

Chapter 9 Electrical System

4. Alternator

6LY2-STE

4. Alternator

The alternator serves to keep the battery constantly charged. It is installed on the cylinder block by a bracket, and is driven from the V-pulley at the end of the crankshaft by a v-belt.

The type of alternator used in this engine is ideal for high speed engines with a wide range of engine speeds. It contains diodes that convert AC to DC, and an IC regulator that keep the generated voltage constant even when the engine speed changes.

4-1 Features

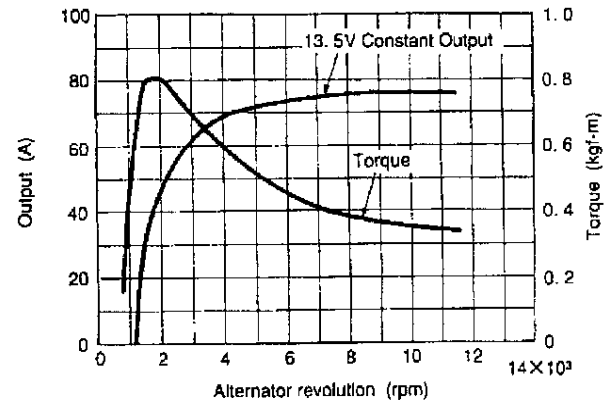
The alternator contains a regulator using an IC, and has the following features.

- (1) The IC regulator is self-contained, and has no moving parts (mechanical contact points). It therefore has superior features such as freedom from vibration, no fluctuation of voltage during use, and no need for readjustment.

Also, it is of the over-heating compensation type and can automatically adjust the voltage to the most suitable level depending on the operating temperature.

- (2) The regulator is integrated within the alternator to simplify external wiring.
- (3) It is an alternator designed for compactness, lightness of weight, and high output.
- (4) A newly developed U-shaped diode is used to provide increased reliability and easier checking and maintenance.
- (5) As the alternator is to be installed on board, the following measures are taken to provide salt-proofing.
 - 1) The front and rear covers are salt-proofed.
 - 2) Salt-proof paint is applied to the diode.
 - 3) The terminal, where the inboard harness is connected to the alternator, is nickel plated.

4-3 Characteristics



4-2 Specifications

Model of alternator	LR180-03B (HITACHI)
Model of IC regulator	TRIZ-63 (HITACHI)
Battery voltage	12V
Nominal output	12V/80A
Earth polarity	Negative earth (-)
Direction of rotation (viewed from pulley end)	Clockwise
Weight	54kg
Rated speed	5000rpm
Operating speed	1200~9000
Speed for 13.5V	1200 or less
Output current at 20°C	over 75±3A/5000 rpm
Regulated voltage	14.5±0.3V(Standard temperature voltage gradient, -0.01/°C)