

PROFILE

RAD TORQUE SYSTEMS

STRONGER,  
LIGHTER, FASTER

**RAD TORQUE  
SYSTEMS**

**FOUNDED**  
1994

**HEADQUARTERS**  
Abbotsford, British  
Columbia, Canada

**WEBSITE**  
[www.radtorque.com](http://www.radtorque.com)

The E-RAD Series  
being used on wind  
turbine. (Courtesy:  
RAD Torque  
Systems)

*RAD Torque Systems is a leading Canadian manufacturer of pneumatic, battery-powered, and electronic pistol grip torque wrenches used in an assortment of industries, including wind.*

By **KENNETH CARTER** ▸ Wind Systems editor

**P**ractically everything in the world is put together with nuts and bolts, and wind turbines are no exception.

That's why it's important to have tools that are responsible for tightening those nuts and bolts to exact specifications, and RAD Torque Systems has been supplying those precision tools to a myriad of industries, including wind, for a quarter of a century.

"RAD offers a complete control bolting solution," said Irene Tod, vice president of sales and marketing at RAD Torque. "We offer reliable, ergonomic, and accurate torque solutions for manufacturing, erection, and the maintenance of wind turbines both onshore and offshore."

But RAD not only offers tools, it is proud to offer the expertise that goes behind it, according to Tod.

"At RAD, you're not just getting a tool you can use, you're getting a whole team of support behind you," she said. "Our team is here to customize solutions for even the toughest challenges within the wind industry. From design, to engineering and manufacturing, it is all done in-house, and this gives us the ability to be flexible and responsive with our manufacturing process, which in turn gets products, accessories, everything faster to the customer."

## RELIABILITY

Tod stressed that RAD has seen a lot of success stories about the reliability of the torque wrenches the company manufactures.

"For over 25 years, we've produced a really robust gearbox," she said. "We often get photos or emails from individuals who need us to service a RAD Torque wrench that's more than 20 years old that is still going strong. Last year, we had an electronic E-RAD BLU from GE that came back for calibration and had over 2 million cycles on it."

When Tod said a typical torque tool averages about 40,000 cycles a year, the durability of the tools RAD manufactures becomes evident.

"It was one of our first generations of E-RADs," she said. "We've improved it so much over the years, but it's validating to see them still in use."

## E-RAD BLU

Although RAD Torque has the capability to custom design its tools when necessary, the company does offer a standard product line, particularly its E-RAD BLU torque wrench, according to Tod, which is the company's electronic tool designed specifically for wind.

The E-RAD BLU Series includes multiple model wrenches, which can be used in combination with one controller; it has Bluetooth connectivity with the RAD Smart Sockets, as well as the E-RAD BLU touch control case and the recently



The E-RAD Offset Application has a 90-degree rotatable gearbox. (Courtesy: RAD Torque Systems)

released E-RAD BLU-S, which is equipped with a transducer.

## PREVENTATIVE MAINTENANCE CAPABILITIES

RAD Torque's E-RAD wrenches work in tandem with preventative maintenance software to aid in data collection and send out reminders to technicians when the tools require attention, according to Tod.

"These bolts are critical," she said. "You don't want one of the blades falling off because of the vibration. It's really important that it's torqued accurately."

As the wind industry continues to evolve, it also continues to grow, quite literally, which means RAD Torque must also work smart to keep up with the constant challenges, according to Tod. That includes listening to the customer and continuing to invest in technology to make torque wrenches more seamless and safer.

"As the demand for data collection and having everything traceable in real-time has grown, we've also grown with that to keep up," she said. "We've doubled our engineering capacity with a big focus on electronics. We also continue to invest in the latest CNC machines. We have over 40, and that's to help with the larger gearboxes and the larger parts for the larger bolts that they're going to be using it on."

## WORKING WITH THE CUSTOMER

Even with a standard line of tools, it is often necessary to work with a customer to create something new to meet a changing industry, according to Tod.

"If somebody comes to us with a challenge, we actually get quite excited," she said. "We love having that continuous



The B-RAD Battery Series tool being used on turbine. (Courtesy: RAD Torque Systems)

feedback loop as it gives us and our team here the opportunity to come up with solutions, send a prototype to the customer fast, and hopefully solve the problem together.”

That pride in collaboration is evident in RAD’s engineering staff, according to Tod.

“We’ve got one engineer here who, I call him our innovation guy, and he can put something together in a day,” she said. “Once he’s comfortable with that, we’ll get that over to our programmer. And within four to six weeks, we can have a full-on prototype out the door. We are that responsive.”

Part of RAD’s quick response talents were recently put to the test when a turbine manufacturer was creating a tower where the bolts were fitted vertically, as opposed to horizontally, according to Tod.

“A lot of tools were not fitting because there was no clearance,” she said. “It was right up against the ground so gearboxes and the handle of a torque gun could not fit. So, they presented us with that challenge and then one of our engineers said, ‘Hey, let’s do this.’”

RAD’s engineers ended up creating a 90-degree rotatable gearbox, according to Tod.

“That way, the gearbox can go on, and there’s enough clearance, and the handle can rotate and technicians can hold the handle up at a 90-degree angle, and that solved that issue,” she said.

## SAFETY AND ERGONOMIC GOALS

As turbines continue to get larger and more efficient, Tod said RAD Torque will continue its innovation in safety and ergonomics in an ongoing attempt to keep making its tools smarter. And that includes being available for the offshore business that is making its way to the U.S.

“We do some offshore in Europe, and every few months we just get an email, ‘GE is making this turbine; we need

these larger tools,’” she said. “I think we’re going to do a lot more in offshore and all over the world, too. They’re starting to come here, and we already have a lot of solutions for them. It’s getting them in our distributors’ hands for trials to the customers. And last year actually, in the U.S., even with COVID and everything going on, our E-RAD sales had increased by about 25 percent in the U.S., which just shows that renewable energy and clean energy are really pushing harder in the U.S.”

## HUMBLE BEGINNINGS

That’s quite the achievement for a company that literally began life in the owner’s garage 25 years ago.

Owner Dan Provost worked in the bolting industry, and he saw opportunities to improve some of the torquing tools that were being used at the time, according to Tod. When he was blocked by a lot of red tape, he decided to make the improvements himself.

“He started in his garage researching and designing different options; he was even welding different arms in his garage,” she said. “And RAD really grew organically year after year, and next year we’re going to be moving into our new facility. But honestly, that’s the way Dan has done it, just organically finding opportunities and getting together and making it happen.”

RAD Torque’s main goal is to design and manufacture tools to help the wind industry, and that ability, according to Tod, always circles back to RAD’s owner.

“The reason why Dan started the company was to keep improving upon products and listening to customers’ challenges,” she said. “That gives us the ability to get with the customer, have them get with our distribution, talk with our engineers directly, and in turn, manufacture something that can help make a hard job easier.”

The E-RAD Series being used on wind turbine. (Courtesy: RAD Torque Systems)

