

Fleet Efficiency and Reliability

Efficiency

Hull Shape and Buoyancy



Loading and Personnel



Berthing, Mooring, Dry store

Clean Bottom – How long can you leave a boat in the water?

Fuel usage

Time saving

Trailers and Manual Handling

Costs - Can you save money with a bit of time investment?

Horsepower and Weight

- Aim for the most appropriate power for your usage.
- Effects of the engine weight on Boat Handling.

Operating Statistics and facts

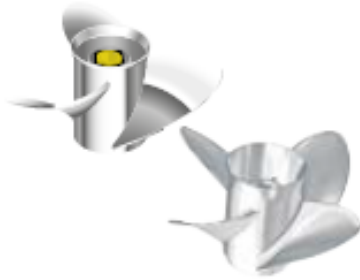
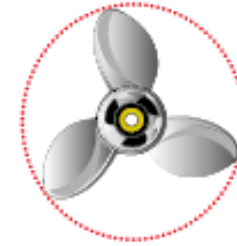
Data Logger[Engine operating hours according to engine speed]	
Engine speed	Time[h]
- 1000 r/min	468.3
1000 - 2000 r/min	41.8
2000 - 3000 r/min	84.6
3000 - 4000 r/min	106.4
4000 - 5000 r/min	297.3
5000 - 6000 r/min	307.1
6000 - 7000 r/min	12.9
Engine hours	1318

Data Logger[Engine operating hours according to engine speed]	
Engine speed	Time[h]
- 1000 r/min	563.2
1000 - 2000 r/min	27.6
2000 - 3000 r/min	41.9
3000 - 4000 r/min	37.1
4000 - 5000 r/min	46
5000 - 6000 r/min	20.8
6000 - 7000 r/min	0.2
Engine hours	736

Propellor Selection

DIAMETER

Diameter means the total width of the "circle" at the blade tips as the propeller spins. Larger diameter props push more water and reach deeper down into the water, so they're typically used on large, heavy boats or ones with higher-placed engine mountings. A smaller diameter prop is usually used on lighter boats, where the prop operates closer to the surface of the water - or when you need a higher engine RPM.



NUMBER OF BLADES

Three-bladed propellers are the most common, offering good overall performance, top speed, and efficiency for most applications. While a four-bladed prop will provide increased bow and stern-lift and reduce prop ventilation, this normally means more drag on the engine, resulting in lower top speeds and different handling characteristics.

BLADE GEOMETRY

Blade geometry refers to the actual shape of the blade (or ear). By manipulating the blade's shape, diameter and pitch progression, different performance characteristics can be created for each different type and style of propeller.



BLADE SURFACE AREA

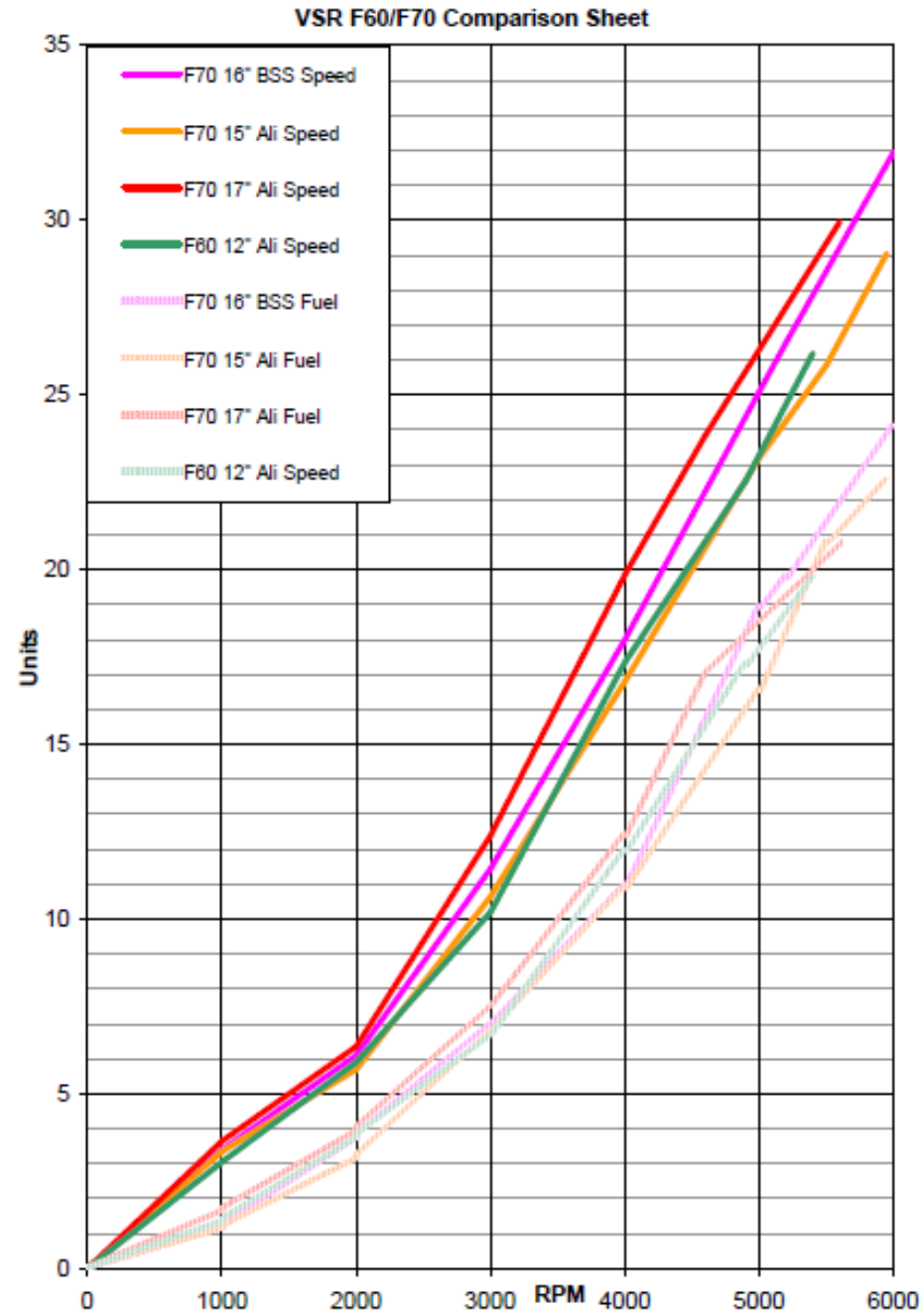
Blade surface area refers to the total surface of the blades. The greater the blade surface area, the more water the prop pushes, for better hole shot and increased planing efficiency. However, too much blade area can create significantly more drag, potentially restricting engine RPM and causing negative boat-handling issues.



Propellor Types



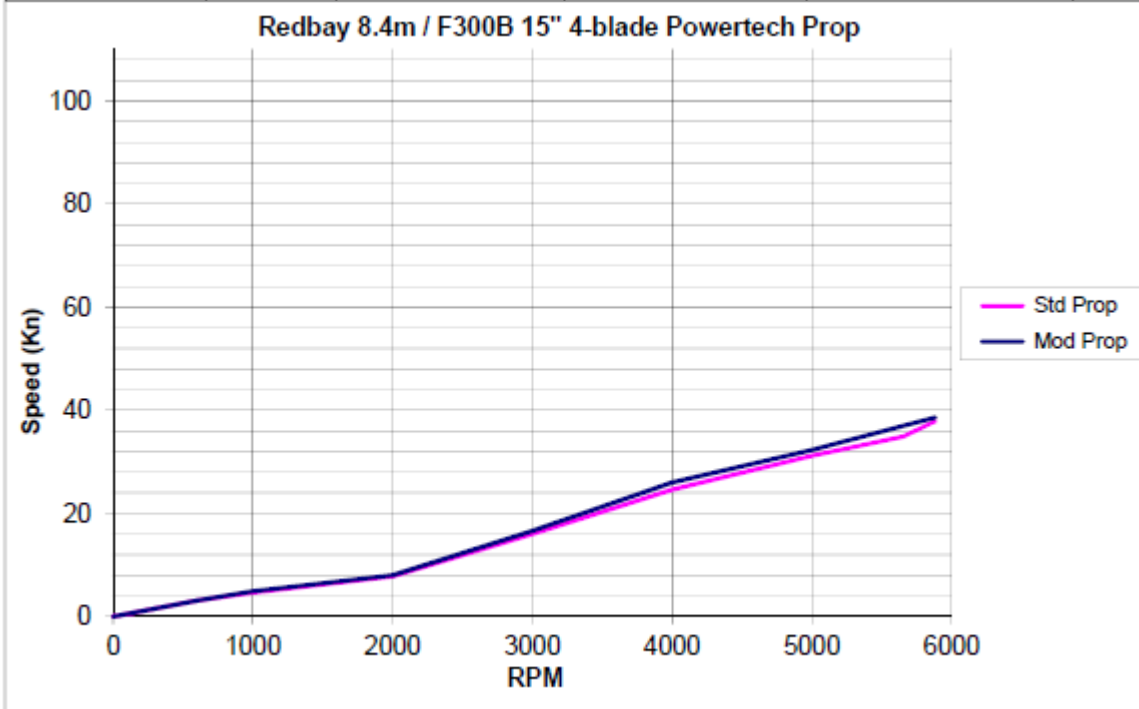
Prop Testing



Boat Data					
Manufacturer	Redbay	Model	Wraparound HT	Serial number	
Length	8.60m OA	Beam	2.77m OA	Max hp	500
Transom	X-shaft	Weight	IRO 1700kg		

Engine Data					
Yamaha	F300BETX	Gear ratio	1.75:1	Serial number	
Rigged height	0 Holes Up	Propeller: Powertech15.25" x 15" 5/5 4-blade (Pt.No. OF54R15PCL200)			

Test 1					
15" 4-blade Powertech Prop					
Engine RPM	Trim	Std prop ft 2 persons Average Speed (kn)	Modified prop ft 4 persons Average Speed (kn)	Notes	
0	Full in	0	0		
600	Full in	3.1	3.1		
1000	Full in	4.6	4.9		
2000	Full in	7.8	8		
3000	Full in	16	16.6		
4000	Full in	24.6	26		
5000	Full in	31.2	32.3		
5656	Full in	34.9	37	Max RPM trimmed in	
5883	3 to 4	37.9	38.6	Max RPM trimmed out	



Reliability and fleet structure

- Evaluate your down time, what are causes you grief?
- Do you loose days on the water?
- What do you replace frequently? – Is there an alternative?

Core components

- Electrical
- Steering
- Fuel
- Mechanical
- Structural
- Ancillary kit

Electical

- Battery – protected from swamping
- protect terminals
- Battery Isolator - Failure
- Cables and fuses
- Nav Lights
- Electronics



Steering

- Tiller
- Mechanical
 - Cable – stiff?
 - Helm – Corrosion?
 - Winter maintenance plan?
- Hydraulic
 - Check for leaks at Helm and Cylinder
 - Maintenance plan?
 - Flushing and replacing the Hydraulic Oil



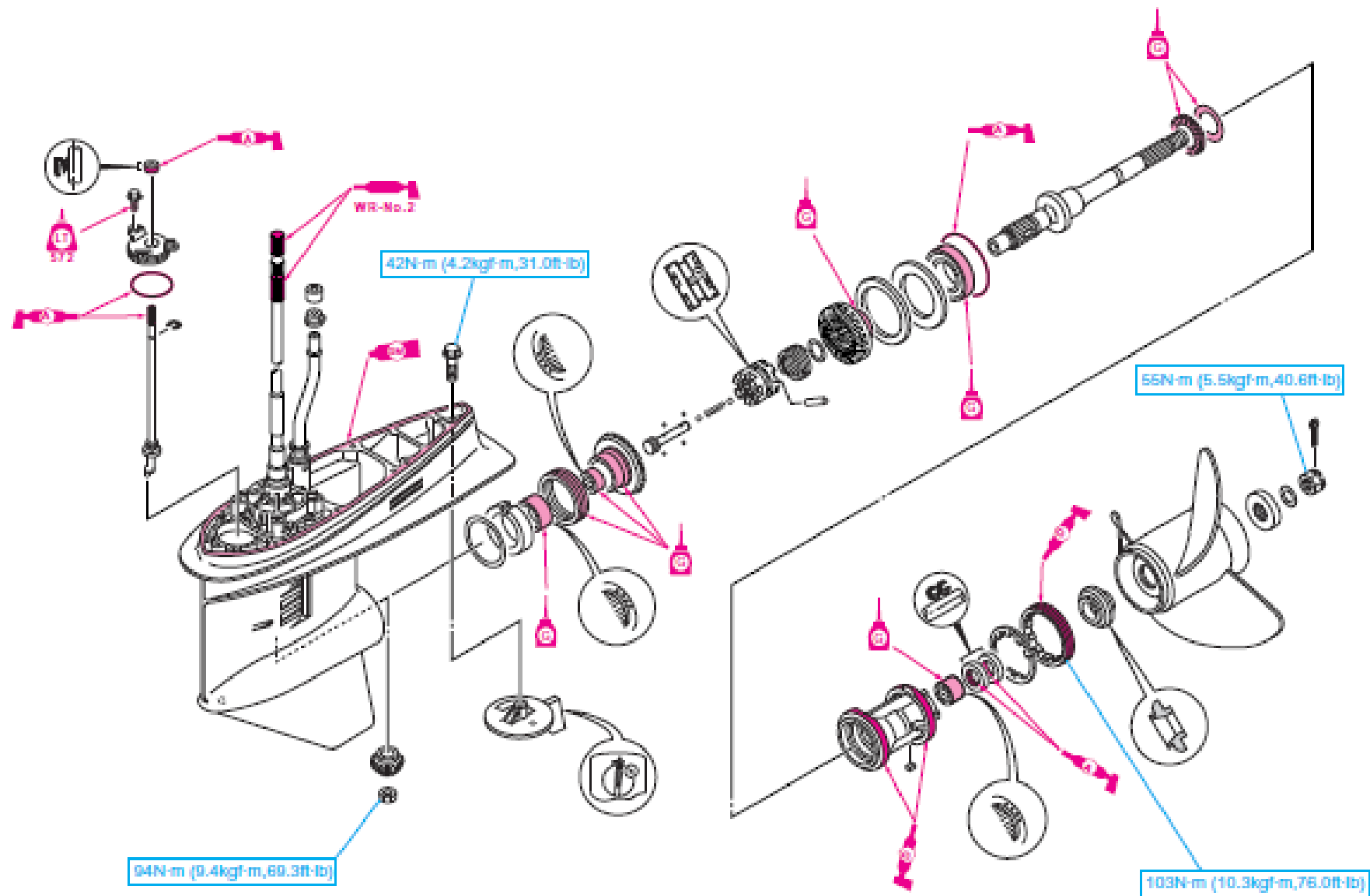
Fuel

- Storage and age of Fuel
- Fuel Filters - Quality
- Water in Fuel
- Ethanol



Mechanical

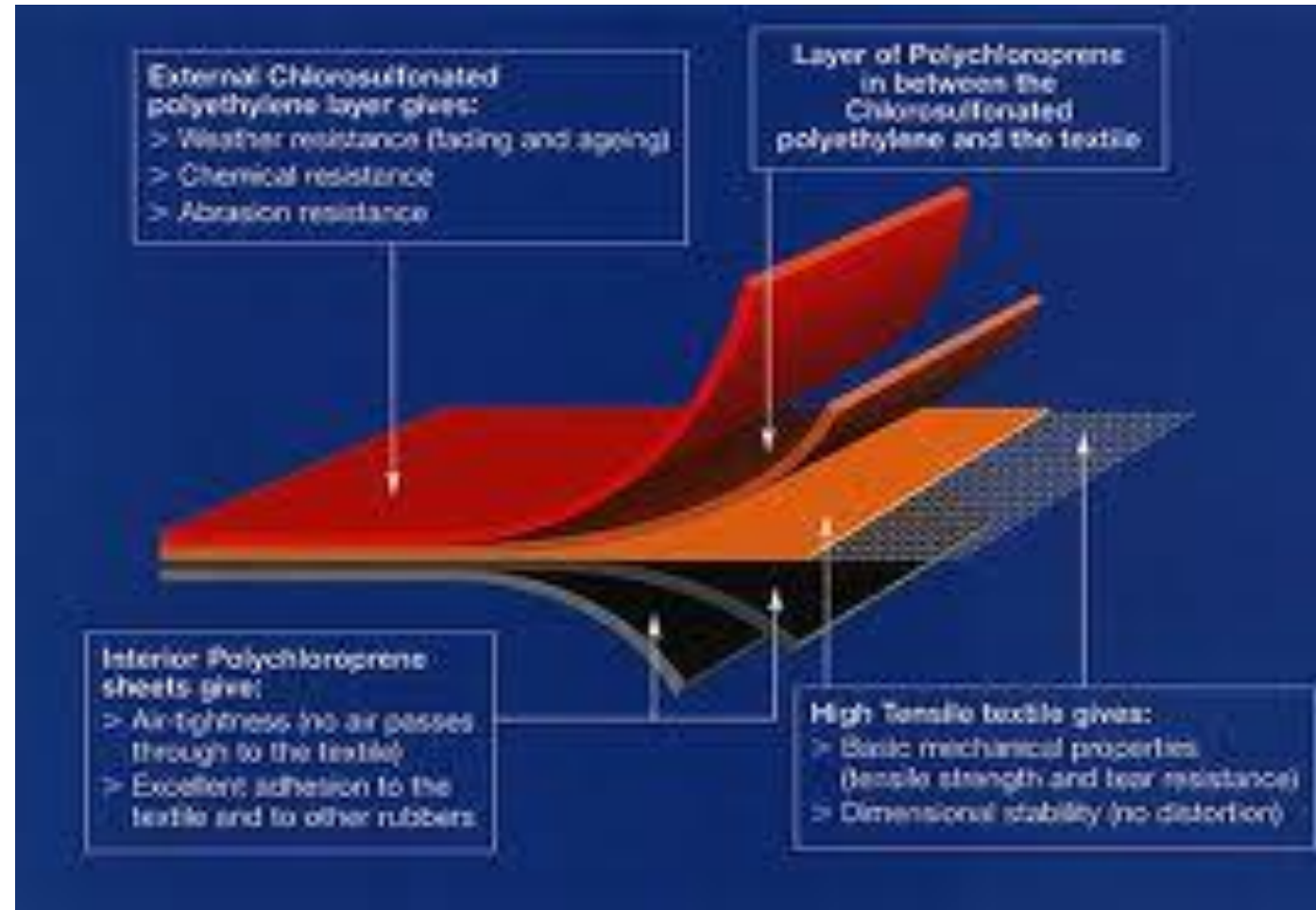




FL115A (counter rotation model)

Structural

- Weight v Strength v Price



Ancillary Kit – Keeping kit dry – what is waterproof?



- **“The Future is really bright”**

“We live and breathe the sport”

“One big team”

“Find that point where you are the best that you can be”