Selecting Propulsion Types

HSBO Forum 2014

Gothenburg, Sweden

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Founder/CEO Armstrong Marine, Inc.

Aluminum boat builder

Overview

Engines & Drives-
In Brief

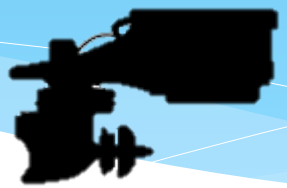
Outboards

Stern Drive

Shaft & Wheel

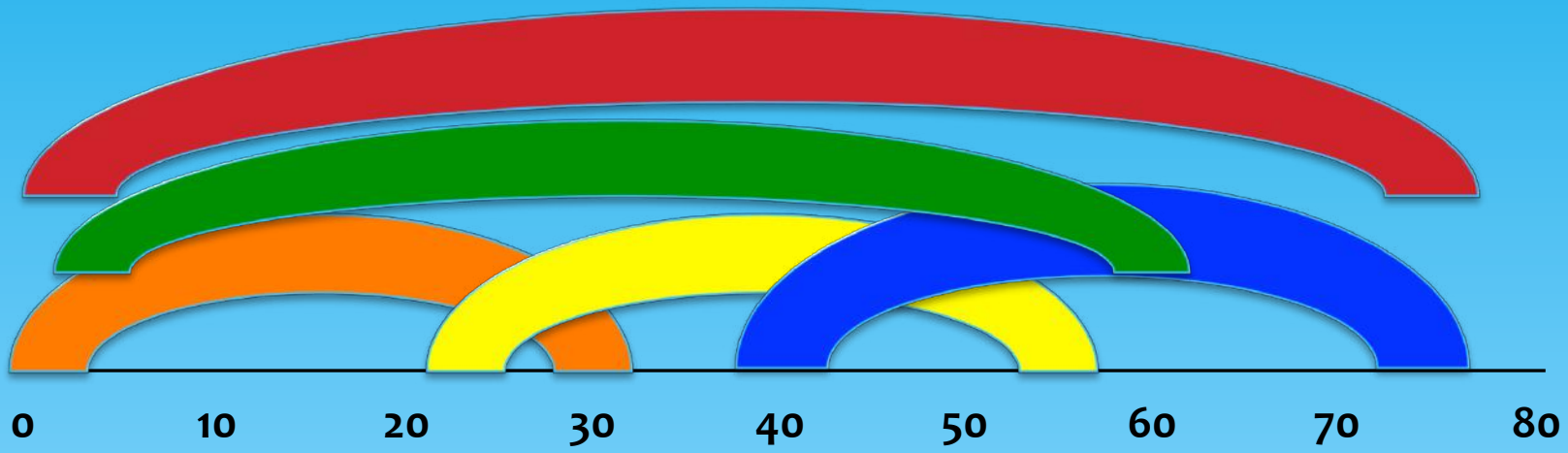
Surface Drive

Waterjet



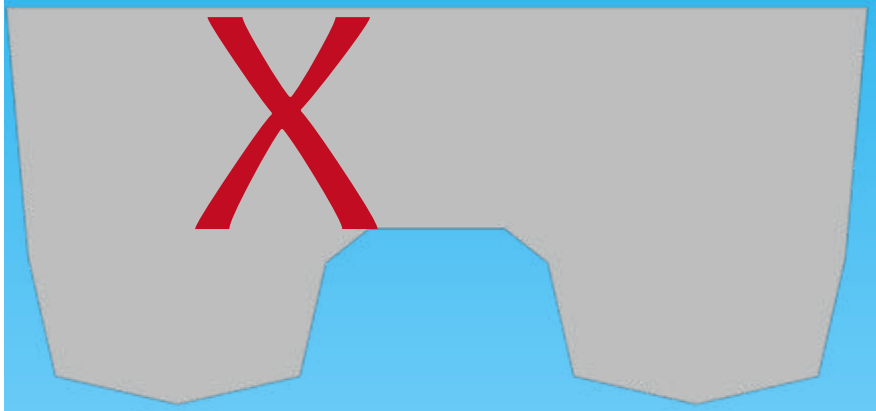
Pod Drive

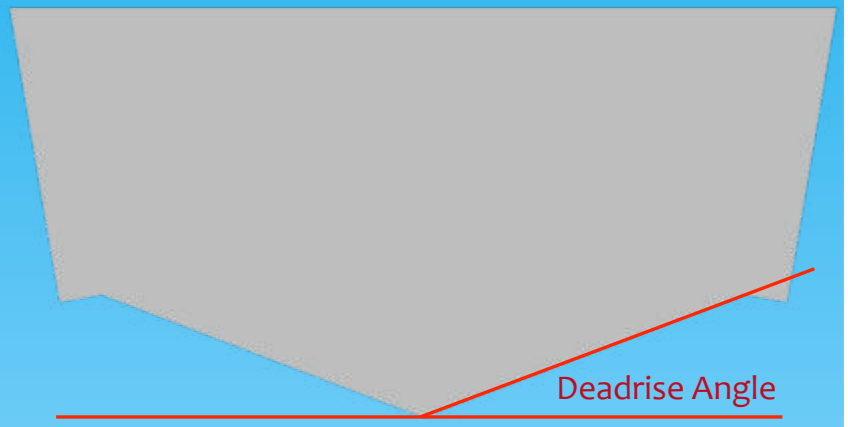
Performance Envelope



Outboards
Shaft & Wheel
Waterjet
Stern Drive
Surface Drive

Deep V Monohulls

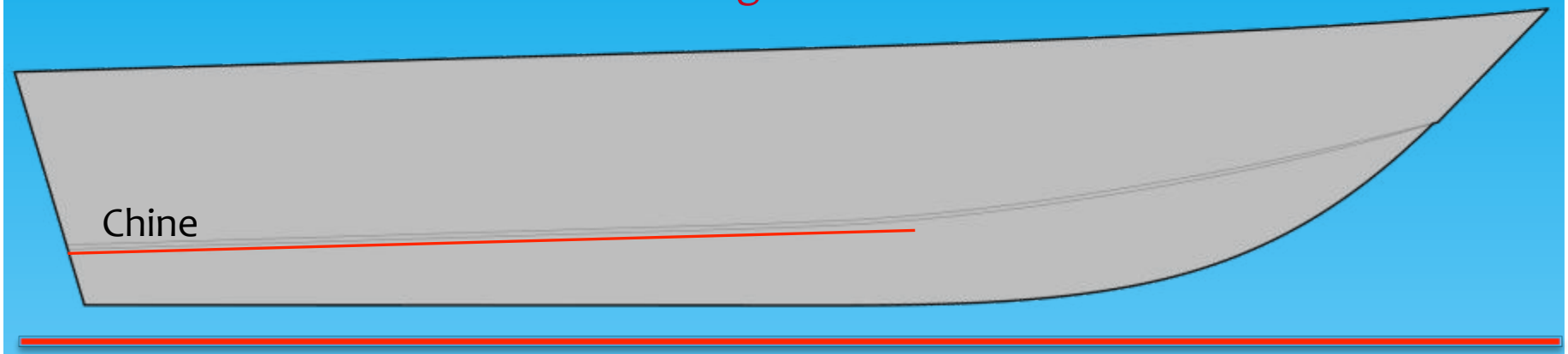




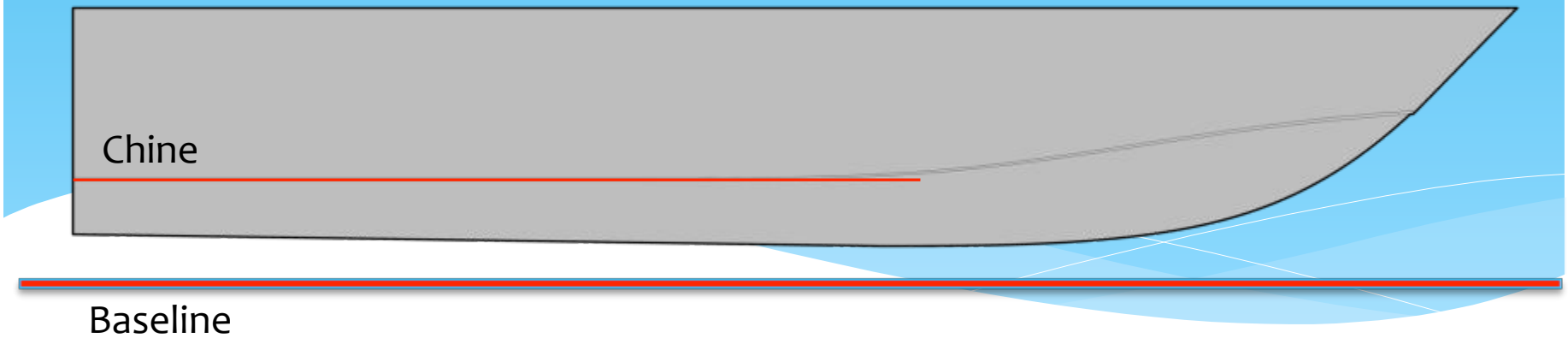
Deadrise Angle
Baseline

Monohulls

Variable Degree Deadrise



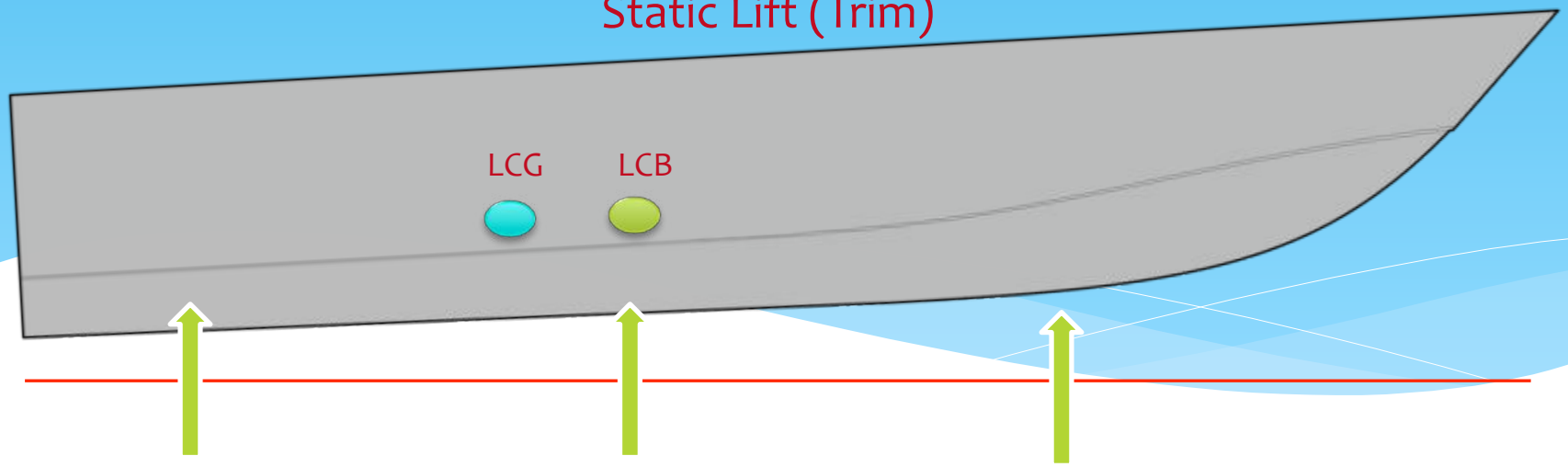
Constant Degree Deadrise



Hydrodynamics

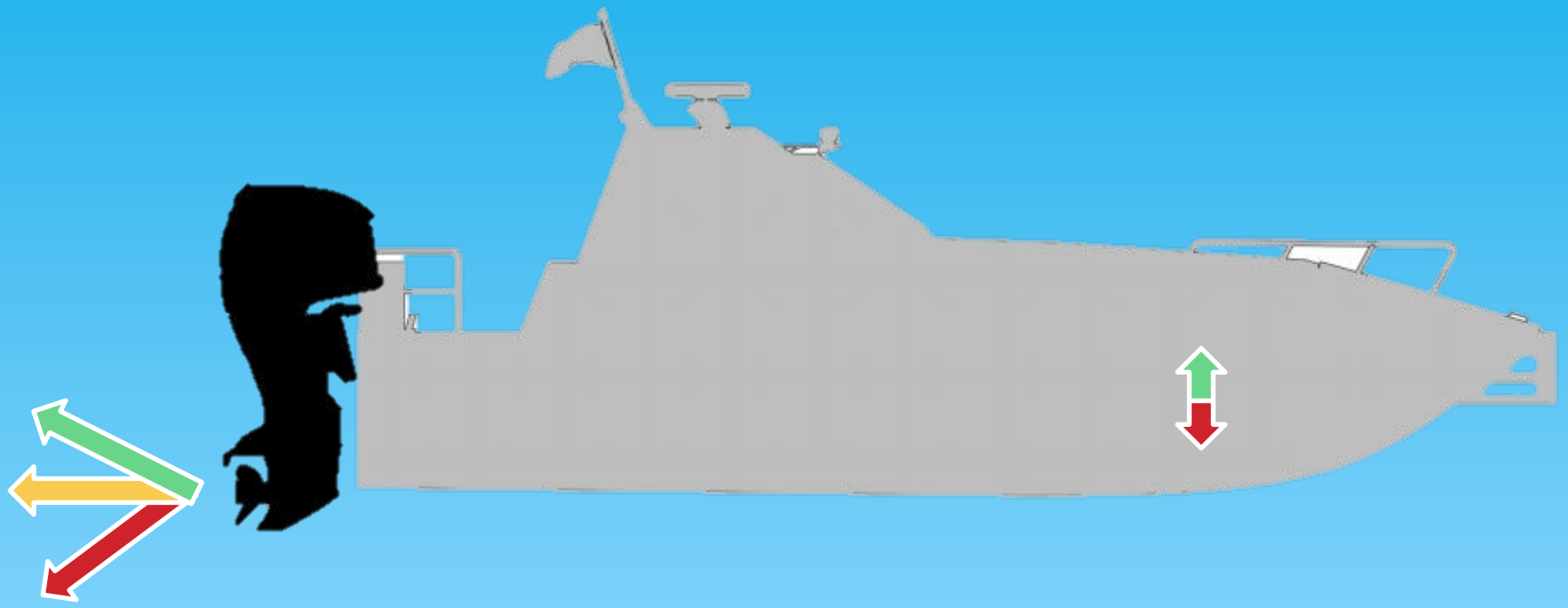
Dynamic Lift

Static Lift (Trim)



Propulsion Types

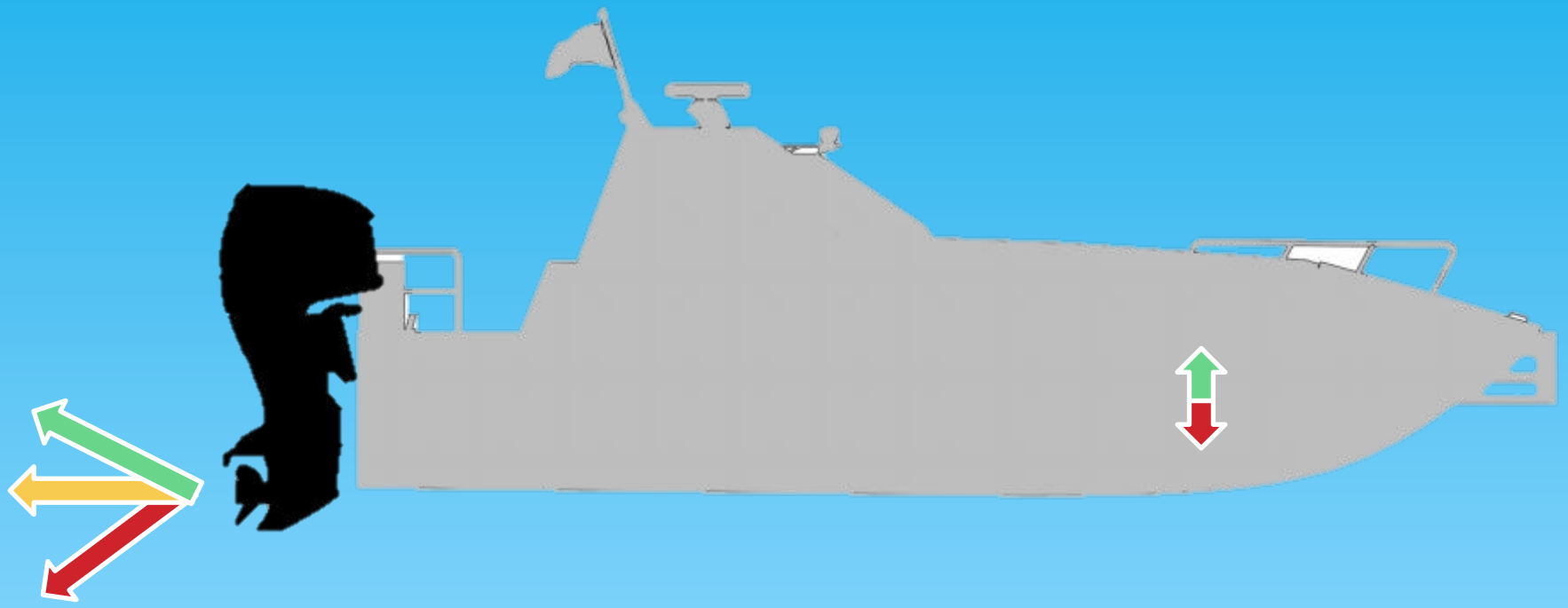
Outboards



Variable Angle of Thrust
Decreased Wetted Surface
Increased Speed

Propulsion Types

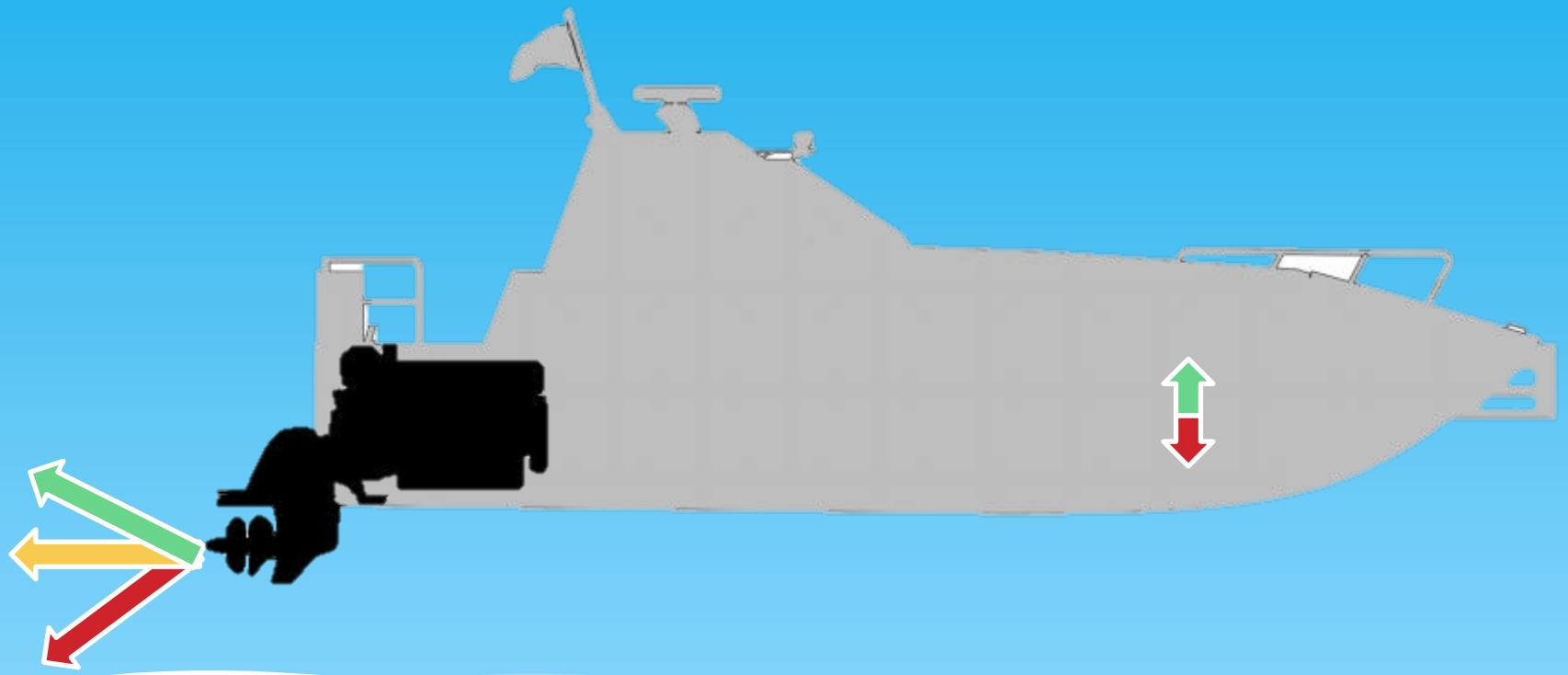
Outboards



Variable Angle of Thrust
Variable Degree Deadrise
Decreased Wetted Surface
Increased Speed

Propulsion Types

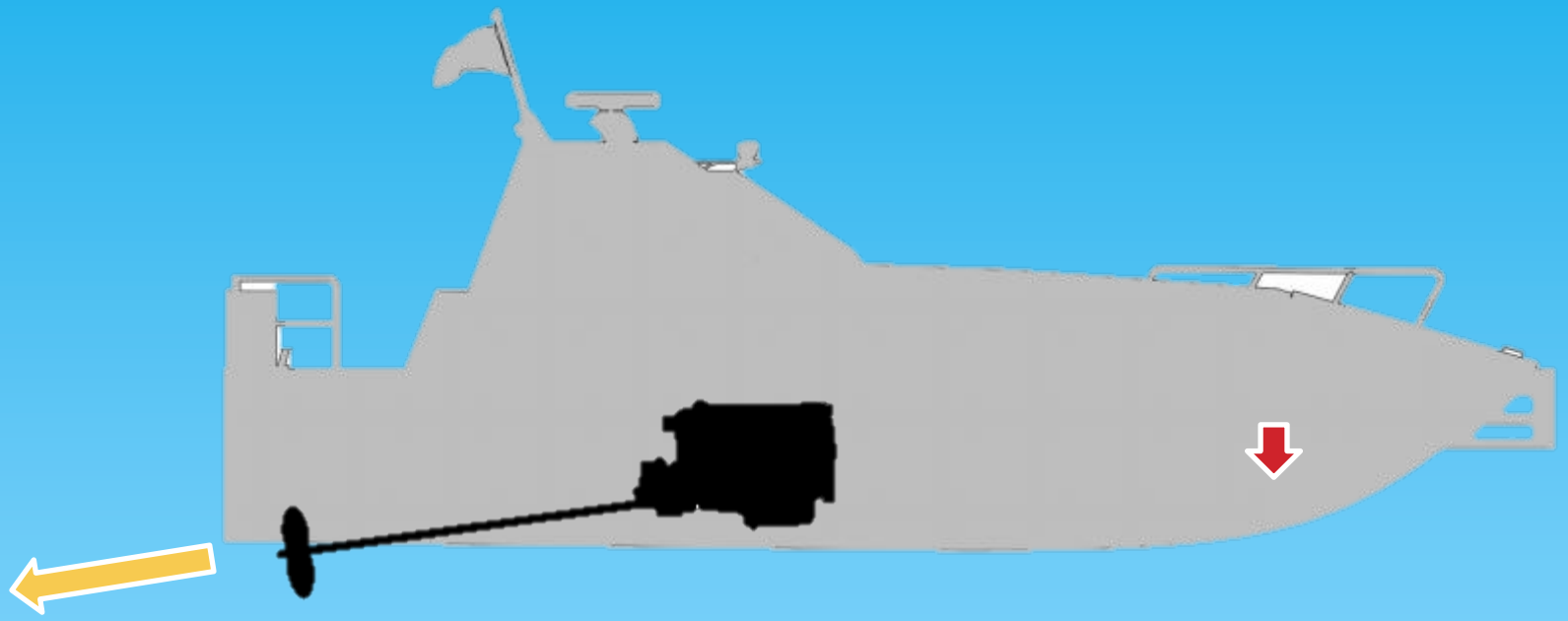
Stern Drives



Variable Angle of Thrust
Decreased Wetted Surface
Increased Speed

Propulsion Types

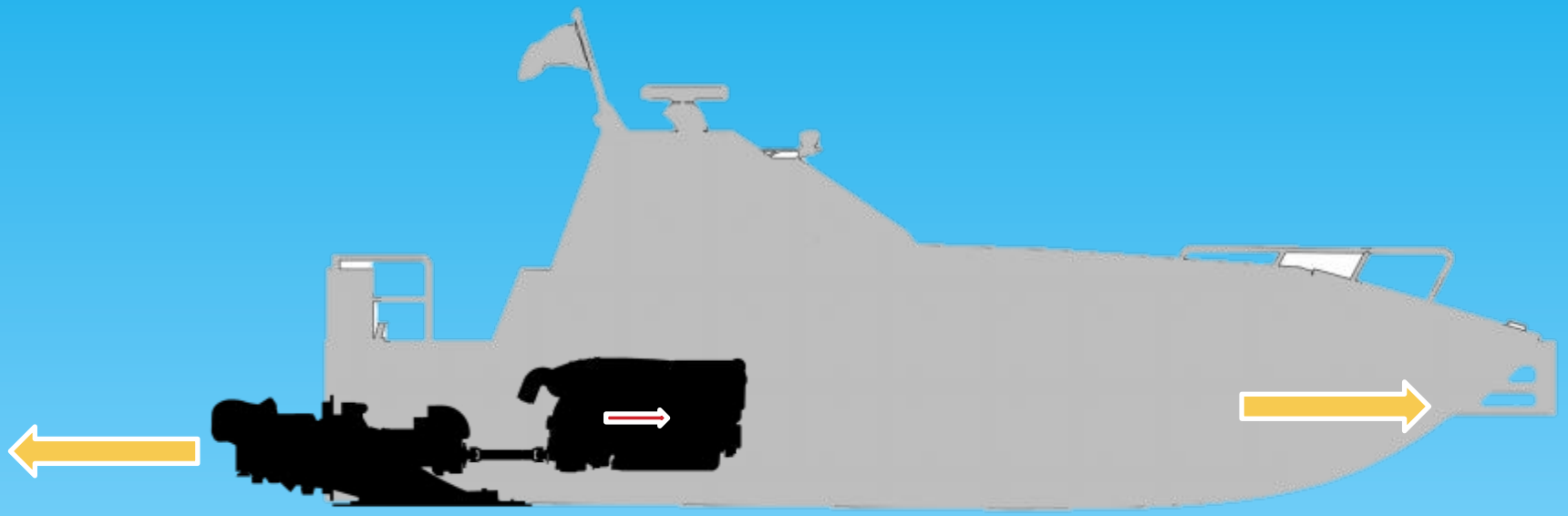
Straight Shafts



Lower Speed Applications
Faster Speed Drives Bow Down

Propulsion Types

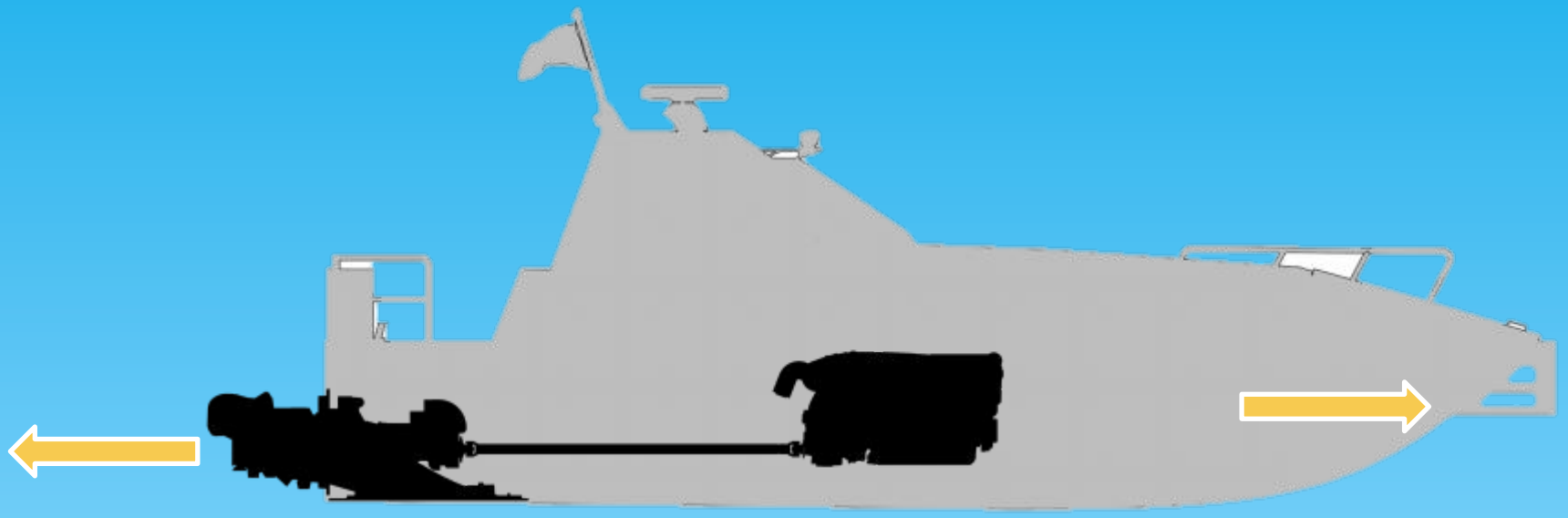
Waterjets



Safest
Fixed Angle of Thrust – Constant Deadrise
Variable Engine Placement
Most Maneuverable

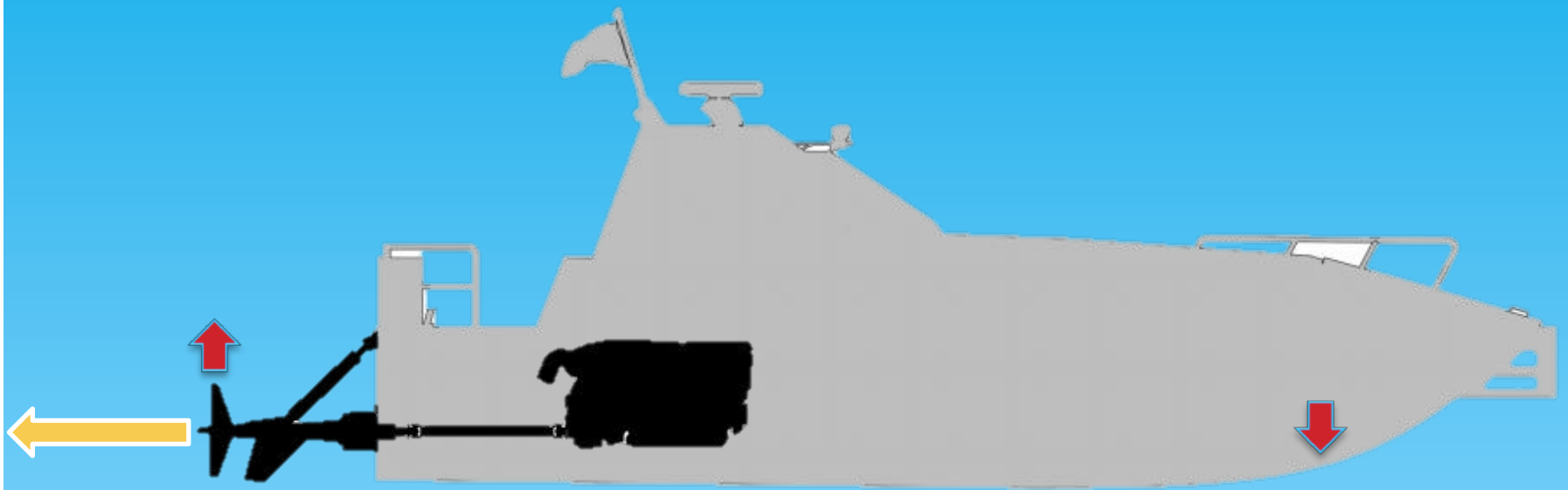
Propulsion Types

Waterjets



Propulsion Types

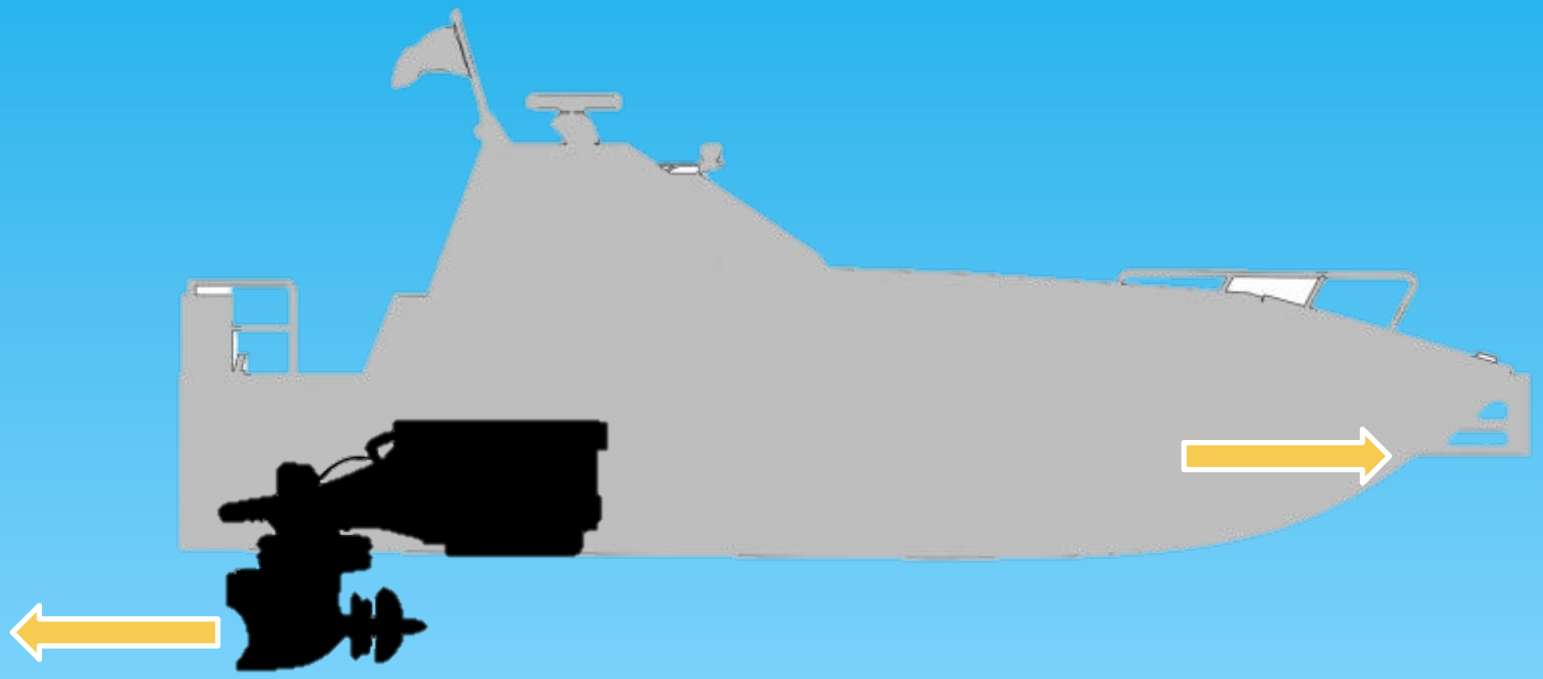
Surface Drives



Speed Range- 40+ knots
Fixed Angle of Thrust
Vertical Lift From Propeller
Requires Extreme Aft LCG – Constant Deadrise

Propulsion Types

Pod Drives



Most Efficient
Fixed Angle of Thrust
Requires Manufacturer Input on Hull Form


Surface Area X Speed = Lift