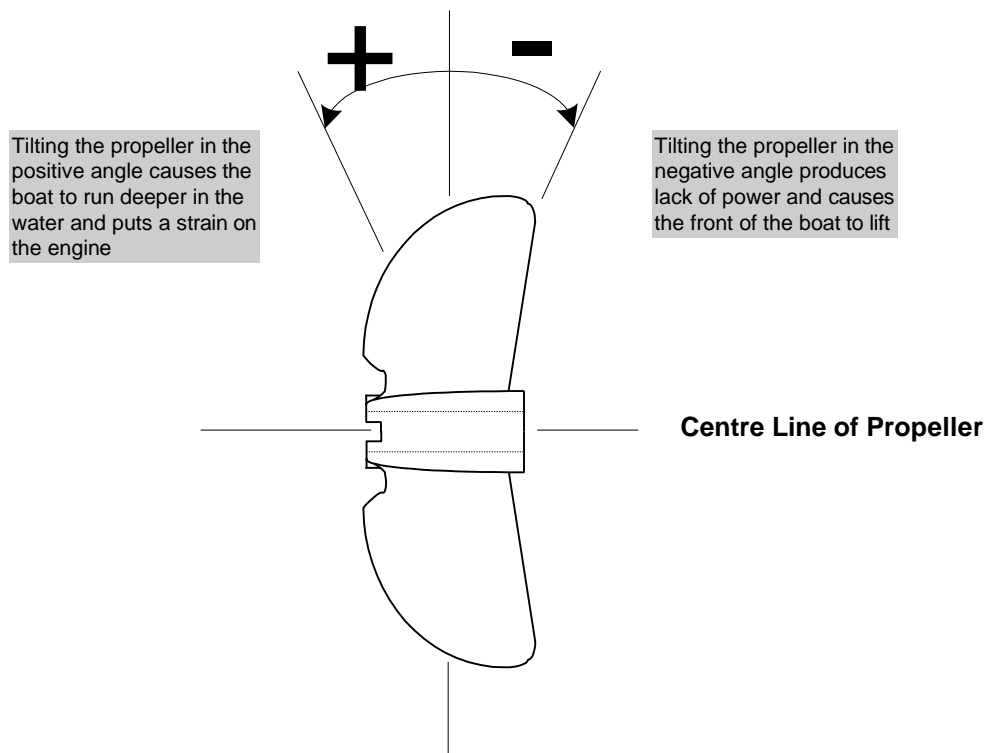
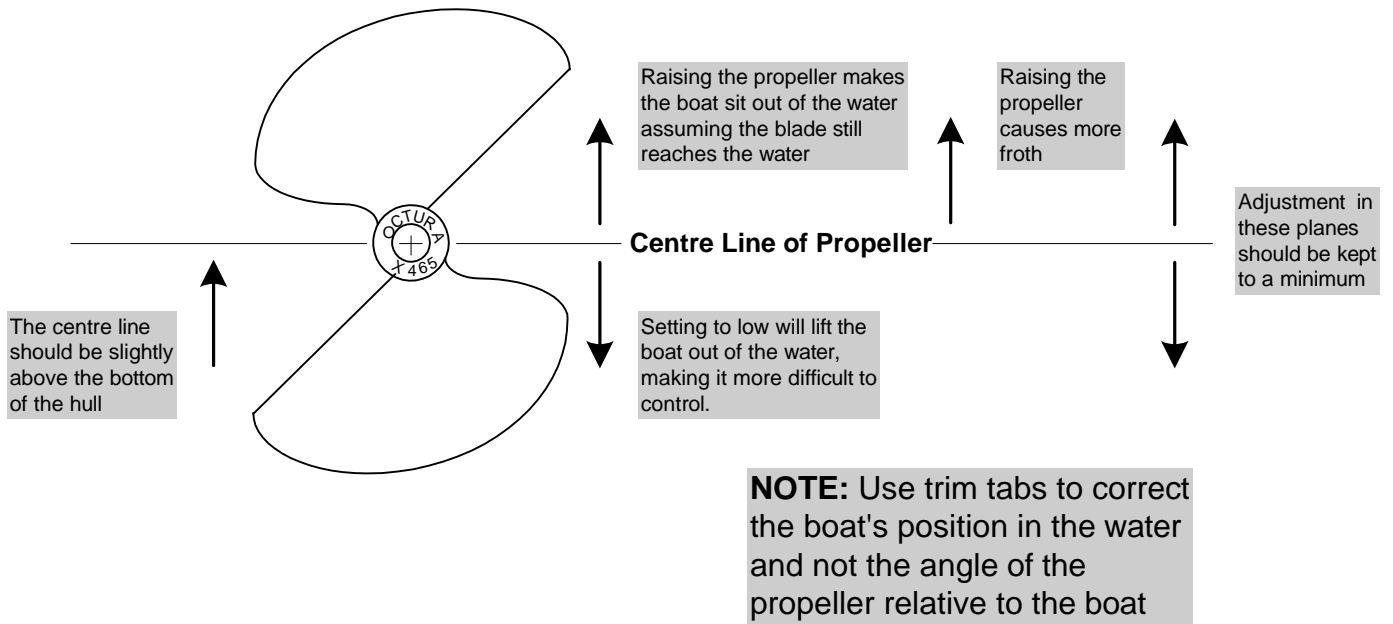
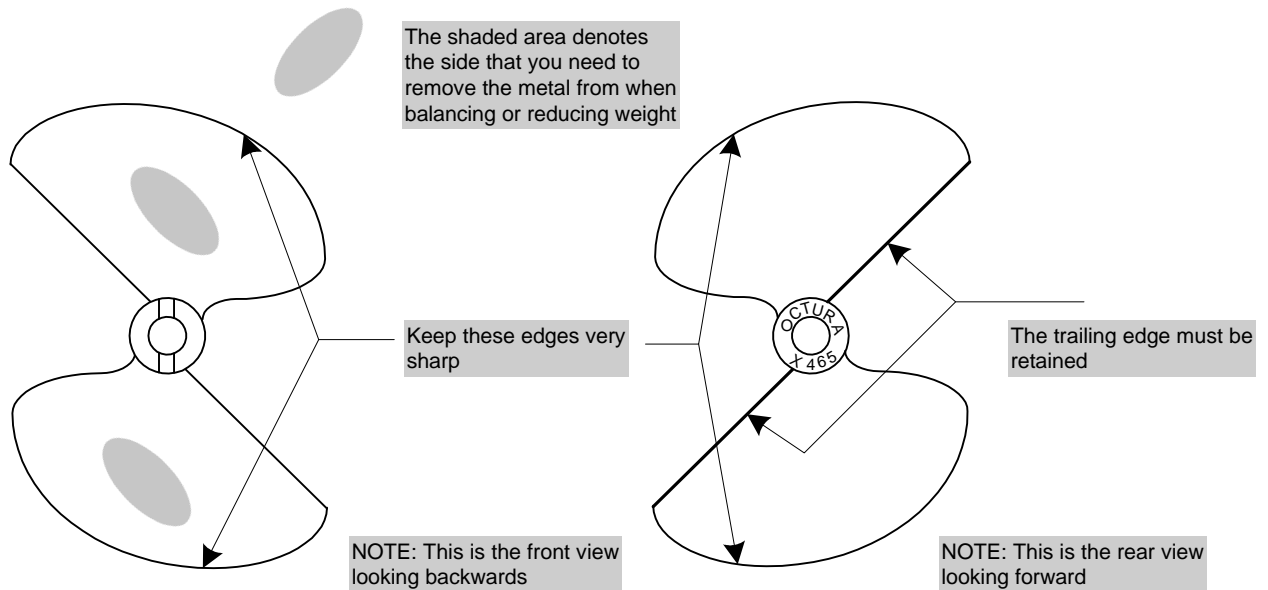


# Surface Piercing Propeller Set-up



# Surface Piercing Propeller Set-up



## Advantages

- Avoids cavitation.
- Greater speed opposed to same boat with submerged drive.

## Disadvantages

- Difficult on turns.
- Harder to set-up.
- Not efficient at low revs.

## Notes

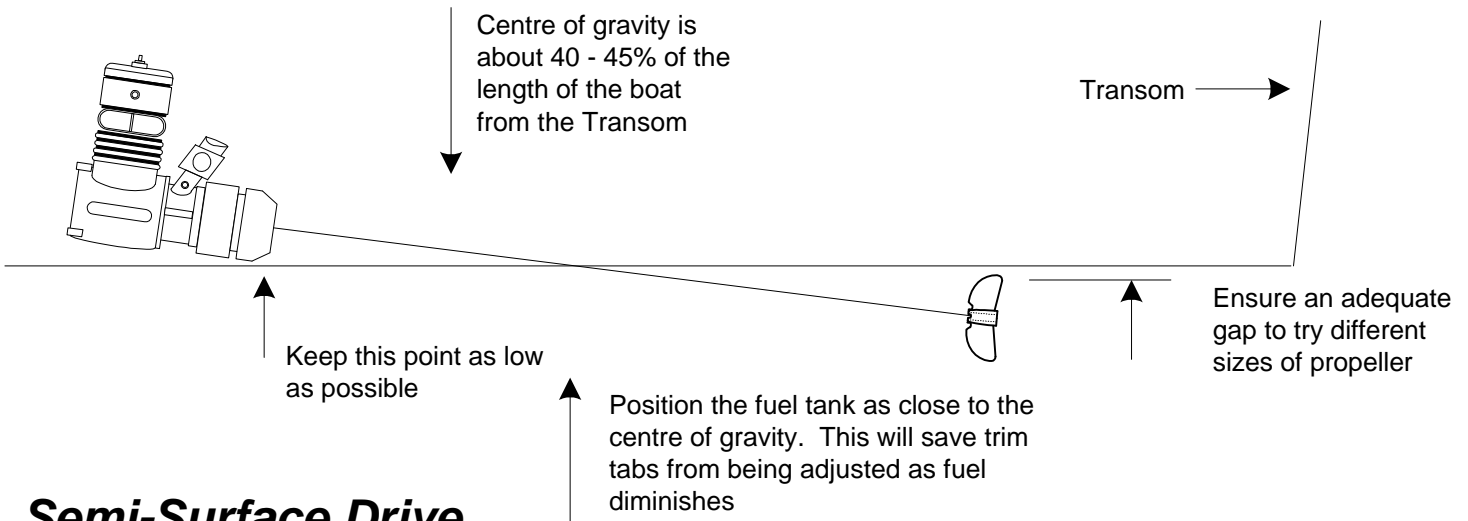
Surface piercing propellers provide air to the blades in the water. As the top blade enters the water it brings in the air eliminating cavitation which is sometimes associated to high speed submerged propellers. The process described on the surface piercing propellers is aeration opposed to cavitation

Surface drive boats tend to turn well to the right at speed, but less well to the left.

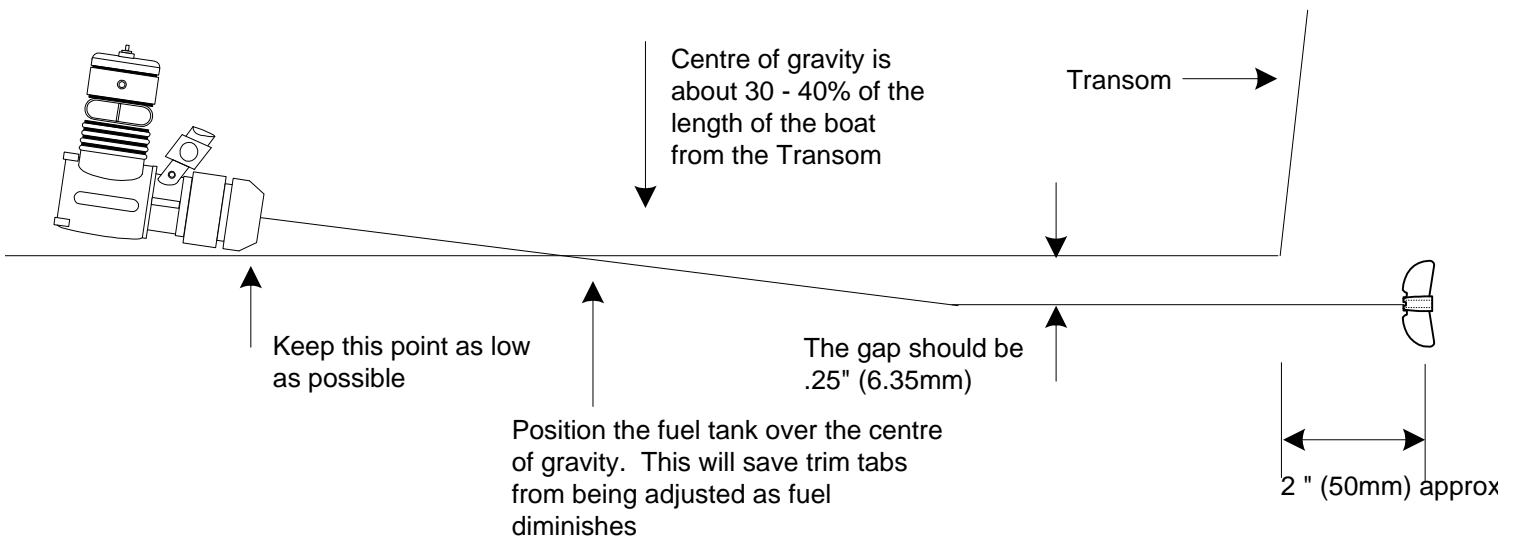
In OMRA racing the boats always turn to the right

# Propeller and Rudder Positioning

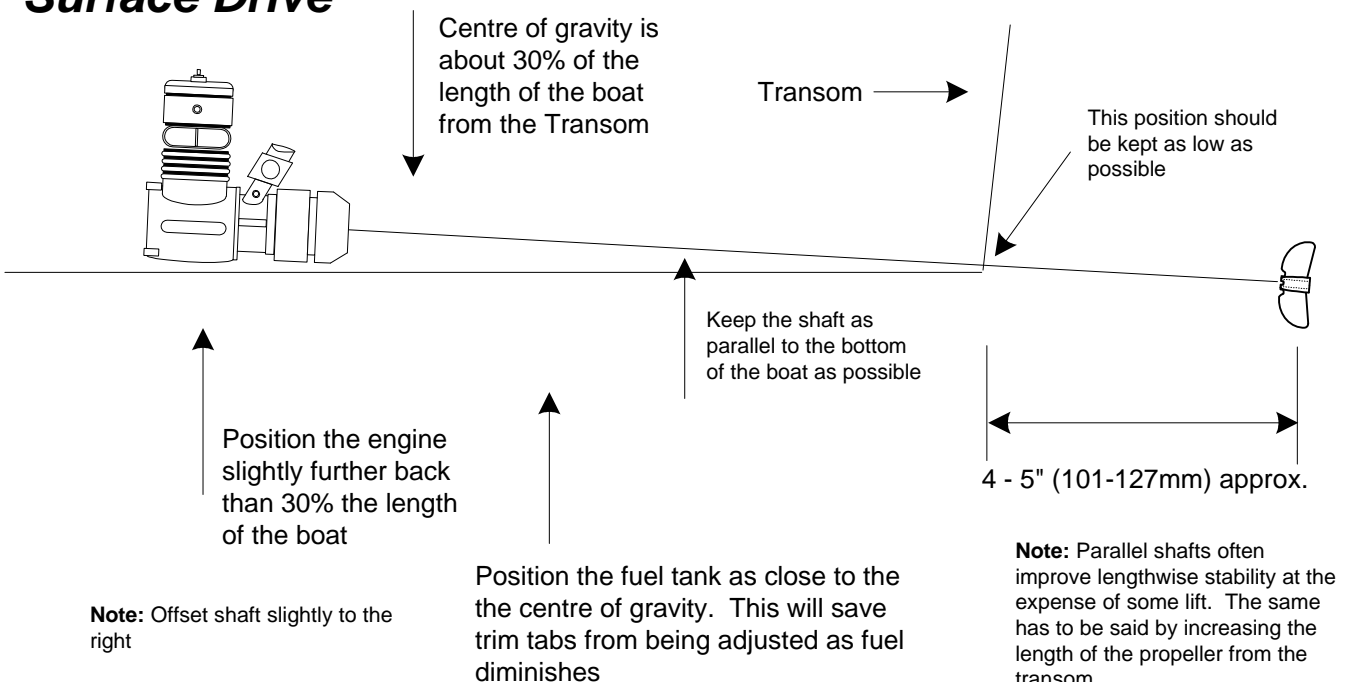
## Submerged Drive



## Semi-Surface Drive

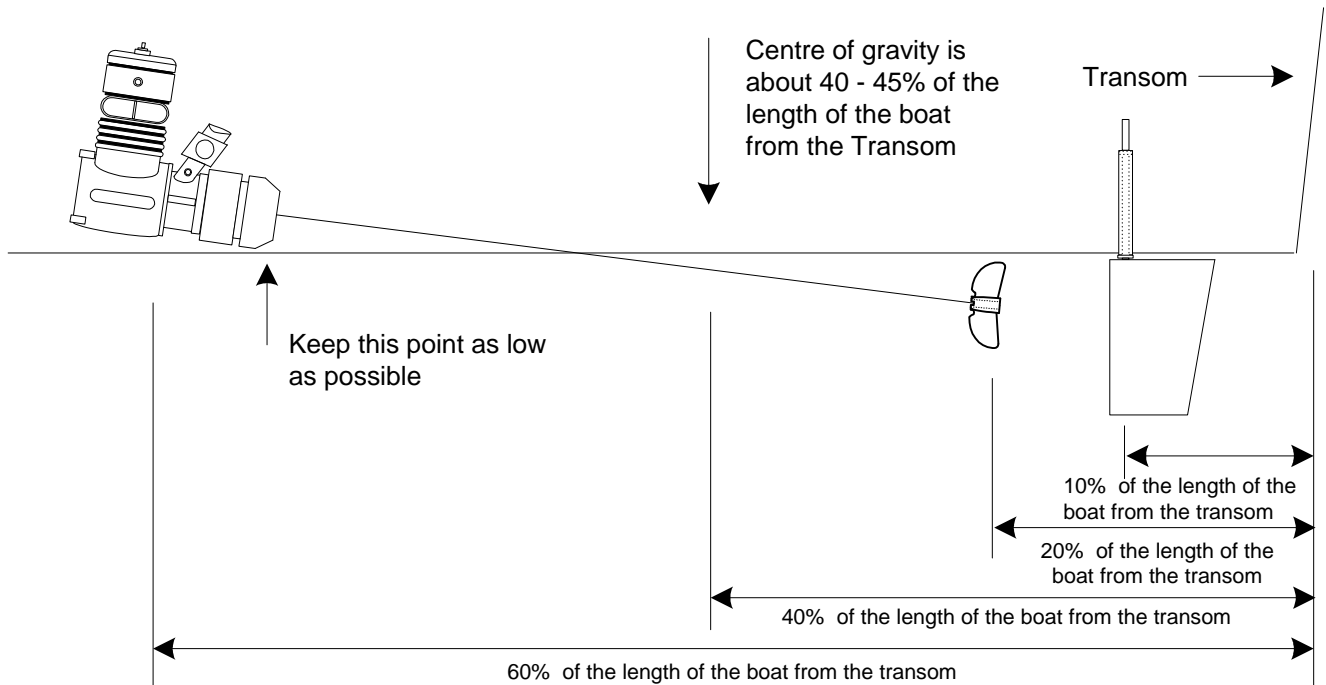


## Surface Drive



# Propeller and Rudder Positioning

## Locating Rudder Submerged Drive



**Note:** The above provides for a good starting point, but like most things trial and error play a large part in getting it right.

## Finding the Centre Of Gravity

Finding the centre of gravity of a boat isn't too bad if the boat is small but as the boat gets bigger so does the problem of finding the centre of gravity. The principle is the same for both however: Using the information here lay the components into the approximate positions within the boat. Using your hands move along the sides of the boat lifting the boat to establish a point of balance between the front and the rear of the boat. When the boat levels out this indicates the centre of gravity, well close.

I suppose an alternative way would be to put something on a bench like a piece of pipe or right angle and balance the boat on it.

With bigger boats it is recommended to enlist the help of a friend and don't carry out the procedure too high off the ground.

## **Acknowledgments**

The author of this document doesn't take credit for any of the enclosed information. The information was researched from many different WEB sites both here in the UK and USA. While researching it was noted that some of the information appeared on several sites, making it difficult to determine whom the original author was. It is not the intention of this author to do the same.

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Should you have any queries please send an e-mail to [paul@dengate.co.uk](mailto:paul@dengate.co.uk) including the title of the document within the subject line.

I would like to acknowledge the technical help of Dave Marles of Prestwich Models  
(<http://www.prestwich.ndirect.co.uk/>)