellers. It provides all of the tools for the preparation of 2D design drawings, 3D views, construction data, and CAD/CAM file export.

Who Should Use PropCad?

Manufacturers, researchers and designers of marine propellers are the principal users of *PropCad*. Companies large and small from every continent rely on *PropCad* for their propeller modeling needs.

What Propellers Can I Draw With PropCad?

Designs of virtually any type of marine propeller can be prepared with *PropCad*'s comprehensive geometry definition. (*PropCad* will even help prepare drawings for other rotating machinery elements, such as turbine blades and aviation propellers). The easiest way to create a propeller drawing is with *PropCad*'s design wizard – the Builder.

How Does PropCad Builder Work?

Libraries of popular propeller styles (e.g., Gawn, B-series, Kaplan, AU, SK) are included in *PropCad*. Complete propeller geometry can be built by describing a few important objective values. Enter a target blade area ratio, the amount of skew or rake, and thickness rule, for example, and *PropCad* builds all of the propeller's geometry – chord length, thickness, skew, rake, and all section offsets.

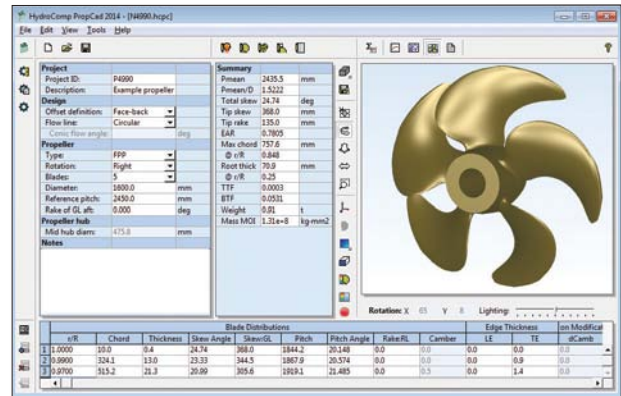
Will PropCad Work With Other Propeller Types?

PropCad geometry data may be completely edited by the user to represent practically any propeller. The Builder can also use this data to simplify the creation of a new model from an existing drawing. *PropCad* files can then be saved as starting “templates” for variants of the basic design.

What Information Is Shown On A PropCad Drawing?

PropCad output includes traditional 2D design drawings, 3D views, and printed tables of 2D and 3D section offsets. The drawing may be viewed, edited, printed, and saved. The design drawing includes expanded, transverse and profile views, pitch distribution, geometric information (e.g., weight and inertia), as well as the basic propeller parameters.

- **Rapid Development With Integrated Builder**
- **Supports Any Custom Geometry**
- **Classification Thickness Calculations**
- **Weight and Inertia Properties**
- **Optional Utilities for Manufacture and Inspection**



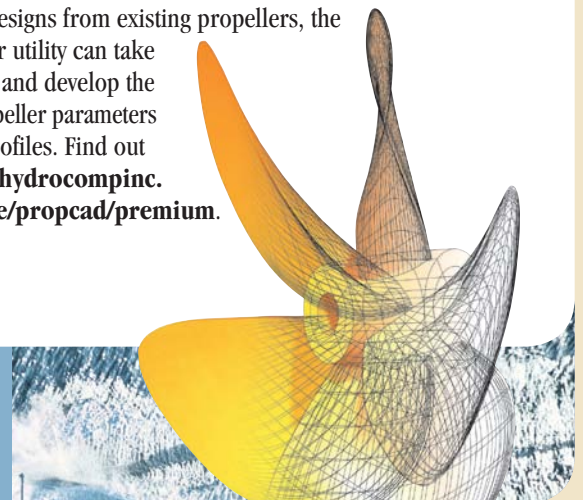
Sample PropCad Screen With 3D View

Can I Export A PropCad Propeller Design?

PropCad exports 2D drawings and 3D data in a variety of formats. The 3D CAD models are used for many purposes – from CNC machining and 3D printing to FEA analysis and CFD simulations. *PropCad* includes program-specific exports for a variety of CAD/CAM software, including Solidworks, Rhino, PTC Creo, Siemens NX, Mastercam, SURFCAM, DELCAM, and others. *PropCad* also includes open CAD formats such as point clouds, IGES, and STL for universal compatibility.

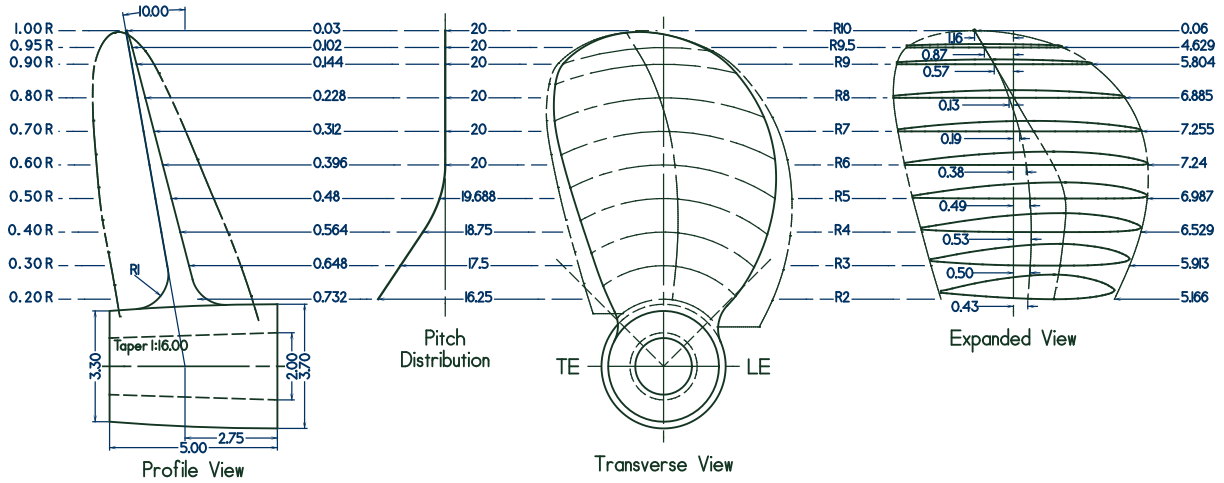
What About Manufacturing and Inspection?

The Premium Edition of *PropCad* has many additional manufacturing and post-manufacture inspection utilities. *PropCad* can create casting patterns and machining models with the Pattern Corrections utility which allows users to specify additional stock material and material shrinkage factors. Inspection Maps are used to verify blade heights, local pitch values, and blade thickness on the blade surfaces. For creating designs from existing propellers, the Scan Converter utility can take 3D blade data and develop the equivalent propeller parameters and section profiles. Find out more at www.hydrocompinc.com/software/propcad/premium.





PropCad™



Technical Specifications

Builder Section profiles • Camber • Cupped region • BAR
Parameters Pitch distribution • Blade outline • Expanded area ratio
 Rake & skew angles • Blade thickness • Hub envelope
 Edge thickness and radius • Shaft dimensions • Root fillets

Builder Library B-series • Gawn • Kaplan • SK • Surface piercing AU
Propellers MAU • MAUw • Custom geometry files

Thickness Rules ABS • BV/RINA • LR • KR • NK • CCS • Baltic • IR
 Supplemental rules for Ice Class and naval vessels

File Exports DRAWING: DXF, PDF, DOC
 REPORTS: PDF, DOC, CSV
 CAD/CAM: SolidWorks, Rhino, PTC Creo, Siemens NX,
 Mastercam, SURFCAM, Delcam PowerSHAPE, Point Cloud,
 IGES, STL, VMRL

Calculations Total weight • Mass inertia • Added wetted inertia
 Skew angle • BAR • BTF • Mean pitch • Local pitch

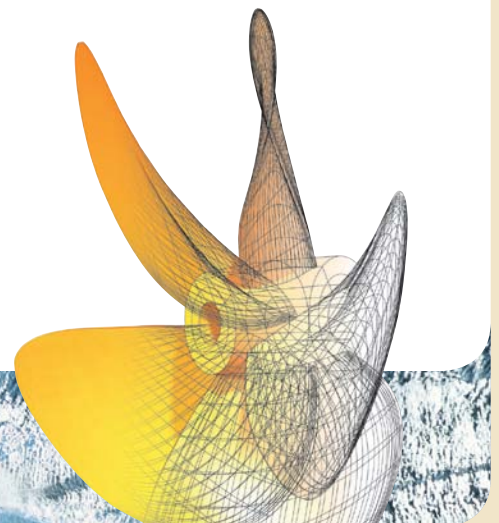
www.hydrocompinc.com/software/propcad/premium



To order, please contact HydroComp, Inc.
 or this authorized representative:

PROPCAD – FROM CONCEPT TO 3D MODEL

- 2D drawings
- 2D/3D design environment
- Integrated design library
- Thickness classification
- Smoothing tools
- Rapid design development
- Export to CAD/CAM



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