



## Tour de Sol 2005 Race Summary

Car #	Team - Car	TOTAL SCORE	Tech	Fuel	Tech 100 pts max	Range Event 200 pts max	Acceleration Event 100 pts max	Hill Climb 100 pts max	Efficiency Event 200 pts max	Greenhouse Gases Event 200 pts max	Autocross Event 100 pts max	Special Points	Penalties	Solar							
					Score	Distance (miles)	Score	Time (sec)	Score	Time (sec)	Score			MPG (mpg)	Score	GHG per Mile	Score	Time (sec)	Score	Score	Miles
<b>ALTERNATIVE FUEL &amp; HYBRID VEHICLES</b>																					
<i>Production - Independent Teams</i>																					
70	S&S AutoSport	727.7	HEV	Gas	65.0	196.8	200.0	10.8	78.3	12.19	86.3	54.4	90.8	208.7	145.0	40.0	72.3		10		
10	ITAQ (Quebec Adv. Transp. In	623.0	AFV	BioD	52.3	196.8	200.0	12.7	67.2	0.00	0.0	66.7	100.0	146.0	165.4	40.6	68.1		30		
<i>Prototype - Student Teams</i>																					
2	West Philly EV Team (HS)	792.7	AFV	B100	44.3	196.8	200.0	10.0	82.7	10.55	93.6	50.1	87.6	64.3	192.1	35.9	100.0	2.5	10		
23	Western Washington U. Hybrid	753.6	HEV	B100	60.6	196.8	200.0	10.9	77.6	10.38	94.3	51.4	88.6	62.7	192.6	45.1	38.7	1.3	0		
32	Western Washington U. Hybrid	423.0	HEV	CNG	50.0	27.9		8.8	89.4	9.10	100.0	14.8	61.1	630.0	50.0	40.0	72.5		0		
<i>Prototype - Independent Teams</i>																					
36	Valence Technology, Inc	514.1	HEV	Gas	21.5	196.8	200.0			0.00	0.0	74.2	105.7	153.0	163.1	42.8	53.8		30		
12	Vogelbilt	254.8	AFV	B100	46.3			9.3	86.8	10.49	93.8					42.2	57.9		30		
<b>BATTERY ELECTRIC - Student Teams</b>																					
45	Methacton Electric Car Club	611.9	BEV	Elect	53.6	57.2	50.0	12.4	68.8	14.12	77.7	119.6	139.7	156.1	162.1		55.0	5.0	0		
16	Burlington County Electechs	591.0	BEV	Elect	58.2	41.0	50.0	12.2	70.1	13.84	79.0	98.4	123.8	189.9	151.1	42.4	56.4	2.5	0		
53	www.revolutionride.org (N. Hav	389.3	BEV	Elect	56.1	21.0	50.0	16.7	44.0	25.49	27.3	45.4	84.1	411.3	78.9	43.9	46.4	2.5	0		
<b>SOLAR - Student Teams</b>																					
56	St. Mark's Electric Vehicle Clu	666.3	Sol	Elect	60.3	66.2	59.7	14.1	58.9	17.35	63.4	90.3	117.7	206.8	145.6	47.1	25.0	5.0	0	6.45	130.6
92	Cato-Meridian HS Technology	664.6	Sol	Solec	63.6	25.8	50.0	16.0	48.2	18.51	73.7	132.1	116.0	141.4	108.6		55.0	5.0	0	7.56	144.5
7	IHS Solar Car Team (W. Ironde	498.3	Sol	Solec	51.3	33.8	50.0	15.3	52.1	21.90	48.3	108.1	104.1	172.7	77.3		55.0		20	2.43	80.3

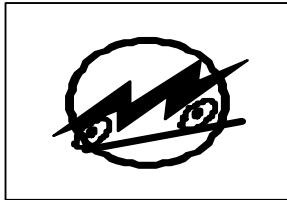
Codes:	Vehicle	Team	Fuel
	AFV	Ind	B100
	BEV	Pro	BioD
	HEV	Stu	CNG
	Sol		E85
			Elect
			Gas
			Solec

Independent  
 Production  
 Student  
 BioDiesel  
 BioDiesel from Cooking Oil  
 Compressed Natural Gas  
 Ethanol 85%  
 Grid Electricity  
 Conventional Gasoline  
 Solar-Electric

## Technical Testing and Admin

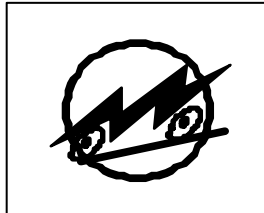


Car #	Car Name	Tech and Admin Scores Total	Registration Forms Before Deadline YES = 1 NO = 0 0 or 5pts	Registered On Site by Appointed Time YES = 1 NO = 0 0 or 5pts	Pass Technical Testing within Time Limit YES = 1 NO = 0 0 or 5pts	Educational Display Board Enter 0-7.5pt	Pass Technical Testing on First Try YES = 1 NO = 0 0 or 5pts	Practicality Event Enter 0 - 10pts	Cone Test YES = 1 NO = 0 0 or 20pt	Noise Test YES = 1 NO = 0 0 or 10pt	Cone Test Data Time(sec)
2	Hybrid Attack	44.3	0	1	1	4.3	1	5.0	1	0	8.51
7	Zodiac	51.3	0	1	0	4.4	1	6.9	1	1	10.66
10	Bio SMART	52.3	0	1	0	3.5	1	8.8	1	1	9.51
12	Vogelbilt Vehicle	46.3	0	1	0	2.1		9.2	1	1	8.90
16	The Olympian	58.2	0	1	1	4.1	1	9.1	1	1	10.27
23	Viking 23	60.6	1	1	1	5.3	1	5.3	1	1	11.31
32	Viking 32	50.0	1	0	1	5.0	1	10.0	1	0	8.40
36	Saphion	21.5	0	0		1.7		9.8	0	1	
45	The Lorax	53.6	0	1	1	4.5	1	4.1	1	1	10.82
53	Revolution Ride	56.1	0	1	1	2.5	1	8.6	1	1	12.80
56	Woodstock	60.3	0	1	1	6.9	1	8.4	1	1	11.92
70	S&S AutoSport Prius	65.0	1	1	1	5.0	1	10.0	1	1	9.88
92	Sunpacer	63.6	1	1	1	6.6	1	7.0	1	1	14.45



# Range Event

					DATA					
					Laps					
Car #	Car Name	Range Miles	Total Miles	Score	Short Laps	Medium Laps	Long-Out Laps	Long Ret Laps	Invalid Lap Miles	Partial Lap Miles
2	Hybrid Attack	196.8	196.8	200.0			1	1		
7	Zodiac	28.6	33.8	50.0		2				5.2
10	Bio SMART	196.8	196.8	200.0			1	1		
12	Vogelbilt Vehicle									
16	The Olympian	28.6	41.0	50.0		2				12.4
23	Viking 23	196.8	196.8	200.0			1	1		
32	Viking 32		27.9							27.9
36	Saphion	196.8	196.8	200.0			1	1		
45	The Lorax	42.9	57.2	50.0		3			14.3	
53	Revolution Ride	14.3	21.0	50.0		1				6.7
56	Woodstock	66.15	66.2	59.7	5	3				
70	S&S AutoSport Prius	196.8	196.8	200.0			1	1		
92	Sunpacer	14.3	25.8	50.0		1				11.5



## ***Acceleration Event***

<b>Car #</b>	<b>Car Name</b>	<b>Time (sec)</b>	<b>Score</b>
2	Hybrid Attack	10	82.7
7	Zodiac	15.3	52.1
10	Bio SMART	12.69	67.2
12	Vogelbilt Vehicle	9.28	86.8
16	The Olympian	12.19	70.1
23	Viking 23	10.88	77.6
32	Viking 32	8.84	89.4
36	Saphion		
45	The Lorax	12.41	68.8
53	Revolution Ride	16.7	44.0
56	Woodstock	14.12	58.9
70	S&S AutoSport Prius	10.76	78.3
92	Sunpacer	15.98	48.2

Score Best Time = 7.0 Seconds

Score Worst Time = 20.0 Seconds



## Hill Climb

Course distance 550 feet. Elevation Change ~200 feet

Car #	Car Name	Car Type	Run 1 Secs	MPH	Run 2 Secs	MPH	Best Time	Score
2	Hybrid Attack	LD	10.71	48	10.55	50	10.55	93.6
7	Zodiac	ONE	21.90	24	22.19	23	21.90	48.3
10	Bio SMART	LD						
12	Vogelbilt Vehicle	LD	10.49	54	10.87	55	10.49	93.8
16	The Olympian	LD	15.82	28	13.84	36	13.84	79.0
23	Viking 23	LD	10.38	49	22.29	-	10.38	94.3
32	Viking 32	LD	9.10	60	9.10	61	9.10	100.0
36	Saphion	LD						
45	The Lorax	LD	14.83	38	14.12	19	14.12	77.7
53	Revolution Ride	LD	29.28	16	25.49	16	25.49	27.3
56	Woodstock	LD	18.75	22	17.35	27	17.35	63.4
70	S&S AutoSport Prius	LD	12.31	44	12.19	44	12.19	86.3
92	Sunpacer	ONE	18.51	28	18.78	28	18.51	73.7

Scales: One: 15-25  
LD: 9.1-26

Max 25.49  
Min 9.1



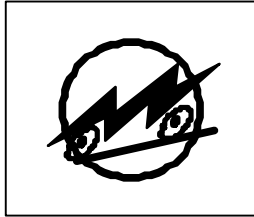
# Efficiency

Car #	Car Name	Fuel Type	MPGe	Score	Rank	Total Miles Driven	Raw Data		Total Energy Used				Equivalent Gallons of Gasoline		
							Value	Units	Final Value	Final Units	Electrical Energy (kWh)	Solar Elec (kWh)	Fuel (eGal)	Electrical Energy (eGal)	Total (eGal)
2	Hybrid Attack	B100	50.1	87.6	10	196.80	12.9	kG	3.87	Gal			3.93		3.93
7	Zodiac	Solar/Electric	108.1	104.1	6	33.80					10.58	0.82		0.31	0.31
10	Bio SMART	B20	66.7	100.0	7	196.80	2.70	Gal	2.70	Gal			2.95		2.95
12	Vogelbilt Vehicle	B100			13	0.00									
16	The Olympian	Electric	98.4	123.8	2	41.00					14.11			0.42	0.42
23	Viking 23	B100	51.4	88.6	9	196.80	12.6	kG	3.77	Gal			3.83		3.83
32	Viking 32	CNG	14.8	61.1	12	27.90			235	SCF			1.89		1.89
36	Saphion	Gas	74.2	105.7	5	196.80	74.2	MPG	2.65	Gal			2.65		2.65
45	The Lorax	Electric	119.6	139.7	1	57.20					16.19			0.48	0.48
53	Revolution Ride	Electric	45.4	84.1	11	21.00					15.66			0.46	0.46
56	Woodstock	Electric	90.3	117.7	3	66.15					24.80	2.68		0.73	0.73
70	S&S AutoSport Prius	Gas	54.4	90.8	8	196.80	3.6	Gal	3.62	Gal			3.62		3.62
92	Sunpacer	Solar/Electric	132.1	116.0	4	25.80					6.61	2.74		0.20	0.20



## Green House Gas

Car #	Car Name	Fuel Type	Total gGHG/mi	Score	Rank	Miles Driven	Fuel Used in EqGal		Fuel gGHG	Electrical Energy gGHG	Total GHG	Day GHG/Mile
							Fuel	Electrical Energy				
2	Hybrid Attack	B100	64	192.1	2	196.80	3.93		12655		12655	64
7	Zodiac	Solar/Electric	173	77.3	11	33.80		0.31		5838	5838	173
10	Bio SMART	B20	146	165.4	3	196.80	2.95		28726		28726	146
12	Vogelbilt Vehicle	B100			13	0.00						
16	The Olympian	Electric	190	151.1	6	41.00		0.42		7784	7784	190
23	Viking 23	B100	63	192.6	1	196.80	3.83		12332		12332	63
32	Viking 32	CNG	630	50.0	12	27.90	1.89		17578		17578	630
36	Saphion	Gas	153	163.1	4	196.80	2.65		30119		30119	153
45	The Lorax	Electric	156	162.1	5	57.20		0.48		8930	8930	156
53	Revolution Ride	Electric	411	78.9	10	21.00		0.46		8637	8637	411
56	Woodstock	Electric	207	145.6	7	66.15		0.73		13682	13682	207
70	S&S AutoSport Prius	Gas	209	145.0	8	196.80	3.62		41063		41063	209
92	Sunpacer	Solar/Electric	141	108.6	9	25.80		0.20		3648	3648	141



## Autocross

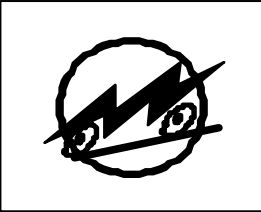
Index	Car #	Car Name	Car Team	Run 1 (sec)	Run 2 (sec)	Best Run (sec)	Score	Rank
1	2	Hybrid Attack	West Philly EV Team (HS)	36.642	35.850	35.850	100.0	1
2	7	Zodiac	IHS Solar Car Team (W. Irondequoit HS)				55.0	
3	10	Bio SMART	ITAQ (Quebec Adv. Transp. Institute)	41.506	40.635	40.635	68.1	4
4	12	Vogelbilt Vehicle	Vogelbilt	43.206	42.172	42.172	57.9	5
5	16	The Olympian	Burlington County Electechs		42.393	42.393	56.4	6
6	23	Viking 23	Western Washington U. Hybrid Club	50.322	45.051	45.051	38.7	12
7	32	Viking 32	Western Washington U. Hybrid Club		39.973	39.973	72.5	2
8	36	Saphion	Valence Technology, Inc	42.784		42.784	53.8	10
9	45	The Lorax	Methacton Electric Car Club				55.0	
10	53	Revolution Ride	www.revolutionride.org (N. Haven HS)	55.464	43.892	43.892	46.4	11
11	56	Woodstock	St. Mark's Electric Vehicle Club	47.098	47.961	47.098	25.0	13
12	70	S&S AutoSport Prius	S&S AutoSport	40.007	41.752	40.007	72.3	3
13	92	Sunpacer	Cato-Meridian HS Technology Team				55.0	

Note: 3 wheelers given arbitrary score of 55 points

**Min** 35.2  
**Max** 47.1



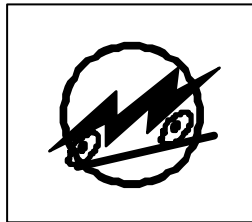
## Special Points

			Team Assistance Day 1	Team Assistance Day 2	Team Assistance Day 3	Team Assistance Day 4	Team Assistance Day 5
			YES = 1 NO = 0 0or2.5pt	YES = 1 NO = 0 0or2.5pt	YES = 1 NO = 0 0or2.5pt	YES = 1 NO = 0 0or2.5pt	YES = 1 NO = 0 0or2.5pt
Car #	Car Name	TOTAL Score					
2	Hybrid Attack	2.5	1				
7	Zodiac						
10	Bio SMART						
12	Vogelbilt Vehicle						
16	The Olympian	2.5	1				
23	Viking 23	1.3		0.5			
32	Viking 32						
36	Saphion						
45	The Lorax	5.0	1	1			
53	Revolution Ride	2.5	1				
56	Woodstock	5.0	1	1			
70	S&S AutoSport Prius						
92	Sunpacer	5.0	1	1			

# Penalties

Car #	Car Name	Total Penalties	Tardiness at driver's meetings	Absence from driver's meetings	Failure to report to rally clerk within 15mins of arrival at the end of a leg	Incomplete or incorrect timing card	Failure to display NESEA required public info	Late for line-up of start of legs and parades	Failure to have one team member available to talk to the public at displays	Failure to have a team member available to move the vehicle at all times	Miss start of a display period	Miss over half of a display period	Miss all of a display period	Failure to register at appointed time
		Number of Pen. 2.5 pts	Number of Pen. 10 pts	Number of Pen. 5 pts	Number of Pen. 5 pts	Number of Pen. 5 pts	Number of Pen. 5 pts	Number of Pen. 5 pts	Number of Pen. 5 pts	Number of Pen. 5 pts	Number of Pen. 5 pts	Number of Pen. 10 pts	Number of Pen. 20 pts	Number of Pen. 20 pts
2	Hybrid Attack	10.0		1										
7	Zodiac	20.0		2										
10	Bio SMART	30.0		3										
12	Vogelbilt Vehicle	30.0		3										
16	The Olympian													
23	Viking 23													
32	Viking 32													
36	Saphion	30.0		3										
45	The Lorax													
53	Revolution Ride													
56	Woodstock													
70	S&S AutoSport Prius	10.0		1										
92	Sunpacer													

# Solar Miles



				Day 1					
				Data			Score		
				Distance Traveled	Solar Panel Power	Recharge Power	% Solar Fraction	Solar Miles	Score
Car #	Car Name	Total Score	Rank	Enter (mi)	Enter (kW)	Enter (kW)		(mi)	pts
7	Zodiac	80.3	3	33.8	0.82	10.58	7.2	2.4	80.3
56	Woodstock	130.6	2	66.15	2.68	24.80	9.8	6.5	130.6
92	Sunpacer	144.5	1	25.8	2.74	6.61	29.3	7.6	144.5