

*Revised June 70*

# SENCORE



SET-UP  
BOOK

FOR THE

# MIGHTY MITE

**America's most popular  
tube tester**

- Fast, accurate, checks over 3,000 tubes and never lets you down.
- Checks emission at full rated cathode current.
- 100 megohm's grid leakage test.
- "Stethoscope" shorts test.
- Portable, rugged, all steel case.

3200 Sencore Drive, Sioux Falls, South Dakota 57107

# MIGHTY MITE

THIS IS A UNIVERSAL SET-UP BOOK FOR THE TC114, TC130, TC136, TC142 OR TC154 MIGHTY MITE TUBE CHECKERS. THIS PROTECTIVE COVER IS DESIGNED SO THAT YOU MAY CARRY THE BOOKLET IN THE SMALL COMPARTMENT WITHOUT DAMAGE OR IT CAN BE ATTACHED TO THE COVER TO REPLACE BOOKLETS THAT HAVE BEEN PREVIOUSLY CEMENTED IN THE COVER. NOTE THAT LARGE TYPE IS USED SO THAT INDEXING IS NO LONGER NECESSARY. THIS SAVES WEAR ON THE SET-UP PAGES.

# SENCORE MIGHTY MITE

## AMERICA'S MOST POPULAR TUBE TESTER

- **Fast, Accurate, Never Lets You Down.**
- **Smaller Than A Portable Typewriter. Weighs Only 9 lbs.**
- **Rugged All Steel Construction. For Shop or Home.**
- **New Low Voltage Checks For Novistors And Frame Grid Tubes As Recommended By All Tube Manufacturers.**

### OPERATING INSTRUCTIONS

Set controls A, B, C and D according to set-up chart and insert tube in socket as indicated in chart. Use plate cap lead if tube has plate cap. Set FUNCTION switch to CAL and adjust CAL control so that meter reads full scale (marked cal.). Set FUNCTION switch to EMISSION and read top scale on meter. If tube reads good emission, set FUNCTION switch to GRID LEAKAGE and read lower scale to check grid leakage.

### SHORT TEST

Set FUNCTION switch to SHORT TEST. Rotate switch D through all positions. Short indicator light will glow on both electrodes if tube is shorted or has excessive leakage. Disregard any faint flashes in short indicator. Tubes marked with an asterisk (\*) in set-up chart have internal connections that will show up as a short on settings indicated. H-K setting is for heater to cathode leakage (or short) test.

### ADDITIONAL TESTS TO MAKE

The Mighty Mites test tubes under the maximum specified filament voltage and under full rated cathode load current. If a tube is *FILAMENT SENSITIVE*, the tube will usually show good on the meter, but may not work in the circuit. This is particularly true in series string sets and circuits that normally operate at their maximum limits. But, if the line voltage is low, the cathode drops in emission level and the

circuit ceases to function. Yet, it can test **GOOD** in the **Mighty Mite** and even work perfectly in another set where filament and cathode load current are back at the optimum level.

The test you should make on every tube for **FILAMENT SENSITIVITY** is nothing more than a **LIFE TEST**. When you test the tube for emission, and it reads in the **GOOD** area of the meter, switch the **FILAMENT (A)** switch **DOWN** one step (i.e. 6V to 4.5V). A good tube will not budge the meter needle one iota, but a filament sensitive tube will cause the meter reading to drop off quickly.

If the meter reading falls off but still remains in the **GOOD** area, the tube is still acceptable, but once the meter reading hits the question mark (?) or **BAD** area, this tube should be replaced.

You should run this quick **LIFE TEST** on all tubes you check. This will give you double insurance that the tube will work in the circuit.

When replacing a costly horizontal output tube in a television receiver, it is a good idea to check the horizontal oscillator tube for emission, filament sensitive cathode, and for warm up time. If the horizontal oscillator tube is slower in warming up due to a weak cathode or filament sensitive cathode, the output tube will draw heavy current and its life will be shortened considerably. Checking the warm up time of the oscillator tube and making sure that it is as fast or faster than the output tube can reduce the chance of a call back later for the same trouble and keep your customer's confidence high in your service ability.

### **MAGNOVAL BASED TUBES**

† All tubes marked with a dagger (†) are magnoval based tubes and are checked in socket number 12 on the **Mighty Mite V** and in socket number 5 on the **Mighty Mites II, III and IV**. When checking the magnoval based tubes in socket number 5, **DO NOT** insert this tube fully into the socket, as the pins are larger in diameter than the novar based tubes. If the tube is inserted fully into the socket it can spread the contacts and cause damage. Instead, hold the tube while making firm contact between the tube pins and socket contacts for the test. This will eliminate any possibility of damage to the socket when checking the magnoval based tubes.

| TUBE                                                            | A | B | C | D | Skt | TUBE                      | A | B | C | D | Skt |
|-----------------------------------------------------------------|---|---|---|---|-----|---------------------------|---|---|---|---|-----|
| 1A5                                                             | 1 | F | 6 | E | 1   | 1B7                       | 1 | G | 6 | E | 1   |
| 1A7                                                             | 1 | G | 6 | E | 1   | 1B8                       | 1 | F | 6 | E | 1   |
| 1AB5                                                            | 1 | E | 8 | F | 9   |                           | 1 | G | 6 | K | 1   |
| 1AB6                                                            | 1 | F | 8 | D | 7   |                           | 1 | G | 6 | H | 1   |
| 1AC6                                                            | 1 | F | 6 | D | 7   | *1BC2                     | 1 | J | 6 | K | 8   |
| 1AE4                                                            | 1 | G | 5 | F | 7   | (Normal Shorts A, F, H-K) |   |   |   |   |     |
| 1AF4                                                            | 1 | F | 5 | F | 7   | *1BH2                     | 1 | J | 6 | K | 8   |
| 1AF5                                                            | 1 | G | 6 | F | 7   | (Normal Shorts A, F, H-K) |   |   |   |   |     |
|                                                                 | 1 | H | 6 | C | 7   | *1BK2                     | 1 | J | 1 | K | 8   |
| *1AG2                                                           | 1 | H | 1 | K | 8   | (Disregard Shorts)        |   |   |   |   |     |
| (Disregard Shorts)                                              |   |   |   |   |     | *1BQ2                     | 1 | J | 2 | K | 5   |
| *1AG3                                                           | 1 | H | 1 | K | 8   | (Disregard Shorts)        |   |   |   |   |     |
| (Disregard Shorts)                                              |   |   |   |   |     | 1C3                       | 1 | F | 2 | D | 7   |
| 1AH5                                                            | 1 | G | 6 | F | 7   | 1C5                       | 1 | F | 6 | E | 1   |
|                                                                 | 1 | H | 6 | C | 7   | 1C7                       | 2 | F | 6 | E | 1   |
| *1AJ2                                                           | 1 | H | 4 | K | 10  | 1D5                       | 2 | F | 6 | K | 1   |
| (Disregard Shorts)                                              |   |   |   |   |     | 1D7                       | 2 | F | 6 | E | 1   |
| 1AJ4                                                            | 1 | G | 5 | F | 7   | 1D8                       | 1 | F | 6 | E | 1   |
| 1AM4                                                            | 1 | G | 5 | F | 7   |                           | 1 | G | 6 | K | 1   |
| 1AN5                                                            | 1 | G | 5 | F | 7   |                           | 1 | G | 6 | H | 1   |
| 1AQ5                                                            | 1 | G | 5 | D | 7   | 1DN5                      | 1 | F | 6 | F | 7   |
| 1AR5                                                            | 1 | G | 6 | F | 7   |                           | 1 | H | 6 | D | 7   |
|                                                                 | 1 | H | 6 | C | 7   | *1DY4                     | 1 | D | 7 | B | 4   |
| 1AS5                                                            | 1 | G | 6 | F | 7   | (Normal Shorts, A, G)     |   |   |   |   |     |
|                                                                 | 1 | H | 6 | D | 7   | 1E3                       | 1 | D | 3 | A | 3   |
| *1AU2                                                           | 1 | H | 7 | A | 8   | 1E4                       | 1 | F | 6 | E | 1   |
| (Disregard Shorts)                                              |   |   |   |   |     | 1E5                       | 2 | G | 6 | K | 1   |
| *1AU3                                                           | 1 | J | 3 | K | 1   | 1E7                       | 2 | E | 6 | D | 1   |
| (Disregard Shorts)                                              |   |   |   |   |     |                           | 2 | E | 6 | E | 1   |
| *1AX2                                                           | 1 | J | 1 | K | 8   | 1F5                       | 2 | E | 6 | E | 1   |
| (Disregard Shorts)                                              |   |   |   |   |     | 1F7                       | 2 | G | 6 | K | 1   |
| 1AY2                                                            | 1 | J | 6 | K | 4   |                           | 2 | G | 6 | E | 1   |
| (Touch leads into pins 5 and 1 of<br>socket 3 and use cap lead) |   |   |   |   |     |                           | 2 | G | 6 | D | 1   |
| *1B3                                                            | 1 | H | 3 | K | 1   | *1G3                      | 1 | F | 3 | K | 1   |
| (Disregard Shorts)                                              |   |   |   |   |     | (Disregard Shorts)        |   |   |   |   |     |

| TUBE               | A | B | C | D | Skt | TUBE                                                                               | A | B | C | D | Skt |
|--------------------|---|---|---|---|-----|------------------------------------------------------------------------------------|---|---|---|---|-----|
| 1G4                | 1 | F | 6 | E | 1   | 1LN5                                                                               | 1 | F | 5 | F | 9   |
| 1G5                | 2 | E | 6 | E | 1   | *1N2                                                                               | 1 | H | 3 | K | 1   |
| 1G6                | 1 | F | 6 | D | 1   | (Disregard Shorts)                                                                 |   |   |   |   |     |
|                    | 1 | F | 6 | E | 1   | 1N5                                                                                | 1 | F | 6 | K | 1   |
| *1H2               | 1 | H | 1 | K | 8   | 1N6                                                                                | 1 | F | 6 | E | 1   |
| (Disregard Shorts) |   |   |   |   |     |                                                                                    | 1 | G | 6 | F | 1   |
| 1H4                | 2 | F | 6 | E | 1   | 1P5                                                                                | 1 | F | 6 | K | 1   |
| 1H5                | 1 | G | 6 | K | 1   | 1Q5                                                                                | 1 | E | 6 | E | 1   |
|                    | 1 | G | 6 | E | 1   | 1R4                                                                                | 1 | H | 6 | D | 9   |
| 1H6                | 2 | F | 6 | F | 1   | 1R5                                                                                | 1 | F | 5 | D | 7   |
|                    | 2 | G | 6 | E | 1   | *1R-K31                                                                            | 1 | J | 6 | K | 8   |
|                    | 2 | G | 6 | D | 1   | (Disregard Shorts)                                                                 |   |   |   |   |     |
| *1J3               | 1 | J | 3 | K | 1   | *1R-K41                                                                            | 1 | J | 6 | K | 8   |
| (Disregard Shorts) |   |   |   |   |     | (Disregard Shorts)                                                                 |   |   |   |   |     |
| 1J5                | 2 | E | 6 | E | 1   | *1S2                                                                               | 1 | H | 1 | K | 8   |
| 1J6                | 2 | F | 6 | D | 1   | (Disregard Shorts)                                                                 |   |   |   |   |     |
|                    | 2 | F | 6 | E | 1   | *1S4                                                                               | 1 | F | 5 | C | 7   |
| *1K3               | 1 | J | 3 | K | 1   | (Normal Short B, F)                                                                |   |   |   |   |     |
| (Disregard Shorts) |   |   |   |   |     | 1S5                                                                                | 1 | G | 6 | F | 7   |
| 1L4                | 1 | F | 5 | F | 7   |                                                                                    | 1 | H | 6 | C | 7   |
| 1L6                | 1 | G | 6 | D | 7   | 1SA6                                                                               | 1 | F | 6 | D | 1   |
| 1LA4               | 1 | F | 6 | F | 9   | 1SB6                                                                               | 1 | G | 6 | H | 1   |
| 1LA6               | 1 | F | 6 | D | 9   |                                                                                    | 1 | G | 6 | E | 1   |
| 1LB4               | 1 | F | 4 | F | 9   | 1T2                                                                                | 1 | H | 6 | K | 4   |
| 1LB6               | 1 | F | 6 | F | 9   | (Insert two tube leads into pin 3<br>and 4; touch cap lead to top lead<br>on tube) |   |   |   |   |     |
| 1LC5               | 1 | F | 5 | F | 9   | 1T4                                                                                | 1 | F | 5 | F | 7   |
| 1LC6               | 1 | F | 6 | D | 9   | 1T5                                                                                | 1 | E | 6 | E | 1   |
| 1LD5               | 1 | G | 6 | D | 9   | 1U4                                                                                | 1 | F | 5 | F | 7   |
|                    | 1 | G | 6 | F | 9   | 1U5                                                                                | 1 | G | 6 | F | 7   |
| 1LE3               | 1 | F | 5 | F | 9   |                                                                                    | 1 | H | 6 | D | 7   |
| 1LF3               | 1 | F | 5 | F | 9   | 1U6                                                                                | 1 | G | 6 | D | 7   |
| 1LG5               | 1 | F | 5 | F | 9   | *1V2                                                                               | 1 | H | 3 | A | 8   |
| 1LH4               | 1 | F | 6 | F | 9   | (Disregard Shorts)                                                                 |   |   |   |   |     |
|                    | 1 | G | 6 | D | 9   |                                                                                    |   |   |   |   |     |

| TUBE                    | A               | B | C  | D | Skt | TUBE                      | A | B | C | D | Skt |
|-------------------------|-----------------|---|----|---|-----|---------------------------|---|---|---|---|-----|
| 1W4                     | 1               | F | 6  | F | 7   | *2DY4                     | 2 | D | 7 | B | 4   |
| *1X2                    | 1               | H | 1  | K | 8   | (Normal Shorts A, G)      |   |   |   |   |     |
| (Disregard Shorts)      |                 |   |    |   |     | *2DZ4                     | 2 | D | 7 | B | 4   |
| 2AH2                    | (See last page) |   |    |   |     | (Normal Shorts A, G)      |   |   |   |   |     |
| *2AF4                   | 2               | D | 7  | B | 4   | *2E24                     | 3 | C | 1 | E | 1   |
| (Normal Short A, G)     |                 |   |    |   |     | (Normal Shorts D, F, H-K) |   |   |   |   |     |
| *2AV2                   | 1               | H | 3  | A | 8   | 2E25                      | 6 | C | 6 | E | 1   |
| (Disregard Shorts)      |                 |   |    |   |     | *2E26                     | 6 | A | 1 | E | 1   |
| 2AZ2                    | 2               | H | 6  | K | 8   | (Normal Short D, F)       |   |   |   |   |     |
| (Disregard Shorts)      |                 |   |    |   |     | 2E30                      | 6 | C | 8 | A | 4   |
| *2B3                    | 1               | H | 1  | K | 1   | 2EA5                      | 2 | E | 8 | A | 4   |
| (Disregard Shorts)      |                 |   |    |   |     | 2EG4                      | 2 | F | 6 | D | 6   |
| *2BA2                   | 1               | H | 3  | A | 8   | 2EN5                      | 2 | F | 6 | B | 4   |
| (Disregard Shorts)      |                 |   |    |   |     |                           | 2 | F | 6 | G | 4   |
| 2BC5                    | 2               | E | 2  | A | 4   | 2ER5                      | 2 | E | 8 | B | 4   |
| 2BH5                    | 2               | F | 6  | D | 6   | 2ES5                      | 2 | E | 8 | B | 4   |
| *2BJ2                   | 2               | G | 1  | K | 8   | 2EV5                      | 2 | E | 8 | A | 4   |
| (Normal Shorts C, F, G) |                 |   |    |   |     | 2FH5                      | 2 | E | 8 | B | 4   |
| *2BN4                   | 2               | E | 2  | G | 4   | 2FQ5                      | 2 | E | 8 | B | 4   |
| (Normal Short A, F)     |                 |   |    |   |     | 2FS5                      | 2 | D | 2 | A | 4   |
| *2BU2                   | 2               | G | 9  | K | 10  | 2FV6                      | 2 | E | 2 | A | 4   |
| (Disregard Shorts)      |                 |   |    |   |     | 2FY5                      | 2 | E | 1 | B | 4   |
| 2C22                    | 6               | E | 7  | K | 1   | 2GK5                      | 2 | E | 8 | B | 4   |
| 2C26                    | 6               | E | 7  | K | 1   | 2GU5                      | 2 | E | 2 | A | 4   |
| 2C50                    | 12              | E | 6  | A | 2   | 2GW5                      | 2 | D | 7 | B | 4   |
|                         | 12              | E | 6  | D | 2   | 2HA5                      | 2 | E | 2 | A | 4   |
| 2C52                    | 12              | F | 6  | A | 2   | 2HK5                      | 2 | E | 2 | A | 4   |
|                         | 12              | F | 6  | D | 2   | 2HM5                      | 2 | D | 2 | A | 4   |
| 2CN3                    | 2               | I | 6  | K | 2   | 2HQ5                      | 2 | E | 2 | A | 4   |
| 2CW4                    | 2               | F | 6  | D | 6   | 2HR8                      | 2 | F | 6 | J | 3   |
| 2CY5                    | 2               | E | 2  | A | 4   | *2J2                      | 2 | H | 1 | K | 8   |
| 2DF4                    | 2               | B | 10 | H | 3   | (Disregard Shorts)        |   |   |   |   |     |
| 2DS4                    | 2               | G | 6  | D | 6   | 2N-H11                    | 2 | G | 6 | D | 6   |
| *2DX4                   | 2               | D | 7  | B | 4   | 2N-H12                    | 2 | F | 6 | D | 6   |
| (Normal Shorts A, G)    |                 |   |    |   |     |                           |   |   |   |   |     |

| TUBE                  | A | B | C | D | Skt |
|-----------------------|---|---|---|---|-----|
| *2T4                  | 2 | D | 7 | B | 4   |
| (Normal Short, A, G)  |   |   |   |   |     |
| *2V2                  | 2 | J | 5 | K | 1   |
| (Disregard Shorts)    |   |   |   |   |     |
| 2V3                   | 2 | H | 6 | K | 1   |
| *2W3                  | 2 | B | 6 | D | 1   |
| (Normal Short H, H-K) |   |   |   |   |     |
| 2X3                   | 2 | B | 6 | K | 1   |
| *3A2                  | 3 | H | 1 | K | 8   |
| (Disregard Shorts)    |   |   |   |   |     |
| *3A3                  | 3 | H | 9 | K | 1   |
| (Disregard Shorts)    |   |   |   |   |     |
| *3A4                  | 3 | F | 5 | D | 7   |
| (Normal Short B, F)   |   |   |   |   |     |
| 3A5                   | 3 | F | 4 | C | 7   |
|                       | 3 | F | 4 | E | 7   |
| 3A8                   | 3 | G | 1 | K | 1   |
|                       | 3 | G | 1 | H | 1   |
|                       | 3 | G | 1 | E | 1   |
| *3AF4                 | 3 | D | 7 | B | 4   |
| (Normal Short A, G)   |   |   |   |   |     |
| 3AJ8                  | 3 | E | 6 | B | 3   |
|                       | 3 | F | 6 | J | 3   |
| 3AL5                  | 3 | E | 6 | B | 4   |
|                       | 3 | E | 6 | G | 4   |
| *3AT2                 | 3 | H | 9 | K | 10  |
| (Disregard Shorts)    |   |   |   |   |     |
| 3AU6                  | 3 | D | 6 | A | 4   |
| 3AV6                  | 3 | F | 6 | A | 4   |
|                       | 3 | G | 6 | E | 4   |
|                       | 3 | G | 6 | F | 4   |
| *3AW2                 | 3 | J | 9 | K | 10  |
| (Disregard Shorts)    |   |   |   |   |     |
| *3AW3                 | 3 | H | 9 | K | 1   |
| (Disregard Shorts)    |   |   |   |   |     |
| 3B5                   | 3 | E | 9 | E | 1   |

| TUBE                          | A | B | C  | D | Skt |
|-------------------------------|---|---|----|---|-----|
| 3B7                           | 3 | F | 4  | C | 2   |
|                               | 3 | F | 4  | F | 2   |
| (Normal Shorts A, H-K)        |   |   |    |   |     |
| 3BA6                          | 3 | D | 6  | A | 4   |
| 3BC5                          | 3 | E | 2  | A | 4   |
| 3BE6                          | 3 | D | 6  | A | 4   |
| (Normal Short A, F)           |   |   |    |   |     |
| *3BF2                         | 3 | G | 11 | K | 10  |
| (Disregard Shorts except H-K) |   |   |    |   |     |
| *3BH2                         | 3 | J | 6  | K | 8   |
| (Normal Shorts A, F, H-K)     |   |   |    |   |     |
| *3BL2                         | 3 | J | 9  | K | 10  |
| (Disregard Shorts)            |   |   |    |   |     |
| *3BM2                         | 3 | H | 9  | K | 10  |
| (Disregard Shorts)            |   |   |    |   |     |
| 3BN2                          | 3 | J | 9  | K | 10  |
| *3BN4                         | 3 | E | 2  | G | 4   |
| (Normal Shorts A, F)          |   |   |    |   |     |
| 3BN6                          | 3 | H | 6  | E | 4   |
| (Emission and Short Test)     |   |   |    |   |     |
|                               | 3 | H | 6  | B | 4   |
| (Grid Leakage Test)           |   |   |    |   |     |
| *3BS2                         | 3 | J | 9  | K | 10  |
| (Disregard Shorts)            |   |   |    |   |     |
| 3BU8                          | 3 | D | 6  | G | 3   |
| 3BX6                          | 3 | D | 1  | B | 3   |
| 3BY6                          | 3 | D | 6  | A | 4   |
| 3BY7                          | 3 | D | 3  | B | 3   |
| 3BZ6                          | 3 | D | 6  | A | 4   |
| *3C2                          | 3 | H | 5  | K | 1   |
| (Disregard Shorts)            |   |   |    |   |     |
| 3C4                           | 3 | G | 5  | F | 7   |
| 3C5                           | 3 | F | 9  | E | 1   |
| 3C6                           | 3 | F | 8  | D | 9   |
|                               | 3 | F | 8  | E | 9   |

| TUBE                    | A               | B | C | D | Skt | TUBE                | A | B | C | D | Skt |
|-------------------------|-----------------|---|---|---|-----|---------------------|---|---|---|---|-----|
| *3CA3                   | 3               | H | 3 | K | 1   | 3EA5                | 3 | E | 8 | A | 4   |
| (Disregard Shorts)      |                 |   |   |   |     | 3EH7                | 3 | D | 3 | B | 3   |
| 3CB6                    | 3               | D | 6 | A | 4   | 3EJ7                | 3 | D | 3 | B | 3   |
| 3CE5                    | 3               | E | 2 | A | 4   | 3ER5                | 3 | E | 8 | B | 4   |
| 3CF6                    | 3               | D | 6 | A | 4   | 3ES5                | 3 | E | 8 | B | 4   |
| 3CN3                    | 3               | J | 6 | K | 1   | 3EV5                | 3 | E | 8 | A | 4   |
| *3CQ3                   | 3               | H | 6 | K | 1   | 3FH5                | 3 | E | 8 | B | 4   |
| (Disregard Shorts)      |                 |   |   |   |     | 3FQ5                | 3 | E | 8 | B | 4   |
| 3CS6                    | 3               | D | 6 | A | 4   | 3FS5                | 3 | D | 2 | A | 4   |
| *3CV3                   | 3               | J | 1 | K | 1   | 3FY5                | 3 | E | 1 | B | 4   |
| (Disregard Shorts)      |                 |   |   |   |     | 3GK5                | 3 | E | 8 | B | 4   |
| 3CU3                    | 3               | H | 9 | K | 1   | 3GS8                | 3 | D | 6 | G | 3   |
| *3CX3                   | 3               | J | 2 | K | 2   | 3GU5                | 3 | D | 2 | A | 4   |
| (Disregard Shorts)      |                 |   |   |   |     | 3GW5                | 3 | D | 7 | B | 4   |
| 3CY5                    | 3               | E | 2 | A | 4   | 3HA5                | 3 | D | 2 | A | 4   |
| *3CZ3                   | 3               | H | 3 | K | 1   | 3HK5                | 3 | E | 2 | A | 4   |
| (Disregard Shorts)      |                 |   |   |   |     | 3HM5                | 3 | D | 2 | A | 4   |
| 3D6                     | 1               | E | 8 | F | 9   | 3HM6                | 3 | D | 1 | B | 3   |
| 3D21                    | 12              | C | 1 | F | 1   | 3HQ5                | 3 | E | 2 | A | 4   |
| *3DB3                   | 3               | J | 3 | K | 1   | 3HS8                | 3 | D | 6 | G | 3   |
| (Disregard Shorts)      |                 |   |   |   |     | 3HT6                | 3 | D | 1 | B | 3   |
| *3DC3                   | 3               | J | 3 | K | 1   | 3JC6                | 3 | D | 1 | B | 3   |
| (Normal Shorts A, E, G) |                 |   |   |   |     | 3JD6                | 3 | D | 1 | B | 3   |
| 3DG4                    | (See last page) |   |   |   |     | 3JH6                | 3 | D | 6 | A | 4   |
| 3DK6                    | 3               | D | 6 | A | 4   | 3KF8                | 3 | D | 6 | G | 3   |
| 3DT6                    | 3               | E | 6 | A | 4   | 3KT6                | 3 | D | 3 | B | 3   |
| *3DX4                   | 3               | D | 7 | B | 4   | 3LE4                | 3 | E | 8 | F | 9   |
| (Normal Shorts A, G)    |                 |   |   |   |     | 3LF4                | 3 | E | 8 | F | 9   |
| *3DY4                   | 3               | D | 7 | B | 4   | 3M-P26              | 3 | F | 6 | A | 4   |
| (Normal Shorts A, G)    |                 |   |   |   |     | 3M-R24              | 3 | D | 6 | A | 4   |
| 3DZ4                    | 3               | D | 7 | B | 4   | 3M-V7               | 3 | D | 6 | A | 4   |
| (Normal Shorts A, G)    |                 |   |   |   |     | *3Q4                | 3 | F | 5 | C | 7   |
| 3E5                     | 3               | F | 5 | F | 7   | (Normal Short B, F) |   |   |   |   |     |
| 3E6                     | 3               | F | 5 | F | 9   | 3Q5                 | 3 | E | 9 | E | 1   |
| *3E22                   | 12              | A | 5 | B | 2   |                     |   |   |   |   |     |
| (Normal Shorts A, C, F) |                 |   |   |   |     |                     |   |   |   |   |     |

| TUBE                      | A | B | C | D | Skt | TUBE | A | B | C | D | Skt |
|---------------------------|---|---|---|---|-----|------|---|---|---|---|-----|
| *3S4                      | 3 | F | 5 | C | 7   | 4BZ6 | 4 | D | 6 | A | 4   |
| (Normal Short B, F)       |   |   |   |   |     | 4BZ7 | 4 | E | 6 | B | 3   |
| 3V4                       | 3 | F | 5 | F | 7   |      | 4 | E | 6 | G | 3   |
| *3W4                      | 3 | F | 5 | C | 7   | 4BZ8 | 4 | E | 6 | B | 3   |
| (Normal Short B, F)       |   |   |   |   |     |      | 4 | E | 6 | G | 3   |
| *3Z4                      | 3 | F | 5 | C | 7   | 4CB6 | 4 | D | 6 | A | 4   |
| (Normal Short B, F)       |   |   |   |   |     | 4CE5 | 4 | E | 2 | A | 4   |
| 4A6                       | 4 | G | 9 | D | 1   | 4CM4 | 4 | E | 3 | F | 8   |
|                           | 4 | G | 9 | E | 1   | 4CS6 | 4 | E | 6 | A | 4   |
| *4AF4                     | 4 | D | 7 | B | 4   | 4CX7 | 4 | E | 9 | B | 3   |
| (Normal Shorts A, G)      |   |   |   |   |     |      | 4 | E | 9 | G | 3   |
| 4AU6                      | 4 | D | 6 | A | 4   | 4CY5 | 4 | E | 2 | A | 4   |
| 4AV6                      | 4 | F | 6 | A | 4   | 4DE6 | 4 | D | 6 | A | 4   |
|                           | 4 | G | 6 | E | 4   | 4DK6 | 4 | D | 6 | A | 4   |
|                           | 4 | G | 6 | F | 4   | 4DT6 | 4 | E | 6 | A | 4   |
| 4BA6                      | 4 | D | 6 | A | 4   | 4EH7 | 4 | D | 3 | B | 3   |
| 4BC5                      | 4 | E | 2 | A | 4   | 4EJ7 | 4 | D | 3 | B | 3   |
| 4BC8                      | 4 | E | 6 | B | 3   | 4ES8 | 4 | D | 6 | B | 3   |
|                           | 4 | E | 6 | G | 3   |      | 4 | D | 6 | G | 3   |
| 4BE6                      | 4 | D | 6 | A | 4   | 4EW6 | 4 | D | 6 | A | 4   |
| 4BL8                      | 4 | D | 6 | B | 3   | 4FS7 | 4 | D | 6 | B | 3   |
|                           | 4 | D | 6 | J | 3   |      | 4 | D | 6 | F | 3   |
| *4BN4                     | 4 | E | 2 | G | 4   | 4GJ7 | 4 | D | 3 | B | 3   |
| (Normal Short A, F)       |   |   |   |   |     |      | 4 | E | 3 | J | 3   |
| 4BN6                      | 4 | H | 6 | E | 4   | 4GK5 | 4 | E | 8 | B | 4   |
| (Emission and Short Test) |   |   |   |   |     | 4GM6 | 4 | D | 6 | A | 4   |
|                           | 4 | H | 6 | B | 4   | 4GS7 | 4 | D | 3 | A | 3   |
| (Grid Leakage Test)       |   |   |   |   |     |      | 4 | D | 3 | J | 3   |
| 4BQ7                      | 4 | E | 6 | B | 3   | 4GS8 | 4 | D | 6 | G | 3   |
|                           | 4 | E | 6 | G | 3   | 4GW5 | 4 | D | 7 | B | 4   |
| 4BS8                      | 4 | E | 6 | B | 3   | 4GX7 | 4 | D | 3 | B | 3   |
|                           | 4 | E | 6 | G | 3   |      | 4 | D | 3 | J | 3   |
| 4BU8                      | 4 | D | 6 | G | 3   | 4GZ5 | 4 | C | 5 | B | 4   |
| 4BX8                      | 4 | E | 6 | B | 3   | 4HA5 | 4 | E | 2 | A | 4   |
|                           | 4 | E | 6 | G | 3   |      |   |   |   |   |     |

| TUBE   | A | B | C | D | Skt | TUBE                  | A | B | C  | D | Skt |
|--------|---|---|---|---|-----|-----------------------|---|---|----|---|-----|
| 4HA7   | 4 | E | 5 | J | 10  | 4R-HH8                | 4 | D | 6  | B | 3   |
|        | 4 | E | 5 | A | 10  |                       | 4 | D | 6  | G | 3   |
| 4HC7   | 4 | D | 8 | J | 10  | 5A6                   | 5 | C | 10 | G | 3   |
|        | 4 | G | 8 | A | 10  | *5AF4                 | 5 | D | 7  | B | 4   |
| 4HG8   | 4 | D | 3 | B | 3   | (Normal Short A, G)   |   |   |    |   |     |
|        | 4 | D | 3 | F | 3   | 5AM8                  | 5 | D | 6  | B | 3   |
| 4HK5   | 4 | E | 2 | A | 4   |                       | 5 | F | 6  | H | 3   |
| 4HM5   | 4 | D | 2 | A | 4   | 5AN8                  | 5 | D | 6  | B | 3   |
| 4HM6   | 4 | D | 1 | B | 3   |                       | 5 | D | 6  | H | 3   |
| 4HQ5   | 4 | E | 2 | A | 4   | 5AQ4                  | 5 | B | 6  | D | 1   |
| 4HR8   | 4 | F | 6 | J | 3   |                       | 5 | B | 6  | F | 1   |
| 4HS8   | 4 | D | 6 | G | 3   | 5AQ5                  | 5 | C | 8  | A | 4   |
| 4HT6   | 4 | D | 1 | B | 3   | *5AR4                 | 5 | A | 1  | D | 1   |
| 4JC6   | 4 | D | 1 | B | 3   |                       | 5 | A | 1  | F | 1   |
| 4JD6   | 4 | D | 1 | B | 3   | (Normal Short H, H-K) |   |   |    |   |     |
| 4JH6   | 4 | D | 6 | A | 4   | *5AS4                 | 5 | A | 6  | D | 1   |
| 4JH6   | 4 | D | 6 | A | 3   |                       | 5 | A | 6  | F | 1   |
| 4JK6   | 4 | D | 6 | A | 4   | (Normal Short H, H-K) |   |   |    |   |     |
| 4JL6   | 4 | D | 6 | A | 4   | 5AS8                  | 5 | D | 6  | B | 3   |
| 4KE8   | 4 | D | 6 | J | 3   |                       | 5 | F | 6  | F | 3   |
|        | 4 | E | 6 | B | 3   | *5AT4                 | 5 | A | 6  | D | 1   |
| 4KF8   | 4 | D | 6 | G | 3   |                       | 5 | A | 6  | F | 1   |
| 4KN8   | 4 | D | 6 | B | 3   | (Normal Short H, H-K) |   |   |    |   |     |
|        | 4 | D | 6 | G | 3   | 5AT8                  | 5 | D | 6  | A | 3   |
| 4KT6   | 4 | D | 3 | B | 3   |                       | 5 | D | 6  | J | 3   |
| 4LJ8   | 4 | D | 3 | A | 3   | *5AU4                 | 5 | A | 6  | D | 1   |
|        | 4 | D | 3 | J | 3   |                       | 5 | A | 6  | F | 1   |
| 4LU6   | 4 | C | 6 | A | 4   | (Normal Short H, H-K) |   |   |    |   |     |
| 4MK8   | 4 | E | 6 | G | 3   | 5AV8                  | 5 | E | 6  | B | 3   |
| 4M-P2  | 4 | C | 6 | A | 4   |                       | 5 | E | 6  | F | 3   |
| 4M-P12 | 5 | C | 6 | A | 4   | *5AW4                 | 5 | A | 6  | D | 1   |
| 4R-HH2 | 4 | E | 6 | B | 3   |                       | 5 | A | 6  | F | 1   |
|        | 4 | E | 6 | G | 3   | (Normal Short H, H-K) |   |   |    |   |     |

| TUBE                                       | A               | B | C | D | Skt |
|--------------------------------------------|-----------------|---|---|---|-----|
| *5AX4                                      | 5               | A | 6 | D | 1   |
|                                            | 5               | A | 6 | F | 1   |
| (Normal Short H, H-K)                      |                 |   |   |   |     |
| *5AZ4                                      | 5               | B | 6 | D | 9   |
|                                            | 5               | B | 6 | F | 9   |
| (Normal Short B, H-K)                      |                 |   |   |   |     |
| *5B8                                       | 5               | D | 6 | B | 3   |
|                                            | 5               | D | 6 | F | 3   |
| (Permissible Short A Only)                 |                 |   |   |   |     |
| 5BC3                                       | (See last page) |   |   |   |     |
| *5BE8                                      | 5               | D | 6 | A | 3   |
|                                            | 5               | D | 6 | J | 3   |
| (Permissible Short C Only)                 |                 |   |   |   |     |
| 5BK7                                       | 5               | E | 6 | B | 3   |
|                                            | 5               | E | 6 | G | 3   |
| 5BM8                                       | 5               | C | 6 | C | 3   |
|                                            | 5               | F | 6 | A | 3   |
| *5BQ5                                      | 5               | C | 1 | B | 3   |
| (Permissible Short F, H and one other Pin) |                 |   |   |   |     |
| 5BQ7                                       | 5               | E | 6 | B | 3   |
|                                            | 5               | E | 6 | G | 3   |
| 5BR8                                       | 5               | D | 6 | A | 3   |
|                                            | 5               | D | 6 | J | 3   |
| 5BS8                                       | 5               | E | 6 | B | 3   |
|                                            | 5               | E | 6 | G | 3   |
| 5BT8                                       | 5               | D | 6 | H | 3   |
|                                            | 5               | G | 6 | B | 3   |
|                                            | 5               | G | 6 | A | 3   |
| 5BW8                                       | 5               | D | 6 | F | 3   |
|                                            | 5               | F | 6 | C | 3   |
|                                            | 5               | F | 6 | A | 3   |
| 5BZ7                                       | 5               | E | 6 | B | 3   |
|                                            | 5               | E | 6 | G | 3   |

| TUBE                                    | A | B | C | D | Skt |
|-----------------------------------------|---|---|---|---|-----|
| *5CG4                                   | 5 | A | 6 | D | 1   |
|                                         | 5 | A | 6 | F | 1   |
| (Normal Short H, H-K)                   |   |   |   |   |     |
| 5CG8                                    | 5 | E | 3 | A | 3   |
|                                         | 5 | E | 3 | J | 3   |
| 5CL8                                    | 5 | D | 6 | A | 3   |
|                                         | 5 | D | 6 | J | 3   |
| 5CM6                                    | 5 | C | 7 | C | 3   |
| 5CM8                                    | 5 | E | 6 | B | 3   |
|                                         | 5 | F | 6 | J | 3   |
| 5CQ8                                    | 5 | D | 6 | J | 3   |
|                                         | 5 | D | 6 | B | 3   |
| 5CR8                                    | 5 | D | 6 | B | 3   |
|                                         | 5 | E | 6 | J | 3   |
| *5CU4                                   | 5 | A | 6 | D | 1   |
|                                         | 5 | A | 6 | F | 1   |
| (Normal Short H, H-K)                   |   |   |   |   |     |
| *5CZ5                                   | 5 | C | 7 | C | 3   |
| (Permissible Short H and one other Pin) |   |   |   |   |     |
| *5DH8                                   | 5 | D | 6 | J | 3   |
|                                         | 5 | D | 6 | A | 3   |
| (Permissible Short C Only)              |   |   |   |   |     |
| *5DN4                                   | 5 | A | 6 | D | 1   |
|                                         | 5 | A | 6 | F | 1   |
| 5EA8                                    | 5 | D | 6 | J | 3   |
|                                         | 5 | D | 6 | B | 3   |
| 5EH8                                    | 5 | D | 1 | B | 3   |
|                                         | 5 | D | 1 | G | 3   |
| 5ES8                                    | 5 | E | 6 | B | 3   |
|                                         | 5 | E | 6 | G | 3   |
| 5EU8                                    | 5 | D | 6 | B | 3   |
|                                         | 5 | D | 6 | G | 3   |
| 5EW6                                    | 5 | D | 6 | A | 4   |

| TUBE | A | B | C | D | Skt |
|------|---|---|---|---|-----|
| 5FG7 | 5 | D | 3 | J | 3   |
|      | 5 | E | 3 | A | 3   |
| 5FV8 | 5 | D | 6 | A | 3   |
|      | 5 | D | 6 | J | 3   |
| 5GH8 | 5 | D | 6 | B | 3   |
|      | 5 | D | 6 | J | 3   |
| 5GJ7 | 5 | D | 3 | B | 3   |
|      | 5 | E | 3 | J | 3   |
| 5GM6 | 5 | D | 6 | A | 4   |
| 5GS7 | 5 | E | 3 | A | 3   |
|      | 5 | E | 3 | J | 3   |
| 5GX6 | 5 | E | 6 | A | 4   |
| 5GX7 | 5 | D | 3 | B | 3   |
|      | 5 | D | 3 | J | 3   |
| 5HA7 | 5 | E | 5 | J | 10  |
|      | 5 | E | 5 | A | 10  |
| 5HB7 | 5 | D | 3 | B | 3   |
|      | 5 | D | 3 | J | 3   |
| 5HC7 | 5 | D | 8 | J | 10  |
|      | 5 | G | 8 | A | 10  |
| 5HG8 | 5 | D | 3 | B | 3   |
|      | 5 | D | 3 | F | 3   |
| 5HZ6 | 5 | F | 6 | A | 4   |
| 5J6  | 5 | E | 6 | E | 4   |
|      | 5 | E | 6 | F | 4   |
| 5JK6 | 5 | D | 6 | A | 4   |
| 5KD8 | 5 | D | 6 | B | 3   |
|      | 5 | D | 6 | J | 3   |
| 5KE8 | 5 | D | 6 | J | 3   |
|      | 5 | E | 6 | B | 3   |
| 5KZ8 | 5 | D | 6 | B | 3   |
|      | 5 | D | 6 | J | 3   |
| 5LJ8 | 5 | D | 3 | A | 3   |
|      | 5 | D | 3 | J | 3   |

| TUBE                  | A | B | C | D | Skt |
|-----------------------|---|---|---|---|-----|
| 5MB8                  | 5 | D | 6 | A | 3   |
|                       | 5 | E | 6 | J | 3   |
| 5M-HH3                | 5 | E | 6 | E | 4   |
|                       | 5 | E | 6 | F | 4   |
| 5M-K9                 | 5 | B | 6 | E | 4   |
| 5MQ8                  | 5 | E | 6 | B | 3   |
|                       | 5 | D | 6 | J | 3   |
| *5R4                  | 5 | A | 6 | D | 1   |
|                       | 5 | A | 6 | F | 1   |
| (Normal Short H, H-K) |   |   |   |   |     |
| 5R-DDHI               | 5 | E | 6 | A | 3   |
|                       | 5 | E | 6 | F | 3   |
| 5R-HR1                | 5 | D | 6 | B | 3   |
|                       | 5 | D | 6 | J | 3   |
| 5R-HPI                | 5 | D | 6 | B | 3   |
|                       | 5 | D | 6 | J | 3   |
| 5R-K16                | 5 | A | 6 | A | 3   |
|                       | 5 | A | 6 | H | 3   |
| *5T4                  | 5 | A | 6 | D | 1   |
|                       | 5 | A | 6 | F | 1   |
| (Normal Short H, H-K) |   |   |   |   |     |
| 5T8                   | 5 | F | 6 | H | 3   |
|                       | 5 | G | 6 | B | 3   |
|                       | 5 | G | 6 | F | 3   |
|                       | 5 | G | 6 | A | 3   |
| *5U4                  | 5 | A | 6 | D | 1   |
|                       | 5 | A | 6 | F | 1   |
| (Normal Short H, H-K) |   |   |   |   |     |
| 5U8                   | 5 | D | 6 | B | 3   |
|                       | 5 | D | 6 | J | 3   |
| 5U9                   | 5 | D | 6 | C | 11  |
|                       | 5 | D | 6 | K | 11  |
| *5V3                  | 5 | A | 6 | D | 1   |
|                       | 5 | A | 6 | F | 1   |
| (Normal Short H, H-K) |   |   |   |   |     |

| TUBE                  | A | B | C | D | Skt |
|-----------------------|---|---|---|---|-----|
| *5V4                  | 5 | B | 6 | D | 1   |
|                       | 5 | B | 6 | F | 1   |
| (Normal Short H, H-K) |   |   |   |   |     |
| 5V6                   | 5 | C | 6 | E | 1   |
| 5V9                   | 5 | D | 6 | H | 11  |
|                       | 5 | E | 6 | C | 11  |
| *5W4                  | 5 | B | 6 | D | 1   |
|                       | 5 | B | 6 | F | 1   |
| (Normal Short H, H-K) |   |   |   |   |     |
| 5X4                   | 5 | A | 6 | C | 2   |
|                       | 5 | A | 6 | E | 2   |
| 5X8                   | 5 | E | 6 | B | 3   |
|                       | 5 | E | 6 | G | 3   |
| 5X9                   | 5 | D | 6 | C | 11  |
|                       | 5 | E | 6 | K | 11  |
| *5Y3                  | 5 | B | 6 | D | 1   |
|                       | 5 | B | 6 | F | 1   |
| (Normal Short H, H-K) |   |   |   |   |     |
| 5Y4                   | 5 | B | 6 | C | 2   |
|                       | 5 | B | 6 | E | 2   |
| *5Z4                  | 5 | A | 6 | D | 1   |
|                       | 5 | A | 6 | F | 1   |
| (Normal Short H, H-K) |   |   |   |   |     |
| 6A5                   | 6 | C | 9 | E | 1   |
| 6A8                   | 6 | E | 6 | E | 1   |
| 6AB4                  | 6 | E | 6 | F | 4   |
| 6AB7                  | 6 | D | 6 | D | 1   |
| 6AB8                  | 6 | D | 6 | J | 3   |
|                       | 6 | F | 6 | B | 3   |
| 6AB9                  | 6 | D | 6 | A | 11  |
|                       | 6 | D | 6 | G | 11  |
| 6AC5                  | 6 | F | 6 | E | 1   |
| 6AC7                  | 6 | D | 6 | D | 1   |

| TUBE                          | A | B | C | D | Skt |
|-------------------------------|---|---|---|---|-----|
| 6AC9                          | 6 | D | 6 | B | 10  |
|                               | 6 | D | 6 | C | 10  |
|                               | 6 | D | 6 | J | 10  |
| 6AC10                         | 6 | E | 6 | A | 10  |
|                               | 6 | E | 6 | G | 10  |
|                               | 6 | E | 6 | J | 10  |
| 6AC11                         | 6 | E | 6 | C | 10  |
|                               | 6 | E | 6 | F | 10  |
|                               | 6 | C | 6 | H | 10  |
| 6AD5                          | 6 | F | 6 | E | 1   |
| 6AD7                          | 6 | G | 6 | A | 1   |
|                               | 6 | F | 6 | E | 1   |
| 6AD8                          | 6 | E | 6 | B | 3   |
|                               | 6 | G | 6 | H | 3   |
|                               | 6 | G | 6 | G | 3   |
| 6AD10                         | 6 | E | 6 | C | 10  |
|                               | 6 | C | 6 | H | 10  |
| 6AE5                          | 6 | G | 6 | E | 1   |
| 6AE6                          | 6 | F | 6 | E | 1   |
| 6AE7                          | 6 | F | 6 | D | 1   |
|                               | 6 | F | 6 | F | 1   |
| 6AE8                          | 6 | E | 6 | B | 3   |
|                               | 6 | F | 6 | G | 3   |
| *6AF3                         | 6 | A | 2 | J | 3   |
| (Disregard Shorts except H-K) |   |   |   |   |     |
| *6AF4                         | 6 | D | 7 | B | 4   |
| (Normal Short A, G)           |   |   |   |   |     |
| 6AF5                          | 6 | F | 6 | E | 1   |
| *6AF9                         | 6 | C | 6 | H | 11  |
|                               | 6 | D | 6 | A | 11  |
| (Normal Shorts B only)        |   |   |   |   |     |
| 6AF10                         | 6 | D | 6 | C | 10  |
|                               | 6 | E | 6 | K | 10  |

| TUBE  | A | B | C | D | Skt | TUBE                                                   | A | B | C | D | Skt |
|-------|---|---|---|---|-----|--------------------------------------------------------|---|---|---|---|-----|
| 6AF11 | 6 | C | 6 | A | 10  | 6AK9                                                   | 6 | E | 7 | C | 10  |
|       | 6 | F | 6 | F | 10  |                                                        | 6 | E | 7 | K | 10  |
|       | 6 | F | 6 | C | 10  |                                                        | 6 | B | 7 | J | 10  |
| 6AG5  | 6 | E | 2 | A | 4   | 6AK10                                                  | 6 | E | 6 | A | 10  |
| 6AG6  | 6 | F | 6 | E | 1   |                                                        | 6 | E | 6 | G | 10  |
| 6AG7  | 6 | C | 6 | D | 1   |                                                        | 6 | E | 6 | J | 10  |
| 6AG9  | 6 | E | 6 | E | 10  | *6AL3                                                  | 6 | A | 7 | C | 8   |
|       | 6 | C | 6 | A | 10  | (Use second setting if first setting gives no reading) |   |   |   |   |     |
| 6AG10 | 6 | D | 6 | A | 10  | *6AL3                                                  | 6 | A | 2 | J | 3   |
| 6AG11 | 6 | E | 6 | H | 10  | (Disregard Shorts except H-K)                          |   |   |   |   |     |
|       | 6 | E | 6 | E | 10  | 6AL5                                                   | 6 | E | 6 | B | 4   |
|       | 6 | F | 6 | K | 10  |                                                        | 6 | E | 6 | G | 4   |
|       | 6 | F | 6 | C | 10  | 6AL6                                                   | 6 | E | 6 | E | 1   |
| 6AH4  | 6 | C | 6 | A | 1   | 6AL9                                                   | 6 | E | 9 | E | 10  |
| 6AH5  | 6 | F | 6 | F | 1   |                                                        | 6 | C | 9 | A | 10  |
| 6AH6  | 6 | D | 6 | A | 4   | 6AL11                                                  | 6 | C | 6 | H | 10  |
| 6AH7  | 6 | F | 6 | A | 2   |                                                        | 6 | D | 6 | C | 10  |
|       | 6 | F | 6 | E | 2   | 6AM5                                                   | 6 | D | 6 | A | 4   |
| 6AH9  | 6 | E | 5 | B | 10  | 6AM6                                                   | 6 | E | 6 | A | 4   |
|       | 6 | C | 5 | F | 10  | 6AM8                                                   | 6 | D | 6 | B | 3   |
| 6AJ5  | 6 | G | 2 | A | 4   |                                                        | 6 | G | 6 | H | 3   |
| 6AJ7  | 6 | E | 6 | D | 1   | *6AN4                                                  | 6 | D | 7 | B | 4   |
| 6AJ8  | 6 | E | 6 | B | 3   | (Normal Short A, G)                                    |   |   |   |   |     |
|       | 6 | E | 6 | J | 3   | 6AN5                                                   | 6 | C | 2 | A | 4   |
| 6AJ9  | 6 | C | 6 | C | 11  | 6AN6                                                   | 6 | F | 6 | B | 7   |
|       | 6 | D | 6 | K | 11  |                                                        | 6 | F | 6 | C | 7   |
| 6AK5  | 6 | E | 2 | A | 4   |                                                        | 6 | F | 6 | D | 7   |
| 6AK6  | 6 | D | 6 | A | 4   |                                                        | 6 | F | 6 | E | 7   |
| 6AK7  | 6 | C | 6 | D | 1   | 6AN7                                                   | 6 | E | 6 | B | 3   |
| 6AK8  | 6 | F | 6 | H | 3   |                                                        | 6 | F | 6 | J | 3   |
|       | 6 | G | 6 | F | 3   | 6AN8                                                   | 6 | D | 6 | B | 3   |
|       | 6 | G | 6 | B | 3   |                                                        | 6 | D | 6 | H | 3   |
|       | 6 | G | 6 | A | 3   | *6AQ4                                                  | 6 | E | 7 | A | 4   |
|       |   |   |   |   |     | (Normal Short B, E)                                    |   |   |   |   |     |

| TUBE                                                        | A | B | C | D | Skt | TUBE               | A | B | C  | D | Skt |
|-------------------------------------------------------------|---|---|---|---|-----|--------------------|---|---|----|---|-----|
| 6AQ5                                                        | 6 | C | 8 | A | 4   | 6AU4               | 6 | A | 2  | E | 2   |
| 6AQ6                                                        | 6 | F | 6 | A | 4   | 6AU5               | 6 | A | 6  | A | 1   |
|                                                             | 6 | G | 6 | F | 4   | 6AU6               | 6 | D | 6  | A | 4   |
|                                                             | 6 | G | 6 | E | 4   | 6AU7               | 6 | D | 10 | B | 3   |
| 6AQ7                                                        | 6 | F | 6 | D | 2   |                    | 6 | D | 10 | G | 3   |
|                                                             | 6 | G | 6 | C | 2   | 6AU8               | 6 | D | 6  | G | 3   |
|                                                             | 6 | G | 6 | A | 2   |                    | 6 | D | 6  | B | 3   |
| 6AQ8                                                        | 6 | D | 6 | B | 3   | 6AV4               | 6 | A | 6  | A | 4   |
|                                                             | 6 | D | 6 | G | 3   |                    | 6 | A | 6  | F | 4   |
| 6AR5                                                        | 6 | C | 6 | A | 4   | 6AV5               | 6 | A | 6  | A | 1   |
| *6AR6                                                       | 6 | G | 6 | E | 2   | 6AV6               | 6 | F | 6  | A | 4   |
| (Make Emission and Short Test only;<br>Normal Short F, H-K) |   |   |   |   |     |                    | 6 | G | 6  | E | 4   |
| 6AR7                                                        | 6 | F | 6 | K | 9   |                    | 6 | G | 6  | F | 4   |
|                                                             | 6 | G | 6 | F | 9   | 6AV8               | 6 | D | 6  | B | 3   |
|                                                             | 6 | G | 6 | E | 9   |                    | 6 | D | 6  | H | 3   |
| 6AR8                                                        | 6 | D | 6 | F | 3   | 6AV11              | 6 | D | 6  | A | 10  |
| 6AR11                                                       | 6 | D | 6 | E | 10  |                    | 6 | D | 6  | G | 10  |
|                                                             | 6 | D | 6 | K | 10  |                    | 6 | D | 6  | J | 10  |
| 6AS5                                                        | 6 | C | 5 | B | 4   | 6AW7               | 6 | F | 6  | B | 2   |
| 6AS6                                                        | 6 | E | 6 | A | 4   |                    | 6 | G | 6  | C | 2   |
| 6AS7                                                        | 6 | A | 6 | A | 2   |                    | 6 | G | 6  | D | 2   |
|                                                             | 6 | A | 6 | D | 2   | 6AW8               | 6 | D | 6  | G | 3   |
| 6AS8                                                        | 6 | D | 6 | B | 3   |                    | 6 | F | 6  | B | 3   |
|                                                             | 6 | F | 6 | E | 3   | *6AX2              | 6 | J | 11 | K | 8   |
| 6AS11                                                       | 6 | D | 6 | A | 10  | (Disregard Shorts) |   |   |    |   |     |
|                                                             | 6 | D | 6 | C | 10  | 6AX3               | 6 | A | 11 | D | 10  |
|                                                             | 6 | D | 6 | F | 10  | 6AX4               | 6 | A | 2  | E | 2   |
| 6AT6                                                        | 6 | F | 6 | A | 4   | 6AX5               | 6 | B | 6  | C | 1   |
|                                                             | 6 | G | 6 | E | 4   |                    | 6 | B | 6  | E | 1   |
|                                                             | 6 | G | 6 | F | 4   | 6AX6               | 6 | A | 6  | C | 1   |
| 6AT7                                                        | 6 | E | 6 | B | 3   |                    | 6 | A | 6  | E | 1   |
|                                                             | 6 | E | 6 | G | 3   | 6AX7               | 6 | F | 10 | B | 3   |
| 6AT8                                                        | 6 | D | 6 | A | 3   |                    | 6 | F | 10 | G | 3   |
|                                                             | 6 | D | 6 | J | 3   | 6AX8               | 6 | D | 6  | B | 3   |
|                                                             |   |   |   |   |     |                    | 6 | D | 6  | J | 3   |

| TUBE                          | A | B | C | D | Skt | TUBE                          | A | B | C | D | Skt |
|-------------------------------|---|---|---|---|-----|-------------------------------|---|---|---|---|-----|
| *6AY3                         | 6 | A | 8 | B | 5   | 6BD4                          | 6 | G | 6 | E | 1   |
| (Disregard Shorts except H-K) |   |   |   |   |     | 6BD5                          | 6 | A | 6 | A | 1   |
| 6AY11                         | 6 | E | 6 | K | 10  | 6BD6                          | 6 | D | 6 | A | 4   |
|                               | 6 | E | 6 | C | 10  | 6BD7                          | 6 | F | 6 | H | 3   |
|                               | 6 | F | 6 | H | 10  |                               | 6 | G | 6 | F | 3   |
|                               | 6 | F | 6 | E | 10  |                               | 6 | G | 6 | B | 3   |
| 6AZ8                          | 6 | D | 6 | F | 3   | 6BD11                         | 6 | D | 6 | A | 10  |
|                               | 6 | D | 6 | J | 3   |                               | 6 | E | 6 | C | 10  |
| 6B3                           | 6 | B | 6 | H | 8   |                               | 6 | F | 6 | F | 10  |
| 6B4                           | 6 | C | 6 | E | 1   | 6BE3                          | 6 | A | 4 | K | 10  |
| 6B6                           | 6 | F | 6 | K | 1   | 6BE6                          | 6 | D | 6 | A | 4   |
|                               | 6 | G | 6 | E | 1   | 6BE7                          | 6 | F | 9 | G | 3   |
|                               | 6 | G | 6 | D | 1   | *6BE8                         | 6 | D | 6 | A | 3   |
| 6B8                           | 6 | E | 6 | K | 1   |                               | 6 | D | 6 | J | 3   |
|                               | 6 | G | 6 | E | 1   |                               |   |   |   |   |     |
|                               | 6 | G | 6 | D | 1   | (Permissible Short C Only)    |   |   |   |   |     |
| 6B10                          | 6 | E | 6 | C | 10  | 6BF5                          | 6 | C | 8 | A | 4   |
|                               | 6 | E | 6 | E | 10  | 6BF6                          | 6 | F | 6 | A | 4   |
|                               | 6 | F | 6 | H | 10  |                               | 6 | G | 6 | E | 4   |
|                               | 6 | F | 6 | K | 10  |                               | 6 | G | 6 | F | 4   |
| 6BA3                          | 6 | A | 8 | B | 5   | 6BF8                          | 6 | F | 6 | A | 3   |
| (Disregard Shorts except H-K) |   |   |   |   |     |                               | 6 | F | 6 | B | 3   |
| 6BA6                          | 6 | D | 6 | A | 4   |                               | 6 | F | 6 | C | 3   |
| 6BA7                          | 6 | D | 6 | B | 3   |                               | 6 | F | 6 | G | 3   |
| 6BA8                          | 6 | D | 6 | G | 3   |                               | 6 | F | 6 | H | 3   |
|                               | 6 | D | 6 | B | 3   |                               | 6 | F | 6 | J | 3   |
| 6BA11                         | 6 | D | 6 | J | 10  | 6BF11                         | 6 | C | 6 | H | 10  |
|                               | 6 | E | 6 | D | 10  |                               | 6 | D | 6 | C | 10  |
| 6BC4                          | 6 | D | 8 | C | 8   | 6BG6                          | 6 | A | 6 | E | 1   |
| 6BC5                          | 6 | E | 2 | A | 4   | *6BH3                         | 6 | A | 8 | B | 5   |
| 6BC7                          | 6 | E | 6 | B | 3   | (Disregard Shorts except H-K) |   |   |   |   |     |
|                               | 6 | E | 6 | F | 3   | 6BH5                          | 6 | F | 9 | B | 3   |
|                               | 6 | E | 6 | H | 3   | 6BH6                          | 6 | E | 6 | A | 4   |
| 6BC8                          | 6 | E | 6 | B | 3   | 6BH8                          | 6 | D | 6 | G | 3   |
|                               | 6 | E | 6 | G | 3   |                               | 6 | D | 6 | B | 3   |

| TUBE                          | A | B | C | D | Skt |
|-------------------------------|---|---|---|---|-----|
| 6BH11                         | 6 | D | 6 | D | 10  |
|                               | 6 | D | 6 | F | 10  |
|                               | 6 | D | 6 | H | 10  |
| 6BJ3                          | 6 | A | 4 | K | 10  |
| 6BJ5                          | 6 | C | 6 | A | 4   |
| *6BJ6                         | 6 | D | 6 | A | 4   |
| (Disregard Shorts except H-K) |   |   |   |   |     |
| 6BJ7                          | 6 | F | 6 | B | 3   |
|                               | 6 | F | 6 | F | 3   |
|                               | 6 | F | 6 | H | 3   |
| 6BJ8                          | 6 | D | 6 | H | 3   |
|                               | 6 | E | 6 | F | 3   |
|                               | 6 | E | 6 | A | 3   |
| *6BK4                         | 6 | G | 3 | E | 1   |
| (Disregard Shorts except H-K) |   |   |   |   |     |
| 6BK5                          | 6 | C | 8 | C | 3   |
| 6BK6                          | 6 | F | 6 | A | 4   |
|                               | 6 | G | 6 | E | 4   |
|                               | 6 | G | 6 | F | 4   |
| 6BK7                          | 6 | E | 6 | B | 3   |
|                               | 6 | E | 6 | G | 3   |
| 6BK8                          | 6 | E | 2 | J | 3   |
| 6BK11                         | 6 | G | 9 | A | 10  |
|                               | 6 | G | 9 | G | 10  |
|                               | 6 | G | 9 | J | 10  |
| 6BL4                          | 6 | A | 2 | E | 2   |
| 6BL7                          | 6 | C | 6 | A | 2   |
|                               | 6 | C | 6 | D | 2   |
| 6BL8                          | 6 | D | 6 | B | 3   |
|                               | 6 | D | 6 | J | 3   |
| 6BM5                          | 6 | C | 8 | A | 4   |
| 6BM8                          | 6 | C | 6 | C | 3   |
|                               | 6 | F | 6 | A | 3   |
| *6BN4                         | 6 | E | 2 | G | 4   |
| (Normal Short A, F)           |   |   |   |   |     |

| TUBE                                       | A | B | C | D | Skt |
|--------------------------------------------|---|---|---|---|-----|
| 6BN5                                       | 6 | C | 3 | B | 3   |
| 6BN6                                       | 6 | H | 6 | E | 4   |
| (Emission and Short Test)                  |   |   |   |   |     |
|                                            | 6 | H | 6 | B | 4   |
| (Grid Leakage Test)                        |   |   |   |   |     |
| 6BN7                                       | 6 | C | 6 | G | 3   |
|                                            | 6 | F | 6 | B | 3   |
| 6BN8                                       | 6 | D | 6 | A | 3   |
|                                            | 6 | D | 6 | F | 3   |
|                                            | 6 | E | 6 | H | 3   |
| 6BN11                                      | 6 | E | 6 | C | 10  |
|                                            | 6 | E | 6 | G | 10  |
| *6BQ5                                      | 6 | C | 1 | B | 3   |
| (Permissible Short F, H and one other Pin) |   |   |   |   |     |
| 6BQ6                                       | 6 | A | 6 | E | 1   |
| 6BQ7                                       | 6 | E | 6 | B | 3   |
|                                            | 6 | E | 6 | G | 3   |
| 6BR3                                       | 6 | A | 1 | J | 8   |
| (Disregard Shorts except H-K)              |   |   |   |   |     |
| 6BR7                                       | 6 | F | 1 | B | 3   |
| 6BR8                                       | 6 | D | 6 | J | 3   |
|                                            | 6 | D | 6 | A | 3   |
| *6BS3                                      | 6 | A | 8 | B | 5   |
| (Disregard Shorts except H-K)              |   |   |   |   |     |
| 6BS5                                       | 6 | C | 1 | B | 3   |
| 6BS7                                       | 6 | G | 1 | K | 3   |
| 6BS8                                       | 6 | E | 6 | B | 3   |
|                                            | 6 | E | 6 | G | 3   |
| 6BT6                                       | 6 | F | 6 | A | 4   |
|                                            | 6 | G | 6 | C | 4   |
|                                            | 6 | G | 6 | F | 4   |
| 6BT8                                       | 6 | D | 6 | H | 3   |
|                                            | 6 | G | 6 | B | 3   |
|                                            | 6 | G | 6 | A | 3   |

| TUBE                                      | A | B | C | D | Skt |
|-------------------------------------------|---|---|---|---|-----|
| *6BU4                                     | 6 | G | 3 | E | 1   |
| (Disregard All Shorts except H-K)         |   |   |   |   |     |
| 6BU5                                      | 6 | G | 2 | D | 2   |
| 6BU6                                      | 6 | E | 6 | A | 4   |
|                                           | 6 | G | 6 | C | 4   |
|                                           | 6 | G | 6 | F | 4   |
| 6BU8                                      | 6 | D | 6 | G | 3   |
| 6BV7                                      | 6 | E | 8 | H | 3   |
|                                           | 6 | G | 8 | F | 3   |
|                                           | 6 | G | 8 | A | 3   |
| 6BV8                                      | 6 | E | 6 | B | 3   |
|                                           | 6 | E | 6 | J | 3   |
|                                           | 6 | E | 6 | F | 3   |
| 6BV11                                     | 6 | F | 6 | F | 10  |
|                                           | 6 | F | 6 | G | 10  |
| *6BW3                                     | 6 | A | 4 | K | 10  |
| (Disregard Shorts except H-K)             |   |   |   |   |     |
| 6BW4                                      | 6 | B | 6 | A | 3   |
|                                           | 6 | B | 6 | G | 3   |
| *6BW6                                     | 6 | C | 1 | B | 3   |
| * (Permissible Short F and one other Pin) |   |   |   |   |     |
| 6BW7                                      | 6 | D | 3 | B | 3   |
| 6BW8                                      | 6 | E | 6 | F | 3   |
|                                           | 6 | F | 6 | C | 3   |
|                                           | 6 | F | 6 | A | 3   |
| 6BW11                                     | 6 | D | 6 | A | 10  |
|                                           | 6 | D | 6 | C | 10  |
| 6BX4                                      | 6 | A | 6 | A | 4   |
|                                           | 6 | A | 6 | F | 4   |
| 6BX6                                      | 6 | D | 1 | B | 3   |
| 6BX7                                      | 6 | C | 6 | A | 2   |
|                                           | 6 | C | 6 | D | 2   |
| 6BX8                                      | 6 | E | 6 | B | 3   |
|                                           | 6 | E | 6 | G | 3   |

| TUBE                          | A | B | C | D | Skt |
|-------------------------------|---|---|---|---|-----|
| 6BY5                          | 6 | A | 3 | D | 1   |
|                               | 6 | A | 3 | E | 1   |
| 6BY6                          | 6 | D | 6 | A | 4   |
| 6BY7                          | 6 | D | 3 | B | 3   |
| 6BY8                          | 6 | D | 6 | A | 3   |
|                               | 6 | F | 6 | F | 3   |
| 6BY11                         | 6 | B | 6 | C | 10  |
|                               | 6 | G | 6 | H | 10  |
| *6BZ3                         | 6 | A | 4 | K | 10  |
| (Disregard Shorts except H-K) |   |   |   |   |     |
| 6BZ6                          | 6 | D | 6 | A | 4   |
| 6BZ7                          | 6 | E | 6 | B | 3   |
|                               | 6 | E | 6 | G | 3   |
| 6BZ8                          | 6 | E | 6 | B | 3   |
|                               | 6 | E | 6 | G | 3   |
| 6C4                           | 6 | E | 1 | F | 4   |
| 6C5                           | 6 | E | 6 | E | 1   |
| 6C8                           | 6 | F | 6 | E | 1   |
|                               | 6 | F | 6 | K | 1   |
| 6C9                           | 6 | E | 6 | A | 3   |
|                               | 6 | E | 6 | G | 3   |
| 6C10                          | 6 | F | 9 | A | 10  |
|                               | 6 | F | 9 | G | 10  |
|                               | 6 | F | 9 | J | 10  |
| 6C12                          | 6 | E | 6 | B | 3   |
|                               | 6 | E | 6 | J | 3   |
| 6CA4                          | 6 | A | 7 | A | 8   |
|                               | 6 | A | 7 | G | 8   |
| 6CA5                          | 6 | C | 5 | B | 4   |
| 6CA7                          | 6 | A | 6 | E | 1   |
| 6CA11                         | 6 | E | 6 | C | 10  |
|                               | 6 | E | 6 | F | 10  |
|                               | 6 | C | 6 | K | 10  |
| *6CB5                         | 6 | A | 5 | D | 1   |
| (Normal Short A, C, F, H)     |   |   |   |   |     |

| TUBE                                        | A | B | C | D | Skt | TUBE                                    | A | B | C  | D | Skt |
|---------------------------------------------|---|---|---|---|-----|-----------------------------------------|---|---|----|---|-----|
| 6CB6                                        | 6 | D | 6 | A | 4   | *6CL5                                   | 6 | A | 5  | D | 1   |
| 6CB11                                       | 6 | D | 6 | C | 10  | (Normal Short A, C, F, H)               |   |   |    |   |     |
|                                             | 6 | C | 6 | A | 10  | *6CL6                                   | 6 | C | 10 | B | 3   |
| 6CD3                                        | 6 | A | 4 | K | 10  | (Normal Short C, H)                     |   |   |    |   |     |
| 6CD6                                        | 6 | A | 6 | E | 1   | 6CL8                                    | 6 | D | 6  | A | 3   |
| *6CE3                                       | 6 | A | 4 | K | 10  |                                         | 6 | D | 6  | J | 3   |
| (Disregard All Shorts except H-K)           |   |   |   |   |     | 6CM3                                    | 6 | A | 2  | O | 5   |
| 6CE5                                        | 6 | E | 2 | A | 4   | 6CM4                                    | 6 | E | 3  | F | 8   |
| 6CF6                                        | 6 | D | 6 | A | 4   | *6CM5                                   | 6 | A | 3  | E | 1   |
| 6CF8                                        | 6 | F | 6 | J | 3   | (Permissible Short A and one other Pin) |   |   |    |   |     |
| *6CG3                                       | 6 | A | 4 | K | 10  | 6CM6                                    | 6 | C | 7  | C | 3   |
| (Disregard Shorts except H-K)               |   |   |   |   |     | 6CM7                                    | 6 | D | 2  | G | 3   |
| 6CG6                                        | 6 | E | 6 | A | 4   |                                         | 6 | D | 2  | H | 3   |
| 6CG7                                        | 6 | E | 6 | B | 3   | 6CM8                                    | 6 | E | 6  | B | 3   |
|                                             | 6 | E | 6 | G | 3   |                                         | 6 | F | 6  | J | 3   |
| 6CG8                                        | 6 | E | 3 | A | 3   | 6CN6                                    | 6 | C | 6  | E | 1   |
|                                             | 6 | E | 3 | J | 3   | 6CN7                                    | 6 | F | 10 | A | 3   |
| *6CH3                                       | 6 | A | 2 | G | 5   |                                         | 6 | F | 10 | B | 3   |
| (Disregard All Shorts except H-K)           |   |   |   |   |     |                                         | 6 | F | 10 | G | 3   |
| *6CH6                                       | 6 | C | 1 | B | 3   | 6CQ4                                    | 6 | A | 2  | E | 2   |
| (Permissible Shorts F, G and one other Pin) |   |   |   |   |     | 6CQ6                                    | 6 | E | 6  | A | 4   |
| 6CH7                                        | 6 | E | 9 | B | 3   | 6CQ8                                    | 6 | D | 6  | B | 3   |
|                                             | 6 | E | 9 | G | 3   |                                         | 6 | D | 6  | J | 3   |
| 6CH8                                        | 6 | E | 6 | G | 3   | *6CR5                                   | 6 | C | 9  | C | 3   |
|                                             | 6 | E | 6 | H | 3   | (Normal Short A, B, F, G)               |   |   |    |   |     |
| 6CJ3                                        | 6 | A | 8 | B | 5   | 6CR6                                    | 6 | E | 6  | G | 4   |
| *6CJ6                                       | 6 | C | 1 | B | 3   |                                         | 6 | G | 6  | B | 4   |
| (Permissible Shorts F, G and H or J)        |   |   |   |   |     | *6CR8                                   | 6 | D | 6  | B | 3   |
| *6CK3                                       | 6 | A | 2 | G | 5   |                                         | 6 | D | 6  | J | 3   |
| (Disregard Shorts except H-K)               |   |   |   |   |     | (Permissible Short H Only)              |   |   |    |   |     |
| 6CK4                                        | 6 | C | 3 | A | 1   | *6CS5                                   | 6 | C | 7  | C | 3   |
| 6CK6                                        | 6 | C | 6 | B | 3   | (Permissible Short H and one other Pin) |   |   |    |   |     |
| *6CL3                                       | 6 | A | 2 | G | 5   | 6CS6                                    | 6 | D | 6  | A | 4   |
| (Disregard Shorts except H-K)               |   |   |   |   |     |                                         |   |   |    |   |     |

| TUBE                                          | A | B | C | D | Skt | TUBE                                                        | A | B | C | D | Skt |
|-----------------------------------------------|---|---|---|---|-----|-------------------------------------------------------------|---|---|---|---|-----|
| 6CS7                                          | 6 | C | 2 | C | 3   | 6DA7                                                        | 6 | C | 2 | C | 3   |
|                                               | 6 | F | 2 | G | 3   |                                                             | 6 | E | 2 | G | 3   |
| 6CS8                                          | 6 | D | 6 | B | 3   | *6DB5                                                       | 6 | C | 7 | C | 3   |
|                                               | 6 | E | 6 | J | 3   | (Normal Short B, G; Permissible Short H and one other Pin)  |   |   |   |   |     |
| *6CT3                                         | 6 | A | 2 | F | 3   | 6DB6                                                        | 6 | E | 6 | A | 4   |
| (Disregard Shorts except H-K)                 |   |   |   |   |     | 6DC6                                                        | 6 | E | 6 | A | 4   |
| 6CU5                                          | 6 | C | 5 | B | 4   | 6DC8                                                        | 6 | D | 6 | B | 3   |
| 6CU6                                          | 6 | A | 6 | E | 1   |                                                             | 6 | G | 6 | G | 3   |
| *6CU8                                         | 6 | E | 6 | G | 3   |                                                             | 6 | G | 6 | H | 3   |
|                                               | 6 | E | 6 | H | 3   | 6DE4                                                        | 6 | A | 2 | E | 2   |
| (Permissible Short A Only)                    |   |   |   |   |     | 6DE6                                                        | 6 | D | 6 | A | 4   |
| 6CW4                                          | 6 | F | 6 | D | 6   | 6DE7                                                        | 6 | C | 3 | B | 3   |
| *6CW5                                         | 6 | C | 1 | B | 3   |                                                             | 6 | E | 3 | G | 3   |
| (Permissible Short F or H, and one other Pin) |   |   |   |   |     | 6DF12                                                       | 6 | D | 6 | B | 3   |
| 6CW7                                          | 6 | D | 8 | F | 3   |                                                             | 6 | G | 6 | G | 3   |
|                                               | 6 | D | 8 | B | 3   |                                                             | 6 | G | 6 | H | 3   |
| 6CX7                                          | 6 | E | 9 | B | 3   | 6DG6                                                        | 6 | C | 6 | E | 1   |
|                                               | 6 | E | 9 | G | 3   | *6DG7                                                       | 6 | D | 1 | B | 3   |
| 6CX8                                          | 6 | C | 6 | G | 3   | (Permissible Short F and one other Pin)                     |   |   |   |   |     |
|                                               | 6 | E | 6 | B | 3   | 6DJ8                                                        | 6 | D | 6 | B | 3   |
| 6CY5                                          | 6 | E | 2 | A | 4   |                                                             | 6 | D | 6 | G | 3   |
| 6CY7                                          | 6 | C | 2 | C | 3   | 6DK6                                                        | 6 | D | 6 | A | 4   |
|                                               | 6 | E | 2 | G | 3   | *6DL4                                                       | 6 | H | 1 | H | 3   |
| *6CZ5                                         | 6 | C | 7 | C | 3   | (Normal Shorts A, C, F, G, J Emission and Shorts Test Only) |   |   |   |   |     |
| (Permissible Short H and one other Pin)       |   |   |   |   |     | 6DL5                                                        | 6 | C | 8 | A | 4   |
| 6D4                                           | 6 | F | 6 | A | 4   | 6DM4                                                        | 6 | A | 2 | E | 2   |
| 6D5                                           | 6 | C | 6 | E | 1   | 6DM8                                                        | 6 | E | 6 | F | 5   |
| 6D8                                           | 6 | E | 6 | E | 1   |                                                             | 6 | E | 6 | H | 5   |
| 6D10                                          | 6 | E | 9 | A | 10  |                                                             | 6 | E | 6 | J | 5   |
|                                               | 6 | E | 9 | G | 10  | 6DN6                                                        | 6 | A | 6 | E | 1   |
|                                               | 6 | E | 9 | J | 10  | 6DN7                                                        | 6 | C | 6 | A | 2   |
| 6DA4                                          | 6 | A | 2 | E | 2   |                                                             | 6 | F | 6 | D | 2   |
| 6DA6                                          | 6 | D | 1 | B | 3   |                                                             |   |   |   |   |     |

| TUBE                                        | A | B | C | D | Skt |
|---------------------------------------------|---|---|---|---|-----|
| 6DQ4                                        | 6 | A | 2 | E | 2   |
| *6DQ5                                       | 6 | A | 5 | A | 1   |
| (Normal Shorts C, D, E, H)                  |   |   |   |   |     |
| 6DQ6                                        | 6 | A | 6 | E | 1   |
| 6DR4                                        | 6 | F | 1 | F | 4   |
| *6DR6                                       | 6 | D | 1 | B | 3   |
| (Permissible Shorts F, G and one other Pin) |   |   |   |   |     |
| 6DR7                                        | 6 | C | 3 | B | 3   |
|                                             | 6 | E | 3 | G | 3   |
| 6DR8                                        | 6 | G | 6 | H | 3   |
|                                             | 6 | G | 6 | B | 3   |
|                                             | 6 | G | 6 | G | 3   |
| 6DS4                                        | 6 | G | 6 | D | 6   |
| 6DS5                                        | 6 | C | 8 | A | 4   |
| 6DS8                                        | 6 | F | 6 | B | 3   |
|                                             | 6 | G | 6 | J | 3   |
| 6DT4                                        | 6 | A | 1 | E | 2   |
| *6DT5                                       | 6 | C | 7 | C | 3   |
| (Permissible Short H and one other Pin)     |   |   |   |   |     |
| 6DT6                                        | 6 | E | 6 | A | 4   |
| 6DT8                                        | 6 | E | 6 | B | 3   |
|                                             | 6 | E | 6 | G | 3   |
| *6DW4                                       | 6 | A | 8 | B | 5   |
| (Disregard Shorts except H-K)               |   |   |   |   |     |
| 6DW5                                        | 6 | C | 7 | C | 3   |
| *6DX4                                       | 6 | D | 7 | B | 4   |
| (Normal Shorts A, G)                        |   |   |   |   |     |
| 6DX8                                        | 6 | D | 6 | H | 3   |
|                                             | 6 | F | 6 | A | 3   |
| *6DY4                                       | 6 | D | 7 | B | 4   |
| (Normal Shorts A, G)                        |   |   |   |   |     |
| 6DY5                                        | 6 | B | 1 | B | 3   |
| 6DY7                                        | 6 | C | 6 | A | 1   |
|                                             | 6 | C | 6 | E | 1   |

| TUBE                          | A | B | C | D | Skt |
|-------------------------------|---|---|---|---|-----|
| *6DZ4                         | 6 | D | 7 | B | 4   |
| (Normal Shorts A, G)          |   |   |   |   |     |
| 6DZ7                          | 6 | C | 6 | A | 1   |
|                               | 6 | C | 6 | E | 1   |
| 6DZ8                          | 6 | C | 6 | C | 3   |
|                               | 6 | F | 6 | A | 3   |
| 6E8                           | 6 | D | 6 | K | 1   |
| 6EA5                          | 6 | E | 8 | A | 4   |
| *6EA4                         | 6 | G | 2 | F | 10  |
| (Disregard Shorts except H-K) |   |   |   |   |     |
| 6EA7                          | 6 | D | 6 | A | 2   |
|                               | 6 | F | 6 | D | 2   |
| 6EA8                          | 6 | D | 6 | B | 3   |
|                               | 6 | D | 6 | J | 3   |
| 6EB5                          | 6 | F | 6 | B | 4   |
|                               | 6 | F | 6 | G | 4   |
| 6EB8                          | 6 | C | 6 | G | 3   |
|                               | 6 | F | 6 | B | 3   |
| 6EC7                          | 6 | D | 3 | A | 3   |
| +*6ED4                        | 6 | G | 2 | H | 12  |
| (Disregard Shorts except H-K) |   |   |   |   |     |
| *6EF4                         | 6 | H | 6 | F | 10  |
| (Disregard Shorts except H-K) |   |   |   |   |     |
| 6EF6                          | 6 | C | 6 | E | 1   |
| 6EH5                          | 6 | C | 5 | B | 4   |
| 6EH7                          | 6 | D | 3 | B | 3   |
| 6EH8                          | 6 | D | 1 | B | 3   |
|                               | 6 | D | 1 | G | 3   |
| 6EJ4                          | 6 | H | 6 | F | 10  |
| 6EJ7                          | 6 | D | 3 | B | 3   |
| *6EL4                         | 6 | J | 3 | E | 1   |
| (Disregard Shorts except H-K) |   |   |   |   |     |
| 6EL7                          | 6 | D | 1 | B | 3   |
| 6EM5                          | 6 | C | 7 | C | 8   |

| TUBE                                                      | A | B | C | D | Skt |
|-----------------------------------------------------------|---|---|---|---|-----|
| 6EM7                                                      | 6 | D | 6 | A | 2   |
|                                                           | 6 | F | 6 | D | 2   |
| 6EQ7                                                      | 6 | E | 6 | B | 3   |
|                                                           | 6 | G | 6 | H | 3   |
| 6ER5                                                      | 6 | E | 8 | B | 4   |
| 6ES5                                                      | 6 | E | 8 | B | 4   |
| 6ES6                                                      | 6 | D | 6 | A | 4   |
| 6ES8                                                      | 6 | D | 6 | B | 3   |
|                                                           | 6 | D | 6 | G | 3   |
| 6ET6                                                      | 6 | D | 6 | A | 4   |
| 6ET7                                                      | 6 | D | 6 | G | 3   |
|                                                           | 6 | G | 6 | C | 3   |
|                                                           | 6 | G | 6 | B | 3   |
| 6EU7                                                      | 6 | G | 6 | E | 13  |
|                                                           | 6 | G | 6 | H | 13  |
| (See back of book for Mighty Mites not having socket #13) |   |   |   |   |     |
| 6EU8                                                      | 6 | D | 6 | B | 3   |
|                                                           | 6 | D | 6 | G | 3   |
| (See Magnoval Note on Page B)                             |   |   |   |   |     |
| 6EV5                                                      | 6 | E | 8 | A | 4   |
| 6EV7                                                      | 6 | E | 6 | B | 3   |
|                                                           | 6 | E | 6 | G | 3   |
| 6EV8                                                      | 6 | D | 6 | A | 3   |
|                                                           | 6 | D | 6 | J | 3   |
| 6EW6                                                      | 6 | D | 6 | A | 4   |
| 6EW7                                                      | 6 | C | 3 | G | 3   |
|                                                           | 6 | F | 3 | B | 3   |
| 6EX6                                                      | 6 | A | 6 | E | 1   |
| 6EY6                                                      | 6 | C | 6 | E | 1   |
| 6EZ5                                                      | 6 | C | 6 | E | 1   |
| 6EZ8                                                      | 6 | E | 6 | B | 3   |
|                                                           | 6 | E | 6 | G | 3   |
|                                                           | 6 | E | 6 | J | 3   |
| 6F5                                                       | 6 | F | 6 | K | 1   |

|       |   |   |   |   |   |
|-------|---|---|---|---|---|
| 6F6   | 6 | B | 6 | E | 1 |
| 6F8   | 6 | E | 6 | K | 1 |
|       | 6 | E | 6 | E | 1 |
| 6F10  | 6 | D | 6 | D | 1 |
| 6F12  | 6 | D | 6 | A | 4 |
| 6F19  | 6 | D | 3 | B | 3 |
| 6F21  | 6 | E | 6 | A | 4 |
| 6F22  | 6 | F | 2 | J | 3 |
| 6F26  | 6 | D | 3 | B | 3 |
| 6F29  | 6 | D | 3 | B | 3 |
| 6F30  | 6 | D | 3 | B | 3 |
| 6F31  | 6 | D | 6 | A | 4 |
| 6F32  | 6 | E | 2 | A | 4 |
| 6F35  | 6 | G | 2 | A | 4 |
| 6F36  | 6 | D | 6 | A | 4 |
| 6FA7  | 6 | F | 6 | G | 3 |
|       | 6 | G | 6 | C | 3 |
| 6FB8  | 6 | H | 6 | A | 3 |
|       | 6 | H | 6 | B | 3 |
|       | 6 | H | 6 | C | 3 |
|       | 6 | H | 6 | F | 3 |
|       | 6 | H | 6 | G | 3 |
|       | 6 | H | 6 | H | 3 |
| 6FC7  | 6 | D | 8 | B | 3 |
|       | 6 | D | 8 | F | 3 |
| 6FD6  | 6 | F | 6 | A | 4 |
| 6FD7  | 6 | C | 2 | C | 3 |
|       | 6 | F | 2 | G | 3 |
| 6FD12 | 6 | D | 6 | B | 3 |
|       | 6 | G | 6 | G | 3 |
|       | 6 | G | 6 | H | 3 |
| 6FE5  | 6 | C | 6 | E | 1 |
| 6FG5  | 6 | D | 2 | A | 4 |

| TUBE                      | A | B | C | D | Skt | TUBE                       | A | B | C | D | Skt |
|---------------------------|---|---|---|---|-----|----------------------------|---|---|---|---|-----|
| 6FG7                      | 6 | D | 3 | J | 3   | 6G6                        | 6 | D | 6 | E | 1   |
|                           | 6 | E | 3 | A | 3   | 6G11                       | 6 | C | 5 | H | 10  |
| 6FH5                      | 6 | E | 8 | B | 4   |                            | 6 | D | 5 | C | 10  |
| 6FH6                      | 6 | A | 6 | E | 1   | 6GA7                       | 6 | A | 2 | A | 10  |
| *6FH8                     | 6 | E | 6 | B | 3   |                            | 6 | A | 2 | D | 10  |
|                           | 6 | E | 6 | F | 3   | 6GA8                       | 6 | D | 6 | B | 3   |
| (Normal Short H-K)        |   |   |   |   |     |                            | 6 | D | 6 | G | 3   |
| 6FJ7                      | 6 | E | 7 | K | 10  | 6G-B3A                     | 6 | A | 3 | E | 1   |
|                           | 6 | A | 7 | C | 10  | +*6GB5                     | 6 | A | 2 | A | 12  |
| 6FM7                      | 6 | C | 9 | C | 10  | (Normal Shorts C, F, G, H) |   |   |   |   |     |
|                           | 6 | E | 9 | K | 10  | 6G-B6                      | 6 | A | 6 | E | 1   |
| 6FM8                      | 6 | F | 6 | B | 3   | 6G-B7                      | 6 | A | 3 | E | 1   |
|                           | 6 | F | 6 | H | 3   | *6GC5                      | 6 | C | 7 | C | 3   |
| *6FN5                     | 6 | A | 4 | E | 1   | (Normal Shorts A, H)       |   |   |   |   |     |
| (Normal Short A, C, F, H) |   |   |   |   |     | 6GC6                       | 6 | A | 4 | E | 1   |
| 6FQ5                      | 6 | D | 1 | B | 4   | 6GD7                       | 6 | D | 3 | A | 4   |
| 6FQ7                      | 6 | D | 6 | B | 3   |                            | 6 | D | 3 | J | 4   |
|                           | 6 | D | 6 | G | 3   | *6GE5                      | 6 | A | 1 | C | 10  |
| 6FR7                      | 6 | C | 3 | B | 3   | (Normal Short D and K)     |   |   |   |   |     |
|                           | 6 | F | 3 | G | 3   | 6GE8                       | 6 | D | 6 | C | 3   |
| 6FS5                      | 6 | D | 2 | A | 4   |                            | 6 | F | 6 | H | 3   |
| 6FV6                      | 6 | E | 6 | A | 4   | *6GF5                      | 6 | A | 1 | C | 10  |
| 6FV8                      | 6 | D | 6 | A | 3   | (Normal Short D and K)     |   |   |   |   |     |
|                           | 6 | D | 6 | J | 3   | 6GF7                       | 6 | C | 6 | B | 5   |
| 6FW5                      | 6 | A | 6 | A | 1   |                            | 6 | G | 6 | J | 5   |
| 6FW8                      | 6 | E | 6 | B | 3   | 6GH8                       | 6 | D | 6 | B | 3   |
|                           | 6 | E | 6 | G | 3   |                            | 6 | D | 6 | J | 3   |
| 6FY5                      | 6 | E | 1 | B | 4   | *6GJ5                      | 6 | A | 7 | B | 5   |
| 6FY7                      | 6 | C | 9 | C | 10  | (Normal Short A, G)        |   |   |   |   |     |
|                           | 6 | F | 9 | K | 10  | 6GJ7                       | 6 | D | 3 | B | 3   |
| 6FX4                      | 6 | A | 6 | A | 4   |                            | 6 | E | 3 | J | 3   |
|                           | 6 | A | 6 | F | 4   | 6GJ8                       | 6 | E | 6 | B | 3   |
|                           |   |   |   |   |     |                            | 6 | E | 6 | J | 3   |
| 6FY8                      | 6 | E | 6 | C | 3   | 6GK5                       | 6 | E | 8 | B | 4   |
|                           | 6 | F | 6 | A | 3   | 6GK6                       | 6 | C | 3 | B | 3   |

| TUBE                          | A | B | C | D | Skt | TUBE                          | A | B | C  | D | Skt |
|-------------------------------|---|---|---|---|-----|-------------------------------|---|---|----|---|-----|
| 6GK7                          | 6 | F | 3 | B | 3   | 6GX7                          | 6 | D | 3  | B | 3   |
| 6G-K17                        | 6 | A | 2 | E | 2   |                               | 6 | D | 3  | J | 3   |
| 6GL7                          | 6 | C | 6 | D | 2   | *6GY5                         | 6 | A | 5  | J | 10  |
|                               | 6 | E | 6 | A | 2   | (Normal Shorts A, C, D, G, K) |   |   |    |   |     |
| (See Magnoval Note on Page B) |   |   |   |   |     | 6GY6                          | 6 | E | 6  | A | 4   |
| 6GM5                          | 6 | C | 3 | F | 8   | *6GY8                         | 6 | E | 6  | A | 3   |
| 6GM6                          | 6 | D | 6 | A | 4   |                               | 6 | E | 6  | C | 3   |
| 6GM8                          | 6 | E | 6 | B | 3   |                               | 6 | G | 6  | F | 3   |
|                               | 6 | E | 6 | G | 3   | (Normal Short H-K)            |   |   |    |   |     |
| 6GN6                          | 6 | E | 6 | A | 4   | 6GZ5                          | 6 | C | 5  | B | 4   |
|                               | 6 | E | 6 | G | 4   | 6H4                           | 6 | F | 6  | D | 1   |
| 6GN8                          | 6 | C | 6 | G | 3   | 6H6                           | 6 | E | 6  | C | 1   |
|                               | 6 | G | 6 | B | 3   |                               | 6 | E | 6  | E | 1   |
| 6GQ7                          | 6 | E | 3 | B | 3   | 6H8                           | 6 | D | 6  | K | 1   |
|                               | 6 | E | 3 | F | 3   |                               | 6 | G | 6  | E | 1   |
|                               | 6 | E | 3 | H | 3   |                               | 6 | G | 6  | D | 1   |
| 6GS7                          | 6 | E | 3 | A | 3   | 6HA5                          | 6 | E | 2  | A | 4   |
|                               | 6 | E | 3 | J | 3   | *6HA6                         | 6 | C | 3  | B | 3   |
| 6GS8                          | 6 | D | 6 | G | 3   | (Normal Short F, G)           |   |   |    |   |     |
| *6GT5                         | 6 | A | 7 | B | 5   | *6HB5                         | 6 | A | 3  | A | 10  |
| (Normal Short A, G)           |   |   |   |   |     | (Normal Shorts D, K)          |   |   |    |   |     |
| 6GU5                          | 6 | D | 2 | A | 4   | *6HB6                         | 6 | C | 3  | B | 3   |
| 6GU7                          | 6 | D | 6 | B | 3   | (Normal Shorts E, H)          |   |   |    |   |     |
|                               | 6 | D | 6 | G | 3   | 6HB7                          | 6 | D | 3  | B | 3   |
| *6GV5                         | 6 | A | 5 | J | 10  |                               | 6 | D | 3  | J | 3   |
| (Normal Shorts A, C, D, G, K) |   |   |   |   |     | 6HC8                          | 6 | C | 6  | C | 3   |
| 6GV7                          | 6 | E | 7 | G | 3   |                               | 6 | F | 6  | A | 3   |
|                               | 6 | D | 7 | J | 3   | *6HD5                         | 6 | A | 1  | C | 10  |
| 6GV8                          | 6 | C | 6 | J | 3   | (Normal Shorts D, E, J, K)    |   |   |    |   |     |
|                               | 6 | E | 6 | B | 3   | 6HD7                          | 6 | F | 3  | B | 3   |
| 6GW5                          | 6 | D | 7 | B | 4   |                               | 6 | F | 3  | J | 3   |
| 6GW6                          | 6 | A | 6 | E | 1   | *6HE5                         | 6 | C | 2  | J | 10  |
| 6GW8                          | 6 | C | 6 | H | 3   | (Normal Shorts A, C, D, K)    |   |   |    |   |     |
|                               | 6 | G | 6 | A | 3   | 6HE7                          | 6 | A | 11 | B | 10  |
| 6GX6                          | 6 | E | 6 | A | 4   |                               | 6 | A | 11 | J | 10  |

| TUBE                                          | A | B | C | D | Skt |
|-----------------------------------------------|---|---|---|---|-----|
| *6HF5                                         | 6 | A | 5 | J | 10  |
| (Normal Shorts A, C, D, F, H, K)              |   |   |   |   |     |
| 6HF8                                          | 6 | D | 6 | G | 3   |
|                                               | 6 | F | 6 | B | 3   |
| 6HG5                                          | 6 | C | 8 | A | 4   |
| 6HG8                                          | 6 | D | 3 | B | 3   |
|                                               | 6 | D | 3 | F | 3   |
| *6HJ5                                         | 6 | A | 1 | C | 10  |
| (Normal Shorts D, E, J, K)                    |   |   |   |   |     |
| 6HJ7                                          | 6 | F | 3 | B | 3   |
|                                               | 6 | F | 3 | J | 3   |
| 6HJ8                                          | 6 | D | 6 | B | 3   |
|                                               | 6 | G | 6 | H | 3   |
| 6HK5                                          | 6 | E | 2 | A | 4   |
| 6HK8                                          | 6 | E | 6 | B | 3   |
|                                               | 6 | E | 6 | G | 3   |
| *6HL5                                         | 6 | A | 1 | B | 3   |
| (Disregard Shorts on F, H, and one other Pin) |   |   |   |   |     |
| 6HL8                                          | 6 | D | 6 | B | 3   |
|                                               | 6 | D | 6 | J | 3   |
| 6HM5                                          | 6 | D | 2 | A | 4   |
| 6HM6                                          | 6 | D | 1 | B | 3   |
| 6HQ5                                          | 6 | E | 2 | A | 4   |
| 6HQ6                                          | 6 | D | 6 | A | 4   |
| 6HR5                                          | 6 | A | 8 | A | 4   |
| 6HR6                                          | 6 | D | 6 | A | 4   |
| *6HS5                                         | 6 | A | 1 | B | 10  |
| (Normal Shorts C, E, F, H, J, K)              |   |   |   |   |     |
| 6HS6                                          | 6 | E | 6 | A | 4   |
| *6HT5                                         | 6 | J | 3 | F | 10  |
| (Disregard Shorts except H-K)                 |   |   |   |   |     |
| 6HT6                                          | 6 | D | 1 | B | 3   |
| 6HS8                                          | 6 | D | 6 | G | 3   |
| 6HU8                                          | 6 | C | 6 | B | 3   |
|                                               | 6 | C | 6 | F | 3   |

| TUBE                                              | A | B | C | D | Skt |
|---------------------------------------------------|---|---|---|---|-----|
| *6HV5                                             | 6 | A | 1 | B | 10  |
| (Normal Shorts C, E, F, H, J, K)                  |   |   |   |   |     |
| 6HW8                                              | 6 | E | 6 | F | 3   |
| 6HZ6                                              | 6 | F | 6 | A | 4   |
| 6HZ8                                              | 6 | D | 6 | G | 3   |
|                                                   | 6 | E | 6 | B | 3   |
| *6J4                                              | 6 | H | 1 | G | 4   |
| (Emission and Short Test only; Normal Short A, F) |   |   |   |   |     |
| 6J5                                               | 6 | E | 6 | E | 1   |
| 6J6                                               | 6 | E | 6 | E | 4   |
|                                                   | 6 | E | 6 | F | 4   |
| 6J7                                               | 6 | F | 6 | K | 1   |
| 6J8                                               | 6 | F | 6 | E | 1   |
|                                                   | 6 | F | 6 | K | 1   |
| 6J9                                               | 6 | F | 6 | G | 3   |
|                                                   | 6 | F | 6 | J | 3   |
|                                                   | 6 | F | 6 | B | 3   |
| 6J10                                              | 6 | C | 6 | A | 10  |
|                                                   | 6 | H | 6 | F | 10  |
| 6J11                                              | 6 | D | 6 | E | 10  |
|                                                   | 6 | D | 6 | A | 10  |
| 6JA8                                              | 6 | D | 6 | G | 3   |
|                                                   | 6 | F | 6 | B | 3   |
| *6JB6                                             | 6 | A | 7 | B | 5   |
| (Normal Shorts A, G)                              |   |   |   |   |     |
| 6JB8                                              | 6 | D | 6 | B | 3   |
|                                                   | 6 | F | 6 | G | 3   |
| 6JC6                                              | 6 | D | 1 | B | 3   |
| 6JC8                                              | 6 | E | 1 | H | 3   |
|                                                   | 6 | D | 1 | B | 3   |
| 6JD6                                              | 6 | D | 1 | B | 3   |
| *6JE6                                             | 6 | A | 7 | B | 5   |
| (Normal Shorts A, G)                              |   |   |   |   |     |

| TUBE                       | A | B | C  | D | Skt |
|----------------------------|---|---|----|---|-----|
| 6JE8                       | 6 | F | 6  | B | 3   |
|                            | 6 | D | 6  | G | 3   |
| *6JF6                      | 6 | A | 7  | B | 5   |
| (Normal Shorts A, G)       |   |   |    |   |     |
| *6JG6                      | 6 | A | 7  | B | 5   |
| (Normal Shorts A, G)       |   |   |    |   |     |
| 6JH6                       | 6 | D | 6  | A | 4   |
| 6JH8                       | 6 | D | 6  | F | 3   |
| 6JK6                       | 6 | D | 6  | A | 4   |
| 6JK8                       | 6 | E | 6  | B | 3   |
|                            | 6 | E | 6  | G | 3   |
| 6JL6                       | 6 | D | 6  | A | 4   |
| 6JL8                       | 6 | C | 6  | G | 3   |
|                            | 6 | E | 6  | B | 3   |
| *6JM6                      | 6 | A | 9  | E | 10  |
| (Normal Shorts D, J, K)    |   |   |    |   |     |
| 6JN6                       | 6 | A | 4  | A | 10  |
| 6JN8                       | 6 | D | 6  | A | 3   |
|                            | 6 | D | 6  | J | 3   |
| 6JQ6                       | 6 | A | 8  | H | 3   |
|                            | 6 | G | 8  | F | 3   |
| 6JR6                       | 6 | A | 1  | B | 5   |
| *6JS6                      | 6 | A | 10 | E | 10  |
| (Normal Shorts A, C, D, K) |   |   |    |   |     |
| *6JT6                      | 6 | A | 7  | B | 5   |
| (Normal Shorts A, G)       |   |   |    |   |     |
| 6JT8                       | 6 | D | 6  | G | 3   |
|                            | 6 | F | 6  | B | 3   |
| *6JU6                      | 6 | A | 7  | B | 5   |
| (Normal Shorts A, G)       |   |   |    |   |     |
| *6JU8                      | 6 | E | 6  | A | 3   |
|                            | 6 | E | 6  | G | 3   |
|                            | 6 | E | 1  | B | 3   |
|                            | 6 | E | 8  | H | 3   |
| (Normal Shorts B, H)       |   |   |    |   |     |

| TUBE                       | A | B | C  | D | Skt |
|----------------------------|---|---|----|---|-----|
| 6JV8                       | 6 | D | 6  | G | 3   |
|                            | 6 | G | 6  | B | 3   |
| 6JW6                       | 6 | C | 7  | B | 3   |
| 6JW8                       | 6 | D | 6  | J | 3   |
|                            | 6 | C | 6  | B | 3   |
| 6JX8                       | 6 | E | 6  | B | 3   |
|                            | 6 | E | 6  | J | 3   |
| 6JY8                       | 6 | C | 6  | G | 3   |
|                            | 6 | D | 6  | B | 3   |
| *6JZ6                      | 6 | A | 8  | E | 10  |
| (Normal Shorts D, K)       |   |   |    |   |     |
| 6JZ8                       | 6 | C | 7  | G | 10  |
|                            | 6 | E | 7  | K | 10  |
| 6K5                        | 6 | F | 6  | K | 1   |
| 6K6                        | 6 | B | 6  | E | 1   |
| 6K7                        | 6 | E | 6  | K | 1   |
| 6K8                        | 6 | E | 6  | E | 1   |
| 6K11                       | 6 | F | 6  | A | 10  |
|                            | 6 | F | 6  | G | 10  |
|                            | 6 | D | 6  | J | 10  |
| 6KA8                       | 6 | E | 6  | F | 3   |
|                            | 6 | F | 6  | B | 3   |
| *6KD6                      | 6 | A | 10 | E | 10  |
| (Normal Shorts A, C, D, K) |   |   |    |   |     |
| 6KD8                       | 6 | D | 6  | B | 3   |
|                            | 6 | D | 6  | J | 3   |
| *6KE6                      | 6 | A | 10 | E | 10  |
| (Normal Shorts A, D, J, K) |   |   |    |   |     |
| 6KE8                       | 6 | D | 6  | J | 3   |
|                            | 6 | E | 6  | B | 3   |
| 6KF8                       | 6 | D | 6  | G | 3   |
| †*6KG6                     | 6 | A | 1  | H | 12  |
| (Normal Shorts B, C, F, G) |   |   |    |   |     |
| 6KH8                       | 6 | C | 6  | B | 3   |
|                            | 6 | C | 6  | F | 3   |

| TUBE                               | A | B | C  | D | Skt |
|------------------------------------|---|---|----|---|-----|
| 6KL8                               | 6 | D | 6  | B | 3   |
|                                    | 6 | F | 6  | H | 3   |
| (†See Magnoval Note on Page B)     |   |   |    |   |     |
| *6KM6                              | 6 | A | 7  | B | 5   |
| (Normal Shorts A, G)               |   |   |    |   |     |
| 6KM8                               | 6 | F | 6  | G | 3   |
|                                    | 6 | H | 6  | C | 3   |
| *6KN6                              | 3 | A | 10 | E | 10  |
| (Normal Shorts A, C, D, G, K, H-K) |   |   |    |   |     |
| 6KN8                               | 6 | D | 6  | B | 3   |
|                                    | 6 | D | 6  | G | 3   |
| 6KR8                               | 6 | D | 6  | B | 3   |
|                                    | 6 | C | 6  | G | 3   |
| 6KS6                               | 6 | H | 6  | E | 4   |
| (Emission and Shorts Test)         |   |   |    |   |     |
|                                    | 6 | H | 6  | B | 4   |
| (Grid Leakage Test)                |   |   |    |   |     |
| 6KS8                               | 6 | F | 6  | B | 3   |
|                                    | 6 | C | 6  | G | 3   |
| 6KT6                               | 6 | D | 3  | B | 3   |
| 6KT8                               | 6 | D | 6  | G | 3   |
|                                    | 6 | G | 6  | B | 3   |
| 6KU8                               | 6 | D | 6  | G | 3   |
|                                    | 6 | G | 6  | C | 3   |
|                                    | 6 | G | 6  | B | 3   |
| *6KV6                              | 6 | A | 1  | B | 5   |
| (Normal Shorts C, F, G, H)         |   |   |    |   |     |
| 6KV8                               | 6 | C | 6  | G | 3   |
|                                    | 6 | F | 6  | B | 3   |
| †6KW6                              | 6 | B | 9  | A | 12  |
| 6KX6                               | 6 | G | 6  | A | 3   |
|                                    | 6 | G | 6  | K | 3   |
| 6KY6                               | 6 | C | 3  | B | 3   |
| 6KY8                               | 6 | C | 6  | B | 5   |
|                                    | 6 | G | 6  | J | 5   |

| TUBE                                      | A  | B | C  | D | Skt |
|-------------------------------------------|----|---|----|---|-----|
| 6KZ8                                      | 6  | D | 6  | B | 3   |
|                                           | 6  | D | 6  | J | 3   |
| (†See Magnoval Note on Page B)            |    |   |    |   |     |
| 6L5                                       | 6  | F | 6  | E | 1   |
| 6L6                                       | 6  | C | 6  | E | 1   |
| 6L7                                       | 6  | F | 6  | K | 1   |
| 6L10                                      | 6  | C | 6  | D | 1   |
| 6L12                                      | 6  | D | 6  | B | 3   |
|                                           | 6  | D | 6  | G | 3   |
| 6L13                                      | 12 | F | 10 | B | 3   |
|                                           | 12 | F | 10 | G | 3   |
| 6L31                                      | 6  | C | 8  | A | 4   |
| *6L34                                     | 6  | E | 7  | A | 4   |
| (Normal Shorts B, E)                      |    |   |    |   |     |
| *6L40                                     | 6  | C | 1  | B | 3   |
| (Permissible Short F and H one other Pin) |    |   |    |   |     |
| *6L43                                     | 6  | C | 1  | B | 3   |
| (Normal Shorts C, H)                      |    |   |    |   |     |
| *6LB6                                     | 6  | A | 10 | E | 10  |
| (Normal Shorts A, C, D, K)                |    |   |    |   |     |
| *6LB8                                     | 6  | D | 6  | B | 3   |
|                                           | 6  | D | 6  | G | 3   |
| (Normal Shorts C, H)                      |    |   |    |   |     |
| 6LC6                                      | 6  | J | 3  | E | 2   |
| 6LC8                                      | 6  | E | 6  | F | 3   |
|                                           | 6  | F | 6  | B | 3   |
| 6LD6                                      | 6  | C | 7  | B | 5   |
| 6LD12                                     | 6  | F | 6  | H | 3   |
|                                           | 6  | G | 6  | F | 3   |
|                                           | 6  | G | 6  | B | 3   |
|                                           | 6  | G | 6  | A | 3   |
| 6LD13                                     | 6  | F | 6  | H | 3   |
|                                           | 6  | G | 6  | F | 3   |
|                                           | 6  | G | 6  | B | 3   |

| TUBE                       | A | B | C  | D | Skt |
|----------------------------|---|---|----|---|-----|
| 6LE8                       | 6 | D | 6  | J | 3   |
| *6LF6                      | 6 | A | 10 | E | 10  |
| (Normal Shorts A, C, D, K) |   |   |    |   |     |
| 6LF8                       | 6 | D | 6  | G | 3   |
|                            | 6 | G | 6  | B | 3   |
| *6LG6                      | 6 | A | 5  | J | 10  |
| (Normal Shorts A, C, D, K) |   |   |    |   |     |
| *6LH6                      | 6 | H | 6  | E | 1   |
| (Normal Shorts A, C, D, H) |   |   |    |   |     |
| 6LJ6                       | 6 | H | 6  | E | 1   |
| 6LJ8                       | 6 | D | 3  | A | 3   |
|                            | 6 | D | 3  | J | 3   |
| 6LM8                       | 6 | D | 6  | B | 3   |
|                            | 6 | D | 6  | J | 3   |
| 6LN8                       | 6 | D | 6  | B | 3   |
|                            | 6 | D | 6  | J | 3   |
| *6LQ6                      | 6 | A | 2  | F | 5   |
| (Normal Shorts A, G)       |   |   |    |   |     |
| 6LQ8                       | 6 | D | 6  | B | 3   |
|                            | 6 | D | 6  | G | 3   |
| *6LR6                      | 6 | A | 10 | E | 10  |
| (Normal Shorts A, C, D, K) |   |   |    |   |     |
| 6LR8                       | 6 | C | 6  | B | 5   |
|                            | 6 | D | 6  | J | 5   |
| *6LT8                      | 6 | E | 6  | J | 3   |
|                            | 6 | C | 6  | F | 3   |
|                            | 6 | C | 6  | H | 3   |
| (Normal Shorts A Only)     |   |   |    |   |     |
| *6LU8                      | 6 | B | 8  | F | 10  |
| (Normal Shorts F and G)    |   |   |    |   |     |
|                            | 6 | E | 8  | K | 10  |
| *6LV6                      | 6 | A | 10 | E | 10  |
| (Normal Shorts A, C, D, K) |   |   |    |   |     |

| TUBE                                              | A | B | C | D | Skt |
|---------------------------------------------------|---|---|---|---|-----|
| *6LX8                                             | 6 | D | 6 | J | 3   |
|                                                   | 6 | C | 6 | B | 3   |
| 6LY8                                              | 6 | F | 6 | B | 3   |
|                                                   | 6 | C | 6 | G | 3   |
| *6M5                                              | 6 | C | 7 | B | 3   |
| (Permissible Short H and one other Pin)           |   |   |   |   |     |
| 6M6                                               | 6 | F | 6 | E | 1   |
| 6M7                                               | 6 | D | 6 | K | 1   |
| 6M8                                               | 6 | D | 6 | K | 1   |
|                                                   | 6 | F | 6 | E | 1   |
|                                                   | 6 | G | 6 | H | 1   |
| 6M11                                              | 6 | D | 6 | B | 10  |
|                                                   | 6 | E | 6 | E | 10  |
|                                                   | 6 | E | 6 | H | 10  |
| 6MB8                                              | 6 | D | 6 | A | 3   |
|                                                   | 6 | E | 6 | J | 3   |
| 6MD8                                              | 6 | D | 6 | F | 5   |
|                                                   | 6 | D | 6 | J | 5   |
|                                                   | 6 | D | 6 | H | 5   |
| 6ME8                                              | 6 | D | 6 | F | 3   |
| 6MF8                                              | 6 | A | 8 | F | 10  |
|                                                   | 6 | E | 8 | K | 10  |
| 6MG8                                              | 6 | D | 6 | J | 3   |
|                                                   | 6 | E | 6 | B | 3   |
| *6M-H1                                            | 6 | G | 1 | G | 4   |
| (Emission and Short Test Only Normal Shorts E, F) |   |   |   |   |     |
| 6M-HH3                                            | 6 | E | 6 | E | 4   |
|                                                   | 6 | E | 6 | F | 4   |
| 6MJ8                                              | 6 | D | 6 | A | 10  |
|                                                   | 6 | D | 6 | H | 10  |
|                                                   | 6 | D | 6 | K | 10  |
| 6MK8                                              | 6 | E | 6 | G | 3   |

| TUBE                                        | A | B | C | D | Skt | TUBE                          | A               | B | C | D | Skt |
|---------------------------------------------|---|---|---|---|-----|-------------------------------|-----------------|---|---|---|-----|
| 6ML8                                        | 6 | D | 6 | F | 3   | 6PL12                         | 8               | C | 6 | C | 3   |
|                                             | 6 | D | 6 | H | 3   |                               | 8               | F | 6 | A | 3   |
|                                             | 6 | D | 6 | J | 3   | *6P-P22                       | 6               | D | 2 | J | 3   |
| 6MN8                                        | 6 | D | 6 | A | 10  | (Normal Shorts C, H)          |                 |   |   |   |     |
|                                             | 6 | D | 6 | H | 10  | 6Q4                           | 6               | G | 8 | A | 8   |
|                                             | 6 | D | 6 | K | 10  | 6Q5                           | 6               | F | 6 | E | 1   |
| 6M-P20                                      | 6 | C | 6 | A | 4   | 6Q6                           | 6               | F | 6 | K | 1   |
| 6MQ8                                        | 6 | E | 6 | B | 3   |                               | 6               | G | 6 | E | 1   |
|                                             | 6 | D | 6 | J | 3   | 6Q7                           | 6               | F | 6 | K | 1   |
| 6MU8                                        | 6 | C | 6 | B | 3   |                               | 6               | G | 6 | E | 1   |
|                                             | 6 | E | 6 | J | 3   |                               | 6               | G | 6 | D | 1   |
| *6N3                                        | 6 | A | 2 | J | 3   | 6Q11                          | 6               | D | 6 | J | 10  |
| (Disregard Shorts)                          |   |   |   |   |     |                               | 6               | F | 6 | G | 10  |
| *6N4                                        | 6 | D | 8 | A | 4   |                               | 6               | F | 6 | A | 10  |
| (Normal Short B, F)                         |   |   |   |   |     | *6QL6                         | 6               | B | 1 | J | 3   |
| 6N7                                         | 6 | E | 6 | D | 1   | (Normal Shorts B, C, G, H)    |                 |   |   |   |     |
|                                             | 6 | E | 6 | E | 1   | *6R3                          | 6               | A | 2 | J | 3   |
| 6N8                                         | 6 | F | 6 | B | 3   | (Disregard Shorts except H-K) |                 |   |   |   |     |
|                                             | 6 | G | 6 | G | 3   | 6R4                           | 6               | C | 6 | A | 3   |
|                                             | 6 | G | 6 | H | 3   | 6R6                           | 6               | E | 6 | K | 1   |
| 6N-H10                                      | 6 | G | 6 | D | 6   | 6R7                           | 6               | E | 6 | K | 1   |
| 6NK7                                        | 6 | F | 6 | K | 1   |                               | 6               | G | 6 | E | 1   |
| 6N-L7                                       | 6 | F | 6 | D | 6   |                               | 6               | G | 6 | D | 1   |
| 6P5                                         | 6 | F | 6 | E | 1   | 6R8                           | 6               | E | 6 | H | 3   |
| *6P7                                        | 6 | F | 6 | K | 1   |                               | 6               | G | 6 | F | 3   |
| (Normal Short C)                            |   |   |   |   |     |                               | 6               | G | 6 | B | 3   |
| 6P8                                         | 6 | E | 6 | K | 1   |                               | 6               | G | 6 | A | 3   |
|                                             | 6 | F | 6 | E | 1   | 6R-HH2                        | 6               | E | 6 | B | 3   |
| 6P9                                         | 6 | C | 8 | A | 4   |                               | 6               | E | 6 | G | 3   |
| *6P15                                       | 6 | C | 1 | B | 3   | 6R-HH8                        | 6               | D | 6 | B | 3   |
| (Permissible Shorts F, H and one other Pin) |   |   |   |   |     |                               | 6               | D | 6 | G | 3   |
| 6P17                                        | 6 | C | 6 | A | 4   | *6R-K19                       | 6               | A | 2 | J | 3   |
|                                             |   |   |   |   |     | (Disregard Shorts except H-K) |                 |   |   |   |     |
|                                             |   |   |   |   |     | 6R-P10                        | (See Last Page) |   |   |   |     |
|                                             |   |   |   |   |     | 6R-P15                        | 6               | A | 2 | A | 3   |

| TUBE                          | A               | B | C  | D | Skt |
|-------------------------------|-----------------|---|----|---|-----|
| *6R-P22                       | 6               | A | 10 | B | 3   |
| (Normal Shorts C, H)          |                 |   |    |   |     |
| 6R-R8                         | (See Last Page) |   |    |   |     |
| *6S2                          | 6               | H | 1  | K | 8   |
| (Disregard Shorts)            |                 |   |    |   |     |
| *6S4                          | 6               | C | 3  | F | 3   |
| (Disregard Shorts except H-K) |                 |   |    |   |     |
| 6S6                           | 6               | D | 6  | K | 1   |
| 6S7                           | 6               | E | 6  | K | 1   |
| 6S8                           | 6               | F | 6  | K | 2   |
|                               | 6               | G | 6  | D | 2   |
|                               | 6               | G | 6  | C | 2   |
|                               | 6               | G | 6  | A | 2   |
| 6SA7                          | 6               | D | 6  | E | 1   |
| 6SB7                          | 6               | D | 6  | E | 1   |
| 6SC7                          | 6               | F | 6  | C | 2   |
|                               | 6               | F | 6  | D | 2   |
| 6SD7                          | 6               | D | 6  | D | 1   |
| 6SE7                          | 6               | F | 6  | D | 1   |
| 6SF5                          | 6               | F | 6  | C | 2   |
| 6SF7                          | 6               | D | 6  | B | 2   |
|                               | 6               | G | 6  | E | 2   |
| 6SG7                          | 6               | D | 5  | D | 1   |
| 6SH7                          | 6               | D | 5  | D | 1   |
| 6SH8                          | 6               | E | 6  | G | 3   |
| 6SJ7                          | 6               | E | 6  | D | 1   |
| 6SK7                          | 6               | D | 6  | D | 1   |
| 6SL7                          | 6               | F | 6  | A | 2   |
|                               | 6               | F | 6  | D | 2   |
| 6SN7                          | 6               | E | 6  | A | 2   |
|                               | 6               | E | 6  | D | 2   |
| 6SQ7                          | 6               | F | 6  | B | 2   |
|                               | 6               | G | 6  | D | 2   |
|                               | 6               | G | 6  | E | 2   |

| TUBE                | A | B | C | D | Skt |
|---------------------|---|---|---|---|-----|
| 6SR7                | 6 | E | 6 | B | 2   |
|                     | 6 | G | 6 | D | 2   |
|                     | 6 | G | 6 | E | 2   |
| 6SS7                | 6 | E | 6 | D | 1   |
| 6ST7                | 6 | F | 6 | B | 2   |
|                     | 6 | G | 6 | D | 2   |
|                     | 6 | G | 6 | E | 2   |
| 6SU7                | 6 | F | 6 | A | 2   |
|                     | 6 | F | 6 | D | 2   |
| 6SV7                | 6 | F | 6 | B | 2   |
|                     | 6 | G | 6 | E | 2   |
| 6SZ7                | 6 | F | 6 | B | 2   |
|                     | 6 | G | 6 | D | 2   |
|                     | 6 | G | 6 | E | 2   |
| *6T4                | 6 | D | 7 | B | 4   |
| (Normal Short A, G) |   |   |   |   |     |
| 6T6                 | 6 | E | 6 | K | 1   |
| 6T7                 | 6 | F | 6 | K | 1   |
|                     | 6 | G | 6 | E | 1   |
|                     | 6 | G | 6 | D | 1   |
| 6T8                 | 6 | F | 6 | H | 3   |
|                     | 6 | G | 6 | F | 3   |
|                     | 6 | G | 6 | B | 3   |
|                     | 6 | G | 6 | A | 3   |
| 6T9                 | 6 | C | 6 | H | 10  |
|                     | 6 | D | 6 | D | 10  |
| 6T10                | 6 | D | 6 | C | 10  |
|                     | 6 | C | 6 | H | 10  |
| 6TE8                | 6 | F | 6 | E | 1   |
|                     | 6 | F | 6 | K | 1   |
| 6TE9                | 6 | F | 6 | G | 3   |
|                     | 6 | F | 6 | H | 3   |
| 6TH8                | 6 | F | 6 | E | 1   |
|                     | 6 | F | 6 | K | 1   |

| TUBE                          | A | B | C | D | Skt | TUBE                                                                                    | A | B | C | D | Skt |
|-------------------------------|---|---|---|---|-----|-----------------------------------------------------------------------------------------|---|---|---|---|-----|
| *6U3                          | 6 | A | 1 | J | 3   | *6X2                                                                                    | 6 | J | 6 | K | 5   |
| (Disregard Shorts except H-K) |   |   |   |   |     | (Insert two tube leads into 3 and 4 of sockets #3. Touch cap lead to top lead on tube.) |   |   |   |   |     |
| 6U4                           | 6 | A | 6 | E | 2   | 6X4                                                                                     | 6 | B | 6 | A | 4   |
| 6U6                           | 6 | C | 6 | E | 1   |                                                                                         | 6 | B | 6 | F | 4   |
| 6U7                           | 6 | E | 6 | K | 1   | 6X5                                                                                     | 6 | B | 6 | E | 1   |
| 6U8                           | 6 | D | 6 | B | 3   |                                                                                         | 6 | B | 6 | C | 1   |
|                               | 6 | D | 6 | J | 3   | 6X6                                                                                     | 6 | F | 6 | C | 1   |
| 6U9                           | 6 | D | 6 | C | 11  |                                                                                         | 6 | G | 6 | E | 1   |
|                               | 6 | D | 6 | K | 11  | 6X8                                                                                     | 6 | E | 6 | B | 3   |
| 6U10                          | 6 | E | 6 | A | 10  |                                                                                         | 6 | E | 6 | G | 3   |
|                               | 6 | E | 6 | G | 10  | 6X9                                                                                     | 6 | D | 6 | C | 11  |
|                               | 6 | E | 6 | J | 10  |                                                                                         | 6 | E | 6 | K | 11  |
| 6V3                           | 6 | A | 3 | G | 8   | 6Y3                                                                                     | 6 | F | 6 | K | 1   |
| 6V4                           | 6 | A | 7 | A | 8   | 6Y6                                                                                     | 6 | C | 6 | E | 1   |
|                               | 6 | A | 7 | G | 8   | 6Y7                                                                                     | 6 | F | 6 | D | 1   |
| 6V5                           | 6 | C | 6 | E | 2   |                                                                                         | 6 | F | 6 | E | 1   |
| 6V6                           | 6 | C | 6 | E | 1   | 6Y9                                                                                     | 6 | C | 6 | H | 11  |
| 6V7                           | 6 | F | 6 | K | 1   |                                                                                         | 6 | D | 6 | A | 11  |
|                               | 6 | G | 6 | E | 1   | 6Y10                                                                                    | 6 | C | 6 | C | 10  |
|                               | 6 | G | 6 | D | 1   |                                                                                         | 6 | F | 6 | H | 10  |
| 6V8                           | 6 | F | 6 | F | 3   | 6ZY5                                                                                    | 6 | A | 6 | C | 1   |
|                               | 6 | G | 6 | J | 3   |                                                                                         | 6 | A | 6 | E | 1   |
|                               | 6 | G | 6 | G | 3   | 6Z7                                                                                     | 6 | F | 6 | D | 1   |
|                               | 6 | G | 6 | B | 3   |                                                                                         | 6 | F | 6 | E | 1   |
| 6V9                           | 6 | D | 6 | H | 11  | 6Z10                                                                                    | 6 | C | 6 | A | 10  |
|                               | 6 | E | 6 | C | 11  |                                                                                         | 6 | H | 6 | F | 10  |
| 6W4                           | 6 | A | 2 | E | 2   | 7A4                                                                                     | 6 | E | 5 | F | 9   |
| 6W5                           | 6 | B | 6 | C | 1   | 7A5                                                                                     | 6 | C | 6 | F | 9   |
|                               | 6 | B | 6 | E | 1   | 7A6                                                                                     | 6 | E | 6 | C | 9   |
| 6W6                           | 6 | C | 6 | E | 1   |                                                                                         | 6 | E | 6 | F | 9   |
| 6W7                           | 6 | F | 6 | K | 1   | 7A7                                                                                     | 6 | E | 6 | F | 9   |
| 6W9                           | 6 | C | 6 | H | 11  | 7A8                                                                                     | 6 | E | 6 | D | 9   |
|                               | 6 | D | 6 | A | 11  |                                                                                         |   |   |   |   |     |

| TUBE                    | A | B | C  | D | Skt | TUBE | A               | B | C | D | Skt |
|-------------------------|---|---|----|---|-----|------|-----------------|---|---|---|-----|
| *7AB7                   | 6 | F | 6  | E | 1   | 7E6  | 6               | F | 4 | C | 9   |
| (Normal Shorts D, F, H) |   |   |    |   |     | 7E6  | 6               | G | 4 | E | 9   |
| 7AD7                    | 6 | C | 6  | F | 9   | 7E6  | 6               | G | 4 | F | 9   |
| 7AF7                    | 6 | E | 6  | D | 9   | 7E7  | 6               | E | 6 | F | 9   |
|                         | 6 | E | 6  | E | 9   | 7E7  | 6               | G | 6 | D | 9   |
| 7AG7                    | 6 | E | 6  | F | 9   | 7E7  | 6               | G | 6 | C | 9   |
| 7AH7                    | 6 | E | 6  | F | 9   | 7ED7 | 7               | E | 3 | B | 3   |
| 7AJ7                    | 6 | E | 6  | F | 9   | 7EK7 | 7               | E | 8 | B | 3   |
| 7AK7                    | 6 | C | 6  | F | 9   | 7EK7 | 7               | E | 8 | F | 3   |
| 7AN7                    | 7 | E | 8  | B | 3   | 7ES8 | 7               | D | 6 | B | 3   |
|                         | 7 | E | 8  | F | 3   | 7ES8 | 7               | D | 6 | G | 3   |
| 7AU7                    | 7 | D | 10 | B | 3   | 7EY6 | 7               | C | 6 | E | 1   |
|                         | 7 | D | 10 | G | 3   | 7F7  | 6               | F | 6 | D | 9   |
| 7B4                     | 6 | F | 6  | F | 9   | 7F7  | 6               | F | 6 | E | 9   |
| 7B5                     | 6 | C | 6  | F | 9   | 7F8  | (See Last Page) |   |   |   |     |
| 7B6                     | 6 | F | 4  | C | 9   | 7FC7 | 7               | D | 8 | B | 3   |
|                         | 6 | G | 4  | E | 9   | 7FC7 | 7               | D | 8 | F | 3   |
|                         | 6 | G | 4  | F | 9   | 7G7  | 6               | F | 6 | F | 9   |
| 7B7                     | 6 | E | 6  | F | 9   | 7G8  | 6               | F | 6 | D | 9   |
| 7B8                     | 6 | F | 6  | D | 9   | 7G8  | 6               | F | 6 | E | 9   |
| 7C4                     | 6 | F | 6  | D | 9   | 7GS7 | 7               | E | 3 | A | 3   |
| 7C5                     | 6 | C | 6  | F | 9   | 7GS7 | 7               | E | 3 | J | 3   |
| 7C6                     | 6 | F | 4  | C | 9   | 7GV7 | 7               | E | 7 | J | 3   |
|                         | 6 | G | 4  | E | 9   | 7GV7 | 7               | D | 7 | G | 3   |
|                         | 6 | G | 4  | F | 9   | 7H7  | 6               | D | 6 | F | 9   |
| 7C7                     | 6 | E | 6  | F | 9   | 7HG8 | 7               | D | 3 | B | 3   |
| 7D7                     | 6 | D | 6  | F | 9   | 7HG8 | 7               | D | 3 | F | 3   |
|                         | 6 | F | 6  | D | 9   | 7J7  | 6               | F | 6 | D | 9   |
| 7D11                    | 6 | A | 6  | E | 1   | 7J7  | 6               | E | 6 | F | 9   |
| 7DJ8                    | 7 | D | 6  | B | 3   | 7K7  | 6               | F | 6 | D | 9   |
|                         | 7 | D | 6  | G | 3   | 7K7  | 6               | G | 6 | E | 9   |
| *7E5                    | 6 | F | 5  | A | 9   | 7K7  | 6               | G | 6 | F | 9   |
| (Disregard Shorts)      |   |   |    |   |     | 7KY6 | 7               | C | 3 | B | 3   |
|                         |   |   |    |   |     | 7KZ6 | 7               | C | 3 | B | 3   |

| TUBE   | A | B | C | D | Skt |
|--------|---|---|---|---|-----|
| 7L7    | 6 | F | 6 | F | 9   |
| 7M-P18 | 7 | A | 8 | A | 4   |
| 7N7    | 6 | E | 6 | D | 9   |
|        | 6 | E | 6 | E | 9   |
| 7Q7    | 6 | E | 6 | D | 9   |
| 7R7    | 6 | F | 6 | F | 9   |
|        | 6 | G | 6 | D | 9   |
|        | 6 | G | 6 | C | 9   |
| 7S7    | 6 | D | 6 | F | 9   |
|        | 6 | E | 6 | D | 9   |
| 7T7    | 6 | E | 6 | F | 9   |
| 7V7    | 6 | E | 6 | F | 9   |
| 7W7    | 6 | D | 4 | F | 9   |
| 7X6    | 6 | B | 6 | C | 9   |
|        | 6 | B | 6 | F | 9   |
| 7X7    | 6 | F | 6 | C | 9   |
|        | 6 | G | 6 | E | 9   |
|        | 6 | G | 6 | F | 9   |
| 7Y4    | 6 | B | 4 | C | 9   |
|        | 6 | B | 4 | F | 9   |
| 7Z4    | 6 | B | 4 | C | 9   |
|        | 6 | B | 4 | F | 9   |
| 8A8    | 8 | D | 7 | B | 3   |
|        | 8 | E | 7 | J | 3   |
| 8AC9   | 8 | D | 6 | B | 10  |
|        | 8 | D | 2 | C | 10  |
|        | 8 | D | 6 | J | 10  |
| 8AC10  | 8 | E | 6 | A | 10  |
|        | 8 | E | 6 | G | 10  |
|        | 8 | E | 6 | J | 10  |
| 8AG10  | 8 | D | 6 | A | 10  |
| 8AL9   | 8 | E | 9 | E | 10  |
|        | 8 | C | 9 | A | 10  |

| TUBE                                       | A | B | C | D | Skt |
|--------------------------------------------|---|---|---|---|-----|
| 8AR11                                      | 8 | D | 6 | E | 10  |
|                                            | 8 | D | 6 | K | 10  |
| 8AU8                                       | 8 | D | 6 | G | 3   |
|                                            | 8 | E | 6 | B | 3   |
| 8AV11                                      | 8 | D | 6 | A | 10  |
|                                            | 8 | D | 6 | G | 10  |
|                                            | 8 | D | 6 | J | 10  |
| 8AW8                                       | 8 | D | 6 | G | 3   |
|                                            | 8 | F | 6 | B | 3   |
| 8B8                                        | 8 | C | 6 | C | 3   |
|                                            | 8 | F | 6 | A | 3   |
| 8B10                                       | 8 | E | 6 | C | 10  |
|                                            | 8 | E | 6 | E | 10  |
|                                            | 8 | F | 6 | H | 10  |
|                                            | 8 | F | 6 | K | 10  |
| 8BA8                                       | 8 | D | 6 | G | 3   |
|                                            | 8 | E | 6 | B | 3   |
| 8BA11                                      | 8 | D | 6 | D | 10  |
|                                            | 8 | E | 6 | J | 10  |
| 8BH8                                       | 8 | D | 6 | G | 3   |
|                                            | 8 | E | 6 | B | 3   |
| 8BM11                                      | 8 | C | 6 | F | 10  |
|                                            | 8 | D | 6 | A | 10  |
| 8BN8                                       | 8 | D | 6 | A | 3   |
|                                            | 8 | D | 6 | F | 3   |
|                                            | 8 | E | 6 | H | 3   |
| 8BN11                                      | 8 | E | 6 | C | 10  |
|                                            | 8 | E | 6 | G | 10  |
| *8BQ5                                      | 8 | C | 1 | B | 3   |
| (Permissible Short F, H and one other Pin) |   |   |   |   |     |
| 8BQ7                                       | 8 | E | 6 | B | 3   |
|                                            | 8 | E | 6 | G | 3   |

| TUBE                                       | A | B | C  | D | Skt |
|--------------------------------------------|---|---|----|---|-----|
| 8BQ11                                      | 8 | E | 6  | E | 10  |
|                                            | 8 | E | 6  | K | 10  |
| 8BU11                                      | 8 | D | 6  | D | 10  |
|                                            | 8 | D | 6  | F | 10  |
|                                            | 8 | D | 6  | H | 10  |
| 8BV7                                       | 8 | E | 8  | H | 3   |
|                                            | 8 | G | 8  | F | 3   |
|                                            | 8 | G | 8  | A | 3   |
| 8CB11                                      | 8 | D | 6  | C | 10  |
|                                            | 8 | C | 6  | A | 10  |
| 8CG7                                       | 8 | E | 6  | B | 3   |
|                                            | 8 | E | 6  | G | 3   |
| 8CM7                                       | 8 | D | 2  | G | 3   |
|                                            | 8 | D | 2  | H | 3   |
| 8CN7                                       | 8 | F | 10 | A | 3   |
|                                            | 8 | F | 10 | B | 3   |
|                                            | 8 | F | 10 | G | 3   |
| 8CS7                                       | 8 | C | 2  | C | 3   |
|                                            | 8 | F | 2  | G | 3   |
| *8CW5                                      | 8 | C | 1  | B | 3   |
| (Permissible Short F, H and one other Pin) |   |   |    |   |     |
| 8CX8                                       | 8 | C | 6  | G | 3   |
|                                            | 8 | E | 6  | B | 3   |
| 8CY7                                       | 8 | C | 2  | C | 3   |
|                                            | 8 | E | 2  | G | 3   |
| 8D8                                        | 8 | G | 2  | J | 3   |
| 8DX8                                       | 8 | D | 6  | H | 3   |
|                                            | 8 | F | 6  | A | 3   |
| 8EB8                                       | 8 | C | 6  | G | 3   |
|                                            | 8 | F | 6  | B | 3   |
| 8EL8                                       | 8 | D | 6  | J | 3   |
| 8EM5                                       | 8 | C | 7  | C | 8   |

| TUBE                 | A | B | C | D | Skt |
|----------------------|---|---|---|---|-----|
| 8ET7                 | 8 | D | 6 | G | 3   |
|                      | 8 | G | 6 | C | 3   |
|                      | 8 | G | 6 | B | 3   |
| 8FQ7                 | 8 | D | 6 | B | 3   |
|                      | 8 | E | 6 | G | 3   |
| 8GJ7                 | 8 | D | 3 | B | 3   |
|                      | 8 | E | 3 | J | 3   |
| 8GK6                 | 8 | C | 3 | B | 3   |
| 8GM6                 | 8 | D | 6 | A | 4   |
| 8GN8                 | 8 | C | 6 | G | 3   |
|                      | 8 | G | 6 | B | 3   |
| 8GU7                 | 8 | D | 6 | B | 3   |
|                      | 8 | D | 6 | G | 3   |
| 8GX7                 | 8 | D | 3 | B | 3   |
|                      | 8 | D | 3 | J | 3   |
| *8HA6                | 8 | C | 3 | B | 3   |
| (Normal Shorts F, G) |   |   |   |   |     |
| 8HG8                 | 8 | D | 3 | B | 3   |
|                      | 8 | D | 3 | F | 3   |
| 8JE8                 | 8 | D | 6 | G | 3   |
|                      | 8 | F | 6 | B | 3   |
| 8JK8                 | 8 | E | 6 | B | 3   |
|                      | 8 | E | 6 | G | 3   |
| 8JL8                 | 8 | C | 6 | G | 3   |
|                      | 8 | E | 6 | B | 3   |
| 8JT8                 | 8 | D | 6 | G | 3   |
|                      | 8 | F | 6 | B | 3   |
| *8JU8                | 8 | E | 6 | A | 3   |
|                      | 8 | E | 6 | G | 3   |
|                      | 8 | E | 1 | B | 3   |
|                      | 8 | E | 8 | H | 3   |
| (Normal Shorts B, H) |   |   |   |   |     |
| 8JV8                 | 8 | D | 6 | G | 3   |
|                      | 8 | G | 6 | B | 3   |

| TUBE                   | A | B | C | D | Skt | TUBE                                    | A | B | C  | D | Skt |
|------------------------|---|---|---|---|-----|-----------------------------------------|---|---|----|---|-----|
| 8KA8                   | 8 | E | 6 | F | 3   | 9AH9                                    | 9 | E | 5  | B | 10  |
|                        | 8 | F | 6 | B | 3   |                                         | 9 | C | 5  | F | 10  |
| 8KR8                   | 8 | D | 6 | B | 3   | 9AK8                                    | 9 | F | 6  | H | 3   |
|                        | 8 | B | 6 | G | 3   |                                         | 9 | G | 6  | F | 3   |
| 8KS8                   | 8 | F | 6 | B | 3   |                                         | 9 | G | 6  | B | 3   |
|                        | 8 | C | 6 | G | 3   |                                         | 9 | G | 6  | A | 3   |
| 8LC8                   | 8 | E | 6 | F | 3   | 9AK10                                   | 9 | E | 6  | A | 10  |
|                        | 8 | F | 6 | B | 3   |                                         | 9 | E | 6  | G | 10  |
| 8LE8                   | 8 | D | 6 | J | 3   |                                         | 9 | E | 6  | J | 10  |
| 8LN8                   | 8 | D | 6 | B | 3   | 9AQ8                                    | 9 | D | 6  | B | 3   |
|                        | 8 | D | 6 | J | 3   |                                         | 9 | D | 6  | G | 3   |
| 8LS6                   | 8 | D | 3 | B | 3   | 9AU7                                    | 9 | D | 10 | B | 3   |
| *8LT8                  | 8 | C | 6 | F | 3   |                                         | 9 | D | 10 | G | 3   |
|                        | 8 | C | 6 | H | 3   | 9BJ11                                   | 9 | E | 6  | A | 10  |
|                        | 8 | E | 6 | J | 3   |                                         | 9 | E | 6  | F | 10  |
| (Normal Shorts A Only) |   |   |   |   |     | 9BM5                                    | 9 | C | 8  | A | 4   |
| 8MU8                   | 8 | C | 6 | B | 3   | *9BR7                                   | 9 | E | 10 | G | 3   |
|                        | 8 | E | 6 | J | 3   |                                         | 9 | E | 10 | F | 3   |
| 8R-LP1                 | 8 | C | 6 | C | 3   |                                         | 9 | E | 10 | B | 3   |
|                        | 8 | F | 6 | A | 3   | (Normal Shorts F, G)                    |   |   |    |   |     |
| 8SN7                   | 8 | E | 6 | A | 2   | 9BR8                                    | 9 | D | 6  | J | 3   |
|                        | 8 | E | 6 | D | 2   |                                         | 9 | E | 6  | A | 3   |
| *8TL8                  | 8 | E | 6 | J | 3   | *9BW6                                   | 9 | C | 1  | B | 3   |
|                        | 8 | C | 6 | F | 3   | (Permissible Short F and one other Pin) |   |   |    |   |     |
|                        | 8 | C | 6 | H | 3   | 9CG8                                    | 9 | E | 3  | A | 3   |
| (Normal Shorts A Only) |   |   |   |   |     |                                         | 9 | E | 3  | J | 3   |
| 8U9                    | 8 | D | 6 | C | 11  | 9CL8                                    | 9 | D | 6  | A | 3   |
|                        | 8 | D | 6 | K | 11  |                                         | 9 | D | 6  | J | 3   |
| 8X9                    | 8 | D | 6 | C | 11  | 9D6                                     | 9 | F | 6  | A | 4   |
|                        | 8 | E | 6 | E | 11  | 9D7                                     | 9 | E | 1  | B | 3   |
| 9A8                    | 9 | D | 6 | B | 3   | 9DZ8                                    | 9 | C | 6  | C | 3   |
|                        | 9 | D | 6 | J | 3   |                                         | 9 | F | 6  | A | 3   |
| 9AB4                   | 9 | E | 2 | F | 4   | 9EA8                                    | 9 | D | 6  | J | 3   |
|                        |   |   |   |   |     |                                         | 9 | D | 6  | B | 3   |

| TUBE                           | A  | B | C | D | Skt |
|--------------------------------|----|---|---|---|-----|
| †9ED4                          | 9  | G | 2 | H | 12  |
| (Disregard Shorts except H-K)  |    |   |   |   |     |
| 9EF6                           | 9  | C | 6 | E | 1   |
| 9GH8                           | 9  | D | 6 | B | 3   |
|                                | 9  | D | 6 | J | 3   |
| 9GV8                           | 9  | C | 6 | J | 3   |
|                                | 9  | E | 6 | B | 3   |
| 9JC8                           | 9  | E | 1 | H | 3   |
|                                | 9  | D | 1 | B | 3   |
| (†See Magnoval Note on Page B) |    |   |   |   |     |
| 9JW8                           | 9  | D | 6 | J | 3   |
|                                | 9  | C | 6 | B | 3   |
| 9KC6                           | 9  | D | 6 | B | 3   |
| 9KX6                           | 9  | C | 3 | B | 3   |
| 9KZ8                           | 9  | D | 6 | B | 3   |
|                                | 9  | D | 6 | J | 3   |
| 9LA6                           | 9  | C | 3 | B | 3   |
| 9M-P12                         | 9  | C | 6 | A | 4   |
| 9MN8                           | 9  | D | 6 | A | 10  |
|                                | 9  | D | 6 | H | 10  |
|                                | 9  | D | 6 | K | 10  |
| 9P9                            | 9  | C | 8 | A | 4   |
| 9R-A6                          | 9  | C | 2 | G | 3   |
| 9R-AL1                         | 9  | C | 3 | B | 3   |
|                                | 9  | F | 3 | G | 3   |
| 9R-HR2                         | 9  | D | 6 | B | 3   |
|                                | 9  | D | 6 | J | 3   |
| 9U8                            | 9  | D | 6 | B | 3   |
|                                | 9  | D | 6 | J | 3   |
| 9V9                            | 9  | D | 6 | H | 11  |
|                                | 9  | E | 6 | C | 11  |
| 9X8                            | 9  | E | 6 | B | 3   |
|                                | 9  | E | 6 | G | 3   |
| 10AL11                         | 10 | C | 6 | H | 10  |
|                                | 10 | D | 6 | C | 10  |

| TUBE                                          | A  | B | C | D | Skt |
|-----------------------------------------------|----|---|---|---|-----|
| *10BQ5                                        | 10 | C | 1 | B | 3   |
| (Permissible Short F, H and one other Pin)    |    |   |   |   |     |
| 10C8                                          | 10 | D | 6 | H | 3   |
|                                               | 10 | E | 6 | B | 3   |
| 10C14                                         | 19 | E | 6 | B | 3   |
|                                               | 19 | F | 6 | J | 3   |
| *10CW5                                        | 10 | C | 1 | B | 3   |
| (Disregard Shorts on F, H, and one other Pin) |    |   |   |   |     |
| 10DA7                                         | 10 | C | 2 | C | 3   |
|                                               | 10 | E | 2 | G | 3   |
| 10DE7                                         | 10 | C | 3 | B | 3   |
|                                               | 10 | E | 3 | G | 3   |
| 10DR7                                         | 10 | C | 3 | B | 3   |
|                                               | 10 | E | 3 | G | 3   |
| 10DX8                                         | 10 | D | 6 | H | 3   |
|                                               | 10 | F | 6 | A | 3   |
| 10EB8                                         | 10 | C | 6 | G | 3   |
|                                               | 10 | F | 6 | B | 3   |
| 10EG7                                         | 10 | D | 6 | A | 2   |
|                                               | 10 | E | 6 | D | 2   |
| 10EM7                                         | 10 | D | 6 | A | 2   |
|                                               | 10 | F | 6 | D | 2   |
| 10EW7                                         | 10 | C | 3 | G | 3   |
|                                               | 10 | F | 3 | B | 3   |
| 10FD7                                         | 10 | C | 3 | G | 3   |
|                                               | 10 | D | 3 | B | 3   |
| 10FD12                                        | 19 | E | 6 | B | 3   |
|                                               | 19 | G | 6 | G | 3   |
|                                               | 19 | G | 6 | H | 3   |
| 10FH6                                         | 10 | A | 6 | E | 1   |
| 10FR7                                         | 10 | C | 3 | B | 3   |
|                                               | 10 | F | 3 | G | 3   |

| TUBE                 | A  | B | C  | D | Skt | TUBE   | A  | B | C  | D | Skt |
|----------------------|----|---|----|---|-----|--------|----|---|----|---|-----|
| 10GF7                | 10 | C | 6  | B | 5   | 10LW8  | 10 | F | 6  | B | 3   |
|                      | 10 | G | 6  | J | 5   |        | 10 | C | 6  | G | 3   |
| 10GK6                | 10 | C | 3  | B | 3   | 10LY8  | 10 | F | 6  | B | 3   |
| 10GN8                | 10 | C | 6  | G | 3   |        | 10 | C | 6  | G | 3   |
|                      | 10 | G | 6  | B | 3   | 10LZ8  | 10 | E | 6  | B | 3   |
| 10HA6                | 10 | C | 3  | B | 3   |        | 10 | D | 6  | G | 3   |
| (Normal Shorts F, G) |    |   |    |   |     | 10PL12 | 50 | C | 6  | C | 3   |
| 10HF8                | 10 | D | 6  | G | 3   |        | 50 | E | 6  | A | 3   |
|                      | 10 | F | 6  | B | 3   | 10Z10  | 10 | C | 6  | A | 10  |
| 10J10                | 10 | C | 6  | A | 10  |        | 10 | H | 6  | F | 10  |
|                      | 10 | H | 6  | F | 10  | 11AC11 | 11 | E | 6  | C | 10  |
| 10JA8                | 10 | D | 6  | G | 3   |        | 11 | E | 6  | F | 10  |
|                      | 10 | F | 6  | B | 3   |        | 11 | C | 6  | H | 10  |
| 10JT8                | 10 | D | 6  | G | 3   | 11AR11 | 11 | D | 6  | K | 10  |
|                      | 10 | F | 6  | B | 3   |        | 11 | D | 6  | E | 10  |
| 10JY8                | 10 | C | 6  | G | 3   | 11BM8  | 11 | C | 6  | C | 3   |
|                      | 10 | D | 6  | B | 3   |        | 11 | F | 6  | A | 3   |
| 10KU8                | 10 | D | 6  | G | 3   | 11BQ11 | 11 | E | 6  | E | 10  |
|                      | 10 | G | 6  | C | 3   |        | 11 | E | 6  | K | 10  |
|                      | 10 | G | 6  | B | 3   | 11BT11 | 11 | E | 6  | C | 10  |
| 10KR8                | 10 | C | 6  | G | 3   |        | 11 | E | 6  | E | 10  |
|                      | 10 | D | 6  | B | 3   |        | 11 | D | 6  | A | 10  |
| 10LB8                | 10 | D | 6  | B | 3   | 11C5   | 11 | C | 5  | B | 4   |
|                      | 10 | D | 6  | G | 3   | 11CF11 | 11 | C | 6  | E | 10  |
| 10L14                | 26 | E | 6  | B | 3   |        | 11 | E | 6  | A | 10  |
|                      | 26 | E | 6  | G | 3   |        | 11 | E | 6  | J | 10  |
| 10LD12               | 28 | F | 6  | H | 3   | 11CY7  | 11 | C | 2  | C | 3   |
|                      | 28 | G | 6  | F | 3   |        | 11 | E | 2  | G | 3   |
|                      | 28 | G | 6  | B | 3   | 11D12  | 6  | A | 6  | A | 2   |
|                      | 28 | G | 6  | A | 3   |        | 6  | A | 6  | D | 2   |
| 10LD13               | 14 | F | 10 | B | 3   | 11DS5  | 11 | C | 8  | A | 4   |
|                      | 14 | G | 10 | F | 3   | 11E13  | 12 | C | 10 | A | 3   |
|                      | 14 | G | 10 | H | 3   |        | 12 | C | 10 | C | 3   |
| 10LE8                | 10 | D | 6  | J | 3   |        |    |   |    |   |     |

| TUBE                   | A  | B | C  | D | Skt | TUBE                          | A  | B | C  | D | Skt |
|------------------------|----|---|----|---|-----|-------------------------------|----|---|----|---|-----|
| *11LT8                 | 11 | E | 6  | J | 3   | 12AE10                        | 12 | F | 6  | C | 10  |
|                        | 11 | C | 6  | F | 3   |                               | 12 | C | 6  | H | 10  |
|                        | 11 | C | 6  | H | 3   | *12AF3                        | 12 | A | 2  | J | 3   |
| (Normal Shorts A Only) |    |   |    |   |     | (Disregard Shorts except H-K) |    |   |    |   |     |
| 11FY7                  | 11 | C | 9  | C | 10  | 12AF6                         | 12 | F | 6  | A | 4   |
|                        | 11 | F | 9  | K | 10  | 12AG6                         | 12 | F | 6  | A | 4   |
| *11HM7                 | 11 | C | 7  | B | 3   | 12AG7                         | 12 | C | 6  | D | 1   |
| (Normal Shorts C, J)   |    |   |    |   |     | 12AH6                         | 12 | D | 6  | A | 4   |
| 11JE8                  | 11 | F | 6  | B | 3   | 12AH7                         | 12 | F | 6  | A | 2   |
|                        | 11 | D | 6  | G | 3   |                               | 12 | F | 6  | E | 2   |
| 11KV8                  | 11 | C | 6  | G | 3   | 12AH8                         | 12 | F | 10 | B | 3   |
|                        | 11 | F | 6  | B | 3   |                               | 12 | F | 10 | G | 3   |
| 11MS8                  | 11 | B | 6  | B | 3   | 12AJ6                         | 12 | F | 6  | A | 4   |
|                        | 11 | F | 6  | J | 3   |                               | 12 | G | 6  | E | 4   |
| 11LQ8                  | 11 | D | 6  | B | 3   |                               | 12 | G | 6  | F | 4   |
|                        | 11 | D | 6  | G | 3   | 12AJ7                         | 12 | F | 6  | B | 3   |
| 11Y9                   | 11 | C | 6  | H | 11  |                               | 12 | G | 6  | J | 3   |
|                        | 11 | D | 6  | A | 11  | 12AJ8                         | 12 | E | 6  | B | 3   |
| 1204                   | 6  | F | 7  | E | 9   |                               | 12 | E | 6  | J | 3   |
| 12A4                   | 12 | C | 3  | G | 8   | 12AK7                         | 12 | C | 6  | D | 1   |
| 12A6                   | 12 | C | 6  | E | 1   | 12AL5                         | 12 | E | 6  | B | 4   |
| 12A8                   | 12 | E | 6  | E | 1   |                               | 12 | E | 6  | G | 4   |
| *12AB5                 | 12 | C | 3  | F | 3   | 12AL8                         | 12 | E | 6  | C | 3   |
| (Normal Short A, H)    |    |   |    |   |     |                               | 12 | G | 6  | H | 3   |
| 12AC6                  | 12 | F | 6  | A | 4   | 12AL11                        | 12 | C | 6  | H | 10  |
| 12AD5                  | 12 | F | 8  | B | 3   |                               | 12 | E | 6  | C | 10  |
| 12AD6                  | 12 | F | 6  | A | 4   | 12AQ5                         | 12 | C | 8  | A | 4   |
| 12AD7                  | 12 | F | 10 | B | 3   | 12AS5                         | 12 | C | 5  | B | 4   |
|                        | 12 | F | 10 | G | 3   | 12AT6                         | 12 | F | 6  | A | 4   |
| 12AE6                  | 12 | F | 6  | A | 4   |                               | 12 | G | 6  | E | 4   |
|                        | 12 | G | 6  | E | 4   |                               | 12 | G | 6  | F | 4   |
|                        | 12 | G | 6  | F | 4   | 12AT7                         | 12 | E | 10 | B | 3   |
| 12AE7                  | 12 | F | 10 | B | 3   |                               | 12 | E | 10 | G | 3   |
|                        | 12 | G | 10 | G | 3   | 12AU6                         | 12 | D | 6  | A | 4   |

| TUBE                              | A  | B | C  | D | Skt | TUBE                              | A  | B | C  | D | Skt |
|-----------------------------------|----|---|----|---|-----|-----------------------------------|----|---|----|---|-----|
| 12AU7                             | 12 | D | 10 | B | 3   | 12BE3                             | 12 | A | 4  | K | 10  |
|                                   | 12 | D | 10 | G | 3   | 12BE6                             | 12 | D | 6  | A | 4   |
| 12AU8                             | 12 | D | 6  | G | 3   | 12BF6                             | 12 | F | 6  | A | 4   |
|                                   | 12 | D | 6  | B | 3   |                                   | 12 | G | 6  | E | 4   |
| 12AV5                             | 12 | A | 6  | A | 1   |                                   | 12 | G | 6  | F | 4   |
| 12AV6                             | 12 | F | 6  | A | 4   | 12BF11                            | 12 | C | 6  | H | 10  |
|                                   | 12 | G | 6  | E | 4   |                                   | 12 | D | 6  | C | 10  |
|                                   | 12 | G | 6  | F | 4   | 12BH7                             | 12 | D | 10 | B | 3   |
| 12AV7                             | 12 | D | 10 | B | 3   |                                   | 12 | D | 10 | G | 3   |
|                                   | 12 | D | 10 | G | 3   | 12BJ3                             | 12 | A | 4  | K | 10  |
| 12AW6                             | 12 | E | 6  | A | 4   | 12BK5                             | 12 | C | 8  | C | 3   |
| 12AX3                             | 12 | A | 11 | D | 10  | 12BK6                             | 12 | F | 6  | A | 4   |
| 12AX4                             | 12 | A | 2  | E | 2   |                                   | 12 | G | 6  | E | 4   |
| 12AX7                             | 12 | F | 10 | B | 3   |                                   | 12 | G | 6  | F | 4   |
|                                   | 12 | F | 10 | G | 3   | (†See Magnoval Note on Page B)    |    |   |    |   |     |
| *12AY3                            | 12 | A | 8  | B | 5   | 12BL6                             | 12 | F | 6  | A | 4   |
| (Disregard All Shorts except H-K) |    |   |    |   |     | 12BM5                             | 12 | C | 8  | A | 4   |
| 12AY7                             | 12 | F | 10 | B | 3   | *12BN6                            | 12 | H | 6  | E | 4   |
|                                   | 12 | F | 10 | G | 3   | (Emission and Short Test)         |    |   |    |   |     |
| 12AZ7                             | 12 | E | 10 | B | 3   |                                   | 12 | H | 6  | B | 4   |
|                                   | 12 | E | 10 | G | 3   | (Grid Leakage Test)               |    |   |    |   |     |
| †*12B-B14                         | 12 | A | 1  | B | 12  | 12BQ6                             | 12 | A | 6  | E | 1   |
| (Normal Shorts C, F, G, H)        |    |   |    |   |     | *12BR3                            | 12 | A | 1  | J | 8   |
| 12B3                              | 12 | A | 6  | G | 8   | (Disregard All Shorts except H-K) |    |   |    |   |     |
| 12B4                              | 12 | C | 3  | G | 8   | *12BR7                            | 12 | E | 10 | G | 3   |
| 12B6                              | 12 | F | 6  | K | 1   |                                   | 12 | E | 10 | F | 3   |
|                                   | 12 | G | 6  | E | 1   |                                   | 12 | E | 10 | B | 3   |
| 12B7                              | 12 | E | 6  | F | 9   | (Normal Shorts F, G)              |    |   |    |   |     |
| 12B8                              | 12 | E | 6  | K | 1   | *12BS3                            | 12 | A | 8  | B | 5   |
|                                   | 12 | F | 6  | H | 1   | (Disregard All Shorts except H-K) |    |   |    |   |     |
| 12BA6                             | 12 | D | 6  | A | 4   | 12BT3                             | 12 | A | 4  | K | 10  |
| 12BA7                             | 12 | D | 6  | B | 3   | 12BT6                             | 12 | F | 6  | A | 4   |
| 12BD5                             | 12 | A | 6  | A | 1   |                                   | 12 | G | 6  | E | 4   |
| 12BD6                             | 12 | D | 6  | A | 4   |                                   | 12 | G | 6  | F | 4   |

| TUBE                                       | A  | B | C  | D | Skt | TUBE                                                          | A  | B | C  | D | Skt |
|--------------------------------------------|----|---|----|---|-----|---------------------------------------------------------------|----|---|----|---|-----|
| 12BU6                                      | 12 | E | 6  | A | 4   | 12CT8                                                         | 12 | D | 6  | H | 3   |
|                                            | 12 | G | 6  | E | 4   |                                                               | 12 | E | 6  | B | 3   |
|                                            | 12 | G | 6  | F | 4   | 12CU5                                                         | 12 | C | 5  | B | 4   |
| *12BV7                                     | 12 | C | 7  | B | 3   | 12CU6                                                         | 12 | A | 6  | E | 1   |
| (Normal Shorts C, J)                       |    |   |    |   |     | 12CX6                                                         | 12 | F | 6  | A | 4   |
| 12BV11                                     | 12 | F | 6  | F | 10  | 12CY6                                                         | 12 | F | 6  | A | 4   |
|                                            | 12 | F | 6  | G | 10  | 12D4                                                          | 12 | A | 6  | E | 2   |
| 12BW4                                      | 12 | B | 6  | A | 3   | 12DA6                                                         | 12 | D | 7  | B | 3   |
|                                            | 12 | B | 6  | G | 3   | *12DB5                                                        | 12 | C | 7  | C | 3   |
| 12BX6                                      | 12 | D | 1  | B | 3   | (Normal Short B, G; Permissible<br>Short H and one other Pin) |    |   |    |   |     |
| *12BY3                                     | 12 | A | 2  | J | 3   | 12DE8                                                         | 12 | F | 6  | C | 3   |
| (Disregard Shorts except H-K)              |    |   |    |   |     |                                                               | 12 | F | 6  | A | 3   |
| 12BY7                                      | 12 | C | 7  | B | 3   | 12DF5                                                         | 12 | B | 10 | A | 3   |
| (Normal Shorts C, J)                       |    |   |    |   |     |                                                               | 12 | B | 10 | F | 3   |
| 12BZ6                                      | 12 | D | 6  | A | 4   | 12DF7                                                         | 12 | F | 10 | B | 3   |
| 12BZ7                                      | 12 | F | 10 | B | 3   |                                                               | 12 | F | 10 | G | 3   |
|                                            | 12 | F | 10 | G | 3   | 12DJ8                                                         | 12 | D | 6  | B | 3   |
| 12C5                                       | 12 | C | 5  | B | 4   |                                                               | 12 | D | 6  | G | 3   |
| 12C8                                       | 12 | E | 6  | K | 1   | *12DK5                                                        | 12 | F | 10 | B | 3   |
|                                            | 12 | G | 6  | D | 1   | (Permissible Short F and<br>one other Pin)                    |    |   |    |   |     |
|                                            | 12 | G | 6  | E | 1   | 12DK6                                                         | 12 | D | 6  | A | 4   |
| 12CA5                                      | 12 | C | 5  | B | 4   | 12DK7                                                         | 12 | E | 9  | A | 3   |
| *12CK3                                     | 12 | A | 2  | G | 5   |                                                               | 12 | G | 9  | F | 3   |
| (Disregard Shorts except H-K)              |    |   |    |   |     |                                                               | 12 | G | 9  | J | 3   |
| *12CL3                                     | 12 | A | 2  | G | 5   | 12DL8                                                         | 12 | C | 6  | C | 3   |
| (Disregard Shorts except H-K)              |    |   |    |   |     |                                                               | 12 | G | 6  | A | 3   |
| 12CM6                                      | 12 | C | 7  | C | 3   |                                                               | 12 | G | 6  | J | 3   |
| 12CN5                                      | 12 | F | 5  | B | 4   | 12DM4                                                         | 12 | A | 2  | E | 2   |
| *12CR5                                     | 12 | C | 9  | C | 3   | 12DM5                                                         | 12 | C | 5  | B | 4   |
| (Normal Short A, B, F, G)                  |    |   |    |   |     | 12DM7                                                         | 12 | E | 10 | B | 3   |
| 12CR6                                      | 12 | E | 6  | G | 4   |                                                               | 12 | E | 10 | G | 3   |
|                                            | 12 | G | 6  | B | 4   |                                                               |    |   |    |   |     |
| *12CS5                                     | 12 | C | 7  | C | 3   |                                                               |    |   |    |   |     |
| (Permissible Short H and<br>one other Pin) |    |   |    |   |     |                                                               |    |   |    |   |     |
| 12CS6                                      | 12 | D | 6  | A | 4   |                                                               |    |   |    |   |     |

| TUBE                                    | A  | B | C  | D | Skt | TUBE                                    | A  | B | C | D | Skt |
|-----------------------------------------|----|---|----|---|-----|-----------------------------------------|----|---|---|---|-----|
| 12DM8                                   | 12 | D | 6  | F | 5   | 12DY8                                   | 12 | D | 6 | A | 3   |
|                                         | 12 | D | 6  | H | 5   |                                         | 12 | F | 6 | J | 3   |
|                                         | 12 | D | 6  | J | 5   | 12DZ6                                   | 12 | F | 6 | A | 4   |
| 12DQ4                                   | 12 | A | 2  | E | 2   | 12DZ8                                   | 12 | C | 6 | C | 3   |
| 12DQ6                                   | 12 | A | 6  | E | 1   |                                         | 12 | F | 6 | A | 3   |
| *12DQ7                                  | 12 | C | 7  | B | 3   | 12E5                                    | 12 | F | 6 | E | 1   |
| (Normal Short C, J)                     |    |   |    |   |     | 12E13                                   | 6  | C | 6 | E | 1   |
| 12DS7                                   | 12 | D | 6  | C | 3   | 12EA6                                   | 12 | F | 6 | A | 4   |
|                                         | 12 | G | 6  | A | 3   | 12EC8                                   | 12 | F | 6 | A | 3   |
|                                         | 12 | G | 6  | J | 3   |                                         | 12 | F | 6 | J | 3   |
| *12DT5                                  | 12 | C | 7  | C | 3   | 12ED5                                   | 12 | C | 5 | B | 4   |
| (Permissible Short H and one other Pin) |    |   |    |   |     | 12EF6                                   | 12 | C | 6 | E | 1   |
| 12DT6                                   | 12 | E | 6  | A | 4   | 12EG6                                   | 12 | F | 6 | A | 4   |
| 12DT7                                   | 12 | G | 10 | B | 3   | 12EH5                                   | 12 | C | 5 | B | 4   |
|                                         | 12 | G | 10 | G | 3   | 12EK6                                   | 12 | E | 6 | A | 4   |
| 12DT8                                   | 12 | E | 6  | B | 3   | 12EL6                                   | 12 | F | 6 | A | 4   |
|                                         | 12 | E | 6  | G | 3   |                                         | 12 | G | 6 | E | 4   |
| 12DU7                                   | 12 | D | 9  | A | 3   |                                         | 12 | G | 6 | F | 4   |
|                                         | 12 | G | 9  | G | 3   | *12EM6                                  | 12 | E | 8 | A | 3   |
|                                         | 12 | G | 9  | J | 3   |                                         | 12 | G | 8 | J | 3   |
| 12DV7                                   | 12 | G | 10 | B | 3   | (Permissible Short H and one other Pin) |    |   |   |   |     |
|                                         | 12 | G | 10 | C | 3   | 12EN6                                   | 12 | C | 6 | E | 1   |
|                                         | 12 | G | 10 | G | 3   | 12EQ7                                   | 12 | E | 6 | B | 3   |
| 12DV8                                   | 12 | D | 6  | C | 3   |                                         | 12 | G | 6 | H | 3   |
|                                         | 12 | G | 6  | A | 3   | 12EZ6                                   | 12 | F | 6 | A | 4   |
|                                         | 12 | G | 6  | J | 3   | 12F5                                    | 12 | F | 6 | K | 1   |
| *12DW4                                  | 12 | A | 8  | B | 5   | 12F8                                    | 12 | F | 6 | H | 3   |
| (Disregard Shorts except H-K)           |    |   |    |   |     |                                         | 12 | G | 6 | F | 3   |
| 12DW5                                   | 12 | C | 7  | C | 3   |                                         | 12 | G | 6 | A | 3   |
| 12DW7                                   | 12 | D | 10 | B | 3   | 12FA6                                   | 12 | F | 6 | A | 4   |
|                                         | 12 | F | 10 | G | 3   | *12FB5                                  | 12 | C | 1 | B | 3   |
| 12DW8                                   | 12 | E | 6  | B | 3   |                                         |    |   |   |   |     |
|                                         | 12 | F | 6  | G | 3   |                                         |    |   |   |   |     |
|                                         | 12 | F | 6  | J | 3   |                                         |    |   |   |   |     |

| TUBE                                    | A  | B | C  | D | Skt | TUBE                                          | A  | B | C  | D | Skt |
|-----------------------------------------|----|---|----|---|-----|-----------------------------------------------|----|---|----|---|-----|
| 12FK6                                   | 12 | F | 6  | A | 4   | 12G11                                         | 12 | C | 5  | H | 10  |
|                                         | 12 | G | 6  | E | 4   |                                               | 12 | D | 5  | C | 10  |
|                                         | 12 | G | 6  | F | 4   | 12GA6                                         | 12 | F | 6  | A | 4   |
| 12FM6                                   | 12 | F | 6  | A | 4   | 12G-B3                                        | 12 | A | 3  | E | 1   |
|                                         | 12 | G | 6  | E | 4   | 12G-B7                                        | 12 | A | 3  | E | 1   |
|                                         | 12 | G | 6  | F | 4   | *12GC6                                        | 12 | A | 4  | E | 1   |
| 12FQ7                                   | 12 | D | 6  | B | 3   | (Permissible Short A, F and one other Pin)    |    |   |    |   |     |
|                                         | 12 | D | 6  | G | 3   | *12GE5                                        | 12 | A | 1  | C | 10  |
| 12FQ8                                   | 12 | G | 6  | B | 3   | (Normal Short D and K)                        |    |   |    |   |     |
|                                         | 12 | G | 6  | G | 3   | *12GJ5                                        | 12 | A | 7  | B | 5   |
| *12FR8                                  | 12 | F | 6  | C | 3   | (Normal Shorts A, G)                          |    |   |    |   |     |
|                                         | 12 | G | 6  | A | 3   | 12G-K17                                       | 12 | A | 6  | E | 2   |
|                                         | 12 | G | 6  | J | 3   | 12GN6                                         | 12 | E | 6  | A | 4   |
| (Normal Shorts H, K)                    |    |   |    |   |     |                                               | 12 | E | 6  | G | 4   |
| 12FS5                                   | 12 | D | 2  | A | 4   | *12GN7                                        | 12 | D | 7  | B | 3   |
| 12FT6                                   | 12 | E | 6  | A | 4   | (Normal Shorts C, J)                          |    |   |    |   |     |
|                                         | 12 | G | 6  | E | 4   | *12GT5                                        | 12 | A | 7  | B | 5   |
|                                         | 12 | G | 6  | F | 4   | (Normal Short A, G)                           |    |   |    |   |     |
| 12FV7                                   | 12 | D | 10 | B | 3   | *12GV5                                        | 12 | A | 5  | J | 10  |
|                                         | 12 | D | 10 | G | 3   | (Normal Shorts A, C, D, G, K)                 |    |   |    |   |     |
| 12FX5                                   | 12 | C | 5  | B | 4   | 12GW6                                         | 12 | A | 6  | E | 1   |
| *12FX8                                  | 12 | F | 6  | B | 3   | *12H4                                         | 12 | E | 2  | F | 4   |
|                                         | 12 | F | 6  | F | 3   | (Normal Short A, E)                           |    |   |    |   |     |
| (Normal Shorts H, K)                    |    |   |    |   |     | 12H6                                          | 12 | F | 6  | C | 1   |
| 12FY8                                   | 12 | E | 6  | C | 3   |                                               | 12 | F | 6  | E | 1   |
|                                         | 12 | F | 6  | A | 3   | 12HE7                                         | 12 | A | 11 | B | 10  |
| *12G4                                   | 12 | E | 5  | F | 4   |                                               | 12 | A | 11 | J | 10  |
| (Permissible Short B and one other Pin) |    |   |    |   |     | *12HG7                                        | 12 | C | 7  | B | 3   |
| 12G7                                    | 12 | F | 6  | K | 1   | (Normal Shorts C, J)                          |    |   |    |   |     |
|                                         | 12 | G | 6  | E | 1   | *12HL5                                        | 12 | A | 1  | B | 3   |
|                                         | 12 | G | 6  | D | 1   | (Disregard Shorts on F, H, and one other Pin) |    |   |    |   |     |
| 12G8                                    | 12 | E | 10 | C | 3   | *12HL7                                        | 12 | C | 7  | B | 3   |
|                                         | 12 | E | 10 | H | 3   | (Normal Shorts C, J)                          |    |   |    |   |     |

| TUBE                       | A  | B | C  | D | Skt | TUBE               | A  | B | C  | D | Skt |
|----------------------------|----|---|----|---|-----|--------------------|----|---|----|---|-----|
| 12HU8                      | 12 | C | 6  | B | 3   | *12R-K19           | 12 | A | 10 | B | 3   |
|                            | 12 | C | 6  | F | 3   | (Disregard Shorts) |    |   |    |   |     |
| 12J5                       | 12 | E | 6  | E | 1   | 12R-LL3            | 12 | E | 10 | B | 3   |
| 12J7                       | 12 | F | 6  | K | 1   |                    | 12 | E | 10 | G | 3   |
| 12J8                       | 12 | D | 6  | A | 3   | 12RLL5             | 12 | D | 6  | B | 3   |
|                            | 12 | F | 6  | H | 3   |                    | 12 | D | 6  | G | 3   |
|                            | 12 | F | 6  | J | 3   | 12S8               | 12 | F | 6  | K | 2   |
| *12JB6                     | 12 | A | 7  | B | 5   |                    | 12 | G | 6  | D | 2   |
| (Normal Shorts A, G)       |    |   |    |   |     |                    | 12 | G | 6  | C | 2   |
| 12JN6                      | 12 | A | 4  | A | 10  |                    | 12 | G | 6  | A | 2   |
| 12JN8                      | 12 | D | 6  | A | 3   | 12SA7              | 12 | D | 6  | E | 1   |
|                            | 12 | D | 6  | J | 3   | 12SC7              | 12 | F | 6  | C | 2   |
| 12JQ6                      | 12 | A | 8  | H | 3   |                    | 12 | F | 6  | D | 2   |
|                            | 12 | G | 8  | F | 3   | 12SF5              | 12 | F | 6  | C | 2   |
| *12JS6                     | 12 | A | 10 | E | 10  | 12SF7              | 12 | D | 6  | B | 2   |
| (Normal Shorts A, C, D, K) |    |   |    |   |     |                    | 12 | G | 6  | E | 2   |
| *12JT6                     | 12 | A | 7  | B | 5   | 12SG7              | 12 | D | 5  | D | 1   |
| (Normal Shorts A, G)       |    |   |    |   |     | 12SH7              | 12 | D | 5  | D | 1   |
| 12JZ8                      | 12 | C | 7  | G | 10  | 12SJ7              | 12 | E | 6  | D | 1   |
|                            | 12 | E | 7  | K | 10  | 12SK7              | 12 | D | 6  | D | 1   |
| 12K5                       | 12 | D | 7  | E | 4   | 12SL7              | 12 | F | 6  | A | 2   |
| 12K7                       | 12 | E | 6  | K | 1   |                    | 12 | F | 6  | D | 2   |
| 12K8                       | 12 | E | 6  | E | 1   | 12SN7              | 12 | E | 6  | A | 2   |
| 12KL8                      | 12 | D | 6  | B | 3   |                    | 12 | E | 6  | D | 2   |
|                            | 12 | F | 6  | H | 3   | 12SQ7              | 12 | F | 6  | B | 2   |
| 12L6                       | 12 | C | 6  | E | 1   |                    | 12 | G | 6  | D | 2   |
| 12MD8                      | 12 | D | 6  | F | 5   |                    | 12 | G | 6  | E | 2   |
|                            | 12 | D | 6  | H | 5   | 12SR7              | 12 | E | 6  | B | 2   |
|                            | 12 | D | 6  | J | 5   |                    | 12 | G | 6  | D | 2   |
| 12NK7                      | 12 | F | 6  | K | 1   |                    | 12 | G | 6  | E | 2   |
| 12Q7                       | 12 | F | 6  | K | 1   | 12SS7              | 12 | E | 6  | D | 1   |
|                            | 12 | G | 6  | E | 1   | 12ST7              | 12 | E | 6  | B | 2   |
|                            | 12 | G | 6  | D | 1   |                    | 12 | G | 6  | D | 2   |
| 12R5                       | 12 | C | 5  | B | 4   |                    | 12 | G | 6  | E | 2   |

| TUBE                                       | A  | B | C  | D | Skt | TUBE                           | A  | B | C | D | Skt |
|--------------------------------------------|----|---|----|---|-----|--------------------------------|----|---|---|---|-----|
| 12SW7                                      | 12 | E | 6  | B | 2   | 13FR7                          | 13 | F | 3 | G | 3   |
|                                            | 12 | G | 6  | D | 2   |                                | 13 | C | 3 | B | 3   |
|                                            | 12 | G | 6  | E | 2   | †*13GB5                        | 13 | A | 2 | A | 12  |
| 12SX7                                      | 12 | E | 6  | A | 2   | (Normal Shorts C, F, G, H)     |    |   |   |   |     |
|                                            | 12 | E | 6  | D | 2   | 13GC8                          | 13 | C | 6 | J | 3   |
| 12SY7                                      | 12 | D | 6  | E | 1   |                                | 13 | E | 6 | B | 3   |
| 12T10                                      | 12 | C | 6  | H | 10  | 13GF7                          | 13 | C | 6 | B | 5   |
|                                            | 12 | D | 6  | C | 10  |                                | 13 | G | 6 | J | 5   |
| 12TE8                                      | 12 | F | 6  | E | 1   | 13J10                          | 13 | C | 6 | A | 10  |
|                                            | 12 | F | 6  | K | 1   |                                | 13 | H | 6 | F | 10  |
| 12TE9                                      | 12 | F | 6  | E | 3   | *13JZ6                         | 13 | A | 8 | E | 10  |
|                                            | 12 | F | 6  | K | 3   | (Normal Shorts D, K)           |    |   |   |   |     |
| 12U7                                       | 12 | G | 10 | B | 3   | 13JZ8                          | 13 | C | 7 | G | 10  |
|                                            | 12 | G | 10 | G | 3   |                                | 13 | E | 7 | K | 10  |
| 12V6                                       | 12 | C | 6  | E | 1   | 13V10                          | 13 | F | 6 | C | 10  |
| 12W6                                       | 12 | C | 6  | E | 1   |                                | 13 | C | 6 | H | 10  |
| 12X4                                       | 12 | B | 6  | A | 4   | 13Z10                          | 13 | C | 6 | A | 10  |
|                                            | 12 | B | 6  | F | 4   |                                | 13 | H | 6 | F | 10  |
| *13CM5                                     | 13 | A | 3  | E | 1   | 14A4                           | 14 | E | 5 | F | 9   |
| (Permissible Short A and<br>one other Pin) |    |   |    |   |     | 14A5                           | 14 | C | 6 | F | 9   |
| 13CW4                                      | 13 | F | 6  | D | 6   | (†See Magnoval Note on Page B) |    |   |   |   |     |
| 13D3                                       | 13 | G | 10 | G | 3   | 14A7                           | 14 | E | 6 | F | 9   |
|                                            | 13 | G | 10 | B | 3   | 14AF7                          | 14 | E | 6 | D | 9   |
| 13DE7                                      | 13 | C | 3  | B | 3   |                                | 14 | E | 6 | E | 9   |
|                                            | 13 | E | 3  | G | 3   | 14B6                           | 14 | F | 4 | C | 9   |
| 13DR7                                      | 13 | C | 3  | B | 3   |                                | 14 | G | 4 | E | 9   |
|                                            | 13 | E | 3  | G | 3   |                                | 14 | G | 4 | F | 9   |
| 13EC7                                      | 13 | D | 3  | A | 3   | 14B8                           | 14 | F | 6 | D | 9   |
| 13EM7                                      | 13 | D | 6  | A | 2   | 14BL11                         | 14 | E | 6 | C | 10  |
|                                            | 13 | F | 6  | D | 2   |                                | 14 | E | 6 | E | 10  |
| 13FD7                                      | 13 | C | 2  | C | 3   |                                | 14 | C | 6 | A | 10  |
|                                            | 13 | F | 2  | G | 3   | 14BR11                         | 14 | C | 6 | B | 10  |
| 13FM7                                      | 13 | C | 9  | C | 10  |                                | 14 | E | 6 | H | 10  |
|                                            | 13 | E | 9  | K | 10  |                                | 14 | E | 6 | K | 10  |
|                                            |    |   |    |   |     | 14C5                           | 14 | C | 6 | F | 9   |

| TUBE  | A  | B | C  | D | Skt | TUBE                          | A  | B | C | D | Skt |
|-------|----|---|----|---|-----|-------------------------------|----|---|---|---|-----|
| 14C7  | 14 | E | 6  | F | 9   | 14S7                          | 14 | D | 6 | F | 9   |
| 14DA7 | 14 | C | 2  | C | 3   |                               | 14 | F | 6 | D | 9   |
|       | 14 | E | 2  | G | 3   | 14V7                          | 14 | E | 6 | F | 9   |
| 14E6  | 14 | F | 4  | C | 9   | 14W7                          | 14 | D | 4 | F | 9   |
|       | 14 | G | 4  | E | 9   | 14X7                          | 14 | F | 6 | C | 9   |
|       | 14 | G | 4  | F | 9   |                               | 14 | G | 6 | E | 9   |
| 14E7  | 14 | E | 6  | F | 9   |                               | 14 | G | 6 | F | 9   |
|       | 14 | G | 6  | D | 9   | 14Y4                          | 14 | B | 4 | C | 9   |
|       | 14 | G | 6  | C | 9   |                               | 14 | B | 4 | F | 9   |
| 14F7  | 14 | F | 6  | D | 9   | 14Y7                          | 14 | D | 6 | B | 3   |
|       | 14 | F | 6  | E | 9   |                               | 14 | F | 6 | J | 3   |
| 14G6  | 14 | F | 10 | B | 3   | 15A6                          | 15 | C | 6 | B | 3   |
|       | 10 | G | 10 | F | 3   | 15A8                          | 15 | F | 6 | C | 1   |
|       | 14 | G | 10 | H | 3   |                               | 15 | C | 6 | D | 1   |
| 14GT8 | 14 | F | 6  | B | 3   | 15AB9                         | 15 | D | 6 | A | 11  |
|       | 14 | F | 6  | F | 3   |                               | 15 | D | 6 | G | 11  |
|       | 14 | F | 6  | H | 3   | 15AF11                        | 15 | C | 6 | A | 10  |
| 14GW8 | 14 | C | 6  | H | 3   |                               | 15 | F | 6 | C | 10  |
|       | 14 | G | 6  | A | 3   |                               | 15 | F | 6 | F | 10  |
| 14H7  | 14 | D | 6  | F | 9   | 15BD7                         | 15 | F | 6 | B | 3   |
| 14J7  | 14 | D | 6  | F | 9   |                               | 15 | G | 6 | F | 3   |
|       | 14 | F | 6  | D | 9   |                               | 15 | G | 6 | H | 3   |
| 14JG8 | 14 | G | 6  | B | 3   | 15BD11                        | 15 | D | 6 | A | 10  |
|       | 14 | G | 6  | F | 3   |                               | 15 | E | 6 | C | 10  |
|       | 14 | F | 6  | H | 3   |                               | 15 | F | 6 | F | 10  |
| 14L7  | 14 | F | 4  | F | 9   | *15CW5                        | 15 | C | 1 | B | 3   |
|       | 14 | G | 4  | E | 9   | (Disregard Shorts except H-K) |    |   |   |   |     |
|       | 14 | G | 4  | C | 9   | 15DQ8                         | 15 | D | 6 | A | 3   |
| 14N7  | 14 | E | 6  | D | 9   |                               | 15 | D | 6 | H | 3   |
|       | 14 | E | 6  | E | 9   | 15EA7                         | 15 | D | 6 | A | 2   |
| 14Q7  | 14 | E | 6  | D | 9   |                               | 15 | F | 6 | A | 4   |
| 14R7  | 14 | F | 6  | F | 9   | 15EW6                         | 15 | D | 6 | A | 4   |
|       | 14 | G | 6  | D | 9   | 15EW7                         | 15 | C | 3 | G | 3   |
|       | 14 | G | 6  | C | 9   |                               | 15 | F | 3 | B | 3   |

| TUBE                       | A  | B               | C | D | Skt | TUBE                           | A  | B | C  | D | Skt |
|----------------------------|----|-----------------|---|---|-----|--------------------------------|----|---|----|---|-----|
| 15FM7                      | 15 | C               | 9 | C | 10  | *16GY5                         | 16 | A | 5  | J | 10  |
|                            | 15 | E               | 9 | K | 10  | (Normal Shorts A, C, D, G, K)  |    |   |    |   |     |
| 15FY7                      | 15 | C               | 9 | C | 10  | 16KA6                          | 16 | A | 8  | E | 10  |
|                            | 15 | E               | 9 | K | 10  | 16LU8                          | 16 | B | 8  | F | 10  |
| *15HA6                     | 15 | C               | 3 | B | 3   |                                | 16 | E | 8  | K | 10  |
| (Normal Shorts F, G)       |    |                 |   |   |     | 16Y9                           | 16 | C | 6  | H | 11  |
| *15HB6                     | 15 | C               | 3 | B | 3   |                                | 16 | D | 6  | A | 11  |
| (Normal Shorts F, H)       |    |                 |   |   |     | 17A8                           | 17 | D | 7  | B | 3   |
| 15KY8                      | 15 | C               | 6 | B | 5   |                                | 17 | E | 7  | J | 3   |
|                            | 15 | G               | 6 | J | 5   | 17AB9                          | 17 | D | 6  | A | 11  |
| 15LE8                      | 15 | D               | 6 | J | 3   |                                | 17 | D | 6  | F | 11  |
| 15MF8                      | 15 | A               | 8 | F | 10  | 17AB10                         | 17 | C | 6  | A | 10  |
|                            | 15 | E               | 8 | K | 10  |                                | 17 | E | 6  | F | 10  |
| *16A5                      | 16 | C               | 9 | B | 3   | 17AV5                          | 17 | A | 6  | A | 1   |
| (Permissible Short F and   |    |                 |   |   |     | 17AX3                          | 17 | A | 11 | D | 10  |
| one other Pin)             |    |                 |   |   |     | 17AX4                          | 17 | A | 2  | E | 2   |
| 16A8                       | 16 | C               | 6 | C | 3   | *17AY3                         | 17 | A | 8  | B | 5   |
|                            | 16 | E               | 6 | A | 3   | (Disregard Shorts except H-K)  |    |   |    |   |     |
| 16AK9                      | 16 | E               | 7 | C | 10  | †*17B-B14                      | 17 | A | 1  | B | 12  |
|                            | 16 | E               | 7 | K | 10  | (Normal Shorts C, F, G, H)     |    |   |    |   |     |
|                            | 16 | B               | 7 | J | 10  | 17BE3                          | 17 | A | 4  | K | 10  |
| *16AQ3                     | 16 | (See Last Page) |   |   |     | (†See Magnoval Note on Page B) |    |   |    |   |     |
| 16BQ11                     | 16 | E               | 6 | E | 10  | 17BF11                         | 17 | C | 6  | H | 10  |
|                            | 16 | E               | 6 | K | 10  |                                | 17 | D | 6  | C | 10  |
| 16BX11                     | 16 | D               | 6 | B | 10  | *17BH3                         | 17 | A | 8  | B | 5   |
|                            | 16 | E               | 6 | E | 10  | (Disregard Shorts except H-K)  |    |   |    |   |     |
|                            | 16 | E               | 6 | H | 10  | 17BJ6                          | 17 | D | 6  | A | 4   |
| *16C-B28                   | 16 | A               | 4 | E | 10  | 17BQ6                          | 17 | A | 6  | E | 1   |
| (Normal Shorts)            |    |                 |   |   |     | *17BR3                         | 17 | A | 2  | J | 3   |
| *16G-B16                   | 16 | A               | 5 | A | 1   | (Disregard Shorts except H-K)  |    |   |    |   |     |
| (Normal Shorts C, D, F, H) |    |                 |   |   |     | *17BS3                         | 17 | A | 8  | B | 5   |
| 16GK6                      | 16 | C               | 3 | B | 3   | (Disregard Shorts except H-K)  |    |   |    |   |     |
| 16GK8                      | 16 | C               | 6 | C | 3   | 17BW3                          | 17 | A | 4  | K | 10  |
|                            | 16 | F               | 6 | A | 3   | *17BZ3                         | 17 | A | 4  | K | 10  |
|                            |    |                 |   |   |     | (Disregard Shorts except H-K)  |    |   |    |   |     |

| TUBE                          | A  | B | C | D | Skt | TUBE                              | A           | B | C | D | Skt |
|-------------------------------|----|---|---|---|-----|-----------------------------------|-------------|---|---|---|-----|
| 17C5                          | 17 | C | 5 | B | 4   | *17GV5                            | 17          | A | 5 | J | 10  |
| 17C8                          | 17 | F | 6 | B | 3   | (Normal Shorts A, C, D, G, K)     |             |   |   |   |     |
|                               | 17 | G | 6 | G | 3   | 17GV8                             | (See 18GV8) |   |   |   |     |
|                               | 17 | G | 6 | H | 3   | 17GW6                             | 17          | A | 6 | E | 1   |
| 17C9                          | 17 | E | 6 | A | 3   | *17H3                             | 17          | A | 7 | C | 8   |
|                               | 17 | E | 6 | G | 3   | (Disregard All Shorts except H-K) |             |   |   |   |     |
| 17CA5                         | 17 | C | 5 | B | 4   | †17H-B25                          | 17          | A | 1 | B | 12  |
| *17CK3                        | 17 | A | 2 | G | 5   | (Normal Shorts C, F, G, H)        |             |   |   |   |     |
| (Disregard Shorts except H-K) |    |   |   |   |     | 17HC8                             | 17          | C | 6 | C | 3   |
| *17CL3                        | 17 | A | 2 | G | 5   |                                   | 17          | F | 6 | A | 3   |
| (Disregard Shorts except H-K) |    |   |   |   |     | *17JB6                            | 17          | A | 7 | B | 5   |
| 17CQ4                         | 17 | A | 2 | E | 2   | (Normal Shorts A, G)              |             |   |   |   |     |
| *17CT3                        | 17 | A | 2 | F | 3   | *17JG6                            | 17          | A | 1 | B | 5   |
| (Disregard Shorts except H-K) |    |   |   |   |     | (Normal Shorts D, K)              |             |   |   |   |     |
| 17CU5                         | 17 | C | 5 | B | 4   | 17JK8                             | 17          | F | 6 | G | 3   |
| 17D4                          | 17 | A | 2 | E | 2   |                                   | 17          | E | 6 | B | 3   |
| 17DE4                         | 17 | A | 2 | E | 2   | 17JN6                             | 17          | A | 4 | A | 10  |
| 17DL8                         | 17 | C | 6 | B | 3   | *17JM6                            | 17          | A | 9 | E | 10  |
|                               | 17 | D | 6 | J | 3   | (Normal Shorts D, K)              |             |   |   |   |     |
| 17DM4                         | 17 | A | 2 | E | 2   | 17JQ6                             | 17          | A | 8 | H | 3   |
| 17DQ4                         | 17 | A | 2 | E | 2   |                                   | 17          | G | 8 | F | 3   |
| 17DQ6                         | 17 | A | 6 | E | 1   | 17JR6                             | 17          | A | 1 | B | 5   |
| *17DW4                        | 17 | A | 8 | B | 5   | (†See Magnoval Note on Page B)    |             |   |   |   |     |
| (Disregard Shorts except H-K) |    |   |   |   |     | *17JT6                            | 17          | A | 7 | B | 5   |
| 17EM7                         | 17 | D | 6 | A | 2   | (Normal Shorts A, G)              |             |   |   |   |     |
|                               | 17 | F | 6 | D | 2   | 17JZ8                             | 17          | C | 7 | G | 10  |
| 17EW8                         | 17 | E | 6 | B | 3   |                                   | 17          | E | 7 | K | 10  |
|                               | 17 | E | 6 | G | 3   | *17KV6                            | 17          | A | 1 | B | 5   |
| 17G-B3                        | 17 | A | 3 | E | 1   | (Normal Shorts C, F, G, H)        |             |   |   |   |     |
| *17GE5                        | 17 | A | 1 | C | 10  | †17KW6                            | 17          | B | 9 | A | 12  |
| (Normal Shorts D, K)          |    |   |   |   |     | (Normal Shorts C, F, G, H)        |             |   |   |   |     |
| *17GJ5                        | 17 | A | 7 | B | 5   | 17L6                              | 17          | C | 6 | E | 1   |
| (Normal Short A, G)           |    |   |   |   |     | 17LD8                             | 17          | C | 6 | B | 5   |
| *17GT5                        | 17 | A | 7 | B | 5   |                                   | 17          | G | 6 | J | 5   |
| (Normal Short A, G)           |    |   |   |   |     |                                   |             |   |   |   |     |

| TUBE                              | A  | B | C | D | Skt | TUBE                           | A  | B | C | D | Skt |
|-----------------------------------|----|---|---|---|-----|--------------------------------|----|---|---|---|-----|
| 17N8                              | 17 | F | 6 | B | 3   | 18GV8                          | 18 | C | 6 | J | 3   |
|                                   | 17 | G | 6 | G | 3   |                                | 18 | E | 6 | B | 3   |
|                                   | 17 | G | 6 | H | 3   | 18HB8                          | 18 | C | 6 | J | 3   |
| 17R5                              | 17 | C | 5 | B | 4   |                                | 18 | F | 6 | A | 3   |
| 17R-HH2                           | 17 | E | 6 | B | 3   | 18J6                           | 18 | E | 6 | E | 4   |
|                                   | 17 | E | 6 | G | 3   |                                | 18 | E | 6 | F | 4   |
| 17W6                              | 17 | C | 6 | E | 1   | 18RAL1                         | 18 | C | 3 | B | 3   |
| 17X10                             | 17 | B | 6 | A | 10  |                                | 18 | F | 3 | G | 3   |
|                                   | 17 | H | 6 | F | 10  | 19A3                           | 19 | A | 7 | E | 4   |
| 17Y9                              | 17 | D | 6 | A | 11  | 19AJ8                          | 19 | E | 6 | B | 3   |
|                                   | 17 | C | 6 | H | 11  |                                | 19 | F | 6 | J | 3   |
| *17Z3                             | 17 | A | 2 | J | 3   | 19AQ5                          | 19 | C | 8 | A | 4   |
| (Disregard All Shorts except H-K) |    |   |   |   |     | 19AU4                          | 19 | A | 2 | E | 2   |
| 18A5                              | 18 | A | 6 | A | 1   | 19BG6                          | 19 | A | 6 | E | 1   |
| 18AJ10                            | 18 | F | 6 | C | 10  | 19BX6                          | 19 | D | 1 | B | 3   |
|                                   | 18 | B | 6 | H | 10  | 19BY7                          | 19 | D | 3 | B | 3   |
| 18AK5                             | 18 | E | 2 | A | 4   | 19C8                           | 19 | F | 6 | H | 3   |
| 18AQ5                             | 18 | C | 8 | A | 4   |                                | 19 | G | 6 | F | 3   |
| 18D2                              | 10 | D | 6 | J | 3   |                                | 19 | G | 6 | B | 3   |
|                                   | 10 | D | 6 | B | 3   |                                | 19 | G | 6 | A | 3   |
| 18DZ8                             | 18 | C | 6 | A | 3   | *19CG3                         | 19 | A | 4 | K | 10  |
|                                   | 18 | F | 6 | C | 3   | (Disregard Shorts except H-K)  |    |   |   |   |     |
| 18FW6                             | 18 | D | 6 | A | 4   | 19CL8                          | 19 | D | 6 | A | 3   |
| 18FX6                             | 18 | E | 6 | A | 4   |                                | 19 | D | 6 | J | 3   |
| 18FY6                             | 18 | F | 6 | A | 4   | 19CS4                          | 19 | A | 6 | E | 2   |
|                                   | 18 | G | 6 | E | 4   | (+See Magnoval Note on Page B) |    |   |   |   |     |
|                                   | 18 | G | 6 | F | 4   | 19D8                           | 19 | E | 6 | B | 3   |
| +*18GB5                           | 18 | A | 2 | A | 12  |                                | 19 | F | 6 | J | 3   |
| (Normal Shorts C, F, G, H)        |    |   |   |   |     | 19DC8                          | 19 | E | 6 | B | 3   |
| 18GD6                             | 18 | D | 6 | A | 4   |                                | 19 | G | 6 | G | 3   |
| 18GE6                             | 18 | F | 6 | A | 4   |                                | 19 | G | 6 | H | 3   |
|                                   | 18 | G | 6 | E | 4   | *19DE3                         | 19 | A | 4 | K | 10  |
|                                   | 18 | G | 6 | F | 4   | (Disregard Shorts except H-K)  |    |   |   |   |     |
|                                   |    |   |   |   |     | 19DE7                          | 19 | C | 3 | B | 3   |
|                                   |    |   |   |   |     |                                | 19 | E | 3 | G | 3   |

| TUBE                                | A               | B | C | D | Skt |
|-------------------------------------|-----------------|---|---|---|-----|
| 19EA8                               | 19              | D | 6 | B | 3   |
|                                     | 19              | D | 6 | J | 3   |
| 19EW7                               | 19              | C | 3 | G | 3   |
|                                     | 19              | F | 3 | B | 3   |
| 19EZ8                               | 19              | E | 6 | B | 3   |
|                                     | 19              | E | 6 | G | 3   |
|                                     | 19              | E | 6 | J | 3   |
| 19FL8                               | 19              | E | 6 | B | 3   |
|                                     | 19              | G | 6 | G | 3   |
|                                     | 19              | G | 6 | H | 3   |
| 19GQ7                               | 19              | E | 3 | B | 3   |
|                                     | 19              | E | 3 | F | 3   |
|                                     | 19              | E | 3 | H | 3   |
| 19HR6                               | 19              | D | 6 | A | 4   |
| 19HS6                               | 19              | E | 6 | A | 4   |
| 19HV8                               | 19              | D | 6 | J | 3   |
|                                     | 19              | F | 6 | A | 3   |
| 19J6                                | 19              | E | 6 | E | 4   |
|                                     | 19              | E | 6 | F | 4   |
| 19JN8                               | 19              | D | 6 | J | 3   |
|                                     | 19              | D | 6 | A | 3   |
| +*19KF6                             | 19              | A | 1 | G | 12  |
| (Normal Shorts H and one other Pin) |                 |   |   |   |     |
| 19KG8                               | 19              | E | 6 | B | 3   |
|                                     | 19              | D | 6 | J | 3   |
| 19MR9                               | 19              | F | 6 | A | 4   |
| 19M-R10                             | 19              | E | 6 | A | 4   |
| 19Q9                                | 19              | D | 6 | B | 3   |
|                                     | 19              | D | 6 | H | 3   |
| 19R-LL1                             | (See Last Page) |   |   |   |     |
| 19R-P11                             | 19              | C | 6 | A | 8   |
| *19SU                               | 19              | A | 2 | J | 3   |
| (Disregard All Shorts except H-K)   |                 |   |   |   |     |

| TUBE                                                      | A  | B               | C  | D | Skt |
|-----------------------------------------------------------|----|-----------------|----|---|-----|
| 19T8                                                      | 19 | F               | 6  | H | 3   |
|                                                           | 19 | G               | 6  | F | 3   |
|                                                           | 19 | G               | 6  | B | 3   |
|                                                           | 19 | G               | 6  | A | 3   |
| *19U3                                                     | 19 | A               | 2  | J | 3   |
| (Disregard All Shorts except H-K)                         |    |                 |    |   |     |
| 19V8                                                      | 19 | F               | 6  | F | 3   |
|                                                           | 19 | G               | 6  | J | 3   |
|                                                           | 19 | G               | 6  | G | 3   |
|                                                           | 19 | G               | 6  | B | 3   |
| *19W3                                                     | 19 | A               | 2  | J | 3   |
| (Disregard All Shorts except H-K)                         |    |                 |    |   |     |
| *19X3                                                     | 19 | A               | 2  | J | 3   |
| (Disregard All Shorts except H-K)                         |    |                 |    |   |     |
| 19X8                                                      | 19 | E               | 6  | B | 3   |
|                                                           | 19 | E               | 6  | G | 3   |
| *19Y3                                                     | 19 | A               | 2  | J | 3   |
| (Disregard All Shorts except H-K)                         |    |                 |    |   |     |
| *20AQ3                                                    | 20 | (See Last Page) |    |   |     |
| 20D3                                                      | 12 | F               | 10 | B | 3   |
|                                                           | 12 | F               | 10 | G | 3   |
| 20D4                                                      | 20 | D               | 6  | B | 3   |
|                                                           | 20 | D               | 6  | J | 3   |
| 20EQ7                                                     | 20 | E               | 6  | B | 3   |
|                                                           | 20 | G               | 6  | H | 3   |
| 20EW7                                                     | 20 | C               | 3  | G | 3   |
|                                                           | 20 | F               | 3  | B | 3   |
| 20EZ7                                                     | 20 | C               | 6  | B | 13  |
|                                                           | 20 | F               | 6  | G | 13  |
| (See back of book for Mighty Mites not having socket #13) |    |                 |    |   |     |
| 20J8                                                      | 20 | E               | 6  | K | 1   |
|                                                           | 20 | F               | 6  | E | 1   |
| *20P18                                                    | 15 | C               | 1  | B | 3   |
| (Disregard All Shorts except H-K)                         |    |                 |    |   |     |

| TUBE                                         | A  | B | C | D | Skt | TUBE                       | A  | B | C  | D | Skt |
|----------------------------------------------|----|---|---|---|-----|----------------------------|----|---|----|---|-----|
| *21A6                                        | 21 | C | 1 | B | 3   | 22JR6                      | 22 | A | 1  | B | 5   |
| (Permissible Short F or G and one other Pin) |    |   |   |   |     | *22JU6                     | 22 | A | 7  | B | 5   |
| 21A7                                         | 21 | E | 6 | F | 9   | (Normal Shorts A, G)       |    |   |    |   |     |
|                                              | 21 | F | 6 | D | 9   | *22KM6                     | 22 | A | 7  | B | 5   |
| *21B6                                        | 21 | C | 1 | B | 3   | (Normal Shorts A, G)       |    |   |    |   |     |
| (Permissible Short F or G and one other Pin) |    |   |   |   |     | *22KV6                     | 22 | A | 1  | B | 5   |
| 21EX6                                        | 21 | A | 6 | E | 1   | (Normal Shorts C, F, G, H) |    |   |    |   |     |
| 21GY5                                        | 21 | A | 5 | J | 10  | *22JF6                     | 22 | A | 7  | B | 5   |
| (Normal Shorts A, C, D, G, K)                |    |   |   |   |     | (Normal Shorts A, G)       |    |   |    |   |     |
| *21HB5                                       | 21 | A | 3 | A | 10  | *23JS6                     | 23 | A | 10 | E | 10  |
| (Normal Shorts D, K)                         |    |   |   |   |     | (Normal Shorts A, C, D, K) |    |   |    |   |     |
| *21HD5                                       | 21 | A | 1 | C | 10  | 23Z9                       | 23 | E | 7  | C | 10  |
| (Normal Shorts D, E, J, K)                   |    |   |   |   |     |                            | 23 | E | 7  | K | 10  |
| *21HJ5                                       | 21 | A | 1 | C | 10  |                            | 23 | C | 7  | H | 10  |
| (Normal Shorts D, E, J, K)                   |    |   |   |   |     | 24AX4                      | 24 | A | 2  | E | 2   |
| 21JV6                                        | 21 | A | 6 | A | 10  | 24BF11                     | 24 | C | 6  | H | 10  |
| *21JZ6                                       | 21 | A | 8 | E | 10  |                            | 24 | D | 6  | C | 10  |
| (Normal Shorts D, K)                         |    |   |   |   |     | 24GA7                      | 24 | A | 2  | D | 10  |
| 21KA6                                        | 21 | A | 8 | E | 10  |                            | 24 | A | 2  | A | 10  |
| †*21KQ6                                      | 21 | A | 1 | H | 12  | *24JE6                     | 24 | A | 7  | B | 5   |
| (Normal Shorts B, C, F, G)                   |    |   |   |   |     | (Normal Shorts A, G)       |    |   |    |   |     |
| *21LG6                                       | 21 | A | 5 | J | 10  | 24JZ8                      | 24 | C | 7  | C | 10  |
| (Normal Shorts A, C, D, K)                   |    |   |   |   |     |                            | 24 | E | 7  | K | 10  |
| 21LR8                                        | 21 | C | 6 | B | 5   | *24LQ6                     | 24 | A | 2  | F | 5   |
|                                              | 21 | D | 6 | J | 5   | (Normal Shorts A, G)       |    |   |    |   |     |
| *21LU8                                       | 21 | B | 8 | F | 10  | 25A6                       | 25 | C | 6  | E | 1   |
|                                              | 21 | E | 8 | K | 10  | 25A7                       | 25 | B | 6  | F | 1   |
| (Normal Shorts F, G)                         |    |   |   |   |     |                            | 25 | C | 6  | E | 1   |
| *22BH3                                       | 22 | A | 8 | B | 5   | 25AC5                      | 25 | F | 6  | E | 1   |
| (Disregard All Shorts except H-K)            |    |   |   |   |     | 25AU4                      | 25 | A | 2  | E | 2   |
| 22BW3                                        | 22 | A | 4 | K | 10  | 25AV5                      | 25 | A | 6  | A | 1   |
| 22DE4                                        | 22 | A | 2 | E | 2   | 25AX4                      | 25 | A | 2  | E | 2   |
| *22JF6                                       | 22 | A | 7 | B | 5   | 25B6                       | 25 | C | 6  | E | 1   |
| (Normal Shorts A, G)                         |    |   |   |   |     | 25B8                       | 25 | E | 6  | K | 1   |
| 22JG6                                        | 22 | A | 1 | B | 5   |                            | 25 | F | 6  | H | 1   |

| TUBE                                    | A  | B | C | D | Skt |
|-----------------------------------------|----|---|---|---|-----|
| †*25B-B14                               | 25 | A | 1 | B | 12  |
| (Normal Shorts C, F, G, H)              |    |   |   |   |     |
| 25BK5                                   | 25 | C | 8 | C | 3   |
| 25BQ6                                   | 25 | A | 6 | E | 1   |
| *25BR3                                  | 25 | A | 1 | J | 8   |
| (Disregard All Shorts except H-K)       |    |   |   |   |     |
| 25C5                                    | 25 | C | 5 | B | 4   |
| 25C6                                    | 25 | C | 6 | E | 1   |
| 25CA5                                   | 25 | C | 5 | B | 4   |
| *25CG3                                  | 25 | A | 4 | K | 10  |
| (Disregard All Shorts except H-K)       |    |   |   |   |     |
| 25CD6                                   | 25 | A | 6 | E | 1   |
| *25CK3                                  | 25 | A | 2 | G | 5   |
| (Disregard Shorts except H-K)           |    |   |   |   |     |
| 25CM3                                   | 25 | A | 2 | G | 5   |
| *25CR5                                  | 25 | C | 9 | C | 3   |
| (Normal Shorts A, B, F, G)              |    |   |   |   |     |
| 25CU6                                   | 25 | A | 6 | E | 1   |
| 25D4                                    | 25 | A | 6 | E | 2   |
| 25D8                                    | 25 | E | 6 | K | 1   |
|                                         | 25 | G | 6 | H | 1   |
|                                         | 25 | G | 6 | E | 1   |
| 25DK4                                   | 25 | B | 8 | E | 4   |
| 25DN6                                   | 25 | A | 6 | E | 1   |
| 25DQ6                                   | 25 | A | 6 | E | 1   |
| (†See Magnoval Note on Page B)          |    |   |   |   |     |
| *25DT5                                  | 25 | C | 7 | C | 3   |
| (Permissible Short H and one other Pin) |    |   |   |   |     |
| 25E5                                    | 25 | C | 1 | E | 1   |
| 25EC6                                   | 25 | A | 6 | E | 1   |
| 25EH5                                   | 25 | C | 5 | B | 4   |
| 25F5                                    | 25 | C | 5 | B | 4   |
| 25FY8                                   | 25 | E | 6 | C | 3   |
|                                         | 25 | F | 6 | A | 3   |
| 25GF6                                   | 25 | C | 1 | E | 1   |

| TUBE                           | A  | B | C  | D | Skt |
|--------------------------------|----|---|----|---|-----|
| 25JQ6                          | 25 | A | 8  | H | 3   |
|                                | 25 | G | 8  | F | 3   |
| 25JZ8                          | 25 | C | 7  | G | 10  |
|                                | 25 | E | 7  | K | 10  |
| 25L6                           | 25 | C | 6  | E | 1   |
| 25M-P20                        | 25 | A | 6  | A | 4   |
| 25SN7                          | 25 | E | 6  | A | 2   |
|                                | 25 | E | 6  | D | 2   |
| 25U4                           | 25 | A | 2  | E | 2   |
| 25W4                           | 25 | A | 2  | E | 2   |
| 25W6                           | 25 | C | 6  | E | 1   |
| 25X6                           | 25 | B | 6  | C | 1   |
|                                | 25 | B | 6  | E | 1   |
| 25Y4                           | 25 | B | 6  | E | 1   |
| 25Z4                           | 25 | B | 6  | E | 1   |
| 25Z6                           | 25 | B | 6  | C | 1   |
|                                | 25 | B | 6  | E | 1   |
| 26A6                           | 26 | D | 6  | A | 4   |
| 26AQ8                          | 26 | D | 6  | B | 3   |
|                                | 26 | D | 6  | G | 3   |
| 26BK6                          | 26 | F | 6  | A | 4   |
|                                | 26 | G | 6  | E | 4   |
|                                | 26 | G | 6  | F | 4   |
| 26C6                           | 26 | F | 6  | A | 4   |
|                                | 26 | G | 6  | E | 4   |
|                                | 26 | G | 6  | F | 4   |
| (†See Magnoval Note on Page B) |    |   |    |   |     |
| 26CG6                          | 26 | E | 6  | A | 4   |
| 26D6                           | 26 | E | 6  | A | 4   |
| 26E6                           | 26 | C | 6  | E | 1   |
| 26HU5                          | 26 | A | 5  | A | 2   |
| 26Z5                           | 26 | B | 10 | A | 3   |
|                                | 26 | B | 10 | F | 3   |

| TUBE                       | A  | B               | C | D | Skt | TUBE                                         | A  | B | C  | D | Skt |
|----------------------------|----|-----------------|---|---|-----|----------------------------------------------|----|---|----|---|-----|
| 27BL7                      | 27 | D               | 6 | B | 3   | 30C13                                        | 9  | D | 6  | B | 3   |
|                            | 27 | D               | 6 | J | 3   |                                              | 9  | D | 6  | J | 3   |
| 27BL8                      | 27 | D               | 6 | B | 3   | *30CW5                                       | 30 | C | 1  | B | 3   |
|                            | 27 | D               | 6 | J | 3   | (Permissible Short F or H and one other Pin) |    |   |    |   |     |
| †*27GB5                    | 27 | A               | 2 | A | 12  | *30HD5                                       | 30 | A | 1  | C | 10  |
| (Normal Shorts C, F, G, H) |    |                 |   |   |     | (Normal Shorts D, E, J, K)                   |    |   |    |   |     |
| †*27KG6                    | 27 | A               | 1 | H | 5   | *30HJ5                                       | 30 | A | 1  | C | 10  |
| (Normal Shorts B, C, F, G) |    |                 |   |   |     | (Shorts D, E, J, K)                          |    |   |    |   |     |
| 28AK8                      | 28 | F               | 6 | H | 3   | 30KD6                                        | 30 | A | 5  | J | 10  |
|                            | 28 | G               | 6 | F | 3   | 30L1                                         | 7  | E | 8  | B | 3   |
|                            | 28 | G               | 6 | B | 3   |                                              | 7  | E | 8  | F | 3   |
|                            | 28 | G               | 6 | A | 3   | 30M-P27                                      | 30 | B | 2  | E | 4   |
| 28D7                       | 28 | D               | 6 | B | 9   | 30P4                                         | 25 | C | 1  | E | 1   |
|                            | 28 | D               | 6 | G | 9   | 30P16                                        | 16 | C | 7  | B | 3   |
| †*28GB5                    | 28 | A               | 2 | A | 12  | *30P18                                       | 15 | C | 1  | B | 3   |
| (Normal Shorts C, F, G, H) |    |                 |   |   |     | (Permissible Short F or H and one other Pin) |    |   |    |   |     |
| *28HA6                     | 28 | C               | 3 | B | 3   | 31AL10                                       | 31 | F | 7  | A | 10  |
| (Normal Short F, G)        |    |                 |   |   |     |                                              | 31 | F | 7  | C | 10  |
| *28HD5                     | 28 | A               | 1 | C | 10  |                                              | 31 | A | 7  | H | 10  |
| (Normal Shorts D, E, J, K) |    |                 |   |   |     | *31JS6                                       | 31 | A | 10 | E | 10  |
| 28Z5                       | 28 | B               | 4 | C | 9   | (Normal Shorts A, C, D, K)                   |    |   |    |   |     |
|                            | 28 | B               | 4 | F | 9   | *31LQ6                                       | 31 | A | 2  | F | 5   |
| 29GK6                      | 29 | C               | 3 | B | 3   | (Normal Shorts A, G)                         |    |   |    |   |     |
| *29HA6                     | 29 | C               | 3 | B | 3   | 32A8                                         | 32 | C | 6  | C | 3   |
| (Normal Shorts F, G)       |    |                 |   |   |     |                                              | 32 | G | 6  | A | 3   |
| †*29KQ6                    | 29 | A               | 1 | H | 12  | 32ET5                                        | 32 | C | 5  | B | 4   |
| (Normal Shorts B, C, F, G) |    |                 |   |   |     | 32GA7                                        | 32 | A | 2  | D | 10  |
| 30A5                       | 30 | C               | 5 | B | 4   |                                              | 32 | A | 2  | A | 10  |
| *30AE3                     | 30 | (See Last Page) |   |   |     | *32HQ7                                       | 32 | A | 8  | B | 10  |
| *30AG3                     | 30 | (See Last Page) |   |   |     |                                              | 32 | A | 8  | J | 10  |
| 30AG11                     | 30 | E               | 6 | E | 10  | (Normal Shorts C, F, K)                      |    |   |    |   |     |
|                            | 30 | E               | 6 | H | 10  | 32L7                                         | 32 | A | 6  | F | 1   |
|                            | 30 | F               | 6 | C | 10  |                                              | 32 | C | 6  | E | 1   |
|                            | 30 | F               | 6 | K | 10  |                                              |    |   |    |   |     |
| 30C1                       | 9  | D               | 6 | B | 3   |                                              |    |   |    |   |     |
|                            | 9  | D               | 6 | J | 3   |                                              |    |   |    |   |     |

| TUBE                          | A  | B | C  | D | Skt |
|-------------------------------|----|---|----|---|-----|
| *33GT7                        | 33 | A | 8  | B | 10  |
| (Normal Shorts A, J)          |    |   |    |   |     |
|                               | 16 | A | 10 | A | 10  |
| (Normal Shorts G, H-K)        |    |   |    |   |     |
| *33GY7                        | 33 | A | 8  | B | 10  |
| (Normal Shorts J, K)          |    |   |    |   |     |
|                               | 16 | A | 11 | J | 10  |
| (Normal Shorts G, H-K)        |    |   |    |   |     |
| †33HE7                        | 33 | A | 11 | B | 10  |
|                               | 33 | A | 11 | J | 10  |
| ‡Long warm up time is normal  |    |   |    |   |     |
| 33HK7                         | 33 | A | 11 | B | 10  |
|                               | 33 | A | 11 | J | 10  |
| 33JV6                         | 33 | A | 6  | A | 10  |
| 34CD3                         | 34 | A | 4  | K | 10  |
| *34CE3                        | 34 | A | 4  | K | 10  |
| (Disregard Shorts except H-K) |    |   |    |   |     |
| 34CM3                         | 34 | A | 2  | G | 5   |
| 34GD5                         | 34 | C | 2  | E | 4   |
| *34R3                         | 34 | A | 2  | J | 3   |
| (Disregard Shorts except H-K) |    |   |    |   |     |
| 35A3                          | 35 | B | 6  | E | 4   |
| 35A5                          | 35 | C | 6  | F | 9   |
| 35B5                          | 35 | C | 8  | A | 4   |
| 35C3                          | 35 | B | 6  | E | 4   |
| 35C5                          | 35 | C | 5  | B | 4   |
| 35CD6                         | 35 | A | 6  | E | 1   |
| *35D5                         | 35 | C | 10 | A | 3   |
| (Normal Short B, C, G, H)     |    |   |    |   |     |
| 35DZ8                         | 35 | C | 6  | C | 3   |
|                               | 35 | F | 6  | A | 3   |
| 35EH5                         | 35 | C | 5  | B | 4   |
| *35FM5                        | 35 | A | 4  | E | 1   |
| (Normal Short A, C, F, H)     |    |   |    |   |     |
| 35GL6                         | 35 | C | 7  | B | 4   |

| TUBE                                  | A  | B | C  | D | Skt |
|---------------------------------------|----|---|----|---|-----|
| 35HB8                                 | 35 | C | 6  | J | 3   |
|                                       | 35 | F | 6  | A | 3   |
| 35L6                                  | 35 | C | 6  | E | 1   |
| *35LR6                                | 35 | A | 10 | E | 10  |
| (Normal Shorts A, C, D, K)            |    |   |    |   |     |
| *35QL6                                | 35 | C | 1  | J | 3   |
| (Normal Shorts C, J)                  |    |   |    |   |     |
| 35W4                                  | 35 | A | 7  | E | 4   |
| 35X4                                  | 35 | A | 6  | E | 4   |
| 35Y4                                  | 35 | A | 4  | B | 9   |
| 35Z3                                  | 35 | A | 6  | B | 9   |
| 35Z4                                  | 35 | B | 6  | E | 1   |
| 35Z5                                  | 35 | B | 3  | E | 1   |
| 35Z6                                  | 35 | B | 6  | C | 1   |
|                                       | 35 | B | 6  | E | 1   |
| 36AM3                                 | 36 | A | 7  | E | 4   |
| *36KD6                                | 36 | A | 10 | E | 10  |
| (Normal Shorts A, D, J, K)            |    |   |    |   |     |
| *38A3                                 | 38 | A | 2  | J | 3   |
| (Disregard All Shorts except H-K)     |    |   |    |   |     |
| †38HE7                                | 38 | A | 11 | B | 10  |
|                                       | 38 | A | 11 | J | 10  |
| ‡Long warm up time is normal          |    |   |    |   |     |
| 38HK7                                 | 38 | A | 11 | B | 10  |
|                                       | 38 | A | 11 | J | 10  |
| 40FR5                                 | 40 | C | 5  | B | 4   |
| †*40KG6                               | 40 | A | 1  | H | 12  |
| (Normal Shorts B, C, F, G)            |    |   |    |   |     |
| *40KD6                                | 40 | A | 10 | C | 10  |
| (Normal Shorts A, C, D, K)            |    |   |    |   |     |
| 40Z5                                  | 40 | B | 3  | E | 1   |
| *42KN6                                | 21 | A | 10 | E | 10  |
| (Disregard Shorts A, C, D, G, K, H-K) |    |   |    |   |     |
| *45B5                                 | 45 | C | 1  | B | 3   |
| (Normal Shorts F, G, H, J)            |    |   |    |   |     |

| TUBE                              | A  | B | C | D | Skt | TUBE                                             | A  | B  | C  | D  | Skt |
|-----------------------------------|----|---|---|---|-----|--------------------------------------------------|----|----|----|----|-----|
| *45Z3                             | 45 | B | 7 | B | 7   | 50Z6                                             | 50 | A  | 6  | C  | 1   |
| (Disregard All Shorts except H-K) |    |   |   |   |     | 50                                               | A  | 6  | E  | 1  |     |
| 45Z5                              | 45 | B | 3 | E | 1   | 50Z7                                             | 50 | A  | 7  | C  | 1   |
| 50A5                              | 50 | C | 6 | F | 9   | 50                                               | A  | 7  | E  | 1  |     |
| 50AX6                             | 50 | A | 6 | C | 1   | 53HK7                                            | 53 | A  | 11 | B  | 10  |
|                                   | 50 | A | 6 | E | 1   | 53                                               | A  | 11 | J  | 10 |     |
| 50B5                              | 50 | C | 8 | A | 4   | *55N3                                            | 50 | A  | 2  | J  | 3   |
| 50BK5                             | 50 | C | 8 | C | 3   | (Disregard All Shorts except H-K)                |    |    |    |    |     |
| 50BM8                             | 50 | C | 6 | C | 3   | †58HE7                                           | 58 | A  | 6  | B  | 10  |
|                                   | 50 | F | 6 | A | 3   | 58                                               | A  | 6  | J  | 10 |     |
| 50C5                              | 50 | C | 5 | B | 4   | 60E3                                             | 60 | A  | 6  | E  | 4   |
| 50C6                              | 50 | C | 6 | E | 1   | 60EH5                                            | 50 | D  | 5  | B  | 4   |
| 50CA5                             | 50 | C | 5 | B | 4   | 60FX5                                            | 50 | D  | 5  | B  | 4   |
| 50CD6                             | 50 | A | 6 | E | 1   | *60HL5                                           | 60 | A  | 1  | B  | 3   |
| 50DC4                             | 50 | A | 7 | E | 4   | (Disregard Shorts on F, H,<br>and one other Pin) |    |    |    |    |     |
| 50E5                              | 50 | C | 1 | E | 1   | †70A7                                            | 50 | D  | 7  | E  | 1   |
| 50EH5                             | 50 | C | 5 | B | 4   | †70L7                                            | 50 | C  | 6  | H  | 1   |
| 50FA5                             | 50 | C | 5 | B | 4   | 50                                               | D  | 6  | E  | 1  |     |
| 50FE5                             | 50 | C | 6 | E | 1   | †117L7                                           | 50 | F  | 6  | D  | 1   |
| 50FK5                             | 50 | C | 5 | B | 4   | †117N7                                           | 50 | F  | 6  | D  | 1   |
| 50FY8                             | 50 | E | 6 | C | 3   | †117P7                                           | 50 | F  | 6  | D  | 1   |
|                                   | 50 | F | 6 | A | 3   | †117Z3                                           | 50 | F  | 1  | E  | 4   |
| 50HC6                             | 50 | C | 7 | B | 4   | †117Z4                                           | 50 | F  | 6  | E  | 1   |
| 50HC8                             | 50 | C | 7 | B | 4   | †117Z6                                           | 50 | F  | 6  | C  | 1   |
| 50HK6                             | 50 | C | 7 | B | 4   | 50                                               | F  | 6  | E  | 1  |     |
| 50HN5                             | 50 | C | 1 | B | 3   | 401A                                             | 6  | F  | 8  | A  | 4   |
| 50JY6                             | 50 | A | 6 | E | 1   | 403B                                             | 6  | E  | 8  | A  | 4   |
| 50L6                              | 50 | C | 6 | E | 1   | *407A                                            | 20 | F  | 6  | C  | 3   |
| (†See Magnoval Note on Page B)    |    |   |   |   |     | 20                                               | F  | 6  | G  | 3  |     |
| 50X6                              | 50 | A | 6 | C | 9   | (Normal Shorts A, J)                             |    |    |    |    |     |
|                                   | 50 | A | 6 | F | 9   | 408A                                             | 20 | E  | 2  | A  | 4   |
| 50Y6                              | 50 | B | 6 | C | 1   | *815                                             | 6  | A  | 5  | B  | 2   |
|                                   | 50 | B | 6 | E | 1   | (Normal Shorts A, C, F)                          |    |    |    |    |     |
| 50Y7                              | 50 | A | 7 | C | 1   |                                                  |    |    |    |    |     |
|                                   | 50 | A | 7 | E | 1   |                                                  |    |    |    |    |     |

| TUBE                              | A               | B | C | D | Skt | TUBE                                                                           | A  | B | C | D | Skt |
|-----------------------------------|-----------------|---|---|---|-----|--------------------------------------------------------------------------------|----|---|---|---|-----|
| *1201                             | 6               | F | 5 | A | 9   | 1621                                                                           | 6  | C | 6 | E | 1   |
| (Disregard Shorts)                |                 |   |   |   |     | 1622                                                                           | 6  | C | 6 | E | 1   |
| †1203A                            | 6               | F | 6 | D | 9   | 1626                                                                           | 12 | E | 6 | E | 1   |
| 1204                              | 6               | F | 7 | E | 9   | 1631                                                                           | 12 | C | 6 | E | 1   |
| 1206                              | 6               | F | 6 | D | 9   | 1632                                                                           | 12 | C | 6 | A | 2   |
|                                   | 6               | F | 6 | E | 9   | 1633                                                                           | 25 | E | 6 | E | 1   |
| 1216                              | 6               | G | 6 | E | 4   |                                                                                | 25 | E | 6 | D | 2   |
|                                   | 6               | G | 6 | F | 4   | 1634                                                                           | 12 | F | 6 | C | 2   |
| 1217                              | 6               | F | 6 | A | 4   |                                                                                | 12 | F | 6 | D | 2   |
| †Long warm up time is normal      |                 |   |   |   |     | 1635                                                                           | 6  | F | 6 | D | 1   |
| 1219                              | (See Last Page) |   |   |   |     |                                                                                | 6  | F | 6 | E | 1   |
| 1220                              | 6               | D | 2 | A | 4   | 1649                                                                           | 6  | D | 6 | D | 1   |
| 1223                              | 6               | F | 6 | K | 1   | *1654                                                                          | 1  | H | 2 | K | 7   |
| 1231                              | 6               | E | 6 | F | 9   | (Disregard Shorts)                                                             |    |   |   |   |     |
| 1232                              | 6               | F | 6 | F | 9   | 1655                                                                           | 6  | F | 6 | C | 2   |
| *1238                             | 28              | D | 6 | B | 2   |                                                                                | 6  | F | 6 | D | 2   |
| (Disregard All Shorts except H-K) |                 |   |   |   |     | *1662                                                                          | 3  | F | 5 | D | 7   |
| 1252                              | 6               | D | 6 | J | 3   | (Normal Short B, F)                                                            |    |   |   |   |     |
|                                   | 6               | D | 2 | A | 4   | 1679                                                                           | 6  | E | 6 | E | 4   |
| 1273                              | 6               | F | 6 | F | 9   |                                                                                | 6  | E | 6 | F | 4   |
| 1280                              | 12              | F | 6 | F | 9   | 1852                                                                           | 6  | D | 6 | D | 1   |
| 1282                              | 6               | D | 4 | F | 9   | 1853                                                                           | 6  | D | 6 | D | 1   |
| *1291                             | 6               | F | 4 | C | 2   | *4037                                                                          | 6  | C | 3 | K | 1   |
|                                   | 6               | F | 4 | F | 2   | (Normal Shorts E, H)                                                           |    |   |   |   |     |
| (Normal Shorts A, H-K)            |                 |   |   |   |     | 5590                                                                           | 6  | F | 8 | A | 4   |
| 1293                              | 1               | F | 5 | F | 9   | 5591                                                                           | 6  | E | 8 | A | 4   |
| 1294                              | 1               | H | 6 | D | 9   | 5610                                                                           | 6  | D | 5 | F | 4   |
| 1299                              | 1               | E | 8 | F | 9   | 5618                                                                           | 6  | C | 5 | F | 7   |
| 1611                              | 6               | B | 6 | E | 1   | 5642                                                                           | 1  | H | 6 | K | 4   |
| 1612                              | 6               | F | 6 | K | 1   | (Insert two tube leads into pins 3 and 4; touch cap lead to top lead on tube.) |    |   |   |   |     |
| 1613                              | 6               | B | 6 | E | 1   | 5654                                                                           | 6  | D | 2 | A | 4   |
| 1614                              | 6               | A | 6 | E | 1   | 5656                                                                           | 6  | E | 2 | A | 4   |
| 1619                              | 2               | A | 6 | E | 1   | 5659                                                                           | 12 | C | 6 | E | 1   |
| 1620                              | 6               | F | 6 | K | 1   |                                                                                |    |   |   |   |     |

| TUBE | A                          | B | C  | D | Skt | TUBE  | A                      | B | C  | D | Skt |
|------|----------------------------|---|----|---|-----|-------|------------------------|---|----|---|-----|
| 5660 | 12                         | E | 6  | K | 1   | 5844  | 6                      | G | 6  | E | 4   |
|      | 12                         | G | 6  | D | 1   |       | 6                      | G | 6  | F | 4   |
|      | 12                         | G | 6  | E | 1   | 5845  | 5                      | G | 8  | A | 4   |
| 5661 | 12                         | D | 6  | D | 1   |       | 5                      | G | 8  | E | 4   |
| 5670 | (See Last Page)            |   |    |   |     | 5852  | 6                      | B | 6  | C | 1   |
| 5679 | 6                          | E | 4  | C | 9   |       | 6                      | B | 6  | E | 1   |
|      | 6                          | E | 4  | F | 9   | 5871  | 6                      | C | 6  | E | 1   |
| 5686 | 6                          | C | 3  | B | 3   | 5879  | 6                      | F | 6  | A | 3   |
|      | (Normal Shorts A, F, H, J) |   |    |   |     | 5881  | 6                      | C | 6  | E | 1   |
| 5687 | 12                         | D | 9  | B | 3   | 5890  | 6                      | G | 8  | B | 10  |
|      | 12                         | D | 9  | G | 3   | 5910  | 1                      | G | 5  | F | 7   |
| 5691 | 6                          | F | 6  | A | 2   | 5915  | 6                      | E | 6  | A | 4   |
|      | 6                          | F | 6  | D | 2   | 5920  | 6                      | E | 6  | E | 4   |
| 5692 | 6                          | E | 6  | A | 2   |       | 6                      | E | 6  | F | 4   |
|      | 6                          | E | 6  | D | 2   | 5928  | 6                      | F | 2  | J | 3   |
| 5693 | 6                          | F | 6  | D | 1   | *5931 | 5                      | A | 6  | D | 1   |
| 5694 | 6                          | F | 6  | D | 1   |       | 5                      | A | 6  | F | 1   |
|      | 6                          | F | 6  | E | 1   |       | (Normal Short H, H-K)  |   |    |   |     |
| 5725 | 6                          | E | 6  | A | 4   | 5932  | 6                      | C | 6  | E | 1   |
| 5726 | 6                          | E | 6  | B | 3   | 5963  | 12                     | E | 10 | B | 3   |
|      | 6                          | E | 6  | G | 3   |       | 12                     | E | 10 | G | 3   |
| 5732 | 6                          | E | 6  | K | 1   | 5964  | 6                      | E | 6  | E | 4   |
| 5749 | 6                          | D | 6  | A | 4   |       | 6                      | E | 6  | F | 4   |
| 5750 | 6                          | D | 6  | A | 4   | 5965  | 12                     | E | 10 | B | 3   |
| 5751 | 12                         | F | 10 | B | 3   |       | 12                     | E | 10 | G | 3   |
|      | 12                         | F | 10 | G | 3   | *5969 | 1                      | G | 6  | B | 2   |
| 5763 | 6                          | C | 9  | J | 3   |       | 1                      | G | 6  | G | 2   |
| 5814 | 12                         | E | 10 | B | 3   |       | (Normal Short A, H-K)  |   |    |   |     |
|      | 12                         | E | 10 | G | 3   | *5970 | 1                      | G | 6  | B | 2   |
| 5824 | 25                         | C | 6  | E | 1   |       | 1                      | G | 6  | G | 2   |
| 5838 | 12                         | B | 6  | C | 1   |       | (Normal Shorts A, H-K) |   |    |   |     |
|      | 12                         | B | 6  | E | 1   | 5992  | 6                      | C | 6  | E | 1   |
| 5839 | 26                         | B | 6  | C | 1   | 5998  | 6                      | C | 6  | A | 2   |
|      | 26                         | B | 6  | E | 1   |       | 6                      | C | 6  | D | 2   |
|      |                            |   |    |   |     | 6000  | 26                     | C | 6  | A | 1   |

| TUBE                                                               | A  | B | C  | D | Skt | TUBE                                                | A  | B | C  | D | Skt |
|--------------------------------------------------------------------|----|---|----|---|-----|-----------------------------------------------------|----|---|----|---|-----|
| *6004                                                              | 5  | B | 6  | K | 1   | 6082                                                | 26 | A | 6  | A | 2   |
|                                                                    | 5  | B | 6  | K | 1   |                                                     | 26 | A | 6  | D | 2   |
| (Change clip lead from one tube cap to other; Normal Short H, H-K) |    |   |    |   |     | 6084                                                | 6  | G | 6  | J | 3   |
| 6005                                                               | 6  | C | 8  | A | 4   | 6085                                                | 12 | E | 10 | B | 3   |
| 6006                                                               | 6  | D | 5  | D | 1   |                                                     | 12 | E | 10 | G | 3   |
| 6028                                                               | 20 | E | 2  | A | 4   | *6087                                               | 5  | B | 6  | D | 1   |
| 6042                                                               | 6  | E | 6  | A | 2   |                                                     | 5  | B | 6  | F | 1   |
|                                                                    | 6  | E | 6  | D | 2   | (Normal Short H, H-K)                               |    |   |    |   |     |
| 6045                                                               | 6  | E | 6  | E | 4   | *6094                                               | 6  | C | 7  | A | 3   |
|                                                                    | 6  | E | 6  | F | 4   | (Normal Short B, C, G, J, H-K)                      |    |   |    |   |     |
| 6046                                                               | 25 | C | 6  | E | 1   | 6095                                                | 6  | C | 8  | A | 4   |
| 6057                                                               | 12 | G | 10 | B | 3   | 6096                                                | 6  | E | 2  | A | 4   |
|                                                                    | 12 | G | 10 | G | 3   | 6097                                                | 6  | E | 6  | B | 4   |
| 6058                                                               | 6  | E | 6  | B | 4   |                                                     | 6  | E | 6  | G | 4   |
|                                                                    | 6  | E | 6  | G | 4   | *6098                                               | 6  | G | 6  | E | 2   |
| 6059                                                               | 6  | F | 6  | K | 1   | (Emission and Short Test only; Normal Short H, H-K) |    |   |    |   |     |
| 6060                                                               | 12 | E | 10 | B | 3   | 6099                                                | 6  | E | 6  | E | 4   |
|                                                                    | 12 | E | 10 | G | 3   |                                                     | 6  | E | 6  | F | 4   |
| 6061                                                               | 6  | C | 6  | E | 1   | 6100                                                | 6  | E | 1  | F | 4   |
| 6063                                                               | 6  | B | 6  | A | 4   | 6101                                                | 6  | E | 6  | E | 4   |
|                                                                    | 6  | B | 6  | F | 4   |                                                     | 6  | E | 6  | F | 4   |
| 6064                                                               | 6  | D | 6  | A | 4   | *6106                                               | 5  | B | 6  | D | 1   |
| 6065                                                               | 6  | E | 6  | A | 4   |                                                     | 5  | B | 6  | F | 1   |
| 6066                                                               | 6  | F | 6  | A | 4   | (Normal Short H, H-K)                               |    |   |    |   |     |
|                                                                    | 6  | G | 6  | E | 4   | 6113                                                | 6  | F | 6  | A | 2   |
|                                                                    | 6  | G | 6  | F | 4   |                                                     | 6  | F | 6  | D | 2   |
| 6067                                                               | 12 | D | 10 | B | 3   | 6118                                                | 6  | G | 6  | K | 1   |
|                                                                    | 12 | D | 10 | G | 3   |                                                     | 6  | H | 6  | D | 1   |
| 6072                                                               | 12 | E | 10 | B | 3   |                                                     | 6  | H | 6  | E | 1   |
|                                                                    | 12 | E | 10 | G | 3   | *6132                                               | 6  | C | 1  | B | 3   |
| 6080                                                               | 6  | A | 6  | A | 2   | (Permissible Short F and one other Pin)             |    |   |    |   |     |
|                                                                    | 6  | A | 6  | D | 2   | 6134                                                | 6  | D | 6  | D | 1   |
|                                                                    |    |   |    |   |     | 6135                                                | 6  | E | 1  | F | 4   |
|                                                                    |    |   |    |   |     | 6136                                                | 6  | D | 6  | A | 4   |

| TUBE                   | A  | B | C  | D | Skt | TUBE                                                   | A               | B | C  | D | Skt |
|------------------------|----|---|----|---|-----|--------------------------------------------------------|-----------------|---|----|---|-----|
| 6137                   | 6  | D | 6  | D | 1   | *6293                                                  | 6               | A | 1  | E | 1   |
| 6145                   | 6  | E | 6  | F | 9   | (Normal Short D, F)                                    |                 |   |    |   |     |
| *6146                  | 6  | C | 7  | E | 1   | 6325                                                   | 6               | A | 6  | C | 2   |
| (Normal Short A, D)    |    |   |    |   |     |                                                        | 6               | A | 6  | E | 2   |
| *6159                  | 26 | C | 7  | E | 1   | 6327                                                   | 6               | C | 1  | E | 1   |
| (Normal Short A, D)    |    |   |    |   |     | 6336                                                   | 6               | C | 6  | A | 2   |
| 6180                   | 6  | E | 6  | A | 2   |                                                        | 6               | C | 6  | D | 2   |
|                        | 6  | E | 6  | D | 2   | 6350                                                   | 12              | E | 10 | C | 3   |
| 6186                   | 6  | E | 2  | A | 4   |                                                        | 12              | E | 10 | H | 3   |
| 6187                   | 6  | E | 6  | A | 4   | 6352                                                   | 3               | G | 4  | E | 2   |
| 6188                   | 6  | F | 6  | A | 2   | 6360                                                   | 12              | C | 10 | A | 3   |
|                        | 6  | F | 6  | D | 2   |                                                        | 12              | C | 10 | C | 3   |
| 6189                   | 12 | D | 10 | B | 3   | *6384                                                  | 6               | G | 6  | E | 2   |
|                        | 12 | D | 10 | G | 3   | (Emission and Short Test Only;<br>Normal Short H, H-K) |                 |   |    |   |     |
| *6197                  | 6  | C | 10 | B | 3   | 6386                                                   | (See Last Page) |   |    |   |     |
| (Normal Short C, H)    |    |   |    |   |     | 6394                                                   | 26              | C | 6  | A | 2   |
| 6201                   | 12 | E | 10 | B | 3   |                                                        | 26              | C | 6  | D | 2   |
|                        | 12 | E | 10 | G | 3   | 6414                                                   | 12              | E | 10 | B | 3   |
| 6202                   | 6  | B | 6  | A | 4   |                                                        | 12              | E | 10 | G | 3   |
|                        | 6  | B | 6  | F | 4   | 6417                                                   | 12              | A | 10 | H | 3   |
| 6203                   | 6  | B | 6  | A | 3   | 6463                                                   | 12              | E | 10 | C | 3   |
|                        | 6  | B | 6  | J | 3   |                                                        | 12              | E | 10 | H | 3   |
| 6211                   | 12 | F | 10 | B | 3   | 6485                                                   | 6               | E | 6  | A | 4   |
|                        | 12 | F | 10 | G | 3   | 6516                                                   | 6               | C | 6  | A | 4   |
| *6215                  | 1  | H | 3  | K | 1   | 6520                                                   | 6               | A | 6  | A | 2   |
| (Normal Short H, H-K)  |    |   |    |   |     |                                                        | 6               | A | 6  | D | 2   |
| *6216                  | 6  | C | 7  | B | 3   | 6528                                                   | 6               | C | 6  | A | 2   |
| (Normal Short C, H)    |    |   |    |   |     |                                                        | 6               | C | 6  | D | 2   |
| 6218                   | 6  | H | 9  | B | 3   | 6550                                                   | 6               | A | 6  | E | 1   |
| 6227                   | 6  | C | 1  | B | 3   | 6660                                                   | 6               | D | 6  | A | 4   |
| 6265                   | 6  | E | 6  | A | 4   | 6661                                                   | 6               | E | 6  | A | 4   |
| 6267                   | 6  | F | 2  | J | 3   | 6662                                                   | 6               | E | 6  | A | 4   |
| 6277                   | 6  | C | 1  | B | 3   | 6663                                                   | 6               | E | 6  | B | 4   |
| *6287                  | 6  | C | 2  | H | 3   |                                                        | 6               | E | 6  | G | 4   |
| (Normal Short C, F, J) |    |   |    |   |     |                                                        |                 |   |    |   |     |

| TUBE                     | A  | B | C  | D | Skt | TUBE                 | A  | B | C  | D | Skt |
|--------------------------|----|---|----|---|-----|----------------------|----|---|----|---|-----|
| 6664                     | 6  | E | 2  | F | 4   | *6883                | 12 | C | 1  | E | 1   |
| 6669                     | 6  | C | 8  | A | 4   | (Normal Shorts D, F) |    |   |    |   |     |
| 6676                     | 6  | D | 6  | A | 4   | 6887                 | 6  | E | 6  | B | 4   |
| *6677                    | 6  | C | 1  | B | 3   |                      | 6  | E | 6  | G | 4   |
| (Normal Short C, H)      |    |   |    |   |     | 6888                 | 6  | C | 6  | D | 1   |
| 6678                     | 6  | D | 6  | B | 3   | *6893                | 12 | A | 1  | E | 1   |
|                          | 6  | D | 6  | J | 3   | (Normal Shorts D, F) |    |   |    |   |     |
| 6679                     | 12 | E | 10 | B | 3   | 6900                 | 12 | C | 9  | B | 3   |
|                          | 12 | E | 10 | G | 3   |                      | 12 | C | 9  | G | 3   |
| 6680                     | 12 | D | 10 | B | 3   | 6913                 | 12 | E | 10 | B | 3   |
|                          | 12 | D | 10 | G | 3   |                      | 12 | E | 10 | G | 3   |
| 6681                     | 12 | F | 10 | B | 3   | 6919                 | 6  | E | 6  | B | 4   |
|                          | 12 | F | 10 | G | 3   |                      | 6  | E | 6  | G | 4   |
| 6686                     | 6  | C | 1  | B | 3   | 6922                 | 6  | E | 6  | B | 3   |
| 6687                     | 6  | F | 6  | A | 4   |                      | 6  | E | 6  | G | 3   |
| 6688                     | 6  | D | 1  | B | 3   | 6927                 | 6  | E | 6  | E | 4   |
| 6689                     | 6  | E | 6  | B | 3   |                      | 6  | E | 6  | F | 4   |
| 6754                     | 6  | B | 6  | A | 3   | 6928                 | 6  | C | 8  | A | 4   |
|                          | 6  | B | 6  | J | 3   | 6939                 | 12 | C | 10 | A | 3   |
| *6792                    | 6  | F | 9  | E | 1   |                      | 12 | C | 10 | C | 3   |
| (Normal Short C, E)      |    |   |    |   |     | 6954                 | 6  | E | 6  | A | 4   |
| 6829                     | 12 | E | 10 | B | 3   | 6955                 | 12 | D | 10 | B | 3   |
|                          | 12 | E | 10 | G | 3   |                      | 12 | D | 10 | G | 3   |
| 6840                     | 12 | D | 10 | C | 3   | 6968                 | 6  | E | 2  | A | 4   |
|                          | 12 | D | 10 | H | 3   | *6973                | 6  | C | 7  | C | 3   |
| 6851                     | 6  | F | 10 | B | 3   | (Normal Shorts A, H) |    |   |    |   |     |
|                          | 6  | F | 10 | G | 3   | 7000                 | 6  | F | 6  | K | 1   |
| *6853                    | 5  | B | 6  | D | 1   | 7001                 | 6  | C | 2  | A | 4   |
|                          | 5  | B | 6  | F | 1   | 7025                 | 12 | G | 10 | B | 3   |
| (Normal Short H, H-K)    |    |   |    |   |     |                      | 12 | G | 10 | G | 3   |
| *6870                    | 12 | C | 7  | B | 3   | *7027                | 6  | C | 7  | E | 1   |
| (Normal Shorts C, J)     |    |   |    |   |     | (Normal Short A, D)  |    |   |    |   |     |
| *6877                    | 6  | C | 7  | A | 3   | 7036                 | 6  | D | 6  | A | 4   |
| (Normal Short C, J, H-K) |    |   |    |   |     | 7044                 | 12 | C | 9  | B | 3   |
|                          |    |   |    |   |     |                      | 12 | C | 9  | G | 3   |

| TUBE                                                 | A  | B | C  | D | Skt | TUBE                                                 | A  | B | C  | D | Skt |
|------------------------------------------------------|----|---|----|---|-----|------------------------------------------------------|----|---|----|---|-----|
| *7054                                                | 13 | C | 7  | B | 3   | 7244                                                 | 6  | E | 6  | E | 4   |
| (Permissible Short C, J)                             |    |   |    |   |     |                                                      | 6  | E | 6  | F | 4   |
| 7055                                                 | 13 | E | 6  | B | 4   | *7245                                                | 6  | H | 1  | G | 4   |
|                                                      | 13 | E | 6  | G | 4   | (Emission and Short Test only;<br>Normal Short E, F) |    |   |    |   |     |
| 7056                                                 | 13 | E | 6  | A | 4   | 7247                                                 | 12 | D | 10 | B | 3   |
| 7057                                                 | 13 | E | 6  | B | 3   |                                                      | 12 | G | 10 | G | 3   |
|                                                      | 13 | E | 6  | G | 3   | 7258                                                 | 13 | D | 6  | B | 3   |
| 7058                                                 | 13 | F | 6  | B | 3   |                                                      | 13 | D | 6  | H | 3   |
|                                                      | 13 | F | 6  | G | 3   | 7308                                                 | 6  | E | 6  | B | 3   |
| 7059                                                 | 13 | D | 6  | B | 3   |                                                      | 6  | E | 6  | G | 3   |
|                                                      | 13 | D | 6  | J | 3   | 7316                                                 | 12 | E | 10 | B | 3   |
| 7060                                                 | 13 | D | 6  | B | 3   |                                                      | 12 | E | 10 | G | 3   |
|                                                      | 13 | D | 6  | H | 3   | 7318                                                 | 12 | E | 10 | B | 3   |
| *7061                                                | 13 | C | 7  | C | 3   |                                                      | 12 | E | 10 | G | 3   |
| (Normal Short A, H)                                  |    |   |    |   |     | *7320                                                | 6  | C | 1  | B | 3   |
| 7062                                                 | 12 | E | 10 | B | 3   | (Permissible Shorts F or H<br>and one other Pin)     |    |   |    |   |     |
|                                                      | 12 | E | 10 | G | 3   | 7355                                                 | 6  | C | 6  | F | 1   |
| 7105                                                 | 13 | C | 6  | A | 2   | *7358                                                | 6  | A | 1  | E | 1   |
|                                                      | 13 | C | 6  | D | 2   | (Normal Shorts D, F)                                 |    |   |    |   |     |
| 7119                                                 | 12 | D | 9  | B | 3   | 7360                                                 | 6  | E | 6  | C | 3   |
|                                                      | 12 | D | 9  | G | 3   | 7370                                                 | 40 | D | 8  | B | 3   |
| *7137                                                | 6  | H | 1  | G | 4   |                                                      | 40 | D | 8  | G | 3   |
| (Emission and Short Test only;<br>Normal Short E, F) |    |   |    |   |     | 7408                                                 | 6  | C | 6  | E | 1   |
| 7167                                                 | 13 | E | 2  | A | 4   | *7534                                                | 6  | C | 3  | E | 1   |
| *7189                                                | 6  | C | 1  | B | 3   | (Permissible Shorts A or F<br>and one other Pin)     |    |   |    |   |     |
| (Permissible Shorts F or H and<br>one other Pin)     |    |   |    |   |     | 7543                                                 | 6  | D | 6  | A | 4   |
| 7199                                                 | 6  | D | 6  | G | 3   | *7551                                                | 12 | C | 1  | B | 3   |
|                                                      | 6  | E | 6  | J | 3   | (Normal Short C, H)                                  |    |   |    |   |     |
| *7212                                                | 6  | C | 5  | E | 1   | *7558                                                | 6  | C | 1  | B | 3   |
| (Normal Short A, F)                                  |    |   |    |   |     | (Normal Short C, H)                                  |    |   |    |   |     |
| 7227                                                 | 27 | C | 7  | B | 3   | 7581                                                 | 6  | C | 6  | E | 1   |
| 7236                                                 | 6  | C | 6  | A | 2   | 7586                                                 | 6  | F | 6  | D | 6   |
|                                                      | 6  | C | 6  | D | 2   | 7587                                                 | 6  | F | 6  | D | 6   |

| TUBE                                    | A  | B | C  | D | Skt | TUBE                                         | A  | B | C  | D | Skt |
|-----------------------------------------|----|---|----|---|-----|----------------------------------------------|----|---|----|---|-----|
| 7591                                    | 6  | C | 4  | F | 1   | 7732                                         | 6  | D | 6  | A | 4   |
| *7607                                   | 6  | C | 1  | E | 1   | *7733                                        | 12 | C | 7  | B | 3   |
| (Normal Short C, F)                     |    |   |    |   |     | (Normal Short C and J)                       |    |   |    |   |     |
| 7643                                    | 6  | D | 6  | B | 3   | 7737                                         | 6  | D | 1  | B | 3   |
|                                         | 6  | E | 6  | J | 3   | 7754                                         | 6  | A | 3  | F | 8   |
| *7683                                   | 6  | E | 2  | A | 3   | *7788                                        | 6  | C | 1  | B | 3   |
| (Normal Shorts C, F, J)                 |    |   |    |   |     | (Normal Shorts F, J)                         |    |   |    |   |     |
| 7687                                    | 6  | E | 6  | B | 3   | 7803                                         | 6  | C | 6  | B | 3   |
|                                         | 6  | F | 6  | J | 3   |                                              | 6  | C | 6  | G | 3   |
| 7693                                    | 6  | E | 6  | A | 4   | 7867                                         | 6  | C | 6  | E | 1   |
| 7695                                    | 50 | A | 3  | F | 8   | *7868                                        | 6  | A | 7  | B | 5   |
| 7699                                    | 6  | D | 10 | A | 3   | (Normal Short A, G)                          |    |   |    |   |     |
|                                         | 6  | D | 10 | C | 3   | 7892                                         | 12 | D | 9  | B | 3   |
| *7701                                   | 13 | C | 1  | B | 3   |                                              | 12 | D | 9  | G | 3   |
| (Normal Short C, G, H, J)               |    |   |    |   |     | 7895                                         | 6  | G | 6  | D | 6   |
| 7716                                    | 13 | D | 6  | G | 3   | 7898                                         | 12 | E | 10 | B | 3   |
|                                         | 13 | F | 6  | B | 3   |                                              | 12 | E | 10 | G | 3   |
| 7717                                    | 6  | E | 2  | A | 4   | *7984                                        | 13 | C | 1  | K | 10  |
| 7719                                    | 12 | F | 1  | G | 8   | (Disregard All Shorts except G, K)           |    |   |    |   |     |
| *7721                                   | 6  | C | 1  | B | 3   | *8032                                        | 13 | C | 4  | E | 1   |
| (Permissible Short F and one other Pin) |    |   |    |   |     | (Normal Short A, F)                          |    |   |    |   |     |
| *7722                                   | 6  | C | 1  | B | 3   | 8056                                         | 6  | G | 6  | D | 6   |
| (Permissible Short F and one other Pin) |    |   |    |   |     | *8058                                        | 6  | G | 2  | K | 6   |
| 7724                                    | 14 | F | 6  | H | 3   | Connect to large lug<br>(Normal Short D & H) |    |   |    |   |     |
|                                         | 14 | G | 6  | F | 3   | 8068                                         | 6  | D | 6  | E | 1   |
|                                         | 14 | G | 6  | B | 3   | 8077                                         | 13 | C | 10 | B | 3   |
| 7728                                    | 12 | E | 10 | B | 3   | 8102                                         | 13 | E | 6  | C | 3   |
|                                         | 12 | E | 10 | G | 3   |                                              | 13 | E | 6  | J | 3   |
| 7729                                    | 12 | F | 10 | B | 3   | *8106                                        | 13 | D | 2  | G | 3   |
|                                         | 12 | F | 10 | G | 3   | (Normal Shorts C, F, H, J)                   |    |   |    |   |     |
| 7730                                    | 12 | D | 10 | B | 3   | 8113                                         | 6  | D | 2  | A | 4   |
|                                         | 12 | D | 10 | G | 3   | *8149                                        | 12 | A | 1  | K | 10  |
| 7731                                    | 6  | D | 6  | B | 3   | (Normal Shorts B, C, D, H, J)                |    |   |    |   |     |
|                                         | 6  | D | 6  | J | 3   | *8150                                        | 13 | A | 1  | K | 10  |
|                                         |    |   |    |   |     | (Normal Shorts B, D, E, F, G, H)             |    |   |    |   |     |

| TUBE                                    | A  | B | C  | D | Skt | TUBE                           | A  | B | C  | D | Skt |
|-----------------------------------------|----|---|----|---|-----|--------------------------------|----|---|----|---|-----|
| *8156                                   | 13 | B | 1  | K | 10  | 8458                           | 6  | A | 10 | A | 3   |
| (Disregard All Shorts except G, K, H-K) |    |   |    |   |     |                                | 6  | A | 10 | C | 3   |
| 8203                                    | 6  | E | 6  | D | 6   | 8489                           | 6  | D | 6  | B | 3   |
| *8233                                   | 6  | D | 10 | H | 5   |                                | 6  | D | 6  | H | 3   |
| (Normal Shorts B, F)                    |    |   |    |   |     | *8532                          | 6  | G | 1  | G | 4   |
| (Do NOT test for Shorts on TC114)       |    |   |    |   |     | (Normal Shorts E, F)           |    |   |    |   |     |
| *8255                                   | 6  | H | 1  | H | 3   | *8552                          | 12 | C | 4  | E | 1   |
| (Normal Shorts C, F, G, J)              |    |   |    |   |     | (Normal Shorts A, F)           |    |   |    |   |     |
| *8556                                   | 6  | G | 1  | H | 8   | *8556                          | 6  | G | 1  | H | 8   |
| (Normal Shorts C, E, F)                 |    |   |    |   |     | (Normal Shorts C, E, F)        |    |   |    |   |     |
| *8278                                   | 6  | C | 8  | C | 5   | †*8608                         | 6  | B | 2  | H | 12  |
| (Normal Shorts B, F)                    |    |   |    |   |     | (Normal Shorts G, J)           |    |   |    |   |     |
| *8298                                   | 6  | A | 1  | E | 1   | 9001                           | 6  | F | 2  | A | 4   |
| (Normal Shorts D, F)                    |    |   |    |   |     | *9002                          | 6  | E | 2  | F | 4   |
| 8323                                    | 6  | A | 10 | H | 5   | (Normal Short A and E)         |    |   |    |   |     |
| (Normal Shorts B, F)                    |    |   |    |   |     | 9003                           | 6  | E | 2  | A | 4   |
| 8327                                    | 6  | C | 6  | B | 3   | *9006                          | 6  | F | 1  | E | 4   |
| 8380                                    | 6  | F | 6  | D | 6   | (Normal Short B and G)         |    |   |    |   |     |
| 8382                                    | 6  | E | 6  | D | 6   | A863                           | 6  | F | 6  | K | 1   |
| 8393                                    | 13 | G | 6  | D | 6   | A1834                          | 6  | A | 6  | A | 2   |
| 8417                                    | 6  | A | 6  | E | 1   |                                | 6  | A | 6  | D | 2   |
| 8441                                    | 6  | F | 6  | D | 6   | (†See Magnoval Note on Page B) |    |   |    |   |     |
| 8445                                    | 6  | D | 6  | B | 3   | AA91E                          | 6  | E | 6  | B | 4   |
|                                         | 6  | D | 6  | J | 3   |                                | 6  | E | 6  | G | 4   |
| 8446                                    | 6  | D | 6  | A | 3   | B36                            | 12 | E | 6  | A | 2   |
|                                         | 6  | D | 6  | J | 3   |                                | 12 | E | 6  | D | 2   |
| 8447                                    | 12 | C | 10 | B | 3   | B65                            | 6  | E | 6  | A | 2   |
|                                         | 12 | D | 10 | F | 3   |                                | 6  | E | 6  | D | 2   |
|                                         | 12 | D | 10 | G | 3   | B109                           | 26 | D | 6  | B | 3   |
| 8448                                    | 6  | C | 7  | B | 3   |                                | 26 | D | 6  | G | 3   |
| 8449                                    | 6  | D | 6  | B | 3   | B152                           | 12 | E | 10 | B | 3   |
|                                         | 6  | D | 6  | H | 3   |                                | 12 | E | 10 | G | 3   |
| 8456                                    | 6  | F | 6  | D | 6   | B309                           | 12 | E | 10 | B | 3   |
| 8457                                    | 6  | C | 10 | A | 3   |                                | 12 | E | 10 | G | 3   |
|                                         | 6  | C | 10 | C | 3   |                                |    |   |    |   |     |

| TUBE  | A                   | B | C  | D | Skt | TUBE  | A  | B | C | D | Skt |
|-------|---------------------|---|----|---|-----|-------|----|---|---|---|-----|
| B319  | 7                   | E | 7  | B | 3   | DAE32 | 1  | F | 6 | K | 1   |
|       | 7                   | E | 7  | F | 3   |       | 1  | G | 6 | E | 1   |
| B329  | 12                  | D | 10 | B | 3   | DAF91 | 1  | G | 6 | F | 7   |
|       | 12                  | D | 10 | G | 3   |       | 1  | H | 6 | C | 7   |
| B339  | 12                  | F | 10 | B | 3   | DAF92 | 1  | G | 6 | F | 7   |
|       | 12                  | F | 10 | G | 3   |       | 1  | H | 6 | D | 7   |
| B719  | 6                   | D | 6  | B | 3   | DAF96 | 1  | G | 2 | F | 7   |
|       | 6                   | D | 6  | G | 3   |       | 1  | H | 2 | C | 7   |
| B739  | 12                  | E | 10 | B | 3   | DCC90 | 3  | F | 4 | C | 7   |
|       | 12                  | E | 10 | G | 3   |       | 3  | F | 4 | E | 7   |
| B749  | 12                  | D | 10 | B | 3   | DD6   | 6  | E | 6 | B | 4   |
|       | 12                  | D | 10 | G | 3   |       | 6  | E | 6 | G | 4   |
| B759  | 12                  | F | 10 | B | 3   | DD7   | 6  | C | 6 | A | 4   |
|       | 12                  | F | 10 | G | 3   | DDR7  | 6  | D | 6 | A | 4   |
| BPMO4 | 6                   | C | 8  | A | 4   | DF33  | 1  | F | 6 | K | 1   |
| C10B  | 2                   | F | 6  | E | 1   | DF91  | 1  | F | 5 | F | 7   |
| CC81E | 12                  | E | 10 | B | 3   | DF92  | 1  | F | 5 | F | 7   |
|       | 12                  | E | 10 | G | 3   | DF96  | 1  | G | 5 | F | 7   |
| CXF80 | 4                   | D | 6  | B | 3   | DF97  | 1  | G | 2 | A | 4   |
|       | 4                   | D | 6  | J | 3   | DF904 | 1  | F | 5 | F | 7   |
| D2M9  | 6                   | E | 6  | B | 4   | DH63  | 6  | F | 6 | K | 1   |
|       | 6                   | E | 6  | G | 4   |       | 6  | G | 6 | E | 1   |
| D63   | 6                   | F | 6  | C | 1   |       | 6  | G | 6 | D | 1   |
|       | 6                   | F | 6  | E | 1   | DH74  | 12 | F | 6 | K | 1   |
| D77   | 6                   | E | 6  | B | 4   |       | 12 | G | 6 | E | 1   |
|       | 6                   | E | 6  | G | 4   |       | 12 | G | 6 | D | 1   |
| D152  | 6                   | E | 6  | G | 4   | DH76  | 12 | F | 6 | K | 1   |
|       | 6                   | E | 6  | B | 4   |       | 12 | G | 6 | E | 1   |
| *D193 | 3                   | F | 5  | D | 7   |       | 12 | G | 6 | D | 1   |
|       | (Normal Short B, F) |   |    |   |     | DH77  | 6  | F | 6 | A | 4   |
| *D430 | 1                   | H | 3  | K | 1   |       | 6  | G | 6 | E | 4   |
|       | (Disregard Shorts)  |   |    |   |     |       | 6  | G | 6 | F | 4   |
| DAC32 | 1                   | G | 6  | K | 1   |       | 6  | G | 6 | F | 4   |
|       | 1                   | G | 6  | E | 1   |       |    |   |   |   |     |

| TUBE  | A                   | B | C | D | Skt | TUBE   | A                                                                              | B | C  | D | Skt |
|-------|---------------------|---|---|---|-----|--------|--------------------------------------------------------------------------------|---|----|---|-----|
| DH109 | 28                  | F | 6 | H | 3   | *DL95  | 3                                                                              | F | 5  | C | 7   |
|       | 28                  | G | 6 | F | 3   |        | (Normal Short B, F)                                                            |   |    |   |     |
|       | 28                  | G | 6 | B | 3   | DL96   | 3                                                                              | G | 5  | F | 7   |
|       | 28                  | G | 6 | A | 3   | *DL193 | 3                                                                              | F | 5  | D | 7   |
| DH147 | 6                   | F | 6 | K | 1   | DP51   | 6                                                                              | E | 2  | A | 4   |
|       | 6                   | G | 6 | E | 1   | DP61   | 6                                                                              | E | 2  | A | 4   |
|       | 6                   | G | 6 | D | 1   | *DY30  | 1                                                                              | H | 2  | K | 1   |
| DH149 | 6                   | F | 4 | F | 9   |        | (Normal Short H, H-K)                                                          |   |    |   |     |
|       | 6                   | G | 4 | E | 9   | *DY70  | 1                                                                              | H | 6  | K | 3   |
|       | 6                   | G | 4 | C | 9   |        | (Insert two tube leads into Pins 3 and 4; touch cap lead to top lead on tube.) |   |    |   |     |
| DH719 | 6                   | F | 6 | H | 3   | *DY80  | 1                                                                              | H | 1  | K | 8   |
|       | 6                   | G | 6 | F | 3   |        | (Disregard Shorts)                                                             |   |    |   |     |
|       | 6                   | G | 6 | B | 3   | *DY86  | 1                                                                              | H | 1  | K | 8   |
|       | 6                   | G | 6 | A | 3   |        | (Disregard Shorts)                                                             |   |    |   |     |
| DK32  | 1                   | G | 6 | E | 1   | *DY87  | 1                                                                              | H | 1  | K | 8   |
| DK91  | 1                   | F | 5 | D | 7   |        | (Disregard Shorts)                                                             |   |    |   |     |
| DK92  | 1                   | F | 6 | D | 7   | E80CC  | 12                                                                             | E | 10 | B | 3   |
| DK96  | 1                   | F | 6 | D | 7   |        | 12                                                                             | E | 10 | G | 3   |
| DL33  | 3                   | D | 9 | E | 1   | E80CF  | 6                                                                              | D | 6  | B | 3   |
| DL35  | 1                   | F | 6 | E | 1   |        | 6                                                                              | E | 6  | J | 3   |
| DL36  | 1                   | E | 6 | E | 1   | E80F   | 6                                                                              | G | 6  | J | 3   |
| DL63  | 6                   | F | 6 | K | 1   | E80L   | 6                                                                              | C | 1  | B | 3   |
|       | 6                   | G | 6 | E | 1   | E80T   | 6                                                                              | H | 9  | B | 3   |
|       | 6                   | G | 6 | D | 1   | E81CC  | 12                                                                             | E | 10 | B | 3   |
| DL74M | 12                  | F | 6 | K | 1   |        | 12                                                                             | E | 10 | G | 3   |
|       | 12                  | G | 6 | E | 1   | E81L   | 6                                                                              | C | 1  | B | 3   |
|       | 12                  | G | 6 | D | 1   | E82CC  | 12                                                                             | D | 10 | B | 3   |
| *DL91 | 1                   | F | 5 | C | 7   |        | 12                                                                             | D | 10 | G | 3   |
|       | (Normal Short B, F) |   |   |   |     | E82CF  | 6                                                                              | D | 6  | B | 3   |
| *DL92 | 3                   | F | 5 | C | 7   |        | 6                                                                              | D | 6  | J | 3   |
|       | (Normal Short B, F) |   |   |   |     | E83CC  | 12                                                                             | F | 10 | B | 3   |
| *DL93 | 3                   | F | 5 | D | 7   |        | 12                                                                             | F | 10 | G | 3   |
|       | (Normal Short B, F) |   |   |   |     | E83F   | 6                                                                              | E | 6  | B | 3   |
| DL94  | 3                   | F | 5 | F | 7   |        |                                                                                |   |    |   |     |

| TUBE                                  | A  | B | C  | D | Skt |
|---------------------------------------|----|---|----|---|-----|
| *E86C                                 | 6  | D | 1  | F | 8   |
| (Normal Short C, G)                   |    |   |    |   |     |
| *E88C                                 | 6  | H | 1  | H | 3   |
| (Normal Shorts C, F, G, J)            |    |   |    |   |     |
| E88CC                                 | 6  | E | 6  | B | 3   |
|                                       | 6  | E | 6  | G | 3   |
| E90CC                                 | 6  | E | 6  | E | 4   |
|                                       | 6  | E | 6  | F | 4   |
| E90F                                  | 6  | E | 6  | A | 4   |
| E91AA                                 | 6  | E | 6  | B | 3   |
|                                       | 6  | E | 6  | G | 3   |
| E91H                                  | 6  | F | 6  | A | 4   |
| E92CC                                 | 6  | E | 6  | C | 3   |
|                                       | 6  | E | 6  | F | 3   |
| (Normal Short B, F)                   |    |   |    |   |     |
| E95F                                  | 6  | E | 2  | A | 4   |
| E130L                                 | 6  | C | 3  | E | 1   |
| (Disregard Shorts on A, B, E, if any) |    |   |    |   |     |
| E180CC                                | 12 | E | 10 | B | 3   |
|                                       | 12 | E | 10 | G | 3   |
| E180F                                 | 6  | D | 1  | B | 3   |
| E182CC                                | 12 | D | 9  | B | 3   |
|                                       | 12 | D | 9  | G | 3   |
| E186F                                 | 6  | D | 1  | B | 3   |
| E188CC                                | 6  | E | 6  | B | 3   |
|                                       | 6  | E | 6  | G | 3   |
| EA50                                  | 2  | E | 2  | A | 4   |
| EAA91                                 | 6  | E | 6  | B | 4   |
|                                       | 6  | E | 6  | G | 4   |
| EAA901                                | 6  | E | 6  | B | 4   |
|                                       | 6  | E | 6  | G | 4   |
| EA880                                 | 6  | F | 6  | H | 3   |
|                                       | 6  | G | 6  | G | 3   |
|                                       | 6  | G | 6  | B | 3   |
|                                       | 6  | G | 6  | A | 3   |

| TUBE   | A | B | C | D | Skt |
|--------|---|---|---|---|-----|
| EABC80 | 6 | F | 6 | H | 3   |
|        | 6 | G | 6 | F | 3   |
|        | 6 | G | 6 | B | 3   |
|        | 6 | G | 6 | A | 3   |
| EAF801 | 6 | D | 6 | B | 3   |
|        | 6 | D | 6 | H | 3   |
| EB34   | 6 | E | 6 | C | 1   |
|        | 6 | E | 6 | E | 1   |
| EB91   | 6 | E | 6 | B | 4   |
|        | 6 | E | 6 | G | 4   |
| EBC33  | 6 | E | 6 | K | 1   |
|        | 6 | G | 6 | E | 1   |
|        | 6 | G | 6 | D | 1   |
| EBC80  | 6 | F | 6 | H | 3   |
|        | 6 | G | 6 | F | 3   |
|        | 6 | G | 6 | B | 3   |
| EBC81  | 6 | F | 6 | H | 3   |
|        | 6 | G | 6 | F | 3   |
|        | 6 | G | 6 | B | 3   |
| EBC90  | 6 | F | 6 | A | 4   |
|        | 6 | G | 6 | E | 4   |
|        | 6 | G | 6 | F | 4   |
| EBC91  | 6 | F | 6 | A | 4   |
|        | 6 | G | 6 | E | 4   |
|        | 6 | G | 6 | F | 4   |
| EBF80  | 6 | F | 6 | B | 3   |
|        | 6 | G | 6 | G | 3   |
|        | 6 | G | 6 | H | 3   |
| EBF81  | 6 | E | 6 | B | 3   |
|        | 6 | G | 6 | G | 3   |
|        | 6 | G | 6 | H | 3   |
| EBF83  | 6 | G | 6 | B | 3   |
|        | 6 | G | 6 | G | 3   |
|        | 6 | G | 6 | H | 3   |

| TUBE                                                            | A  | B | C  | D | Skt |
|-----------------------------------------------------------------|----|---|----|---|-----|
| EBF89                                                           | 6  | D | 6  | B | 3   |
|                                                                 | 6  | G | 6  | G | 3   |
|                                                                 | 6  | G | 6  | H | 3   |
| EC80                                                            | 6  | D | 8  | A | 8   |
| EC81                                                            | 6  | C | 6  | A | 3   |
| EC86                                                            | 6  | E | 3  | F | 8   |
| *EC88                                                           | 6  | H | 1  | H | 3   |
| (Normal Shorts A, C, F, G, J;<br>Emission and Shorts Test Only) |    |   |    |   |     |
| EC90                                                            | 6  | D | 1  | F | 4   |
| *EC91                                                           | 6  | E | 7  | A | 4   |
| (Normal Short B, E)                                             |    |   |    |   |     |
| EC92                                                            | 6  | E | 2  | F | 4   |
| *EC93                                                           | 6  | D | 7  | B | 4   |
| (Normal Short A, G)                                             |    |   |    |   |     |
| EC94                                                            | 6  | D | 7  | B | 4   |
| (Normal Short A, G)                                             |    |   |    |   |     |
| EC95                                                            | 6  | E | 8  | B | 4   |
| EC97                                                            | 6  | E | 1  | B | 4   |
| *EC806                                                          | 6  | D | 1  | E | 8   |
| (Normal Shorts C, G)                                            |    |   |    |   |     |
| EC900                                                           | 6  | E | 2  | A | 4   |
| *EC8010                                                         | 6  | G | 1  | H | 8   |
| (Normal Shorts C, E, F)                                         |    |   |    |   |     |
| *EC8020                                                         | 6  | G | 1  | H | 8   |
| (Normal Shorts C, E, F)                                         |    |   |    |   |     |
| ECC32                                                           | 6  | E | 6  | A | 2   |
|                                                                 | 6  | E | 6  | D | 2   |
| ECC33                                                           | 6  | E | 6  | A | 2   |
|                                                                 | 6  | E | 6  | D | 2   |
| ECC35                                                           | 6  | F | 6  | A | 2   |
|                                                                 | 6  | F | 6  | D | 2   |
| ECC81                                                           | 12 | E | 10 | B | 3   |
|                                                                 | 12 | E | 10 | G | 3   |

| TUBE    | A  | B | C  | D | Skt |
|---------|----|---|----|---|-----|
| ECC82   | 12 | D | 10 | B | 3   |
|         | 12 | D | 10 | G | 3   |
| ECC83   | 12 | F | 10 | B | 3   |
|         | 12 | F | 10 | G | 3   |
| ECC84   | 6  | D | 8  | F | 3   |
|         | 6  | E | 8  | B | 3   |
| ECC85   | 6  | D | 6  | B | 3   |
|         | 6  | D | 6  | G | 3   |
| ECC86   | 6  | E | 6  | B | 3   |
|         | 6  | E | 6  | G | 3   |
| ECC88   | 6  | D | 6  | B | 3   |
|         | 6  | D | 6  | G | 3   |
| ECC89   | 6  | D | 8  | B | 3   |
|         | 6  | D | 8  | F | 3   |
| ECC91   | 6  | E | 6  | E | 4   |
|         | 6  | E | 6  | F | 4   |
| ECC180  | 6  | E | 6  | G | 3   |
|         | 6  | E | 6  | B | 3   |
| ECC186  | 12 | D | 10 | B | 3   |
|         | 12 | D | 10 | G | 3   |
| ECC189  | 6  | D | 10 | B | 3   |
|         | 6  | D | 10 | G | 3   |
| ECC230  | 6  | A | 6  | A | 2   |
|         | 6  | A | 6  | D | 2   |
| ECC801  | 12 | E | 10 | B | 3   |
|         | 12 | E | 10 | G | 3   |
| ECC802S | 12 | D | 10 | B | 3   |
|         | 12 | D | 10 | G | 3   |
| ECC803  | 12 | F | 10 | B | 3   |
|         | 12 | F | 10 | G | 3   |
| ECC804  | 6  | D | 6  | B | 3   |
|         | 6  | D | 6  | G | 3   |

| TUBE    | A | B | C | D | Skt |
|---------|---|---|---|---|-----|
| ECC807  | 6 | G | 6 | B | 3   |
|         | 6 | G | 6 | J | 3   |
| ECC808  | 6 | G | 6 | A | 3   |
|         | 6 | G | 6 | K | 3   |
| ECC960  | 6 | E | 6 | F | 4   |
|         | 6 | E | 6 | E | 4   |
| ECC962  | 6 | E | 6 | C | 3   |
|         | 6 | E | 6 | F | 3   |
| ECC2000 | 6 | D | 1 | C | 11  |
|         | 6 | D | 1 | H | 11  |
| ECF80   | 6 | E | 6 | B | 3   |
|         | 6 | E | 6 | J | 3   |
| ECF82   | 6 | D | 6 | B | 3   |
|         | 6 | D | 6 | J | 3   |
| ECF83   | 6 | F | 6 | J | 3   |
|         | 6 | F | 6 | B | 3   |
| ECF86   | 6 | D | 6 | B | 3   |
|         | 6 | D | 6 | F | 3   |
| ECF200  | 6 | D | 6 | C | 11  |
|         | 6 | E | 6 | K | 11  |
| ECF201  | 6 | D | 6 | C | 11  |
|         | 6 | D | 6 | K | 11  |
| ECF801  | 6 | D | 3 | B | 3   |
|         | 6 | E | 3 | J | 3   |
| ECF802  | 6 | D | 6 | J | 3   |
|         | 6 | D | 6 | B | 3   |
| ECF804  | 6 | E | 6 | B | 3   |
|         | 6 | D | 6 | J | 3   |
| ECH33   | 6 | E | 6 | E | 1   |
| ECH35   | 6 | D | 6 | K | 1   |
| ECH36   | 6 | E | 6 | E | 1   |
| ECH80   | 6 | E | 6 | B | 3   |
|         | 6 | F | 6 | J | 3   |

| TUBE    | A | B | C | D | Skt |
|---------|---|---|---|---|-----|
| ECH81   | 6 | E | 6 | B | 3   |
|         | 6 | E | 6 | J | 3   |
| ECH83   | 6 | F | 6 | B | 3   |
|         | 6 | G | 6 | J | 3   |
| ECH84   | 6 | E | 6 | B | 3   |
|         | 6 | E | 6 | J | 3   |
| ECH200  | 6 | D | 6 | H | 11  |
|         | 6 | E | 6 | C | 11  |
| ECL80   | 6 | D | 6 | J | 3   |
|         | 6 | F | 6 | B | 3   |
| ECL82   | 8 | C | 6 | C | 3   |
|         | 8 | F | 6 | A | 3   |
| ECL83   | 6 | C | 6 | J | 3   |
|         | 6 | G | 6 | B | 3   |
| ECL84   | 6 | D | 6 | H | 3   |
|         | 6 | F | 6 | A | 3   |
| ECL85   | 6 | C | 6 | J | 3   |
|         | 6 | E | 6 | B | 3   |
| ECL86   | 6 | C | 6 | H | 3   |
|         | 6 | G | 6 | A | 3   |
| ECLL800 | 6 | F | 6 | B | 3   |
|         | 6 | C | 6 | F | 3   |

(+See Magnoval Note on Page B)

+\*ED500 6 G 2 H 12

(Disregard Shorts except H-K)

|       |   |   |   |   |   |
|-------|---|---|---|---|---|
| EF5   | 6 | D | 1 | B | 3 |
| EF13  | 6 | D | 1 | B | 3 |
| EF39  | 6 | E | 6 | K | 1 |
| EF80  | 6 | D | 1 | B | 3 |
| EF81  | 6 | F | 9 | B | 3 |
| *EF82 | 6 | C | 1 | B | 3 |

(Permissible Short F and  
one other Pin)

|      |   |   |   |   |   |
|------|---|---|---|---|---|
| EF85 | 6 | D | 3 | B | 3 |
| EF86 | 6 | F | 2 | J | 3 |

| TUBE                                         | A | B | C | D | Skt | TUBE                                          | A  | B | C | D | Skt |
|----------------------------------------------|---|---|---|---|-----|-----------------------------------------------|----|---|---|---|-----|
| *EF89F                                       | 6 | D | 1 | B | 3   | *EL84                                         | 6  | C | 1 | B | 3   |
| (Permissible Short F and one other Pin)      |   |   |   |   |     | (Permissible Short F or H and one other Pin)  |    |   |   |   |     |
| EF91                                         | 6 | D | 6 | A | 4   | EL85                                          | 6  | C | 9 | B | 3   |
| EF92                                         | 6 | E | 6 | A | 4   | *EL86                                         | 6  | C | 1 | B | 3   |
| EF93                                         | 6 | D | 6 | A | 4   | (Permissible Shorts F or H and one other Pin) |    |   |   |   |     |
| EF94                                         | 6 | D | 6 | A | 4   | EL90                                          | 6  | C | 8 | A | 4   |
| EF95                                         | 6 | E | 2 | A | 4   | EL91                                          | 6  | C | 6 | A | 4   |
| EF96                                         | 6 | D | 6 | A | 4   | EL95                                          | 6  | C | 8 | A | 4   |
| EF97                                         | 6 | D | 6 | A | 4   | *EL180                                        | 12 | C | 7 | B | 3   |
| EF98                                         | 6 | D | 6 | A | 4   | (Normal Shorts C, J)                          |    |   |   |   |     |
| EF183                                        | 6 | D | 1 | B | 3   | +*EL500                                       | 6  | A | 2 | A | 12  |
| EF184                                        | 6 | D | 1 | B | 3   | (Normal Shorts C, F, G, H)                    |    |   |   |   |     |
| EF190                                        | 6 | D | 6 | A | 4   | EL803                                         | 6  | C | 6 | B | 3   |
| EF804                                        | 6 | F | 1 | J | 3   | *EL821                                        | 6  | C | 1 | B | 3   |
| EF806                                        | 6 | F | 2 | J | 3   | (Permissible Short F and one other Pin)       |    |   |   |   |     |
| EF812                                        | 6 | D | 1 | B | 3   | EL822                                         | 6  | C | 6 | B | 3   |
| EF861                                        | 6 | D | 1 | B | 3   | ELL80                                         | 6  | C | 6 | B | 3   |
| EF905                                        | 6 | D | 2 | A | 4   |                                               | 6  | C | 6 | F | 3   |
| EFL200                                       | 6 | C | 6 | H | 11  | *EM85                                         | 6  | D | 1 | B | 3   |
|                                              | 6 | D | 6 | A | 11  | (Permissible Short F and one other Pin)       |    |   |   |   |     |
| EH90                                         | 6 | D | 6 | A | 4   | (†See Magnoval Note on Page B)                |    |   |   |   |     |
| EK90                                         | 6 | D | 6 | A | 4   | EN93                                          | 6  | F | 6 | A | 4   |
| EL33                                         | 6 | F | 6 | E | 1   | EQ80                                          | 6  | F | 9 | G | 3   |
| EL34                                         | 6 | A | 6 | E | 1   | *EY80                                         | 6  | A | 1 | J | 3   |
| *EL36                                        | 6 | A | 3 | E | 1   | (Disregard Shorts)                            |    |   |   |   |     |
| (Permissible Short A and one other Pin)      |   |   |   |   |     | *EY81                                         | 6  | A | 2 | J | 3   |
| EL37                                         | 6 | C | 6 | E | 1   | (Disregard All Shorts except H-K)             |    |   |   |   |     |
| EL38                                         | 6 | C | 6 | E | 1   | EY82                                          | 6  | A | 2 | J | 3   |
| *EL81                                        | 6 | C | 1 | B | 3   | (Disregard All Shorts except H-K)             |    |   |   |   |     |
| (Permissible Short F or G and one other Pin) |   |   |   |   |     | *EY83                                         | 6  | A | 1 | J | 3   |
| EL82                                         | 6 | B | 1 | B | 3   | (Disregard All Shorts except H-K)             |    |   |   |   |     |
| EL83                                         | 6 | C | 6 | B | 3   | *EY86                                         | 6  | J | 1 | K | 8   |
|                                              |   |   |   |   |     | (Disregard Shorts)                            |    |   |   |   |     |

| TUBE                      | A | B               | C | D | Skt | TUBE   | A  | B | C | D | Skt |
|---------------------------|---|-----------------|---|---|-----|--------|----|---|---|---|-----|
| *EY87                     | 6 | J               | 1 | K | 8   | H63    | 6  | F | 6 | K | 1   |
| (Disregard Shorts)        |   |                 |   |   |     | H1112  | 6  | F | 6 | D | 6   |
| *EY88                     | 6 | (See Last Page) |   |   |     | H1208  | 6  | F | 6 | D | 6   |
| EZ3                       | 6 | A               | 7 | A | 8   | HAA91  | 12 | E | 6 | B | 4   |
|                           | 6 | A               | 7 | G | 8   |        | 12 | E | 6 | G | 4   |
| EZ4                       | 6 | A               | 7 | A | 8   | HABC80 | 19 | F | 6 | H | 3   |
|                           | 6 | A               | 7 | G | 8   |        | 19 | G | 6 | G | 3   |
| EZ11                      | 6 | A               | 7 | A | 8   |        | 19 | G | 6 | B | 3   |
|                           | 6 | A               | 7 | G | 8   |        | 19 | G | 6 | A | 3   |
| EZ35                      | 6 | B               | 6 | C | 1   | HBC90  | 12 | F | 6 | A | 4   |
|                           | 6 | B               | 6 | E | 1   |        | 12 | G | 6 | E | 4   |
| *EZ80                     | 6 | A               | 7 | A | 8   |        | 12 | G | 6 | F | 4   |
|                           | 6 | A               | 7 | G | 8   | HBC91  | 12 | F | 6 | A | 4   |
| EZ81                      | 6 | A               | 7 | A | 8   |        | 12 | G | 6 | E | 4   |
|                           | 6 | A               | 7 | G | 8   |        | 12 | G | 6 | F | 4   |
| EZ90                      | 6 | B               | 6 | A | 3   | HCC85  | 17 | E | 6 | B | 3   |
|                           | 6 | B               | 6 | F | 3   |        | 17 | E | 6 | G | 3   |
| *GY501                    | 3 | J               | 6 | K | 8   | HCH81  | 12 | F | 6 | B | 3   |
| (Normal Shorts A, F, H-K) |   |                 |   |   |     |        | 12 | G | 6 | J | 3   |
| *GZ30                     | 5 | B               | 6 | D | 1   | HD14   | 1  | G | 6 | E | 1   |
|                           | 5 | B               | 6 | F | 1   |        | 1  | F | 6 | K | 1   |
| (Normal Short H, H-K)     |   |                 |   |   |     | HD94   | 6  | A | 6 | E | 1   |
| *GZ31                     | 5 | B               | 6 | D | 1   | HD96   | 25 | A | 6 | E | 1   |
|                           | 5 | B               | 6 | F | 1   | HF93   | 12 | D | 6 | A | 4   |
| (Normal Short H, H-K)     |   |                 |   |   |     | HF94   | 12 | D | 6 | A | 4   |
| *GZ32                     | 5 | B               | 6 | D | 1   | HK90   | 12 | D | 6 | A | 4   |
|                           | 5 | B               | 6 | F | 1   | HL90   | 19 | C | 8 | A | 4   |
| (Normal Short H, H-K)     |   |                 |   |   |     | HL92   | 50 | C | 5 | B | 4   |
| *GZ34                     | 5 | A               | 1 | D | 1   | HL94   | 30 | C | 5 | B | 4   |
|                           | 5 | A               | 1 | F | 1   | HMO4   | 6  | D | 6 | A | 4   |
| (Normal Short H, H-K)     |   |                 |   |   |     | HP6    | 6  | E | 6 | A | 4   |
| H36                       | 6 | G               | 6 | K | 1   | HY65   | 6  | A | 6 | E | 1   |
| *H52                      | 5 | A               | 6 | D | 1   | HY90   | 35 | A | 7 | E | 4   |
|                           | 5 | A               | 6 | F | 1   |        |    |   |   |   |     |
| (Normal Short H, H-K)     |   |                 |   |   |     |        |    |   |   |   |     |

| TUBE   | A  | B | C | D | Skt | TUBE                                         | A  | B               | C  | D | Skt |
|--------|----|---|---|---|-----|----------------------------------------------|----|-----------------|----|---|-----|
| HZ90   | 12 | B | 6 | A | 4   | LF183                                        | 4  | D               | 6  | B | 3   |
|        | 12 | B | 6 | F | 4   | *LF184                                       | 4  | D               | 6  | B | 3   |
| KBC32  | 2  | F | 6 | F | 1   | (Normal Shorts A, C)                         |    |                 |    |   |     |
|        | 2  | G | 6 | E | 1   | LFL200                                       | 11 | C               | 6  | H | 11  |
|        | 2  | G | 6 | D | 1   |                                              | 11 | D               | 6  | A | 11  |
| KF35   | 2  | F | 6 | E | 1   | *LL86                                        | 10 | C               | 1  | B | 3   |
| KK32   | 1  | E | 6 | E | 1   | (Disregard Shorts on F, H and one other Pin) |    |                 |    |   |     |
| KL35   | 2  | E | 6 | E | 1   | †*LL521                                      | 21 | A               | 1  | H | 12  |
| KT32   | 25 | C | 6 | E | 1   | (Normal Shorts B, C, F, G)                   |    |                 |    |   |     |
| T61    | 6  | F | 6 | E | 1   | †*LL505                                      | 27 | A               | 1  | H | 12  |
| KT63   | 6  | B | 6 | E | 1   | (Normal Shorts B, C, F, G)                   |    |                 |    |   |     |
| KT66   | 6  | C | 6 | E | 1   | LN119                                        | 50 | C               | 6  | C | 3   |
| KT71   | 50 | C | 6 | E | 1   |                                              | 50 | F               | 6  | A | 3   |
| KT77   | 6  | A | 6 | E | 1   | LN152                                        | 6  | D               | 6  | J | 3   |
| KT88   | 6  | C | 6 | E | 1   |                                              | 6  | F               | 6  | B | 3   |
| KTW63  | 6  | E | 6 | K | 1   | *LY88                                        | 20 | (See Last Page) |    |   |     |
| KTZ63  | 6  | F | 6 | K | 1   | LZ319                                        | 9  | D               | 6  | B | 3   |
| L63    | 6  | E | 6 | E | 1   |                                              | 9  | D               | 6  | J | 3   |
| L77    | 6  | E | 1 | E | 4   | LZ329                                        | 9  | D               | 6  | B | 3   |
| LC900  | 3  | E | 2 | A | 4   |                                              | 9  | D               | 6  | J | 3   |
| LCF80  | 8  | D | 6 | B | 3   | (†See Magnoval Note on Page B)               |    |                 |    |   |     |
|        | 8  | D | 6 | J | 3   | M8079                                        | 6  | E               | 6  | B | 4   |
| LCF200 | 5  | D | 6 | C | 11  |                                              | 6  | E               | 6  | G | 4   |
|        | 5  | E | 6 | K | 11  | M8080                                        | 6  | E               | 1  | F | 4   |
| LCF201 | 5  | D | 6 | C | 11  | M8081                                        | 6  | E               | 6  | E | 4   |
|        | 5  | D | 6 | K | 11  |                                              | 6  | E               | 6  | F | 4   |
| LCF801 | 5  | D | 3 | B | 3   | M8083                                        | 6  | D               | 6  | A | 4   |
|        | 5  | E | 3 | J | 3   | M8096                                        | 6  | C               | 9  | J | 3   |
| LCF802 | 6  | D | 6 | J | 3   | M8100                                        | 6  | E               | 2  | A | 4   |
|        | 6  | C | 6 | B | 3   | M8136                                        | 12 | D               | 10 | B | 3   |
| LCH200 | 5  | D | 6 | H | 11  |                                              | 12 | D               | 10 | G | 3   |
|        | 5  | E | 6 | C | 11  | M8137                                        | 12 | F               | 10 | B | 3   |
| LCL84  | 10 | D | 6 | H | 3   |                                              | 12 | F               | 10 | G | 3   |
|        | 10 | F | 6 | A | 3   | M8161                                        | 6  | E               | 6  | A | 4   |

| TUBE                                              | A  | B | C  | D | Skt | TUBE                                         | A  | B | C | D | Skt |
|---------------------------------------------------|----|---|----|---|-----|----------------------------------------------|----|---|---|---|-----|
| M8162                                             | 12 | E | 10 | B | 3   | N329                                         | 16 | C | 7 | B | 3   |
|                                                   | 12 | E | 10 | G | 3   | *N359                                        | 21 | C | 9 | B | 3   |
| M8196                                             | 6  | E | 6  | A | 4   | (Permissible Short F and one other Pin)      |    |   |   |   |     |
| M8212                                             | 6  | E | 6  | B | 4   | *N369                                        | 16 | C | 6 | C | 3   |
|                                                   | 6  | E | 6  | G | 4   |                                              | 16 | E | 6 | A | 3   |
| *M8232                                            | 6  | G | 6  | G | 4   | (Permissible Short F and one other Pin)      |    |   |   |   |     |
| (Emission and Short Test only; Normal Short E, F) |    |   |    |   |     | *N379                                        | 15 | C | 1 | B | 3   |
| M8245                                             | 6  | C | 8  | A | 4   | (Permissible Short F or H and one other Pin) |    |   |   |   |     |
| N14                                               | 1  | E | 6  | E | 1   | *N707                                        | 6  | C | 1 | B | 3   |
| N15                                               | 3  | G | 5  | F | 7   | (Permissible Short F, H and one other Pin)   |    |   |   |   |     |
| N16                                               | 3  | F | 9  | E | 1   | *N709                                        | 6  | C | 1 | B | 3   |
| *N17                                              | 3  | F | 5  | C | 7   | (Permissible Short F, H and one other Pin)   |    |   |   |   |     |
| (Normal Short B, F)                               |    |   |    |   |     | N727                                         | 6  | C | 8 | A | 4   |
| *N18                                              | 3  | F | 5  | C | 7   | OBC3                                         | 12 | F | 6 | B | 2   |
| (Normal Short B, F)                               |    |   |    |   |     |                                              | 12 | G | 6 | D | 2   |
| N19                                               | 3  | F | 5  | F | 7   |                                              | 12 | G | 6 | E | 2   |
| +*N22LL                                           | 19 | A | 1  | G | 12  | OF1                                          | 6  | E | 6 | K | 1   |
| (Normal Shorts, H and one other Pin)              |    |   |    |   |     | OH4                                          | 12 | E | 6 | E | 1   |
| N25                                               | 3  | G | 5  | F | 7   | OM6                                          | 6  | E | 6 | K | 1   |
| N77                                               | 6  | C | 6  | A | 4   | OM10                                         | 6  | E | 6 | E | 1   |
| N78                                               | 6  | C | 6  | A | 4   | OSW3111                                      | 6  | D | 6 | D | 1   |
| *N119                                             | 45 | C | 1  | B | 3   | PABC80                                       | 9  | F | 6 | H | 3   |
| (Permissible Short F or H and one other Pin)      |    |   |    |   |     |                                              | 9  | G | 6 | F | 3   |
| N144                                              | 6  | C | 6  | A | 4   |                                              | 9  | G | 6 | B | 3   |
| N147                                              | 6  | F | 6  | E | 1   |                                              | 9  | G | 6 | A | 3   |
| *N152                                             | 21 | C | 1  | B | 3   | PC86                                         | 4  | E | 3 | F | 8   |
| (Permissible Short F or G and one other Pin)      |    |   |    |   |     | PC95                                         | 4  | E | 8 | B | 4   |
| N153                                              | 15 | C | 6  | B | 3   | PC97                                         | 4  | E | 1 | B | 4   |
| *N154                                             | 16 | C | 9  | B | 3   | PC200                                        | 8  | D | 6 | C | 11  |
| (Permissible Short F and one other Pin)           |    |   |    |   |     |                                              | 8  | E | 6 | E | 11  |
| N155                                              | 6  | C | 3  | B | 3   |                                              |    |   |   |   |     |

| TUBE                    | A  | B | C | D | Skt |
|-------------------------|----|---|---|---|-----|
| PCC84                   | 7  | E | 7 | B | 3   |
|                         | 7  | E | 7 | F | 3   |
| PCC85                   | 9  | E | 6 | B | 3   |
|                         | 9  | E | 6 | G | 3   |
| PCC88                   | 7  | D | 6 | B | 3   |
|                         | 7  | D | 6 | G | 3   |
| PCC89                   | 7  | D | 8 | B | 3   |
|                         | 7  | D | 8 | F | 3   |
| PCC189                  | 7  | E | 6 | B | 3   |
|                         | 7  | E | 6 | G | 3   |
| PCF80                   | 9  | D | 6 | B | 3   |
|                         | 9  | D | 6 | J | 3   |
| PCF82                   | 9  | D | 6 | B | 3   |
|                         | 9  | D | 6 | J | 3   |
| PCF86                   | 8  | D | 6 | B | 3   |
|                         | 8  | E | 6 | F | 3   |
| PCF200                  | 8  | D | 6 | C | 11  |
|                         | 8  | E | 6 | E | 11  |
| (Checked in TC136 only) |    |   |   |   |     |
| PCF201                  | 8  | D | 6 | C | 11  |
|                         | 8  | D | 6 | K | 11  |
| PCF801                  | 8  | D | 3 | B | 3   |
|                         | 8  | E | 3 | J | 3   |
| PCF802                  | 9  | D | 6 | J | 3   |
|                         | 9  | C | 6 | B | 3   |
| PCH200                  | 9  | D | 6 | H | 11  |
|                         | 9  | E | 6 | C | 11  |
| PCL82                   | 16 | C | 6 | C | 3   |
|                         | 16 | E | 6 | A | 3   |
| PCL83                   | 12 | C | 6 | J | 3   |
|                         | 12 | G | 6 | B | 3   |
| PCL84                   | 15 | D | 6 | A | 3   |
|                         | 15 | D | 6 | H | 3   |

| TUBE                                         | A  | B | C | D | Skt |
|----------------------------------------------|----|---|---|---|-----|
| PCL85                                        | 18 | C | 6 | J | 3   |
|                                              | 18 | E | 6 | B | 3   |
| PCL86                                        | 14 | C | 6 | H | 3   |
|                                              | 14 | G | 6 | A | 3   |
| †*PD500                                      | 9  | G | 2 | H | 12  |
| (Disregard All Shorts except H-K)            |    |   |   |   |     |
| PF9                                          | 6  | E | 6 | K | 1   |
| PF86                                         | 4  | F | 6 | J | 3   |
| PFL200                                       | 16 | D | 6 | A | 11  |
|                                              | 16 | C | 6 | H | 11  |
| PH4                                          | 6  | E | 6 | E | 1   |
| PL36                                         | 25 | C | 1 | E | 1   |
| PL81                                         | 22 | C | 1 | B | 3   |
| PL82                                         | 16 | C | 7 | B | 3   |
| PL83                                         | 15 | C | 6 | B | 3   |
| *PL84                                        | 15 | C | 1 | B | 3   |
| (Permissible Short F or H and one other Pin) |    |   |   |   |     |
| *PL87                                        | 16 | C | 9 | B | 3   |
| (Permissible Short F and one other Pin)      |    |   |   |   |     |
| †*PL500                                      | 27 | A | 2 | A | 12  |
| (Normal Shorts C, F, G, H)                   |    |   |   |   |     |
| †PL521                                       | 15 | A | 8 | H | 12  |
| PLL80                                        | 12 | C | 6 | B | 3   |
|                                              | 12 | C | 6 | F | 3   |
| PMO4                                         | 6  | D | 6 | A | 4   |
| PMO5                                         | 6  | E | 2 | A | 4   |
| PMO7                                         | 6  | D | 6 | A | 4   |
| PY32                                         | 29 | A | 3 | E | 1   |
| *PY80                                        | 19 | A | 2 | J | 3   |
| (Disregard All Shorts except H-K)            |    |   |   |   |     |
| *PY81                                        | 17 | A | 2 | J | 3   |
| (Disregard All Shorts except H-K)            |    |   |   |   |     |
| *PY82                                        | 19 | A | 2 | J | 3   |
| (Disregard All Shorts except H-K)            |    |   |   |   |     |

| TUBE                              | A  | B               | C  | D | Skt | TUBE                                                                           | A  | B | C  | D | Skt |
|-----------------------------------|----|-----------------|----|---|-----|--------------------------------------------------------------------------------|----|---|----|---|-----|
| *PY83                             | 17 | A               | 2  | J | 3   | QQVO3-10                                                                       | 12 | C | 10 | A | 3   |
| (Disregard All Shorts except H-K) |    |                 |    |   |     |                                                                                | 12 | C | 10 | C | 3   |
| *PY88                             | 30 | (See Last Page) |    |   |     | QVO3-12                                                                        | 6  | C | 9  | J | 3   |
| QA2400                            | 6  | E               | 6  | A | 4   | *QVO6-20                                                                       | 6  | C | 7  | E | 1   |
| QA2401                            | 6  | E               | 1  | F | 4   | (Normal Short A, D)                                                            |    |   |    |   |     |
| QA2404                            | 6  | E               | 6  | B | 4   | RZ                                                                             | 2  | F | 6  | E | 1   |
|                                   | 6  | E               | 6  | G | 4   | *R12                                                                           | 6  | J | 6  | K | 3   |
| QA2406                            | 12 | E               | 10 | B | 3   | (Insert two tube leads into Pins 3 and 4. Touch cap lead to top lead on tube.) |    |   |    |   |     |
|                                   | 12 | E               | 10 | G | 3   | *R17                                                                           | 6  | A | 1  | K | 8   |
| QA2407                            | 6  | B               | 6  | A | 4   | (Disregard All Shorts except H-K)                                              |    |   |    |   |     |
|                                   | 6  | B               | 6  | F | 4   | *R18                                                                           | 6  | A | 1  | K | 8   |
| QA2408                            | 6  | E               | 6  | A | 2   | (Disregard All Shorts except H-K)                                              |    |   |    |   |     |
|                                   | 6  | E               | 6  | D | 2   | *R19                                                                           | 1  | H | 1  | K | 8   |
| QB309                             | 12 | E               | 10 | B | 3   | (Disregard Shorts)                                                             |    |   |    |   |     |
|                                   | 12 | E               | 10 | G | 3   | *R20                                                                           | 2  | H | 1  | K | 8   |
| QB329                             | 12 | D               | 10 | B | 3   | (Disregard Shorts)                                                             |    |   |    |   |     |
|                                   | 12 | D               | 10 | G | 3   | R144                                                                           | 6  | E | 6  | A | 4   |
| QB339                             | 12 | F               | 10 | B | 3   | SP6                                                                            | 6  | D | 6  | A | 4   |
|                                   | 12 | F               | 10 | G | 3   | T2MO5                                                                          | 6  | E | 6  | E | 4   |
| QEO3/10                           | 6  | C               | 9  | J | 3   |                                                                                | 6  | E | 6  | F | 4   |
| (†See Magnoval Note on Page B)    |    |                 |    |   |     | TD24                                                                           | 12 | C | 10 | A | 3   |
| *QEO5/40                          | 6  | C               | 7  | E | 1   |                                                                                | 12 | C | 10 | C | 3   |
| (Normal Short A, D)               |    |                 |    |   |     | *TJ-880                                                                        | 6  | C | 3  | B | 3   |
| QM559                             | 6  | E               | 6  | B | 4   | (Normal Shorts A, F)                                                           |    |   |    |   |     |
|                                   | 6  | E               | 6  | G | 4   | TT23                                                                           | 12 | C | 10 | A | 3   |
| QQEO2/5                           | 12 | C               | 10 | A | 3   |                                                                                | 12 | C | 10 | C | 3   |
|                                   | 12 | C               | 10 | C | 3   | TT24                                                                           | 12 | C | 10 | A | 3   |
| QQEO3/12                          | 12 | C               | 10 | A | 3   |                                                                                | 12 | C | 10 | C | 3   |
|                                   | 12 | C               | 10 | C | 3   | *U26                                                                           | 6  | H | 1  | K | 8   |
| QS2404                            | 6  | E               | 6  | B | 3   | (Disregard Shorts)                                                             |    |   |    |   |     |
|                                   | 6  | E               | 6  | G | 3   | *U41                                                                           | 1  | H | 2  | K | 1   |
| QS2406                            | 12 | E               | 10 | B | 3   | (Disregard Shorts)                                                             |    |   |    |   |     |
|                                   | 12 | E               | 10 | G | 3   | *U49                                                                           | 6  | H | 1  | K | 8   |
| QQVO2-6                           | 12 | C               | 10 | A | 3   | (Disregard Shorts)                                                             |    |   |    |   |     |
|                                   | 12 | C               | 10 | C | 3   |                                                                                |    |   |    |   |     |

| TUBE                              | A  | B | C | D | Skt |
|-----------------------------------|----|---|---|---|-----|
| *U50                              | 5  | B | 6 | D | 1   |
|                                   | 5  | B | 6 | F | 1   |
| (Normal Short H, H-K)             |    |   |   |   |     |
| *U52                              | 5  | A | 6 | D | 1   |
|                                   | 5  | A | 6 | F | 1   |
| (Normal Short H, H-K)             |    |   |   |   |     |
| U70                               | 6  | B | 6 | C | 1   |
|                                   | 6  | B | 6 | E | 1   |
| U74                               | 35 | B | 6 | E | 1   |
| U76                               | 35 | B | 6 | E | 1   |
| U78                               | 6  | B | 6 | A | 4   |
|                                   | 6  | B | 6 | F | 4   |
| *U119                             | 38 | A | 2 | J | 3   |
| (Disregard Shorts except H-K)     |    |   |   |   |     |
| U147                              | 6  | B | 6 | C | 1   |
|                                   | 6  | B | 6 | E | 1   |
| U149                              | 6  | B | 4 | C | 9   |
|                                   | 6  | B | 4 | F | 9   |
| U151                              | 6  | B | 6 | A | 4   |
|                                   | 6  | B | 6 | F | 4   |
| *U152                             | 19 | A | 2 | J | 3   |
| (Disregard All Shorts except H-K) |    |   |   |   |     |
| *U153                             | 17 | A | 2 | J | 3   |
| (Disregard All Shorts except H-K) |    |   |   |   |     |
| *U154                             | 19 | A | 2 | J | 3   |
| (Disregard All Shorts except H-K) |    |   |   |   |     |
| *U192                             | 19 | A | 2 | J | 3   |
| (Disregard All Shorts except H-K) |    |   |   |   |     |
| U291                              | 29 | A | 3 | E | 1   |
| *U319                             | 19 | A | 2 | J | 3   |
| (Disregard All Shorts except H-K) |    |   |   |   |     |
| *U381                             | 38 | A | 2 | J | 3   |
| (Disregard All Shorts except H-K) |    |   |   |   |     |
| U707                              | 6  | B | 6 | A | 4   |
|                                   | 6  | B | 6 | F | 4   |

| TUBE   | A  | B | C  | D | Skt |
|--------|----|---|----|---|-----|
| U709   | 6  | A | 7  | A | 8   |
|        | 6  | A | 7  | G | 8   |
| U4020  | 2  | F | 6  | E | 1   |
| UABC80 | 28 | F | 6  | H | 3   |
|        | 28 | G | 6  | F | 3   |
|        | 28 | G | 6  | B | 3   |
|        | 28 | G | 6  | A | 3   |
| UBC41  | 14 | F | 4  | F | 9   |
|        | 14 | G | 4  | E | 9   |
|        | 14 | G | 4  | C | 9   |
| UBC81  | 14 | F | 10 | B | 3   |
|        | 14 | G | 10 | F | 3   |
|        | 14 | G | 10 | H | 3   |
| UBF80  | 17 | F | 6  | B | 3   |
|        | 17 | G | 6  | G | 3   |
|        | 17 | G | 6  | H | 3   |
| UBF89  | 19 | E | 6  | B | 3   |
|        | 19 | G | 6  | G | 3   |
|        | 19 | G | 6  | H | 3   |
| UC92   | 9  | E | 2  | F | 4   |
| UCC85  | 26 | D | 6  | B | 3   |
|        | 26 | D | 6  | G | 3   |
| UCF80  | 27 | D | 6  | B | 3   |
|        | 27 | D | 6  | J | 3   |
| UCH80  | 14 | D | 6  | B | 3   |
|        | 14 | F | 6  | J | 3   |
| UCH81  | 19 | E | 6  | B | 3   |
|        | 19 | F | 6  | J | 3   |
| UCL82  | 50 | C | 6  | C | 3   |
|        | 50 | E | 6  | A | 3   |
| UCL83  | 38 | C | 6  | J | 3   |
|        | 38 | E | 6  | B | 3   |
| UCL86  | 43 | C | 6  | H | 3   |
|        | 43 | F | 6  | A | 3   |

| TUBE                                       | A  | B | C | D | Skt | TUBE   | A  | B | C  | D | Skt |
|--------------------------------------------|----|---|---|---|-----|--------|----|---|----|---|-----|
| UF80                                       | 19 | D | 1 | B | 3   | W719   | 6  | C | 6  | A | 2   |
| UF85                                       | 19 | D | 1 | B | 3   |        | 6  | C | 6  | D | 2   |
| UF86                                       | 12 | D | 2 | J | 3   | W727   | 6  | D | 6  | A | 4   |
| UF89                                       | 12 | D | 7 | B | 3   | X14    | 1  | G | 6  | E | 1   |
| *UL84                                      | 45 | C | 1 | B | 3   | X17    | 1  | F | 5  | D | 7   |
| (Permissible Short F, H and one other Pin) |    |   |   |   |     | X18    | 1  | F | 6  | D | 7   |
| UR1C                                       | 2  | F | 6 | E | 1   | X20    | 1  | F | 6  | D | 7   |
| UU12                                       | 6  | A | 7 | A | 8   | X25    | 1  | F | 6  | D | 7   |
|                                            | 6  | A | 7 | G | 8   | X63    | 6  | E | 6  | E | 1   |
| *UY82                                      | 50 | A | 2 | J | 3   | X64    | 6  | E | 5  | K | 1   |
| (Disregard Shorts except H-K)              |    |   |   |   |     | X65    | 6  | E | 6  | E | 1   |
| *UY85                                      | 38 | A | 2 | J | 3   | X66    | 6  | E | 6  | E | 1   |
| (Disregard All Shorts except H-K)          |    |   |   |   |     | X71M   | 12 | E | 6  | E | 1   |
| *UY89                                      | 31 | A | 2 | J | 3   | X75    | 12 | E | 6  | E | 1   |
| (Disregard All Shorts except H-K)          |    |   |   |   |     | X76M   | 12 | E | 6  | E | 1   |
| V2M70                                      | 6  | B | 6 | A | 4   | X77    | 6  | D | 6  | A | 4   |
|                                            | 6  | B | 6 | F | 4   | X79    | 6  | E | 6  | B | 3   |
| V741                                       | 6  | E | 1 | F | 4   |        | 6  | F | 6  | G | 3   |
| V884                                       | 6  | E | 6 | A | 4   | X119   | 19 | E | 6  | B | 3   |
| V886                                       | 6  | D | 6 | A | 4   |        | 19 | F | 6  | J | 3   |
| VP6                                        | 6  | E | 6 | A | 4   | X155   | 6  | E | 6  | B | 3   |
| VP12D                                      | 12 | F | 6 | K | 1   |        | 6  | E | 6  | G | 3   |
|                                            | 12 | G | 6 | E | 1   | X719   | 6  | E | 6  | B | 3   |
|                                            | 12 | G | 6 | D | 1   |        | 6  | E | 6  | J | 3   |
| W17                                        | 1  | F | 5 | F | 7   | X727   | 6  | D | 6  | A | 4   |
| W25                                        | 1  | G | 5 | F | 7   | X6030  | 3  | G | 4  | E | 1   |
| W26                                        | 1  | G | 5 | F | 7   | XC95   | 2  | E | 8  | B | 4   |
| W61                                        | 6  | E | 6 | K | 1   | XC97   | 2  | E | 1  | B | 4   |
| W63                                        | 6  | E | 6 | K | 1   | XC900  | 2  | E | 2  | A | 4   |
| W76                                        | 12 | E | 6 | K | 1   | XCC82  | 7  | D | 10 | B | 3   |
| W77                                        | 6  | E | 6 | A | 4   |        | 7  | D | 10 | G | 3   |
| W147                                       | 6  | E | 6 | K | 1   | XCC189 | 4  | D | 6  | B | 3   |
| W149                                       | 6  | E | 6 | F | 9   |        | 4  | D | 6  | G | 3   |
| W179                                       | 6  | D | 6 | B | 3   |        |    |   |    |   |     |

| TUBE                                          | A  | B               | C | D | Skt | TUBE   | A | B | C | D | Skt |
|-----------------------------------------------|----|-----------------|---|---|-----|--------|---|---|---|---|-----|
| XCF80                                         | 4  | D               | 6 | B | 3   | YC95   | 3 | E | 8 | B | 4   |
|                                               | 4  | D               | 6 | J | 3   | YC97   | 3 | E | 1 | B | 4   |
| XCH81                                         | 3  | E               | 6 | B | 3   | YCC189 | 5 | E | 6 | B | 3   |
|                                               | 3  | F               | 6 | J | 3   |        | 5 | E | 6 | G | 3   |
| XCL82                                         | 8  | C               | 6 | C | 3   | YF183  | 4 | D | 1 | B | 3   |
|                                               | 8  | F               | 6 | A | 3   | YF184  | 4 | D | 1 | B | 3   |
| XCL85                                         | 9  | C               | 6 | J | 3   | Z14    | 1 | F | 6 | K | 1   |
|                                               | 9  | E               | 6 | B | 3   | Z63    | 6 | F | 6 | K | 1   |
| XF183                                         | 3  | D               | 1 | B | 3   | Z77    | 6 | D | 6 | A | 4   |
| XF184                                         | 3  | D               | 1 | B | 3   | Z152   | 6 | D | 6 | B | 3   |
| *XL36                                         | 13 | A               | 3 | E | 1   | Z179   | 6 | D | 6 | B | 3   |
| (Permissible Short A and<br>one other Pin)    |    |                 |   |   |     | Z719   | 6 | D | 6 | B | 3   |
| *XL84                                         | 8  | C               | 1 | B | 3   | Z729   | 6 | F | 2 | J | 3   |
| (Permissible Short F, H and<br>one other Pin) |    |                 |   |   |     | Z1494  | 6 | D | 2 | A | 4   |
| *XL86                                         | 8  | C               | 1 | B | 3   | Z1751  | 6 | E | 6 | B | 4   |
| (Disregard Shorts on F, H, if any)            |    |                 |   |   |     |        | 6 | E | 6 | G | 4   |
| XXB                                           | 3  | F               | 8 | D | 9   | ZD17   | 1 | G | 6 | F | 7   |
|                                               | 3  | F               | 8 | E | 9   |        | 1 | H | 6 | C | 7   |
| XXD                                           | 14 | E               | 6 | D | 9   | ZD25   | 1 | G | 6 | F | 7   |
|                                               | 14 | E               | 6 | E | 9   |        | 1 | H | 6 | C | 7   |
| XXFM                                          | 6  | F               | 6 | C | 9   | ZD152  | 6 | F | 6 | B | 3   |
|                                               | 6  | G               | 6 | E | 9   |        | 6 | G | 6 | G | 3   |
|                                               | 6  | G               | 6 | F | 9   |        | 6 | G | 6 | H | 3   |
| XXL                                           | 6  | E               | 5 | F | 9   |        |   |   |   |   |     |
| *XY88                                         | 16 | (See Last Page) |   |   |     |        |   |   |   |   |     |

## ADDITIONAL TUBE SET-UP INFORMATION

These additional tubes can be checked on your Mighty Mite Tube Checker in the following manner.

**2AH2** — The 2AH2 can be checked by bending pin 9 in toward the center of the base and use the following settings:

|       | A | B | C | D | Socket |
|-------|---|---|---|---|--------|
| *2AH2 | 2 | J | 3 | K | 10     |

(Disregard Shorts)

**3DG4** Tube can be checked by connecting a jumper wire between pins 1 and 2 before inserting it into socket.

Set-up is:

| A | B | C | D | Socket |
|---|---|---|---|--------|
| 3 | A | 1 | E | 1      |

(Normal Shorts, C, H-K)

Although the above test only checks one side of the 3DG4, it is generally true that in rectifier tubes, if one half is good the other half in most cases is good too.

**5BC3** Tube can be checked by doing the following:

1. Bend pin 6 toward outside of Tube.  
(Count pins clockwise when viewing tube from pin side.)
2. Insert Tube so that pins 1 & 2 fall into pins 5 and 6 of socket 5.  
(Count pins in counterclockwise direction on socket 5 when inserting tube.)

Settings

| A | B | C | D | Socket |
|---|---|---|---|--------|
| 5 | A | 2 | C | 5      |
| 5 | A | 2 | J | 5      |

(Disregard shorts if emission is O.K.)

**\*6386**

Connect temporary jumper wire between pins 1 and 5 on tube base.

Set-up is:

|   |   |   |   |   |
|---|---|---|---|---|
| 6 | E | 1 | C | 3 |
| 6 | E | 1 | G | 3 |

(Normal Shorts, G, H-K)

**\*6EU7** (For Mighty Mites not having socket #13)

Connect temporary jumper wire as on 6386.

Set-up is:

|   |   |   |   |   |
|---|---|---|---|---|
| 6 | F | 1 | H | 3 |
|---|---|---|---|---|

(Normal Shorts, B, H-K)

**7F8** — Connect temporary jumper wire between pins 7 and 8.

|   |   |   |   |   |
|---|---|---|---|---|
| 7 | G | 8 | C | 9 |
| 7 | G | 8 | F | 9 |

**6R-P10** — Connect temporary jumper wire between pins 5 and 6. Set-up is:

|   |   |   |   |   |
|---|---|---|---|---|
| 6 | C | 7 | H | 3 |
|---|---|---|---|---|

(Disregard Shorts)

**\*6R-R8** — Connect temporary jumper wire between pins 5 and 3 on tube base.

|   |   |   |   |   |
|---|---|---|---|---|
| 6 | D | 3 | A | 3 |
|---|---|---|---|---|

(Normal Shorts, D, J, H-K)

**19R-1L1** — Connect temporary jumper wire as on 6386.

|    |   |   |   |   |
|----|---|---|---|---|
| 19 | E | 1 | C | 3 |
| 19 | E | 1 | G | 3 |

**\*20EZ7** (for Mighty Mites not having socket #13)

Connect a temporary jumper wire between pins 1 and 5 on the tube base. Set up is:

|    |   |   |   |   |
|----|---|---|---|---|
| 11 | F | 1 | H | 3 |
|----|---|---|---|---|

(Normal shorts B, C, H-K)

\*1219 and \*5670 — Connect temporary jumper wire as on 6386.

|   |   |   |   |   |
|---|---|---|---|---|
| 6 | E | 1 | C | 3 |
| 6 | E | 1 | G | 3 |

(Normal Shorts, G, H-K)

16AQ3, 20AQ3, 30AE3, 30AG3, EY88, LY88, and PY88 have internal support jumpers that can be varied from manufacture to manufacture. If the test listed below does not work, then use the second test using the jumper wire.

|      |   |   |   |   |     |
|------|---|---|---|---|-----|
| Tube | A | B | C | D | Skt |
| #    | A | 7 | C | 8 |     |

(Disregard shorts except H-K)

If the tube will not give an emission reading after a normal warm up time with the above settings, connect a temporary jumper wire between pins 7, 8, and 9 and use the following settings:

|      |   |   |   |   |     |
|------|---|---|---|---|-----|
| Tube | A | B | C | D | Skt |
| #    | A | 6 | G | 8 |     |

(Disregard shorts except H-K)

# Use filament voltage listed under tube in set-up chart section.

\*Tubes marked with an asterisk (\*) indicates that the tube has internal connections. Be sure to read the short test instructions directly below each tube listing before rejecting a tube for shorts.

[illegible]