



CONNECT

JANUARY 2020

BorgWarner Brushless Alternator for Industrial Applications

Industrial applications endure some of the roughest, dirtiest environments around. As a result, it's not uncommon for tractors, oil rig pumps and other industrial equipment to have alternators that start to malfunction when their brushes get contaminated.

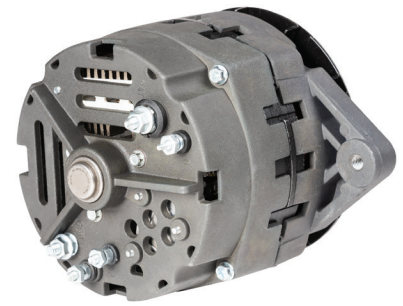
But that's no longer a headache with our BorgWarner Brushless Alternator for Industrial Applications. Our brushless technology is not threatened by the dust, dirt and oil in these environments. With less susceptibility to contamination, our brushless alternator will add efficiency and longevity to your application.

As the original equipment manufacturer of the 10SI and 12SI, it only makes sense that you'd trust our brushless alternator for your industrial applications. This alternator is designed to fit in the same applications, while providing the improved efficiency and extended life you expect from a brushless alternator—and it's all backed by our two-year warranty.

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SPECIFICATIONS

Performance Output	12 Volts 100 Amps
Rotation	Bi-directional
Maximum Speed	15,000 RPM
Temperature Rating	105°F/40°C
Mounting	Single and dual 2" spool
Weight	13 lbs/5.9 kg
Certification	Ignition protected and marine certified ISO 8846, SAE J1171, ABYC E-11, and USCG 33 CFR 183.410

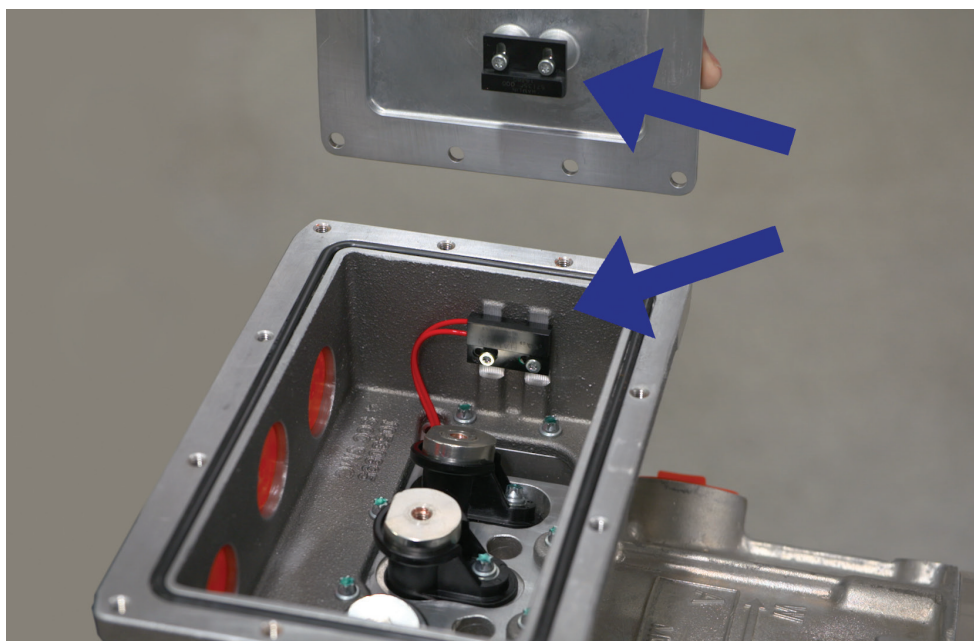
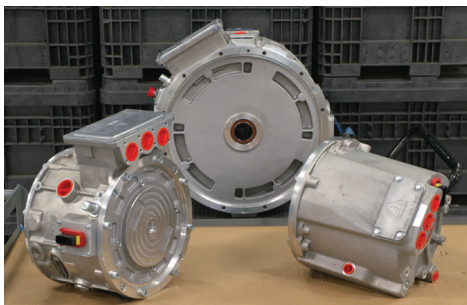


BRUSHLESS ALTERNATOR PART NUMBERS

Part #	Amp	Style	Warranty
61013122	70A	Single Spool Mount	2 year, unlimited hours
61013123	100A	Single Spool Mount	2 year, unlimited hours
61013124	100A	Dual Spool Mount	2 year, unlimited hours

Tech Tip: Working with Electric Motors

Electric drive vehicles have high voltage electrical systems not found on typical vehicles powered only by gasoline or diesel engines. Because of this, it's important to be aware of high voltage hazards *before* you inspect an electric motor. Specifically, be aware of the high voltage interlock switch.



High Voltage Interlock Switch

Most BorgWarner electric motor models are outfitted with a standard safety feature—the high voltage interlock switch. Similar to the lockout/tagout safety procedure, this interlock switch disables and deenergizes a high voltage system. It prevents high voltage from being present whenever vehicle inspection or maintenance needs to occur.

The BorgWarner interlock switch is integrated into the high voltage connection box. It is activated by the position of the box cover. When the cover is installed, it prevents access to the high voltage terminals. In this position, the interlock switch provides pin-to-pin continuity in the low voltage connector.

When the cover is removed, the interlock switch signals the inverter—which serves as the control system—to disable electricity

currents into the motor. After the cover is off, remember that some high voltage components may continue to be energized for up to 10 minutes, so always use caution before touching the cables.

When you are done working, replace the cover back on the box. You'll know whether or not it is on correctly by the inverter's response. If the cover is put on backwards, the inverter will think it's still off and, as a result, it won't reactivate the current flow between the electrical components and the motor. This response serves as a fail-safe, ultimately protecting you until the cover is repositioned correctly.

Finally, it's important to note that the interlock switch itself does not turn off any high voltage source. It simply provides a fail-safe signal to be used by the inverter.



Our latest tech tip video explains the high voltage interlock switch and its role in protecting you from serious injury caused by high voltage electricity. Watch it on the [BorgWarner YouTube channel](#).

We've Got You Covered...Even More Than Before

We continue to expand our product coverage to meet the multi-faceted needs of fleets today. Most recently, we've added part numbers to both our BorgWarner Transport Refrigeration Program and Auxiliary Power Unit (APU) Program. New part numbers include brushless upgrade options as well.

NEW TRANSPORT REFRIGERATION STARTERS

Engine	Part #	kW Rating	Thermo-King	Carrier Transicold	Hitachi
Kubota CT4-134-DI V22003L	93607	2.5	N/A	25-39476-00 25-39476-00SV	N/A

NEW TRANSPORT REFRIGERATION ALTERNATORS

Amps	Bosch	Thermo-King	Carrier Transicold	Part #	Amps	Brushless Upgrade Part #	Amps
37	AL927N 0-120-488-297 9-120-060-027	41-5458 44-8949 44-8950 44-9571 5D38603G01 5D33839G01	20-44-9571 29-50340-00	61013382	37	61013121	70
65	AL928N 9-120-060-023 0-120-488-296	44-9572 41-5457 5D38604G01 5D33841G01	20-44-9572 20-41-5457	93070	65	61013121	70
90	AL929N 0-120-484-049 90120-060-038	44-9716	N/A	93082	120	61013125	130
120	AL9120N 0-120-484-028	41-2571 41-5456 5D50461G01	20-41-5456	93082	120	61013125	130

NEW APU ALTERNATORS

Make	Model	Engine	Part #	Amps	Regular Voltage	Voltage Regulator Color	Upgrade Part #	Amps	Brushless Upgrade Part #	Amps
Thermo King	TriPac*	TK270	93095	65	14.1	Black	93094	120	61013121	70
Thermo King	TriPac*	Yanmar 2TNV70	93095	65	14.1	Black	93094	120	61013125	130
Thermo King	TriPac*	TK270	61013383 61013384	65 120	14.5	Orange				
Thermo King	TriPac*	Yanmar 2TNV70	61013383 61013384	65 120	14.5	Orange				

*ThermoKing TriPac APU units require CCW rotating fans



Transport Refrigeration & Auxiliary Power Unit Starters & Alternators

TESTED AND MANUFACTURED TO OE QUALITY SPECIFICATION STANDARDS

- **Endurance** – Life cycle testing is performed on starters and alternators to ensure product reliability.
- **Performance** – Starters and alternators are tested against established OE performance specifications to assure compatibility.
- **Temperature** – Starters are tested to ensure engagement in high heat conditions.
- **Continuous Improvement Practices** – A complete analysis is performed on key components to identify and drive the implementation of design changes for enhanced durability and performance.

Technician of the Year!

Marvin Rogers, an ASE Certified truck technician from Fayetteville, North Carolina, was recently honored with a national achievement award as the Delco Remy® ASE Medium | Heavy Truck Electrical | Electronic Systems Technician of the Year. A big shout-out to our team who helped run the BorgWarner-sponsored Starting and Charging Station at the 2019 TMC Top Tech Competition.



(L to R) Timothy Zilke, ASE President & CEO; Marvin Rogers; Richard Gonzales, Regional Sales & Service Manager at BorgWarner; and Tom Trisdale, ASE Board Chair.

BorgWarner Brushless Alternator for Industrial Applications

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Time is money for these applications, so protect your time with our proven brushless solutions. Upgrade to a brushless alternator to improve durability and extend the life of your alternator. Our new option for industrial applications is ideal for marine, agriculture, oil field and other tough environments.

Engine Applications

- 4.3L, 5.7L GM engines
- 5.9L Cummins engines

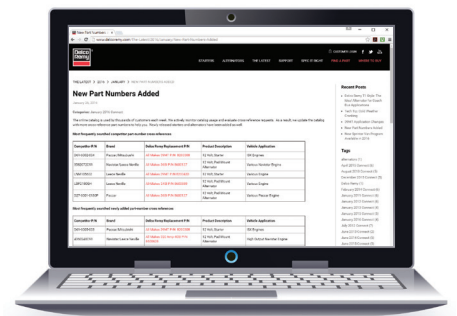
Replaces Brush-style Models

- Delco Remy® 7SI™, 10SI™, 11SI™, 12SI™
- GM CS130
- Bosch, Mando, Motorcraft, and all other alternators with a 2" spool mount

New Part Numbers

Go to The Latest at delcoremy.com to find the following:

- New part number cross references
- Most frequently searched competitor part number cross references



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