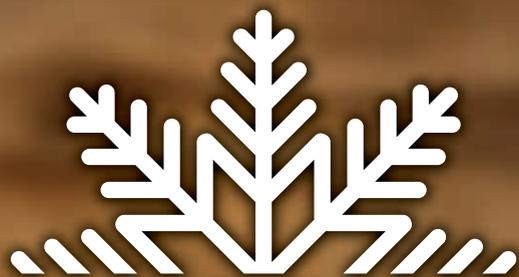


Your Touchstone Energy® Cooperative 

ROUGH RIDER NEWS

ELECTRIC COOPERATIVE

DECEMBER 2016



From our cooperative
family to yours,
Roughrider Electric
wishes you, our
member-owners,
a blessed
CHRISTMAS.





PHOTOS BY LUANN DART

Brian Kopp owns a Model S P85 Tesla, a performance model now known as the "classic" version.

TESLA OWNER THRILLED WITH ELECTRIC CAR

BY LUANN DART

Brian Kopp's mind is an encyclopedic spreadsheet of tech specs, spewing facts and figures like a smartphone's Siri. These days, he's enumerating details about an innovation that's larger than a smartphone. It's his electric-powered car, a sleek, nimble vehicle like nothing else on the road.

Behind the wheel of his Model S P85 Tesla, Kopp points out features of the electric car, tapping a touchscreen that charts the car's consumption of battery-stored electricity, then demonstrating how the car regenerates power as he drives on city streets. They're features specific to a Tesla. And there's more.

Kopp can drive the car an entire mile with the equivalent consumption of a 100-watt light bulb that's lit for about three hours. The Tesla costs approximately 3 cents a mile to power.

The 7,000 batteries, which are grouped within plates underneath the car, will hold enough power to drive 265 miles at 65 miles an hour in one charge. Since he bought the car in May 2014, Kopp has driven 56,315 miles, using

17,540 kilowatts, or \$1,700 in electricity.

Kopp, a member of Roughrider Electric Cooperative who lives in Dickinson, charges the car in his garage using a 240-volt NEMA 14-50 outlet. This is the same outlet commonly used for recreational vehicles at campgrounds, which means Kopp can charge his car anywhere an RV can plug in.



PHOTO COURTESY OF TESLA

Tesla has "supercharger" stations across the globe, where Tesla owners can charge their cars for free in a short time.

The car can be fully charged in eight hours with this type of outlet. Tesla has placed “superchargers” across the globe, which are free connectors that charge a Tesla car within minutes. While none of the supercharger stations are located in North Dakota yet, Kopp has used a supercharger in Rapid City, S.D. There, he can get an 80 percent charge within 40 minutes. The other nearest superchargers are located in Billings, Mont., and Minneapolis, Minn., and Tesla has shown an interest in developing stations in cities along I-94 in North Dakota, according to Kopp. Kopp has driven about 3,000 miles on free electricity from the superchargers.

He typically charges his car to about 80 percent daily because the lithium-ion batteries last longer if they are never completely empty or completely full.

“I only fully charge it when I’m going on a major trip,” he says.

The electric car’s 17-inch touchscreen informs Kopp of how much electricity remains, how many miles he’ll be able to travel on the remaining power, how much he’s using and how much he’ll need to reach his destination. It will also calculate a reduced speed to reach a destination, because the car can travel even farther at slower speeds.

The car’s touchscreen map shows the location of each supercharger and will also memorize and map wherever it’s been charged, so the touchscreen informs Kopp if he’s out of range of a “known” charging station.

The car will also calculate information based on the wind resistance, which can be a factor in how much power the car consumes.

“Every bit of wind resistance is your biggest downfall,” Kopp says.

“Like coming back from Bismarck, I’ve had just crazy headwinds where I haven’t had a lot of extra charge to make it home, so I’ve gone 60 or 65 instead of 75 to make it home, but the car tracks all that,” Kopp says.

Using the heater in the winter also reduces the range of the car. Kopp calculated one wintertime trip in which the heater used about 30 percent of the car’s energy.

But Kopp scoffs at the price of gas and maintenance for gas-powered vehicles.

The Tesla includes 19 moving parts, compared to thousands in a standard vehicle. His only maintenance is filling the windshield wiper fluid.

“Reliability is higher because there’s less to fail,” he says.

And the car he purchased in May 2014 is not the car he owns today, due to updates delivered to the car remotely.

Features on the dashboard have changed and the touchscreen’s abilities have increased. The car is also more

powerful due to remote updates.

“So it’s actually more powerful than the day I bought it from an over-the-Internet upgrade,” he says. “The dash has changed three times since I’ve had the car. ... It’s far better than the day I got it.”

The car’s Panasonic battery pack output equates to 320 kilowatts of power, or 507 horsepower at a gas vehicle crank equivalent and 433 horsepower at the wheels, according to Kopp. The Model S accelerates from 0 to 60 miles an hour in 4 seconds, which Kopp demonstrates in stomach-churning fashion.

“In the last 10 percent of the battery, you don’t have full power, but it will still have well north of 300 foot pounds of torque, even when you’re at a couple percent, so you still have far more power than a typical gas car will have,” he says.

The latest Tesla, a P100D Ludicrous, is the world’s fastest-accelerating car, going from 0 to 60 in 2.5 seconds.

“You can’t buy a Porsche that goes quicker off the line than an American-made electric car,” Kopp says.

Tesla also troubleshoots the car remotely, with 24/7 technical support service.

“If a problem is found, most people will never have a problem, because they fix it before most people even see it,” Kopp says.

When Kopp first purchased the car, Tesla would retrieve the car and haul it to the Minneapolis service center for free. Now, Kopp must drive the car there himself or pay for the retrieval service.

While Kopp was shopping for a new vehicle, he had certain criteria, including size, power and efficiency.

“Nothing ever seemed to be the whole package of what I wanted,” he says. Then the 30-year-old computer technician found what he was looking for.



PHOTO COURTESY OF TESLA

Brian Kopp plugs his Tesla into a 240-volt NEMA 14-50 outlet in his garage to charge each night.



PHOTOS BY LUANN DART

The inside of Brian Kopp's car shows the 17-inch touchscreen. Notice there is no ignition switch. The car starts when Kopp taps the brake.

“Then some guy put out a spreadsheet about what it costs to own vehicles over eight years. Being in technology, spreadsheets are totally my thing. I plugged in the numbers and it's \$800 more a year than a new Honda minivan,” he says.

He purchased the Tesla for \$104,000, and received a \$7,500 federal tax credit. But this may just be the only car Kopp ever buys again.

So far, the car has lost 3.5 percent due to battery degradation, he says.

With plans to manufacture 500,000 cars in 2018, Tesla also has self-driving electric vehicles. The company changes its models nearly every week, Kopp says, so his car isn't a 2014, it's a May 2014.

“Anything they find that they can do better, is immediately changed,” Kopp says. “They don't wait for model years like other companies.” For example, his model includes mirrors that fold when he leaves the vehicle. A November 2013 model does not include that feature.

Inside the car, Kopp points to other features. The touchscreen acts as a laptop computer, with traffic pattern information, Google maps and voice-activated dialing, among other features. The car will learn the driver's schedule, then heat or cool the car prior to use.

The car does not have key holes on the doors or the ignition. The car's key fob, shaped like a Tesla, activates the door locks automatically, unlocking as Kopp approaches the car, and locking the doors as he walks away. The car starts when Kopp taps the brake.

Another feature on the car is its regeneration abilities. When the throttle is lifted, the car will use the motor as an alternator to generate power back into the batteries.

“They call it one-foot driving. You rarely use the brakes in the car,” Kopp says. “So that's why around town it's so efficient, so instead of stop and go, it's go and recharge.”

Kopp demonstrates as he approaches a stop sign. He lifts his foot off the accelerator and the car immediately slows. He only taps the brake to come to a complete stop. The touchscreen then graphs the amount of electricity he's used and the amount that's been regenerated.

Kopp also likes the winter traction control and the fact that the car does not need to warm up in the winter. With its weight distribution underneath, the car corners on a dime and is extremely difficult to roll.

The full-size car that seats seven also has more storage. “Everything you don't have in a gas car creates room in an electric car,” he says. Where the engine takes space in a gas car, an electric car has a “frunk,” or second storage space in the front.

And when someone reminds him that he's left the lights on, he's unperturbed. He could leave the lights on for weeks and still be able to start the car.

While Kopp can recite all the innovative details about the Tesla, he knows what he likes best about the car.

“I think it's a combination of the quiet, plus the performance with the efficiency,” he says. “It's so much cheaper and there's no maintenance.” ■



Brian Kopp shows the Tesla's key fob, which is shaped like the car. Tap on the trunk of the key fob and the trunk of the Tesla opens.



Cooperative offers scholarship opportunities

Roughrider Electric Cooperative will again offer \$5,000 in college scholarships to area students. The co-op will award eight, \$500 scholarships. Each school in our service area chooses one recipient. School representatives from Belfield, Beulah, Center, Dickinson High, Dickinson Trinity, Hazen, Richardton-Taylor and South Heart choose a graduating senior to receive the funds. Interested in applying? Students should contact their school counselor for deadline information. The schools will then forward each recipient's name to Roughrider Electric Cooperative.

The co-op will also award one, \$500 scholarship to a graduating senior from a school outside of our service area. The recipient must have parents who are members of our cooperative.

Roughrider Electric is also offering one, \$1,000 scholarship from Basin Electric Power Cooperative. We award the scholarship to a student already enrolled or planning to enroll in a full-time graduate or undergraduate program. The student must attend an accredited, two-year or four-year college, university or vocational/technical school. All post-secondary students who have parents that are members of Roughrider Electric Cooperative are eligible to apply.

Students can find the application on our website, roughriderelectric.com. Forms are also available at our local offices in Hazen and Dickinson.

Fill out our online application or mail paper applications to Roughrider Electric Cooperative, Attn: Scholarship Committee, P.O. Box 1038, Dickinson, ND 58602.

Return completed applications to Roughrider Electric Cooperative before **Feb. 10, 2017**. ■

Report from

THE BOARD OF DIRECTORS

OCT. 28, 2016

When, where and who: The Board of Directors met in Hazen on Oct. 28.

Agenda: The Board reviewed, added to and approved the meeting agenda.

Minutes of the previous meeting: The Board reviewed and approved the minutes of the Sept. 30, 2016, meeting.

Consent Agenda: The Board reviewed, discussed and approved the Consent Agenda, including proposed membership applications, service connects and assignments, proposed cancellations of membership and requests for retirement of capital credit accounts.

Co-General Managers' report: Chris Baumgartner and Don Franklund presented the managers' report.

Capital credits retirement: The Board discussed capital credit retirements, and whether to retire capital credits in 2016.

2017 draft budget: Mr. Kupper led the Board through the 2017 Operating Budget, including the assumptions utilized in preparation of the same. He noted that this is a draft budget (about 85 percent complete), and is being presented for informational purposes only at this time.

Operations and Construction report: Mr. Bentz referred the Board to his written report.

Upcoming meetings: The next Board meeting was set for 9 a.m. Mountain Time on Nov. 28, 2016, at Roughrider's office in Dickinson, North Dakota.

Other business: There being no other business, upon motion made, seconded and unanimously carried, the meeting adjourned. ■

Roughrider Electric Cooperative offers members CONSERVATION AND ENERGY EFFICIENCIES INCENTIVES

Roughrider Electric Cooperative is continuing the conservation and energy-efficiency program through 2016. The incentives help you, the member, become more energy efficient.

The program for 2016 will include ground-source heat pumps and air-source heat pumps.

Members must buy and install qualifying systems between Jan. 1, 2016 and Dec. 31, 2016. The program for the heat pumps is for new installation or for replacement of a conventional heating system.

Roughrider Electric Cooperative personnel will check the

installation, and get the appropriate documentation and receipts. Once completed and approved, Roughrider Electric Cooperative will send a check directly to the member to help cover the purchase cost.

A maximum dollar amount has been set aside for the incentive program. The program will close when we meet this amount. Roughrider Electric reserves the right to cancel the program without further notice. One rebate allowed per member.

For more information, please contact Brad Quenette, director of member services, at 800-748-5533 or email bquenette@roughriderelectric.com.

Ground-Source Heat Pumps:
Required minimum efficiency

\$150 per ton with a maximum rebate of \$600
CLOSED LOOP: EER >= 14.1 COP >= 3.3
OPEN LOOP: EER >= 16.2 COP >= 3.6

Air-Source Heat Pumps:
Required minimum efficiency

\$100 per ton with a maximum rebate of \$400
HSPF >= 8.2 EER >= 12 SEER >= 14.5

JUNE 10 to 16, 2017

North Dakota Electric Cooperative

YOUTH TOUR

HIGH SCHOOL
SOPHOMORES & JUNIORS

WRITE A WINNING ESSAY AND WIN A TRIP OF A LIFETIME!

An all-expense-paid trip to WASHINGTON, D.C.

- To enter the essay-writing contest, you must be a sophomore or junior in high school.
- You and your parents or guardian must be served by Roughrider Electric Cooperative.
- If you have a question, contact Brad Quenette, Roughrider Electric, at the address listed below, or call 701-748-2293 during regular business hours.
- The deadline is Jan. 31, 2017. Email entries to bquenette@roughriderelectric.com or mail to: Youth Tour Essay Contest, Roughrider Electric Cooperative, 800 Highway Dr., Hazen, ND 58545-4737.



ESSAY QUESTION:

Democracy is the foundation of our American way of life and of cooperative enterprise. The fundamentals of democracy include voter participation, political party affiliation, and public debate of issues. Describe what you think makes our current democracy strong, and provide suggestions for ways our democracy can be made stronger and more effective.

TOP 3 REASONS TO ENTER THE ESSAY-WRITING CONTEST

1. All-expense-paid trip to Washington, D.C., compliments of Roughrider Electric Cooperative.
2. A whole week to visit unforgettable historic monuments, museums and the U.S. Capitol.
3. A learning experience you'll never forget.

CHECK OUT THE ESSAY-CONTEST GUIDELINES AT

www.ndyouthtour.com and www.youthtour.coop

Holiday closings

Our entire organization wishes our member-owners a very Merry Christmas, and a safe and Happy New Year!

In observance of the holidays in December and January, Roughrider Electric Cooperative will be closed:

- **Monday, Dec. 26, for Christmas**
- **Monday, Jan. 2, 2017, for New Year's Day**

Members: Line crews will be available in case of an electrical emergency outage.

North Dakota's electric cooperatives celebrate National Apprenticeship Week

North Dakota's 16 electric distribution cooperatives and five generation and transmission cooperatives, in partnership with the U.S. Department of Labor, celebrated National Apprenticeship Week Nov. 14 to 20, and highlighted the apprentice linemen and apprentice meter technicians who work for their local cooperatives.

Apprenticeship is an "earn-and-learn" training model that combines work-based learning with related classroom instruction using the highest industry standards. Apprenticeship is for those who aspire to be great, lead in innovation and creativity, strive to innovate in business and industry, and recognize the value of combining paid on-the-job learning coupled with a substantial educational component to build generational greatness in careers and commerce.

National Apprenticeship Week is an opportunity for the apprenticeship community to tell the story of apprenticeships and is encouragement to leaders in business and industry, education, career seekers, community-based organizations, students and workers to learn about the real-world advantages of developing careers through adoption of the apprenticeship model.

The United States currently has approximately 375,000 apprentices working with more than 150,000 employers. The North Dakota Association of Rural Electric Cooperatives (NDAREC) reports there are 72 workers enrolled in the apprenticeship program in North Dakota. These apprentices are working toward a career as a line maintainer or a meter repair within the electrical utility industry. Roughrider Electric Cooperative, your local Touchstone Energy® Cooperative, currently has two apprentices: Mitch Krebs and Kayden Ficek. They work at the Dickinson office and will graduate from the program in 2017.

"Our apprentice program has had a large impact on our cooperative," says Jason Bentz, manager of operations for Roughrider Electric Cooperative. "We've employed many apprentices over the years, and in turn seen our co-op grow, our productivity skyrocket and our employee turnover significantly decrease. I highly encourage those in our business community to establish an apprenticeship program within their own organization."

Companies that offer apprenticeship programs can diversify their workforce, improve productivity and profitability, standardize training, reduce turnover, receive tax credits and more. ■



www.roughriderelectric.com

HAZEN OFFICE

701-748-2293 or 800-748-5533
800 Highway Dr., Hazen, ND 58545
7:30 a.m. – 4 p.m. CST Monday-Friday

Payments may be deposited in the deposit box by Roughrider Electric's main office entrance or in the drop boxes located at Krause's Super Valu in Hazen or Bronson's Super Valu in Beulah.

DICKINSON OFFICE

701-483-5111 or 800-627-8470
P.O. Box 1038, 2156 4th Ave. E.
Dickinson, ND 58602
8 a.m. – 5 p.m. MST Monday-Friday

Payments may be deposited in the deposit box west of Roughrider Electric's main office entrance or in the drop boxes located at Dickinson City Hall, or the north and south locations of Family Fare supermarkets.

OFFICERS AND DIRECTORS

Roger Kudrna, President; Dickinson483-8377
Darell Herman, Vice President; Beulah873-4371
Troy Sailer, Secretary; Golden Valley948-2427
Bruce Darcy, Treasurer; Golden Valley983-4222
William Retterath; Center794-8729
Arnold Kainz; Dickinson483-8207
Dan Price; Hensler794-3779
Greg Steckler; Dunn Center548-8122
Callen Schoch; New England579-4395

MANAGEMENT

Don FranklundCo-General Manager/CEO
Chris BaumgartnerCo-General Manager/CEO



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