



# CONNECT

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DEL COREMY.COM

## WHY THE 40SI™ HIGH OUTPUT BRUSHLESS ALTERNATOR IS RUAN TRANSPORTATION'S ALTERNATOR OF CHOICE



When Mike Elliott, Maintenance Support Manager at Ruan Transportation Management Systems, needed an alternator for his fleet of power units and vehicles, he knew he needed a brand he could rely on.

"I've used Delco Remy products all my career," says Elliott. "They are great products."

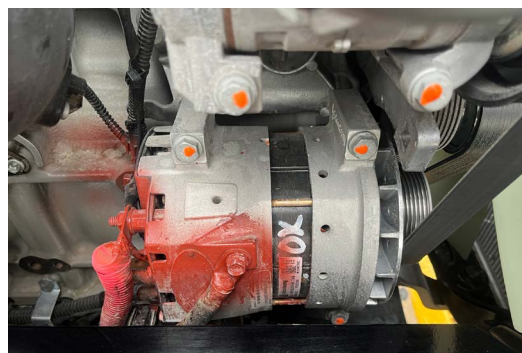
As a freight and transportation provider, Iowa-based Ruan specializes in niche markets, such as bulk food grade and dairy, chemicals and industrial gases, medical and pharmaceutical, and other specialty manufacturing areas. As any company that hauls this type of product knows, there are often extra electrical loads to carry items to their destination.

That's why five years ago, Ruan, a family-owned corporation founded in 1932, decided to begin moving to an alternator that was up to the job: the Delco Remy 40SI™ High Output Brushless Alternator.

### Making the Move

The first upgrade began with Ruan's sleeper tractors.

"We moved to the 40SI alternator to maintain the charge on our sleeper cabs. These tractors have four AGM (absorbed glass-mat) batteries to deliver amps even when the engine is off," Elliott explains. "We needed an alternator that could maintain the charge because our drivers are not just transporting these vehicles, they're also eating and sleeping in them as they move product across the country for our customers."



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With the 40SI being “so quick on recovery time,” Elliott started thinking about the alternator for other applications in their fleet.

The day cabs were outfitted with the Delco Remy 28SI™ High Output Brush Type Alternator. These cabs began to experience problems because the electrical output was greater than what the 28SI was designed to provide.

“It was no fault of the 28SI alternator, we just began to need more charge as we started using lift gates for a specific customer requirement,” explains Elliott. “With heavy-duty life gate cycles on every load, we were starting to see failures on delivery. We needed something to maintain the larger electrical load.”

No surprise, the 40SI alternator was the answer.

## Setting the Standard

Before long, Ruan decided the 40SI alternator was the alternator of choice for the entire fleet and made it standard on every vehicle in the fleet, including its Class 5 vehicles.

“With 55 maintenance shops, stocking just one alternator makes things so much simpler,” says Elliott. “Technicians don’t need to make decisions about the best alternator—everything gets the same because we’ve already decided the 40SI alternator is the best for all of them.”

Elliott says the standardization across the entire fleet is part of how they maintain a healthy fleet. They built the first million-mile truck and have carried their specs forward ever since, adapting as necessary for new innovative technology.

## Rave Reviews

The decision to make the 40SI alternator standard has been well received.

“Our technicians love it,” says Elliott. “It’s easy to exchange when there’s a failure—though that doesn’t happen often as now we have an alternator that matches the electrical load of our cabs.”



## RUAN TRANSPORTATION: BY THE NUMBERS

**4,000**

power units/vehicles  
nationwide

**10,000**

trailers owned and operated

**500,000**

miles per alternator on average

**300+**

operations nationwide

**4,000**

truck drivers

**55**

shops nationwide

# LIN REGULATOR 101: WHY IT'S BEING ADDED FOR CV APPLICATIONS

Local Interconnect Network, or LIN, regulators are not new—they've been used in the automotive industry for two decades. What's new, though, is how they are being leveraged in the commercial vehicle sector, and we are excited to partner with manufacturers to adopt Delco Remy LIN-controlled alternators for their applications.

## What is a LIN Regulator?

"A LIN regulator enables the vehicle ECU to enhance the capabilities of the traditional alternator/regulator," explains Rob Steele, Senior Staff Engineer. "A LIN regulator is an expansion of the traditional regulator in that it still regulates the system voltage, but also has a Local Interconnect Network—LIN—module. LIN provides bi-directional communication capabilities with the vehicle data system."

Steele says manufacturers can use one LIN regulator for all applications and include various OE pre-sets. He also points out that LIN regulators are vehicle and application specific.

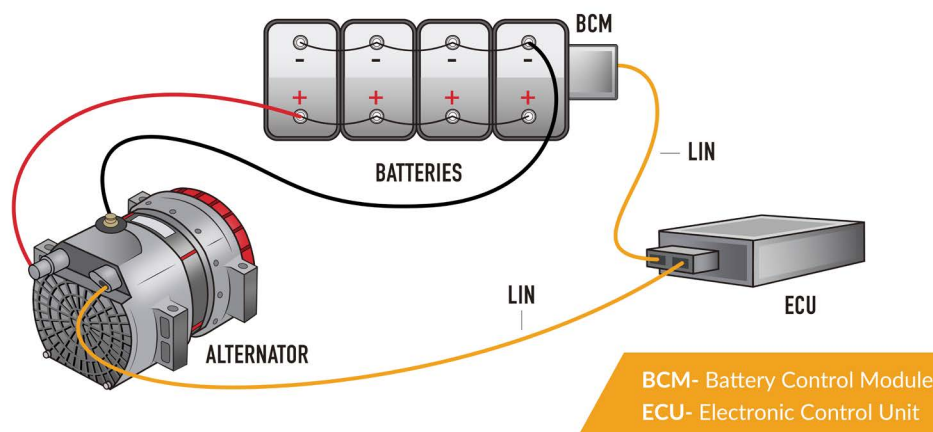
## Benefits of LIN Regulators

OEs in the commercial vehicle industry are leading the charge with LIN regulators because of the many benefits:

- Better battery life management
- Greater fuel economy
- Increased efficiency
- Improved emissions
- More functionality

Steele says these benefits are realized when the charging system and vehicle data can be shared and used to adjust the regulated voltage to achieve the desired results. Additionally, because these systems are controlled by the vehicle ECU, applications using LIN-equipped alternators provide another benefit to the manufacturer: scalability.

## LIN - Charging System Network



Applications using LIN-equipped alternators provide another benefit to the manufacturer: **SCALABILITY.**

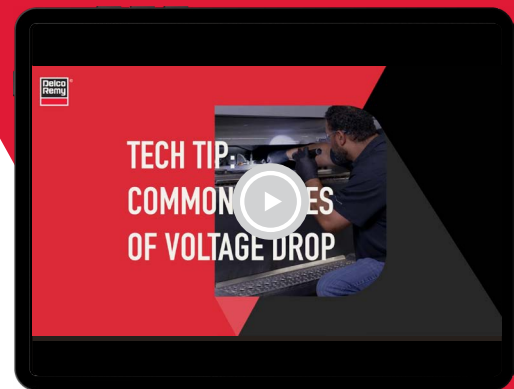
## TECH TIP: COMMON CAUSES OF VOLTAGE DROP

Voltage drop is an all-too-common issue plaguing commercial vehicles. It occurs when there's a decrease in the amount of available voltage in the cables and connections from a source to the component—specifically, between batteries and the starter or alternator.

There are three common causes of voltage drop:

- **Undersized wires and cable:** Often the original cable set on a commercial vehicle can't keep up with the electrical load demands as changes are made, such as upgrading the alternator or adding electrical equipment, including navigation, entertainment and other systems that enhance comfort and safety. Any time upgrades are made, it's important to check both cable gauge and length to ensure they can handle the increased output by performing voltage drop testing.
- **Loose or broken connections:** There are many connections on a vehicle that can become loose, frayed or broken. This can happen over time from wear and tear, improper torquing, or vibrations on the road.
- **Corrosion:** Corrosion—due to snow, rain, salt and other environmental hazards—at electrical terminals and cables can create voltage drops because of an increase in resistance.

To prevent issues/failures caused by excessive voltage drop, be sure to perform voltage drop testing anytime you're replacing batteries, servicing or replacing the starter, or upgrading the alternator. Voltage drop testing should also be part of your regular preventive maintenance. Watch our [Voltage Drop Test Tech Tip video](#) for step-by-step guidance.



**Learn what voltage drop is, why it's important to prevent and its three most common causes.**

## AGRICULTURE STARTERS & ALTERNATORS: BUILT FOR THE FIELD

Farm equipment often experiences long hours and hard conditions, and that means the agriculture industry needs alternators and starters built for the field. Delco Remy starters and alternators have long kept tractors, combines, row croppers and other ag equipment running strong—all while minimizing maintenance, ensuring fuel efficiency and maximizing productivity.



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## AGRICULTURE STARTERS & ALTERNATORS: BUILT FOR THE FIELD

Our flagship products for the ag industry include:

### Delco Remy 39MT™ Heavy Duty Gear Reduction Starter

The 39MT starter is a gear reduction starter ideal for the rough conditions of agriculture. It's well-liked for its:



- **Over-Crank Protection (OCP)**, a built-in circuit breaker protecting the starter from thermal damage by automatically resetting at a safe operating temperature
- **Integral Magnetic Switch (IMS)**, which reduces voltage drop and ensures the solenoid receives the maximum available voltage in any starting condition
- **Lightweight, compact size** that helps reduce carbon dioxide emissions
- **Gear-reduced starter** that develops more torque and runs more efficiently

### Delco Remy 28SI™ High Output Brush Type Alternator

The 28SI high output alternator was designed to address applications that require higher electrical output. It's a popular choice thanks to the following:



- **Enclosed brush unit**
- **Dual internal fan (DIF) design** that provides maximum cooling technology
- **Flexibility with mounting configurations:** short J180 hinge, long J180 hinge and pad
- **Remote sense**, which can reduce battery charge time by 50%

The **Delco Remy 38MT™ Heavy Duty Gear Reduction Starter** (designed for medium and heavy duty applications) and the **Delco Remy 50MT™ Heavy Duty Straight Drive Starter** (straight drive starter for heavy duty and industrial applications) are also used by the ag market.

## COLLABORATIVE

We honor your expertise. We listen when you have ideas or problems that need solved. We respond to your requests. Together, we outfit vehicles with high-quality and high-efficiency products that keep the world moving.

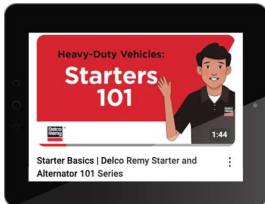
# TRAIN YOUR TEAM WITH THE STARTER & ALTERNATOR 101 SERIES

Need quick, easy-to-understand training that gives your entire team baseline knowledge? We've got you covered! Tap into our 101 Series that provides all the "need-to-knows" about electrical systems, starters and alternators.



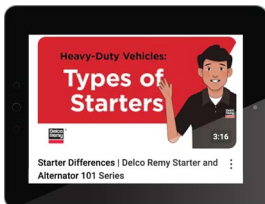
## Key Electrical Systems

Learn the "need-to-knows" of a heavy duty electrical system, including the batteries, cables, wiring and switches, and the starter and alternator



## Starter Basics

Get the 101 on starters, including their main purpose and how they work.



## Starter Differences

Understand the differences among starting motors—and why they matter. This video highlights differences in tooth count, starter design, the starter relay, over-crank protection and the mounting flange.



## Alternator Basics

In this video, you'll get the basics of an alternator—including its purpose and how it works.



## Alternator Differences

This deeper dive video highlights the key differences of alternators, including the various mounting styles, the difference between brush versus brushless alternators, and amp output.



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