

Energya

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Energya is a street-legal, lightweight, high-performance, three-wheeled vehicle, also known as a motomobile. It advantageously combines the thrill of the motorcycle with the safety of the automobile. The vehicle feels, drives, and behaves much like an open-wheels racing car.

The *Energya* three-wheeled vehicle, also now known as a motomobile, was designed as a light, high-performance vehicle. The design/engineering team shares the philosophy of the late Colin Chapman, founder of Lotus Cars, so weight reduction was the deciding factor that lead to the choice of this type of vehicle.

Styling and design were conducted through a state-of-the-art R&D process. The aim was to solve the main problems related to this compact architecture in synchronicity with engineering. For example, ease of ingress/egress and side impact protection were made possible through the use of a half-door which also improves general styling by connecting the lower front cowling to the rear fairing with an uninterrupted beltline.

There are several advantages to a vehicle with only three wheels. Three-wheeled vehicles are considered motorcycles in many jurisdictions. Since the vehicle is not comprised of many of the weightier components required for an automobile, the motomobile may consequently be made lighter, which improves its performance.

Seating is typical of a sports car arrangement, where the driver and passenger are seated side-by-side. The *Energya* motomobile has a rear engine that drives the single wheel at the back. The vehicle feels, drives, and handles similarly to an open-wheel racecar. Storage convenience has not been neglected. There is a small storage space under the front cowling and two bins at the back. The storage capacity is 150 litres.

Although this vehicle was primarily envisioned as an electric transportation conveyance, the shortcomings of the current technology of energy storage methods dictated the consideration of transitional propulsion systems – for example, the electric motor combined with a gasoline range extender, and the more standard gasoline-powered motorcycle engine having a six speed sequential manual transmission. The long-term focus however remains the ideal environmentally friendly, purely electrically powered vehicle. The aluminium space frame structure has been designed to receive both transitional propulsion systems via the bolt-on rear engine cradle.

Energya features a recyclable aluminum space frame with inboard front suspension using a superposed unequal A-arm. The dampers slightly protrude through to the front cowling, both for aesthetic and cooling purposes. Ergonomic considerations were applied to the door and bodywork. In this type of vehicle, the principal innovation is half-doors that provide ease of access to the cockpit while offering side impact protection. The bodywork was simplified and is composed of a main large pressure-formed recyclable polymer deck (similar to a boat deck of fiberglass reinforced plastic, or FRP). No paint is needed as the polymer sheet includes a gloss top coating layer.

Particular attention was given to reducing the weight of each component in order to provide a vehicle that conveys a dynamically thrilling experience. The aim was to reduce the mass of the non-suspended components and to centralise most of the mass closer to the vehicle's center of gravity, so as to enhance dynamic performance.

Energya has been trademarked.

