

eMoto-Biography The Lightning Story



Ride the Lightning®



Ride the Lightning®



Lightning builds electric motorcycles that are powerful, responsive and precise to meet the demands of those who desire the pinnacle in motorcycle technology and performance. Elegant on the boulevard, eager on the road and dominant at the track.

Lightning has been the leader in electric motorcycle innovation, performance and engineering excellence since our founding in 2006 and the introduction of the Lightning E1, the first lithium battery sport bike in the world.

Lightning devoted our first nine years to research and development, followed by five years of rigorous testing, validation and winning in competition. Lightning began production after receiving our NHTSA and USDOT certifications in 2016. Lightning does not cease in the continual development of technological advancements in E-Moto mobility. Our latest innovation, the fastest fast charging available, the XFC* Xtreme Fast Charge System that can charge a 28.3kWh battery pack to 80% SoC in only 10 minutes.

Ride the Lightning is a register trademark of Lightning Motors Corporation.

Engineered by Enthusiasts for Enthusiasts



From The Beginning

Lightning Motors was founded by Richard Hatfield who after 25 years building a financial company decided to combine his passion for motorcycles with his commitment to the environment.

In 1995, Richard was invited to be the driver for an electric Porsche race team dedicated to winning a national electric vehicle road race championship. At that time, the battery technology didn't provide enough energy density, but the electric Porsche provided a glimpse into the possibilities of electric vehicle technology and ignited Richard's interest.

As a lifelong motorcyclist Richard believed that the lighter weight and aerodynamics of 2-wheel vehicles was better suited to the energy density of batteries.

This was the beginning of Lightning Motors Corporation quest to achieve parity with internal combustion engine motorcycles.

Since our founding Lightning has made continual e-Moto advancements with innovative and creative solutions, meeting the challenges and resulting in accomplishments once only imagined.



Nine years of research, development, reliability and durability validation in competition and in the hands of customers.



Founded in 2006 and in production since 2016.



Innovation Through Competition

In 2006 when lithium battery technology became available, Lightning converted a Yamaha R1 race bike into the Lightning E1, which was the first lithium battery electric sport bike in the world. The E1 provided proof that lithium battery motorcycles could compete with gas motorcycles.

Based on our initial success, Lightning designed and built a new prototype electric superbike. In October 2009 Motorcyclist magazine proclaimed that "The Salt Flats Have Never Been This Quiet!" when Lightning broke a longstanding landspeed record at Bonneville.

Lightning continued developing the technology and won the first North American Zero Emissions Championship in 2010.

In 2011, Lightning broke its own landspeed record twice more and became the 1st electric motorcycle to exceed 200 mph.

Lightning continued the success in the 2012 FIM TTXGP ePower race series by achieving two 1st place finishes at Infineon Raceway, a 1st at the Laguna Seca race and winning the FIM World Finals at Le Mans, crowning Lightning as the FIM TTXGP World Champion.



Lightning crowned the 2010 FIM North American Champion TTXGP Zero Emissions Race Series ridden by Michael Barnes.



Lightning LS-218 World Land Speed Record 215.907 hitting 218mph at Bonneville Salt Flats ridden by Paul Thede.



Proven Performance

Each of these accomplishments was one step closer to Lightning's goal of winning a major motorsports event against the world's top ICE motorcycles. In 2013, Lightning won first overall at the Pikes Peak International Hill Climb beating every gas and electric motorcycles by over 20 seconds with a 10:00.694. An electric motorcycle record that has never been beat.

This was a historic milestone for Lightning. An accomplishment of a goal that only a few years prior most experts thought was impossible. With the Pikes Peak win, Lightning began to convert electric motorcycle skeptics into believers.



Lightning performs extensive aerodynamic wind tunnel and CFD (Computational Fluid Dynamics) testing.



Lightning 2012 FIM World Champion TTXGP series after 1st place at Le Mans ridden by Miguel Duhamel.



Pikes Peak International Hill Climb 2013, Carlin Dunne on his LS-218 first overall - beating every gas and electric motorcycle by 20 seconds with a 10:00.694.

Turning Skeptics Into Believers



Notable Lightning Milestones

2006

1st Lithium Battery
Sport Bike in the World
The Lightning E1

Lightning Motors Corp. Founded in Silicon Valley California, USA

2007

Lightning engineered & developed a battery pack and software to convert Prius to PHEV mode. This project was used by GM in their Chevy Volt benchmark tests

2008

1st Lithium Battery ATV in the World

2009

Our 1st E-Motorcycle World Land Speed Record 173.038mph

Introduce CNC billet aluminum chassis and swingarm

2010

Lightning FIM North American Champion E-Power TTXGP Series

2010

1st Electric with Motor & Battery as Stressed Chassis Member

1st Production Electric Motorcycle with Oil Cooled Motor

1st Production Electric Motorcycle with all Carbon Fiber Bodywork

Modular chassis design

2011

1st E-Motorcycle to break 200mph At Bonneville SCTA World Record 215.907 Top speed 218mph

2012

Lightning FIM World Champion TTXGP series after win at Le Mans

1st Electric Race Team to use energy from Solar Power to charge motorcycles in competition

2013

1st Overall Pike's Peak beat the world's best Gas and Electric racing motorcycles by 20 seconds, 10:00.694 electric record that still stands

2014

1st Al Generative Design Titanium Swingarm – under 10lbs

1st Electric Motorcycle Concentric / Eccentric Swingarm Mount for Tuning Weight Transfer Swingarm available in Aluminum Alloy or Carbon Fiber

2016

NHTSA and
USDOT Production
Certification
LS-218 In Production
200hp / 900 lb ft torque
200+ mph
.40 hp/lb power to
weight ratio

2016

LS-218R First 750vdc Production Motorcycle

2018

LS-218RR First 800vdc Production HyperBike Introduced

The Blade Fully Enclosed Urban Commuter Introduced

2019

CCS Level 3 DC Fast Charging Introduced as standard equipment

Strike C 140hp Introduced .29hp/lb Under \$20,000

2020

Lightning Streetliner Aero Strike 20kWh battery 200 mile hwy range

2022

XFC° Xtreme Fast Charge System available up to 28.3kWh - 10 minute charge time 20% to 80% SoC, up to 120kw charge rate

2023

Strike R 151hp / 600 lb ft torque Introduced .31hp/lb power to weight ratio

LS-218 power increase to 263hp / 1,100 lb ft torque .53 hp/lb power to weight ratio

2024

Lightning Tachyon NB Streetliner top speed 250+ mph – built with lightweight Niobium alloy components

Strike RR 194hp / 600 lb ft torque Introduced .40 hp/lb power to weight ratio

E-Moto Accomplishments Once Only Imagined



Leadership In Innovation



Lightning E1 debut in 2006 World's First Lithium Battery Sport Bike



LS-218 Superbike 263hp 1.100 lb ft 200+ mph .53 hp/lb

Since 2010 motor a stressed member of chassis



First Al Generative Design swingarm under 10 lbs cast titanium in 2014



Swingarm Extensions for drag racing or land speed record



2010 FIM North American TTXGP Series Champion

2012 FIM TTXGP World Champion after win at Le Mans



LS-218RR Hyperbike 800v 200+ mph with Carbon Fiber Swingarm

Oil cooled motor on all LS-218s



2024 Strike RR 194hp

2022 Strike R 151hp

Lighter weight 481lbs with 20kWh battery



2019 Strike C 142hp



CNC Billet Aluminum & Carbon Fiber Swingarms with Concentric / Eccentric mount for tuning weight transfer & lower unsprung weight



10 minute charge times to 80% with XFC Xtreme Fast Charge The Fastest Fast Charging Available On Any Electric



Streetliner Aero Strike 30% More Highway Range

200 mile range 65 mph highway speed



Use of Lightweight Materials Carbon Fiber, Niobium alloys, Aluminum, Titanium improves range. handling and braking



Sparc Mini-Moto 35hp 85 mph



2012 First Solar

Power Charging

in Competition

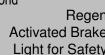
Lightning Tachyon NB Streetliner Niobium alloy components

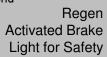


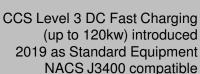
Blade enclosed

commuter

1st Lithium Battery ATV in the World 2008









LS-218 Superbike First Overall with 10:00.694 Minute Record Run At Pikes Peak Beat All Gas and Electrics by 20 seconds



Lightning Smart Dash Set Riding Modes, Regen Braking & Charge Rate



LS-218 Superbike 218mph at Bonneville World Record









Lightning Proficiencies

Competencies	Capabilities	Internal Resources
Electric Powertrains	Mechanical Engineering	CNC Machining
Electric Motors	Electrical Engineering	Carbon Fiber Manufacturing
Motor Housings	Software Engineering	Dynojet® Dynamometer Testing & Tuning
Battery Packs Chassis Design	AutoDesk AI Generative Design / CAD	Wind Tunnel Testing
Gear Reduction Units	Concept to Prototype	CFD – Computational Fluid Dynamics Testing
Inverters / Controllers	Battery Systems Design	Fast Parts Prototyping
Battery Management Systems	Drive System Design	3D Printing
Battery Charging Systems	Reliability and Durability Testing	Design Modeling Digital, Clay & 3D
Thermal Dynamics		Al Generative Design
Aerodynamics	Aerodynamic Testing	Fabrication
Solar Charging	Vehicle Validation	Spray Booth
Mobile Energy Storage	Regulatory Compliance	Assembly

Nearing 20 Years of EV Industry Expertise



Ride the Lightning ®



Lightning Motors Corp 2360 Technology Parkway Hollister, California 95023 United States of America

Ride the Lightning is a register trademark of Lightning Motors Corporation.