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SERVICE BULLETIN

Supersedes: *NOTHING*

895

Form 160.48-M2 (SB3)

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SUBJECT: MICROCOMPUTER CONTROL CENTER (YT CENTRIFUGAL CHILLER) -
CHINESE LANGUAGE DISPLAY

ON/ABOUT SEPTEMBER 1995, THE SUBJECT UNITS CAN BE EQUIPPED WITH AN
OPTIONAL CHINESE LANGUAGE DISPLAY, EITHER AS A FACTORY INSTALLED
OPTION OR AS A RETROFIT KIT.

GENERAL

THE CHINESE LANGUAGE DISPLAY IS MOUNTED ON THE CONTROL CENTER DOOR
ABOVE THE STANDARD 1 X 40 VACUUM FLUORESCENT DISPLAY. BOTH DISPLAYS
WILL BE PRESENT DISPLAYING MESSAGES IN ENGLISH AND CHINESE
SIMULTANEOUSLY. THE CHINESE LANGUAGE DISPLAY CONSISTS OF A 240 X 64
GRAPHICS LCD DISPLAY (P/N 031-01653-000) MOUNTED ON A PRINTED
CIRCUIT BOARD (P/N 031-01616-000). EITHER TRADITIONAL OR SIMPLIFIED
CHINESE CHARACTERS WILL BE DISPLAYED, DEPENDING ON THE
CONFIGURATION OF CHINESE PRINTED CIRCUIT BOARD PROGRAM JUMPERS.

IN OPERATION, THE MICRO BOARD FEEDS THE CHINESE LANGUAGE PRINTED
CIRCUIT BOARD WITH ENGLISH DATA FOR DISPLAY. THIS DATA IS
SIMULTANEOUSLY ROUTED THRU THE CHINESE DISPLAY TO THE STANDARD
VACUUM FLUORESCENT DISPLAY, DISPLAYING THE MESSAGE IN ENGLISH. ON
THE CHINESE DISPLAY PRINTED CIRCUIT BOARD, THE ENGLISH DATA IS
TRANSLATED INTO EITHER SIMPLIFIED OR TRADITIONAL CHINESE CHARACTERS
DEPENDING ON THE POSITION OF PROGRAM JUMPER PT0. EPROM P/N 031-
01638-001 (IC-U13, VERSION CC.01F.00) PERFORMS THE TRANSLATION TO
SIMPLIFIED CHINESE. EPROM P/N 031-01638-002 (IC-U14, VERSION
CC.01F.00) PERFORMS THE TRANSLATION TO TRADITIONAL CHINESE.

SINCE BOTH THE LCD DISPLAY AND THE PRINTED CIRCUIT BOARD HAVE PART
NUMBERS, EITHER PART CAN BE REPLACED INDEPENDENT OF THE OTHER.
EITHER OF TWO DISPLAYS COULD BE SUPPLIED UNDER YORK P/N 031-01653-
000; "OPTREX" (P/N DMF5005NY-LY), OR "VL ELECTRONICS" (P/N MGLS-
24064-TC-HV-G-LED4G). THE ACTUAL DISPLAY SUPPLIED DETERMINES THE
POSITION OF PROGRAM JUMPER DS1 AS DESCRIBED BELOW. THE POSITION OF
THIS JUMPER DETERMINES THE CONTRAST BIAS VOLTAGE TO THE LCD
DISPLAY. IF THE LCD DISPLAY IS REPLACED, THIS PROGRAM JUMPER MUST
BE PUT IN THE APPROPRIATE POSITION FOR THE DISPLAY TYPE AND THE
BIAS VOLTAGE (AS MEASURED AT TPC ON CHINESE DISPLAY PRINTED CIRCUIT
BOARD) MUST BE ADJUSTED TO THE APPROPRIATE LEVEL USING POT "R7" AS
DESCRIBED BELOW.

THE MICRO BOARD MUST BE EQUIPPED WITH EPROM VERSION C.01F.11 (OR LATER) OR C.01T.11 (OR LATER) TO ENABLE OPERATION OF THE CHINESE DISPLAY. CHINESE DISPLAY OPERATION IS ENABLED BY PERFORMING THE SPECIAL PROGRAMMING PROCEDURE DESCRIBED BELOW.

PROGRAM JUMPERS

PROGRAM JUMPERS, LOCATED ON THE CHINESE DISPLAY PRINTED CIRCUIT BOARD, ARE USED AS FOLLOWS:

<u>JUMPER</u>	<u>POSITION</u>	<u>FUNCTION</u>
PT0	SHUNT ON PINS 1 & 2 SHUNT ON PINS 2 & 3	SIMPLIFIED CHINESE TRADITIONAL CHINESE
PT1	NOT USED	
PT2	NOT USED	
PT3	NOT USED	
PT4	SHUNT ON SHUNT OFF	NORMAL OPERATION DISPLAY TEST MODE (SEE BELOW)
PT5	NOT USED	
PT6	NOT USED	
PT7	NOT USED	
DS1	SHUNT ON PINS 1 & 2 SHUNT ON PINS 2 & 3	CONTRAST - VL ELECTRONICS LCD DISPLAY CONTRAST - OPTREX LCD DISPLAY

CHINESE DISPLAY ENABLE

THE MICRO BOARD MUST BE EQUIPPED WITH EPROM VERSION C.01F.11 (OR LATER) OR C.01T.11 (OR LATER). IF THE CHINESE LANGUAGE DISPLAY IS PRESENT, "CHINESE DISPLAY SELECTED" MUST BE PROGRAMMED. OTHERWISE, "CHINESE DISPLAY NOT SELECTED" MUST BE PROGRAMMED IN THE PROCEDURE BELOW:

IMPORTANT!!! - IF THE CHINESE DISPLAY IS NOT PRESENT AND "CHINESE DISPLAY SELECTED" IS PROGRAMMED, THE STANDARD DISPLAY WILL NOT OPERATE PROPERLY!!

- 1.) ENTER "PROGRAM" MODE USING ACCESS CODE 1-3-8-0.
- 2.) PRESS THE HIDDEN UNEMBOSSED, UNLABELED KEYPAD LOCATED DIRECTLY BELOW THE **CLOCK** SETPOINT KEY. "CHINESE DISPLAY NOT SELECTED" OR "CHINESE DISPLAY SELECTED" IS DISPLAYED.
- 3.) USE **ADVANCE DAY/SCROLL** KEY TO SELECT CHINESE DISPLAY IF CHINESE DISPLAY IS PRESENT. EACH TIME THE KEY IS PRESSED, THE DISPLAY ALTERNATES.
- 4.) PRESS **ENTER** KEY. "PROGRAM MODE SELECT SETPOINT" IS DISPLAYED.
- 5.) PRESS **PROGRAM** KEY TO EXIT.

TESTING

THE FOLLOWING TESTING PROCEDURES CAN BE USED TO VERIFY OPERATION OF THE CHINESE LANGUAGE DISPLAY.

SIMPLIFIED CHINESE CHARACTER TEST

- 1.) REMOVE PROGRAM JUMPER PT4 FROM CHINESE DISPLAY PRINTED CIRCUIT BOARD.
- 2.) PLACE PROGRAM JUMPER PT0 ON PINS 1 & 2 OF PT0.
- 3.) PRESS CHILLED LIQUID TEMPS KEYPAD KEY.
- 4.) VERIFY THAT ENTERING & LEAVING CHILLED WATER TEMPERATURES ARE DISPLAYED ON BOTH THE ENGLISH AND CHINESE DISPLAY AND THAT ENGLISH LETTERS "SIMP" ARE DISPLAYED IN THE UPPER RIGHT CORNER OF THE CHINESE DISPLAY.
- 5.) REPLACE PROGRAM JUMPER PT4, REMOVED IN STEP 1.

TRADITIONAL CHINESE CHARACTER TEST

- 1.) REMOVE PROGRAM JUMPER PT4 FROM CHINESE DISPLAY PRINTED CIRCUIT BOARD.
- 2.) PLACE PROGRAM JUMPER PT0 ON PINS 2 & 3 OF PT0.
- 3.) PRESS CHILLED LIQUID TEMPS KEYPAD KEY.
- 4.) VERIFY THAT ENTERING & LEAVING CHILLED WATER TEMPERATURES ARE DISPLAYED ON BOTH THE ENGLISH AND CHINESE DISPLAY AND THAT ENGLISH LETTERS "TRAD" ARE DISPLAYED IN THE UPPER RIGHT CORNER OF THE CHINESE DISPLAY.
- 5.) REPLACE PROGRAM JUMPER JP4, REMOVED IN STEP 1.

CHINESE LCD DISPLAY TEST

- 1.) REMOVE PROGRAM JUMPER PT4 FROM CHINESE DISPLAY PRINTED CIRCUIT BOARD.
- 2.) PRESS HOLIDAY KEYPAD KEY. VERIFY ALL PIXELS OF CHINESE DISPLAY ILLUMINATE AND THE ENGLISH DISPLAY SHOWS NORMAL HOLIDAY DISPLAY.
- 3.) PRESS DAILY SCHEDULE KEYPAD KEY. VERIFY "YORK LOGO" APPEARS ON THE CHINESE DISPLAY AND NORMAL DAILY SCHEDULE DATA APPEARS ON THE ENGLISH DISPLAY.
- 4.) REPLACE PROGRAM JUMPER JP4, REMOVED IN STEP 1.

SERVICE REPLACEMENT & DISPLAY ADJUSTMENT

THERE ARE TWO DIFFERENT LCD DISPLAYS THAT COULD BE SUPPLIED UNDER YORK PART NUMBER 031-01653-000: "OPTREX" P/N DMF5005NY-LY OR "VL ELECTRONICS" P/N MGLS-24064-TC-HV-G-LED4G. THESE DISPLAYS REQUIRE DIFFERENT CONTRAST BIAS VOLTAGES. THIS VOLTAGE CAN BE READ AT TEST POINT TPC ON THE CHINESE DISPLAY PRINTED CIRCUIT BOARD. THE POSITION OF PROGRAM JUMPER DS1 AND SETTING OF POT "R7" ON THE CHINESE DISPLAY PRINTED CIRCUIT BOARD DETERMINES THIS VOLTAGE. THEREFORE, ANYTIME THE DISPLAY IS REPLACED, DS1 MUST BE PLACED IN THE CORRECT POSITION AND "R7" MAY HAVE TO BE ADJUSTED TO ACHIEVE THE APPROPRIATE VOLTAGE AT TPC AS FOLLOWS:

<u>DS1</u>	<u>DISPLAY</u>	<u>TPC</u>
SHUNT ON PINS 1 & 2	VL ELECTRONICS	-9.5 VDC
SHUNT ON PINS 2 & 3	OPTREX	-7.8 VDC

INPUTS/OUTPUTS & TEST POINTS

J1 - ENGLISH DATA INPUT TO CHINESE DISPLAY PRINTED CIRCUIT BOARD.

J2 - ENGLISH DATA OUTPUT TO VACUUM FLOURESCENT DISPLAY.

J3 - CHINESE DATA TO CHINESE LCD DISPLAY.

J4-1 - +8 VDC BACKLIGHT POWER TO CHINESE LCD DISPLAY.

J4-2 - GND.

J5-1 - 24 VAC POWER SUPPLY INPUT TO CHINESE DISPLAY PRINTED CIRCUIT BOARD.

J5-2 - 24 VAC RETURN.

J5-3 - GND.

TPA - +5 VDC


TPB - GND

TPC - CONTRAST VOLTAGE OUTPUT TO CHINESE LCD DISPLAY. -9.5VDC WITH SHUNT ON PINS 1 & 2. -7.8VDC WITH DS1 SHUNT ON PINS 2 & 3. ADJUSTED WITH POT R7.

RETROFIT KIT

THE CHINESE LANGUAGE DISPLAY CAN BE RETROFIT TO EXISTING CHILLERS THAT ARE PRESENTLY EQUIPPED WITH MICROCOMPUTER CONTROL CENTER P/N 031-00954-000 (STYLE "E") OR 371-01200-002 (STYLE "F") THAT CONTAIN MICRO BOARD P/N 031-01065-000 OR -001.

RETROFIT KIT P/N 371-01708-003 CONTAINS A COMPLETE MICROCOMPUTER CONTROL CENTER DOOR THAT REPLACES THE EXISTING DOOR. MOUNTED ON THIS DOOR IS A KEYPAD, ROCKER SWITCH, LOCK, RIBBON CABLES, DECALS, VACUUM FLOURESCENT ENGLISH LANGUAGE DISPLAY AND CHINESE LANGUAGE DISPLAY. THE APPROPRIATE EPROM FOR THE MICRO BOARD IS SUPPLIED. ALSO, INSTALLATION INSTRUCTIONS ARE INCLUDED. THIS KIT CAN BE ORDERED FROM THE SERVICE PARTS DISTRIBUTION CENTER.


S.L. BAER
ELECTRONICS PRODUCTS
SERVICE ENGINEER

SSP 3M 895 .20

CODE: SJ