

Chapter 5

POLARIZED CUT-OUTS (ROTAX F2200 SERIES)

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ILLUSTRATION

Typical cut-out in F2200 series *Fig.*
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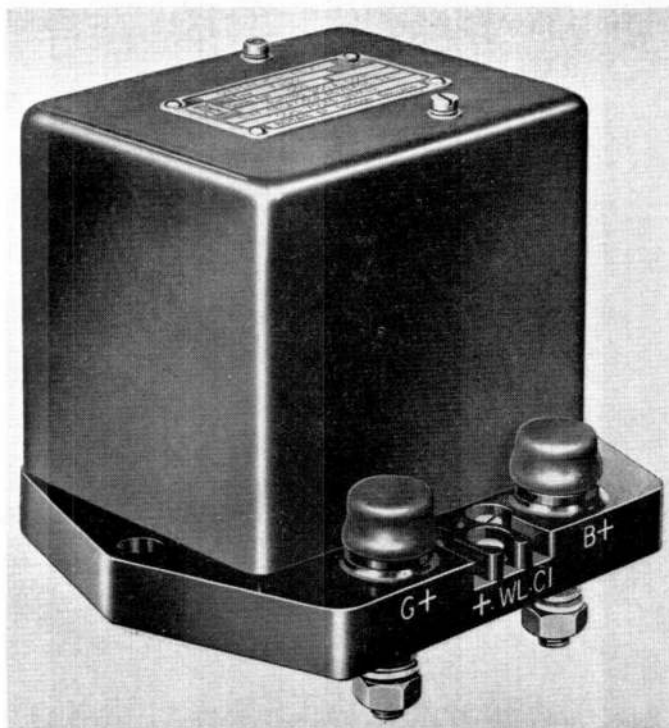


Fig. 1. Typical cut-out in F2200 series

Introduction

1. The F2200 series of polarized cut-outs is designed to protect the generator from reverse feed from the battery when the engine, and hence the generator, is idle.

2. There are both differential and reverse current units within the series, for use in 28-volt and 112-volt generating systems, as indicated in the following table; additional information relevant to a specific type of unit will be found in A.P.4343B, Vol. 1, Book 2, Sect. 10 and 11.

Differential

F2202/3	28-volt
F2236	28-volt

Reverse current

F2207/2	28-volt
F2215	28-volt
F2217	28-volt
F2220	28-volt
F2208/2	112-volt

DESCRIPTION

3. A general view of a typical cut-out in the F2200 series is shown in fig. 1, though the terminal arrangements may vary from type to type and do not necessarily conform to those illustrated. The units are built on the moulded Bakelite base shown, and with the cover illustrated, though in certain instances these are varied slightly to accommodate additional terminals.
4. Individual types within the series differ considerably in internal mechanism from one to the other, and incorporate a polarized relay with various combinations of contactors, overload relays, resistors and auxiliary contact arrangements.
5. The polarized relay consists of a soft iron strip pivoted at the centre and lying between two magnets fitted with pole pieces so arranged that the strip will swing one way if it is magnetized in one direction and the other way if its polarity is reversed; this strip carries contacts which mate with others mounted on the frame. Round the longitudinal axis of the strip are two coils. These coils interact, to control the polarity and moment of the strip.
6. In its various forms this relay is used to operate a contactor either external to or incorporated in the unit. The relay itself is triggered either by pulsing from switches of differing polarity or by a change of direc-

tion of the current passing through the contactor.

INSTALLATION

7. These units will operate when mounted at any angle; two 4 B.A. clearance holes at 4.812 in. centres are provided for this purpose. This and other information concerning installation will be found in a chapter of A.P.4343B, Vol. 1, Book 2, Sect. 10 and Sect. 11, covering a specific type within the F2200 series.

SERVICING

8. Assuming that the units have been correctly installed and operated, they will normally require little attention in service. Provided that the unit operates satisfactorily, it should not be interfered with, but assumed to be serviceable for continued use.

Inspection

9. A general visual inspection should be made periodically to ensure that there is no apparent physical damage. Inspect the mechanism, and if signs of malfunctioning or of excessive burning of contacts are evident, remove the unit for servicing or replacement.

Testing

10. Details of tests applicable to particular units will be found in the relevant chapters in A.P.4343B, Vol. 1, Book 2, Sect. 10 and 11.

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