REVISIONS

SEE

SCOPE

TDPI RELAY BOARD PL-115D3385 G1 125 VDC COIL
PL-115D3385 G2 250 VDC COIL

(A) GENERAL

(B) TEST EQUIPMENT

(C) SETUP

(D) RESISTANCE TEST

(E) CURRENT TEST

(F) DROP-OUT ADJUSTMENT AND TEST

(G) VOLTAGE PROFILE TEST

TIVE FOR all Groups
BY VC DATE 7/10/97

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(A) GENERAL

The TDPI relay board consists of three relays each having two sets of N.C. and N.O. contacts. Operation is for 125 VDC for G1 and 250 VDC for G2. The coils and contacts are brought out through a 41 pin connector.

A resistance test is performed, at the beginning, to allow safe application of power later.

The current test will be an indication of performance and will assure that the proper relay is in the board.

Time delay is adjusted and observed via panel lights and counter.

The low voltage profile test is to be sure the relays are not operating on the edge of their rated voltage.

Table I and fig. 1 show the connections of the relay board and patch board required for this test.

Steps should be taken to prevent shorting and personal contact with the high voltage connections.

Care must be observed in order to avoid mixing voltage and resistance parameters.

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(B) TEST EQUIPMENT

(1) Standard Patch Panel.

(2) Patch Board, Marked: TDPI RELAY BOARD G1 and G2.

(3) Voltmeter, Digital.

(4) Ohmmeter, Simpson Multitester or Equiv.

(5) Resistor, R1, 249 ohms, ± 1% ½ watt for G1.
Resistor, R1, 499 ohms, ± 1% ½ watt for G2.

(6) Resistor, R2, 2000 ohms, 1 watt adjustable for G1.
Resistor, R2, 5000 ohms, 2 watt adjustable for G2.

(Set to 1250 ohms for G1)
(Set to 3125 ohms for G2)

(7) Counter, H.P. Mod. 5233L.

(8) DIODES, 1N457A GE DWG. U4011 (Used on Patch Board).

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(C) SETUP

Caution: Be sure all power is OFF until the resistance test has been satisfactorily completed.

(1) Interconnect patch board and test panel as shown in fig. 1 by using the pre-wired patch board.

(2) Connect R1 (249 ohms) for G1 between BP-7 and BP-8.
Connect R1 (499 ohms) for G2 between BP-7 and BP-8.

(3) Connect R2 (1250 ohms) for G1 between BP-7 and BP-9.
Connect R2 (3125 ohms) for G2 between BP-7 and BP-9.

(4) Connect ohmmeter between PB-5 and BP-6.

(5) Connect counter between BP-1A (START) and BP-10(GND).

(6) Connect counter between BP-1B (STOP) and BP-2(GND).

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(D) RESISTANCE TEST

(1) Remove all power and set SW3 DOWN

(2) Plug board into PCR-2

(3) To test for short between relay coils and contacts, set switches as follows:

DOWN	UP	STEP SWITCH (SSW)
SW3		K1
SW4		
SW5		
SW6		

Step from 1 through 3

READINGS: > 1 MEG.

(4) To test resistance of relay coils: SW6 up

(5) Step K1 through K3

READINGS: 5000 ± 200 ohms for G1 3380 +/- 10% for G0011
12.5K ± 500 ohms for G2

(6) Remove Ohmmeter

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(E) CURRENT TEST

The following test will be used to determine the current drawn by each relay.

(1) DVM on BP-8 (-) and BP-7 (+)

(2) Set switches as follows:

DOWN	UP	STEPPING SWITCH
SW5	SW3	1
	SW4	
	SW6	

(3) Apply EC Volts. (125 VDC for G1)
Apply EC Volts. (250 VDC for G2)

(4) Step K1 through K3 and measure voltage for each step.

READINGS: 6.0 ± .4 VDC for G1 9.24 +/- 10% on G0011
10.0 ± .5 VDC for G2

(5) If these readings are normal, proceed to next test.

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(F) DROP-OUT ADJUSTMENT AND TEST

(1) Set switches as follows:

DOWN	UP	STEP SWITCH
SW3	SW6	1
SW4		
SW5		

Note: The delay times of each relay vary for each EHC unit and are available in the MFG area.

(2) All lights should be off. Reset counter.

(3) Move SW3 UP to energize relay.

PL-1 and PL-2 should GO ON. COUNTER WILL START.

(4) After a time delay the counter will stop, PL-1 and PL-2 will go out, PL-3 and PL-4 will come on.

(5) Observe the time on the counter and make relay adjustment required to produce desired delay time.

(6) Repeat step (6) several times to be sure proper setting has been reached.

(7) Limits of repeatability: ±5% at room temperature.

(8) Step to position K2.

(9) Repeat step 2 through step 7. After delay, PL-5 and PL-6 will go out, PL-7 and PL-8 will come on.

(10) Limits of repeatability: ±5% at room temperature.

(11) Step to position K3.

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(12) Repeat step 2 through 7. After delay
PL-9 and PL-10 will go out
PL-11 and PL-12 will come on.

(13) Limits of repeatability: ±5% at room temperature.

If above limits are met, proceed to next test.

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(C) VOLTAGE PROFILE TEST

This test will check operation of each relay at a voltage across the coil of approximately 100 VDC for G1
200 VDC for G2

(1) Set switches as follows:

DOWN	UP	STEPPING SWITCH
SW4	SW3	1
	SW5	
	SW6	

(2) Step K1 through K3.

Observe lamps to verify that relay picks up.

(3) Remove power from board.

TEST COMPLETE

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TABLE I

A	CONN. TO	B	CONN. TO	C	CONN. TO	D	CONN. TO
A6	C1	A7	N27	A3	E1	A8	S20
A23	C2	A24	N27	A20	E5	A5	S20
A34	C3	A35	N27	A32	E9	A25	S20
						A22	S20
						A37	S20
						A33	S20

E	CONN. TO	F	CONN. TO	G	CONN. TO
A1	E3	A9	E2	A10	E4
A18	E7	A26	E6	A27	E8
A31	E10	A37	E11	A39	E12

NOTE: USE PCR-2

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TITLE PROCESS INSTRUCTIONS FOR TESTING TDPI

FIRST MADE FOR 170X337

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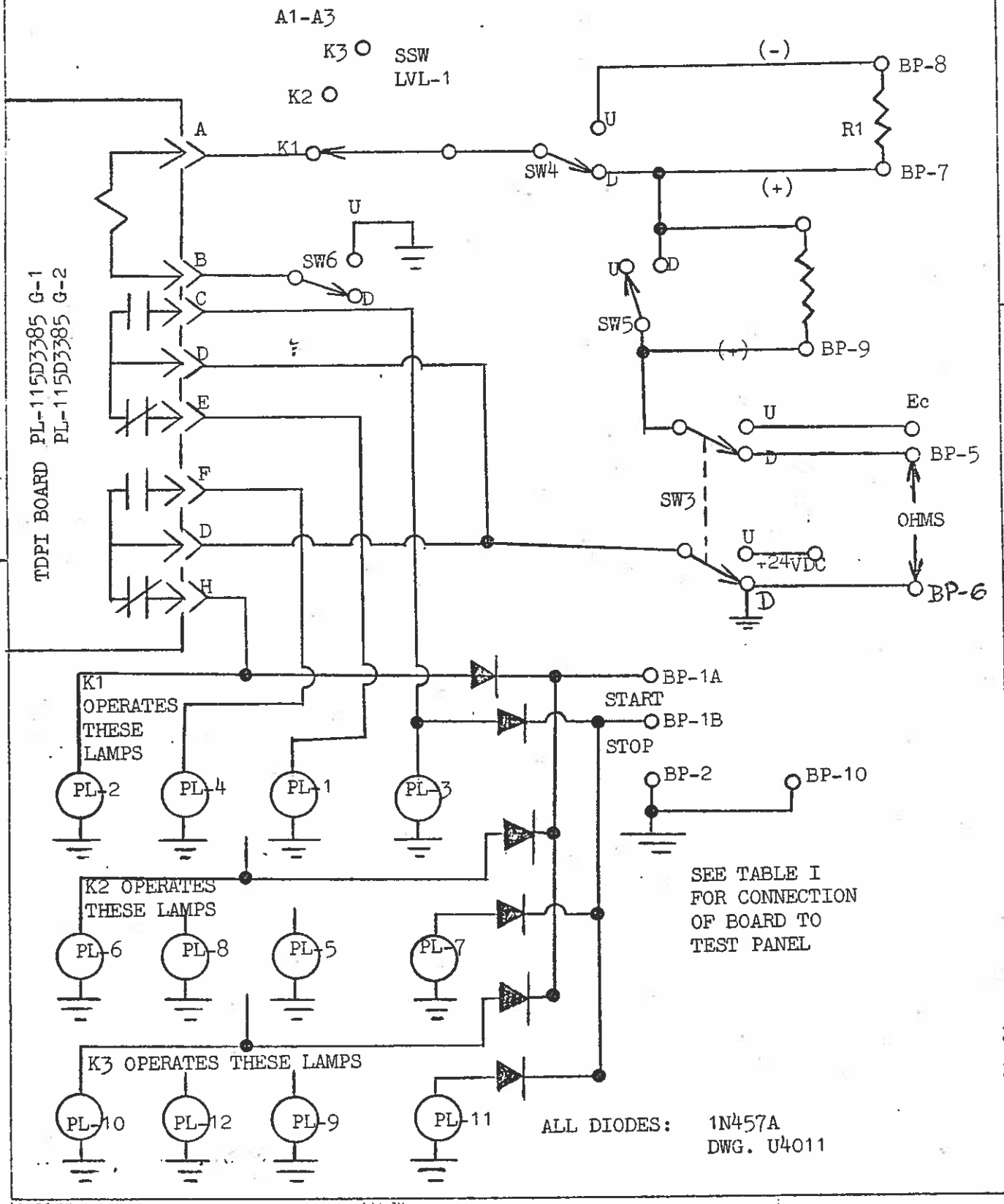

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MADE BY J.E. MITCHELL Apr. 25, 1972

APPROVED

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STEAM TURBINE

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CODE IDENT 1070

FF-303-WA (7-71)
PRINTED IN U.S.A.