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5 Sailplane Texaco Conversion - Prop selection

1 message

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Sailplane Texaco Conversion

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The table below is a summary of the computer runs Jay Burkart made for me to assess the Sailplane's Texaco performance with three candidate APC E-props at full throttle. The Powerhobby 2000 mAh 2S 50C LiPo battery pack powering the Texaco NEU 1107/6D/S/P29/5.2 (1450 KV) motor and gear box.

Texaco Model	Prop APC	Area sq. in.	Weight oz	Thrust oz	T/W ~	ROC ft/min	Battery mAh	Run Time Min	Time X ROC/2 ft
Sailplane (P)	16X12E	890	82	32.5	0.40	482	2000	11.1	2675
Sailplane (p)	17X12E	890	82	37.2	0.45	516	2000	9.2	2374
Sailplane (P)	18X12E	890	82	41.9	0.51	546	2000	7.8	2129

P ~ Jay's Predictions

CONCLUSIONS

The 16X12E produces the lowest thrust and rate of climb, but has the longest run time @ full throttle. The 18X12E produces the highest thrust and rate of climb, but has the shortest run time @ full throttle. Assuming the rate of climb would be reduced to half @ half throttle, the 16X12E produces the highest 2,675 foot altitude. So it would seem that the 16X12E prop would produce the best Texaco performance, provided the lower thrust is sufficient to get the Sailplane off the ground. However, I already have the 16X12E prop, but will order both the 17 X 12E and the 18 X 12E props from APC and evaluate them during flight tests.....Tandy