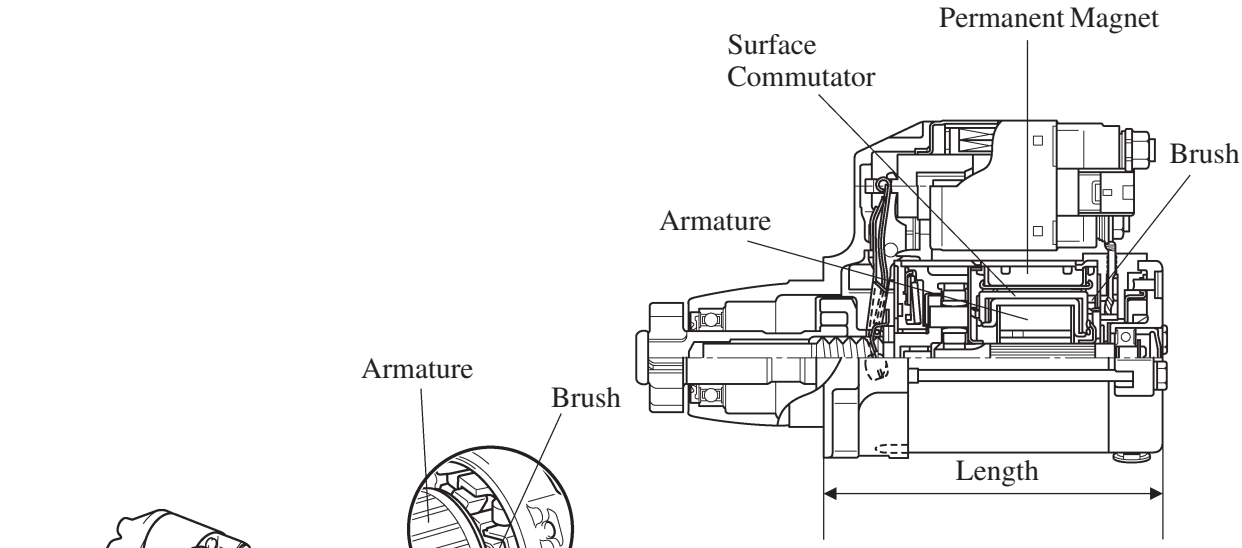
## ■STARTING SYSTEM

### 1. General

- A compact and lightweight PS (Planetary reduction-Segment conductor motor) starter is used on all models.
- The PS starter contains an armature that uses square-shaped conductors and its surface functions as a commutator, resulting in improved output torque and overall length reduction.
- In place of the field coil used in the conventional starter, the PS starter uses two types of permanent magnets: main magnets and interpolar magnets. The main magnets and interpolar magnets have been efficiently arranged to increase the magnetic flux and to shorten the length of the yoke.




**▶ Specifications ◀**

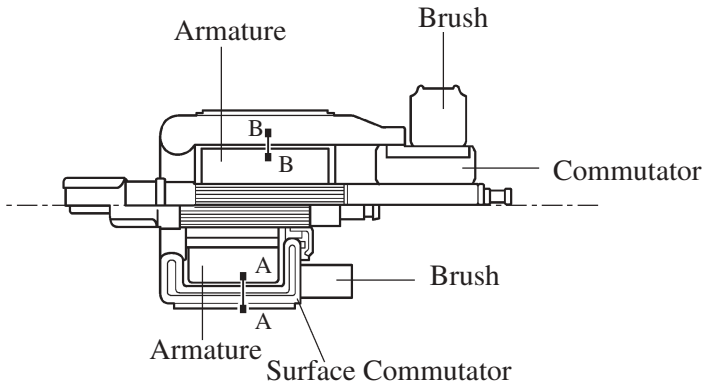
| Destination | Except China | China |
|---|---|---|
| Type | PS1.6 | PS1.7 |
| Length | 128 mm (5.04 in.) | ← |
| Weight | 2950 g (6.50 lb) | ← |
| Rating Voltage | 12 V | ← |
| Rating Output | 1.6 kW | 1.7 kW |
| Rotating Direction | Counterclockwise* | ← |

*: Viewed from Pinion Side

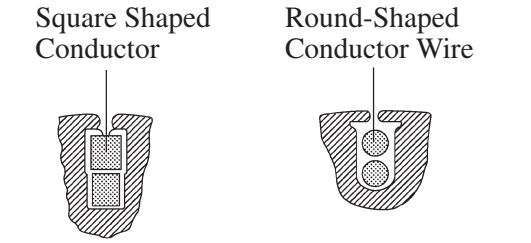
## 2. Construction

- Instead of the round-shaped conductor wires used in the conventional starter, the PS type starter uses square-shaped conductors. In this type of construction, square-shaped conductors can achieve the same conditions as those achieved by winding numerous round-shaped conductor wires, but without increasing the mass. As a result, the output torque is increased, and the armature coil is more compact.
- Because the surface of the square-shaped conductors that are used in the armature coil functions as a commutator, the overall length of the PS type starter has been shortened.

**Conventional Type Starter**



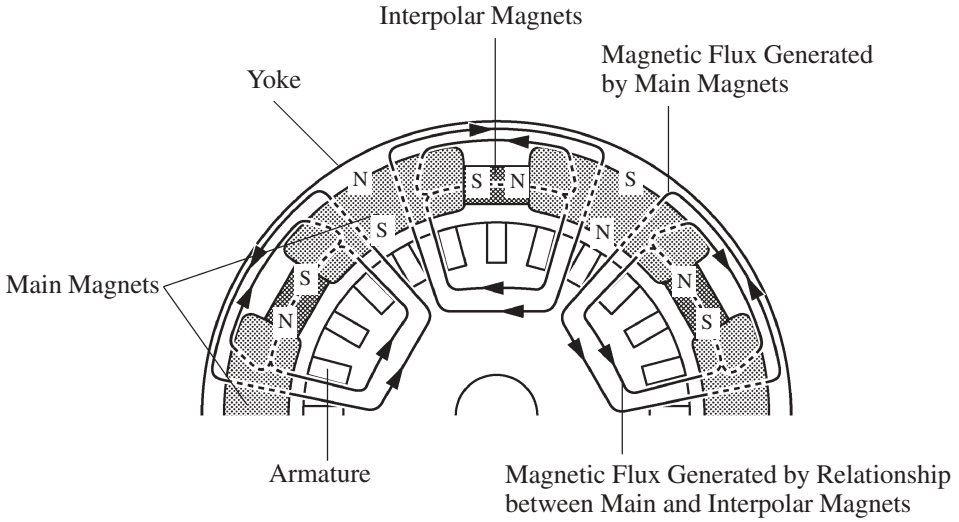

**PS Starter**




**A – A Cross Section (PS Type)** **B – B Cross Section (Conventional Type)**

206EG20

- Instead of the field coils used in the conventional starter, the PS type starter uses two types of permanent magnets: the main magnets and the interpolar magnets. The main and interpolar magnets are arranged alternately inside the yoke. This allows the magnetic flux generated between the main and interpolar magnets to be added to the magnetic flux generated by the main magnets. In addition to increasing the amount of magnetic flux, this construction shortens the overall length of the yoke.




**Cross Section of Yoke Portion**

264EG14