



Long Haul Alternators

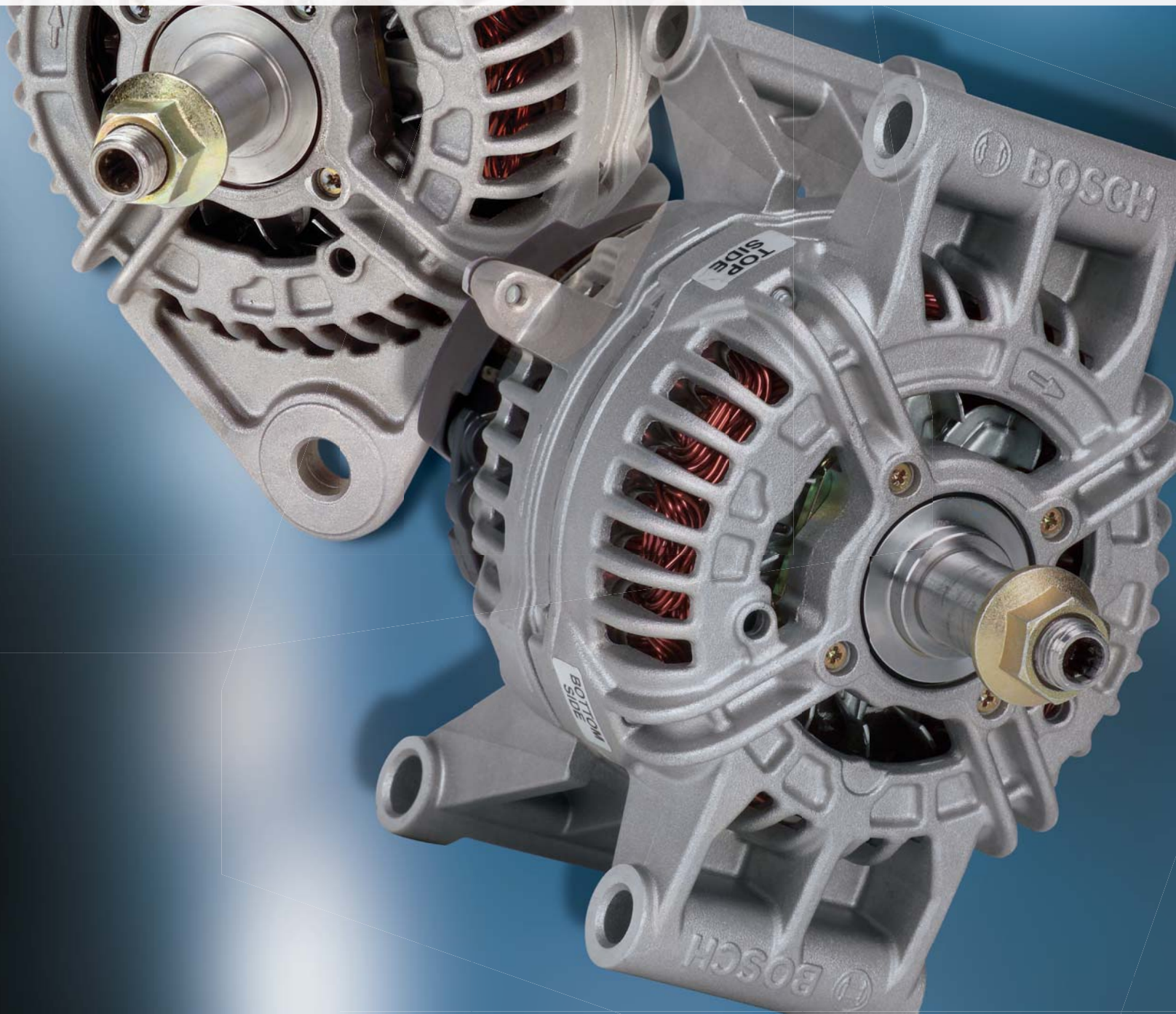
AL9960LH • AL9961LH

Advanced
Charging
Technology



BOSCH

Invented for life



External Heat Dissipating Regulator is mounted on the back of the unit in the middle of the cool-air intake stream. This position, in combination with the regulator's heat sink design, allows the alternator to stay cooler and dissipate heat quicker than internally mounted regulators.

External Heat Dissipating Rectifier, also mounted on the back of the unit, provides the same cooling advantages as the regulator. In addition, Bosch's press-in design diodes in this rectifier are the best in the industry.

Advanced Temperature-Resistant Electronics, including an integrated circuit regulator and high amp rectifier diodes are designed and manufactured by Bosch to meet the needs of the most demanding commercial applications.

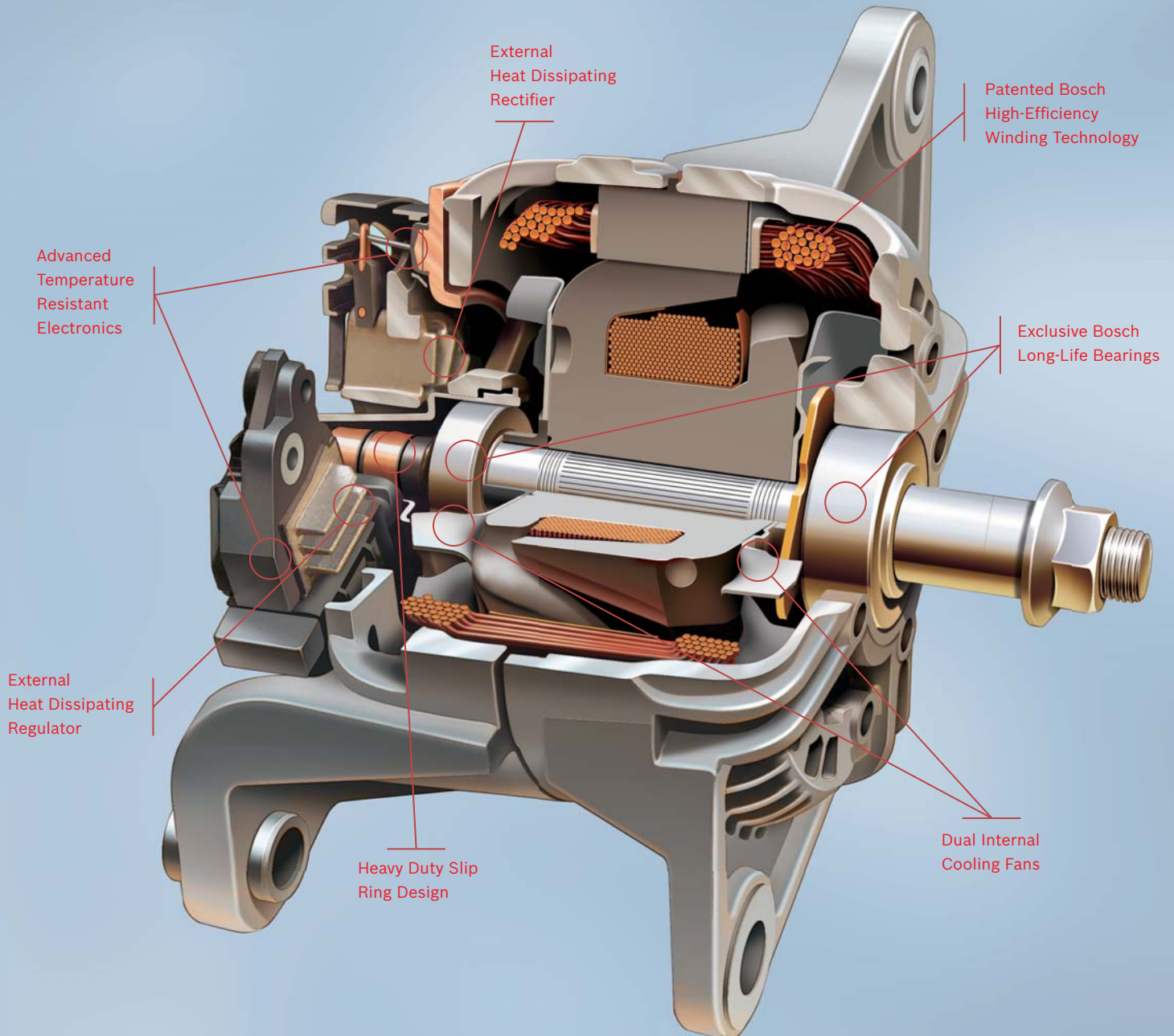
Dual Internal Cooling Fans are specially designed to optimize the amount of cooling air being pulled through the unit. Air is drawn in from both the front and back of the alternator forcing heat out through the vents circling the housing.

Exclusive Bosch Long-Life Bearing Technology couples special heat-treated, long life steel bearings with heat-resistant lubricant to withstand heat and wear for miles of reliable service.

Patented Bosch High-Efficiency Winding Technology uses 30% more copper per available space than competitive units for increased efficiency resulting in fuel savings.

Heavy Duty Slip Ring Technology significantly diminishes wear on the brushes for longer service life and greater reliability.

Advanced Charging Technology



Bosch AL9960LH/AL9961LH Long Haul Alternators

Bosch Long Haul Alternators are revolutionizing the U.S. trucking industry with high efficiency alternator technology that has delivered maximum charging power through millions of tough over-the-road miles worldwide. With 160 amps on-the-road output and an amazing 80 amps at idle, these alternators stand up under all operating conditions. Plus, they're engineered with several innovative features to prevent heat damage and component wear. You can trust Bosch Long Haul to keep commercial vehicles on the road over the long haul!



Advanced charging technology delivers increased service life and reliability, prolonged battery life and improved fuel economy.

Advanced Charging Technology

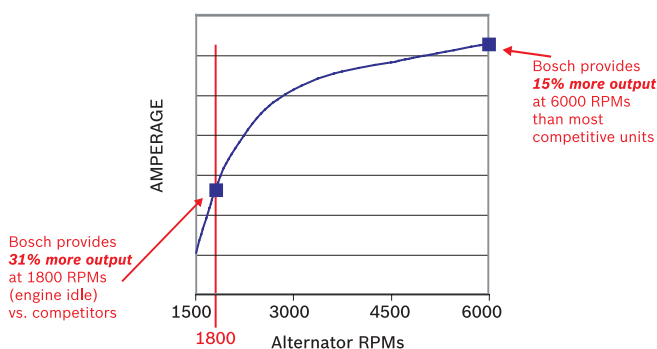
The Bosch AL9960LH and AL9961LH represent the next generation of commercial vehicle charging technology, delivering more power and greater efficiency than competitive alternators. Bosch's higher charge rate at idle helps maximize battery life by reducing battery deep cycling (Figure 1). Plus, Bosch Long Haul Alternators can really take the heat! At an operating temperature of 80° C (176° F), the Bosch AL9960LH and AL9961LH maintain operating amperage better than competitive units (Figure 2) to supply more power for critical electrical systems.

They're specifically designed to withstand operating temperatures up to 13% higher than competitive units.

Figure 1

Competitive Replacement Unit	Bosch Long Haul
62 Amps at idle	80 Amps at idle
55% efficiency	71% efficiency

Figure 2 Performance Curve at 176° F (engine operating temperature)



Built For the Long Haul

It's all about keeping commercial vehicles on the road. When they're not rolling, time and money are lost. The kind of miles these vehicles put on demands power, and lots of it. That's why you should choose Bosch Ultra Premium Long Haul Alternators.

Increased Fuel Economy

The high-efficiency design of Bosch Long Haul Alternators transforms energy into power rather than performance-robbing heat. With less mechanical energy required to produce more power, it's possible to save as much as \$400 in fuel costs per 100,000 miles driven. The Bosch unit could easily pay for itself within the first year. Multiply that by the number of vehicles maintained and it equals one more reason to choose Bosch Long Haul Alternators.

2-Year Warranty

Bosch backs the AL9960LH and AL9961LH with a 24 month/250,000 mile warranty. That's the longest in the industry for brushed alternators.

Simplified Inventory

With only two Bosch part numbers replacing over 300 different OE SKUs, your inventory commitment is greatly reduced, saving both time and money.



Trusted Bosch Quality

Bosch has been a major supplier of new alternators and starters to OE vehicle manufacturers since 1913, and is also a highly regarded supplier of both new and remanufactured units for the aftermarket. Recognized worldwide as a leader in innovative automotive and heavy duty technology, Bosch takes pride in its quality reputation and works continuously to advance its standards of excellence. All Bosch Long Haul Alternators are built to stringent precision and performance criteria, and are 100% factory tested to ensure superior reliability and performance over the long haul. You can trust Bosch to deliver!

Feature	Benefit
Advanced, high-efficiency design and operation	Fuel savings up to \$400/100,000 miles
160 amp operating output and higher output at engine idle	Increased battery life from maximum power under all vehicle conditions
Temperature and vibration-resistant-designed materials and components	Unmatched reliability over longer service life
Dual internal cooling fans, and externally-mounted rectifier and regulator	Virtually eliminate heat damage, promoting long life
Exclusive Bosch long-life bearing technology	Reliable performance and increased service life
24 month/250,000 mile warranty	Best-in-class warranty
2 part numbers	Replace over 300 OE part numbers



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