

SAILING THEORY

LESSON



COVERING THE BASICS

TODAY:

Nautical knowledge & Sailing concepts

Seamanship

Rope-work

OPTIONAL FUTURE SESSIONS:

Boat set up

Boat handling

Safety & the environment

Passage planning & navigation

PARTS OF A BOAT

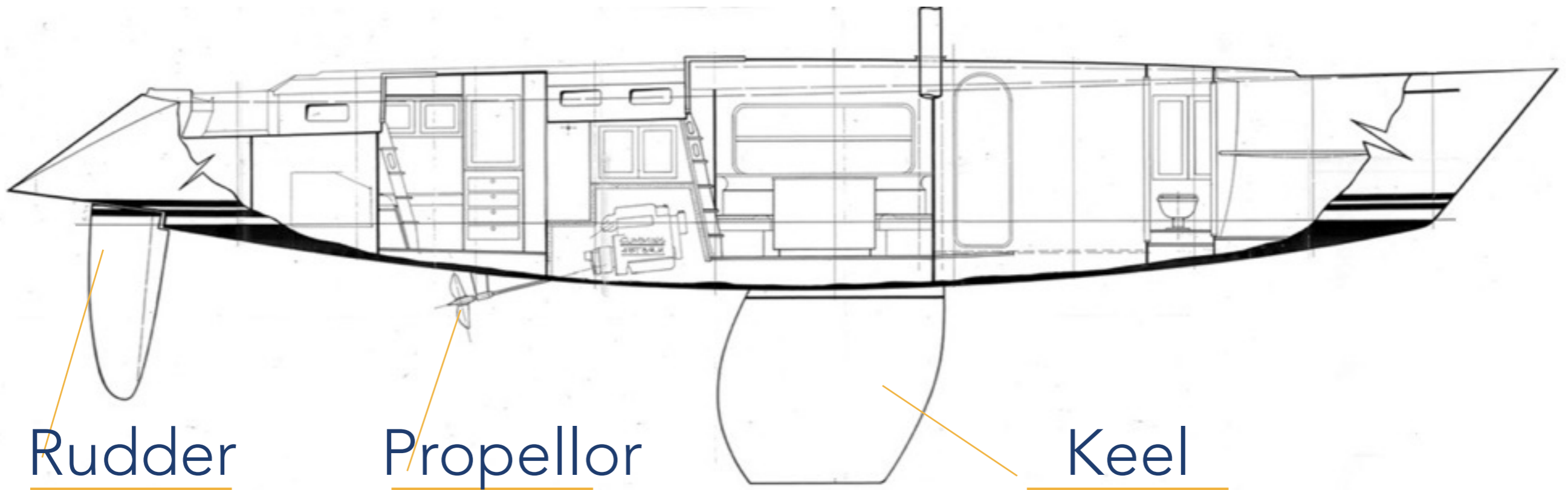
IDENTIFY THE FOLLOWING & WHAT DO THEY DO:

- Mast
- Boom
- Forestay
- Backstay
- Spreaders
- Shrouds
- Pull-pit
- Push-pit
- Bow
- Stern
- Hull



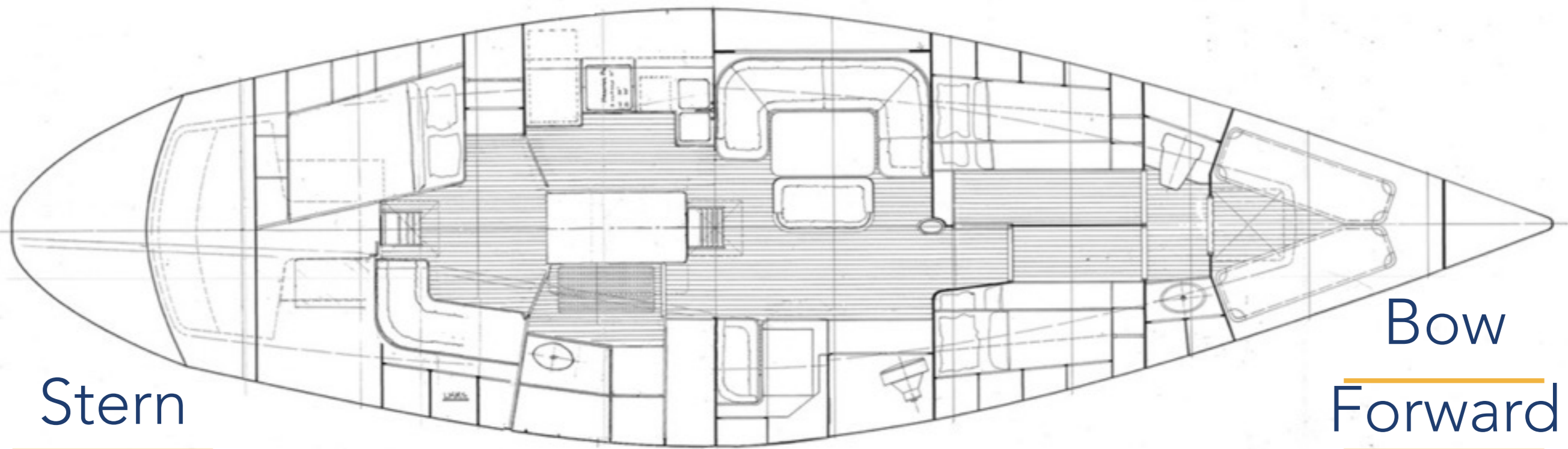
PARTS OF A BOAT (CONT)

UNDERNEATH THE BOAT



PLAN VIEW OF A BOAT

Port
Windward - closest to the wind



Stern

Aft

Starboard

Leeward - side furthest from the wind

Bow
Forward

PARTS OF A SAIL

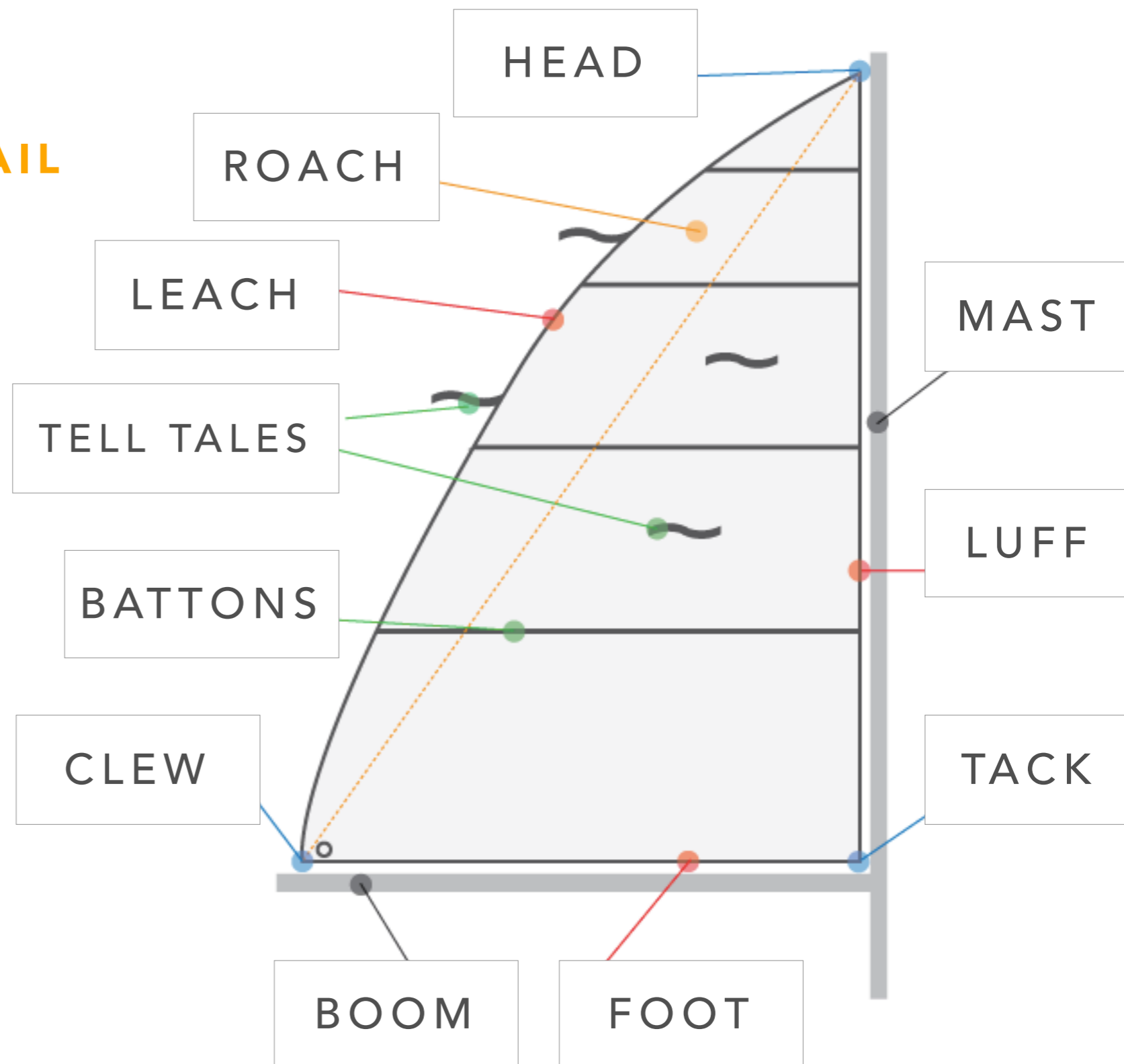
KEY PARTS OF THE SAIL

The corners:

- Head
- Tack
- Clew

The edges:

- Luff
- Leach
- Foot



SAILS

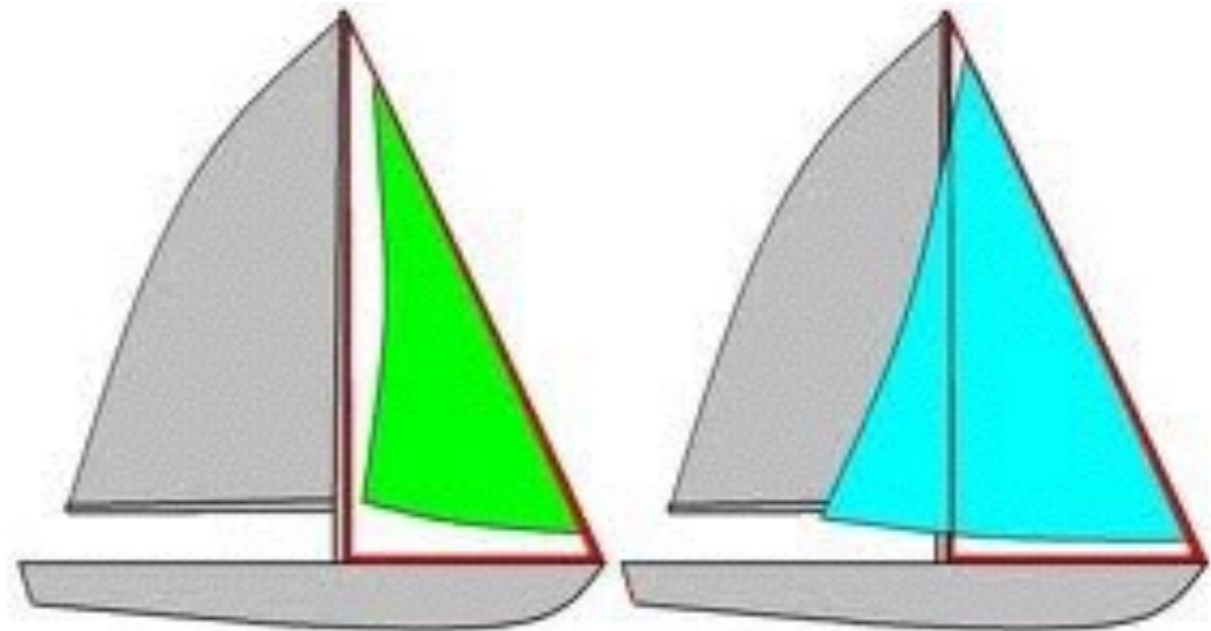
DIFFERENT TYPES OF SAILS

Mainsail

Headsail:

- Genoa
- Jib
- Storm jib
- Roller furling

- Spinnaker
 - Symmetric
 - Asymmetrical



ASYMMETRIC SPINNAKER

KEY FEATURES

- No pole - connected to tackline
- Running downwind
- Angle of sail...60-90 degrees



SYMMETRIC SPINNAKER

KEY FEATURES

- Use a pole, brace, kicker & topper
- Running downwind
- Angle of sail...
90-180
degrees



RUNNING RIGGING

DIFFERENT ROPES & THEIR USES

Rope Name	Rope Use
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Halyard	
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Sheets	
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Running	
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Traveller	
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Cunningham	
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Outhaul	
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Vang	
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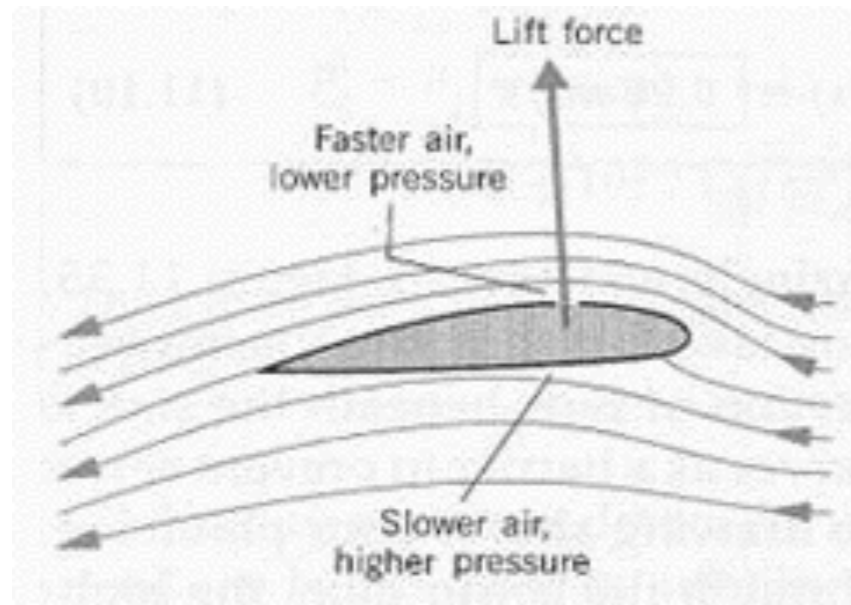
Kicker	
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Topper	
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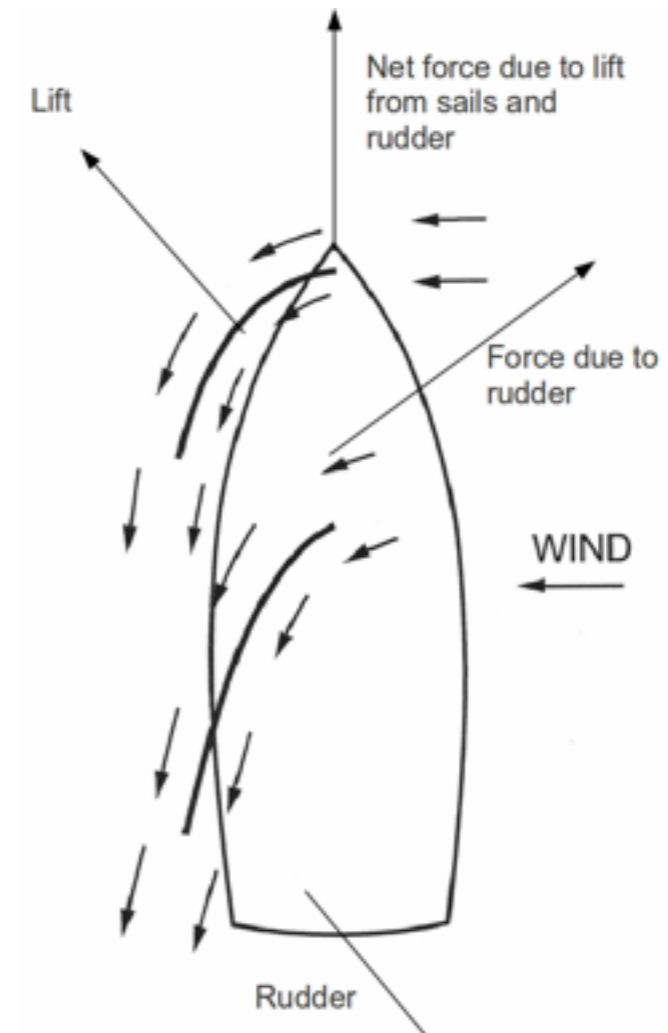
Brace	
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Reefing Lines	
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FORCES ACTING ON SAILS



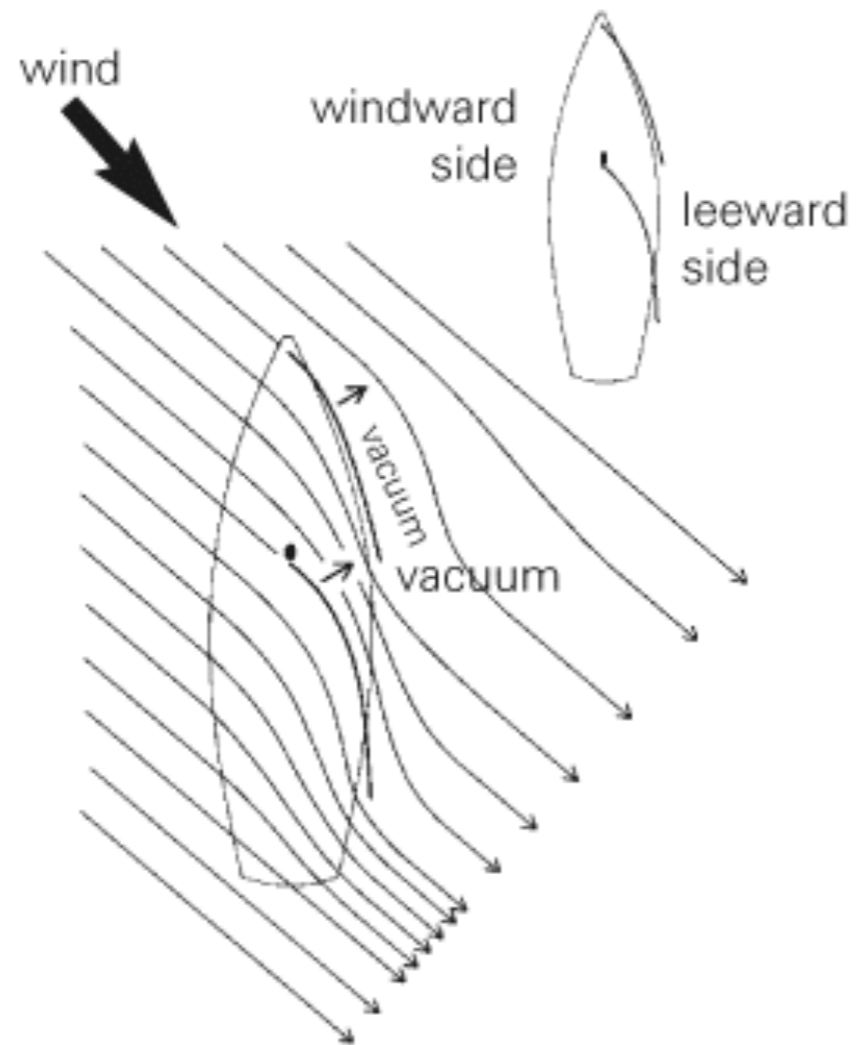
1. Flow of air over sail produces pressure changes, producing lift & increases the speed of the wind over the upper surface



2. A combination of sideways force from the sail and opposite resistance from the water pushes the boat forward
3. A sailing boat does not blow over as the force of the wind is counterbalanced by weight & buoyancy

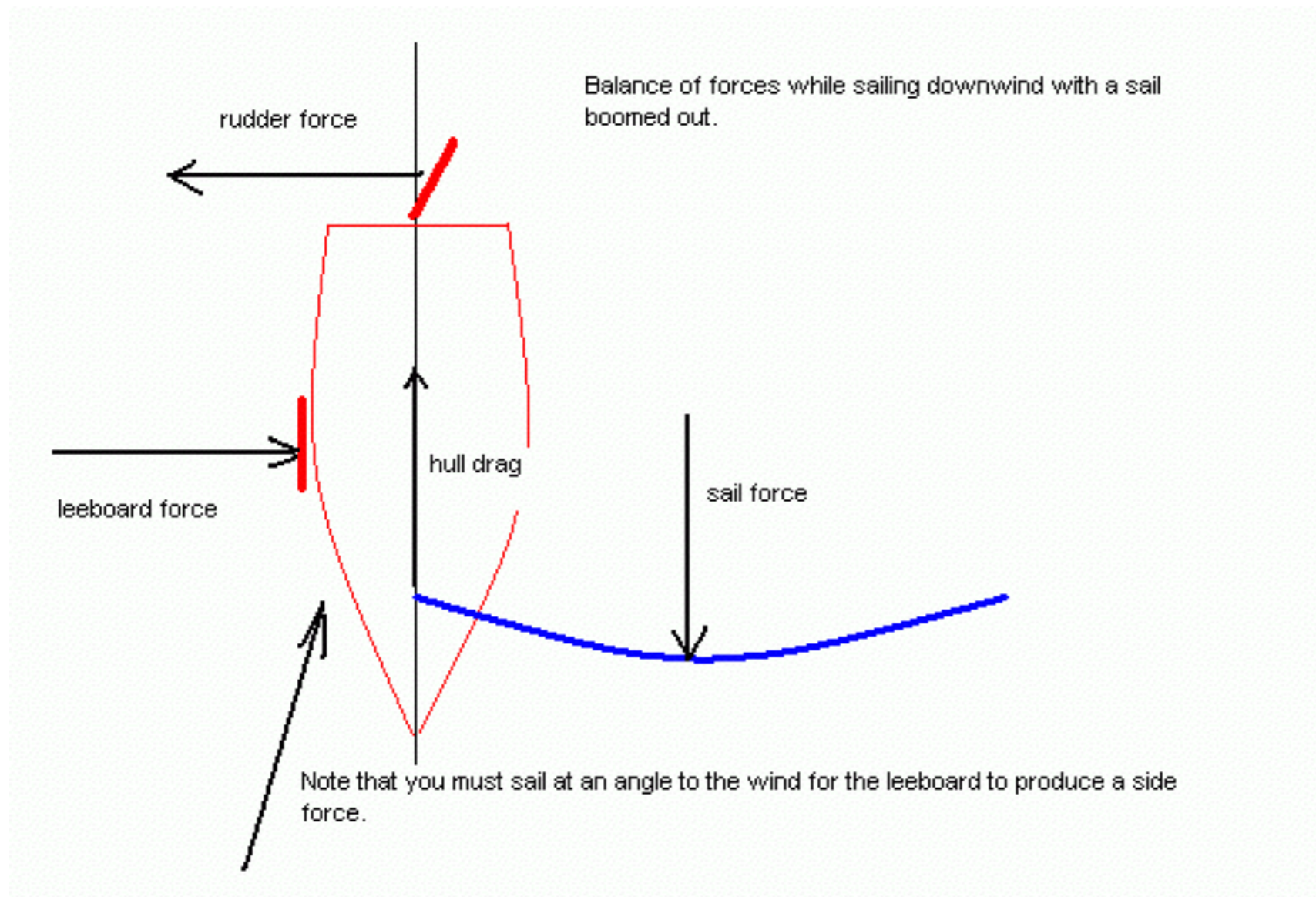
HOW SAILS WORK: UPWIND

"PULL METHOD"



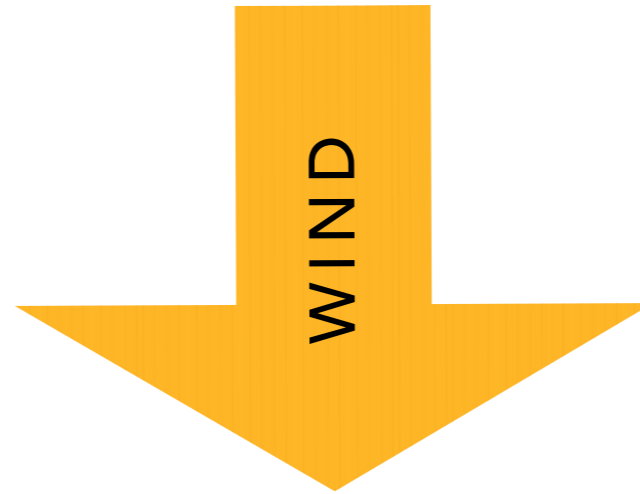
HOW SAILS WORK: DOWNWIND

"PUSH METHOD"

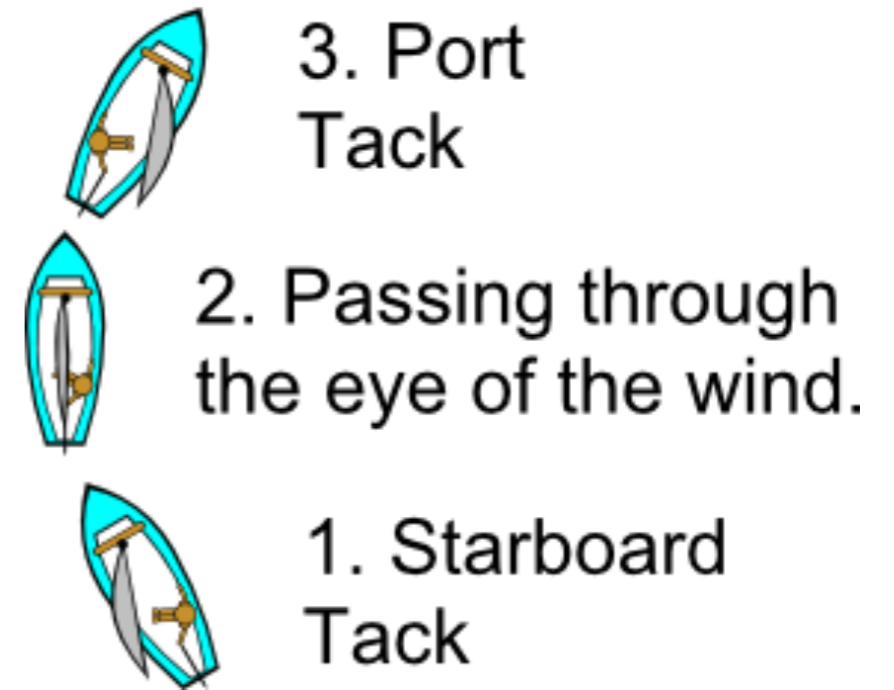


GOING UPWIND

HEADING UP



TACKING

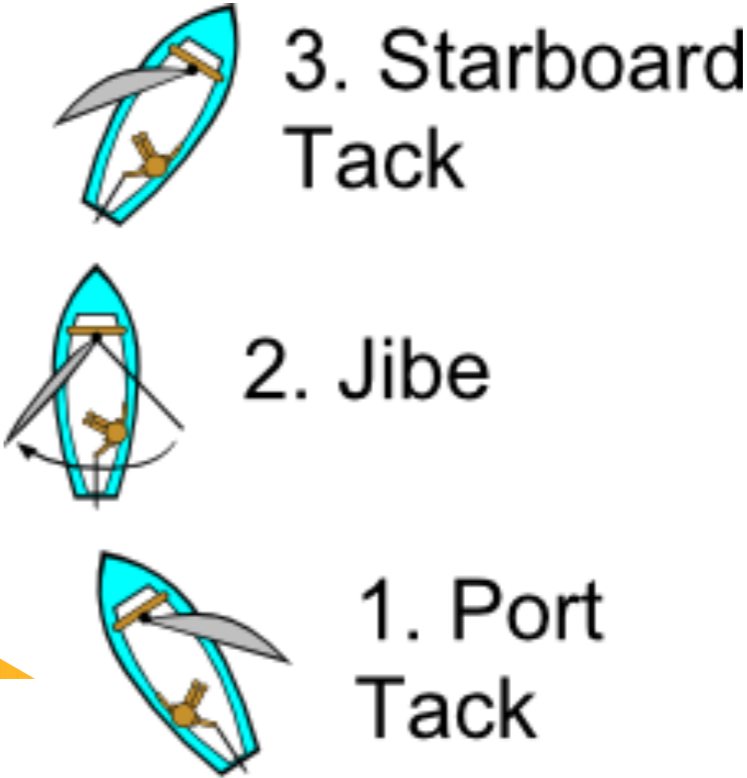
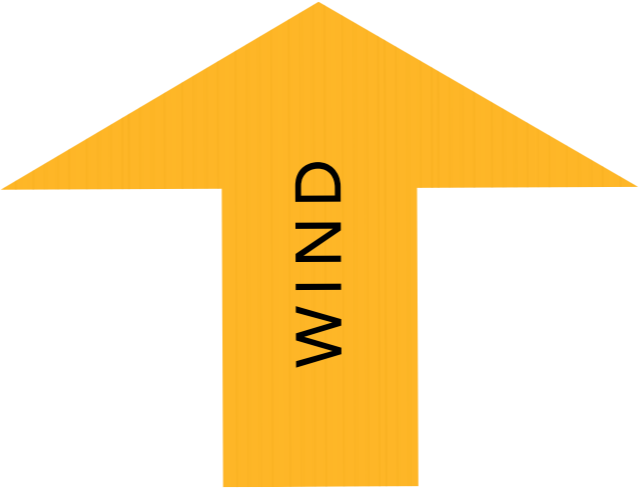


GOING DOWNWIND

BEARING AWAY



GYBING



3. Starboard Tack

2. Jibe

1. Port Tack

POINTS OF SAIL

**WIND OVER
STARBOARD SIDE
OF THE BOAT IS
SAILING ON**

In irons/ Head to wind

Starboard tack

Close haul

Beam reach



Running



**WIND OVER
PORT SIDE OF
THE BOAT IS
SAILING ON**

Port tack

ROPEWORK & KNOTS

KEY KNOTS

- Bowline
- Figure of eight
- Clove-hitch
- Reef knot
- Round turn and two half hitches
- Fisherman's stitch

ROPEWORK

- Tying off to a cleats
- Flaking a rope
- Using Jammers
- Camcleat