

FIELD WEAKENING SYSTEM

IC4484B201 FOR 36-48-VOLT OPERATION

IC4484B200 FOR 72-80-VOLT OPERATION

Before any adjustments, servicing, parts replacement or any other act is performed requiring physical contact with the electrical working components or wiring of this equipment, DISCONNECT THE BATTERY AND DISCHARGE CAPACITOR 1C.

GENERAL

Field weakening (FW) is supplied for truck applications where more speed is desired than is available with the motor directly across the battery (with 1A closed).

After 1A is closed, card 2 senses the truck speed by sensing the current in the series field. After a suitable speed has been attained on full field, the field current drops to a low value. The FW contactor is then energized to insert field-weakening resistor 3 RES in parallel with the drive-motor field. If current in the motor increases, as when going up a grade, card 2 drops out the FW contactor, reapplying full field to the motor.

CHECKING OPERATION

To check the field-weakening circuit, connect an ammeter and shunt between battery negative and 1 REC. Connect the battery and depress the accelerator slightly to assure that a positive deflection of the meter is obtained. Follow steps A thru C (below) to determine full load running current.

- (A) Insert a piece of paper between the power tips of the FW contactor.
- (B) Operate the truck with full-rated load in 1A speed to determine the full-load running amperes.

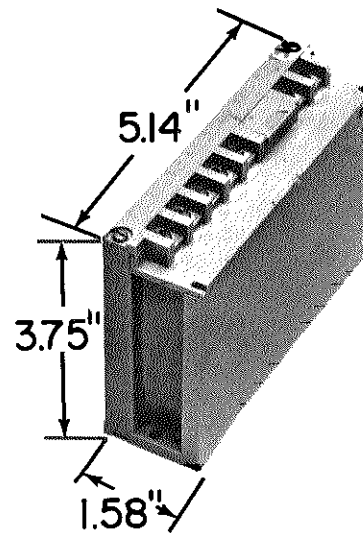


Fig. 1.

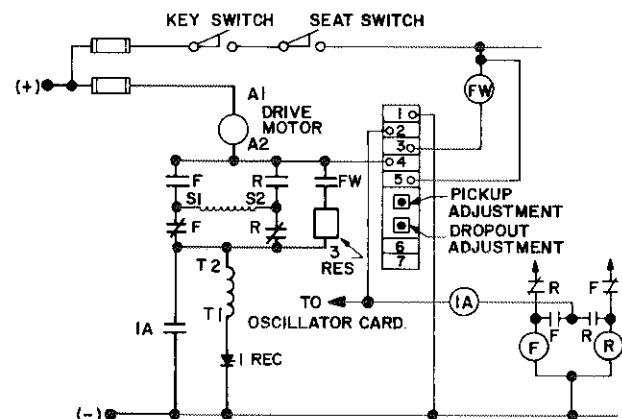


Fig. 2. Typical control connection on diagram

The information contained herein is intended to assist truck users and dealers in the servicing of SCR control furnished by the General Electric Company. It does 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 purpose, the matter should be referred to the truck manufacturer through his normal service channels, not directly to General Electric Company.

CHECKING OPERATION (CONT'D)

- (C) Remove the paper from between the power tips of the FW contactor.

Accelerate the loaded truck on the level. The FW contactor should close about one second after 1A closes or when the current reduces to about 125 to 150 percent of the full load running current. See Fig. 2.

Decelerate the loaded truck by going up a ramp or by applying the brake (with the brake switch jumpered out). The FW contactor should drop out when the current increases to about 300 percent of loaded-level motor current.

If field weakening is not properly set, the card should be adjusted as described under tuneup procedure.

TUNE-UP PROCEDURE

Set up a shunt and ammeter, and determine the full load running current as described in the "CHECKING OPERATION" section. Jack the drive wheels up. Then proceed as follows:

- (1) Turn the dropout adjustment fully clockwise.
- (2) Turn the pickup adjustment fully counterclockwise.
- (3) Partially depress the brake and move the accelerator to full speed.

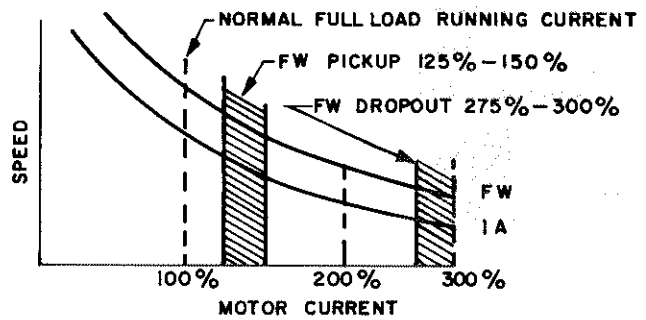


Fig. 3. Pickup and dropout ranges for FW contactor based on full-load-level running speed (1A)

- (4) Load the truck motor to correct pickup amperes (usually 135 percent of full load running amperes). Turn the pickup adjustment clockwise until the FW contactor picks up.
- (5) Load the truck to the correct drop-out amperage (usually about 300 percent of full load running amperes). Turn the dropout adjustment counterclockwise until the FW contactor drops out.

NOTE: This card contains filters with long time constants. Hold the current about one second before making adjustments. Turn the trimpot slowly. The pickup adjustment affects dropout, but the dropout adjustment does not affect pickup.

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