

Power vs Speed Analysis: Gold Rush FS

Easy Racers Gold Rush with standard Zipper front fairing and wraparound windsack
Standard bicycle helmet worn.

Constants:		Notes	
headwind speed:	0	no wind	
acceleration:	0	interval measurements were constant-speed (within 0.25 mph).	
mass of bike + rider (kg):	104		
frontal area measured (m ²):	0.73	measured directly, includes helmeted head	
air density (kg/m ³):	1.226	air temperature ~ 20C	
wheel rotating mass (kg):	0.5	best guess, doesn't matter if acceleration is zero.	
accel of gravity (m/s ²):	9.806		
coeff of rolling resistance:	0.005	Ritchey Tom Slick K 36x559 (rear, 60%, 85psi); Primo Comet 406x37 (front, 40%, 70psi)	
mechanical efficiency:	1	PowerTap hub positioned after drivetrain.	

Avg. V (mi/hr)	Avg. V (m/s)	Avg. P (watts)	grade	CdA (m ²)	Cd	Avg. heartrate	interval time
10.1	4.51	37	0	0.247745583	0.339377511	79	01:37
15	6.71	66	-0.00265	0.270162126	0.370085104	77	01:41
20	8.94	144	-0.00265	0.279796999	0.383283561	102	01:06
25	11.18	265	-0.00265	0.278412875	0.3813875	122	00:45
27.8	12.43	309	-0.00265	0.237325594	0.325103554	137	00:31
15	6.71	86	0.00265	0.182273044	0.249689102	85	01:38
20.1	8.99	163	0.00265	0.20891325	0.286182535	104	01:08
25	11.18	290	0.00265	0.237033316	0.324703172	124	00:45
28	12.52	359	0.00265	0.217411981	0.297824632	137	00:42
		Avg:	0.2398972	0.3286263			
		Std. Dev:	0.0332678				

Data averaged over grade

Avg. V (mi/hr)	Avg. V (m/s)	Avg. P (watts)	grade	CdA (m ²)	Cd	
10.1	4.51	37	0	0.247745583	0.339377511	
15	6.71	76	0	0.226217585	0.309887103	
20.05	8.96	153.5	0	0.24423139	0.334563548	
25	11.18	277.5	0	0.257723095	0.353045336	
27.9	12.47	334	0	0.227372073	0.311468593	
		Avg:	0.2406579	0.3296684		
		Std. Dev:	0.0135947			

