

INSTRUCTION MANUAL

MODEL VCT-2 — MODEL ET-3



PATON ELECTRICAL PTY. LTD.
90-94 VICTORIA STREET, ASHFIELD, N.S.W.

Telephones: UA 5266 (5 lines)

VCT-2 OPERATING INSTRUCTIONS

To Test Valves

The valve testing section of the Valve and Circuit Tester VCT-2 is identical with that of the Model ET-3 Valve Tester, and the accompanying instructions for the use of that instrument should be followed when testing valves.

Multimeter

The multimeter functions and ranges of this instrument are as follows:—

DC Volts: 0-10-50-250-1,000 volts at 10,000 Ohms per volt.

AC Volts: 0-10-50-250-1,000 volts at 10,000 Ohms per volt.

DC Milliamps: 0-0.1-1.0-10-50-250 at 250 millivolts.

Ohms: From less than one Ohm to 5 megohms in three ranges, having centre scale values of 15 Ohms (Ohms x 1), 1,500 Ohms (Ohms x 100) and 150,000 Ohms (Ohms x 10,000).

Capacity: From .001 microfarad to 10 microfarads in two ranges, having centre scale values of approximately .015 and 1.5 microfarad.

To Measure DC Voltages

The Red and Black test leads supplied should be plugged into the "+" (positive) and "-" (negative) sockets, observing correct polarity.

The "Circuit" selector switch should now be set to DC and the "Multimeter" switch set to the range of volts required.

If the voltage to be measured is unknown, it is advisable to set the "Multimeter" switch to the 1,000 volts range, and, after ascertaining the voltage, turn the switch to the range required. When measuring voltage in high resistance circuits, best accuracy will be obtained when using the highest range consistent with a reasonable indication on the meter. On the 1,000 volt range the instrument provides a load of 10 megohms, while on the 10 volt range the resistance of the meter is 100,000 Ohms only.

To Measure AC Voltages

Set the "Circuit" selector to "AC" and the "Multimeter" switch to the range of volts required. The same precautions suggested for DC volts relative to the selection of the highest range initially to prevent overload, and to provide the minimum loading of high resistance circuits should be followed.

Although no polarity is observed when measuring AC, best accuracy will be obtained if the negative lead is connected to the neutral or "earthy" terminal of the voltage being measured.

To Measure DC Milliampere

Set the "Circuit" switch to "DC" and the "Multimeter" switch to the range of milliampere required. Connect the test leads to the circuit in which the current is to be measured, observing the correct polarity. Where the current to be measured is unknown, the "Multimeter" switch should be set to the highest range of milliampere and reset to a more suitable range after the current has been ascertained.

The voltage drop is constant at 250 millivolts on all ranges of milliampere.

To Measure Ohms

Set the "Circuit" switch to the range of Ohms required. The "Multimeter" switch has no bearing on the operation of the instrument and may be left in any position. The test leads should now be connected together and the meter pointer will move across the scale. The pointer should be brought precisely to full scale (zero Ohms) by manipulation of the "Ohms-Capacity Adjustment" potentiometer.

The test leads may now be connected across the resistance to be measured and the value read from the Ohms scale applying the multiplying factor indicated by the position of the "Circuit" switch. Resistance from less than 1 Ohm to 5 Megohms may be measured.

Important.—No current should be flowing in the resistor under test.

VCT-2 OPERATING INSTRUCTIONS

When full scale deflection (zero Ohms) can be no longer reached with the test leads short circuited and the "Ohms-Capacity Adjustment" in the maximum clockwise position, the internal batteries related to the range in use should be replaced.

The "Ohms x 1" and "Ohms x 100" ranges are supplied from 1 Eveready type 950 dry cell, while the "Ohms x 10,000" range is supplied from two Eveready type 793 volt dry batteries. The 793 batteries are connected in series and the negative lead connected to 1.5 volts (— 6v tap). The batteries are readily accessible for replacement after removing the instrument from its case.

To Measure Capacity

The instrument should be plugged into the 215-265 volt 50 cycle supply, the "Circuit" switch set to "line" and the "Line Adjustment" control manipulated until the meter point coincides with the "Line Test" point at centre scale.

The "Circuit" switch should then be set to " μ F" and the "Multiplier" switch to " μ F x 1" or " μ F x 100," depending on the value of the condenser to be measured. With the test leads connected together the meter pointer should be set precisely to full scale by manipulation of the "Ohms-Capacity Adjustment" potentiometer. The setting of the potentiometer will be found to be common to both ranges of capacity.

The capacity to be measured may now be connected between the test leads and its value read directly from the capacity scale, using the appropriate multiplier as indicated by the position of the "Multiplier" switch.

While no polarity is observed when making this measurement, greatest accuracy will be obtained when making measurements on condensers that are connected to other circuits when the "—" (negative) terminal of the instrument is connected to the "earthy" end of the condenser under test.

Important.—No AC or DC voltage must be present across the condenser while this measurement is being made. All condensers should be short circuited before connection to the instrument to ensure they hold no charge.

The capacity scale employed is based on a supply frequency of 50 cycles and should the instrument be used on another supply frequency or with a vibrator power supply the capacity readings will be in error.

Should the instrument be used on a 40 cycle supply, the capacity indicated should be multiplied by 1.2 to obtain the correct value. No reasonable correction is possible when the instrument is used with a vibrator power supply due to the variable frequency and waveform of the output of such units. Doubtful condensers may be compared with those of known capacity, however, when a vibrator power supply is used.

Condensers which are to be checked for quality should first be tested for leakage resistance using the Ohms x 10,000 scale, and if the leakage is found satisfactory they may then be checked for capacity.

A voltage of 12.5 volts R.M.S. is used for measurement on both capacity ranges and electrolytic condensers may therefore be tested for capacity without deforming, provided that the lower voltage types are left connected no longer than necessary. When testing electrolytic condensers the correct capacity will be indicated immediately the condenser is connected to the instrument, and the scale should therefore be read immediately. Any falling off in reading if the condenser is left connected to the instrument indicates deforming of the condenser, but does not necessarily indicate that the condenser is faulty. The condenser will re-form when re-connected to its usual circuit.

DESCRIPTION OF PALEC VALVE TESTER—MODELS VCT/2 & ET-3

Valve Tester Model ET-3 is an Instrument for indication of the end of life point of radio valves by the measurement of the emission under certain fixed conditions.

Circuit.

The Instrument employs a standard RMA emission test circuit with the exception that only No. 1 grid is selected as the test element in place of the grid, plate, screen, etc., together. The grid only is selected in this Instrument to reduce the complication of element selection, thereby rendering the Instrument more foolproof in operation. Little of the effectiveness of the test is lost, as a large percentage of the current flows to the grid in the standard RMA Instrument. Load resistances of 200, 1,000 and 5,000 ohms are used in conjunction with 30 volts RMS AC and appropriate variable and fixed resistances in the meter circuit.

Element Selection.

Element selection is accomplished by two nine position selector switches, one of which selects one of the heater pins without interrupting the remaining eight connections. A further element switch selects the grid and connects all remaining pins together.

The element selection switches are numbered with the RMA numbers of the valve pins and with the accepted Continental numbering where applicable. Provided the RMA numbers of grid No. 1 and one heater or filament connection are known, the element selectors may be set for any valve without reference to the Instruction Manual.

It is also an advantage that the system of element selection cannot become obsolete, in fact the tester may always be brought up-to-date by the addition of adaptors to cater for any new sockets which may be released in the future. At the time of release, all available American sockets, with the exception of special purpose types, have been included as well as the Continental "p" type. Two sockets for insertion of the top cap connection are provided, and these are connected together internally.

Shorts Test.

A shorts test has been provided and employs a neon lamp as an indicator of leakage between electrodes. Shorts tests may be made with the valve either in a hot or cold condition.

The grid pin selector is also used for shorts selection and the socket numbering system is applicable to element shorts. As the shorts selector is rotated, it will be found that the neon tube will glow brightly on the filament or heater pin not already selected by the

"Filament Pin Selector". In this position, the shorts indicator is used to indicate continuity of the filament or heater, a feature which is useful when testing metal type valves where the heater is not visible. While the shorts selector is on this position, the heater is disconnected from the transformer and the valve will cool.

Should the neon lamp glow on positions other than the heater connection mentioned above, it is an indication that a short circuit exists between the pins on which the glow occurs, e.g., should the neon tube show a glow on position 2 when testing a 6V6 valve, heater continuity is indicated, but should a glow occur when the selector is placed on positions 4 and 5, a short is indicated between these pins. In this case, the short is between control and screen grids. Exceptions to the above rule occur where valves have tapped filaments or heaters or where certain base pins are connected together internally. Such valves have notes beneath their test figures indicating the positions on which shorts can be expected.

The voltage applied to the valve when shorts tests are being made never exceeds 30 volts RMS and decreases in the presence of leakage through the valve. The shorts test circuit has been adjusted so that a barely discernible glow occurs for a leakage of 200,000 ohms. A very slight glow may occur for higher leakage resistances and this should be disregarded.

Line Adjustment.

For reliable results it is necessary to maintain the correct voltages on the filament or heater and grid of the valve being tested. A "Line Adjustment" control is provided consisting of a switch selecting 11 taps at 5 volt intervals between 215 and 265 volts on the primary of the transformer. When the "Circuit Selector" "C" is placed on the "line" position, the meter will read and may be set to the position "line test" at the centre of the scale by manipulation of the "Line Adjustment" control. The setting may be made within 1 per cent. for line voltages between 215 and 265 volts RMS.

Filament-Heater Voltages.

Filament voltages are provided for all receiving valves at present in use, two switches being used for the selection of these voltages. The first filament voltage switch provides voltages from 0.6 to 25 volts, and the second from 25 to 117 volts when the first switch is in the 25 volt position.

Care should always be exercised in setting the filament voltage correctly before a valve is inserted in the Instrument. No additional care is required in the setting of the two switches, as the second switch is inoperative until the first has been placed on the "25 volts and up" position.

VALVE TESTING (Models VCT-2 & ET-3)

OPERATING INSTRUCTIONS

(Follow in order listed)

Line Test.

- (1) Insert power cord into a 215-265 volt 40-60 cycle supply.
- (2) Set "Circuit" selector "C" to "line" position.
- (3) Adjust "Line Adjustment" knob until meter pointer coincides with "line test" point at centre scale.

Shorts Test.

- (4) Set "Filament Volts" Knobs "D" to values shown in "filament" column.
Note: One value only is given for filament voltages up to 12.6. When no second value is given, the second "D" "Filament Volts" selector may be left in any position.
- (5) Set "Filament Pin Selector" "B" to number shown in column marked "Element Selector" "B."
- (6) Insert valve in appropriate socket.
- (7) Set "C" "Circuit" selector knob to "shorts" position.
- (8) Rotate "Grid Pin and Shorts Selector" "A" throughout its range.

Note: The neon lamp will glow on shorted elements and also on the position shown in column "A" under "heater continuity" indicating continuity of the filament or heater. Should selector "A" be left on the heater position, the tube will cool. The valve may be lightly tapped with the switch on each position to assist in locating intermittent shorts.

Merit Test.

- (9) Set "Grid Pin and Shorts Selector" "A" to number shown in "element selector" "merit" column.
- (10) Set "C" "Circuit" knob to setting shown in "circuit" column.
- (11) Set "Range" control "E" to value shown in "range" column.
- (12) Press "Merit" button and read valve condition from meter.

AMERICAN AND AUSTRALIAN VALVES

VALVE TYPE	ELEMENT SELECTOR			CIRCUIT	FILAMENT	RANGE
	A		B			
	Merit	Heater Continuity				
00A	3	1	4	2	5	34
01A	3	1	4	2	5	51
1A4.P	9	1	4	1	2	33
1A5	5	2	7	2	1.4	57
1A6	4	1	6	2	2	44
1A7	5	2	7	1	1.4	50
1B4.P	9	1	4	2	2	39
1B5	5	1	6	1	2	37
1B5 Test 2	4	1	6	1	2	40
1B5 Test 3	3	1	6	1	2	40
1B5/25S	5	1	6	1	2	37
1B5/25S Test 2	4	1	6	1	2	40
1B5/25S Test 3	3	1	6	1	2	40
1B7	5	2	7	2	1.4	37
1B8	5	2	7	2	1.4	36
1B8 Test 2	9	2	7	2	1.4	68
1B8 Test 3	8	2	7	1	1.4	95
1C4	9	1	4	3	2	36
1C5	5	2	7	2	1.4	42
1C6	4	1	6	2	2	45
1C7	5	2	7	2	2	51
1D4	3	1	5	3	2	29
1D5	9	2	7	2	2	44
1D5 GP	9	2	7	2	2	37
1D7	5	2	7	2	2	47
1D8	5	2	7	2	1.4	42
1D8 Test 2	9	2	7	2	1.4	54
1D8 Test 3	8	2	7	1	1.4	95
1E4	5	2	7	2	1.4	51
1E5 GP	9	2	7	1	2	42
1E7	4	2	7	2	2	34
1E7 Test 2	5	2	7	2	2	34
1F4	3	1	5	3	2	53
1F5	5	2	7	2	2	40
1F6	9	1	6	1	2	45
1F6 Test 2	4	1	6	1	2	95
1F6 Test 3	5	1	6	1	2	95
1F7	9	2	7	1	2	42

AMERICAN AND AUSTRALIAN VALVES

VALVE TYPE	ELEMENT SELECTOR			CIRCUIT	FILAMENT	RANGE
	A		B			
	Merit	Heater Continuity				
1F7 Test 2	4	2	7	1	2	95
1F7 Test 3	5	2	7	1	2	95
1F7-GV	9	2	7	1	2	42
1F7-GV Test 2	4	2	7	1	2	95
1F7-GV Test 3	5	2	7	1	2	95
1G4	5	2	7	1	1.4	36
1G5	5	2	7	2	2	44
1G6	4	2	7	1	1.4	42
1G6 Test 2	5	2	7	1	1.4	42
1H4	5	2	7	2	2	46
1H5	9	2	7	1	1.4	39
1H5 Test 2	5	2	7	1	1.4	40
1H6	6	2	7	1	2	36
1H6 Test 2	4	2	7	1	2	40
1H6 Test 3	5	2	7	1	2	40
1J5	5	2	7	2	2	43
1J6	4	2	7	2	2	44
1J6 Test 2	5	2	7	2	2	44
1K4	9	1	4	3	2	32
1K5	9	2	7	3	2	38
1K6	9	1	6	3	2	38
1K6 Test 2	3	1	6	3	2	100
1K6 Test 3	4	1	6	3	2	100
1K7	9	2	7	3	2	38
1K7 Test 2	4	2	7	3	2	100
1K7 Test 3	5	2	7	3	2	100
1L4	6	Nil	7	2	1.4	42
Shows Short on 1 and 5.						
1L5	5	2	7	3	2	30
1LA4	6	1	8	2	1.4	45
1LA6	4	1	8	1	1.4	42
1LB4	6	1	8	2	1.4	45
1LB6	6	1	8	1	1.4	38
1LC5	6	Nil	1	1	1.4	38
Shows short on 2, 4, 5 and 8.						
1LC6	4	1	8	1	1.4	52
1LD5	6	1	8	1	1.4	38
1LD5 Test 2	4	1	8	1	1.4	95
Good Tube Reads 20.						

AMERICAN AND AUSTRALIAN VALVES

VALVE TYPE	ELEMENT SELECTOR				CIRCUIT	FILAMENT	RANGE
	A		B				
	Merit	Heater Continuity	Merit	Heater Continuity			
1LE3	6	1	8	2	2	1.4	42
1LH4	6	1	8	1	1	1.4	47
1LH4 Test 2	4	1	8	1	1	1.4	95
1LN5	6	Nil	1	2	2	1.4	45
			Shows Short 5 and 8.				
1M5	9	2	7	3	3	2	34
1N5	9	2	7	1	1	1.4	32
1N6	5	2	7	2	2	1.4	43
1N6 Test 2	6	2	7	1	1	1.4	95
			Good Tube Reads 20.				
1P5	9	2	7	1	1	1.4	37
1Q5	5	2	7	2	2	1.4	37
1R5	4	Nil	7	2	2	1.4	45
			Shows Short on 1 and 5.				
1S4	3	Nil	7	2	2	1.4	34
			Shows Short on 1, 2, 5 and 6.				
1S5	6	1	7	1	1	1.4	50
1S5 Test 2	3	1	7	1	1	1.4	55
1SAG-GT	4	2	7	2	2	1.4	34
1SB6-GT	8	2	7	1	1	1.4	43
1SB6-GT Test 2	5	2	7	1	1	1.4	90
1T4	6	Nil	7	2	2	1.4	40
			Shows Short on 1 and 5.				
1T5	5	2	7	2	2	1.4	45
1V	2	1	4	3	3	6.3	24
2A3	3	1	4	3	3	2.5	31
2A4	5	2	7	3	3	2.5	25
2A4 Test 2	3	2	7	3	3	2.5	25
			No Short Test.				
2A5	4	1	6	3	3	2.5	40
2A6	9	1	6	3	3	2.5	29
2A6 Test 2	3	1	6	1	1	2.5	40
2A6 Test 3	4	1	6	1	1	2.5	40
2A7	5	1	7	3	3	2.5	34

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VALVE TYPE	ELEMENT SELECTOR				CIRCUIT	FILAMENT	RANGE
	A		B				
	Merit	Heater Continuity	Merit	Heater Continuity			
2B6	4	1	7	3	3	2.5	56
2B7	9	1	7	3	3	2.5	53
2B7 Test 2	5	1	7	1	1	2.5	40
2B7 Test 3	4	1	7	1	1	2.5	40
2E5	3	1	6	2	2	2.5	50
2G5	3	1	6	2	2	2.5	50
2W3	4	2	8	3	3	2.5	50
2Y2	9	1	4	1	1	2.5	95
			Good Tube Reads 40.				
2Z2	2	1	4	3	3	2.5	56
3A4	4	1 & 7	5	2	2	1.4	29
			Shows short on 2 and 6.				
3A5	3	1 & 7	4	2	2	1.4	34
3A5 Test 2	5	1 & 7	4	2	2	1.4	34
3A8	9	2 & 7	1	1	1	1.4	43
3A8 Test 2	5	2 & 7	1	1	1	1.4	43
3A8 Test 3	8	2 & 7	1	1	1	1.4	45
3B5	5	2 & 7	8	2	2	1.4	40
3C5	5	2 & 7	8	2	2	1.4	40
3LE4	6	1 & 8	7	2	2	1.4	38
3Q4	3	1 & 7	5	2	2	1.4	37
			Shows Short on 2 and 6.				
3Q5	5	2 & 7	8	3	3	1.4	37
3S4	3	1 & 7	5	2	2	1.4	40
			Shows Short on 2 and 6.				
4A6	4	2 & 7	8	3	3	2	51
4A6 Test 2	5	2 & 7	8	3	3	2	51
5R4-GY	4	2	8	3	3	5	34
5R4-GY Test 2	6	2	8	3	3	5	34
5T4	4	2	8	3	3	5	35
5T4 Test 2	6	2	8	3	3	5	35
5U4	4	2	8	3	3	5	35
5U4 Test 2	6	2	8	3	3	5	35
5V4	4	2	8	3	3	5	25
5V4 Test 2	6	2	8	3	3	5	25
5W4	4	2	8	3	3	5	48
5W4 Test 2	6	2	8	3	3	5	48
5X3	2	1	4	3	3	5	43

AMERICAN AND AUSTRALIAN VALVES

VALVE TYPE	ELEMENT SELECTOR				CIRCUIT	FILAMENT	RANGE
	A		B	C			
	Merit	Heater Continuity					
5X3 Test 2	3	1	4	3	5	43	
5X4	3	7	8	3	5	33	
5X4 Test 2	5	7	8	3	5	33	
5Y3	4	2	8	3	5	57	
5Y3 Test 2	6	2	8	3	5	57	
5Y4	3	7	8	3	5	57	
5Y4 Test 2	5	7	8	3	5	57	
5Z3	2	1	4	3	5	35	
5Z3 Test 2	3	1	4	3	5	35	
5Z4	4	2	8	3	5	27	
5Z4 Test 2	6	2	8	3	5	27	
6A3	3	1	4	3	6.3	31	
6A4/LA	3	1	5	3	6.3	40	
6A5	5	2 & 7	8	3	3.3	28	
6A6	3	1	7	3	6.3	40	
6A6 Test 2	5	1	7	3	6.3	40	
6A7	5	1	7	3	6.3	35	
6A8	5	2	7	3	6.3	28	
6AB5	3	1	6	2	6.3	100	
6AB6	5	2	7	3	6.3	71	
6AB7	4	2	7	3	6.3	26	
6AC5	5	2	7	3	6.3	38	
6AC6	5	2	7	3	6.3	50	
6AC7	4	2	7	3	6.3	24	
6AD7	5	2	7	3	6.3	37	
6AD7 Test 2	1	2	7	3	6.3	96	
6AE5	5	2	7	3	6.3	33	
6AE6	5	2	7	2	6.3	37	
6AE7	4	2	7	3	6.3	31	
6AE7 Test 2	6	2	7	3	6.3	31	
6AF5	5	2	7	3	6.3	27	
6AG5	1	3	4	3	6.3	23	
Shows Short on 2 and 7.							
6AG7	4	2	7	3	6.3	27	
6AL5	2	3	4	1	6.3	23	
6AL5 Test 2	7	3	4	1	6.3	23	
6AL6	5	2	7	3	6.3	27	
6AQ6	1	3	4	3	6.3	36	
6AQ6 Test 2	5	3	4	1	6.3	40	
6AQ6 Test 3	6	3	4	1	6.3	40	

AMERICAN AND AUSTRALIAN VALVES

VALVE TYPE	ELEMENT SELECTOR				CIRCUIT	FILAMENT	RANGE
	A		B	C			
	Merit	Heater Continuity					
6B4	5	2	7	3	6.3	31	
6B5	4	1	6	3	6.3	72	
6B6	9	2	7	3	6.3	36	
6B6 Test 2	4	2	7	1	6.3	40	
6B6 Test 3	5	2	7	1	6.3	40	
6B7	9	1	7	3	6.3	56	
6B7 Test 2	4	1	7	1	6.3	40	
6B7 Test 3	5	1	7	1	6.3	40	
6B7S	9	1	7	3	6.3	41	
6B7S Test 2	4	1	7	3	6.3	100	
6B7S Test 3	5	1	7	3	6.3	100	
6B8	9	2	7	3	6.3	50	
6B8 Test 2	4	2	7	1	6.3	40	
6B8 Test 3	5	2	7	1	6.3	40	
6C4	6	3	4	3	6.3	29	
Shows Short on 1 and 5.							
6C5	5	2	7	3	6.3	38	
6C6	9	1	6	3	6.3	35	
6C7	9	1	7	3	6.3	37	
6C7 Test 2	4	1	7	1	6.3	40	
6C7 Test 3	5	1	7	1	6.3	40	
6C8	9	2	7	3	6.3	32	
6C8 Test 2	5	2	7	3	6.3	32	
6D6	9	1	6	3	6.3	45	
6D7	9	1	7	3	6.3	34	
6D8	5	2	7	3	6.3	38	
6E5	3	1	6	3	6.3	41	
6E6	3	1	7	3	6.3	35	
6E6 Test 2	5	1	7	3	6.3	35	
6E7	9	1	7	3	6.3	34	
6F5	9	2	7	3	6.3	34	
6F6	5	2	7	3	6.3	36	
6F7	9	1	7	3	6.3	48	
6F7 Test 2	5	1	7	3	6.3	96	
6F8	9	2	7	3	6.3	29	
6F8 Test 2	5	2	7	3	6.3	29	
6G5	3	1	6	2	6.3	40	
6G6	5	2	7	3	6.3	40	
6G8G	9	2	7	3	6.3	48	
6G8G Test 2	4	2	7	3	6.3	100	

AMERICAN AND AUSTRALIAN VALVES

VALVE TYPE	ELEMENT SELECTOR			CIRCUIT	FILAMENT	RANGE
	A		B			
	Merit	Heater Continuity				
6G8G Test 3...	5	2	7	3	6.3	100
6H4	4	2	7	1	6.3	26
6H5	3	1	6	2	6.3	40
6H6	3	2	7	1	6.3	25
6H6 Test 2 ..	5	2	7	1	6.3	25
6J5	5	2	7	3	6.3	30
6J7	9	2	7	3	6.3	35
6J8	9	2	7	3	6.3	34
6J8 Test 2 ..	5	2	7	3	6.3	34
6K5	9	2	7	3	6.3	29
6K6	5	2	7	3	6.3	38
6K7	9	2	7	3	6.3	34
6K8	5	2	7	3	6.3	22
6L5	5	2	7	3	6.3	36
6L6	5	2	7	3	6.3	30
6L7	9	2	7	3	6.3	28
6N5	3	1	6	1	6.3	45
6N6	5	2	7	3	6.3	58
6N7	4	2	7	3	6.3	33
6N7 Test 2 ..	5	2	7	3	6.3	33
6P5	5	2	7	3	6.3	40
6P7	9	2	7	3	6.3	38
6P7 Test 2 ..	7	2	7	3	6.3	91
6Q6	9	2	7	3	6.3	35
6Q6 Test 2 ..	5	2	7	1	6.3	90
6Q7	9	2	7	3	6.3	37
6Q7 Test 2 ..	4	2	7	1	6.3	47
6Q7 Test 3 ..	5	2	7	1	6.3	47
6R6	6	1	8	3	6.3	46
6R7	9	2	7	3	6.3	41
6R7 Test 2 ..	4	2	7	1	6.3	33
6R7 Test 3 ..	5	2	7	1	6.3	33
6S6	9	2	7	3	6.3	27
6S7	9	2	7	3	6.3	36
6SA7	5	2	7	3	6.3	29
6SC7	3	8	7	3	6.3	40
6SC7 Test 2 ..	4	8	7	3	6.3	43
6SD7	4	2	7	3	6.3	26
6SE7	4	2	7	3	6.3	26
6SF5	3	8	7	3	6.3	31
6SF7	2	8	7	2	6.3	25

AMERICAN AND AUSTRALIAN VALVES

VALVE TYPE	ELEMENT SELECTOR			CIRCUIT	FILAMENT	RANGE
	A		B			
	Merit	Heater Continuity				
6SF7 Test 2 ..	5	8	7	2	6.3	40
6SG7	4	2	7	3	6.3	20
Shows Short on 3 and 5.						
6SH7	4	2	7	2	6.3	16
Shows Short on 3 and 5.						
6SJ7	4	2	7	3	6.3	30
6SK7	4	2	7	3	6.3	32
6SL7	1	8	7	3	6.3	31
6SL7 Test 2 ..	4	8	7	3	6.3	31
6SN7	1	8	7	3	6.3	32
6SN7 Test 2 ..	4	8	7	3	6.3	32
6SQ7	2	8	7	3	6.3	38
6SQ7 Test 2 ..	4	8	7	1	6.3	38
6SQ7 Test 3 ..	5	8	7	1	6.3	40
6SR7	2	8	7	3	6.3	40
6SR7 Test 2 ..	4	8	7	1	6.3	41
6SR7 Test 3 ..	5	8	7	1	6.3	33
6SS7	4	2	7	3	6.3	33
6ST7	2	8	7	3	6.3	34
6ST7 Test 2 ..	4	8	7	3	6.3	34
6ST7 Test 3 ..	5	8	7	1	6.3	95
6T5	3	1	6	1	6.3	95
6T7	9	2	7	3	6.3	55
6T7 Test 2 ..	4	2	7	3	6.3	39
6T7 Test 3 ..	5	2	7	1	6.3	40
6U5	3	1	6	1	6.3	40
6U6	5	2	7	2	6.3	42
6U7	9	2	7	3	6.3	27
6V6	5	2	7	3	6.3	36
6V7	9	2	7	3	6.3	29
6V7 Test 2 ..	4	2	7	1	6.3	40
6V7 Test 3 ..	5	2	7	1	6.3	50
6W5	3	2	7	3	6.3	50
6W5 Test 2 ..	5	2	7	3	6.3	25
6W6	5	2	7	3	6.3	25
6W7	9	2	7	3	6.3	24
6X5	3	2	7	3	6.3	37
6X5 Test 2 ..	5	2	7	3	6.3	28
6X6	5	2	7	2	6.3	28
6X6	5	2	7	2	6.3	46

AMERICAN AND AUSTRALIAN VALVES

VALVE TYPE	ELEMENT SELECTOR				CIRCUIT	FILAMENT	RANGE
	A		B				
	Merit	Heater Continuity	Merit	Heater Continuity			
6Y5	3	1	6	3	3	6.3	28
6Y5 Test 2	5	1	6	3	3	6.3	28
6Y6	5	2	7	3	3	6.3	21
6Y7	4	2	7	3	3	6.3	37
6Y7 Test 2	5	2	7	3	3	6.3	37
6Z3	2	1	4	3	3	6.3	24
6Z4	2	1	5	3	3	6.3	26
6Z4 Test 2	3	1	5	3	3	6.3	26
6Z7	4	2	7	3	3	6.3	36
6Z7 Test 2	5	2	7	3	3	6.3	36
6ZY5	3	2	7	3	3	6.3	36
6ZY5 Test 2	5	2	7	3	3	6.3	36
7A4	6	1	8	3	3	6.3	30
7A5	6	1	8	3	3	6.3	26
7A6	3	1	8	3	3	6.3	28
7A6 Test 2	6	1	8	3	3	6.3	28
7A7	6	1	8	3	3	6.3	31
7A8	4	1	8	3	3	6.3	36
7B4	6	1	8	3	3	6.3	30
7B5	6	1	8	3	3	6.3	33
7B6	3	1	8	3	3	6.3	35
7B6 Test 2	5	1	8	3	3	6.3	58
7B6 Test 3	6	1	8	3	3	6.3	58
			Shows Short on 4 and 7.				
7B7	6	1	8	3	3	6.3	37
7B8	4	1	8	3	3	6.3	30
7C5	6	1	8	3	3	6.3	33
7C6	3	1	8	3	3	6.3	37
7C6 Test 2	5	1	8	3	3	6.3	40
7C6 Test 3	6	1	8	3	3	6.3	40
			Shows Short on 4 and 7.				
7C7	6	1	8	3	3	6.3	37
7E6	3	1	8	3	3	6.3	32
7E6 Test 2	5	1	8	3	3	6.3	45
7E6 Test 3	6	1	8	3	3	6.3	45
			Shows Short on 4 and 7.				
7E7	6	1	8	3	3	6.3	40
7E7 Test 2	4	1	8	3	3	6.3	40
7E7 Test 3	3	1	8	3	3	6.3	40

AMERICAN AND AUSTRALIAN VALVES

VALVE TYPE	ELEMENT SELECTOR				CIRCUIT	FILAMENT	RANGE
	A		B				
	Merit	Heater Continuity	Merit	Heater Continuity			
7F7	4	1	8	3	3	6.3	34
7F7 Test 2	5	1	8	3	3	6.3	34
7G7	6	1	8	3	3	6.3	21
7H7	6	1	8	3	3	6.3	25
7J7	4	1	8	3	3	6.3	37
7J7 Test 2	6	1	8	3	3	6.3	37
7K7	4	1	8	3	3	6.3	33
7K7 Test 2	5	1	8	3	3	6.3	39
7K7 Test 3	6	1	8	3	3	6.3	39
7L7	6	1	8	3	3	6.3	26
7N7	4	1	8	3	3	6.3	31
7N7 Test 2	5	1	8	3	3	6.3	31
7Q7	4	1	8	3	3	6.3	27
7R7	6	1	8	3	3	6.3	22
7R7 Test 2	3	1	8	3	3	6.3	50
7R7 Test 3	4	1	8	3	3	6.3	50
7S7	4	1	8	3	3	6.3	36
7S7 Test 2	6	1	8	3	3	6.3	36
7V7	6	1	8	3	3	6.3	20
7W7	6	1	8	3	3	6.3	22
			Shows Short on 4 and 7.				
7Y4	3	1	8	3	3	6.3	33
7Y4 Test 2	6	1	8	3	3	6.3	33
7Z4	6	1	8	3	3	6.3	41
7Z4 Test 2	3	1	8	3	3	6.3	41
10	3	1	4	3	3	7.5	63
12A	3	1	4	3	3	5.0	42
12A5	4	1G7	6	3	3	6.3	36
12A6	5	2	7	3	3	12.6	36
12A7	9	1	7	3	3	12.6	47
12A7 Test 2	5	1	7	3	3	12.6	23
12A8	5	2	7	3	3	12.6	32
12AH7	1	7	8	3	3	12.6	34
12AH7 Test 2	5	7	8	3	3	12.6	34
12B7	6	1	8	3	3	12.6	36
12B8	9	2	7	3	3	12.6	29
12B8 Test 2	8	2	7	3	3	12.6	29
12C8	9	2	7	3	3	12.6	46
12C8 Test 2	4	2	7	3	3	12.6	38
12C8 Test 3	5	2	7	3	3	12.6	38

AMERICAN AND AUSTRALIAN VALVES

VALVE TYPE	ELEMENT SELECTOR			CIRCUIT	FILAMENT	RANGE
	A		B			
	Merit	Heater Continuity				
12E5	5	2	7	3	12.6	34
12F5	9	2	7	3	12.6	30
12H6	3	2	7	1	12.6	25
12H6 Test 2	5	2	7	1	12.6	25
12J5	5	2	7	3	12.6	32
12J7	9	2	7	3	12.6	37
12K7	9	2	7	3	12.6	38
12K8	5	2	7	3	12.6	22
12Q7	9	2	7	3	12.6	36
12Q7 Test 2	4	2	7	1	12.6	52
12Q7 Test 3	5	2	7	1	12.6	52
12SA7	5	2	7	3	12.6	27
12SC7	3	8	7	3	12.6	34
12SC7 Test 2	4	8	7	3	12.6	34
12SF5	3	8	7	3	12.6	27
12SF7	2	8	7	3	12.6	34
12SF7 Test 2	5	8	7	1	12.6	40
12SG7	4	2	7	3	12.6	20
Shows Short on 3 and 5.						
12SH7	4	2	7	3	12.6	20
Shows Short on 3 and 5.						
12SJ7	4	2	7	3	12.6	32
12SK7	4	2	7	3	12.6	32
12SL7	1	8	7	3	12.6	32
12SL7 Test 2	4	8	7	3	12.6	32
12SN7	1	8	7	3	12.6	33
12SN7 Test 2	4	8	7	3	12.6	33
12SQ7	2	8	7	3	12.6	32
12SQ7 Test 2	4	8	7	1	12.6	40
12SQ7 Test 3	5	8	7	1	12.6	40
12SR7	2	8	7	3	12.6	41
12SR7 Test 2	4	8	7	1	12.6	33
12SR7 Test 3	5	8	7	1	12.6	33
12Z3	2	1	4	3	12.6	25
12Z5	2	1	4	3	6.3	25
12Z5 Test 2	6	1	4	3	6.3	25
14A4	6	1	8	3	12.6	30
14A5	6	1	8	3	12.6	37
14A7	6	1	8	3	12.6	32

AMERICAN AND AUSTRALIAN VALVES

VALVE TYPE	ELEMENT SELECTOR			CIRCUIT	FILAMENT	RANGE
	A		B			
	Merit	Heater Continuity				
14B6	3	1	8	3	12.6	35
14B6 Test 2	5	1	8	1	12.6	58
14B6 Test 3	6	1	8	1	12.6	58
Shows Short on 4 and 7.						
14B8	4	1	8	3	12.6	34
14C5	6	1	8	3	12.6	28
14C7	6	1	8	3	12.6	29
14E6	3	1	8	3	12.6	35
14E6 Test 2	5	1	8	1	12.6	65
14E6 Test 3	6	1	8	1	12.6	65
Shows Short on 4 and 7.						
14F7	4	1	8	3	12.6	33
14F7 Test 2	5	1	8	3	12.6	33
14H7	6	1	8	3	12.6	27
14J7	4	1	8	3	12.6	37
14J7 Test 2	6	1	8	3	12.6	37
14N7	4	1	8	3	12.6	31
14N7 Test 2	5	1	8	3	12.6	31
14Q7	4	1	8	3	12.6	26
14R7	6	1	8	3	12.6	23
14R7 Test 2	3	1	8	1	12.6	50
14R7 Test 3	4	1	8	1	12.6	50
14S7	4	1	8	3	12.6	30
14W7	6	1	8	3	12.6	21
Shows Short on 4 and 7.						
14Y4	3	1	8	3	12.6	28
14Y4 Test 2	6	1	8	3	12.6	28
14Z3	2	1	4	3	12.6	25
15	9	1	5	3	2	62
19	3	1	6	3	2	44
19 Test 2	4	1	6	3	2	44
20	3	1	4	2	3.3	54
22	9	1	4	2	3.3	63
24A	9	1	5	3	2.5	39
25A6	5	2	7	3	25 & 25	30
25A7	5	2	7	3	25 & 25	30
25A7 Test 2	6	2	7	3	25 & 25	23
25AC5	5	2	7	3	25 & 25	35
25B5	4	1	6	3	25 & 25	41

AMERICAN AND AUSTRALIAN VALVES

VALVE TYPE	ELEMENT SELECTOR			CIRCUIT	FILAMENT	RANGE
	A		B			
	Merit	Heater Continuity				
25B6	5	2	7	3	25 & 25	26
25B8	9	2	7	3	25 & 25	28
25B8 Test 2	8	2	7	3	25 & 25	28
25C6	5	2	7	3	25 & 25	28
25D8	5	2	7	3	25 & 25	34
25D8 Test 2	9	2	7	3	25 & 25	29
25D8 Test 3	8	2	7	1	25 & 25	40
25L6	5	2	7	3	25 & 25	25
25N6	5	2	7	3	25 & 25	62
25S	5	1	6	1	2	37
25S Test 2	4	1	6	1	2	40
25S Test 3	3	1	6	1	2	40
25X6	3	2	7	3	25 & 25	27
25X6 Test 2	5	2	7	3	25 & 25	27
25Y4	5	2	7	3	25 & 25	25
25Y5	2	1	6	3	25 & 25	30
25Y5 Test 2	5	1	6	3	25 & 25	30
25Z5	2	1	6	3	25 & 25	25
25Z5 Test 2	5	1	6	3	25 & 25	25
25Z6	3	2	7	3	25 & 25	24
25Z6 Test 2	5	2	7	3	25 & 25	24
26	3	1	4	3	1.4	51
27	3	1	5	3	2.5	49
28D7	2	1	8	3	25 & 25	24
28D7 Test 2	7	1	8	3	25 & 25	24
30	3	1	4	2	2	40
31	3	1	4	2	2	45
32	9	1	4	2	2	47
32L7	5	2	7	3	25 & 32	20
32L7 Test 2	6	2	7	3	25 & 32	21
33	3	1	5	3	2	44
34	9	1	4	2	2	45
35	9	1	5	3	2.5	39
35A5	6	1	8	3	25 & 32	25
35L6	5	2	7	3	25 & 32	22
35Y4	2	Nil	8	3	25 & 32	23
Shows Short on 1 and 4.						
35Z3	2	1	8	3	25 & 32	22
35Z4	5	2	7	3	25 & 32	20
35Z5	5	2 & 3	7	3	25 & 25	21

AMERICAN AND AUSTRALIAN VALVES

VALVE TYPE	ELEMENT SELECTOR			CIRCUIT	FILAMENT	RANGE
	A		B			
	Merit	Heater Continuity				
35Z6	3	2	7	3	25 & 32	20
35Z6 Test 2	5	2	7	3	25 & 32	20
36	9	1	5	3	6.3	41
37	3	1	5	3	6.3	41
38	9	1	5	3	6.3	40
39	9	1	5	3	6.3	43
39/44	9	1	5	3	6.3	43
40	3	1	4	3	5	47
40Z5	5	2 & 7	3	3	25 & 25	20
41	4	1	6	3	6.3	36
42	4	1	6	3	6.3	33
43	4	1	6	3	6.3	35
45	3	1	4	3	2.5	36
45Z5	5	2 & 7	3	3	25 & 25	20
46	3	1	5	3	2.5	39
47	3	1	5	3	2.5	46
48	4	1	6	3	2.5	28
49	3	1	5	3	2	50
50	3	1	6	3	7.5	47
50A5	6	1	8	3	25 & 50	23
50C6	5	2	7	3	25 & 50	25
50L6	5	2	7	3	25 & 50	24
50Y6	3	2	7	3	25 & 50	23
50Y6 Test 2	5	2	7	3	25 & 50	23
50Z6	5	2	7	3	25 & 50	21
50Z6 Test 2	5	2	7	3	25 & 50	21
50Z7	3	6 & 7	2	3	25 & 50	25
50Z7 Test 2	5	6 & 7	2	3	25 & 50	25
53	3	1	7	3	2.5	36
53 Test 2	5	1	7	3	2.5	36
55	9	1	6	3	2.5	39
55 Test 2	3	1	6	1	2.5	40
55 Test 3	4	1	6	1	2.5	40
56	3	1	6	3	2.5	41
57	9	1	5	3	2.5	38
58	9	1	6	3	2.5	39
59	4	1	7	3	2.5	33
70L7	5	2	7	3	2.5	28
70L7 Test 2	8	2	7	3	25 & 70	20
71A	3	1	4	3	5	52
75	9	1	6	3	6.3	39

AMERICAN AND AUSTRALIAN VALVES

VALVE TYPE	ELEMENT SELECTOR			CIRCUIT	FILAMENT	RANGE
	A		B			
	Merit	Heater Continuity				
75 Test 2	3	1	6	1	6.3	45
75 Test 3	4	1	6	1	6.3	45
76	3	1	5	3	6.3	41
77	9	1	6	3	6.3	37
78	9	1	6	3	6.3	35
79	3	1	6	3	6.3	34
79 Test 2	2	1	6	3	6.3	34
80	9	1	4	3	5	55
80 Test 2	3	1	4	3	5	55
81	2	1	4	3	7.5	75
82	2	1	4	3	2.5	24
82 Test 2	3	1	4	3	2.5	24
83	2	1	4	3	5	26
83 Test 2	3	1	4	3	5	26
83V	2	1	4	3	5	24
83 V Test 2	3	1	4	3	5	24
84	2	1	5	3	6.3	26
84 Test 2	3	1	5	3	6.3	26
85	9	1	6	3	6.3	50
85 Test 2	3	1	6	3	6.3	47
85 Test 3	4	1	6	3	6.3	47
89	9	1	6	3	6.3	36
99	3	1	4	2	3.3	62
113HY	3	1	5	1	1.4	50
115HY	3	1	5	1	1.4	28
117L7	4	2	7	3	25G117	20
117L7 Test 2	6	2	7	3	25G117	26
117M7	4	2	7	3	25G117	21
117M7 Test 2	6	2	7	3	25G117	19
117Z4	5	2	7	3	25G117	20
117Z6	3	2	7	3	25G117	20
117Z6 Test 2	5	2	7	3	25G117	20
125HY	3	1	5	2	1.4	51
182-B	3	1	4	3	5	41
183	3	1	4	3	5	45
307-A	3	1	4	3	5	27
482-B	3	1	4	3	5	41
483	3	1	4	3	5	45
485	3	1	5	3	2.5	39
801	3	1	4	3	7.5	47
802	4	1	7	3	6.3	33

AMERICAN AND AUSTRALIAN VALVES

VALVE TYPE	ELEMENT SELECTOR			CIRCUIT	FILAMENT	RANGE
	A		B			
	Merit	Heater Continuity				
807	3	1	5	3	6.3	32
809	3	1	4	3	6.3	30
812	3	1	4	3	6.3	33
837	4	1	7	3	12.6	28
840	3	1	5	2	2	37
841	3	1	4	3	7.5	50
864	3	1	4	1	1.4	69
865	3	1	4	3	7.5	93
866(A)	9	1	4	3	2.5	25
950	3	1	5	3	2	51
951	3	1	4	2	2	45
954	6	1	4	2	6.3	36
			Use Adaptor.			
955	3	1	4	2	6.3	34
			Use Adaptor.			
956	6	1	4	2	6.3	34
			Use Adaptor.			
957	3	4G5	1	1	1.4	36
			Use Adaptor.			
958	3	4G5	1	1	1.4	36
			Use Adaptor.			
959	6	4G5	1	1	1.4	41
			Use Adaptor.			
1203	4	1	8	1	6.3	33
1204	5	2	7	3	6.3	29
			Shows Short on 4, 6 and 8.			
1221	9	1	6	3	6.3	37
1223	9	2	7	3	6.3	34
1231	6	1	8	3	6.3	21
1232	6	1	8	3	6.3	21
1284	6	1	8	3	12.6	28
1291	3	1G8	4	1	1.4	41
1291 Test 2	6	1G8	4	1	1.4	41
1293	6	1	8	2	1.4	36
1294	4	1	8	1	1.4	57
1299	6	1G8	7	2	1.4	28

AMERICAN AND AUSTRALIAN VALVES

VALVE TYPE	ELEMENT SELECTOR				CIRCUIT	FILAMENT			RANGE
	A		B	C		D	E		
	Merit	Heater Continuity							
1603	9	1	6	3	6.3			35	
1608	3	1	4	3	2.5			27	
1610	3	1	5	3	2.5			31	
1612	9	2	7	3	6.3			28	
1613	5	2	7	3	6.3			34	
1614	5	2	7	3	6.3			27	
1616	9	1	4	3	2.5			57	
1619	5	2	7	3	2.5			33	
1620	9	2	7	3	6.3			35	
1621	5	2	7	3	6.3			45	
1622	5	2	7	3	6.3			30	
1625	3	1	5	3	12.6			28	
1626	5	2	7	3	12.6			36	
1629	5	2	7	2	12.6			40	
1631	5	2	7	3	12.6			30	
1632	5	2	7	3	12.6			25	
1633	1	8	7	3	25 & 25			29	
1633 Test 2..	4	8	7	3	25 & 25			29	
1634	3	8	7	3	12.6			34	
1634 Test 2..	4	8	7	3	12.6			34	
1851	9	2	7	3	6.3			22	
1852	4	2	7	3	6.3			24	
1853	4	2	7	3	6.3			26	
2050	5	2	7	3	6.3			17	
			No Short Test.						
2051	5	2	7	3	6.3			21	
			No Short Test.						

AMERICAN AND AUSTRALIAN VALVES

VALVE TYPE	ELEMENT SELECTOR				CIRCUIT	FILAMENT			RANGE
	A		B	C		D	E		
	Merit	Heater Continuity							
7700	9	1	6	3	6.3			30	
9001	1	3	4	3	6.3			30	
			Shows Short on 2 and 7.						
9002	6	3	4	3	6.3			30	
			Shows Short on 1, 2, 5 and 7.						
9003	1	3	4	3	6.3			30	
			Shows Short on 2 and 7.						
9005	3	4 & 5	1	1	3.3			34	
			Use Adaptor.						
HY114B	9	2	7	3	1.4			55	
HY615	9	2	7	3	6.3			33	
PZ	3	1	5	3	2.5			46	
RK33	4	1	7	3	6.3			30	
RK33 Test 2..	9	1	7	3	6.3			30	
RK34	9	1	7	3	6.3			30	
			Left Hand Top Cap.						
RK34 Test 2..	9	1	7	3	6.3			30	
			Right Hand Top Cap.						
XXB	4	1 & 8	7	2	1.4			45	
XXB Test 2 ..	5	1 & 8	7	2	1.4			45	
XXD	4	1	8	1	6.3			32	
XXD Test 2 ..	5	1	8	1	6.3			32	
XXFM	3	1	8	3	6.3			39	
XXFM Test 2	5	1	8	1	6.3			27	
XXFM Test 3	6	1	8	1	6.3			27	
XXL	6	1	8	3	6.3			29	

CONTINENTAL VALVES

VALVE TYPE	ELEMENT SELECTOR			CIRCUIT	FILAMENT	RANGE
	A		B			
	Merit	Heater Continuity				
AZ09	3	1	4	3	2	55
A409	3	1	4	3	4	47
A415	3	1	4	3	4	32
A425	3	1	4	3	4	40
A442	3	1	4	3	4	60
A609	3	1	4	3	6.3	43
A615	3	1	4	3	6.3	32
A630	3	1	4	3	6.3	38
A635	3	1	4	3	6.3	68
A642	3	1	4	3	6.3	42
AB2	5	2	3	3	4	27
ABC1	9	2	3	3	4	24
ABC1 Test 2	5	2	3	3	4	24
ABC1 Test 3	6	2	3	3	4	24
AC2	9	2	3	3	4	17
AC3	3	1	4	3	4	52
AC4	3	1	4	3	5	54
ACO44	3	1	4	3	4	40
ACO64	3	1	4	3	4	46
AF2	5	1	7	3	4	15
AF3	9	2	3	3	4	22
AF7	9	2	3	3	4	22
AK1	5	1	7	3	4	17
AK2	6	2	3	3	4	22
AL2	9	2	3	3	4	24
AL3	6	2	3	3	4	14
AZ3	5	2	3	3	4	17
AZ3 Test 2	8	2	3	3	4	17
B21	1	4	5	3	2	53
B21 Test 2	2	4	5	3	2	53
Use English 7 Pin Adaptor.						
B217	3	1	4	3	2	55
B240	3	1	6	3	2	24
B240 Test 2	4	1	6	3	2	24
B255	3	1	4	3	2	38
B262	3	1	4	3	2	26
B403	3	1	4	3	4	62
B405	3	1	4	3	4	43
B406	3	1	4	3	4	59

CONTINENTAL VALVES

VALVE TYPE	ELEMENT SELECTOR			CIRCUIT	FILAMENT	RANGE
	A		B			
	Merit	Heater Continuity				
B409	3	1	4	3	4	41
B443	3	1	4	3	4	31
B605	3	1	4	3	6.3	55
C243N	3	1	5	3	2	28
C443	3	1	5	3	4	46
C603	3	1	5	3	6.3	48
C643	3	1	5	3	6.3	48
CBI	5	2	3	3	12.6	34
CBI Test 2	9	2	3	3	12.6	34
CBC1	9	2	3	3	12.6	41
CBC1 Test 2	5	2	3	3	12.6	84
CBC1 Test 3	6	2	3	3	12.6	84
CC1	9	2	3	3	12.6	19
CF1	9	2	3	3	12.6	21
CF2	9	2	3	3	12.6	20
CK1	6	2	3	3	12.6	22
CL2	9	2	3	3	12.6	17
CL4	9	2	3	3	25 G 25	17
CY1	8	2	3	3	25 G 32	14
CY2	5	2	3	3	25 G 25	14
CY2 Test 2	8	2	3	3	25 G 32	14
CY31	5	2	7	3	25 G 32	14
D243	3	1	5	3	25 G 25	14
DL35	5	2	7	3	2.5	36
DL63	9	2	7	3	1.4	26
DL63 Test 2	4	2	7	3	6.3	36
DL63 Test 3	5	2	7	3	6.3	40
DO26	3	1	4	3	6.3	40
DPT	2	4	5	3	4	34
Use English 7 Pin Adaptor.						
DS	2	3	4	3	12.6	25
Use English 5 Pin Adaptor.						
DSB	2	3	4	3	12.6	19
Use English 5 Pin Adaptor.						
DU2	2	1	4	3	4	31
DU2 Test 2	3	1	4	3	4	31
DU10	2	1	4	3	4	20
DW2	1	3	4	3	4	34
DW2 Test 2	2	3	4	3	4	34
Use English 4 Pin Adaptor.						

CONTINENTAL VALVES

VALVE TYPE	ELEMENT SELECTOR			CIRCUIT	FILAMENT	RANGE
	A		B			
	Merit	Heater Continuity				
E406N	3	1	4	3	4	41
E409	3	1	5	3	4	18
E415	3	1	5	3	4	27
E424	3	1	5	3	4	17
E442	3	1	5	3	4	29
E442S	3	1	5	3	4	36
E443H	3	1	5	3	4	31
E443N	3	1	5	3	4	43
E444N	4	1	6	3	4	31
E444N Test 2	3	1	6	3	4	84
E445	3	1	5	3	4	29
E446	5	1	7	3	4	15
E447	5	1	7	3	4	15
E452T	3	1	5	3	4	12
E454	9	1	7	3	4	25
E454 Test 2	4	1	7	3	4	84
E454 Test 3	6	1	7	3	4	84
E455	3	1	5	3	4	13
E463	5	1	7	3	4	21
EB4	5	2	3	3	6.3	25
EB4 Test 2	7	2	3	3	6.3	25
EB34	3	2	7	3	6.3	25
EB34 Test 2	5	2	7	3	6.3	25
EBC3	9	2	3	3	6.3	26
EBC3 Test 2	5	2	3	3	6.3	62
EBC3 Test 3	6	2	3	3	6.3	62
EBC33	9	2	7	3	6.3	26
EBC33 Test 2	4	2	7	3	6.3	62
EBC33 Test 3	5	2	7	3	6.3	62
EBF2G	9	1	8	3	6.3	30
EBF2G Test 2	5	1	8	1	6.3	20
EBF2G Test 3	6	1	8	1	6.3	20
EBF2-P	9	2	3	3	6.3	24
EBF2-P Test 2	5	2	3	1	6.3	20
EBF2-P Test 3	6	2	3	1	6.3	20
EBF32	9	2	7	3	6.3	24
EBF32 Test 2	4	2	7	1	6.3	20
EBF32 Test 3	5	2	7	1	6.3	20
EBF35	9	1	8	3	6.3	30
EBF35 Test 2	5	1	8	1	6.3	20

CONTINENTAL VALVES

VALVE TYPE	ELEMENT SELECTOR			CIRCUIT	FILAMENT	RANGE
	A		B			
	Merit	Heater Continuity				
EBF35 Test 3	6	1	8	1	6.3	20
EBL1	9	2	3	3	6.3	15
EBL1 Test 2	5	2	3	3	6.3	66
EBL1 Test 3	6	2	3	3	6.3	66
ECH35	9	2	7	3	6.3	26
ECH35 Test 2	5	2	7	3	6.3	24
EF5	9	2	3	3	6.3	21
EF6	9	2	3	3	6.3	21
EF9	9	2	3	3	6.3	20
EF36	9	2	7	3	6.3	21
EF39	9	2	7	3	6.3	20
EK1	6	2	3	3	6.3	20
EK2	6	2	3	3	6.3	20
EK2G	5	2	7	3	6.3	27
EK32	5	2	7	3	6.3	27
EL2	9	2	3	3	6.3	27
EL3N	6	2	3	3	6.3	19
EL3NG	5	2	7	3	6.3	26
EL5	6	2	3	3	6.3	14
EL32	9	2	7	3	6.3	15
EL33A	5	2	7	3	6.3	19
EM1	6	2	7	3	6.3	22
EM4	6	2	3	3	6.3	100
EZ2	5	2	3	3	6.3	23
EZ2 Test 2	8	2	3	3	6.3	24
EZ3	5	2	3	3	6.3	24
EZ3 Test 2	8	2	3	3	6.3	17
EZ4	5	2	3	3	6.3	17
EZ4 Test 2	8	2	3	3	6.3	13
F443	3	1	5	3	6.3	13
F443N	3	1	5	3	4	40
FC2A	2	4	5	3	4	36
		Use English 7 Pin Adaptor.			2	48
FC4	2	4	5	3	4	18
FC13	6	2	3	3	12.6	22
FC13C	2	4	5	3	12.6	22
H2	2	3	4	3	2	24
		Use English 4 Pin Adaptor.				

CONTINENTAL VALVES

VALVE TYPE	ELEMENT SELECTOR				CIRCUIT	FILAMENT		RANGE
	A		B	C		D	E	
	Merit	Heater Continuity						
H210	2	3	4	4	3	2	2	70
	Use English 4 Pin Adaptor.							
HL2	2	3	4	4	3	2	2	25
	Use English 4 Pin Adaptor.							
HL210	2	3	4	4	3	2	2	34
	Use English 4 Pin Adaptor.							
IW3	2	1	4	4	3	4	4	27
IW3 Test 2	3	1	4	4	3	4	4	27
IW4/350	1	3	4	4	3	4	4	31
IW4/350 Test 2	2	3	4	4	3	4	4	31
	Use English 5 Pin Adaptor.							
KBC1	9	1	6	6	3	2	2	40
KBC1 Test 2	3	1	6	6	3	2	2	84
KBC1 Test 3	4	1	6	6	3	2	2	84
KBC1-P	9	2	3	3	3	2	2	40
KBC1-P Test 2	5	2	3	3	3	2	2	84
KBC1-P Test 3	6	2	3	3	3	2	2	84
KC3	6	2	3	3	3	2	2	19
KDD1	6	2	3	3	3	2	2	31
KDD1 Test 2	7	2	3	3	3	2	2	31
KF1	4	1	6	6	3	2	2	19
KF2	4	1	6	6	3	2	2	21
KF3	9	2	3	3	3	2	2	45
KF3G	9	2	7	7	3	2	2	45
KF4	9	2	3	3	3	2	2	40
KK2G (Octal)	5	2	7	7	3	2	2	48
KK2G (7 Pin)	5	1	7	7	3	2	2	48
KK2P	6	2	3	3	3	2	2	48
KL4	6	2	3	3	3	2	2	31
KL4G	5	2	7	7	3	2	2	31
KTW61	9	2	7	7	3	6.3	6.3	23
KTW61M	9	2	7	7	3	6.3	6.3	23
KT33	5	2	7	7	3	12.6	12.6	24
KT33C	5	2	7	7	3	12.6	12.6	24
KT61	5	2	7	7	2	6.3	6.3	15
KT66	5	2	7	7	3	6.3	6.3	28
L21	2	3	4	4	3	2	2	29
	Use English 4 Pin Adaptor.							

CONTINENTAL VALVES

VALVE TYPE	ELEMENT SELECTOR				CIRCUIT	FILAMENT		RANGE
	A		B	C		D	E	
	Merit	Heater Continuity						
MH4	2	3	4	4	3	4	4	15
	Use English 5 Pin Adaptor.							
MH41	2	3	4	4	3	4	4	10
	Use English 5 Pin Adaptor.							
MHD4	9	4	5	5	3	4	4	18
MHD4 Test 2	1	4	5	5	3	4	4	84
MHD4 Test 3	3	4	5	5	3	4	4	84
	Use English 7 Pin Adaptor.							
MKT4	2	3	4	4	3	4	4	22
	Use English 5 Pin Adaptor.							
MKT4	2	4	5	5	3	4	4	22
	Use English 7 Pin Adaptor.							
ML4	2	3	4	4	3	4	4	16
	Use English 5 Pin Adaptor.							
MM4V	2	3	4	4	3	4	4	18
	Use English 5 Pin Adaptor.							
MPT4	2	3	4	4	3	4	4	22
	Use English 5 Pin Adaptor.							
MPT4	2	4	5	5	3	4	4	22
	Use English 7 Pin Adaptor.							
MS4	2	3	4	4	3	4	4	15
	Use English 5 Pin Adaptor.							
MS4B	2	3	4	4	3	4	4	15
	Use English 5 Pin Adaptor.							
MU12	1	3	4	4	3	4	4	18
MU12 Test 2	2	3	4	4	3	4	4	18
	Use English 4 Pin Adaptor.							
MU14	1	3	4	4	3	4	4	18
MU14 Test 2	2	3	4	4	3	4	4	18
	Use English 4 Pin Adaptor.							
P2	2	3	4	4	3	2	2	28
	Use English 4 Pin Adaptor.							
PEN4VA	5	1	7	7	3	4	4	18
PEN 26	9	2	3	3	3	25	25	17
PM1A	3	1	4	4	3	2	2	60

CONTINENTAL VALVES

VALVE TYPE	ELEMENT SELECTOR			CIRCUIT	FILAMENT		RANGE
	A		B		D	E	
	Merit	Hester Continuity					
PM1HF	3	1	4	3	2	59	
PM1HL	3	1	4	3	2	57	
PM1LF	3	1	4	3	2	57	
PM2A	3	1	4	3	2	25	
PM2B	3	1	6	2	2	25	
PM2B Test 2 ..	4	1	6	2	2	25	
PM2BA	3	1	6	2	2	28	
PM2BA Test 2	4	1	6	2	2	28	
PM2DX	3	1	4	3	2	41	
PM3	3	1	4	3	4	37	
PM4	3	1	4	3	4	46	
PM4DX	3	1	4	3	4	29	
PM5X	3	1	4	3	6.3	48	
PM6	3	1	4	3	6.3	39	
PM12	3	1	4	3	2	25	
PM12A	3	1	4	3	2	25	
PM12M	3	1	4	3	2	26	
PM14	3	1	4	3	4	60	
PM16	3	1	4	3	6.3	66	
PM22	3	1	5	3	2	66	
PM22A	3	1	5	3	2	24	
PM24	3	1	5	3	4	39	
PM24B	3	1	5	3	4	25	
PM24M	3	1	5	3	4	32	
PM26	3	1	5	3	6.3	36	
PM202	3	1	4	3	2	32	
PM243	3	1	5	3	2.5	36	
PX4	2	3	4	3	4	26	
		Use English	4 Pin Adaptor.				
PX25	2	3	4	3	4	17	
		Use English	4 Pin Adaptor.				
S4V	3	1	5	3	4	39	
S4VA	3	1	5	3	4	11	
S4VB	3	1	5	3	4	12	
SP2	4	1	6	3	2	20	
SP4	5	1	7	3	4	15	
SP13	9	2	3	3	12.6	21	
TDD2	9	1	6	3	2	39	
TDD2 Test 2 ..	3	1	6	3	2	84	

CONTINENTAL VALVES

VALVE TYPE	ELEMENT SELECTOR			CIRCUIT	FILAMENT		RANGE
	A		B		D	E	
	Merit	Hester Continuity					
TDD2 Test 3 ..	4	1	6	3	2	84	
TDD4	9	1	7	3	4	27	
TDD4 Test 2 ..	4	1	7	3	4	34	
TDD4 Test 3 ..	6	1	7	3	4	34	
TDD13C	9	4	5	3	12.6	41	
TDD13C Test 2	1	4	5	3	12.6	84	
TDD13C Test 3	3	4	5	3	12.6	84	
		Use English	7 Pin Adaptor.				
URI	8	2	3	3	25 & 25	14	
UR3C	2	4	5	3	25 & 32	14	
UR3C Test 2 ..	7	4	5	3	25 & 32	14	
		Use English	7 Pin Adaptor.				
U10	1	3	4	3	4	34	
U10 Test 2 ..	2	3	4	3	4	34	
		Use English	4 Pin Adaptor.				
U14	1	3	4	3	4	34	
U14 Test 2 ..	2	3	4	3	4	34	
		Use English	4 Pin Adaptor.				
U31	5	2	7	3	25	26	
U50	4	2	8	3	5	57	
U50 Test 2 ..	6	2	8	3	5	57	
U52	4	2	8	3	5	35	
U52 Test 2 ..	6	2	8	3	5	35	
VDS	2	3	4	3	12.6	40	
		Use English	5 Pin Adaptor.				
VMS4	2	3	4	3	4	21	
		Use English	5 Pin Adaptor.				
VMS4B	2	3	4	3	4	21	
		Use English	5 Pin Adaptor.				
VP2	2	4	5	3	2	17	
		Use English	7 Pin Adaptor.				
VP4	2	4	5	3	4	15	
		Use English	7 Pin Adaptor.				
VP13A	9	2	3	3	12.6	20	
X61M	9	2	7	2	6.3	17	
X61M Test 2 ..	5	2	7	3	6.3	17	

CONTINENTAL VALVES

VALVE TYPE	ELEMENT SELECTOR			CIRCUIT	FILAMENT	RANGE
	A		B			
	Merit	Heater Continuity				
X65	9	2	7	3	6.3	54
X65 Test 2..	5	2	7	3	6.3	36
Y63	5	2	7	2	6.3	52
2D4A	1	3	4	3	4	27
2D4A Test 2..	2	3	4	3	4	27
		Use English 5 Pin Adaptor.				
2D13	5	2	3	3	12.6	34
2D13 Test 2..	9	2	3	3	12.6	34
2D13A	5	2	3	3	12.6	34
2D13A Test 2	1	2	3	3	12.6	34
2D13C	1	3	4	3	12.6	34
2D13C Test 2	2	3	4	3	12.6	34
		Use English 5 Pin Adaptor.				
102T	3	1	5	3	2.5	39
104V	3	1	5	3	4	18
164V	3	1	5	3	4	28
244V	3	1	5	3	4	16
354V	3	1	5	3	4	17
506	1	3	4	3	4	34
506 Test 2 ..	2	3	4	3	4	34
		Use English 4 Pin Adaptor.				
904V	3	1	5	3	4	15
1561	5	2	3	3	4	31
1561 Test 2..	8	2	3	3	4	31
1561-P	2	1	4	3	4	31
1561-P Test 2	3	1	4	3	4	31
1867	2	1	4	3	4	27
1867 Test 2..	3	1	4	3	4	27

ADDITIONAL RELEASES

VALVE TYPE	ELEMENT SELECTOR			CIRCUIT	FILAMENT	RANGE
	A		B			
	Merit	Heater Continuity				
3V4	6	1	5	7	1	1.4
6AK5	1	3	4	4	1	6.3
		Shows Short between 2 and Seven.				
6AL7	7	3	4	4	2	6.3
6AL7 Test 2 ..	2	3	4	4	2	6.3
		Special Adaptor TM5 required				
6AR7	9	1	8	8	3	6.3
6AU6	1	3	4	4	3	6.3
6AV6	1	3	4	4	3	6.3
6BA6	1	3	4	4	3	6.3
6BE6	1	3	4	4	3	6.3
6X4	6	3	4	4	3	6.3
6X4 Test 2 ..	1	3	4	4	3	6.3
12BA6	1	3	4	4	3	12.6
12BE6	1	3	4	4	3	12.6
35W4	5	3	4	4	3	35
		Shows Short on 3, 4 and 5.				
117Z3	5	3	4	4	3	117
ECH33	9	2	7	7	3	6.3
X76M	9	2	7	7	2	12.6
Y61	5	2	7	7	1	6.3

ADDITIONAL RELEASES

VALVE TYPE	ELEMENT SELECTOR			CIRCUIT	FILAMENT	RANGE
	A		B			
	Merit	Heater Continuity				
6AD8	2	4	5	3	6.3	48
6AD8	7	4	5	3	6.3	48
6AD8	8	4	5	3	6.3	100
6AE8	2	4	5	3	6.3	25
6AE8	7	4	5	3	6.3	32
			Shows Short on 9.			
6AG6G	5	2	7	3	6.3	15
6AM5	1	3	4	3	6.3	40
6AM6	1	3	4	3	6.3	35
6AN7	2	4	5	3	6.3	24
			Shows Short on 3 and 6.			
6AQ5	1	3	4	3	6.3	29
6BD7	2	4	5	3	6.3	28
			Shows Short on 7 and 9.			
6BJ5	1	3	4	3	6.3	25
			Shows Short on 2 and 6.			
6BW6	2	4	5	3	6.3	30
			Shows Short on 1.			
6M5	2	4	5	3	6.3	20
			Shows Short on 3 and 8.			
6N8	2	4	5	3	6.3	23
6N8	7	4	5	1	6.3	80
6N8	8	4	5	1	6.3	80
6V4	1	4	5	3	6.3	28
EZ82	7	4	5	3	6.3	28

ADDITIONAL RELEASES

VALVE TYPE	ELEMENT SELECTOR			CIRCUIT	FILAMENT	RANGE
	A		B			
	Merit	Heater Continuity				
12AT7	2	4 & 5	9	3	6.3	25
12AV7	7	4 & 5	9	3	6.3	25
12AV7	2	4 & 5	9	3	6.3	30
12AX7	7	4 & 5	9	3	6.3	30
12AX7	2	4 & 5	9	3	6.3	37
12AX7	7	4 & 5	9	3	6.3	37
12B8GT	9	2	7	3	12.6	24
12B8GT	8	2	7	3	12.6	24
AZ31	4	2	8	3	4	17
AZ31	6	2	8	3	4	17
DH81	3	1	8	3	6.3	40
DH81	5	1	8	1	6.3	55
DH81	6	1	8	1	6.3	55
DH101	3	1	8	1	12.6	32
DH101	5	1	8	1	12.6	50
DL82	6	1	8	1	12.6	50
DL82	3	1	8	2	6.3	25
DL82	5	1	8	2	6.3	100
DL82	6	1	8	2	6.3	100
EF37	9	2	7	3	6.3	35
KT81	6	1	8	3	6.3	21
U78	1	3	4	3	6.3	35
U78	6	3	4	3	6.3	35
U81	6	7	8	3	6.3	29
U81	3	7	8	3	6.3	29
W81M	6	1	8	3	6.3	25
W101	6	1	8	2	12.6	28
X81	6	1	8	3	6.3	24
X81	4	1	8	3	6.3	28
X101	6	1	8	2	12.6	32
X101	4	1	8	2	12.6	32

THE FOLLOWING VALVES MAY BE TESTED BY REFERENCE TO TYPES ALREADY LISTED:

VALVE TYPE	EQUIVALENT TYPE	VALVE TYPE	EQUIVALENT TYPE	VALVE TYPE	EQUIVALENT TYPE
EZ82	6V4	N18	3Q4	DAC32	1H5
8D3	6AM6	ZD17	1S5	DL35	1C5
EF91	6AM6	W17	1T4	ECH33	ECH35
EL91	6AM5	X17	1R5	EL33	EL33A
N78	6BJ5	DF33	1N5		
		DK32	1A7		

ADDITIONAL RELEASES - MODEL VGT/2.

6AB8	2	3	4	1	6.3	35
6AR5	9	3	4	2	6.3	40
6AT6	1	3	4	3	6.3	37
	1	3	4	5	6.3	30
	5	3	4	1	6.3	50
	6	3	4	1	6.3	50
6BH5	2	4	5	2	6.3	45
				(shows short on 7 & 8).		
6TG	5	3	4	3	6.3	27
	6	3	4	3	6.3	27
6BF6	1	3	4	3	6.3	40
	5	3	4	1	6.3	33
	6	3	4	1	6.3	33
6BV7	8	4	5	3	6.3	22
	1	4	5	1	6.3	100
	6	4	5	1	6.3	100
				(shows short on 7 & 9)		
12AU7	2	4 and 5	9	3	6.3	
		4 and 5	9	3	6.3	
6C32	1	7	8	5	6.3	35
	4	7	8	5	6.3	35
6C35	1	7	8	5	6.3	33
6C33	4	7	8	5	6.3	33
6F92	1	3	4	5	6.3	30

Elec Model 862. Multimeter + Valve Tester VCT2

Function Switch
 ABCD
 Range Switch
 EFG
 Filament Switch
 H
 Line Adj
 JK
 Selector
 L = Selecting
 M = Shorting
 NOTE:
 First letared deck
 nearest to
 checker plate.

