centre distance of the drive gearing), and a flange for securing the generator on the motorcycle engine crankcase.

The generator is provided at the drive end with rubber gland *2* to isolate the inner space of the generator from the aggressive medium of the crankcase. Rotating in sealed-for-life bearings *11*, packed on both sides, is rotor *3* with a field winding and slip rings.

Three-phase winding *4* of the stator is star-connected with an insulated neutral wire. The phase leads are soldered to the heads of bolts securing rectifier unit *8*. Two covers, *1* and *6*, as well as stator are fitted together by means of three screws M6. The brushes with current-carrying plates are secured to brush holder *7* and cover *6* with the help of screws which are prevented from falling-out.

The generator incorporates semiconductor rectifier unit *8* type ВБГ-2А which permits a direct current to be obtained from the generator terminals.

The rectifier unit consists of three monoblocks which are cast from aluminium alloy and provided with fins for heat dissipation. Each of the monoblocks is fitted with two semiconductor elements of opposite polarity, the electrical connection between them is ensured by two busbars (one of which is insulated and the other connected to "earth"). The insulated busbar is provided with a clamping screw.

The rectifier unit must never be disassembled.

Mounted on the extension of rotor *3* shaft, under protective casing *10*, is axial fan *9*, which is intended to cool the rectifier unit. The terminals for connection of the generator to the electric circuit of the motorcycle are available on common terminal block *5* and are fitted with limiting washers to avoid the possibility of confusing the conductors during wiring and to prevent occasional disconnection of the conductors in operation.

Operating Principle

The operating principle of the Г424 generator is similar to that of any other three-phase synchronous machine with electromagnetic excitation, but this generator has the following distinguishing features:

when starting from rest and during speeding-up, the field winding of the generator must be energized from an external d. c. source (a storage battery), and the generator starts to operate as the result of self-excitation only after being excited from the storage battery at the rotor speed exceeding 2400 r. p. m.

Operating the generator with the storage battery completely discharged is impossible since the generator fails to be excited.

In case the generator is operated without load (the wires leading to the consumers being ruptured or disconnected) at a high speed, the a. c. voltage between the phases reaches a value that may cause the semiconductor elements of the unit to be punctured and the generator to be damaged.

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