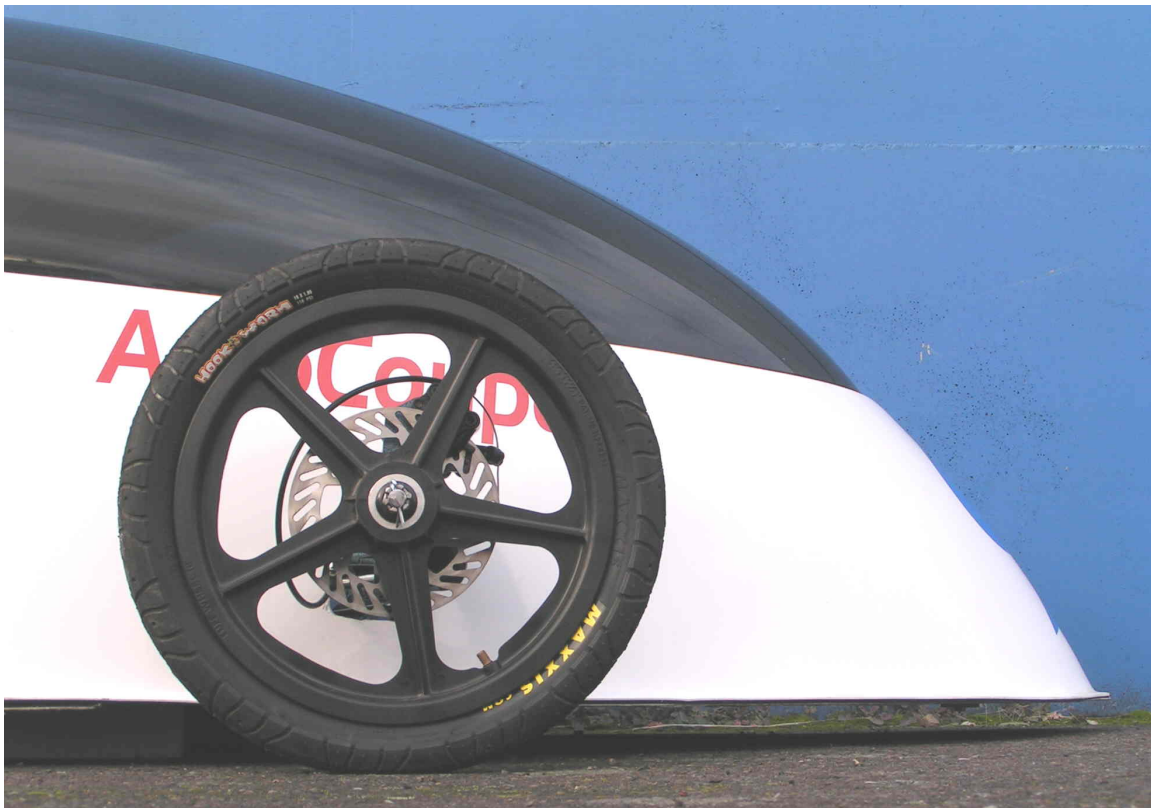


# Aerocoupe M3



**Blue Sky Design 2022**

**Electrathon vehicle kits and parts**

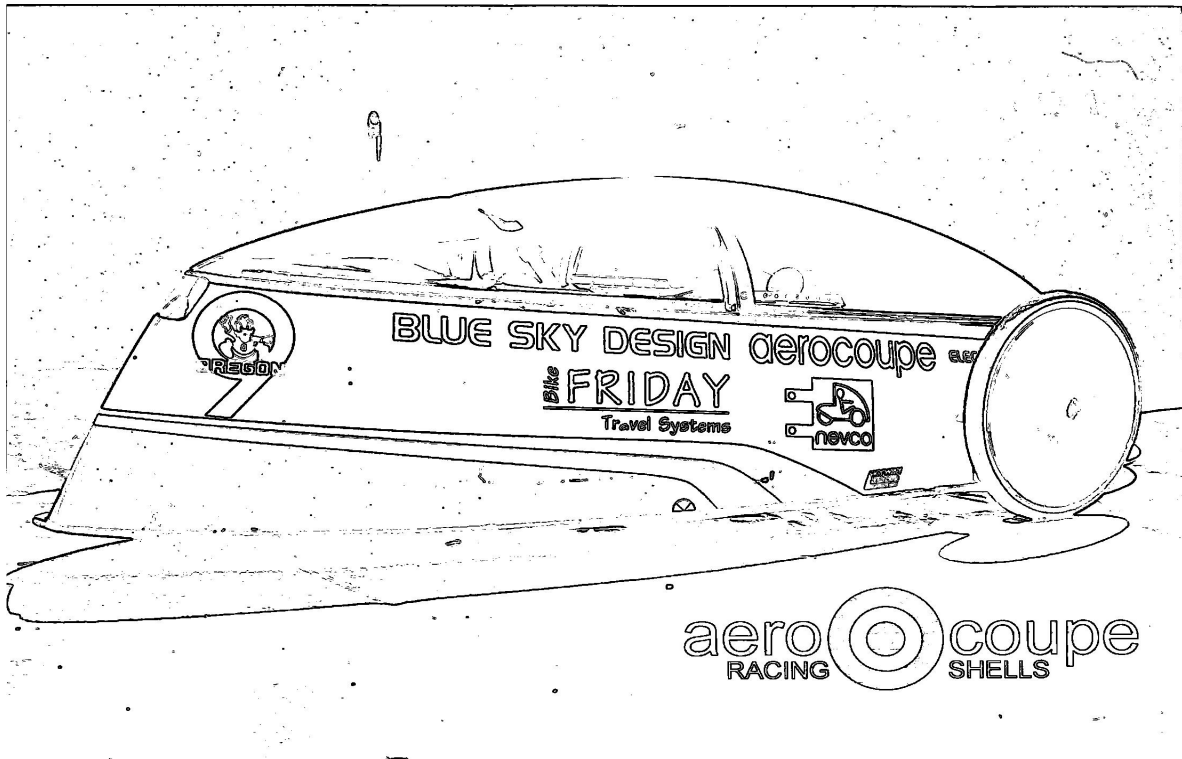
*Award winning design and race proven components*

**Blue Sky Design LLC**

82811 Jackson Marlow Rd. Eugene, OR 97405

Website: [www.BlueSkyDsn.com](http://www.BlueSkyDsn.com) E mail: [BlueSkyDsn@aol.com](mailto:BlueSkyDsn@aol.com)

Electrathon racing info: [www.ElectrathonAmerica.org](http://www.ElectrathonAmerica.org)



**Thirty years ago Blue Sky Design took on the challenge to develop an American designed Electrathon racer to compete with the state of the art Australian Electrathon vehicles introduced to the United States by the Australian champion Clark Beasley. The resulting design was the award winning Aerocoupe racer.**

The Aerocoupe has become legendary for its low center of gravity, stable balance and efficient aerodynamics. It has proven itself as an attractive and affordable design that is light, rugged and fast. A versatile performer on both fast and tight courses that is easy and fun to drive.

Today the latest M series Aerocoupe is the most popular Electrathon racer in competition all across the country, available as an easy-to-build kit that can put you in the drivers seat of a race proven winner.

**The Electra Newsletter said " The popular Aerocoupe was developed by Blue Sky Design as an affordable kit racer that has opened up the sport to those who do not have the shop facilities or time required to fabricate a vehicle from scratch. The versatile 'coupes have proven to be highly competitive and nimble handling machines that are fun to drive.** The Aerocoupe utilizes a steel frame, FRP seat pan and ABS plastic body shell to keep the vehicle simple, reliable and as easy to build as a large hobby kit.

As a leading supplier of vehicle kits and components to schools and individuals, Blue Sky Design has established an enviable record for quality, prompt response and customer service. Quality motors and electrical component packages for the

Aerocoupe M series kits are available separately from our list of reputable suppliers. *The most popular Electrathon design in the USA.*

## 2022 Aerocoupe Racer Kits



***Based on the incredible Aerocoupe design proven in National Electrathon competition***

**Kit includes all the Blue Sky Design parts:**

- M1 Steel Perimeter Chassis w/ roll bar, bumper & Cowl Support**
- M2 FRP Seat Pan**
- M3 FRP Body Shell**
- M4 Acrylic Tinted Canopy\* (optional), available clear or tinted**
- M6 Aluminum Sprocket Adaptor w/ freewheel and chain guards**
- M12 Skyway CF Graphite 20" Rear Wheel**
- M14 Artek Disc Brake Set**
- M15a Steering Spindle Set w/ tie rod, link rods and steering handles**
- M16 Skyway CF 16" Front Wheel Set**

**Plus Illustrated Assembly Manual**

50 page illustrated book covers all the electrical components, bicycle parts, tools, fasteners and supplies needed to complete the kit.

**This kit does not include electrical components or bicycle parts.** Local stores, bicycle shops and EV suppliers have the items you will need to complete the kit. This allows you to have local sources for repairs and to help keep assembly costs down.

**SCHOOL PURCHASE ORDERS ACCEPTED**  
(however prepaid orders receive priority)

**Open cockpit AC Roadster Kit: \$2000.00 plus shipping**  
**Full canopy Aerocoupe Kit: \$2500.00 plus shipping**

**Shipping costs vary by zone:** West Coast: \$300, Intermountain: \$400,  
Central Plains: \$500, MidWest: \$600, MidAtlantic: \$700 NorthEast: \$800, SouthEast: \$1000,

Kit delivery is by truck. Allow two weeks for delivery to most US locations.

Blue Sky Design LLC 82811 Jackson Marlow Rd, Eugene, Oregon 97405  
[www.BlueSkyDSN.com](http://www.BlueSkyDSN.com) [BlueSkyDSN@aol.com](mailto:BlueSkyDSN@aol.com) 541 895-5421



Roadster kit

**AEROCOUPÉ KIT SPECIFICATIONS**

Frame	steel	31 lbs
Pan	FRP	17
3 Wheels/tires		15
Canopy Acrylic		8
Shell	FRP	14
Steering	steel	5
Misc parts		5
		<b>95 lbs</b>
Motor (Scott) 1.5 hp		22
Battery		64
Controller/wire		7
		<b>93 lbs</b>
Driver		<b>180lbs</b>
<b>Total:</b>		<b>368 lbs</b>

Wheelbase:	57"
Track:	38"
Ground Clearance:	2"
Vehicle length:	100"
Vehicle height:	26"
Vehicle width:	29
Battery box:	10"L x 14"W

Quality motors and complete electrical component packages for the Aerocoupe M series kits are available separately from ShiftEV.com, and other EV vendors.

Also see Resources at [www.ElectrathonAmerica.org](http://www.ElectrathonAmerica.org) and design and event rules.

***The most popular Electrathon design in the USA.***

Several hundred schools across the United States are competing successfully with the Aerocoupe M3.

# Aerocoupe Racer Kit ORDER FORM

## Purchase Agreement and liability Release

This product is an experimental vehicle. No warranty or guarantee is made for this product. Purchaser assumes all responsibility for the safe assembly, use, function and maintenance of this product including use by others. Blue Sky Design assumes no liability for any damage or injury caused directly or indirectly by the use of this vehicle.

The purchaser or any agent thereof shall not reproduce or manufacture this vehicle or any of its parts without prior written approval of Blue Sky Design LLC.

**Purchaser Name** \_\_\_\_\_

**Purchaser Signature** \_\_\_\_\_

**Purchase Order #** \_\_\_\_\_ or **Check number** \_\_\_\_\_

**Order Date:** \_\_\_\_\_

**Contact Name** \_\_\_\_\_

**Phone number** \_\_\_\_\_

**E Mail address:** \_\_\_\_\_

**Bill To:** \_\_\_\_\_

**Address** \_\_\_\_\_

**City** \_\_\_\_\_ **State** \_\_\_\_\_ **Zip** \_\_\_\_\_

**Ship To:**

**School** \_\_\_\_\_

**Department** \_\_\_\_\_

**Address** \_\_\_\_\_

**City** \_\_\_\_\_ **State** \_\_\_\_\_ **Zip** \_\_\_\_\_

**Order:**

\_\_\_\_ Full Canopy Aerocoupe kit

Cost: \$2250.00

\_\_\_\_ Open Cockpit Roadster kit

Cost: \$1850.00

Add Shipping charges (see below)

Shipping \_\_\_\_\_

**Total** \_\_\_\_\_

NorthEast \$400, SouthEast \$500, MidAtlantic\$350, MidWest \$350,  
Central Plains \$300 SouthWest \$350, Intermountain \$250,  
West Coast: \$250, Hawaii/Alaska 6500

**Allow two weeks for delivery after receipt of your order**

**BLUE SKY DESIGN LLC 82811 Jackson Marlow Rd. Eugene OR 97405**

# Electrathon vehicle safety

Electrathon vehicles generally are extremely stable vehicles due to their low center of gravity. The CG is typically only about 4" above the ground. Further more they are low voltage electric vehicles running at low to moderate speeds (20-50 mph) equipped with spill proof AGM type batteries.

## Current rules require:

Side structures and or body shells to protect the driver and limit intrusion.

Roll Bars capable of supporting the vehicle and driver in a roll over situation

Drivers are required to wear rated motorcycle helmets.

Drivers are required to wear five point seat belts.  
(The Aerocoupe features a race car style anti-submarine seat as well.)

Drivers are required to have rear view mirrors.

Most Electrathon vehicles are three wheeled designs. This has proven to be the most efficient number since two wheeled vehicles are not allowed for stability issues and four wheeled vehicles are handicapped by the additional rolling resistance created by the fourth wheel.

Of the three-wheeled designs, most are of a “**Cyclecar**” layout, having two wheels in front for steering and braking and one in the rear driving the motor.

The other design option is a “**Tricycle**” layout with one front wheel for steering and power and two rear wheels with brakes.

There are competitive arguments for and against each design aerodynamically. However the safety issues between the two are more clear:

**The Cyclecar** has superior control qualities since the two front wheels share the work of steering and braking with twice the effectiveness.

The two brakes on the front wheels improves braking since the weight transfer is forward onto the front wheels during braking.

The two forward wheels improve vehicle stability since they are well positioned to resist rolling around corners.

Two wheels forward allow the driver to see the widest point of his vehicle when maneuvering and in traffic.

The two wheels forward provide more surface area in the event of a collision to absorb energy. The two front wheels are in effect, “deformable bumpers” that reduce the potential for the vehicle to penetrate another vehicle.

The driver sits between the front wheels and usually has room to bend his legs back safely in an accident.

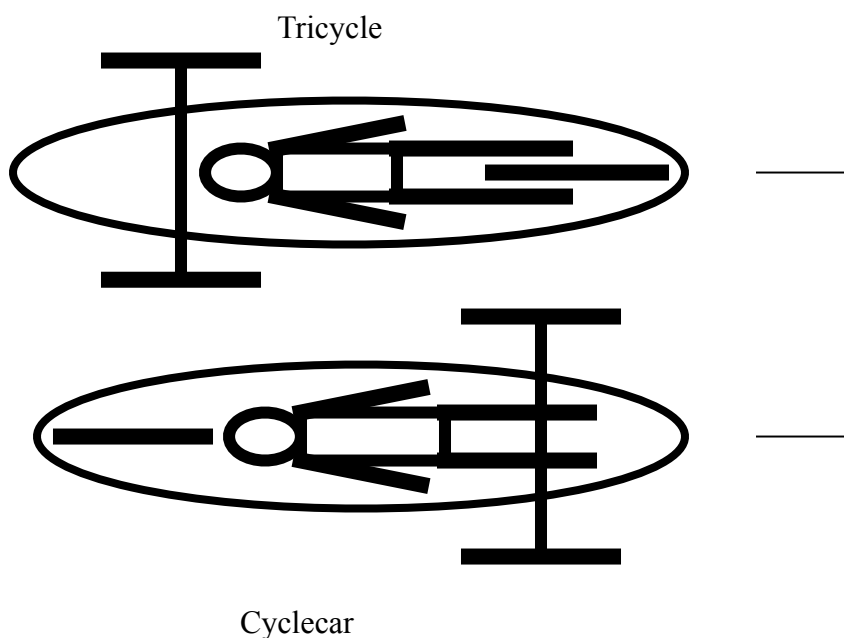
**The Tricycle** in contrast has a single front wheel that must do all the steering and power transfer. This limits the control of the vehicle to the traction available to the single tire.

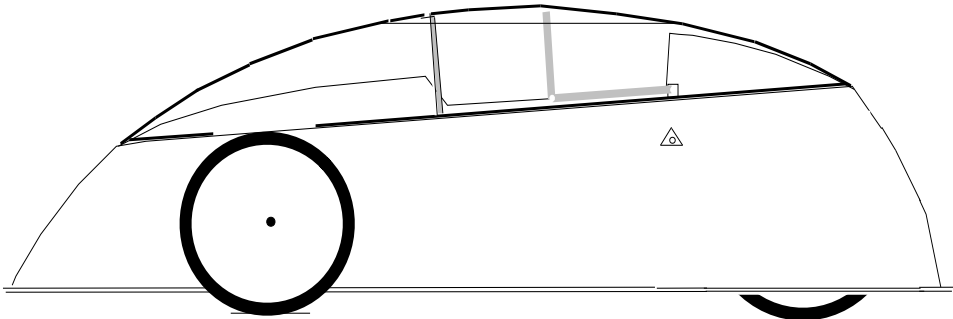
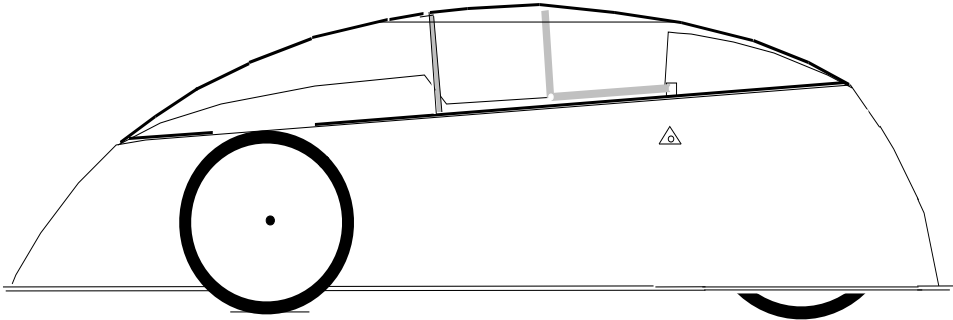
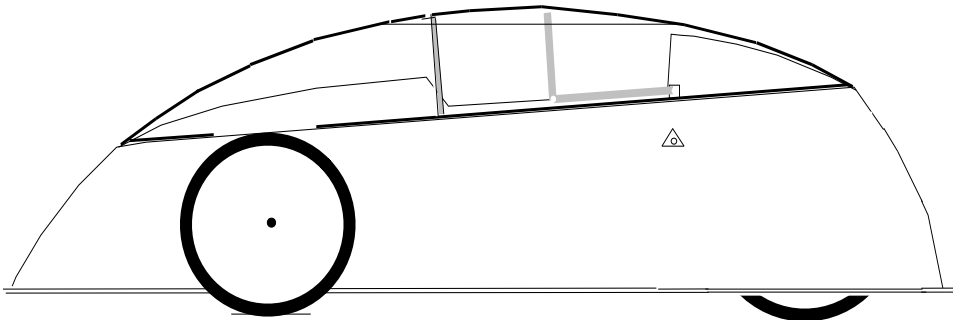
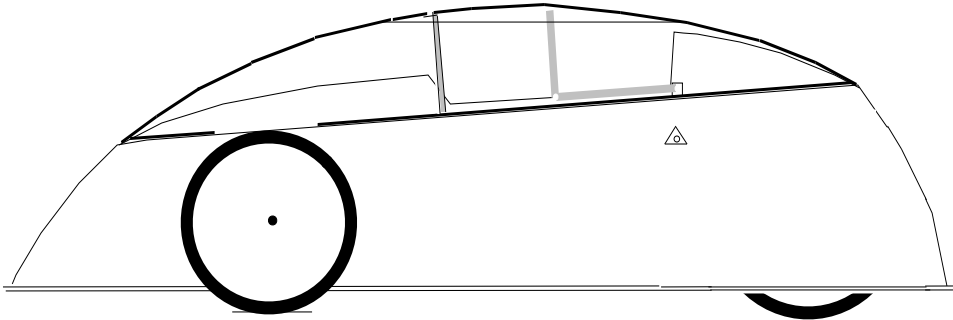
The narrow front design increases the potential for the vehicle to penetrate another vehicle or object in a collision.

The single front wheel is the only “deformable structure” and is usually in front of the vehicle structure. The driver is located behind the front wheel and can be trapped or injured by the steering structure or wheel in an accident.

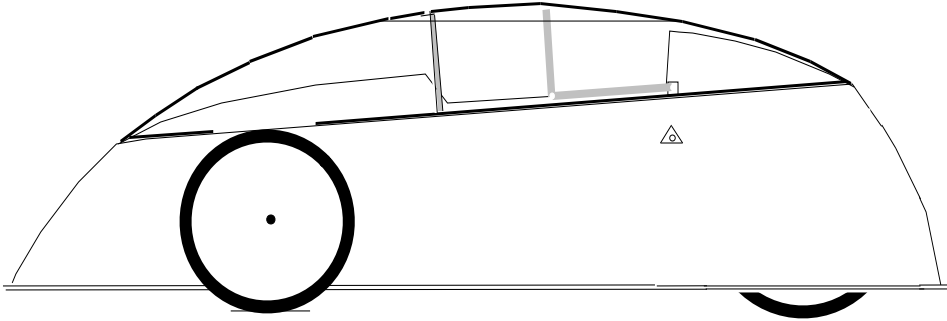
The two rear wheels are equipped with brakes, but weight transfer is forward during braking which can increase the potential for rear wheel lock up and skidding.

In addition, the rear wheels are behind the drivers’ field of vision and require the driver to look behind to observe their location and are also more prone to snagging on objects around corners or other vehicles in traffic.









Copy this page and draw your Team graphics

Chassis Track:	38
Wheelbase:	57

## Body measurements

Front of shell to front axle:	29"
Bumper hoop length from the front axle:	20"
Top of chassis from bottom of seat pan:	7"
Front of shell to max width:	41"
Max body width at perimeter flange around bottom of body:	30"
Body width at drivers shoulder:	21"
Front of shell to drivers shoulder: (5'10" 180 lb driver)	60"
<b>Total length of body:</b>	<b>95"</b>
<b>Max vehicle height of body with canopy from ground:</b>	<b>26"</b>
Max canopy height:	12 "
Ground clearance:	2" aprox.
Front of shell to front of canopy:	9"
Body height at canopy line in front:	12"
Height of canopy line on body at rear:	20"

## Canopy Measurements

Length of canopy:	80"
Max width of canopy:	22"
Height of canopy:	12"

## Part weights

Weight of canopy:	8 lbs
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Weight of FRP seat pan:	18 lbs
Weight of chassis:	31 lbs
Weight of FRP body:	20 lbs

Dear Instructor,

Thank you for your interest in Blue Sky Design products.

We believe Electrathon is a valuable and exciting learning opportunity. Over 95% of our customers are schools building our Electrathon vehicles across the country, making our Aerocoupe the most popular Electrathon class racer by far. Our kit provides you with the primary vehicle components that enable your class to assemble a highly competitive vehicle without welding and fabricating a vehicle from scratch. This approach allows more time for teaching and less time in the shop, yet gives students a real seat-of-the-pants learning experience in a proven design.

Our Assembly Manual gives you step by step instructions that list of all the parts, supplies and tools you will need to finish the kit,

Most of these items are locally available off the shelf at hardware stores or bicycle shops, saving you time and money on your project.

Our best way to help schools keep Electrathon affordable is to offer our kits factory direct to you, eliminating the middleman and giving you fast and helpful service.

Yes, we do accept school Purchase Orders (however prepaid orders get priority)

We usually have all parts in stock ready to ship. Small parts are sent Priority mail. Kits are shipped by truck and it takes about 10 days for delivery.

By ordering parts or kits together with other schools you can save on shipping costs.

And finally, local business and utility districts often will sponsor your project in

exchange for advertising space on your vehicle.

Publicizing your project in the local media will attract positive attention to your program and raise public awareness to the creativity, relevance and innovation in education.

Thank you, Blue Sky Design [www.BlueSkyDsn.com](http://www.BlueSkyDsn.com)

## Shipping

**Aerocoupe Kits ready to ship (2x2 structure reinforced with plywood shear panels)**



**Your kit is shipped by truck** It weighs 200 lbs and will fit in a pickup or minivan

Delivery usually can take up to two weeks depending on weather, location and holidays. We need to have a name and phone number on your order so the shipper can arrange delivery to you. Your order will have a PRO tracking number for reference.

When we receive your order, we will send your Assembly Manual to you by Priority Mail so you can start organizing your project and have things ready to start.

Always inspect you order IMMEDIATELY to be sure nothing was damaged in shipping.

It is rare that damage occurs, but if so, note the damage on the Bill of Lading.

Take pictures. Contact our shipper (shown on the Bill of Lading) who will file a claim and if accepted by the carrier, will send you a replacement part.

YOU MUST INSPECT FOR DAMAGE BEFORE SIGNING FOR RECIEPT  
OR YOUR CLAIM MAY BE DENIED

#### **M1 Chassis**

A race proven steel perimeter frame with geometry designed for stability and handling quality. Includes rollbar, steering handles, bumper and M5 Steering Spindles. \$750 plus c.o.d. shipping

#### **M2 Fiberglass Seat Pan**

Closes out the bottom of the M3 Body Shell and form fits over the M1 Chassis. Molded in Seat and battery box for two batteries. \$350 plus c.o.d. shipping

#### **M3 Aerocoupe Body Shell**

This popular design combines sleek styling with an exceptionally low .20 CD rating. Molded of durable Fiberglass Reinforced Plastic, can be used open cockpit Indy style or enclosed with the M4 tinted canopy. \$650 plus c.o.d. shipping

#### **M4 Canopy (tinted, like sunglasses, or clear by special order)**

A sleek optically blown acrylic canopy fits the M3 Body Shell and optimizes the aerodynamics. \$450 plus c.o.d. shipping

#### **M6 Sprocket Adaptor**

Used by most Electrathon racers, this precision machined adaptor allows the use of all 110mm mountain bike chain rings as drive wheel sprockets. This allows you a full range of gear ratio options for each track and includes freewheel coasting for even better efficiency. \$130 plus \$10 shipping

#### **M8 Etek Motor Adaptor**

Mounts the popular Etek long shaft motor to the M1 chassis. Includes mounting bolts. \$50 plus \$10 shipping

#### **M12 Skyway CF Graphite Rear Wheel**

Premium Carbon Fiber composite wheel with ½"i.d. precision bearings in flip flop aluminum hubs. 20% stiffer. Fits M6 Sprocket Adaptor and M15 Steering spindles. \$175 per wheel plus \$20 shipping

#### **M14 Artek Disc Brake Set**

**Disc Brake Set** includes a pair of (a left and right) 160mm ventilated Discs, cable operated Calipers, Brake Levers and cables along with necessary fasteners and instructions.  
\$200 plus \$10 shipping

**M15 Steering Spindle Set**

Steering spindle set includes a pair (left and right) steering spindles with disc brake mounting for the Artek or comparable industry standard disc brakes. Spindles include hardware and engineered for proper steering geometry. \$150 plus \$10 shipping

**M16 Skyway CF 16" Front Wheels**

Durable Carbon Fiber impregnated composite wheels include Industry Standard hubs for mounting Artek Disc Brakes or comparable types. (Brakes not included) Wheels feature 1/2" id. Precision cartridge bearings. (use 16" x 1.25 -2.00" tires and tubes available at bicycle shops.) \$125 each plus \$20 shipping

**Racer Kit Assembly Manual**

Takes you step by step in building your racer with Blue Sky Design components. 50 pages illustrated book covers all extra components, parts, materials and tools needed for assembly. \$25 free shipping (included with kit orders)

## **Part Order form**

Use this form for small component (no body or canopy) parts sent Priority Mail:

**M6 HiG Freewheel Sprocket Adaptor**

**M8 Etek Motor Adaptor**

**M12 20" Skyway CF Graphite threaded flipflop hub rear wheel**

**M14 Artek Disc Brake Set**

**M15 Steering Spindle Set (for disc and 16" wheels)**

**M16 16" Skyway CF Graphite front wheel with disc brake hub**

Part	Description	Quantity	price	Total
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Shipping cost total (see parts pages)

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Total order

\_\_\_\_\_

## **Purchase agreement**

The safe use and application of these parts is the sole responsibility of the purchaser. No warranty or guarantee is made due to the experimental nature of the application beyond the control of the manufacturer. Reproduction of these parts is prohibited unless agreed to in writing by Blue Sky Design.

Ship to:  
Name: \_\_\_\_\_  
School \_\_\_\_\_  
Address \_\_\_\_\_  
City \_\_\_\_\_ State \_\_\_\_\_ Zip \_\_\_\_\_

Bill To:  
Purchase Order \_\_\_\_\_  
Name \_\_\_\_\_  
School \_\_\_\_\_  
Address \_\_\_\_\_  
City \_\_\_\_\_ State \_\_\_\_\_ Zip \_\_\_\_\_  
Phone \_\_\_\_\_ Email \_\_\_\_\_

**BLUE SKY DESIGN LLC 82811 Jackson Marlow Rd. Eugene, OR 97405**  
**Disc Brake Set** includes a pair of (a left and right) 160mm ventilated Discs, cable operated Calipers, Brake Levers and cables along with necessary fasteners and instructions.

**M14 Artek Disc Brake Set \$200 plus \$15 shipping**





**The Blue Sky Design Steering Spindle incorporates automotive geometry to enhance vehicle stability and handling qualities as well as significantly reduce rolling resistance of your Electrathon or HPV around corners.**

**The M15a spindles utilize 1/2" axles set for 16" diameter wheels.**

The spindles are equipped with an industry standard disc brake stay mount for use with our M14 Artek disc brake set. The spindles are designed for **5 to 30 degrees of castor (rake) on the front axle of the chassis**. This rake allows the front wheels to lean into the corners, improving cornering and de-stressing the wheels in turns. **Kingpin inclination on the M1 chassis** is set at **15 degrees** and will assist in vehicle tracking and straight line stability. **Ackermann angles** are set for vehicles with a wheelbase of between **48 and 60 inches**. These angles allow the inside front tire to follow a tighter arc around a corner than the outside front tire reducing tire scrub and drag.

Steering spindle set includes a pair (left and right) steering spindle with disc brake mounting for the Artek or comparable industry standard disc brakes.

**Spindles include hardware and engineered for proper Zero Roll Radius offsets,**



**M15 Disc Brake Steering Spindle Set \$150 plus \$15 shipping**

## **M16 Skyway CF 16" Front Wheels**

Durable graphite carbon fiber wheels include Industry Standard hubs for mounting Artek Disc Brakes or comparable types. (Brakes not included) Wheels feature 1/2" id. Precision cartridge bearings and use 16" x 1.25 -2.00" tires and

tubes available at bicycle shops. **\$100 each plus \$20 shipping (one or two)**



## **M12 GRAPHITE CF Carbon fiber 20" Rear wheel**

This composite wheel is 20% stiffer than previous wheels. Features flip-flop hub that is threaded on both sides. Fits our M6 HiG sprocket Adaptor.

**\$150 plus \$20.00 shipping**

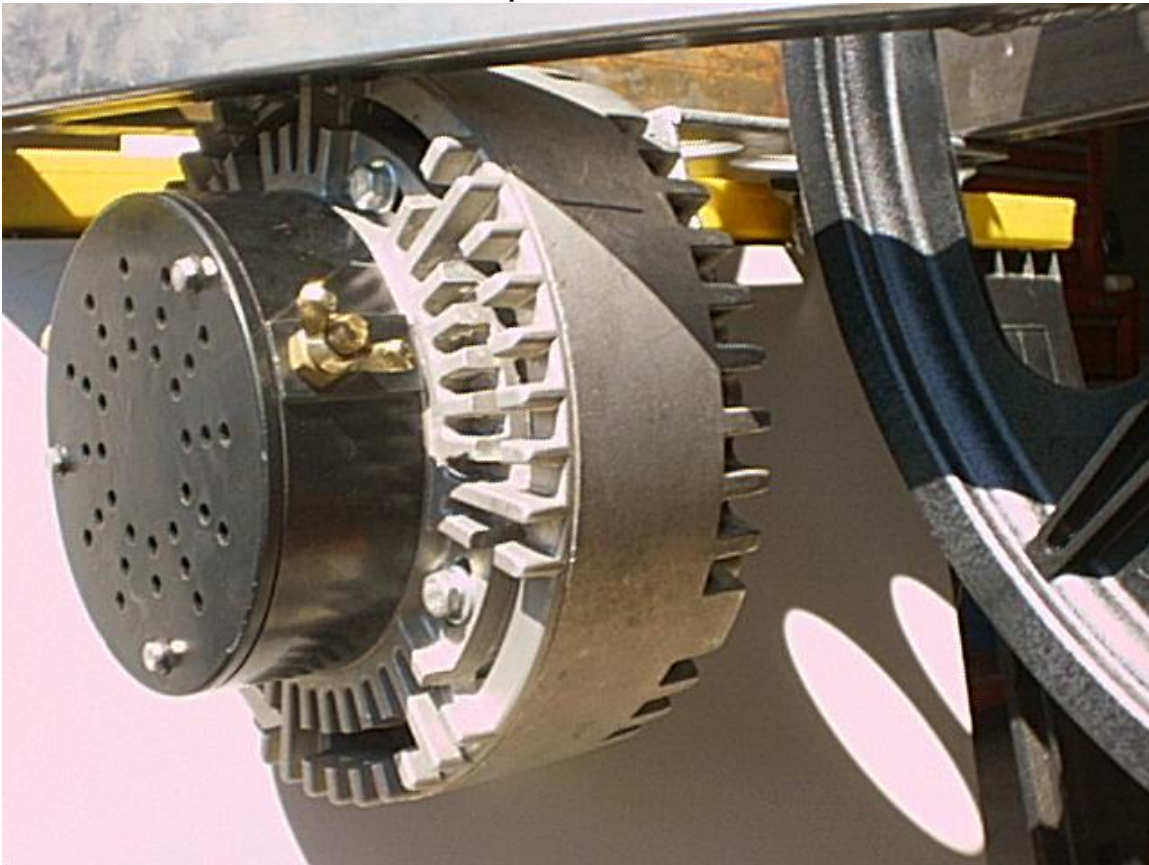


## M8 Etek Motor Mount Adaptor for M1 Chassis

For use with 24 volt **Etek** radial motors, we offer the **M8 Motor Mount**. This Adaptor is a plasma cut part that positions the **Etek** motor in an exact fit on the Blue Sky Design **M1 chassis**.

**NOTE:** For use only with the **Etek Long Shaft Motor** (3" long motor shaft)  
Modification of the plastic cover is required to install the new Etek R motors.

M8 Etek Motor Mount Adaptor:                      \$50.00 plus \$15 S&H







# M6 Sprocket Adaptor

Used by most Electrathon racers, this precision machined adaptor allows the use of all 110mm mountain bike chain rings as drive wheel sprockets giving you a full range of gear ratio options for any track. Includes freewheel coasting for even better efficiency and HiG Chain Guards prevent derailing.

**\$130** plus \$10 shipping

# Human Powered Vehicle applications

Many people are interested in building an enclosed HPV Velomobile or similar type vehicles. Our body shell parts may make that D.I.Y. project possible.

**M4 Canopy** can be used as a full fairing on a recumbent bicycle or three wheeled recumbent. It keeps the cold wind off you and provides some shelter from rain. In addition, the tint cuts down on the UV rays from the sun, keeping you cooler, like sunglasses. **\$400** (plus shipping)

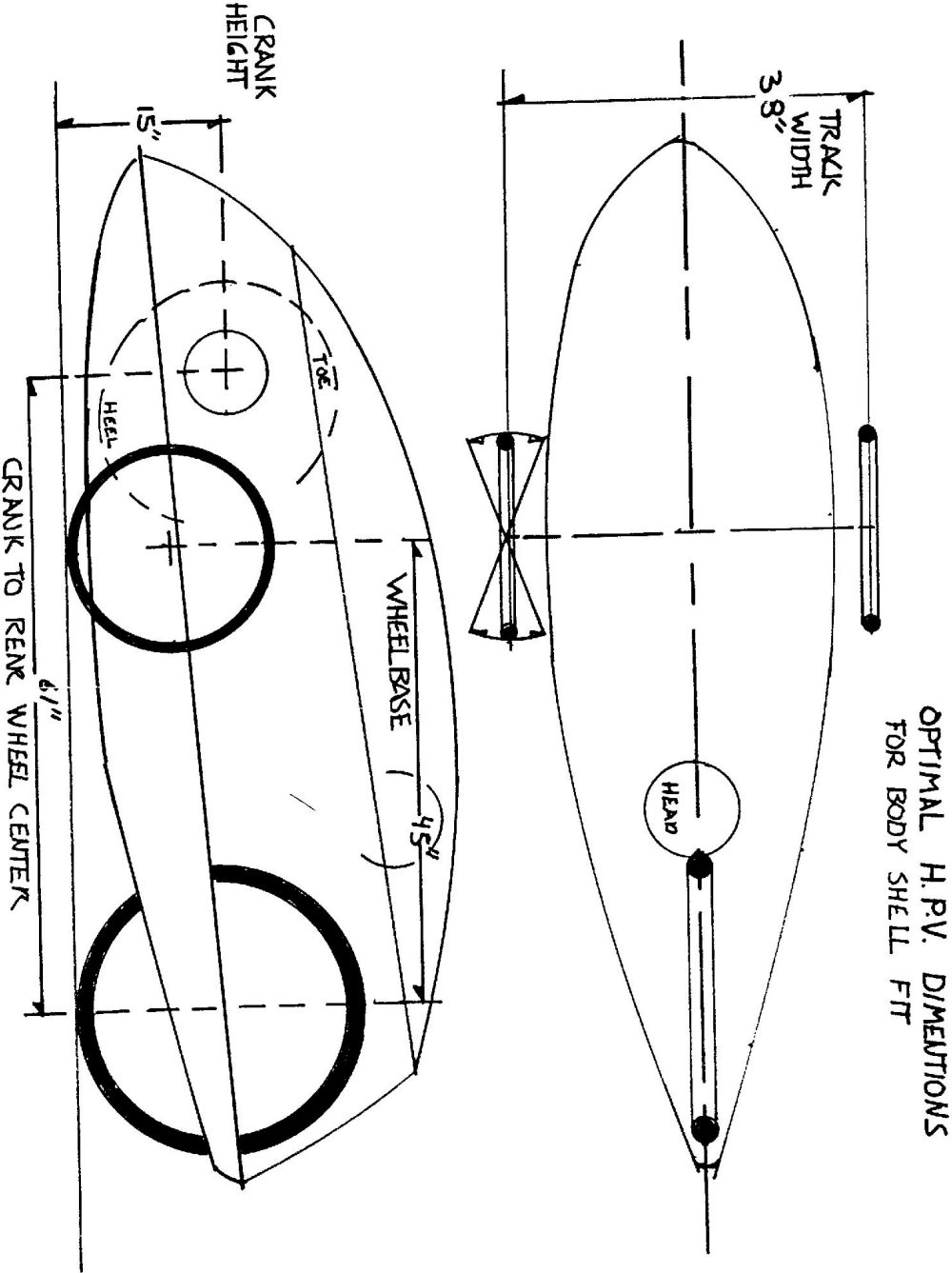
**M3 Body Shell** can help streamline your three wheeled recumbent by reducing drag, as well as providing more visibility for you on the road. **\$600** (plus shipping)

**M13 Belly Pan** closes out the bottom of the body shell and provides more room for you and rotation for your pedals and feet. **\$350** (plus shipping)

**Order all three parts at once and pay one shipping charge** (see Aerocoupe kit order form for regional shipping costs)



Fit diagram for custom HPV applications







Our popular M4 canopy can be used for many HPV applications for a simple wind and rain fairing. The 8lb acrylic tinted (or clear) canopy is adaptable but you must make your own attachment and support system.  
\$400 plus \$150 shipping.