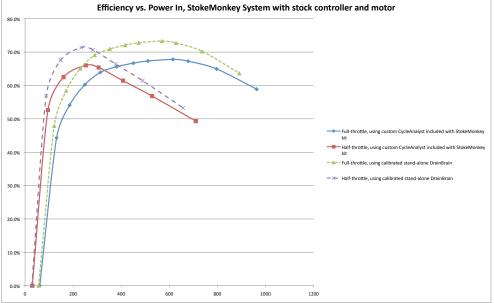## StokeMonkey

Stock controller and configuration
36 volt (nominal) supply

Full-throttle
raw data

Power (into controller)	Power (load at wheel)	Efficiency	Voltage	Current	Motor RPM	Kv'
61	0	0.0%	39.5	1.5	377	10
131	58	44.3%	39.4	3.3	367	
185	100	54.1%	39.3	4.7	362	
249	150	60.2%	39.1	6.4	355	
313	200	63.9%	39.0	8.0	348	
381	250	65.6%	38.8	9.8	338	
450	300	66.7%	38.7	11.6	333	
511	344	67.3%	38.5	13.3	325	
615	417	67.8%	38.3	16.1	313	
678	456	67.3%	38.0	17.8	302	
796	517	64.9%	37.9	21.0	290	
963	567	58.9%	37.2	25.9	244	

Half-throttle
raw data

Power (into controller)	Power (load at wheel)	Efficiency	Voltage	Current	Motor RPM
30	0	0.0%	39.5	0.8	217
95	50	52.6%	39.3	2.4	209
160	100	62.5%	39.2	4.1	197
253	167	66.0%	38.9	6.5	188
306	200	65.4%	38.8	7.9	178
407	250	61.4%	38.2	10.7	166
528	300	56.8%	38.0	13.9	157
710	350	49.3%	37.5	18.9	133

Full-throttle
adjusted data*

Power (into controller)	Power (load at wheel)	Efficiency	Voltage	Current	Motor RPM
56	0	0.0%	40.0	1.4	377
121	58	47.9%	39.9	3.0	367
171	100	58.4%	39.8	4.3	362
230	150	65.1%	39.6	5.8	355
290	200	69.1%	39.5	7.3	348
352	250	70.9%	39.3	9.0	338
416	300	72.1%	39.2	10.6	333
473	344	72.8%	39.0	12.1	325
569	417	73.3%	38.8	14.7	313
627	456	72.7%	38.5	16.3	302
736	517	70.2%	38.4	19.2	290
891	567	63.7%	37.7	23.6	244

Half-throttle
adjusted data*

Power (into controller)	Power (load at wheel)	Efficiency	Voltage	Current	Motor RPM
28	0	0.0%	40.0	0.7	217
88	50	56.9%	39.8	2.2	209
148	100	67.6%	39.7	3.7	197
234	167	71.4%	39.4	5.9	188
283	200	70.7%	39.3	7.2	178
376	250	66.4%	38.7	9.7	166
488	300	61.4%	38.5	12.7	157
657	350	53.3%	38.0	17.3	133

Efficiency vs. Power In, StokeMonkey System with stock controller and motor

- Full-throttle, using custom CycleAnalyst included with StokeMonkey kit
- Half-throttle, using custom CycleAnalyst included with StokeMonkey kit
- Full-throttle, using calibrated stand-alone DrainBrain
- Half-throttle, using calibrated stand-alone DrainBrain

Notes: Efficiency was measured by comparing energy drawn from the battery according to a Cycle Analyst and comparing that to energy sent to the rear wheel of the bicycle as read from a PowerTap hub.
Motor power passes through a 16t freewheel connected to a 44t left chainring by normal bicycle chain.
Power is then transferred through the bottom bracket to a 44t chainring connected to a 23t sprocket on the rear wheel by normal bicycle chain.
Efficiency of the two-stages of bicycle chains is probably around 94%.

* Data has been adjusted to be comparable with other tests in this workbook, using adjustment factors for the DrainBrain meter used to produce data in other tests. The reference DrainBrain reads voltage 1.3% higher and power approximately 7.5% lower than the customized CycleAnalyst provided with this StokeMonkey system.