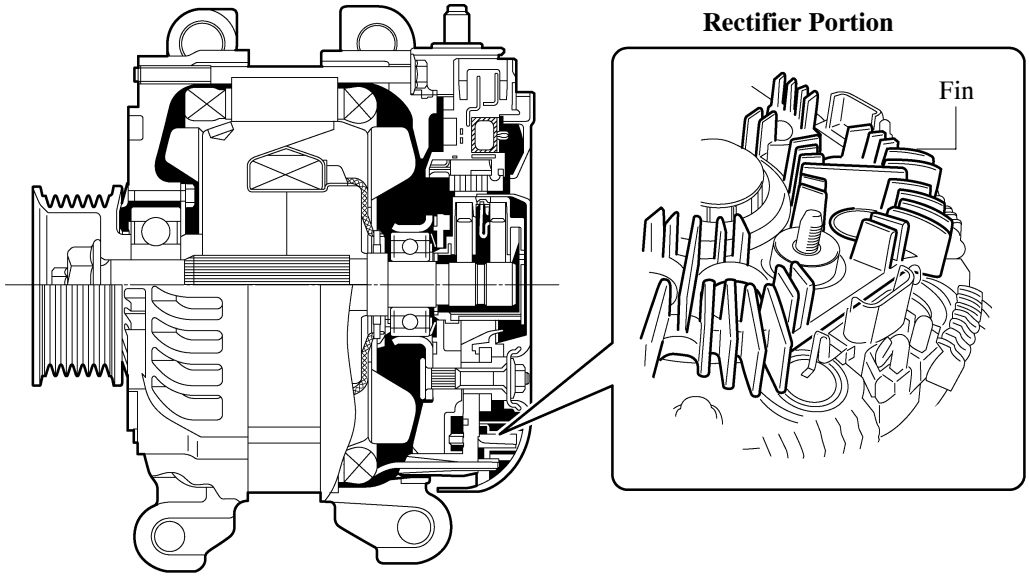
■CHARGING SYSTEM

1. General

- Instead of a conventional type alternator, a compact and lightweight segment conductor type alternator is used. This type of alternator generates a high amperage output in a highly efficient manner.
- This alternator uses a joined segment conductor system, in which multiple segment conductors are welded together at the stator. Compared to the conventional winding system, the electrical resistance is reduced due to the shape of the segment conductors, and their arrangement helps to make the alternator more compact.
- The rectifier unit is made from die-cast aluminum. It is provided with fins to improve heat dissipation performance.



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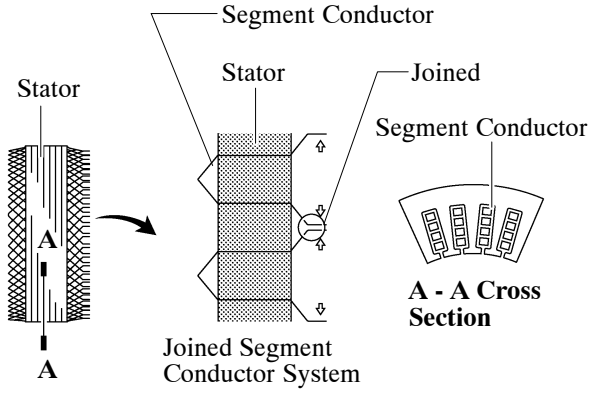
Alternator Cross Section

▶ Specification ◀

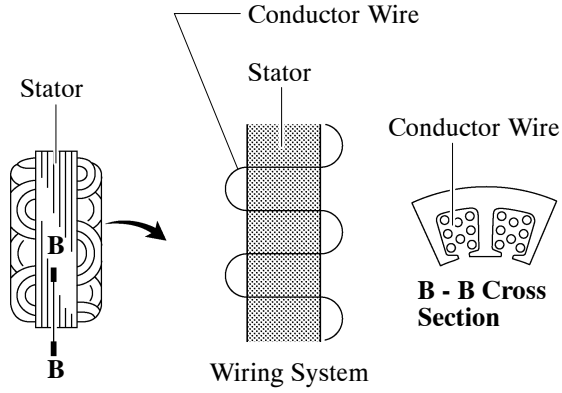
Alternator Type		SC6L
Voltage Rating	[V]	12
Output Rating	[A]	180

2. Construction and Operation

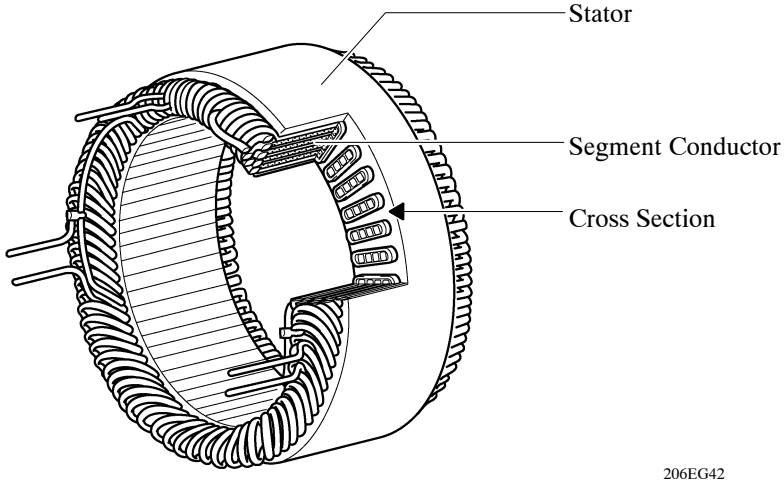
- Instead of a conventional type alternator, a compact and lightweight segment conductor type alternator is used. This type of alternator generates a high amperage output in a highly efficient manner.
- This alternator uses a joined segment conductor system, in which multiple segment conductors are welded together at the stator. Compared to the conventional winding system, the electrical resistance is reduced due to the shape of the segment conductors, and their arrangement helps to make the alternator more compact.



Segment Conductor Type Alternator 206EG40



Conventional Type Alternator 206EG41



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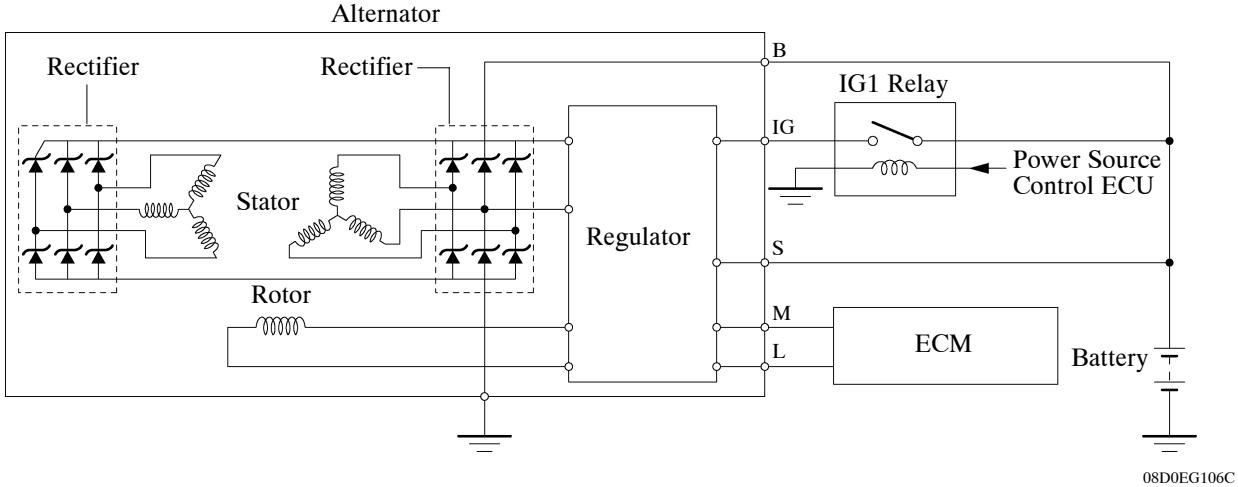
Stator of Segment Conductor Type Alternator

▶ Wiring Diagram ◀



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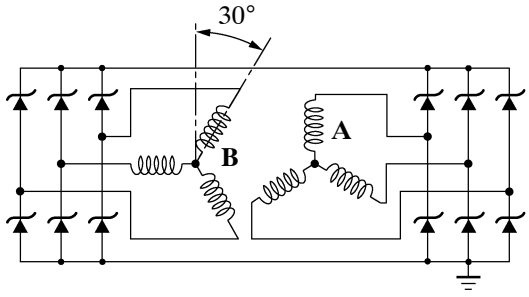
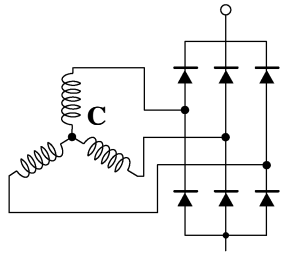
3. Dual Winding System

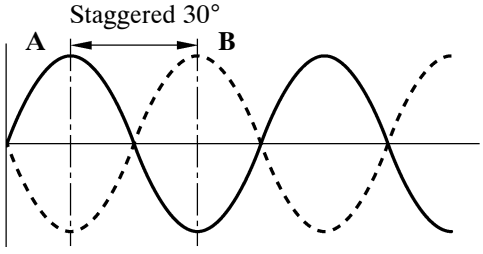
A dual winding system is used. This system consists of two sets of three-phase windings whose phases are staggered 30°. This system results in the reduction of both electrical noise (ripple and spike), and magnetic noise (a hum that is heard as alternator load is increased). This system significantly suppresses noise at the source (alternator). Because the waves that the respective windings generate have opposite polarities, magnetic noise is reduced. The magnetic noise is significantly reduced, but the electrical power generated does not cancel itself out due to the use of separate rectifiers. The opposite polarities that are generated can be seen below.



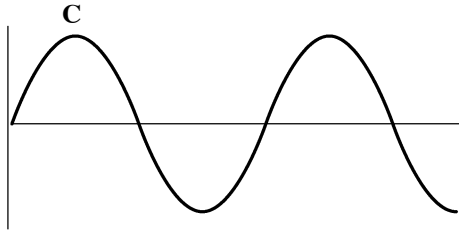
Two Sets of Three-phase Windings



Three-phase Windings



Electromagnetic Wave of Dual Winding



Electromagnetic Wave of Single Winding

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