2010 APRIL
MOTORCYCLE

ELECTRIC VEHICLE CALCULATIONS
PREPARED BY
ELECTRIC VEHICLES OF AMERICA, INC
(603) 569-2100

VEHICLE DESCRIPTION		**SYSTEM DESIGN**	
INITIAL CURB WEIGHT (LB)		1. MOTOR	A00-4009
FINISHED VEHICLE WEIGHT (LB)	700	2. BATTERY	30 XHS
DRAG COEFFICIENT	0.6	3. 20 HR RATE	130
FRONTAL AREA (SQ FT)	10	75 AMP RATE	57
TIRE SIZE		C FACTOR	0.82
RR RADIAL TIRE	0.01	4. VOLTAGE	72
REV/MILE (HIGH GEAR)	900	5. MOTOR EFF	0.8
		6. DRIVE EFF	0.9

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RESULTS OF	**HP**		**ESTIMATEI**	**RANGE**	**(MILES)**
CALCULATION	**REQUIRED**		**MIN**	**AVG**	**MAX**
(BASED ON 55 MPH - 2% GRADE)	**11**		**26**	**29**	**34**
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SPEED (MPH)	**40**	**45**	**50**	**55**	**60**
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DRAG (LBS)	25	31	38	46	55
ROLLING RESISTANCE (RR)	7	7	7	7	7
TRACTIVE FORCE (0% GRADE)	32	38	45	53	62
GRADE FORCE + Tf					
0% GRADE	32	38	45	53	62
1% GRADE	39	45	52	60	69
2% GRADE	46	52	59	67	76
5% GRADE	67	73	80	88	97
WHEEL TORQUE, FT-LBS	*******	*******	*******	*******	*******
0% GRADE	29	36	42	50	58
1% GRADE	36	42	49	56	65
2% GRADE	43	49	55	63	71
5% GRADE	62	68	75	83	91
REQUIRED MOTOR HP	*******	*******	*******	******	*******
0% GRADE	4	5	7	9	11
1% GRADE	5	6	8	10	12
2% GRADE	5	7	9	11	14
5% GRADE	8	10	12	14	17
CURRENT REQUIRED (AMPS)	*******	*******	*******	*******	*******
0% GRADE	48	66	87	113	143
1% GRADE	59	78	100	128	159
2% GRADE	70	90	114	142	176
5% GRADE	102	126	154	187	224
AVAILABLE MOTORING TIME (MINUTES)		********	********	********	********
0% GRADE	91	66	49	37	28
1% GRADE	74	55	42	32	25
2% GRADE	62	47	36	28	22
5% GRADE	41	32	26	20	16
CALCULATED RANGE(MILES)	********	********	********	********	********
0% GRADE	61	49	41	34	28
1% GRADE	49	41	35	29	25
2% GRADE	41	35	30	26	22
5% GRADE	27	24	21	19	16
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