



X-SCOOTER

by Dive Xtras Inc.



The development of the X-Scooter began in 2003 when the designer, Ben McGeever, was diving frequently on the deeper wrecks in the Seattle Washington area. Ben, an aerospace engineer by trade, wanted to build two (2) tow behind style scooters for himself and wife, Deb Frisco.

Researching and diving the "other" scooter designs available on the market, and using his engineering knowledge from many years of designing aircraft automation and subsea oil and gas equipment, he was convinced that he could improve on these older scooter technologies and design a scooter that would meet the following improved criteria:

1. Reduce the overall weight of the scooter by using newer batteries technologies and using a smaller more efficient motor. This would make it possible to design a balanced scooter that was significantly lighter and yet still capable of the thrusts and burn times needed to pull technical divers using large loads of equipment.
2. Reduce the number of overall penetrations (leak points) and thereby reduce the risk of flooding. He felt that a scooter did not need the four (4) external O-rings found on most other models.



Model	Sierra
Thrust	60lbs / 27kg's
Typical Usage	Recreational / Technical Commercial / Military Diving
Trigger Shift™	Electronic Speed
Speed Control	Adjustment using Trigger
Typical Speed:	2.0 mph / 3.2 kmh
Standard Body	Recreational / Wreck Tech / Commercial
Weight	35lbs / 16kgs
Battery	One (1)
Length	26" / 66cm
Burntimes*	NiMH: 45 min Li-Ion: 90 min
Long Body	Cave / Overhead Long range
Weight	55lbs / 25kgs
Batteries	Two (2)
Length	37" / 94cm
Burntimes*	NiMH: 90 min Li-Ion: 180 min

* Burn times are based on Max Pitch and Max drag.

3. Use a brushless motor, giving more reliability, efficiency and less weight than traditional brushed motors. Brushless motors have a 10 000 hour life vs. a brushed motor of only 500 hour life. They also have no brush board and the associated moving parts, reducing servicing and more importantly minimizing damage if flooded. Brushless motor can simply be rinsed with fresh water and put back into service.
4. A direct trigger mechanism that wouldn't rely on pulleys and wires for operation, reducing the amount of possible failure points. A much more simple design of a direct trigger action with magnetic switching.

Shortly after two (2) proto types were completed Ben contacted his technical dive instructor and current business partner, Andrew Georgitsis to continue to improve on the scooter design. Andrew, who has being technical diving since the early 90's and was part of the Britannic '99 expedition had extensive deep diving experience while utilizing the older types of scooter designs. His insights and experience could be very useful in continuing to drive the development of scooter technology to the next level. It was during these following months of discussions and meeting that Dive Xtras as a company was formed, and their goal defined. The company mission was to develop new diving equipment by combining their extensive diving experience while utilizing the latest in design technologies.

Below Background: Jakub Rehacek drives the X-Scooter into Devils Eye cave.

Below Foreground: Curt Bowen carries the standard body X-Scooter to the dive site.

Above Right: Cave explorer Brett Hemphill takes the X-Scooter for a test run into the high flow tunnels of Devils eye.





As partners, they continued to develop the X-scooter design with additional features such as: electronic clutch, watertight battery bulkheads and an integrated Owners manual DVD that contains a 100 page PDF Owners manual and over one (1) hour of instructional video on the proper use of the X-Scooter. They also developed an instructional class that certified scuba instructors can use to teach their own scooter diving classes.

The culmination of this work was the release of the "Silver Bullet" during 2004, this scooter weighed 35lbs, (1/2 the weight of comparable competition), with 60 lbs of thrust and 1 hour burn time for an average diver. It was extensively tested for one (1) year and In January of 2005, Dive Xtras released the first 20 test team units. These were tested worldwide and feedback incorporated into the design. With very few changes, the production model was released In March of 2005 over sold in their first year production forecast.

In October 2005 they purchased the special tooling needed to create an entirely new tail section (that is backward compatible), as they wanted to again improve and strengthen the current design of the shroud and

propeller system and ensure they controlled the entire supply chain. They now use all their own parts and technology in the X-Scooter, something very unique to their scooter. The X-scooter is now being used globally on a recreational and technical level and is sold through their Website, Premier Partners and X-Men programs. An accompanying X-Scooter class was also design and approved by NAUI and is a formal speciality class, with materials, power points and other teaching materials available for use from Dive Xtras. Dive Xtras also produced a number of articles, scooter diving resources and Demo DVD's that are available on their website to help consumers understand their use and the amount of fun an X-Scooter can be.

Dive Xtras is a new company striving to integrate and innovate evolving technologies as seen in the X-Scooter, They plan to produce other products and continue in the same fashion.

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