



Title: DIFFUSER WALL CALIBRATION FOR 19DM COMPRESSOR

Number: C8716

Date: 10/13/87

Supersedes: NEW

Date:

Models Affected: 17/19DM AND 17/19DR WITH DM COMPRESSORS

### PURPOSE

Provide calibration voltages for the 19DM diffuser wall potentiometer when used with the new version 3200MP processor boards.

### BACKGROUND

The new Maury plastic potentiometer is much more durable than the original wire wound potentiometer but the total resistance does vary over time. Even though a trimming potentiometer is provided to set the initial resistance to 10K ohms, the overall resistance will vary with time and have a small effect on the diffuser position, (less than 2%).

To eliminate this small drift, resistors R46 and R49 on the processor board and resistors R9 and R28 on the analog expansion board have been replaced with jumpers which look like resistors but have a single black color band. These resistors are located just above the plug where the potentiometer leads connect to the processor board. This change was effective for circuit boards produced by HTS beginning week 27 of 1987. (Note: The production week is the last two digits of the serial number printed on each circuit board, ie. SN 3418727.) By eliminating these resistances the overall potentiometer resistance level has no effect on wall position but the calibration voltages change.

### PROCEDURE

For all centrifugal chillers with 19DM compressors shipped after approximately 10/1/87, a new calibration procedure is required.

FILE KEY: Controls/Wiring

MAIL KEYS: 2.33D, 2.40B, 2.45, 2.53

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The diffuser wall potentiometer is calibrated at the factory within the following parameters:

NEW PROCESSOR BOARDS

<u>Wall Fully Closed</u>	<u>DC Volts, Pot Terms 2-3</u>
Frame 2 Compressors (Codes 202-307)	.237 to .814
Frame 3 Compressors (Codes 312-507)	.276 to .844
<u>Wall Fully Open</u>	
Frame 2 Compressors (Codes 202-307)	3.62 to 3.92
Frame 3 Compressors (Codes 312-507)	4.45 to *

\* At least .12 Volts DC less than Volts between pot terminals 1 and 3.

OLD PROCESSOR BOARDS

<u>Wall Fully Closed</u>	<u>DC Volts, Pot Terms 2-3</u>
Frame 2 Compressors (Codes 202-307)	.238 to .675
Frame 3 Compressors (Codes 312-507)	.229 to .700
<u>Wall Fully Open</u>	
Frame 2 Compressors (Codes 202-307)	3.00 to 3.25
Frame 3 Compressors (Codes 312-507)	3.69 to *

\* At least .10 Volts DC less than Volts between pot terminals 1 and 3.