INSTRUCTIONS – SCR ELECTRIC VEHICLE CONTROL

AUXILIARY PLUGGING CONTROL
(1 REC INHIBIT)

IC4484B700 FOR 36–72-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.

FUNCTION

The Auxiliary Plugging Control (APC) is for use with the Models 110, 210 and 310 controls on motors that require narrow pulses during plug to improve the plugging performance.

The card senses the plug signal at card 1, terminal 9, and if this signal is wide enough, prevents the gating of the main SCR on the next pulse.

During a plug on the second or third and succeeding pulses, the oscillator card will produce a positive pulse wide enough for the auxiliary card to prevent the firing of the main SCR, thus only 5 REC is gated. The charge on 1C capacitor discharges through inductance T3-T4; reverses its charge, and 5 REC turns off. 2 REC is gated by card 1 as normal, and the capacitor, battery and load are connected in series, thus giving a narrow pulse of power to the field.

A second circuit includes an SCR which conducts from T4 to T3 shorting the transformer during the interval that 2 REC conducts, thus preventing excessive voltage transients.

Near the end of a plug the width of the plug signal becomes short enough so that the gate of the main SCR is not clamped, and normal pulses resume.

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.

GENERAL ELECTRIC
TUNE-UP PROCEDURE

Connect a direct current voltmeter across the 

motor to read motor volts and proceed as follows:

(1) Following standard procedures, set up the 
oscillating card in the SCR control panel 
with the exception of plugging.

(2) Make an eight-volt power supply as shown 
in Fig. 3.

(3) Connect an additional separate wire from 
terminal 3 of the auxiliary plugging control 
card to the eight-volt supply.

(4) Stall the truck, and by varying the truck ac-
ccelerator, set the motor volts at battery 
volts divided by 10. Hold the accelerator at 
this position.

Example: 48V/10 = 4.8 volts  
36V/10 = 3.6 volts

(5) Turn the APC trimpot counterclockwise until 
the motor volts will reduce no further (1 REC 
not firing), then clockwise until the motor 
vols increase somewhat. (1 REC firing in-
termittently.)

(6) Remove the eight-volt supply.

(7) Set the oscillator card plug in the normal 
manner.

NOTE: If the APC trimpot has been set in 
5 (above) for too long a time, the start and/ 
or the end of the plug may be too 
stiff. Turn the trimpot counterclockwise. If the 
APC trimpot has been set as in step 5 
(above) for too short a time, some pulses 
may be inhibited at creep. Turn the trim-
pot clockwise.