CONT ON SHEET

P3K-AL-0378-A01

TITLE Test Instruction for Electrical Malfunction Circuit Board 1TM2-M001

(Ass'y Drw. 117D9140 G1)

CONT ON SHEET SH NO. FIRST MADE FOR EHC Mark II

CIRCUIT BOARD REVISION #3

REVISIONS

CIRCUIT DESCRIPTION

The inputs to this circuit board are switching signals from up to fifteen system fault points; when a fault occurs, 24VDC is applied to the corresponding terminal of the board (TB1-3,4,5,6,7,8,9,10,11,12,13,14,15,16,or17).

In addition the circuit board accepts a resetting signal (connection of TB3-35 to TB3-36). The outputs of the board are the following:

- a) Fifteen individual 24VDC signals given when the corresponding faults have occurred, (TB3-37 to TB3-51), to be used for indicating lamps. signals are latching (stay after removal of the corresponding inputs) and are resettable only after the corresponding inputs are removed. (Depressing the RESET push button while fault still exists will make the light go off but it will come on again upon release of the button; it will stay on after clearing of the fault and until the RESET button is de pressed again).
- An overall SYSTEM FAULT signal (TB2-25, TB2-26, TB3-53) for indicating lamps and customer use. This is on when one or more individual fault signals are on. Therefore, it is latching and it is nonresettable unless all faults have been cleared first.
- c) An overall signal (TB2-23, TB2-24, TB3-52) for indicating lamps and customer use, to which the name ELECTRICAL MALFUNCTION has been given. This is latching like the others, but it is resettable even before clear-
- ing of the fault. Then it is ready to be activated upon occurence of another fault even if the original one(s) has not been cleared. scheme is very convenient to use for an audible alarm which can thus be silenced before clearing of the fault but which will be reactivated upon accurrance of additional fault(s).

The board contains sixteen magnetically latching relays. (Two coilswhich was last evergized will determine the state of the contacts). Fifteen of these are associated with the fifteen input fault signals. Upon a fault occurance the corresponding capacitor takes a few milliseconds to change and this pulses K1*1 which triggers latching relay KL14*1. This relay is reset by depressing the RESET button; timer TDl and relay K3 prevent retriggening of KL14 which otherwise would have occurred if uncleared faults are present when the button is released.

APPROVALS

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II. CIR	CUIT SPECIFICAT	ions ·			Mile Mark Mark Work of Artist Andrews				REVISION
A11	tests with 24	WDC connoc	m مند الامند.						
	tests with 24								ŀ
Ι.	Resistance beta TP4: R2.Voltage	ween TB1-3 e at TP2:	and gro	und: R1	•Resista	nce betw	een TP3	and	
	a. TB3-35 disc	connected:							
	R1 = 700 to R2 \langle 0.1 of E = -0 Vol	nms	s						
	b. TB3-36 conr	ected to	TB3-35:		•				
	R1 > 1 Mego R2 > 1 Mego E = -24>Vol	hm							·
<i>y</i>	c. TB3-36 disc	onnected.							
	R1 = 700 to R2 & E from	1000 ohms state at	(h) to s	stata (a)	ofton o			2 2	
2.	Individual Chan				diter o	г сеату с)r	U.Z sec	•
	Each of the fif	teen chann	els shou	ıld confo	rm with	the foll	owing t	able	
	TS AT				T OUTPUT			are are the	
TB1-X	тв3-36	ТВ 3-ү	TB2-23		TB3-52		TB2-26	TB3-53	
0	0								779
1	0	0 1	0	0	0	. 0	0	0	
1	R	0	0	1 0	1	1	1	1	
1	0	1	0	0	0	0	0	0	
0	0	1	0	0	0	1	1	1	
0	R	0	0	0	0	1	1	1	
Ω	0	0	0	0		0	0	0	
, 1	0	1	1	1	0	0	0	0	
0	0	1	1	1	1	1	1	1	
0 .	R	0	0	0	1	1	1	1	
0	_		U	U	0	0	0	0	

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P3K-AL-0378-A01

TEST INSTRUCTIONS FOR ELECTRICAL MALFUNCTION CIRCUIT BOARD 1TM2-MOO1 (ASS'Y DRAWING 117D9140 G-1)

CONT ON SHEET 4

SH NO. 3

FIRST MADE FOR EHC MARK II

REVISIONS

II. CIRCUIT SPECIFICATIONS (continued)

Individual Channels (First Fault) (continued)

TITLE

Where:

- 1: 24 VDC
- 0: 0V

- R: Connected to TB3-35 (or 24 VDC if more convenient)
- X, Y given by the following table for each channel:

CHANNEL		X	Y
1		3	37
2		4	38
3		5 .	39
4		6	40
5		7	41
6	e e e e e e e e e e e e e e e e e e e	8	42
7		9	43
. 8	-1 - 1 - 1 - 1	10	44
9		11	45
10		12	46
11		13	47
12		14	48
13		15	49
14		16	50
15		17	51

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P3K-AL-0378-A01 LOCATION CONT ON SHEET 4

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P3K-AL-0378-A01
cont on sheet 5 sh no.

TEST INSTRUCTIONS FOR ELECTRICAL MALFUNCTION
CIRCUIT BOARD 1TM2-MO01 (ASS'Y DRAWING 117D9140 G-1)
FIRST MADE FOR EHC MARK II

II. CIRCUIT SPECIFICATIONS (continued)

REVISIONS

3. Individual Channels (Second Fault)

TITLE

Connect permanently 24 VDC to TB1-17. Connect momentarily TB3-36 to TB3-35 to reset KL144 Each of the first fourteen channels should conform with the following table:

INPUTS AT			CORRECT OUTPUTS AT							
TB1-X	TB1-17	TB3-36	ТВ 3Ұ	TB3-51	TB2-23	TB2-24	TB3-52	TB2-25	TB2-26	TB3-53
0	1	0	0	1.	0	0	0	1	1	1
1	1	0	1	1	1	1	1	1	1	1
0	1	0	1 .	1	1	1	1	1	1	1
0	1	R	0	0	0	0	0	0	0	0
0	1	0	0	1	0 '	0	0	1	1	1

Where 1, 0, R, X, Y same as in section 2 except that the table does not apply to channel 15 (X = 17, Y = 51).

For this channel the procedure of this section should be modified so that the permanent 24 VDC connection is made to TB1-3 and headings TB1-17, TB3-51 in the table should be replaced by TB1-3, TB3-37.

TP1 Pulse Waveshape

Application of 24 VDC to any of TB1-3 to 17 terminals after resetting the circuit (Momentarily connecting TB3-36 to TB3-35) causes a voltage pulse to appear at TP1.

To check TDI monitor TP4 For 2400c Apply 240 To

Pi'n 36 whin voltage is Removed From pin 36

TD starts; — See To Drop out with TD Droped
out you should have 240 on TP4 TD. Pick & dup

ONDE on TP4

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