

INSTRUCTIONS**FIELD-LOSS RELAY****IC2820-D300****GENERAL**

The IC2820-D300 field-loss relay is a single-pole normally open relay used to protect a d-c shunt- or compound-wound motor against loss of excitation. The relay operates from a series coil connected in the motor field circuit. It uses one set of double-break bridge-type contacts to open the control circuit of the motor contactor upon loss of field.

The relay is a self-contained front-connected unit that can be mounted on either a steel or insulating base.

INSTALLATION

The relay should be mounted vertically with the armature spring at the bottom.

Before applying power to the relay, operate all moving parts manually to make sure they move freely. Adjustments are made at the factory for normal operation. It is expected that final adjustment of pickup or dropout will be made by the user to fit the particular application or set of conditions involved.

OPERATION

The coil of this device is connected in series with the shunt field of the motor. Its contacts are connected in the control circuit of the line contactor. Upon loss of excitation, the relay will open to de-energize the line contactor and stop the motor. The coil rating must equal or exceed the full field current and the relay should pickup below minimum field current of the motor.

When used in the above described manner this device will not protect against overspeed due to weak field unless the field current decreases below the relay dropout setting.

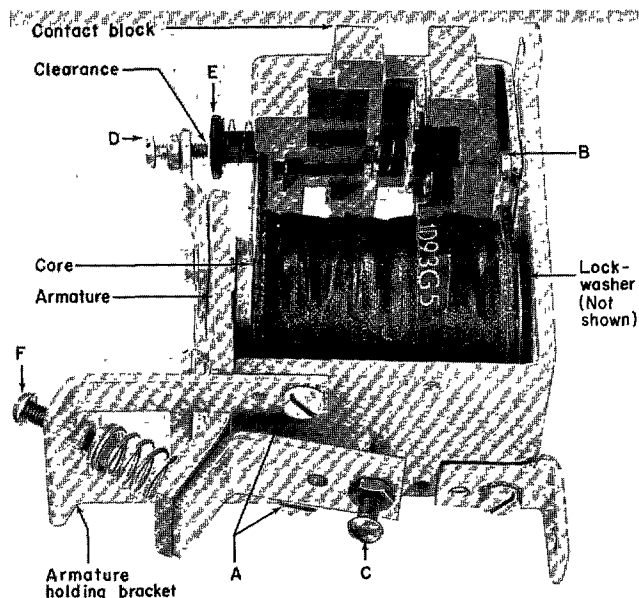


Fig. 1. CR2820-D300 field-loss relay

MAINTENANCE AND ADJUSTMENT

If it becomes necessary to replace the armature spring (see Fig. 1), depress and remove the spring and spring seat.

To replace the coil, loosen the two screws at (A, Fig. 1) and remove the holding bracket, armature, spring, and spring seat. Remove the screw and core head from the core, then slip the coil from the core. When reassembling with the new coil make certain the lockwasher is in place on the core between coil and frame.

Examine the contacts periodically to make certain they are in good condition. If they have become badly roughened, clean them with a fine, flat file. The contact tips should be replaced when the tip wipe is reduced to 1/64 inch or less.

To replace contact parts, first remove the contact block (or housing) by loosening the two screws (B, Fig. 1). To remove the movable contacts (see Fig. 2), raise the spring seat and lift out the operating

These instructions do not purport to cover all details or variations in equipment nor to provide for every possible contingency to be met in connection with installation, operation or maintenance. Should further information be desired or should particular problems arise which are not covered sufficiently for the purchaser's purposes, the matter should be referred to the General Electric Company.

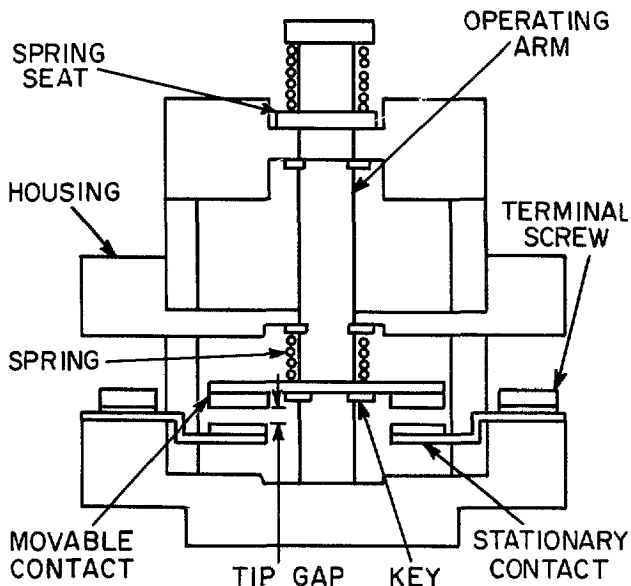


Fig. 2. Contact block, relay not energized

arm, slide the lower key off the operating arm, then lift off the contact. Replace the contact and re-assemble.

To replace the stationary contact remove the terminal screw and lift off the contact. When re-assembling the new contact, run the terminal screw to its full bottoming position to fully seat the contact, then loosen to connect the terminal wire.

Whenever parts of the relay have been replaced, check the adjustments. The armature stop screw (C, Fig. 1) must be adjusted so that, in the energized position of the relay, a clearance of 5/64 inch to 3/32 inch will exist between the magnet frame and the armature stop screw. This is to obtain the proper armature travel.

The contact operating screw (D, Fig. 1) should line up with the center of the contact operating arm (E, Fig. 1). In the de-energized position of the relay, a clearance must exist between the operating arm and

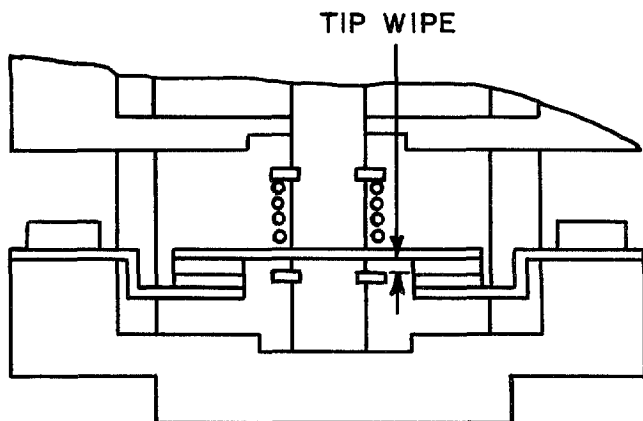


Fig. 3. Contact block, relay energized

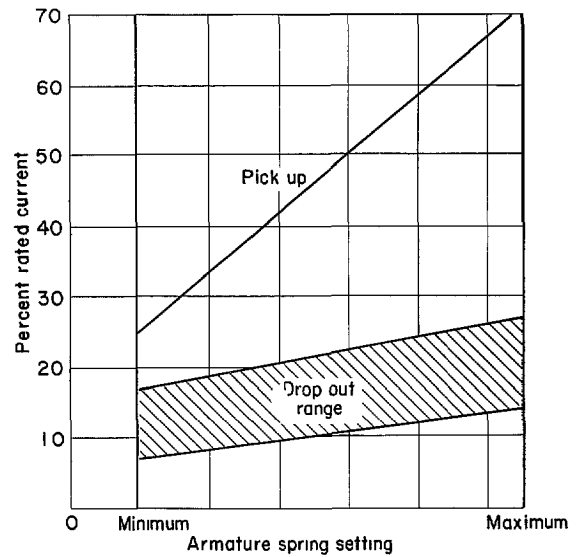


Fig. 4. Pickup and dropout curves of IC2820-D300A relay

the operating screw (see Fig. 1). In the energized position the operating arm must not bottom.

When new, the tips of the movable contact must make within 1/64 inch of each other. The contact tip wipe should be between 1/32 inch and 3/64 in. and the tip gap should be a minimum of 5/64 inch (see Fig. 2 and 3).

The pickup value can be varied by means of the adjusting screw (F, Fig. 1). Turn the screw clockwise to increase the pickup value. Turn it counter-clockwise to decrease the pickup value.

Dropout value will vary with the pickup setting. The range of dropout for the IC2820-D300A and the IC2820-D300B relays is shown in Fig. 4 and 5.

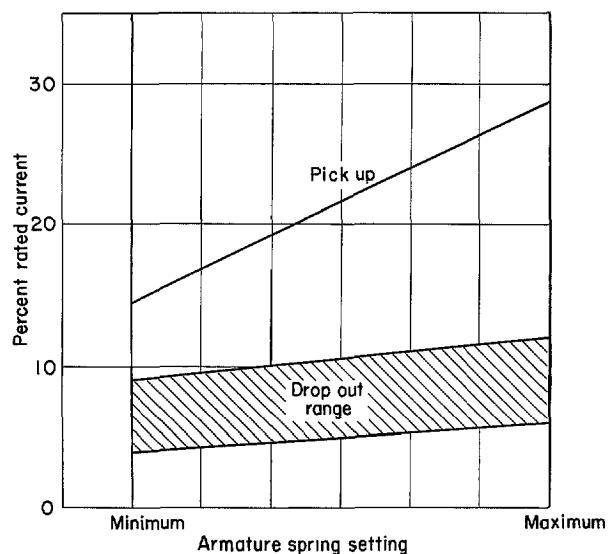


Fig. 5. Pickup and dropout curves of IC2820-D300B relay

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