INSTALLATION • OPERATION • MAINTENANCE

INSTRUCTIONS

TYPE TT-17 RELAY IN FT-22 CASE

CAUTION: Before putting relays into service, remove all blocking which may have been inserted for the purpose of securing the parts during shipment, make sure that all moving parts operate freely, inspect the contacts to see that they are clean and close properly, and operate the relay to check the settings and electrical connections.

APPLICATION

The type TT-17 relay is used in the K-DAR underreaching transfer trip system.

CONSTRUCTION

The type TT-17 relay consists of three telephone type relays and zener type blocking diodes, zener type tripping diodes, an indicating contactor switch (ICS) and an instantaneous trip (IT).

SETTINGS

There are no settings to be made on the relay except for setting desired pickup of IT unit.

INSTALLATION

The relays should be mounted on switchboard panels or their equivalent in a location free from dirt, moisture, excessive vibration, and heat. Mount the relay vertically by means of the four mounting holes on the flange for semi-flush mounting or by means of the rear mounting stud or studs for projection mounting. Either a mounting stud or the mounting screws may be utilized for grounding the relay.

The electrical connections may be made directly to the terminals by means of screws for thick panel mounting. The terminal studs may be easily removed or inserted by locking two nuts on the stud and then turning the proper nut with a wrench.

ADJUSTMENTS AND MAINTENANCE

The proper adjustments to insure correct operation of this relay have been made at the factory. Upon receipt of the relay, no customer adjustments should be required.

1. Acceptance Check

The following check is recommended to insure that the relay is in proper working order:

2. Auxiliary Units X, X1, and LO

Energize each auxiliary unit with rated voltage and check contact action, If desired, the timing of the operation can be checked as outlined under calibration procedure.

3. Zener Blocking Diodes D3 and D7

The zener type blocking diodes have a one watt, 200 volt rating (JEDEC No. 1N3051, two diodes in series used on 250 volt relays).

a. Reverse Characteristic:

Breakdown voltage is the value of voltage at which the current just exceeds 0.25 milliamperes and should be between 160 and 240 volts for each diode. The breakdown voltage is determined by slowly increasing voltage until reverse current exceeds 0.25 milliamperes and starts to increase rapidly. Do not exceed 3 milliamperes reverse current.

b. Forward Characteristic:

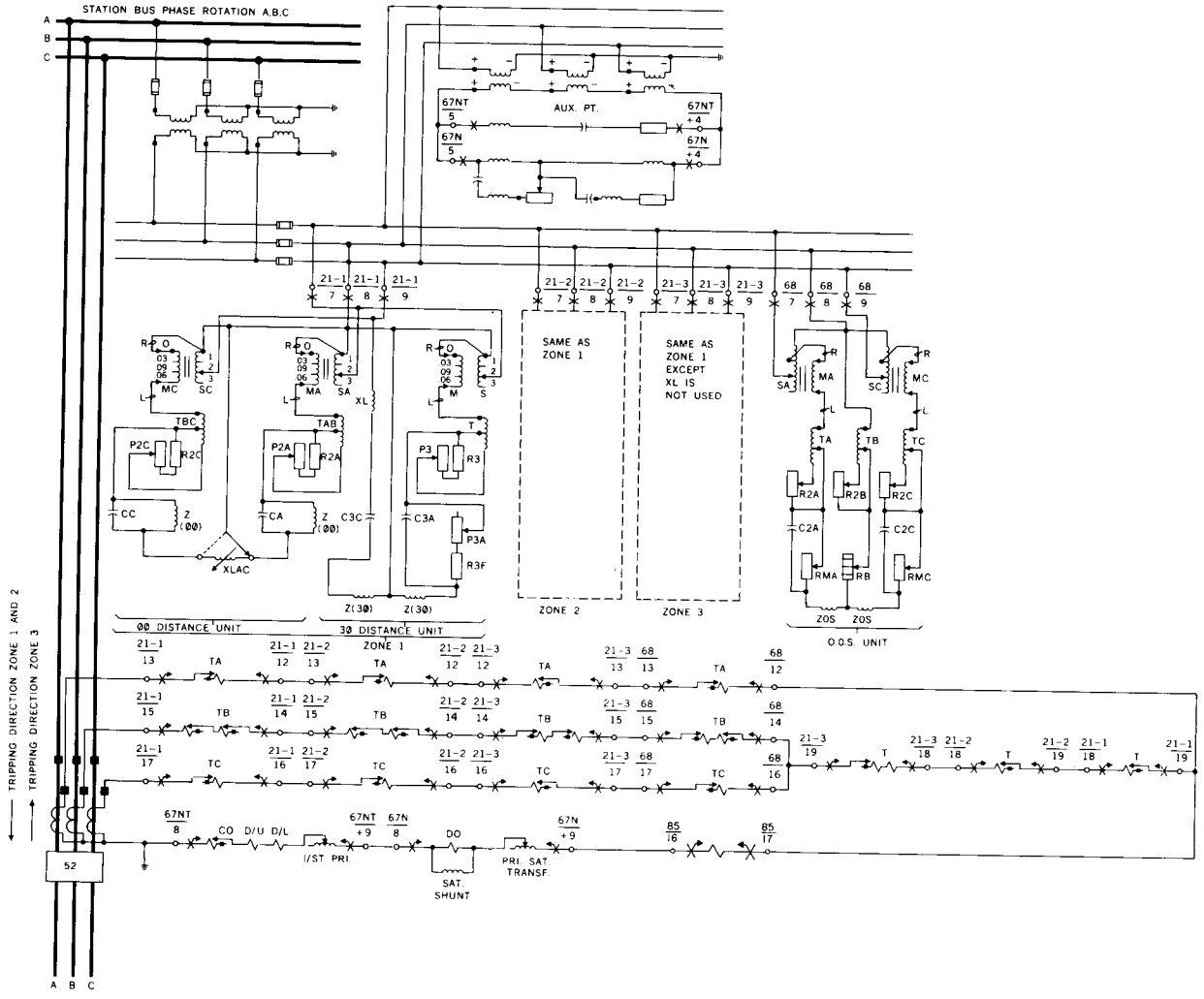
With 200 milliamperes flowing in forward direction, the forward voltage across each diode should not exceed 1.5 volts.

4. Zener Tripping Diodes D1 and D2

The zener type tripping diodes have a 50 watt, 200 volt rating (JEDEC No. 1N2846A for 125 volt and 48 volt relays, 1N2846A and 1N2846-RA for 250 volt relays).

a. Reverse Characteristic:

Breakdown voltage is the value of voltage at which the reverse current just exceeds 5 milliamperes and should be between 160 to 240



STYLE NO. 880A410G01
SWITCH SHOWN IN NORMAL POSITION

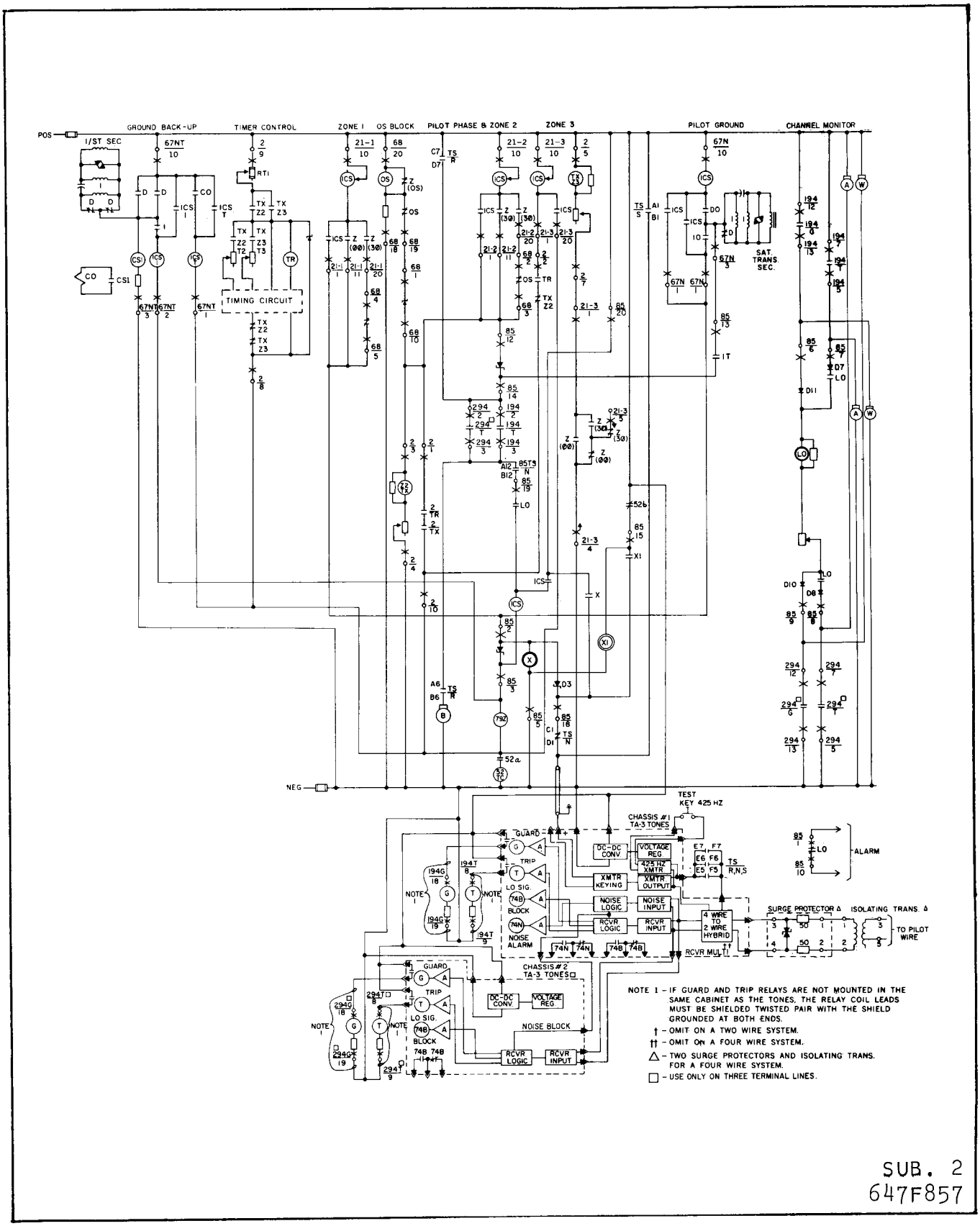
CONTACT	POSITION REC	OFF	NOR	SEND
A11,B11		X		
A12,B12			X	
A1,B1				X
A2,B2				X
A6,B6	X			
A7,B7		X		
C11,D11	X			
C12,D12		X		
C1,D1			X	
C5,D5			X	
C6,D6				X
C7,D7	X			
E11,F11	X			
E12,F12		X		
E1,F1			X	
E5,F5		X	X	
E6,F6			X	X
E7,F7	X			

X=DENOTES CONTACT CLOSED.

DEVICE NO.	DEVICE	DWG NO.
2	TD-4 TIMER	185A232
21-1	KD-10 RELAY (ZONE 1)	880A988
21-2	KD-10 RELAY (ZONE 2)	880A988
21-3	KD-11 RELAY	880A989
52a	CIR. BKR. AUX. SW.	- - -
52b	CIR. BKR. AUX. SW.	- - -
52 TC	CIR. BKR. TRIP COIL	- - -
67N	KRD-4 INSTANTANEOUS GD	629A509
67NT	IRD GND. BACKUP RELAY	184A020
68	KS RELAY (OOS) BLOCKING	183A583
79Z	SX REL. (SEL. RECLOSING)	184A178
85	TT-17 RELAY	188A526
194G/294G	GUARD RELAY (AR)	762A580
194T/294T	TRIPPING RELAY (AR)	762A580
85TS	TEST SWITCH	- - -
74B	LOW SIG. BLK. ALARM REL.	- - -
74N	NOISE BLK. ALARM RELAY	- - -

SUB. 2
647F857

✪ *Fig. 2A. K-Dar Underreaching Transfer Trip System (ac Circuits)*



✪ *Fig. 2B. K-Dar Underreaching Transfer Trip Systems (dc Circuits)*

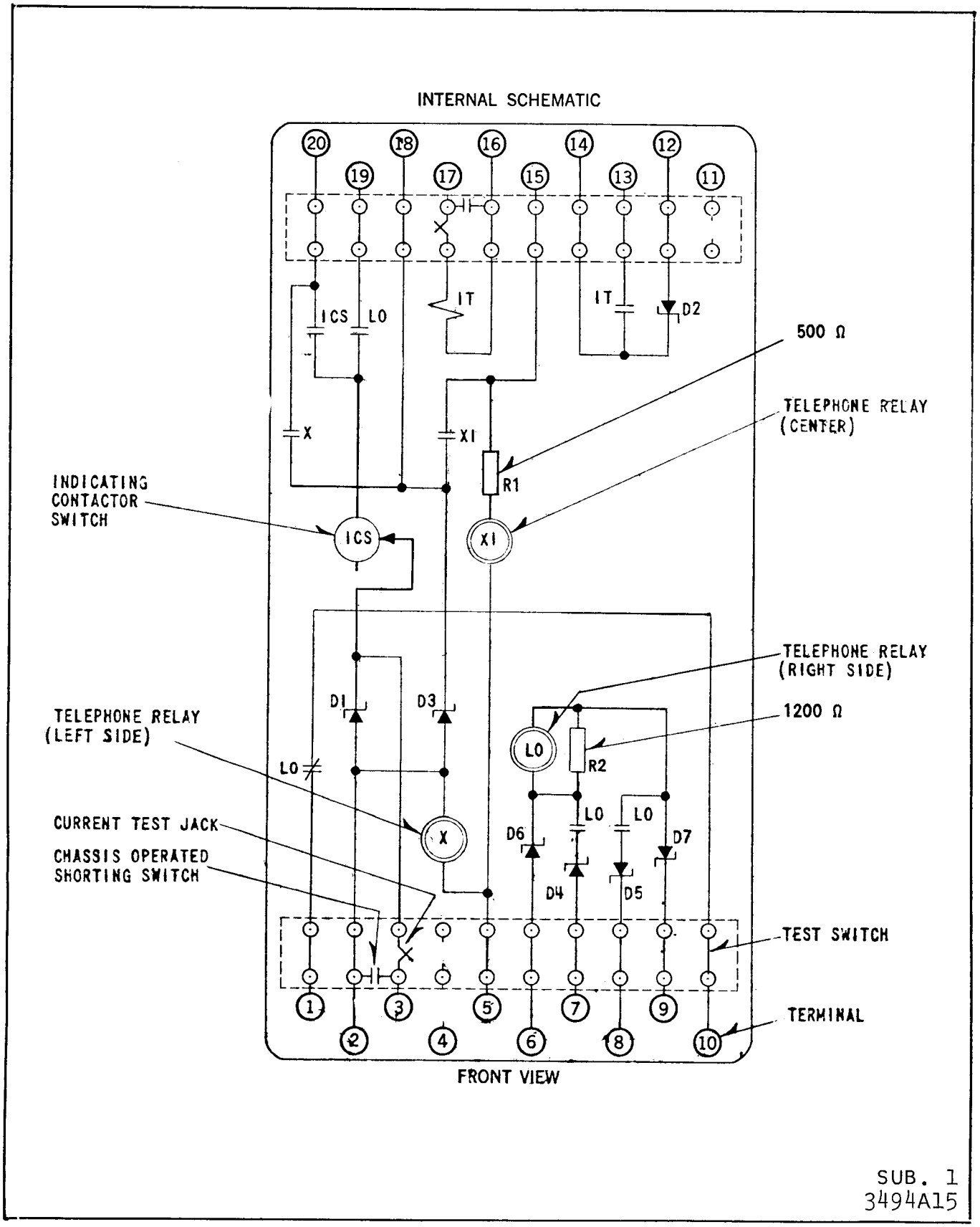


Fig. 3. Relay Type TT-17 Underreaching Auxiliary 48 V dc in Type FT-22 Case

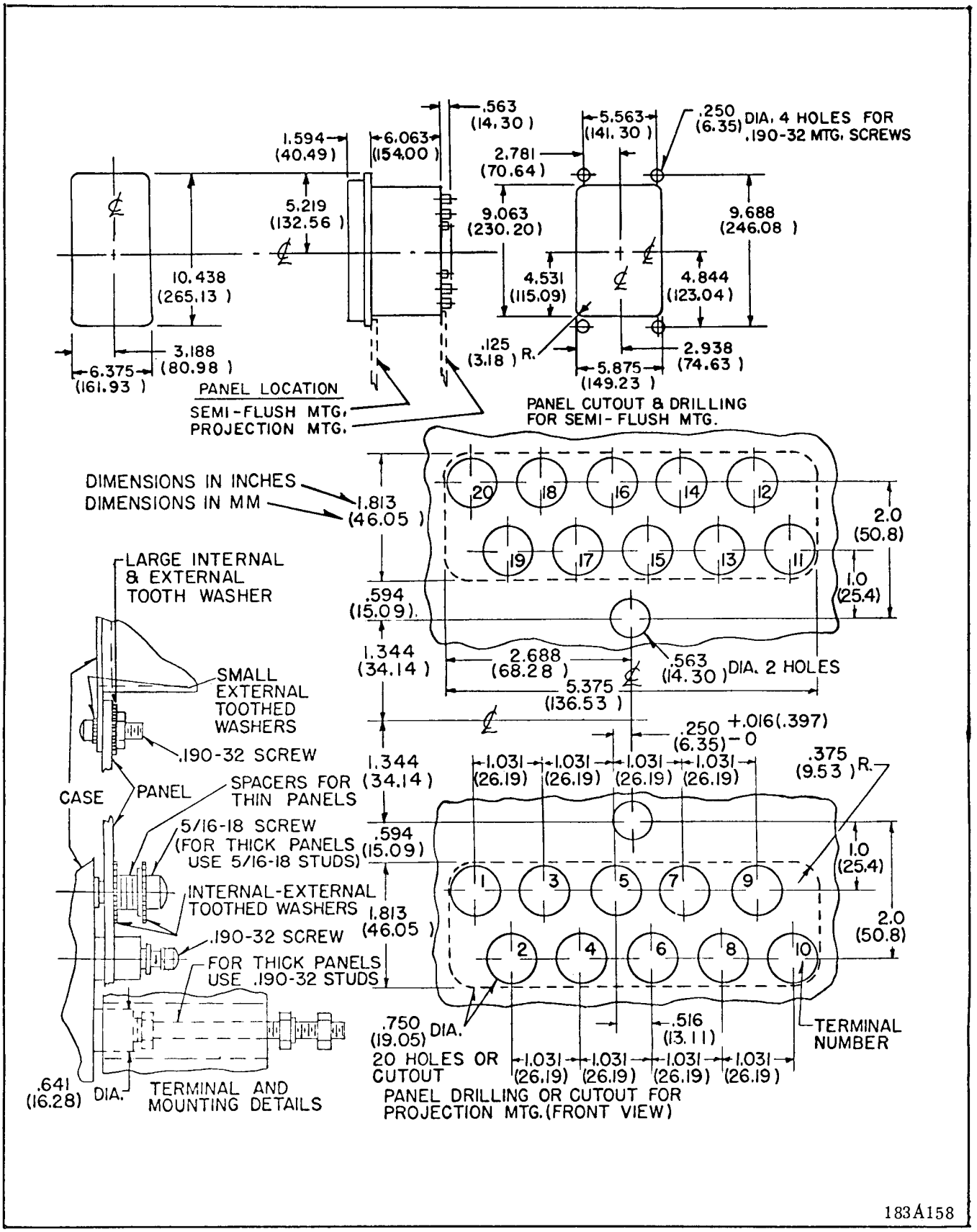
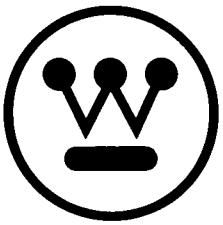


Fig. 4. Outline & Drilling for Relay Case Type FT22



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