

**VOLUME 7**  
**PROPELLER CALCULATION**

**Contents:**

7.1 Summary .....2

7.2 Data sheet description .....2

## 7.1 Summary

Program PROP calculates trial and service speed, power, propeller, propulsion coefficients, wake factor and thrust deduction factor. Calculation is based on ITTC recommendations and SSPA correction factors. Coefficients file 'prop.data' is necessary for the calculation and should therefore be within the seaking directory.

## 7.2 Data sheet description

*ship no* is the same number as in hull form

*day* is defined with two digits (for example 15)

*month* is defined with two digits (for example 05)

*year* is defined with two digits (for example 05)

*Lwl* is the length on the waterline

*Lpp* is the length between perpendiculars

*B* is the breadth of the ship

*T* is the design draft

*C<sub>B</sub>* is the block coefficient

*C<sub>M</sub>* is the midship section coefficient

*LCB* is the longitudinal position of center of buoyancy (in percentage)

*b*= 1 bow with bulb

*b*= 0 bow without bulb

*P<sub>B</sub>* is brake horse power

*N<sub>M</sub>* is the number of revolutions (RPM)

*no of prop* (1 or 2)

*no of blades* (4, 5 or 6)

*N<sub>T</sub>* is the number of propeller revolutions (RPM)

*S<sub>M</sub>* is the sea margin (recommended value is 15)

$\nabla$ ,  $\delta$  are the stern angles (recommended values are 60, 35)

*v<sub>I</sub>* is the minimum speed

*v<sub>N</sub>* is the maximum speed

*v<sub>S</sub>* is the speed step

Description of ship, engine and propeller

ship no							
	1	1	1				
Lwl	Lpp	B	T	C <sub>B</sub>	C <sub>M</sub>	LCB	b
P <sub>B</sub>	N <sub>M</sub>	prop	blades	N <sub>T</sub>	S <sub>M</sub>	∇	δ
v <sub>1</sub>	v <sub>N</sub>	v <sub>S</sub>	40				

- ship no      number as in hull form
- day          defined with two digits (for example 15)
- month        defined with two digits (for example 05)
- year         defined with two digits (for example 05)
- Lwl          length on the waterline
- Lpp          length between perpendiculars
- B            breadth of the ship
- T            design draft
- C<sub>B</sub>          block coefficient
- C<sub>M</sub>          midship section coefficient
- LCB          longitudinal position of the center of buoyancy (in percentage)
- b= 1        bow with bulb
- b= 0        bow without bulb
- P<sub>B</sub>          brake horse power
- N<sub>M</sub>          number of revolutions (RPM)
- prop         (1 or 2)
- blades       (4, 5 or 6)
- N<sub>T</sub>          number of propeller revolutions (RPM)
- S<sub>M</sub>          sea margin (recommended value is 15)
- ∇, δ        stern angles (recommended values are 60, 35)
- v<sub>1</sub>          minimum speed
- v<sub>N</sub>          maximum speed
- v<sub>S</sub>          speed step

