

# World Water Speed Records in the Wake of Bell & Baldwin

Martin Grimm

International Hydrofoil Society

Baddeck, Nova Scotia, 9-11 September 2019



# Outline


- Prior to Bell and Baldwin
- Bell & Baldwin
- 1920's and 1930's
- 1950's and 1960's
- 1970's and 1980's, Spirit of Australia
- Spirit of Australia 2 and other challengers

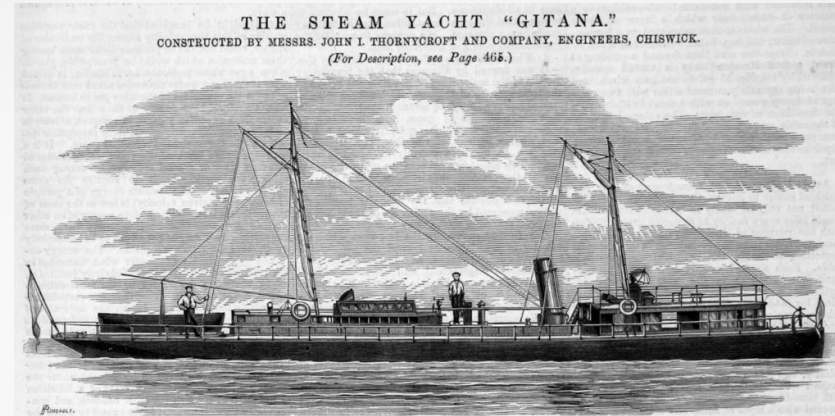
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# John Thornycroft Co



- 14 Apr 1874
- Sir Arthur Cotton 
- Master: LtCol Felix Thackery Haig
- Displacement, Marine Prop(s)
- Speed: 39.6 km/h  
21.4 knots
- Power: Reciprocating Steam  
??? hp  
??? kW
- Mass: ???



*"A FAST STEAM YACHT" SOUTH AUSTRALIAN REGISTER, MON 15 JAN 1877*

*...THE GITANA IS ...OF SIMILAR LINES TO THE **SIR ARTHUR COTTON**, BUILT. BY MESSRS. THORNYCROFT & CO. FOR THE INDIAN GOVERNMENT, AND WHICH, WITHOUT RIGGING OR CABIN ACCOMMODATION OF ANY KIND, ATTAINED A SPEED 24.64 MILES PER HOUR ON THE MEASURED MILE.*

Source: Trove, National Library of Australia



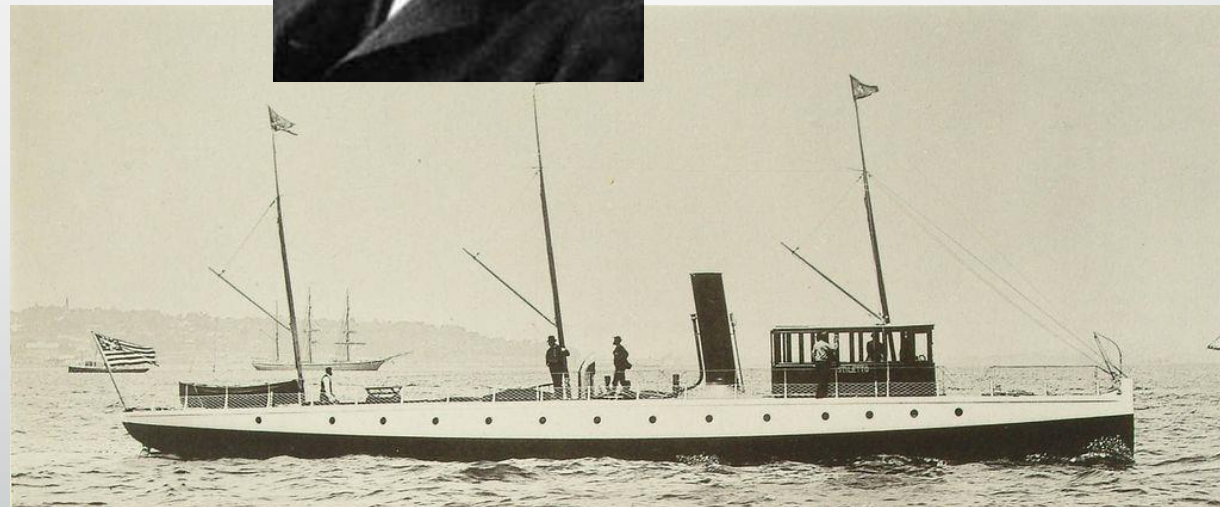
# Nathanael Herreshoff

- 1885
- Stiletto 
- Designer: Nathanael Herreshoff
- Displacement, Marine Prop
- Speed: 43.2 km/h  
23.3 knots
- Power: ???  
450 hp  
336 kW
- Mass: ???



Nathanael Herreshoff  
& Stiletto

via Wikipedia



knots

300

250

200

150


100

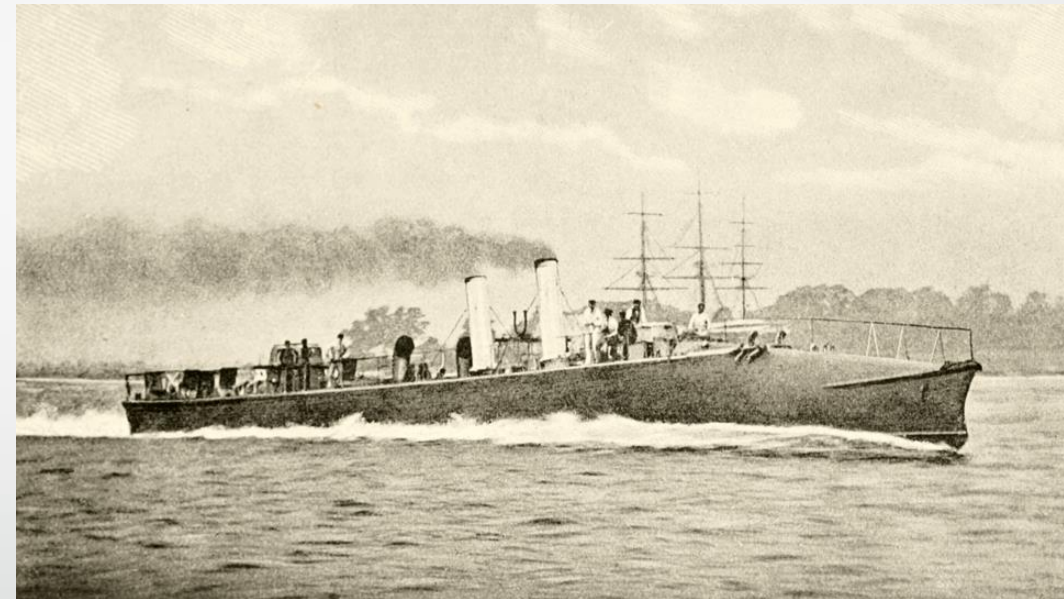
50

0



# John Thornycroft Co

- 1887
- Ariete 
- Master: -
- Displacement, Marine Prop(s)
- Speed: 48.3 km/h  
26.1 knots
- Power: Reciprocating Steam  
??? hp  
??? kW
- Mass: ???




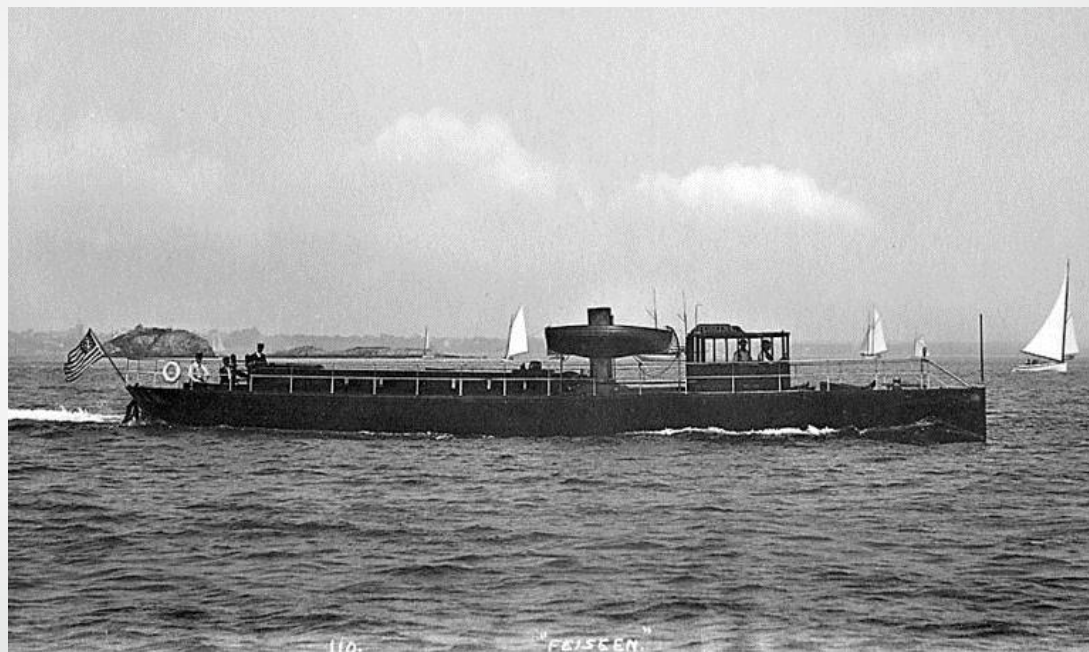
[en.wikipedia.org/wiki/List\\_of\\_ships\\_built\\_at\\_John\\_I.\\_Thornycroft...](https://en.wikipedia.org/wiki/List_of_ships_built_at_John_I._Thornycroft...)



# William Gardner & Charles Mosher



- 25 Aug 1893
- Feiseen 
- Master: TBA
- Displacement, Marine Props
- Speed: 50.9 km/h  
27.5 knots
- Power: Reciprocating Steam  
600 hp  
447 kW
- Mass: ???




Feiseen, built 1893 by Benjamin Franklin Wood, design of William Gardner & Charles Dell, NY. Owned by William B. Cogswell of Saracuse, NY. Commissioned to beat the yachts *Norwood* and *Vamoose* and set a new world speed record.

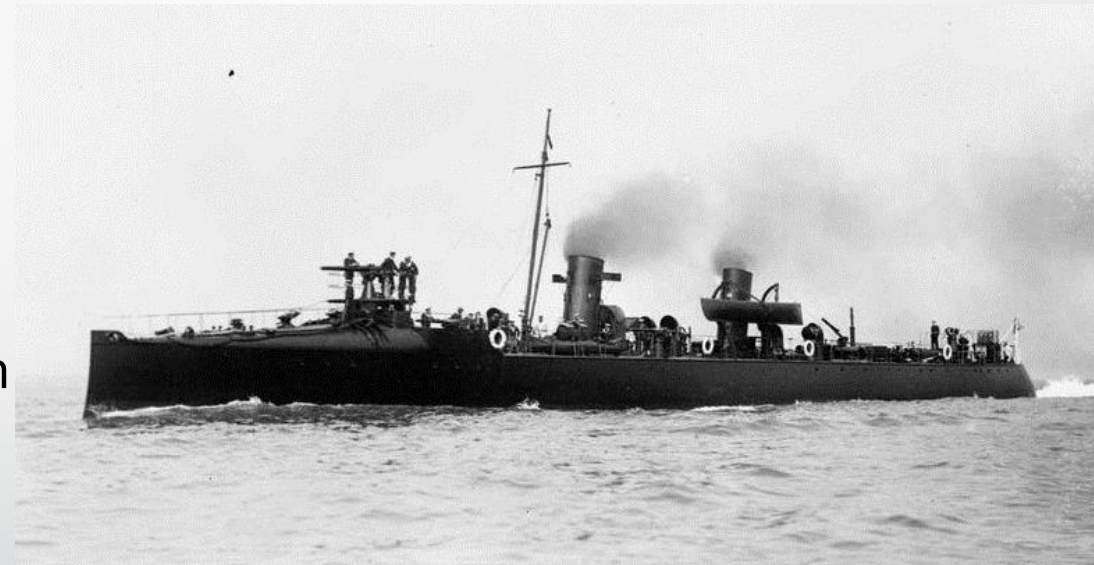
knots



# John Thorneycroft Co



- ~1895
- HMS Boxer 
- Master: -
- Displacement, Marine Prop(s)
- Speed: 54.3 km/h  
29.3 knots
- Power: Triple Expansion Steam  
8400 hp  
6200 kW
- Mass: 301 tons




HMS Buiser, similar to HMS Boxer Imperial War Museum

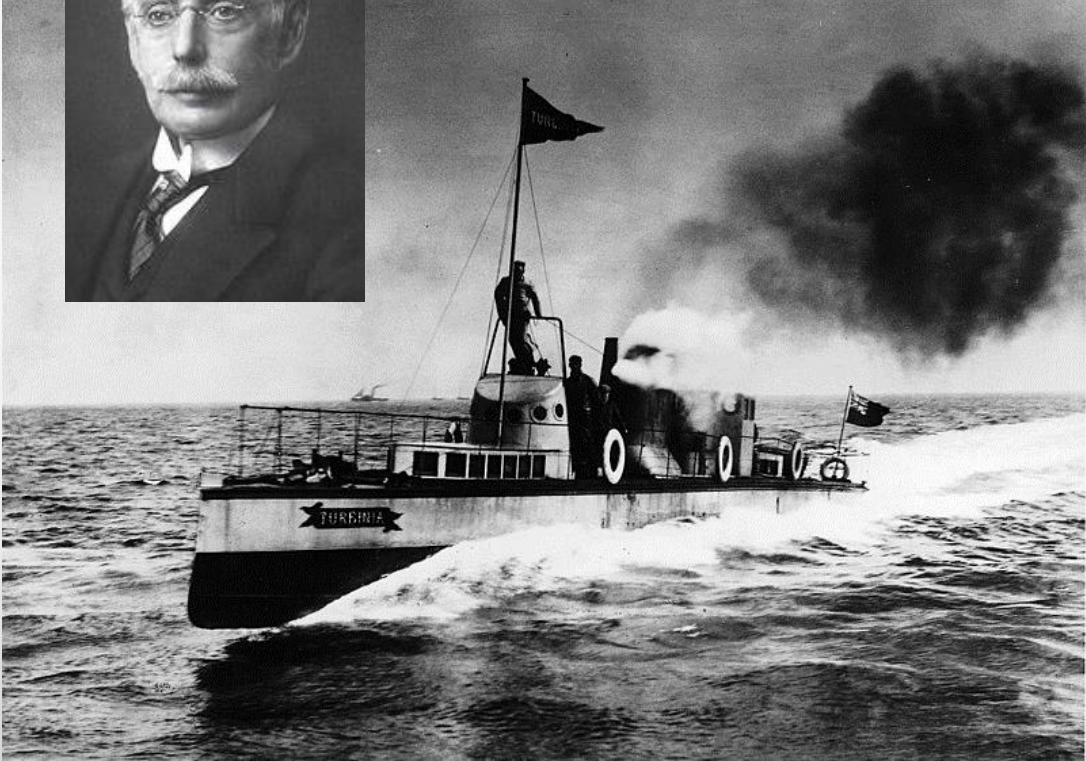




# Charles Algernon Parsons



- 27 Jun 1893
- Turbina 
- Master: Charles Parsons
- Displacement, Marine Props
- Speed: 72.5 km/h  
39.2 knots
- Power: Steam Turbine  
7000 hp ???  
5220 kW ???
- Mass: 44.5 tons




Turbinia at speed

Alfred John West photo



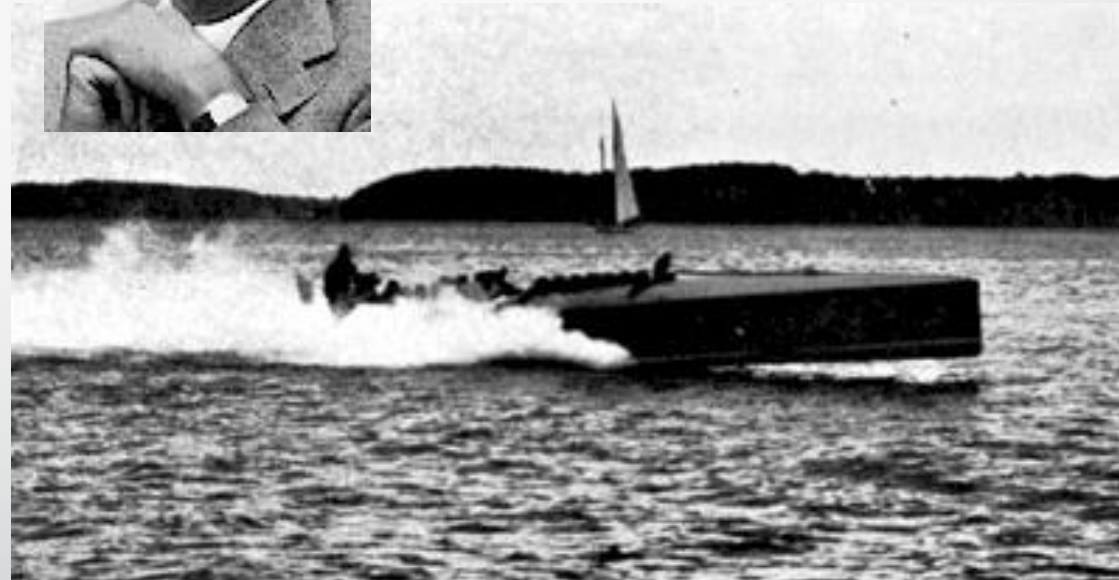
# Clinton Crane

- 1910
- Dixie IV 
- Pilot: Fred Burnham
- Displacement, Marine Props
- Speed: 75.6 km/h  
40.8 knots
- Power: Twin V8 gasoline  
? hp  
? kW
- Mass: ???



Clinton Crane  
(designer)

via Hydroplane History website



Dixie IV, 1910


via Hydroplane History website

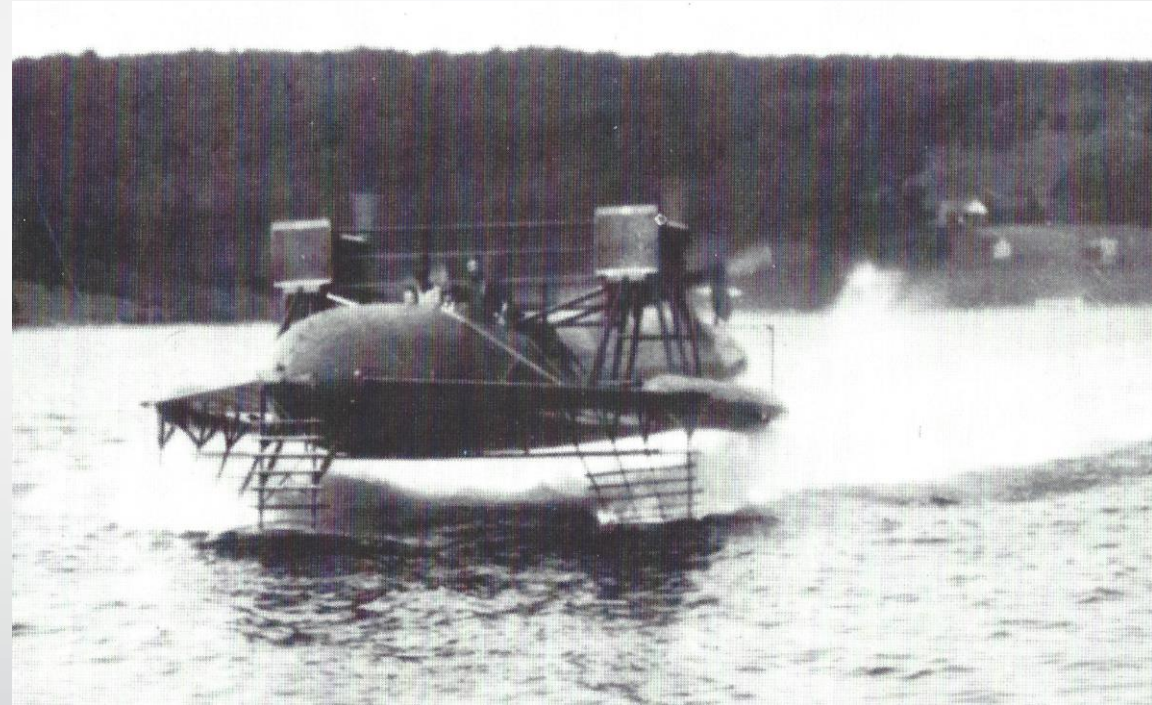


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# Bell and Baldwin

- 9 Sept 1919
- Hydrodome HD-4 
- Driver: Casey Baldwin
- Hydrofoil, Air Props
- Speed: 114.0 km/h  
61.6 knots
- Power: 2 x Liberty V12  
700 hp  
522 kW
- Mass: ???



knots




Text



# Outline

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# Gar Wood

- 15 Sep 1920
- Miss America 
- Driver: Gar Wood
- Planing, Marine Prop(s)
- Speed: 120.5 km/h  
65.1 knots
- Power: TBA  
??? hp  
??? kW
- Mass: ???




Gar Wood

knots



# Gar Wood



- 6 Sep 1921
- Miss America II 
- Driver: Gar Wood
- Planing, Marine Prop(s)
- Speed: 129.7 km/h  
70.0 knots
- Power: TBA  
??? hp  
??? kW
- Mass: ???




Text



# Jules Fisher



- 10 Nov 1924
- Farman Hydroglider 
- Driver: Jules Fischer
- Hydroplane, Air Prop
- Speed: 140.6 km/h  
75.9 knots
- Power: TBA  
??? hp  
??? kW
- Mass: ???




Fischer testing Farman hydroglider on River Seine between Sartrouville & Maisons-Laffitte. [www.alamy.com](http://www.alamy.com)





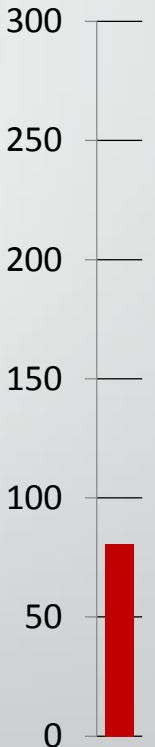
# George Wood

- 4 Sep 1928
- Miss America II 
- Driver: George Wood
- Planing, Marine Prop(s)
- Speed: 149.4 km/h  
80.7 knots
- Power: TBA  
??? hp  
??? kW
- Mass: ???




Miss America II in advertisement

knots



# Gar Wood

- 23 Mar 1929
- Miss America VII 
- Driver: Gar Wood
- Planing, Marine Prop(s)
- Speed: 149.9 km/h  
80.9 knots
- Power: TBA  
??? hp  
??? kW
- Mass: ???




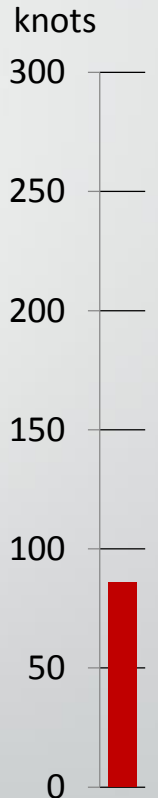
Replica of Miss America VII

knots



# Henry Segrave


- 13 June 1930
- Miss England II 
- Driver: Henry Segrave & Victor Halliwell. Michael Willcocks
- Speed: 158.9 km/h  
85.8 knots
- Power: TBA  
??? hp  
??? kW
- Mass: ???

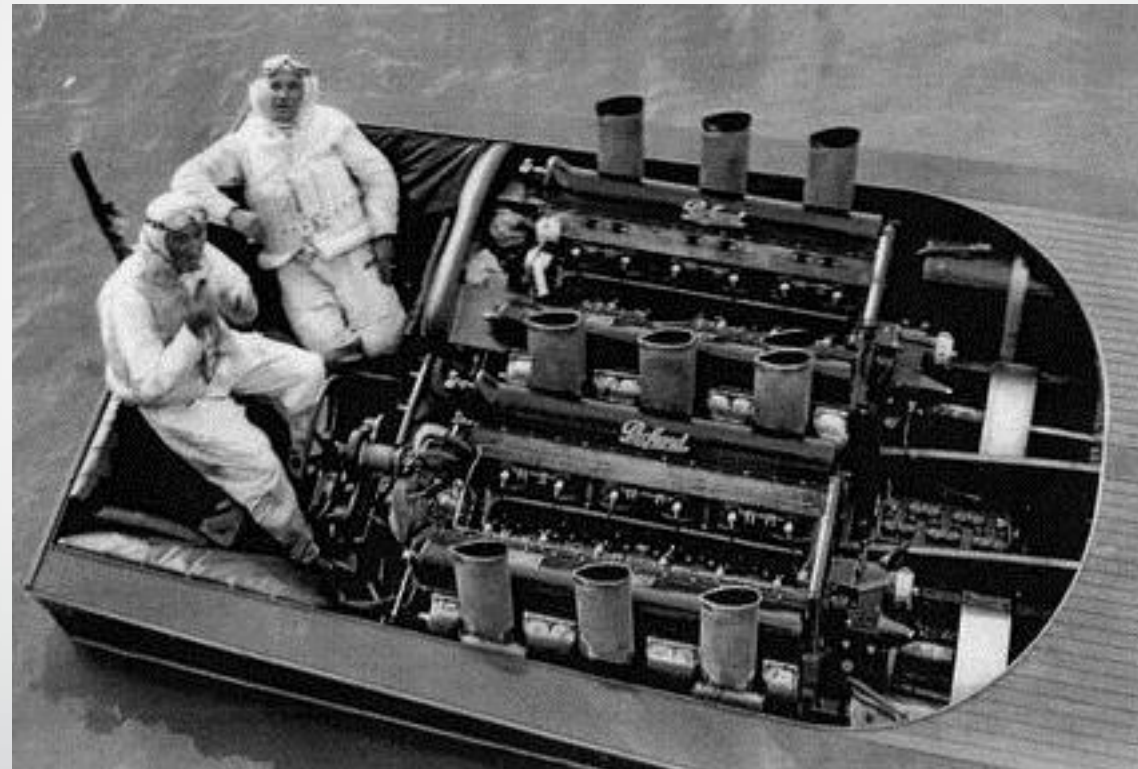


Segrave in 1929. Bundesarchiv via Wikipedia



# Gar Wood

- 20 Mar 1931
- Miss America IX 
- Driver: Gar Wood
- Planing, Marine Prop(s)
- Speed: 164.6 km/h  
88.9 knots
- Power: TBA  
??? hp  
??? kW
- Mass: ???



Miss America IX in 1930

knots



# Kaye Don

- 15 Apr 1931
- Miss England II 
- Driver: Kaye Ernest Donsky
- Planing, Marine Prop(s)
- Speed: 166.6 km/h  
89.9 knots
- Power: TBA  
??? hp  
??? kW
- Mass: ???



Kaye Don in 1933 via Wikipedia




Models of Miss England II & Miss England III (behind) at Science Museum, London via Wikipedia

knots



# Kaye Don

- 31 Jul 1931
- Miss England II 
- Driver: Kaye Donsky
- Planing, Marine Prop(s)
- Speed: 177.4 km/h  
95.8 knots
- Power: TBA  
??? hp  
??? kW
- Mass: ???



Kaye Don in *Miss England II* & Gar Wood in *Miss America IX*,  
1931 Harmsworth Trophy

knots

300

250

200

150

100


50

0



# Gar Wood




- 5 Feb 1932
- Miss America IX 
- Driver: Gar Wood
- Planing, Marine Prop(s)
- Speed: 179.8 km/h  
97.1 knots
- Power: TBA  
??? hp  
??? kW
- Mass: ???

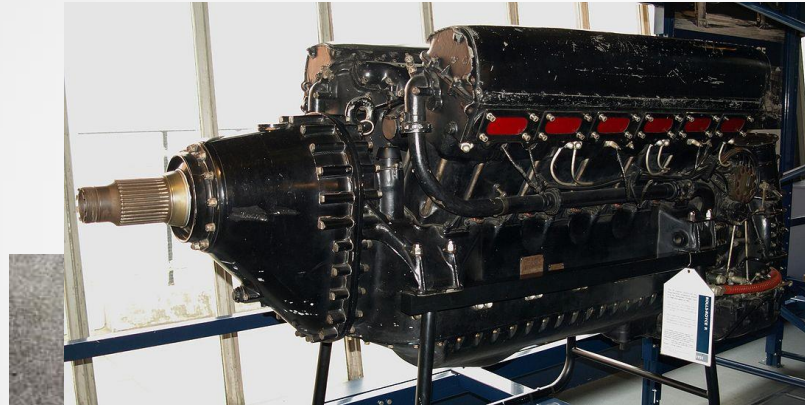


Miss America IX replica or restoration? via acbs.org



# Kaye Don

- 18 Jul 1932
- Miss England III 
- Driver: Kaye Donsky
- Planing, Marine Prop(s)
- Speed: 192.8 km/h  
104.1 knots
- Power: TBA  
??? hp  
??? kW
- Mass: ???



Rolls-Royce R  
Nimbus227 via Wiki




20,000 spectators look on as Kaye Don and crew achieve further speed records at Loch Lomond in July 1932 with *Miss England III* Bibliothèque Nationale de France via Wikipedia





# Kaye Don

- 18 Jul 1932
- Miss England III 
- Driver: Kaye Donsky
- Planing, Marine Prop(s)
- Speed: 192.8 km/h  
104.1 knots
- Power: TBA  
??? hp  
??? kW
- Mass: ???




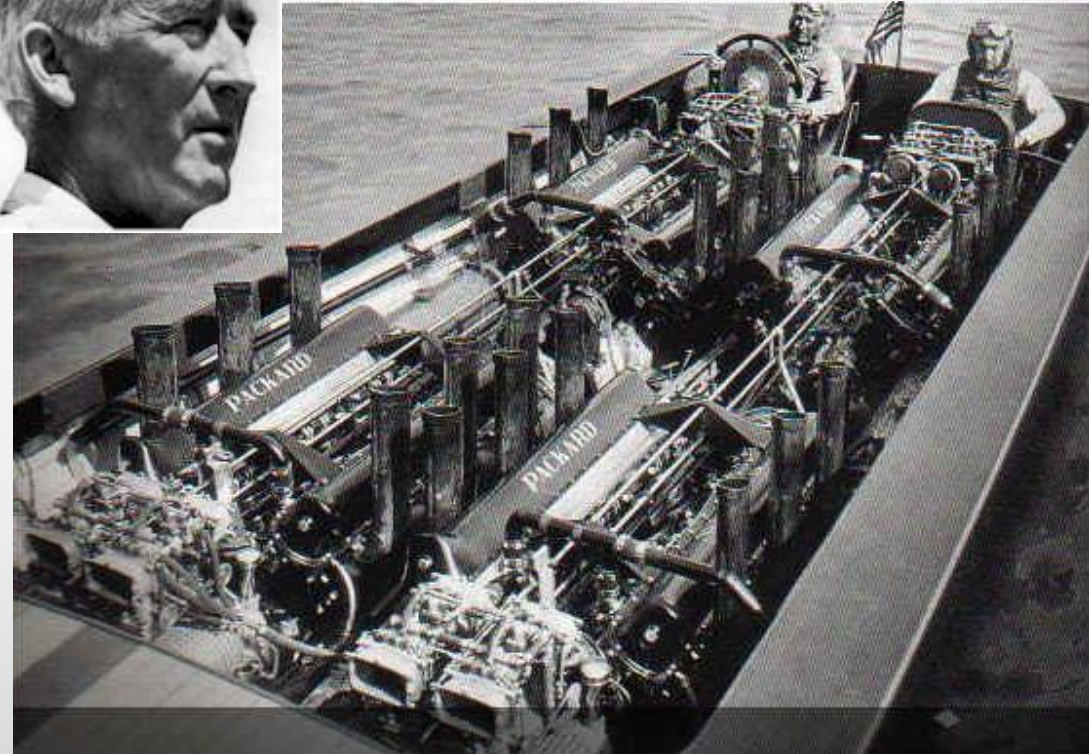
Miss England III

press photo via internet



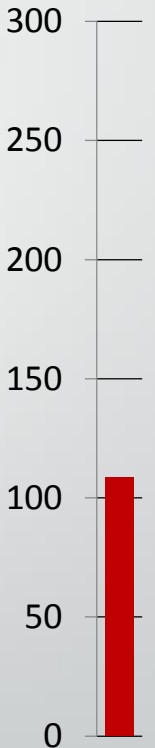
# Gar Wood

- 20 Sep 1932
- Miss America X 
- Driver: Gar Wood
- Planing, Marine Prop(s)
- Speed: 200.9 km/h  
108.5 knots
- Power: TBA  
??? hp  
??? kW
- Mass: ???




7000 hp Packard installation in Miss America X [bangshift.com](http://bangshift.com)

knots



# Malcolm Campbell


- 1 Sep 1937
- Blue Bird K3 
- Driver: Malcolm Campbell
- Planing, Marine Prop
- Speed: 203.3 km/h  
109.8 knots
- Power: TBA  
??? hp  
??? kW
- Mass: ???

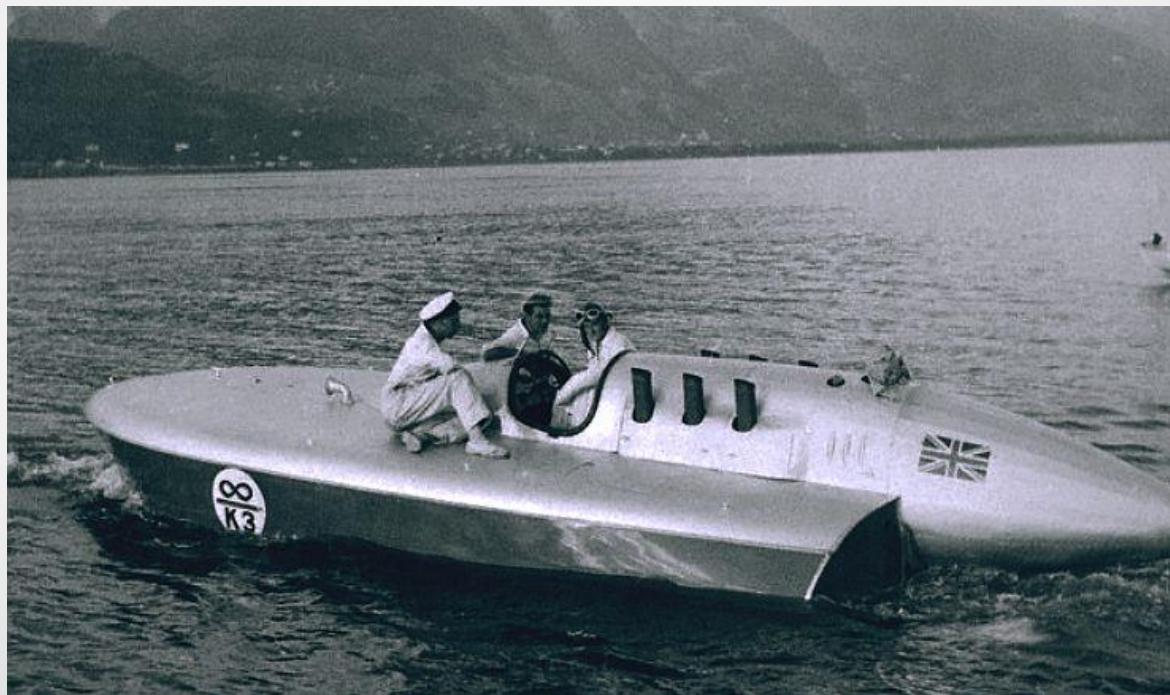


Sir Malcolm Campbell  
Richard LeSesne via Wikipedia



# Malcolm Campbell

- 2 Sep 1937
- Blue Bird K3 
- Driver: Malcolm Campbell
- Planing, Marine Prop
- Speed: 208.4km/h  
112.5 knots
- Power: TBA  
??? hp  
??? kW
- Mass: ???




Campbell and the K3 in Italy, 1937

via Wikipedia



# Malcolm Campbell




- 17 Aug 1938
- Blue Bird K3 
- Driver: Malcolm Campbell
- Planing, Marine Prop
- Speed: 210.7 km/h  
113.8 knots
- Power: TBA  
??? hp  
??? kW
- Mass: ???



*Blue Bird K3*, Foulkes Halbard collection, UK restoration from 1989. via [k3bluebird.com](http://k3bluebird.com)

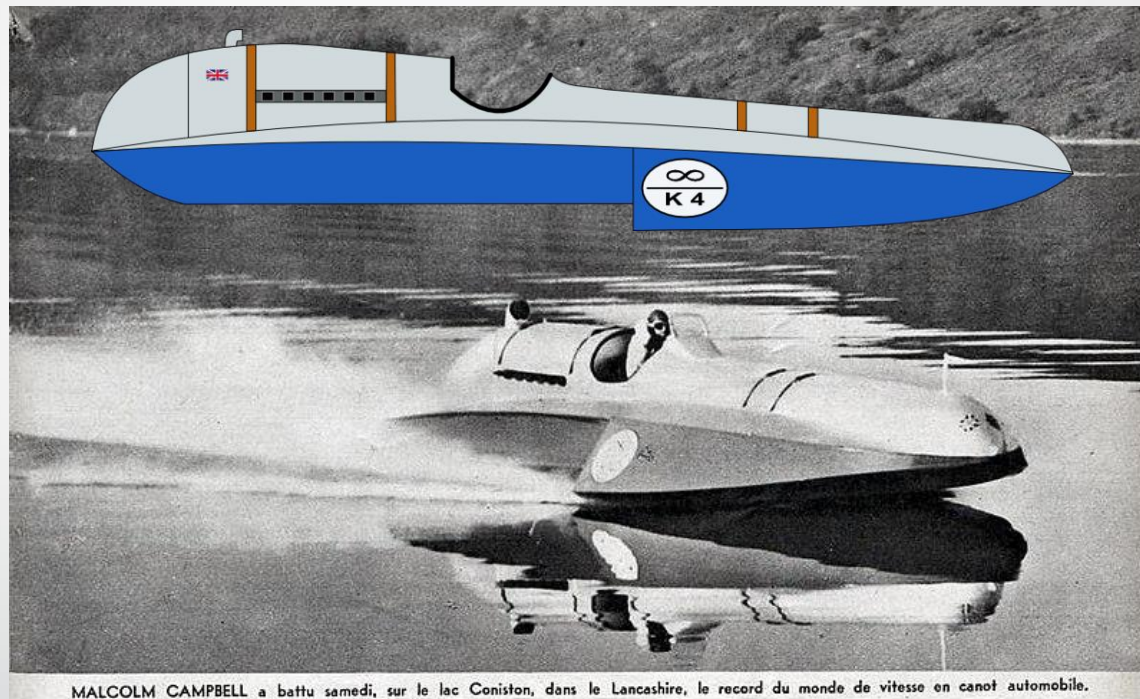


# Malcolm Campbell

- 19 Aug 1939
- Blue Bird K4 
- Driver: Malcolm Campbell
- Planing, Marine Prop
- Speed: 228.1 km/h  
123.2 knots
- Power: TBA  
??? hp  
??? kW
- Mass: ???

Drawing of Blue Bird K4


'Midnight bird' via Wikipedia



Malcolm Campbell in Bluebird K4 on 19 Aug 1939  
at Coniston Water  
via Wikipedia



# Malcolm Campbell

- 19 Aug 1939
- Blue Bird K4 
- Driver: Malcolm Campbell
- Planing, Gas Turbine
- Speed: 228.1 km/h  
123.2 knots
- Power: TBA  
??? hp  
??? kW
- Mass: ???



*Blue Bird K4* replica at Lakeland Motor Museum at Backbarrow, near Ulverston, UK via Wikipedia



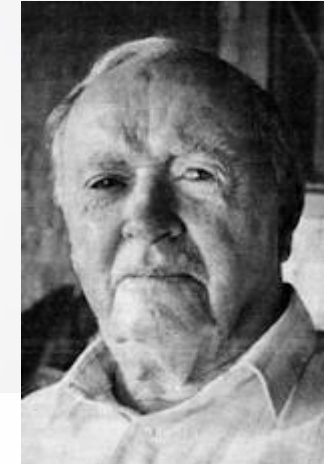
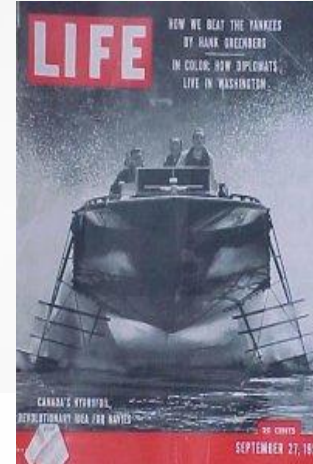
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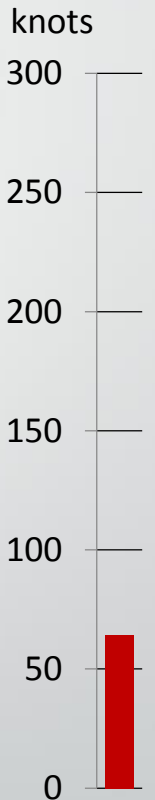
# R-100 Massawippi KC-B

- 1950
- R-100 Massawippi 
- Designer: Phillip L. Rhodes
- Hydrofoil, marine prop
- Speed: 119.0 km/h  
64.3 knots
- Power: Packard Merlin V12  
1280 hp  
954 kW
- No record achieved.




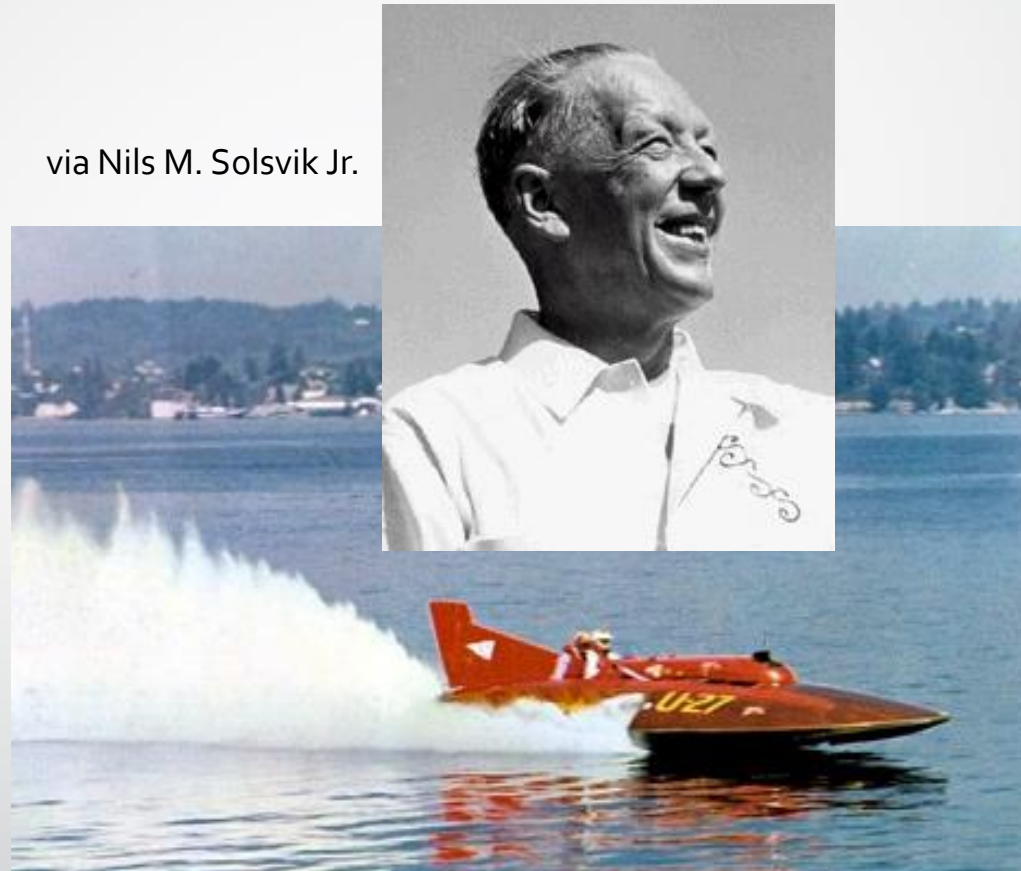
Massawippi

via Wooden Boatworks, xxx



# Stanley Sayres

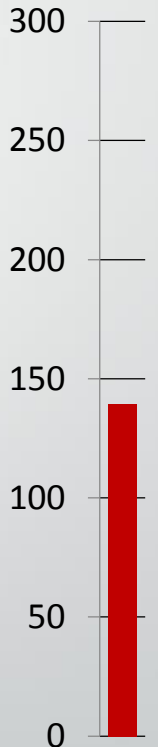
- 26 Jun 1950
- Slo-Mo-Shun IV 
- Driver: Stanley Sayres,  
Ted Jones
- Planing, Marine Prop(s)
- Speed: 258.0 km/h  
139.3 knots
- Power: TBA  
??? hp  
??? kW




Slo-Mo-Shun IV

via [www.lesliefield.com](http://www.lesliefield.com)

knots



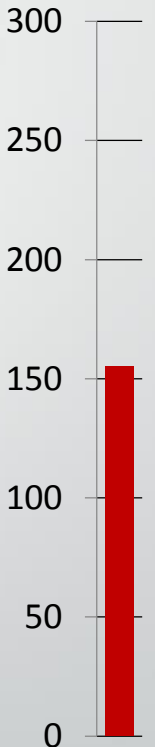
# Stanley Sayres

- 26 Jun 1950
- Slo-Mo-Shun IV 
- Driver: Stanley Sayres,  
Elmer Leninschmidt
- Speed: 258.0 km/h  
139.3 knots
- Power: TBA  
??? hp  
??? kW
- Mass: ???




Slo-Mo-Shun IV preserved?

knots



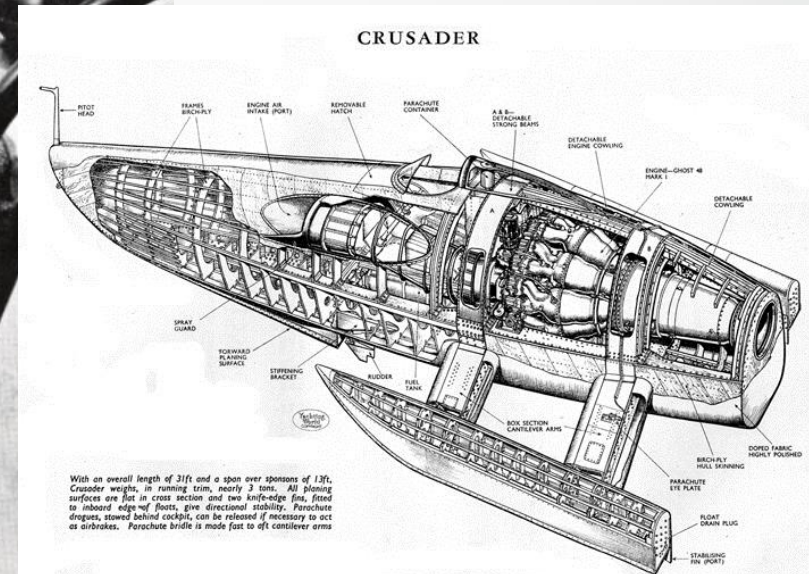
# John Cobb

- 29 Sep 1952
- Crusader 
- Driver: John Cobb
- Hydroplane, Gas Turbine
- Speed: ~288 km/h  
~156 knots
- Power: TBA  
5000 lbf thrust  
22.2 kN thrust
- No record achieved.



John Cobb

Cutaway drawing of Crusader



via Wikipedia and histamar.com

knots

300

250

200

150

100

50

0



# Frank & Stella Hanning-Lee

- 1952
- White Hawk 
- Driver: Frank & Stella Hanning-Lee
- Hydrofoil, Gas Turbine
- Speed: ~96 km/h  
~52 knots
- Power: Rolls-Royce Derwent Mark V  
3500 lbf thrust  
15.6 kN thrust
- No record achieved.



knots

300

250

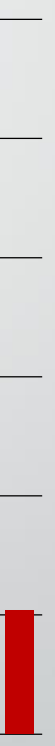
200

150

100

50


0



White Hawk, lake Windamere via hydroplane history

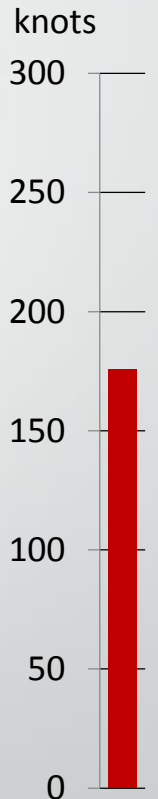


# Donald Campbell


- 23 Jul 1955
- Bluebird K7 
- Driver: Donald Campbell
- Hydroplane, Gas Turbine
- Speed: 325.6 km/h  
175.8 knots
- Power: TBA  
??? lbf thrust  
??? kN thrust
- Mass: ???

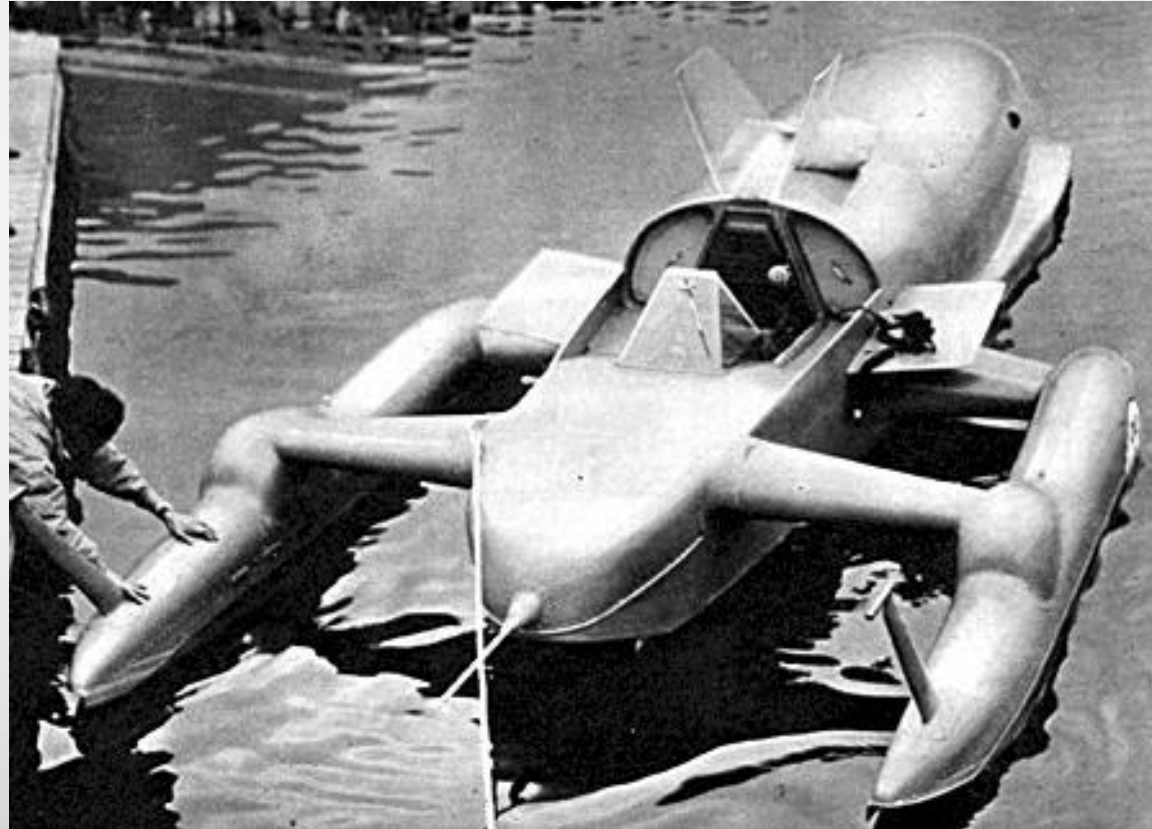


Donald Campbell via Wikipedia



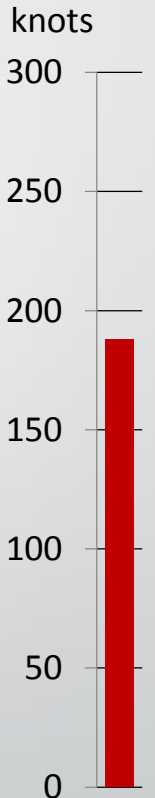
# Donald Campbell

- 16 Nov 1955
- Bluebird K7 
- Driver: Donald Campbell
- Hydroplane, Gas Turbine
- Speed: 347.9 km/h  
187.9 knots
- Power: TBA  
??? lbf thrust  
??? kN thrust
- Mass: ???




Bluebird K7, Ullswater, July 1955

Hydroplane History website



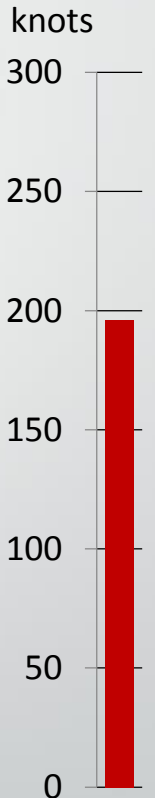
# Donald Campbell

- 19 Sep 1956
- Bluebird K7 
- Driver: Donald Campbell
- Hydroplane, Gas Turbine
- Speed: 363.1 km/h  
196.1 knots
- Power: TBA  
??? lbf thrust  
??? kN thrust
- Mass: ???




Bluebird K7 and Donald Campbell's Jaguar

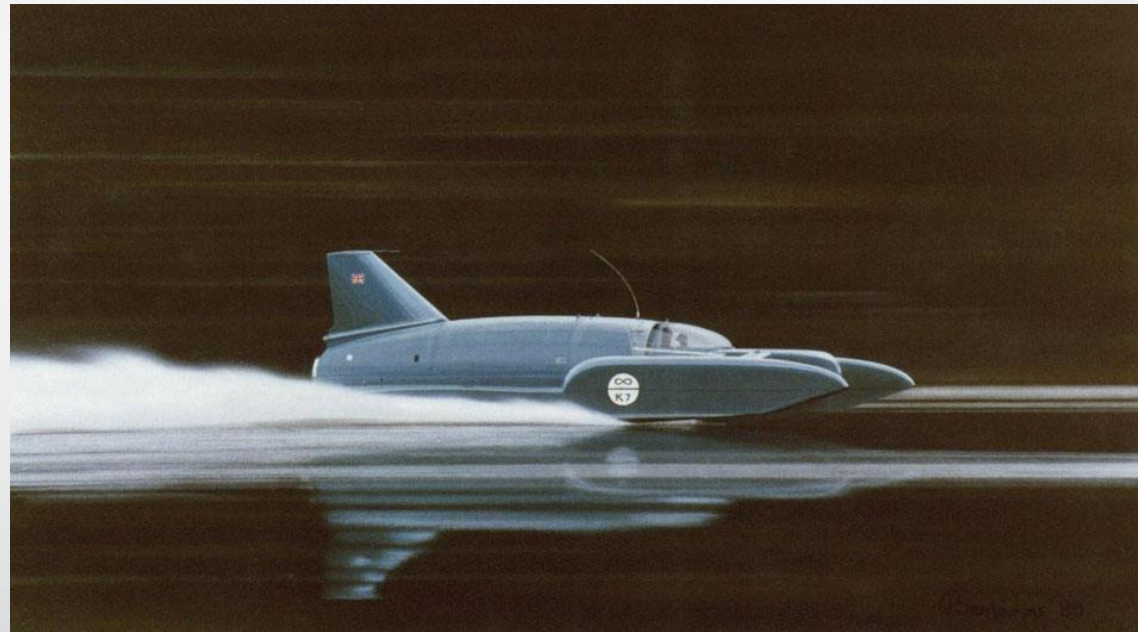
via Pinterest





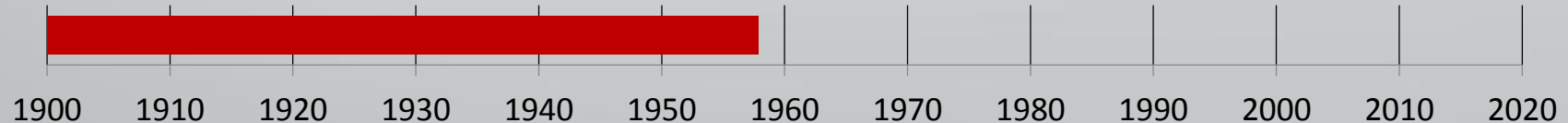
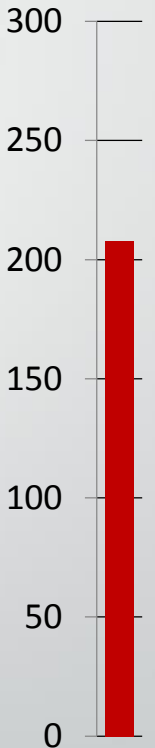
# Donald Campbell

- 7 Nov 1957
- Bluebird K7 
- Driver: Donald Campbell
- Hydroplane, Gas Turbine
- Speed: 384.8 km/h  
207.8 knots
- Power: TBA  
??? lbf thrust  
??? kN thrust
- Mass: ???




Bluebird K7

knots



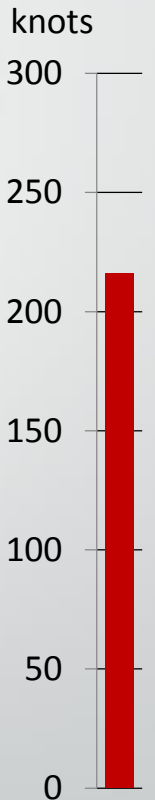
# Donald Campbell

- 10 Nov 1958
- Bluebird K7 
- Driver: Donald Campbell
- Hydroplane, Gas Turbine
- Speed: 400.1 km/h  
216.1 knots
- Power: TBA  
??? lbf thrust  
??? kN thrust
- Mass: ???




Restored Bluebird K7

via BBC News

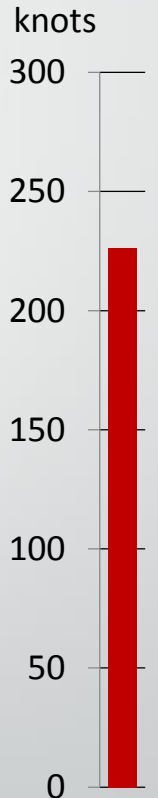


# Donald Campbell


- 14 May 1959
- Bluebird K7 
- Driver: Donald Campbell
- Hydroplane, Gas Turbine
- Speed: 419.0 km/h  
226.2 knots
- Power: TBA  
??? lbf thrust  
??? kN thrust
- Mass: ???



Bluebird K7 on display at Goodwood Motor Racing circuit in 1960.  
via Wikipedia



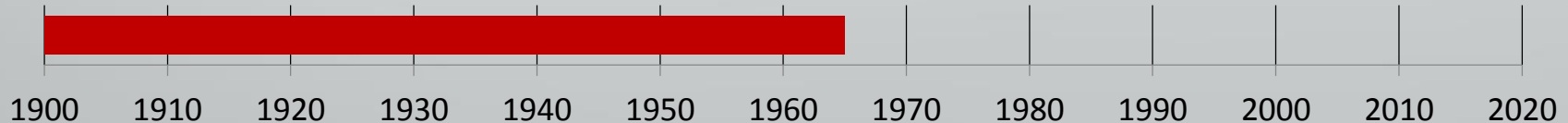
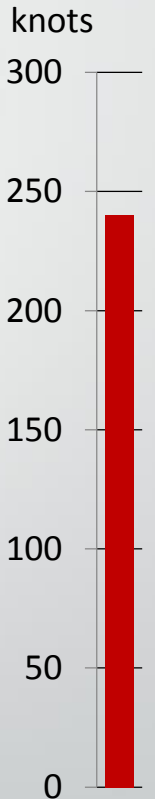
# Donald Campbell

- 31 Dec 1964
- Bluebird K7 
- Driver: Donald Campbell
- Hydroplane, Gas Turbine
- Speed: 444.7 km/h  
240.12 knots
- Power: TBA  
??? lbf thrust  
??? kN thrust
- Mass: ???




Fatal loss of control of K7

via [fleetstreetsfinest.com](http://fleetstreetsfinest.com)



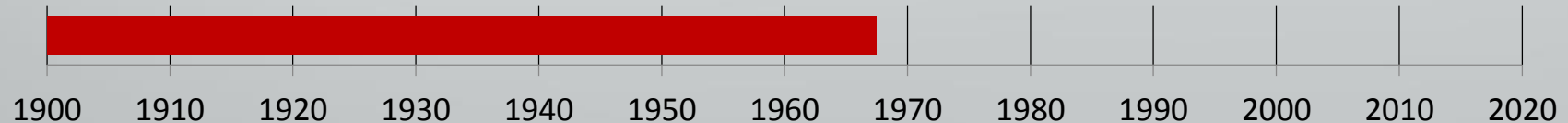
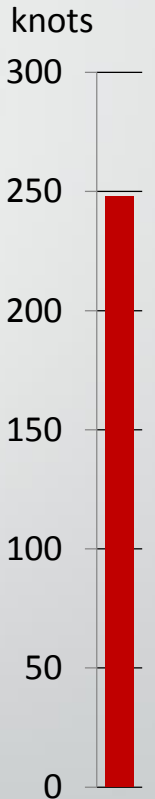
# Lee Taylor

- 30 Jun 1967
- Hustler 
- Driver: Lee Taylor
- Hydroplane, Gas Turbine
- Speed: 459.0 km/h  
247.9 knots
- Power: TBA  
??? lbf thrust  
??? kN thrust
- Mass: ???



Lee Taylor and Husler


internet



# Outline

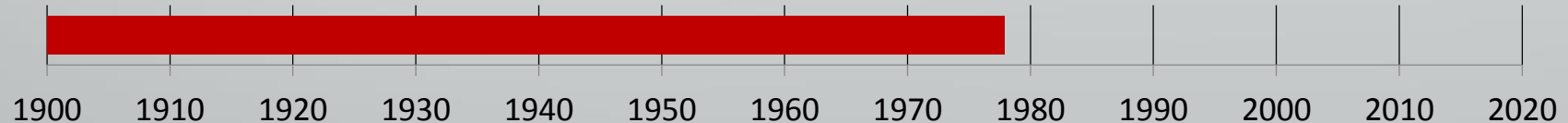
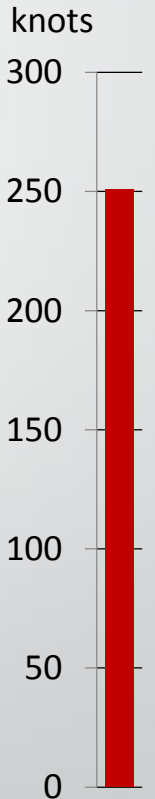
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- 1970's and 1980's, Spirit of Australia
- Spirit of Australia 2 and other challengers

# Ken Warby


- 20 Nov 1977
- Spirit of Australia 
- Driver: Ken Warby
- Hydroplane, Jet Thrust
- Speed: 463.8 km/h  
250.4 knots
- Power: Westinghouse  
J-34-WE-36  
3400 lbf thrust  
15.1 kN thrust

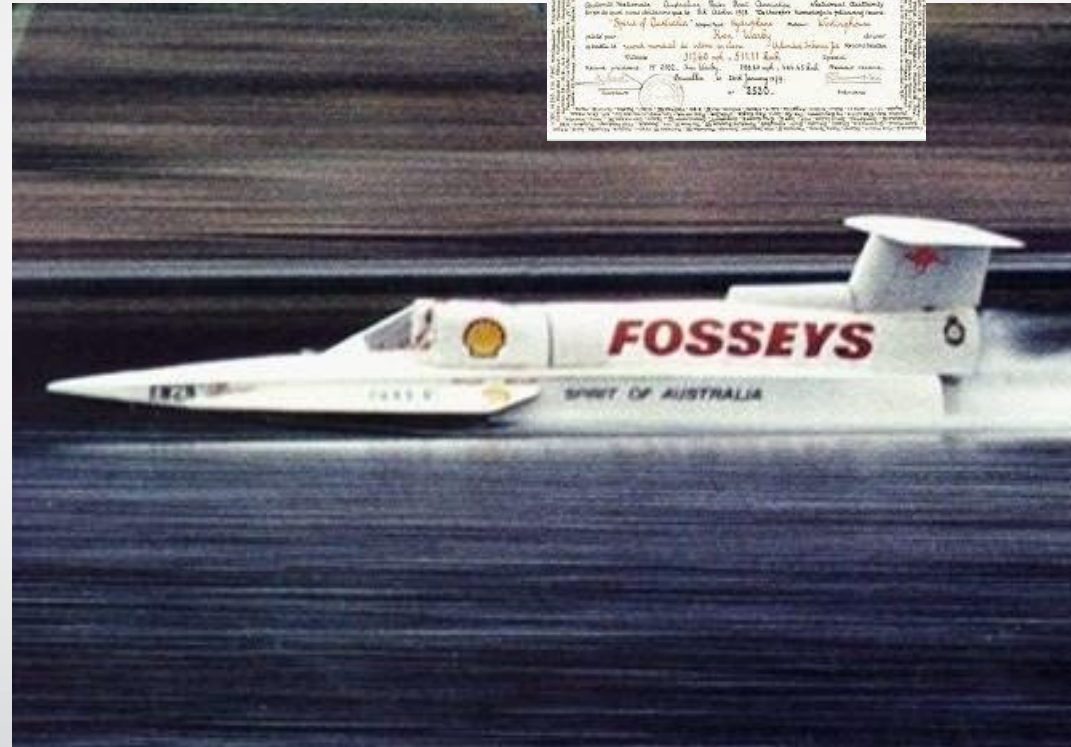


Spirit of Australia displayed at Australian National Maritime Museum, Sydney  
Martin Grimm



# Ken Warby

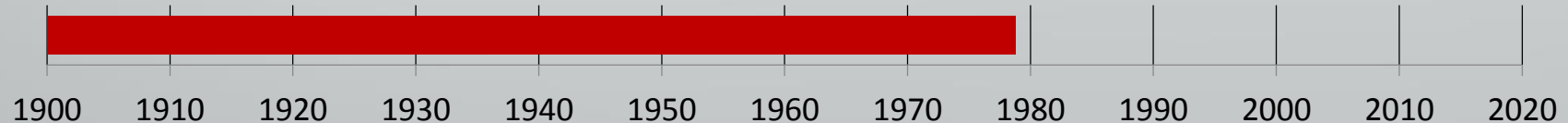
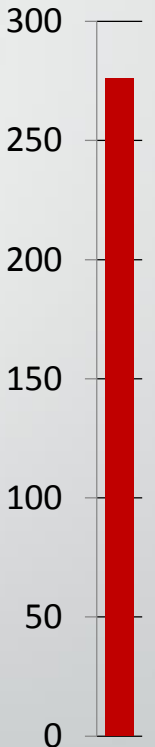
- 8 Oct 1978 
- Spirit of Australia
- Driver: Ken Warby
- Hydroplane, Jet Thrust
- Speed: 511.1 km/h  
276.0 knots
- Power: Westinghouse  
J-34-WE-36  
3400 lbf thrust  
15.1 kN thrust



Spirit of Australia


via Warby Motorsport

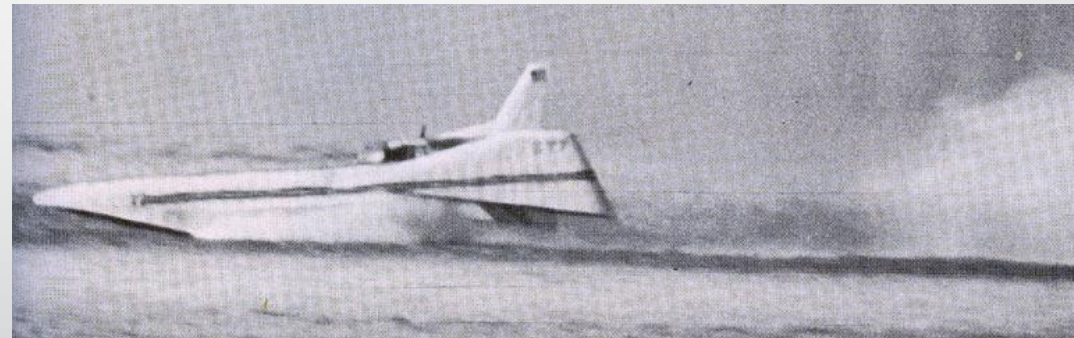
knots



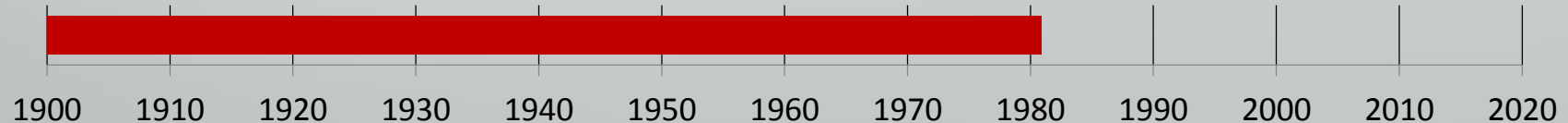
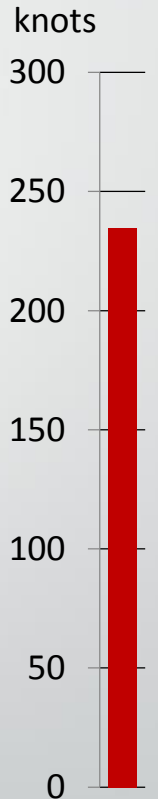


# Lee Taylor

- 13 Nov 1980
- Discovery II 
- Driver: Lee Taylor
- Hydroplane, Rocket
- Speed: ~434.5 km/h  
~234.6 knots
- Power: Rocket  
8000 lbf thrust  
??? kN thrust
- Mass: ???




Discovery II at start of roll-over via boatdesign.net



# Craig Arfons



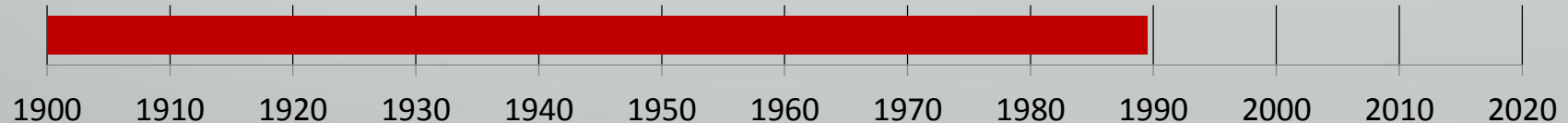
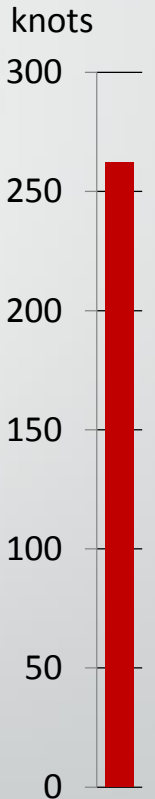
- 9 Jul 1989
- Rain X Challenger 
- Driver: Craig Arfons
- Hydroplane, Jet Thrust
- Speed: ~485.8 km/h  
~262.3 knots
- Power: Gas Turbine  
3300 lbf thrust  
4000 lbf afterburner
- Mass: ???

via americanjetcars.com



Rain X Challenger


via dailymotion.com

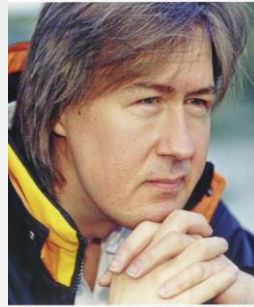


# Outline

- Prior to Bell and Baldwin
- Bell & Baldwin
- 1920's and 1930's
- 1950's and 1960's
- 1970's and 1980's, Spirit of Australia
- Spirit of Australia 2 and other challengers

# Nigel Macknight - Quicksilver

- Under Construction
- Quicksilver 
- Driver: ?
- Hydroplane, Jet Thrust
- Speed: ~560 km/h aim  
~300 knots aim
- Power: Gas Turbine  
??? lbf thrust  
??? kN thrust
- Mass: ???



Quicksilver artist impressions and construction

knots

300

250

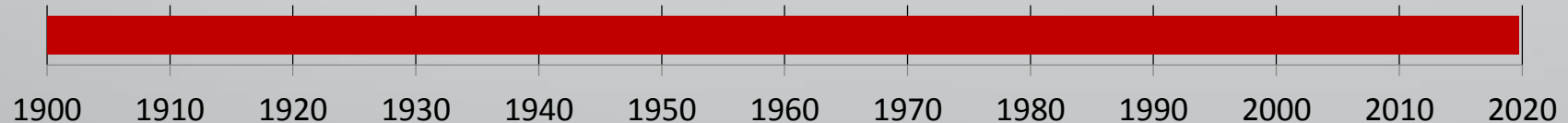
200

150


100

50

0

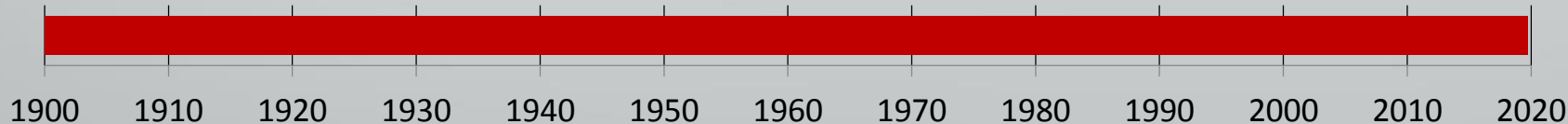


# TBA

- Under Construction
- Dartagnan SP600 
- Driver: \_\_\_\_\_
- Hydroplane, Jet Thrust
- Speed: ----- km/h aim  
----- knots aim
- Power: Gas Turbine  
??? lbf thrust  
??? kN thrust
- Mass: ???




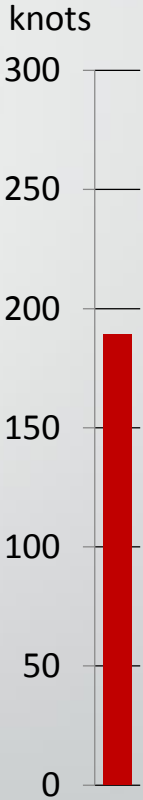
Dartagnan SP600 under construction



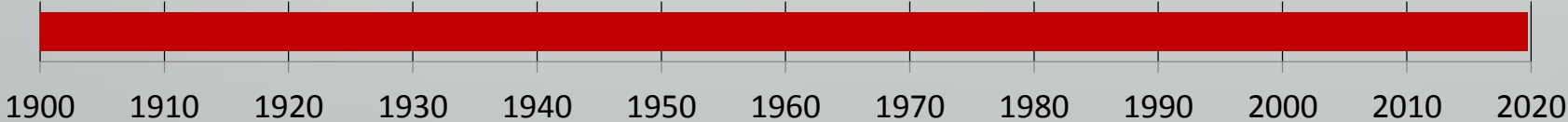
# David Warby




- Ongoing
- Spirit of Australia 2 
- Driver: David Warby
- Hydroplane, Jet Thrust
- Speed: ----- km/h aim  
----- knots aim
- Power: Gas Turbine  
??? lbf thrust  
??? kN thrust
- Mass: ???



Spirit of Australia 2 (or Spirit 2) September 2018



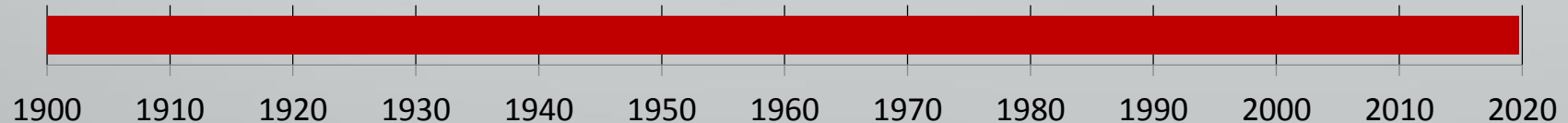
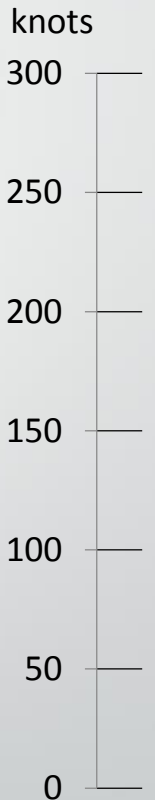
# Longbow

- Under Construction
- Longbow 
- Driver:
- Hydroplane, Jet Thrust
- Speed: ----- km/h aim  
----- knots aim
- Power: Gas Turbine  
??? lbf thrust  
??? kN thrust
- Mass: ???



Longbow under construction

team website



# Links – Delete Later

- <http://seriousoffshore.com/forums/archive/index.php/t-21296.html>
- etc