

**2010 DECEMBER
S-10 TRUCK**

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

VEHICLE DESCRIPTION

INITIAL CURB WEIGHT (LB)	2800
FINISHED VEHICLE WEIGHT (LB)	4020
DRAG COEFFICIENT	0.4
FRONTAL AREA (SQ FT)	20
TIRE SIZE	
RR RADIAL TIRE	0.01
REV/MILE (HIGH GEAR)	900

SYSTEM DESIGN

1. MOTOR	FB1
2. BATTERY	T-145
3. 20 HR RATE	245
75 AMP RATE	145
C FACTOR	1.10
4. VOLTAGE	120
5. MOTOR EFF	0.88
6. DRIVE EFF	0.9

*****	*****	*****	*****	*****	*****
RESULTS OF CALCULATION (BASED ON 50 MPH - 2% GRADE)	HP REQUIRED 30		ESTIMATEI MIN 41	RANGE AVG 56	(MILES) MAX 82
*****	*****	*****	*****	*****	*****
SPEED (MPH)	40	45	50	55	60
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DRAG (LBS)	33	41	51	62	74
ROLLING RESISTANCE (RR)	40	40	40	40	40
TRACTIVE FORCE (0% GRADE)	73	82	91	102	114
GRADE FORCE + Tf					
0% GRADE	73	82	91	102	114
1% GRADE	113	122	132	142	154
2% GRADE	153	162	172	182	194
5% GRADE	274	283	292	303	315
WHEEL TORQUE, FT-LBS	*****	*****	*****	*****	*****
0% GRADE	68	76	85	95	106
1% GRADE	106	114	123	133	144
2% GRADE	143	151	160	170	181
5% GRADE	256	264	273	283	294
REQUIRED MOTOR HP	*****	*****	*****	*****	*****
0% GRADE	9	11	14	17	20
1% GRADE	13	16	19	23	27
2% GRADE	18	22	25	30	35
5% GRADE	32	38	43	49	56
CURRENT REQUIRED (AMPS)	*****	*****	*****	*****	*****
0% GRADE	61	77	96	118	143
1% GRADE	95	115	138	164	193
2% GRADE	128	153	180	210	244
5% GRADE	229	266	306	349	395
AVAILABLE MOTORING TIME (MINUTES)	*****	*****	*****	*****	*****
0% GRADE	181	142	112	89	71
1% GRADE	113	91	74	61	50
2% GRADE	81	66	54	45	37
5% GRADE	40	33	28	23	19
CALCULATED RANGE(MILES)	*****	*****	*****	*****	*****
0% GRADE	121	106	93	82	71
1% GRADE	75	69	62	56	50
2% GRADE	54	50	45	41	37
5% GRADE	27	25	23	21	19
*****	*****	*****	*****	*****	*****

