INSTALLATION • OPERATION • MAINTENANCE

INSTRUCTIONS

SWITCHBOARD WATTHOUR METERS IN FLEXITEST CASES

TYPES CB-F, CB-2F, CB-3F, CB-7F, CB-8F, CB-32F, CB-38F

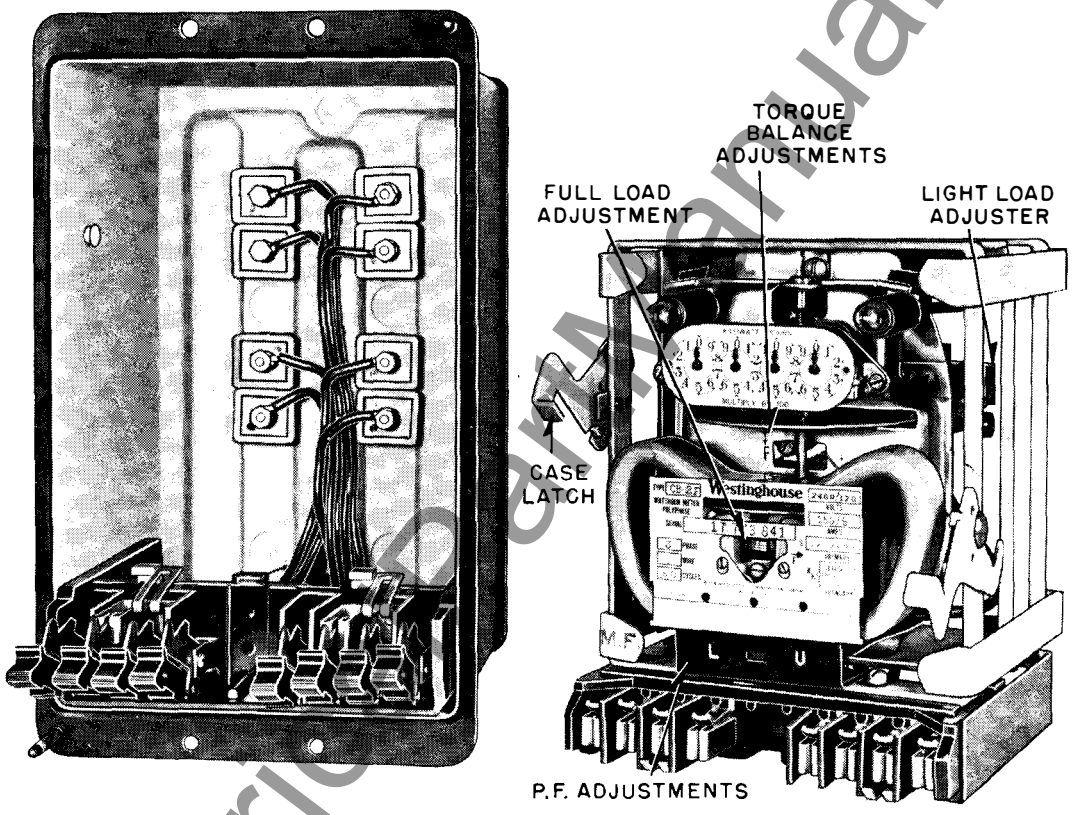

Fig. 1—Two Element Meter.

APPLICATION CHART

TYPE	NUMBER OF ELEMENTS	CIRCUIT APPLICATION
CBF	1	1-phase, 2 or 3-wire
CB-2F	2	1, 2, or 3-phase 3-wire
CB-3F	3	3-phase, 4-wire wye
CB-7F	2	3-phase, 4-wire delta
CB-8F	2 1/2-split coil	3-phase, 4-wire wye
CB-32F	4	Totalizing two 3-phase, 4-wire circuits
CB-38F	4-split coil	Totalizing two 3-phase, 4-wire wye circuits

GENERAL

The meter elements are mounted on a removable chassis. All connections are made through the test switches and the meter is held into the case by two latches. Automatic shorting switches are provided on all current circuits to prevent opening current transformers when testing or removing the chassis. For testing, leads can be clipped to the test lugs above the chassis jaws and on the switch blades.

Two test plugs are available to facilitate calibration of these meters. The 10- circuit plug is inserted into the chassis jaws and is provided with binding post terminals for connections to the test circuit. The current circuit plug is inserted into the current switch assembly between the chassis and the case. It breaks the circuit and leads may be attached to measure the current.

Meters mounted in projection cases are designated by the addition of the letter P to the type number, i.e. CB-2FP, CB-38FP, etc.

CALIBRATION

All meters are calibrated on single-phase. The basic watthour constant (K_h) for these meters is 1/3 per nominal 600 watt rating. The single-phase test speed is 30 rpm except for the CB-8F and the CB-38F for which it is 40 rpm. Both of these are given on a 120 volt basis.

The following is a guide to the watthour element calibration. For detailed instructions, see I. L. 42-100.

Adjustments - CB-F Single-Phase Meters

Full Load - Turning the keeper above the permanent magnets to the left increases meter speeds; to the right, decreases meter speed ("F" on nameplate indicates fast).

Light Load - The light load adjusting screw is located at the right side of the frame. Adjustment in the fast direction is indicated by the arrow and letter "F".

Power Factor - For adjustment, change the resistance of the power factor coil at the bottom of the electromagnet. Increasing the resistance (lengthening the loop) increases the speed on lagging power factors.

Adjustments - Polyphase Meters

Full Load - Turning the keeper below the permanent magnet to the right increases meter speeds; to the left decreases meter speed. ("F" on nameplate indicates fast.)

Light Load - The light load adjusting screws are located at the side of the frame. Adjustment in the fast direction is indicated by the arrow and letter "F".

Balance - The balance adjusting screws are located at the front of the frame near the disc shaft. Adjustment in the fast direction is indicated by the arrow and letter "F".

Balance plates should first be moved to a maximum torque (fast) position and calibration then made by changing the higher torque element.

Power Factor - For adjustment, change the resistance of the power factor coil at the side of the electromagnet. Increasing the resistance (lengthening the loop) increases the speed on lagging power factors.

REPLACEMENT PARTS AND REPAIRS

Where facilities are limited or where only a small number of meters are used, it is recommended that the meter be returned to the factory for repairs. When returning a meter for repairs, obtain a Returned Material Tag from the District Office so as to avoid delay in identifying the shipment.

When ordering renewal parts, give the entire nameplate reading. Always give the name of the part wanted. Check Renewal Parts Data 42-104.1 for aid in identifying parts.

OUTLINE DRAWINGS

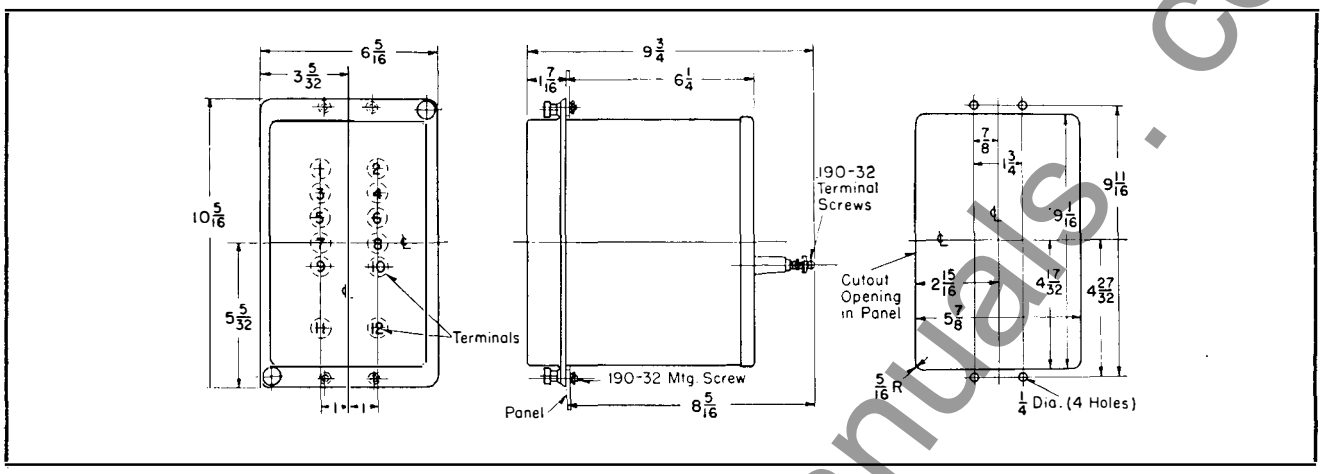

Fig. 2—Types CB-F, CB-2F, CB-7F, CB-8F Flush Mounting.

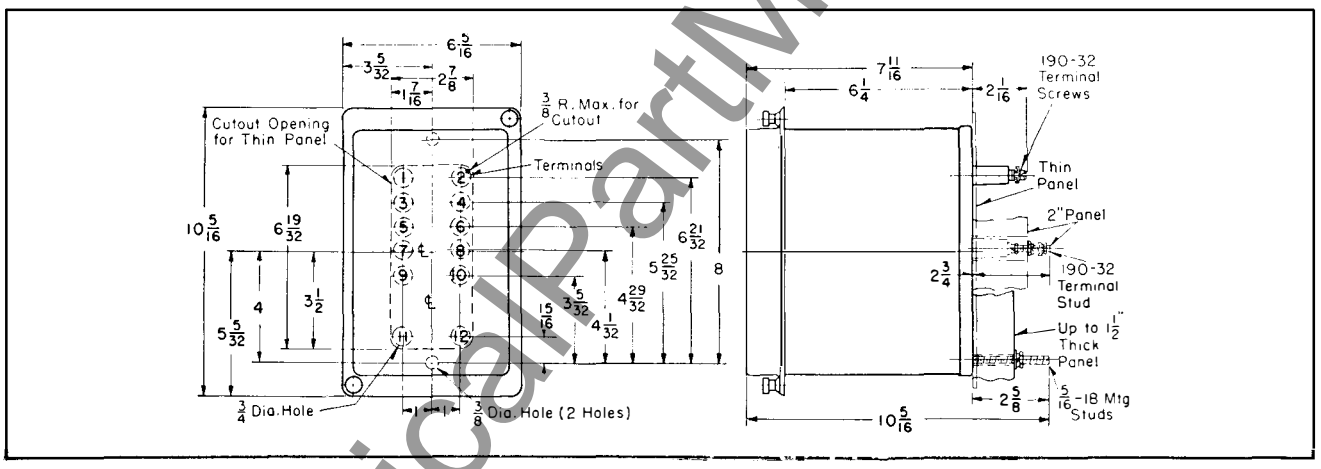

Fig. 3—Types CB-FP, CB-2FP, CB-7FP, CB-8FP, Projection Mounting.

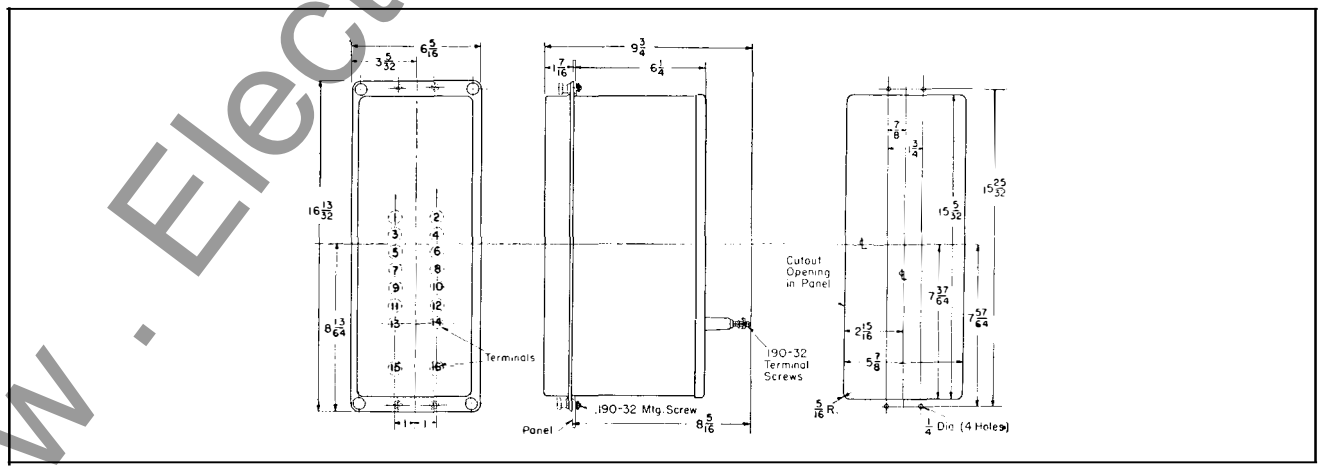

Fig. 4—Types CB-3F, Flush Mounting.

OUTLINE DRAWINGS

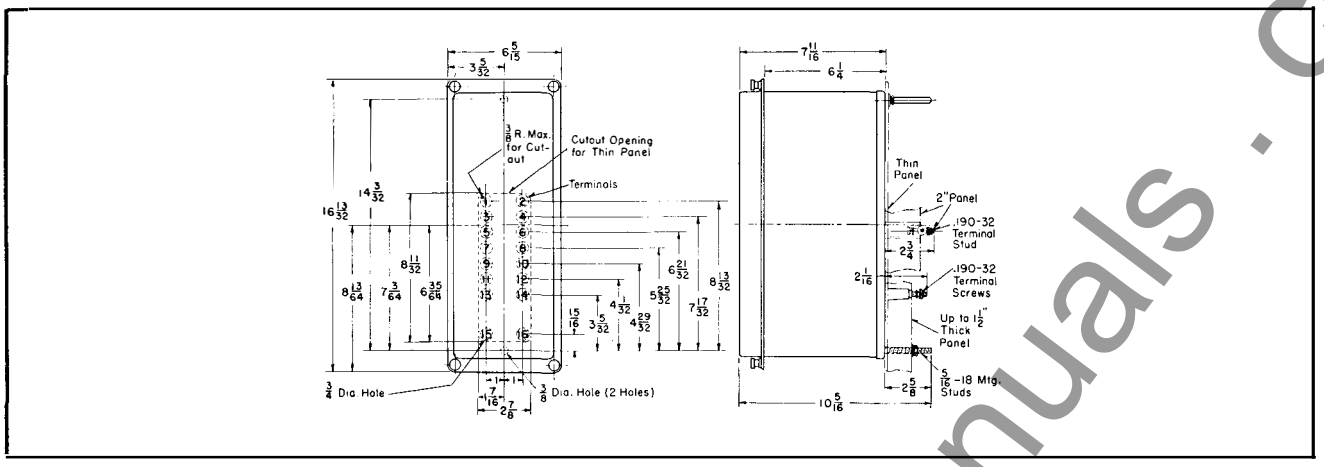

Fig. 5—Types CB-3FP Projection Mounting.

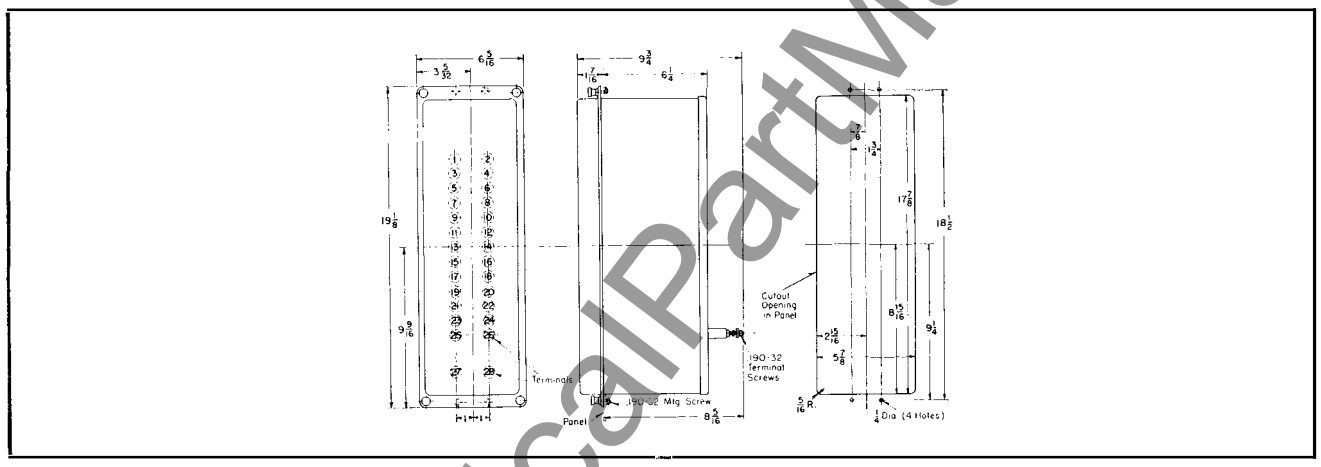

Fig. 6—Types CB-32F, CB-38F, CB-3F (20 switch case) Flush Mounting.

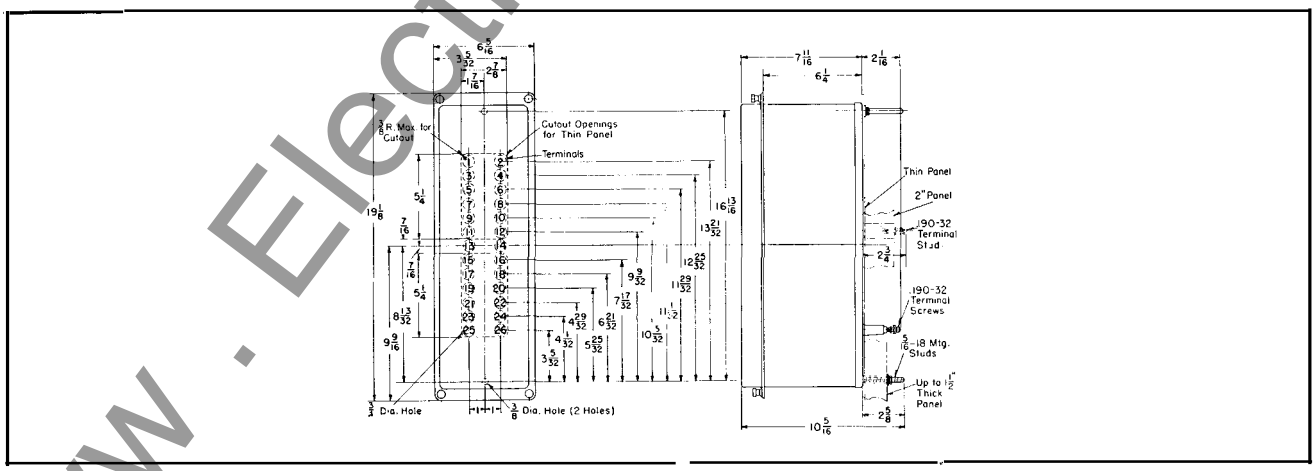

Fig. 7—Types CB-32FP, CB-38FP, CB-3FP (20 switch case) Projection Mounting.

WIRING DIAGRAMS

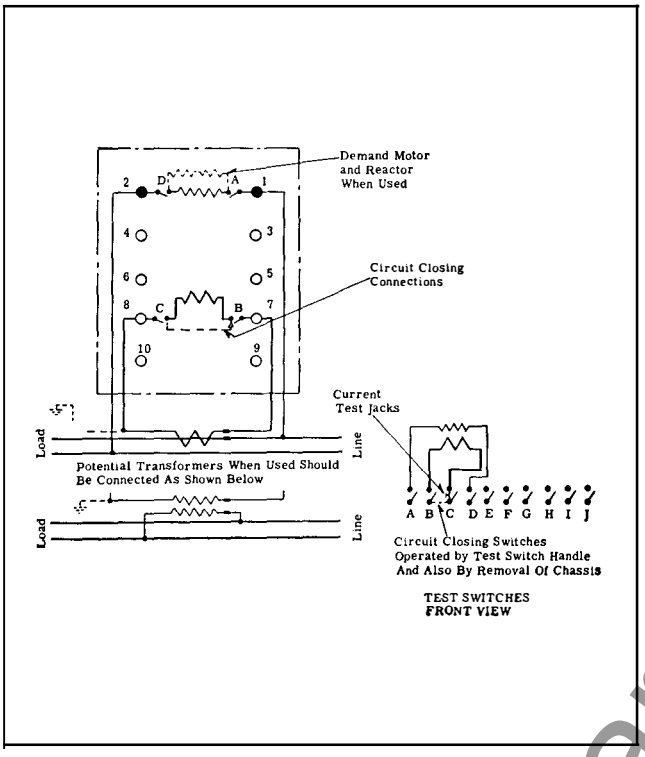

Fig. 8—Type CB-F, 1-Phase, 2-Wire.

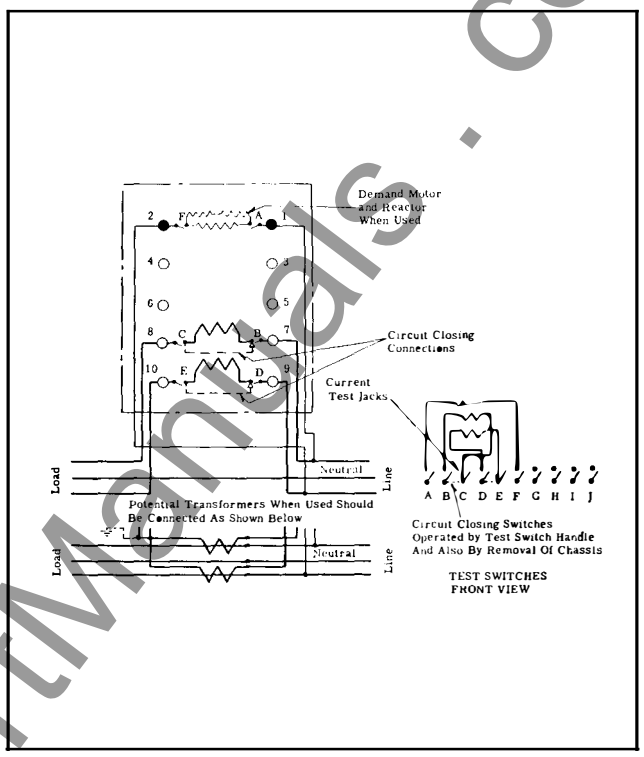

Fig. 9—Type CB-F, 1-Phase, 3-Wire.

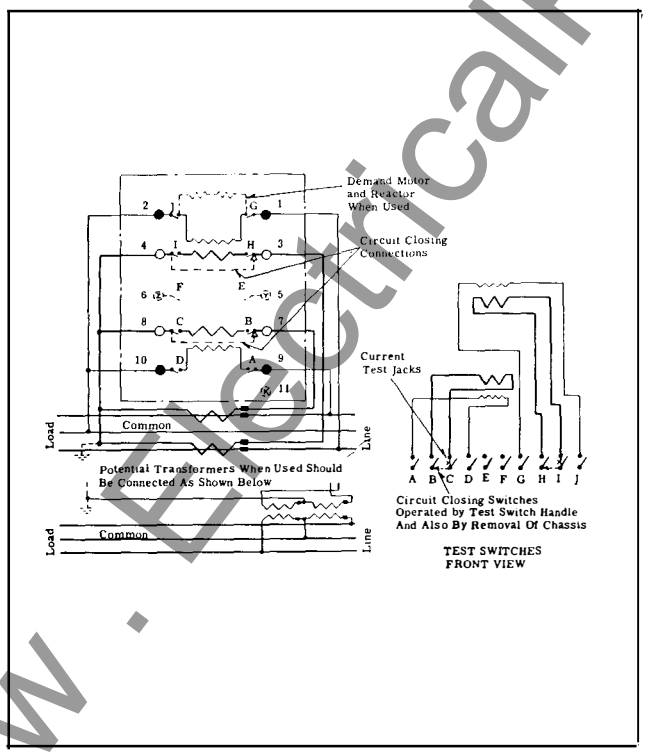

Fig. 10—Type CB-2F, 3-Phase, 3-Wire.

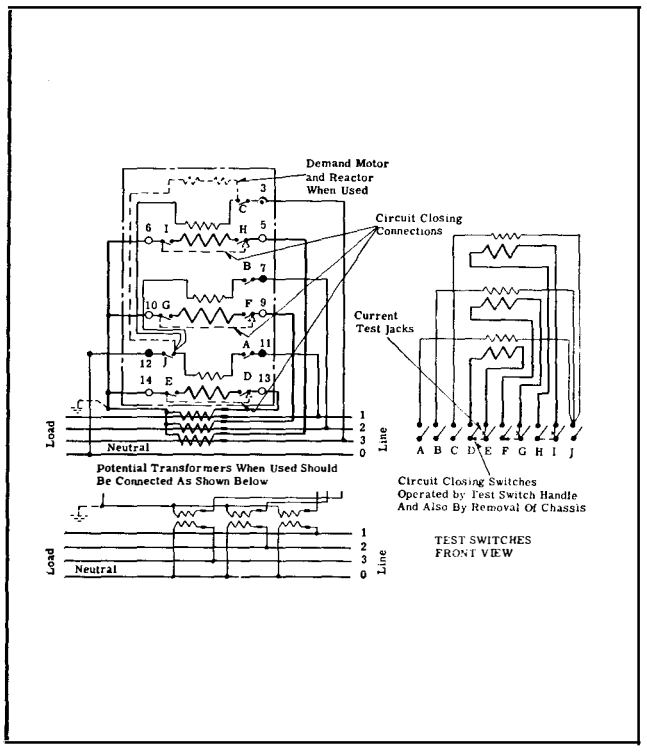

Fig. 11—Type CB-3F, 3-Phase, 4-Wire Wye.

WIRING DIAGRAMS

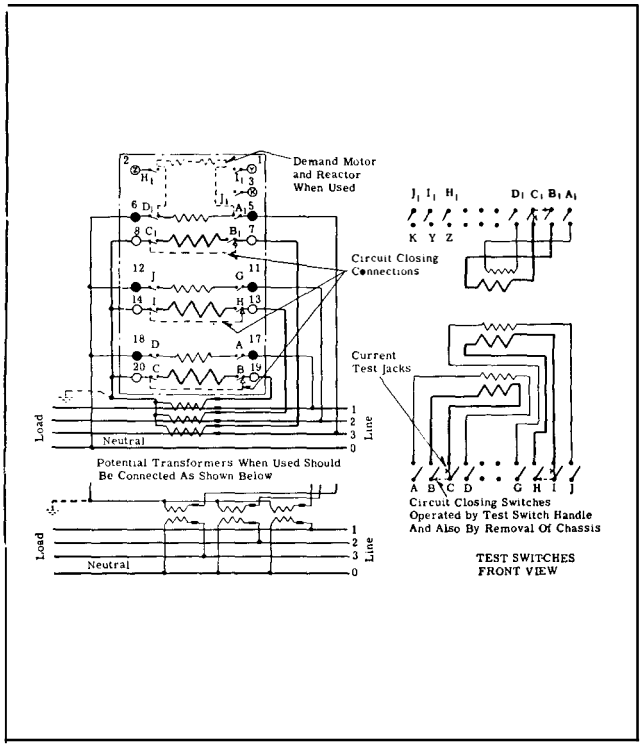

Fig. 12—Type CB-3F, 3-Phase, 4-Wire Wye (20 switch case with demand contacts).

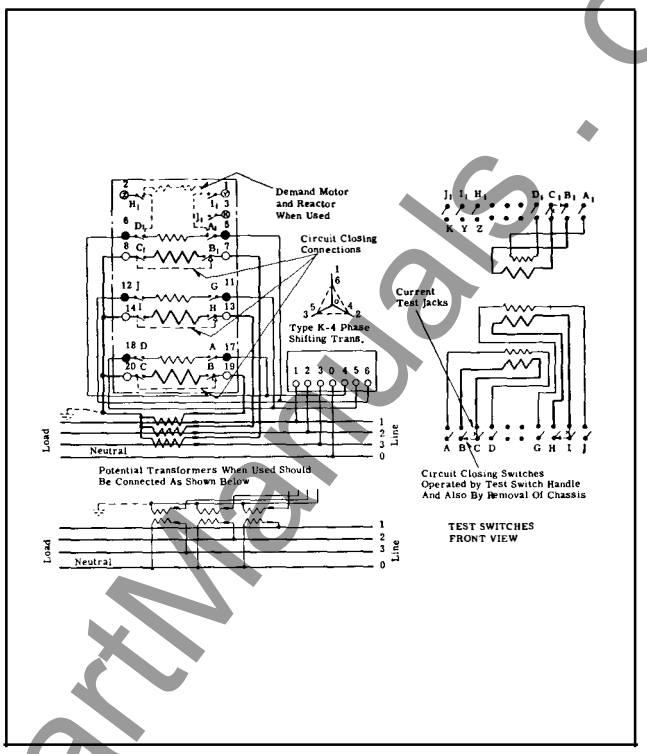

Fig. 13—Type CB-3F, 3-Phase, 4-Wire Wye (20 switch case with reactive metering).

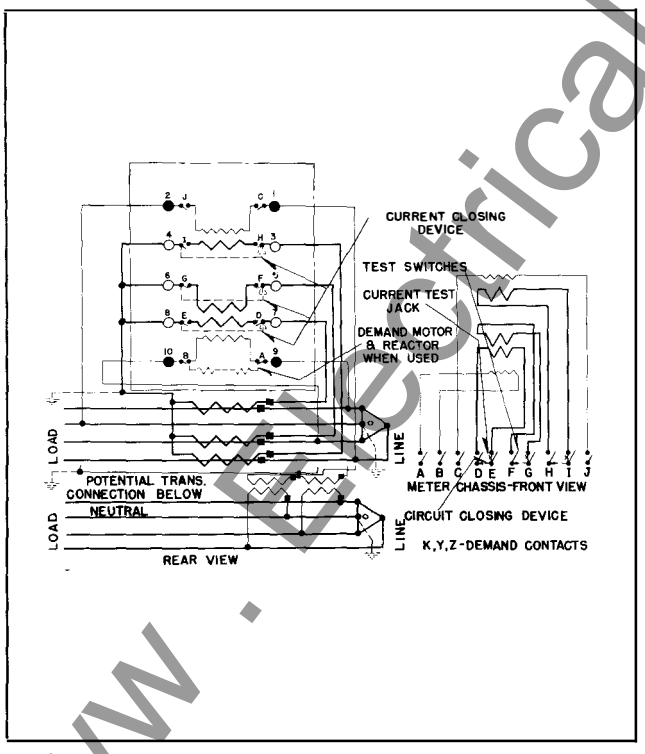

Fig. 14—Type CB-7F, 3-Phase, 4-Wire Delta..

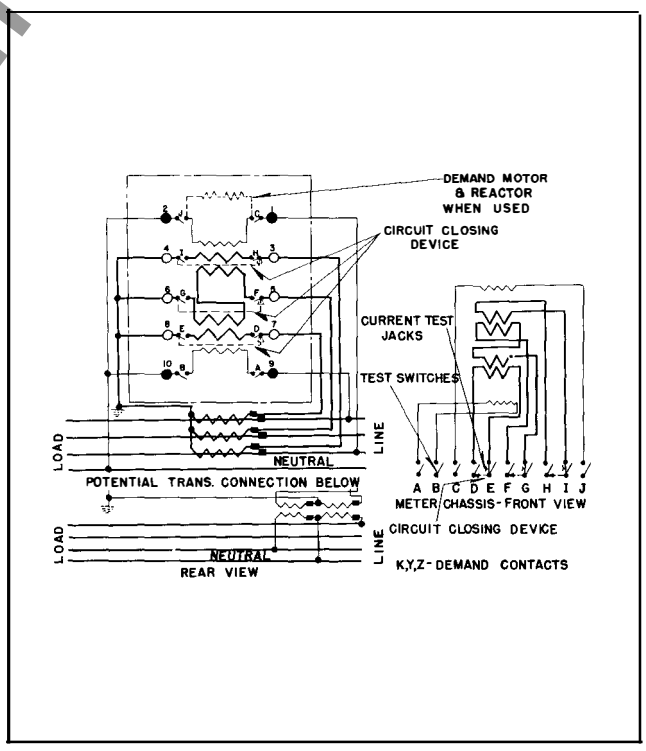

Fig. 15—Type CB-8F, 3-Phase, 4-Wire Wye.

WIRING DIAGRAMS

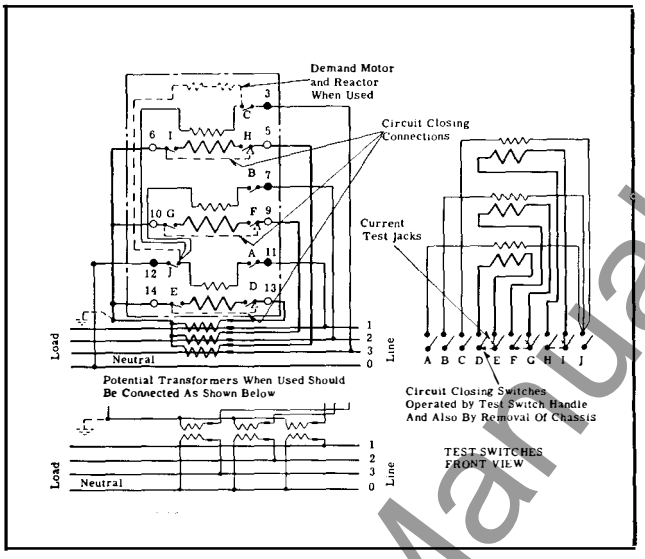

Fig. 16—Type CB-8F, 3-Phase, 4-Wire Wye (With demand contacts).

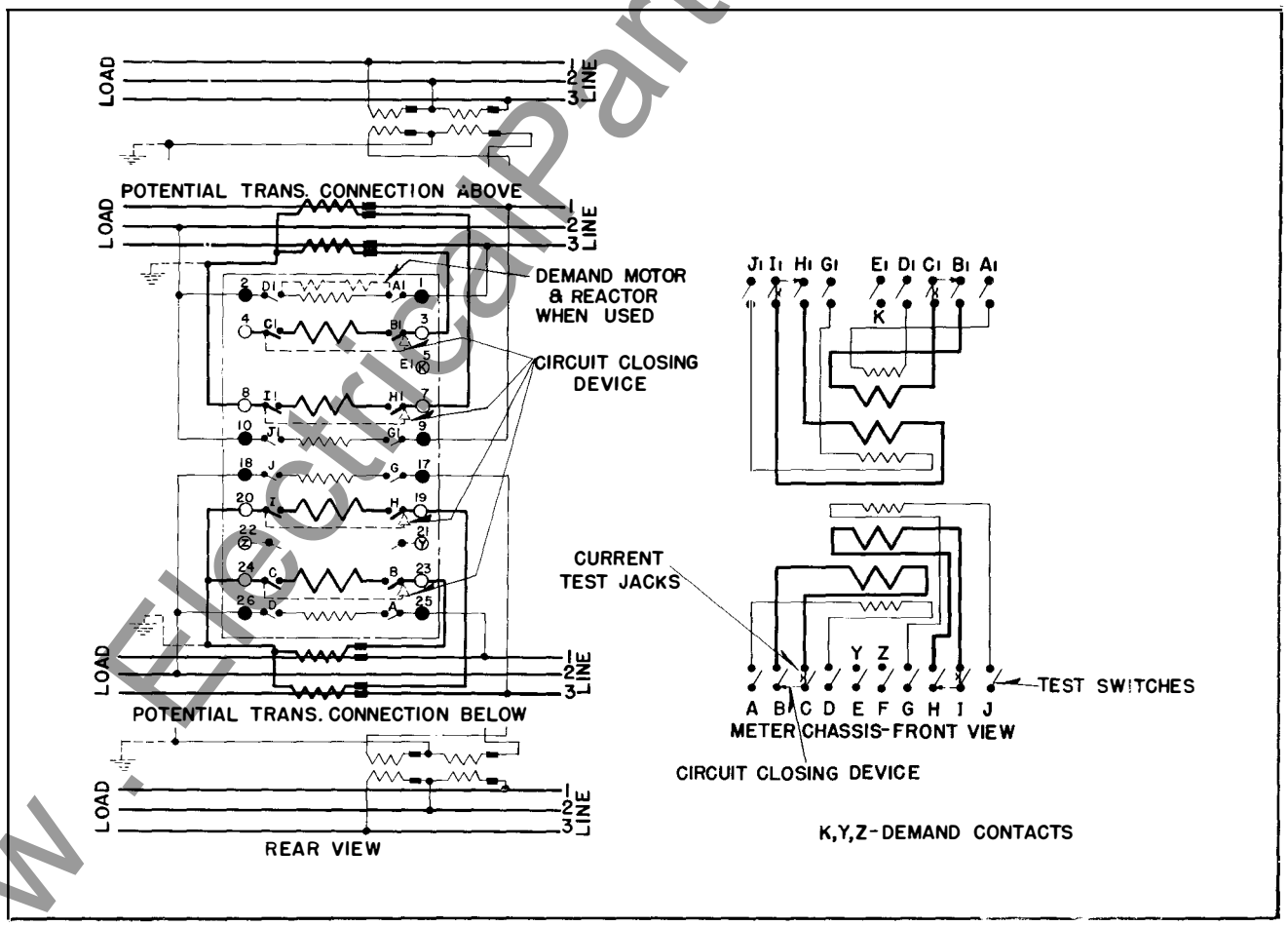

Fig. 17—Type CB-32F, Totalizing Two 3-Phase, 3-Wire Circuits.

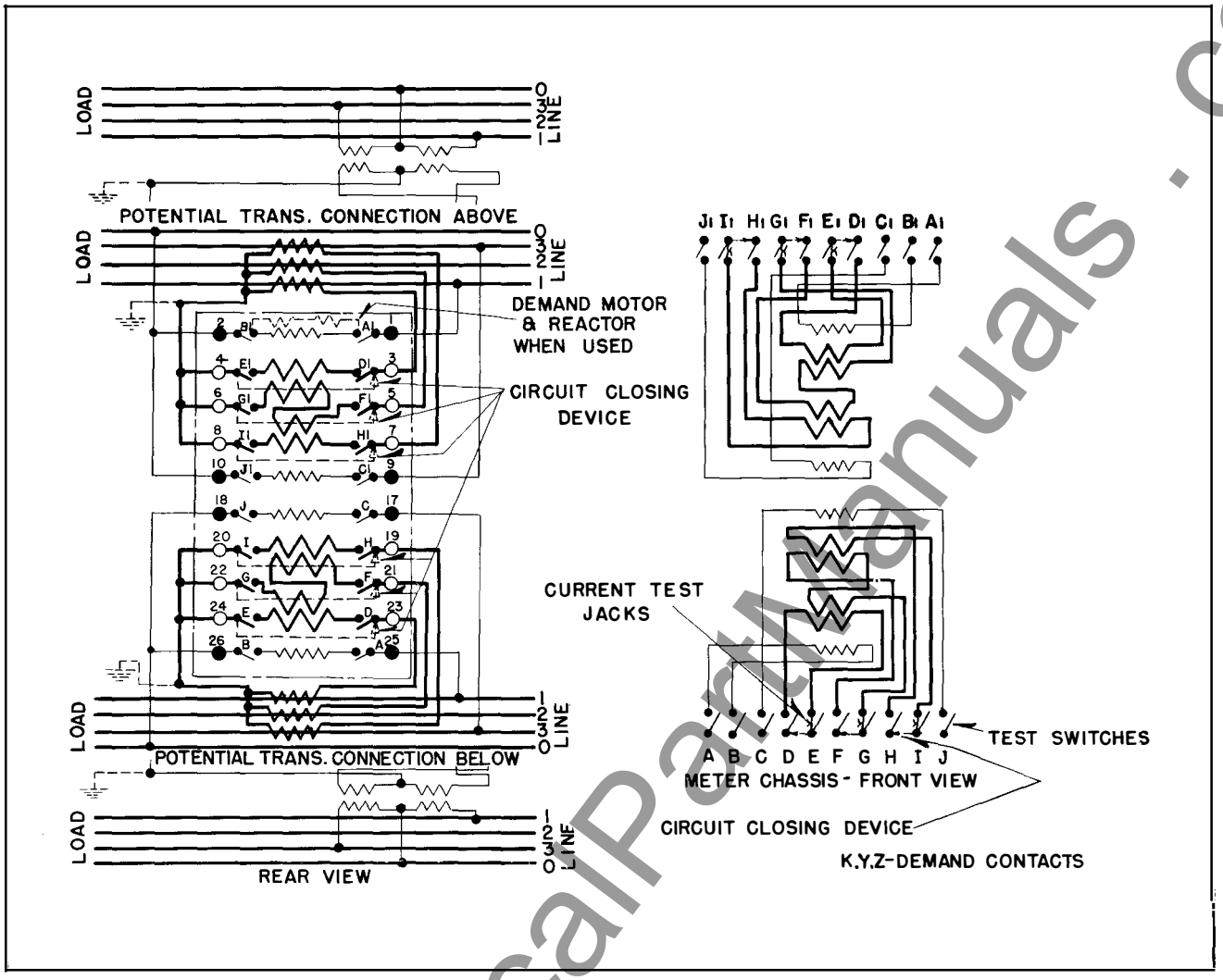

Fig. 18—Type CB-38F, Totalizing Two 3-Phase, 4-Wire Wye Circuits.