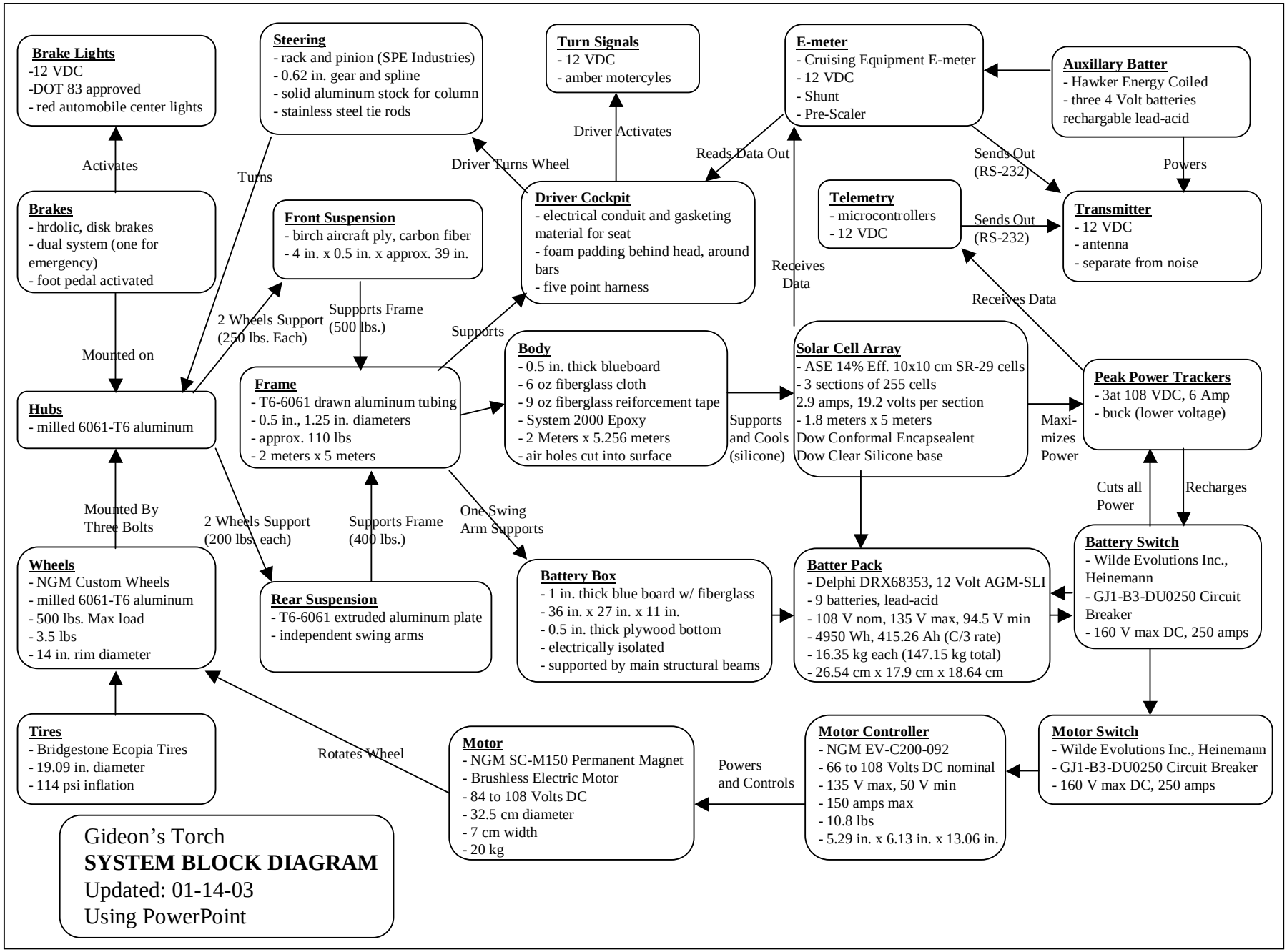
Brake Lights
-12 VDC
-DOT 83 approved
- red automobile center lights
Steering
- rack and pinion (SPE Industries)
- 0.62 in. gear and spline
- solid aluminum stock for column
- stainless steel tie rods
Turn Signals
- 12 VDC
- amber motercyles
E-meter
- Cruising Equipment E-meter
- 12 VDC
- Shunt
- Pre-Scaler
Auxillary Batter
- Hawker Energy Coiled
- three 4 Volt batteries
rechargable lead-acid
Activates
Turns
Driver Turns Wheel
Driver Activates
Reads Data Out
Sends Out
(RS-232)
Powers
Brakes
- hrdolic, disk brakes
- dual system (one for
emergency)
- foot pedal activated
Front Suspension
- birch aircraft ply, carbon fiber
- 4 in. x 0.5 in. x approx. 39 in.
Driver Cockpit
- electrical conduit and gasketing
material for seat
- foam padding behind head, around
bars
- five point harness
Telemetry
- microcontrollers
- 12 VDC
Sends Out
(RS-232)
Transmitter
- 12 VDC
- antenna
- separate from noise
Receives
Data
Receives Data
2 Wheels Support
(250 lbs. Each)
Supports Frame
(500 lbs.)
Supports
Mounted on
Body
- 0.5 in. thick blueboard
- 6 oz fiberglass cloth
- 9 oz fiberglass reiforcement tape
- System 2000 Epoxy
- 2 Meters x 5.256 meters
- air holes cut into surface
Solar Cell Array
- ASE 14% Eff. 10x10 cm SR-29 cells
- 3 sections of 255 cells
2.9 amps, 19.2 volts per section
- 1.8 meters x 5 meters
Dow Conformal Encapsealent
Dow Clear Silicone base
Peak Power Trackers
- 3at 108 VDC, 6 Amp
- buck (lower voltage)
Hubs
- milled 6061-T6 aluminum
Frame
- T6-6061 drawn aluminum tubing
- 0.5 in., 1.25 in. diameters
- approx. 110 lbs
- 2 meters x 5 meters
Supports
and Cools
(silicone)
Maxi-
mizes
Power
Cuts all
Power
Recharges
Mounted By
Three Bolts
2 Wheels Support
(200 lbs. each)
Supports Frame
(400 lbs.)
One Swing
Arm Supports
Battery Switch
- Wilde Evolutions Inc.,
Heinemann
- GJ1-B3-DU0250 Circuit
Breaker
- 160 V max DC, 250 amps
Wheels
- NGM Custom Wheels
- milled 6061-T6 aluminum
- 500 lbs. Max load
- 3.5 lbs
- 14 in. rim diameter
Rear Suspension
- T6-6061 extruded aluminum plate
- independent swing arms
Battery Box
- 1 in. thick blue board w/ fiberglass
- 36 in. x 27 in. x 11 in.
- 0.5 in. thick plywood bottom
- electrically isolated
- supported by main structural beams
Batter Pack
- Delphi DRX68353, 12 Volt AGM-SLI
- 9 batteries, lead-acid
- 108 V nom, 135 V max, 94.5 V min
- 4950 Wh, 415.26 Ah (C/3 rate)
- 16.35 kg each (147.15 kg total)
- 26.54 cm x 17.9 cm x 18.64 cm
Tires
- Bridgestone Ecopia Tires
- 19.09 in. diameter
- 114 psi inflation
Rotates Wheel
Motor
- NGM SC-M150 Permanent Magnet
- Brushless Electric Motor
- 84 to 108 Volts DC
- 32.5 cm diameter
- 7 cm width
- 20 kg
Powers
and Controls
Motor Controller
- NGM EV-C200-092
- 66 to 108 Volts DC nominal
- 135 V max, 50 V min
- 150 amps max
- 10.8 lbs
- 5.29 in. x 6.13 in. x 13.06 in.
Motor Switch
- Wilde Evolutions Inc., Heinemann
- GJ1-B3-DU0250 Circuit Breaker
- 160 V max DC, 250 amps
Gideon's Torch
SYSTEM BLOCK DIAGRAM
Updated: 01-14-03
Using PowerPoint