Results of Sea Trial

Date:	27-Jan-09	**Place:**	Brisbane River	**Name:**	Glenn Gibson & Dave Green		
Boat:	10M Naiad (Cabin Boat)	**Engine:**	F350AETU	**Conditions:**	WINDY, CHOPPY, WIND AGAINST TIDE		
BB:	Woody Marine	**Serial No:**	1001043 & 1000700	**Weather:**	OVERCAST		
Max Ave Speed:	88.60 Km/h	**Output:**	350@5500 **HP/Rpm**	**Wind Direction:**	SE		
Max RPM Achieved:	6100 RPM	**Prop DxP:**	**16 1/4 x 19"**	**Wind Velocity:**	10 to 15	**Knots**	
Deadrise:	23 Degrees	**Prop Type:**	**Salt Water X**	**Temperature:**	25.3	**Deg C**	
Max Transom Weight:	750 Kgs	**Weight:**	373 **Kgs**	**Humidity:**	82	**%**	
Displacement:	3,600 Kgs	**Gear Ratio**	1.73 (26/15)	**Sea Water Temp:**	27.2	**Deg C**	
Fuel/tank size:	550 Litres	**Prop Slip:**	13%	**Pressure:**	1016.5	**Hpa**	
Eng Height:	**2 UP**	**Prop Pt #**	6AW-45972-00	**Fuel Vacuum Test:**	Not Checked		
Crew Arrangement		**Crew:**	2 **Persons**	**Fuel:**	200	**Kgs**	
		Crew Wt:	180 **Kgs**	**Stores: (Tools)**	338	**Kgs**	
		Hull + Eng:	2,800 **Kgs**	**Other: (Water)**	30	**Kgs**	
L.O.A. =	10.0M **Beam =** 3.2M	**Safety Kit:**	50 **Kgs**	**Approx Total:**	3,600	**Kgs**	

Test	Engine Trim	Direction	RPM	Speed Km/h	Fuel L/h	Av Speed		Av Fuel Consumption		Kms per Litre	Av N.mp gal	N.M. per Litre	Range in Kms*
1	-4	W	**600**	8.20	6.10	7.20	Km/h	6.20	L/h	1.16	2.84	0.63	607
2	-4	E	600	6.20	6.30	3.88	*Knots*	1.37	*G/PH*				
1	-4	W	**1000**	9.80	11.00	9.70	Km/h	10.75	L/h	0.90	2.21	0.49	471
2	-4	E	1000	9.60	10.50	5.23	*Knots*	2.37	*G/PH*				
1	-4	W	**1500**	12.50	18.60	13.75	Km/h	19.05	L/h	0.72	1.77	0.39	377
2	-4	E	1500	15.00	19.50	7.41	*Knots*	4.20	*G/PH*				
1	-4	W	**2000**	16.20	32.40	16.45	Km/h	32.20	L/h	0.51	1.25	0.28	267
2	-4	E	2000	16.70	32.00	8.87	*Knots*	7.09	*G/PH*				
1	-4	W	**2500**	26.20	43.30	26.55	Km/h	46.15	L/h	0.58	1.41	0.31	301
2	-4	E	2500	26.90	49.00	14.31	*Knots*	10.17	*G/PH*				
1	-4	W	**3000**	38.70	62.40	38.60	Km/h	63.65	L/h	0.61	1.48	0.33	317
2	-4	E	3000	38.50	64.90	20.81	*Knots*	14.02	*G/PH*				
1	-4	W	**3500**	47.80	71.70	48.40	Km/h	73.75	L/h	0.66	1.61	0.35	343
2	-4	E	3500	49.00	75.80	26.09	*Knots*	16.24	*G/PH*				
1	-4	W	**4000**	56.70	91.90	57.10	Km/h	92.80	L/h	0.62	1.51	0.33	321
2	-4	E	4000	57.50	93.70	30.78	*Knots*	20.44	*G/PH*				
1	-4	W	**4500**	66.60	116.80	65.45	Km/h	116.55	L/h	0.56	1.37	0.30	293
2	-4	E	4500	64.30	116.30	35.28	*Knots*	25.67	*G/PH*				
1	-4	W	**5000**	70.80	138.20	72.10	Km/h	146.90	L/h	0.49	1.20	0.26	256
2	-4	E	5000	73.40	155.60	38.86	*Knots*	32.36	*G/PH*				
1	-4	W	**5500**	80.00	198.00	79.75	Km/h	196.00	L/h	0.41	1.00	0.22	213
2	-4	E	5500	79.50	194.00	42.99	*Knots*	43.17	*G/PH*				
1	Half Trim	W	**6000**	87.10	252.00	87.40	Km/h	254.60	L/h	0.34	0.84	0.19	179
2	Half Trim	E	6000	87.70	257.20	47.11	*Knots*	56.08	*G/PH*				
1	Full trim out	W	**6100**	88.40	254.00	88.60	Km/h	256.30	L/h	0.35	0.85	0.19	181
2	Full trim out	E	6100	88.80	258.60	47.76	*Knots*	56.45	*G/PH*				

Turning: Turns good, engine height OK.

General Operation: Motor ventilates in following sea. Engine height looks ok.

Acceleration 10 - 50 Km/h: **4.39** **Seconds (1.18 secs faster than 21" props)**

Comments: Test 2 of 2.

Awesome prop change from 21" to 19", zero ventilation encountered at 3000 to 4000 unlike 21". Good positive acceleration.

Prop change also allows boat to reach WOT 6100rpm without stress while boat unloaded.

77.19Klm & 146.3L used testing = ave 0.53 Km/L @ ave speed 42.4Klm/h over 1.49Hrs.

*** Range in km's = 95% of fuel tank capacity**

Data may vary due to changes in weather, tides, boat load, hull and prop conditions, temperature, atmospheric pressure and wind direction.

Fuel data gathered with Yamaha Fuel Management Gauge (non-calibrated). Speed data gathered with GPS receiver. Yamaha Motor Australia accepts no responsibility for the accuracy of these readings. All test data is recorded with the engine fully trimmed in (-4) until 5500 Rpm, where possible.

Results of Sea Trial

Date:	27-Jan-09	**Place:**	Brisbane River	**Name:**	Glenn Gibson & Dave Green		
Boat:	10M Naiad (Cabin Boat)	**Engine:**	F350AETU	**Conditions:**	WINDY, CHOPPY, WIND AGAINST TIDE		
BB:	Woody Marine	**Serial No:**	1001043 & 1000700	**Weather:**	OVERCAST		
Max Ave Speed:	96.30 Km/h	**Output:**	350@5500 **HP/Rpm**	**Wind Direction:**	SE		
Max RPM Achieved:	6000 **RPM**	**Prop DxP:**	**15 1/2 x 21"**	**Wind Velocity:**	10 to 15	**Knots**	
Deadrise:	23 **Degrees**	**Prop Type:**	**Salt Water X**	**Temperature:**	25.3	**Deg C**	
Max Transom Weight:	750 **Kgs**	**Weight:**	373 **Kgs**	**Humidity:**	82	**%**	
Displacement:	3,600 **Kgs**	**Gear Ratio**	1.73 (26/15)	**Sea Water Temp:**	27.2	**Deg C**	
Fuel/tank size:	550 **Litres**	**Prop Slip:**	12%	**Pressure:**	1016.5	**Hpa**	
Eng Height:	**2 UP**	**Prop Pt #**	6AW-45974-00	**Fuel Vacuum Test:**	Not Checked		
Crew Arrangement		**Crew:**	2 **Persons**	**Fuel:**	200	**Kgs**	
		Crew Wt:	180 **Kgs**	**Stores: (Tools)**	338	**Kgs**	
		Hull + Eng:	2,800 **Kgs**	**Other: (Water)**	30	**Kgs**	
L.O.A. =	10.0M **Beam =** 3.2M	**Safety Kit:**	50 **Kgs**	**Approx Total:**	3,600	**Kgs**	

Test	Engine Trim	Direction	RPM	Speed Km/h	Fuel L/h	Av Speed		Av Fuel Consumption		Kms per Litre	Av N.mp gal	N.M. per Litre	Range in Kms*
1	-4	W	**600**	7.40	7.10	7.35	Km/h	6.95	L/h	1.06	2.59	0.57	553
2	-4	E	600	7.30	6.80	3.96	*Knots*	1.53	*G/PH*				
1	-4	W	**1000**	9.60	11.40	9.65	Km/h	11.15	L/h	0.87	2.12	0.47	452
2	-4	E	1000	9.70	10.90	5.20	*Knots*	2.46	*G/PH*				
1	-4	W	**1500**	13.20	20.10	14.15	Km/h	19.70	L/h	0.72	1.76	0.39	375
2	-4	E	1500	15.10	19.30	7.63	*Knots*	4.34	*G/PH*				
1	-4	W	**2000**	16.60	35.50	17.45	Km/h	34.95	L/h	0.50	1.22	0.27	261
2	-4	E	2000	18.30	34.40	9.41	*Knots*	7.70	*G/PH*				
1	-4	W	**2500**	24.60	48.00	23.80	Km/h	48.15	L/h	0.49	1.21	0.27	258
2	-4	E	2500	23.00	48.30	12.83	*Knots*	10.61	*G/PH*				
1	-4	W	**3000**	36.80	64.40	37.10	Km/h	62.90	L/h	0.59	1.44	0.32	308
2	-4	E	3000	37.40	61.40	20.00	*Knots*	13.85	*G/PH*				
1	-4	W	**3500**	51.50	85.20	50.00	Km/h	84.25	L/h	0.59	1.45	0.32	310
2	-4	E	3500	48.50	83.30	26.95	*Knots*	18.56	*G/PH*				
1	-4	W	**4000**	61.50	105.70	61.00	Km/h	100.70	L/h	0.61	1.48	0.33	317
2	-4	E	4000	60.50	95.70	32.88	*Knots*	22.18	*G/PH*				
1	-4	W	**4500**	69.40	133.10	70.35	Km/h	128.60	L/h	0.55	1.34	0.29	286
2	-4	E	4500	71.30	124.10	37.92	*Knots*	28.33	*G/PH*				
1	-4	W	**5000**	79.40	183.00	79.55	Km/h	174.25	L/h	0.46	1.12	0.25	239
2	-4	E	5000	79.70	165.50	42.88	*Knots*	38.38	*G/PH*				
1	-4	W	**5500**	84.70	221.60	86.15	Km/h	217.80	L/h	0.40	0.97	0.21	207
2	-4	E	5500	87.60	214.00	46.43	*Knots*	47.97	*G/PH*				
1	Half Trim	W	**5800**	93.70	248.00	92.90	Km/h	248.00	L/h	0.37	0.92	0.20	196
2	Half Trim	E	5800	92.10	248.00	50.07	*Knots*	54.63	*G/PH*				
1	Full trim out	W	**5900**	98.10	252.60	96.30	Km/h	251.10	L/h	0.38	0.94	0.21	200
2	Full trim out	E	5900	94.50	249.60	51.91	*Knots*	55.31	*G/PH*				

Turning: Turns good, engine height OK.

General Operation: Motor ventilates in following sea. Engine height looks ok.

Acceleration 10 - 50 Km/h: **5.57** **Seconds (1.18 secs slower than 19" props)**

Comments: Test 1 of 2.

Struggles to get to 6100 RPM, good max speed but prop slipped through mid range & in following sea. Will test with larger diameter 21" prop in test 2 of 2.

77.19Klm & 146.3L used testing = ave 0.53 Km/L @ ave speed 42.4Klm/h over 1.49Hrs.

*** Range in km's = 95% of fuel tank capacity**

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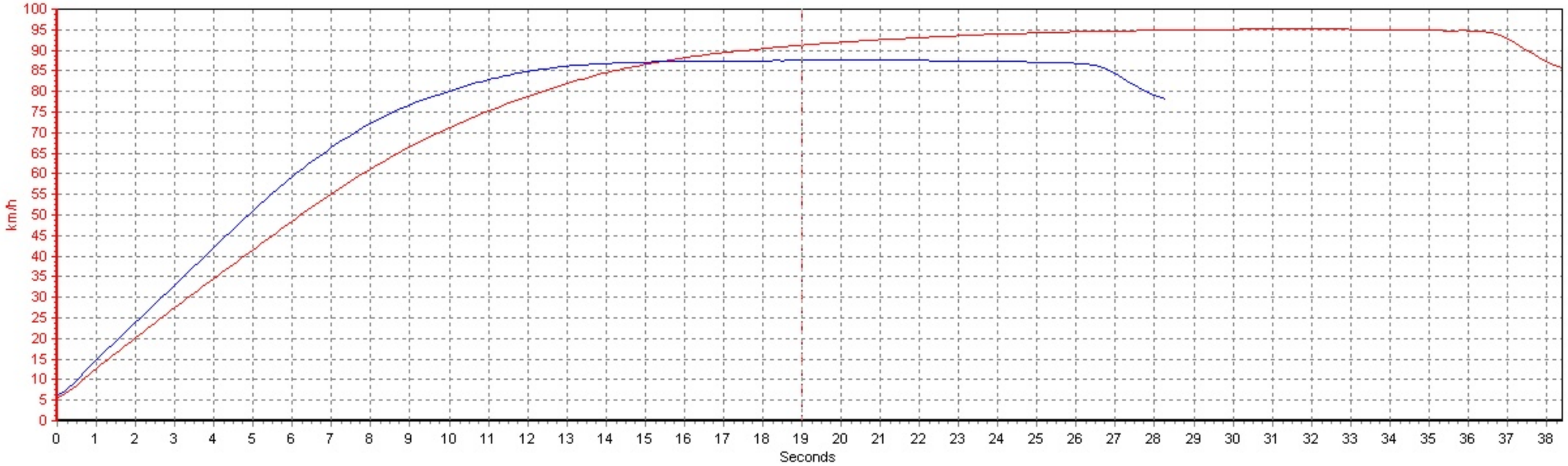
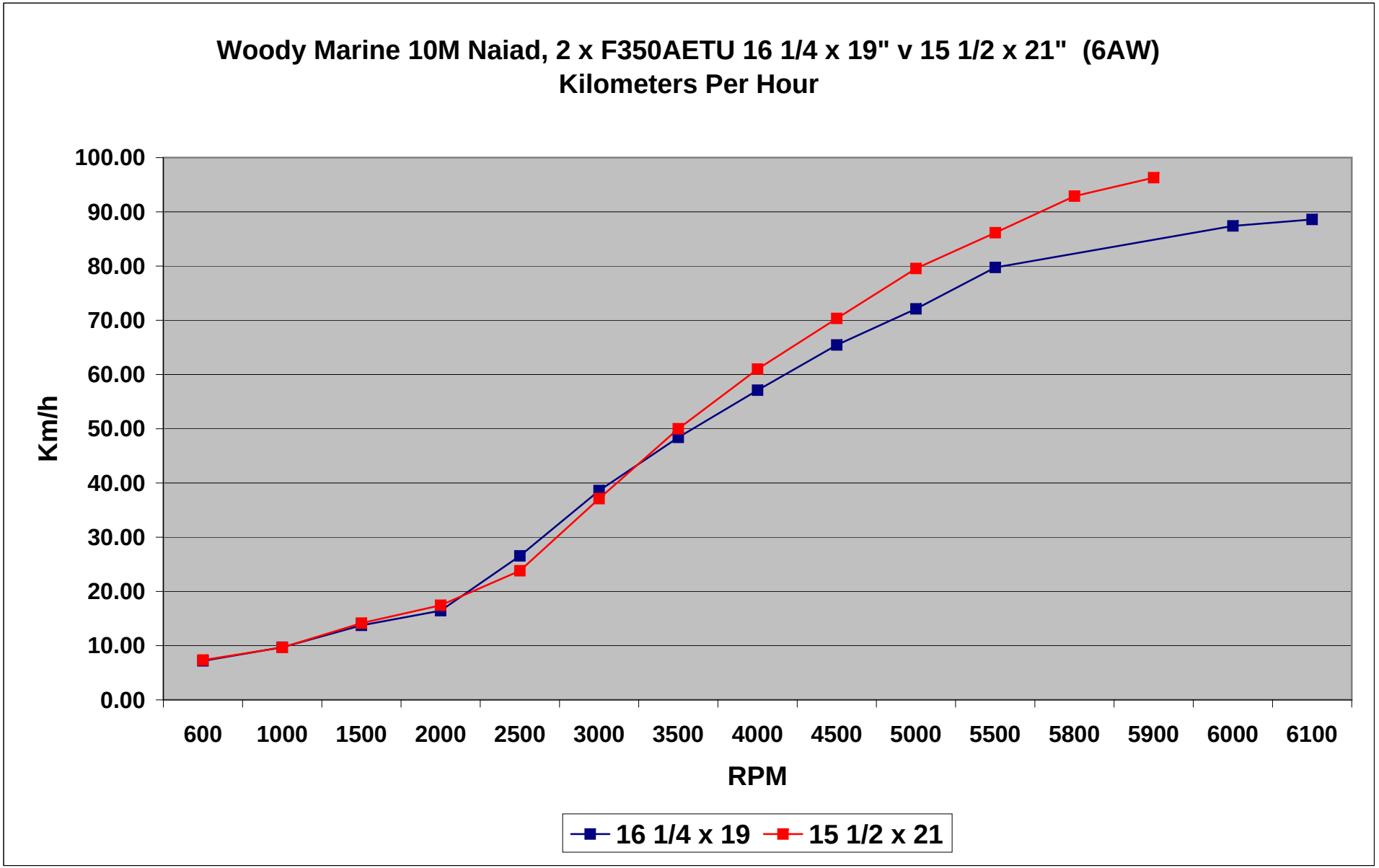
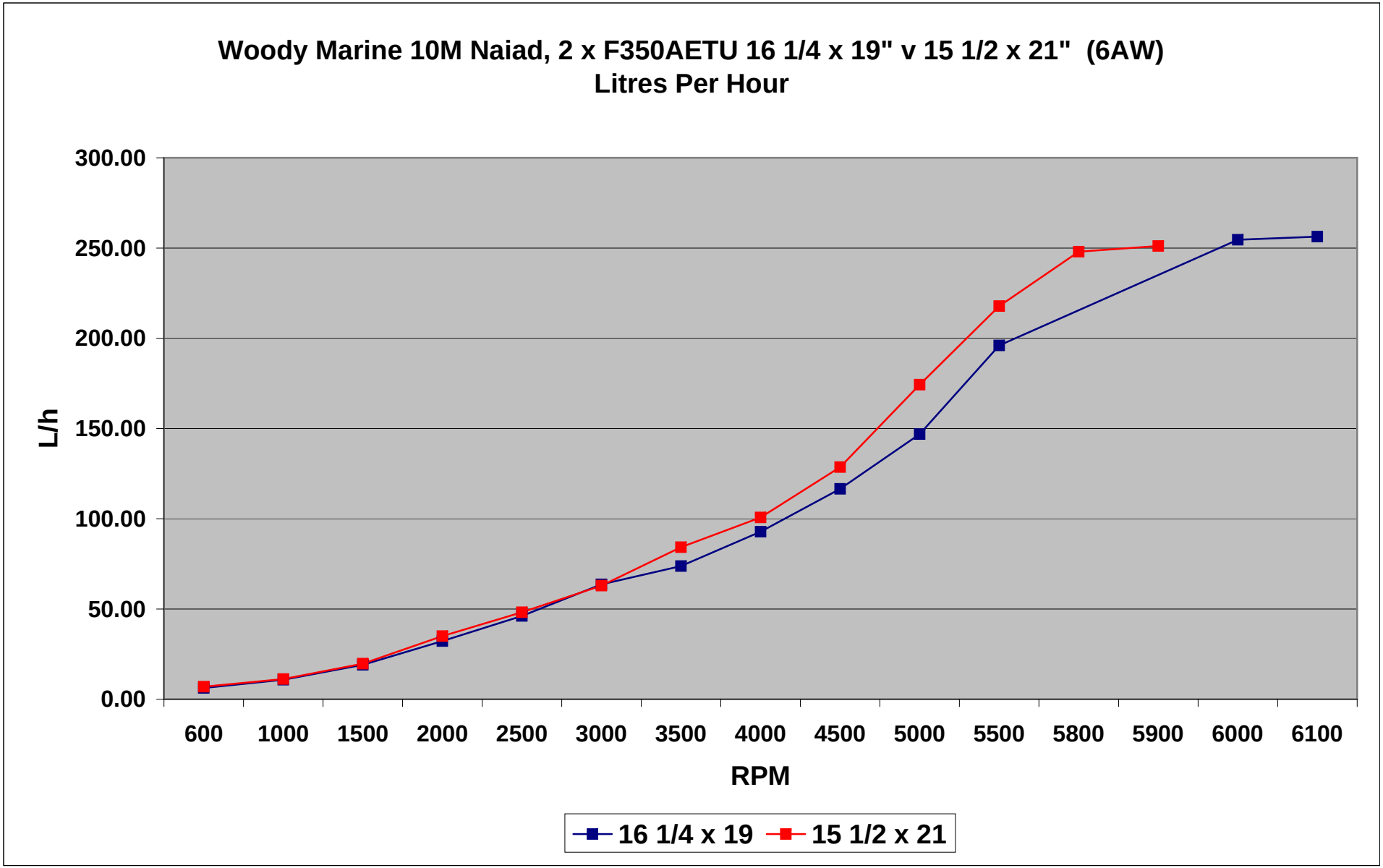
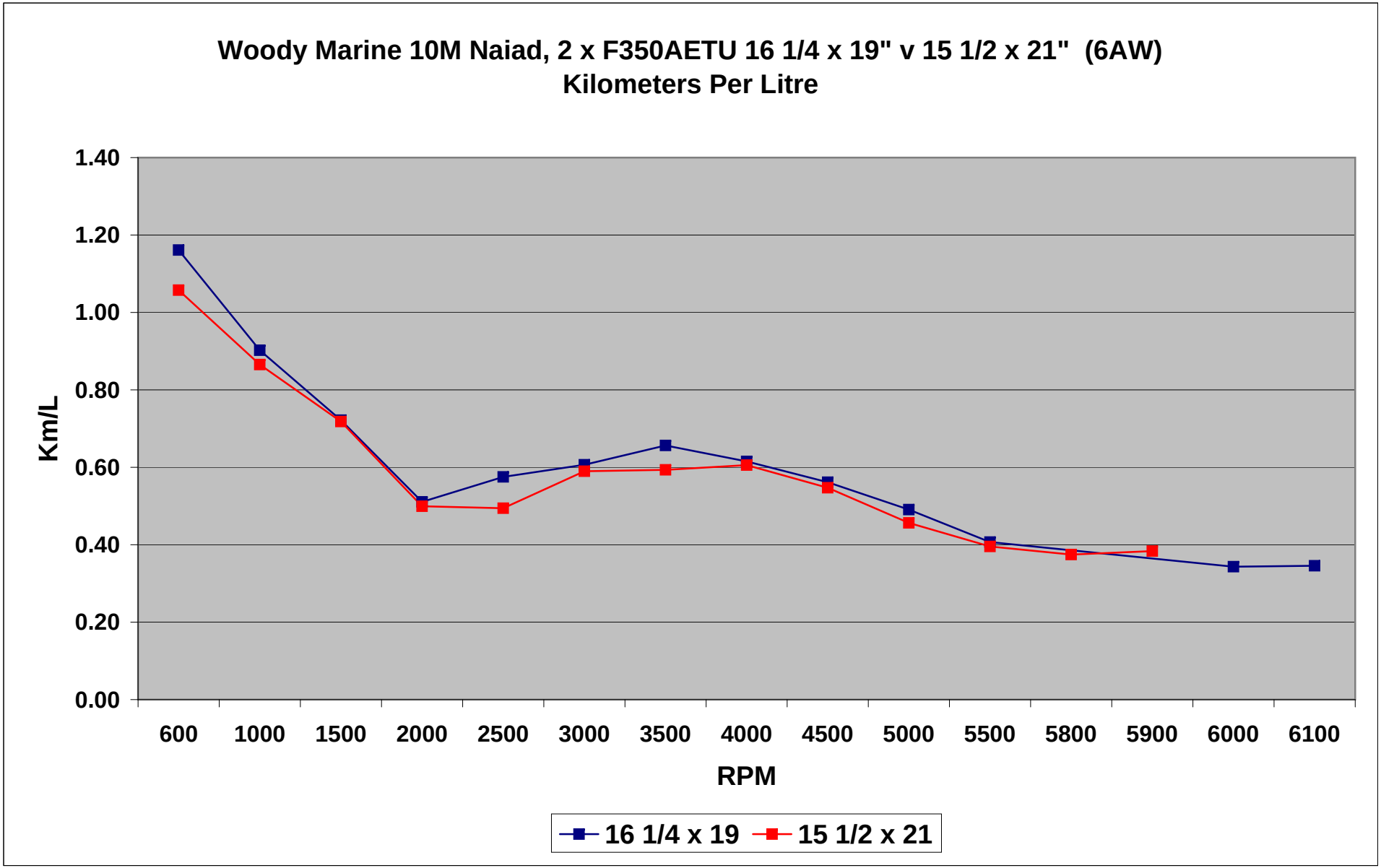

km/h
Seconds


Woody Marine 10M Naiad, 2 x F350AETU 16 1/4 x 19" v 15 1/2 x 21" (6AW)
Kilometers Per Hour
Km/h
100.00
90.00
80.00
70.00
60.00
50.00
40.00
30.00
20.00
10.00
0.00
600
1000
1500
2000
2500
3000
3500
4000
4500
5000
5500
5800
5900
6000
6100
RPM
16 1/4 x 19
15 1/2 x 21


Woody Marine 10M Naiad, 2 x F350AETU 16 1/4 x 19" v 15 1/2 x 21" (6AW)
Litres Per Hour
300.00
250.00
200.00
150.00
100.00
50.00
0.00
L/h
600
1000
1500
2000
2500
3000
3500
4000
4500
5000
5500
5800
5900
6000
6100
RPM
16 1/4 x 19
15 1/2 x 21


Woody Marine 10M Naiad, 2 x F350AETU 16 1/4 x 19" v 15 1/2 x 21" (6AW)
Kilometers Per Litre
Km/L
1.40
1.20
1.00
0.80
0.60
0.40
0.20
0.00
600
1000
1500
2000
2500
3000
3500
4000
4500
5000
5500
5800
5900
6000
6100
RPM
16 1/4 x 19
15 1/2 x 21