P24B-AL-4841

CONT ON SHEET 2

ън №. ]

TITLE

TEST INSTRUCTIONS FOR TESTING MONITOR CIRCUIT BOARD, (DIODE)

CONT ON SHEET 2 SH NO. 1

P24B-AL-4841

FIRST MADE FOR 170X326

REVISIO

SCOPE

MONITOR CIRCUIT BOARD, (DIODE) PL 948D195

- (A) GENERAL
- (B) TEST EQUIPMENT
- (C) SETUP

+

- (D) FWD AND REV. RESISTANCE TEST
- (E) FWD VOLTAGE TEST
- (F) REV. LEAKAGE TEST

273-2 273-12 273~138 273-132 R

PRINTS TO

H. KELLER APR. 4, '68 ISSUED APR 8 1968

APPROVALS

LST ENGINEERING

SCHENECTADY

DIY OR .. DEPT.

P24B-AL-4841

SH NO. 1

FF-803-WA (9-66) PRINTED IN U.S.A.

LOCATION CONT ON SHEET 2

CODE IDENT NO

CONT ON SHEET 3

TITLE

TEST INSTRUCTIONS FOR TESTING MONITOR CIRCUIT BOARD, (DIODE)

3 CONT ON SHEET sн но. 2 FIRST MADE FOR 170X326

REVISION

SH NO. 2

### (A) GENERAL

+

P24B-AL-4841

This circuit board consists of 39 circuits of 2 series diodes each. One common line connects to 28 of these circuits. Another connects to 11 of the circuits. All common connections are made at the cathode.

The test is designed to check the forward and reverse resistance of each 2-diode combination. This will assure proper placement and connection of the diodes.

Next the forward voltage is checked. This will show any opens or shorts of either or both of the diodes. The forward voltage drop is measured across both diodes at once, so a reading of about 1.8 volts is normal. The limits have been set at 1.6 VDC to 1.9 VDC. If a diode shorts, the reading will drop to about 0.9 VDC. If a diode opens, the reading will be 24 VDC. The test panel will be set up to produce a current surge of 0.875 amp, and a steady state current of 0.628 amp.

The effectiveness of the diode combinations is also checked in the reverse direction. Measurement of current and observation of a lamp are used for this purpose.

> 273-2 273-12 273~138 273-132 R

PRINTS TO

CODE FOENT NO

MADE BY H. KELLER 68 APR. 4. ISSUED 5 191-0

APPROVALS

LST ENGINEERING

SCHENECTADY

DIV OR LOCATION

P24B-AL-4841

CONT ON SHEET

SH NO. 2

P24B-AL-4841

CONT ON SHEET 4

ян но 3

P24B-AL-4841

TITLE

TEST INSTRUCTIONS FOR TESTING MONITOR CIRCUIT BOARD, (DIODE)

CONT ON SHEET 4 S

SH NO.

FIRST MADE FOR 170X326

REVISION:

## (B) TEST EQUIPMENT

- (1) STANDARD TEST PANEL
- (2) PRE-WIRED PATCH BOARD MARKED "MONITOR CKT BD. (DIODE)"
- (3) MULTITESTER, SIMPSON OR EQUIV.
- (4) RESISTOR, 50 \_\_\_/20 WATTS, ADJUSTABLE, SET TO 40 \_\_\_\_.
- (5) DVM

273-71 273-2

273-2

273-12

273-13

273-13

273=13 R

PRINTS T

CODE IDENT I

H. KELLER APR. 4, '68
ISSUED ACD

APPROVALS LST ENGINEERING

DIV OR

P24B-AL-4841

*F* 1.....

SCHENECTADY

LOCATION C

CONT ON SHEET 4

.sн но. 3

CONT ON SHEET

TITLE P24B-AL-4841 CONT ON SHEET 5 SH NO.

TEST INSTRUCTIONS FOR TESTING MONITOR CIRCUIT BOARD, (DIODE)

FIRST MADE FOR 170X326

REVISION

#### (C) SETUP

+

+

+

- (1) Connect 40 1/20 w resistor between BP-3 and BP-4.
- (2) Connect DVM (+) lead to BP-5.
- (3) Connect DVM (-) lead to BP-6.
- (4) The red lead of some multitesters contains the minus voltage. The (+) and (-) connections of this step refers to the polarity at the probes regardless of the color of the lead. Connect (+) lead of ohumeter to BP-7. Connect (-) lead of ohmmeter to BP-8.
- Set multimeter to RX100 scale.
- (6) Set switches as follows:

DONN	UP	STEP SWITCH
54	\$3	1
\$5		<u> </u>
S6		
S 7		

- (7) Check the board for obvious errors.
- (8) Plug board into PCR-1.

NOTE 1: Whenever step of 1 to 30 is mentioned, position 21 and 19 will not read like the others. This pin of the step switch is left open so that the switch position indicated reflects the number of the pin being tested.

NOTE 2: It is not necessary to apply 24 V at this time.

273-2 273-12 273-138 273-132 R

P24B-AL-4841

PRINTS TO

ODE IDENT HO

MADE BY H. KELLER APR. 4, ISSUED

APPROVALS

'68

LST ENGINEERING

SCHENECTADY

DIV OR

SH NO

REVISIO

0 P24B-AL-4841 TITLE

TEST INSTRUCTIONS FOR TESTING MONITOR CIRCUIT BOARD, (DIODE)

CONT ON SHEET 6

SH NO. 5

FIRST MADE FOR 170X326

FWD AND REV. RESISTANCE TEST

- Step from position 1 to position 30, and 32, 34, 36, 38 and 40 observing forward resistance of diode assemblies. READINGS: < iK (except step 21 and 19).
- (2) Set SW3 to DOWN position.
- (3) Step from position 1 to position 30, and 32, 34, 36, 38 and 40 observing reverse resistance. READINGS: > 50K
- (4) Set SW3 to UP. 9 & Swo le up.
- (5) Step the following positions: 31, 33, 35, 37, 39 and 41 observing resistance. READINGS: < 1K (except 19 and 21).
- Set SW3 to DOWN.
- (7) Step the following positions: 31, 33, 35, 37, 39 and 41 observing resistance. READINGS: > 50K

## FWD VOLTAGE TEST

- (1) Set SW4, SW5 UP AND SW6 DOWN.
- (2) Apply 24 VDC using internal power supply.
- (3) Step from position 1 to 30, and 32, 34, 36, 38 and 40 observing voltage drop and lamp for each step.

PL-1 lights for each position of SSW except 19 and 21. 1.75 + 0.15 VDC. DVM:

- Set SW6 UP. (4)
- Step to position 31, 33, 35, 37, 39 and 41 while observing lamp PL-I. LAMP: LIGHTS FOR ALL BUT 21 and 19.
- -(6) Step position 1 thru 30, and 32, 34, 36, 38 and 40 while observing lamp PL-1. LAMP: DOES NOT LIGHT.
  - (7) Set SW6 to DOWN.

273-71 273-2

273-12

273-138 273-131

R

PRINTS TO

MADE BY H. KELLER APR. 4, '68 ISSUED

APPROVALS

LST ENGINEERING

SCHENECTADY

DIV OR

P24B-AL-4841

LOCATION CONT ON SHEET 6

SH NO. 5

+

P24B-AL-4841

CONT ON SHEET 7

SH NO. 6

P24B-AL-4841

CONT ON SHEET

+

TITLE
TEST INSTRUCTIONS FOR TESTING
MONITOR CIRCUIT BOARD, (DIODE)

FIRST MADE FOR 170X326

REVISION

# (F) REV. LEAKAGE TEST

- (1) Connect multitester between BP-1 and BP-2. (BP-1 will contain the (+) potential).
- (2) Set multitester to amp scale, using necessary ranges during test.
- (3) Set SW5 DOWN, SW6 UP.

-6

SH NO.

(4) Step from position 1 to 18 and 20 and 32, 34, 36, 38 and 40 with SW6 UP, with SW6 DOWN step 31, 33, 35, 37, 39 and 41. NO CONTENT

CAUTION: Do not measure current if PL-1 lights. This is an indication of High Current.

CURRENT: 0.1 MA

- (5) Remove power.
- (6) Remove board from PCR-I.

TEST COMPLETE

273-7/ 273-2 273-12 273-138 273-132 R

H. KELLER APR. 4, '68

ISSUED APR 9 1999

LST ENGINEERING

APPROVALS

DIV OR

P24B-AL-4841

.

SCHENECTADY LOCATION

CONT ON SHEET 7

BENERAL (%) ELECTRIC P24B-AL-4841 CONT ON SHEET 8 TITLE TEST INSTRUCTIONS FOR TESTING P24B-AL-4841 MONITOR CIRCUIT BOARD, (DIODE) SH NO. 7 CONT ON SHEET 8 FIRST MADE FOR 170X326 + I AMP REVISION → BP-10 BP-9 +24 VDC D<sub>O</sub> PIN 🔠 SW4-1 SW5 MONITOR CIRCUIT BOARD (DIODE)PL-948D195 U D COMM. + SW6 21 COMM. U PINS 1-18. 20 & 22-41 BP-5 O OBP-6 0 SSW LVL1 SW5 A1-A20 A22-A32 B1-B8 BP-1 U 0 Ø BP-2 273-71 BP-4 273-2 40 273-12 273-138 BP-3 273-132 + 24 V COMM. R PRINTS TO APPROVALS H. KELLER APR. 4, '68 DIV OR LST ENGINEERING P24B-AL-4841 ISSUED SCHENECTADY LOCATION CONT ON SHEET 8 SH NO. PF-403-WA (9-66) PRINTED IN U.S. A. CODE DENT NO 7 TO

P24B-AL-4841	TITLE  TEST INSTRUCTIONS FOR TESTING  MONITOR CIRCUIT BOARD (DIODS)	P248-AL-4841	NO. 8
ONT ON SHEET SH NO. 8	MONITOR CIRCUIT BOARD, (DIODE) FIRST MADE FOR 170X326		
			REVISI
REVIEWED WITH		**** *	<u></u>
	P. T. GARDNER EHC MANUFACTURING	· .	
PREPARED BY:	Jan Julla		
	H. KELLER TURBINE CONTROL ENGINEERING		
APPROVED BY:	19170hm	9 4 A	100
	L. H. JOHNSON, SUPERVISOR TURBINE CONTROL ENGINEERING		1

273-7/ 273-2 273-12 273-138 273-132

R PRINTS TO

H. KELLER APR. 4, '68

APPROVALS

LST ENGINEERING

DIV OR \_\_\_ DEPT.

P24B-AL-4841

. SH NO. 8

SCHENECTADY

LOCATION CONT ON SHEET

COCE IDENT NO

+

+