

MIL-STD-1560 standard power and signal contact arrangements  
For environmental and hermetic connectors - pin front view

| CONTACTS  |   |  |   |
|---|---|--|---|
| Contact Size (environmental contacts shown in pictures below)   |   |  |   |
| <p>Size #22D<br/>Environmental: 5 Amp Max. Current<br/>Hermetic: 3 Amp Max. Current<br/>#22-#28 AWG</p>  | <p>Size #20 Contacts<br/>Environmental: 7.5 Amp Max. Current<br/>Hermetic: 5 Amp Max. Current<br/>#20-#24 AWG</p>  | <p>Size #16 Contacts<br/>Environmental: 13 Amp Max. Current<br/>Hermetic: 10 Amp Max. Current<br/>#16-#20 AWG</p>  | <p>Size #12 Contacts<br/>Environmental: 23 Amp Max. Current<br/>Hermetic: 17 Amp Max. Current<br/>#12-#14 AWG</p>  |

| CONTACT SIZE 22D   |               |              |
|--------------------|---------------|--------------|
| Number of Contacts | D38999 Sr III | D38999 Sr IV |
| 6                  | A35           |              |
| 13                 | B35           | B35          |
| 22                 | C35           | C35          |
| 37                 | D35           | D35          |
| 55                 | E35           | E35          |
| 66                 | F35           | F35          |
| 67                 | F45           | F45          |
| 79                 | G35           | G35          |
| 100                | H35           | H35          |
| 128                | J35           | J35          |

| CONTACT SIZE 20    |               |              |
|--------------------|---------------|--------------|
| Number of Contacts | D38999 Sr III | D38999 Sr IV |
| 3                  | A98           |              |
| 4                  | B4            | B4           |
| 5                  | B5            | B5           |
| 6                  | B98           | B98          |
| 7                  | B99           | B99          |
| 8                  | C8            | C8           |
| 10                 | C98           | C98          |
| 18                 | D18           | D18          |
| 19                 | D19           | D19          |
| 26                 | E26           | E26          |
| 32                 | F32           | F32          |
| 24                 | G24           | G24          |
| 25                 | G25           | G25          |
| 27                 | G27           | G27          |
| 41                 | G41           | G41          |
| 32                 | H32           | H32          |
| 34                 | H34           | H34          |
| 36                 | H36           | H36          |
| 53                 | H53           | H53          |
| 55                 | H55           | H55          |
| 61                 | J61           | J61          |

| CONTACT SIZE 16    |               |              |
|--------------------|---------------|--------------|
| Number of Contacts | D38999 Sr III | D38999 Sr IV |
| 2                  | B2            | B2           |
| 4                  | C4            | C4           |
| 5                  | D5            | D5           |
| 8                  | E8            | E8           |
| 11                 | F11           | F11          |
| 16                 | G16           | G16          |
| 21                 | H21           | H21          |
| 16                 | H97           | H97          |
| 11                 | H99           | H99          |
| 29                 | J29           | J29          |
| 37                 | J37           | J37          |

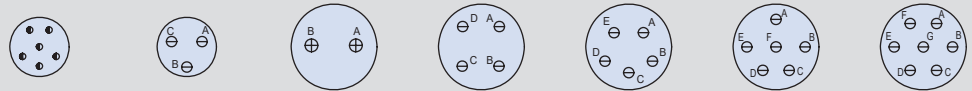
| CONTACT SIZE 12    |               |              |
|--------------------|---------------|--------------|
| Number of Contacts | D38999 Sr III | D38999 Sr IV |
| 6                  | E6            | E6           |
| 11                 | G11           | G11          |
| 19                 | J19           | J19          |

| 38999 SERIES III AND IV SHELL SIZE CODE REFERENCE |             |            |             |            |             |
|---|-------------|------------|-------------|------------|-------------|
| Shell size  | Code letter | Shell size | Code letter | Shell size | Code letter |
| 9   | A           | 15         | D           | 21         | G           |
| 11  | B           | 17         | E           | 23         | H           |
| 13  | C           | 19         | F           | 25         | J           |

MIL-STD-1560 standard power and signal contact arrangements  
For environmental and hermetic connectors - pin front view

Contact Legend

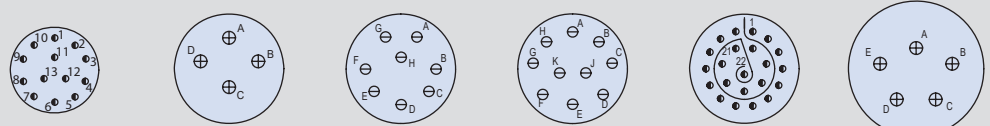
#22D • #16 ⊕  
#20 ⊖ #12 ◐



|                                  |        |       |       |       |       |       |       |
|----------------------------------|--------|-------|-------|-------|-------|-------|-------|
| Insert Arrangement               | A35    | A98   | B2    | B4    | B5    | B98   | B99   |
| No. of Contacts and Contact Size | 6 #22D | 3 #20 | 2 #16 | 4 #20 | 5 #20 | 6 #20 | 7 #20 |
| Service Rating                   | M      | I     | I     | I     | I     | I     | I     |

Contact Legend

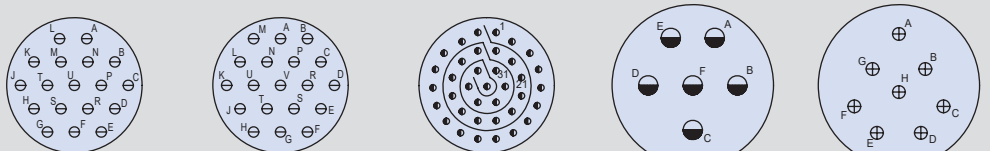
#22D • #16 ⊕  
#20 ⊖ #12 ◐



|                                  |         |       |       |        |         |       |
|----------------------------------|---------|-------|-------|--------|---------|-------|
| Insert Arrangement               | B35     | C4    | C8    | C98    | C35     | D5    |
| No. of Contacts and Contact Size | 13 #22D | 4 #16 | 8 #20 | 10 #20 | 22 #22D | 5 #16 |
| Service Rating                   | M       | I     | I     | I      | M       | II    |

Contact Legend

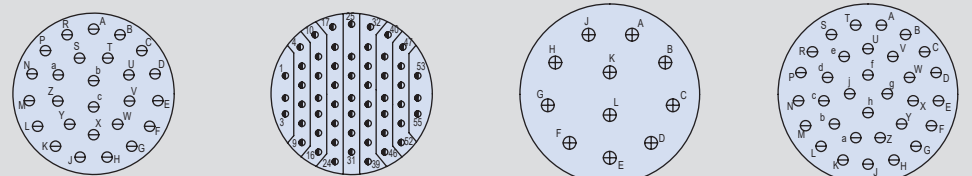
#22D • #16 ⊕  
#20 ⊖ #12 ◐



|                                  |        |        |         |       |       |
|----------------------------------|--------|--------|---------|-------|-------|
| Insert Arrangement               | D18    | D19    | D35     | E6    | E8    |
| No. of Contacts and Contact Size | 18 #20 | 19 #20 | 37 #22D | 6 #12 | 8 #16 |
| Service Rating                   | I      | I      | M       | I     | II    |

Contact Legend

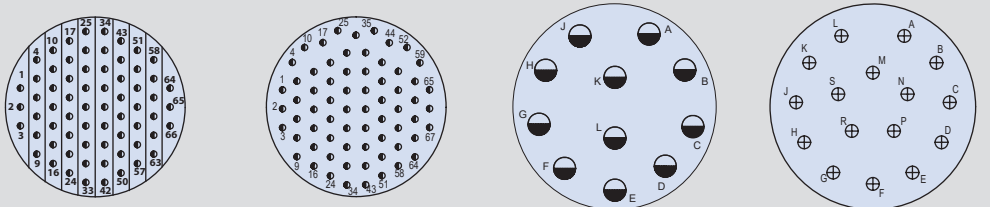
#22D • #16 ⊕  
#20 ⊖ #12 ◐



|                                  |        |         |        |        |
|----------------------------------|--------|---------|--------|--------|
| Insert Arrangement               | E26    | E35     | F11    | F32    |
| No. of Contacts and Contact Size | 26 #20 | 55 #22D | 11 #16 | 32 #20 |
| Service Rating                   | I      | M       | II     | I      |

Contact Legend

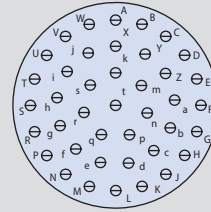
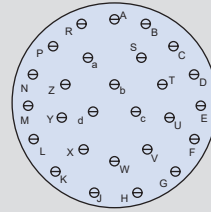
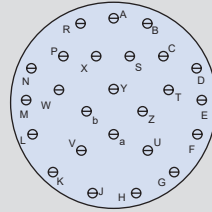
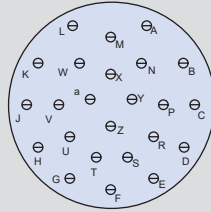
#22D • #16 ⊕  
#20 ⊖ #12 ◐



|                                  |         |         |        |        |
|----------------------------------|---------|---------|--------|--------|
| Insert Arrangement               | F35     | F45     | G11    | G16    |
| No. of Contacts and Contact Size | 66 #22D | 67 #22D | 11 #12 | 16 #16 |
| Service Rating                   | M       | M       | I      | II     |

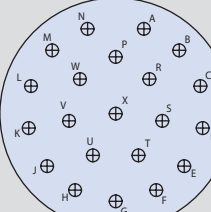
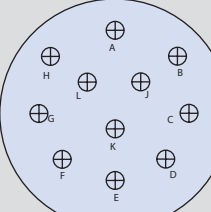
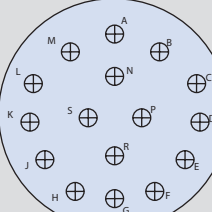
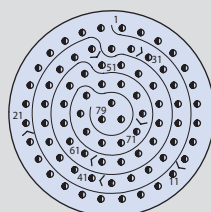
MIL-STD-1560 standard power and signal contact arrangements  
For environmental and hermetic connectors - pin front view

Contact Legend  
#22D • #16 ⊕  
#20 ⊖ #12 ●



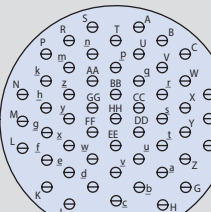
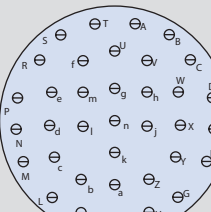
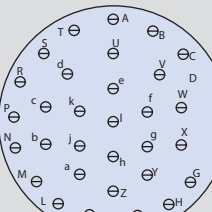
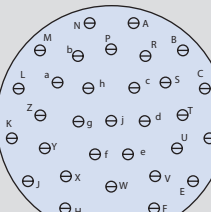
|                                  |        |        |        |        |
|----------------------------------|--------|--------|--------|--------|
| Insert Arrangement               | G24    | G25    | G27    | G41    |
| No. of Contacts and Contact Size | 24 #20 | 25 #20 | 27 #20 | 41 #20 |
| Service Rating                   | I      | I      | I      | I      |

Contact Legend  
#22D • #16 ⊕  
#20 ⊖ #12 ●



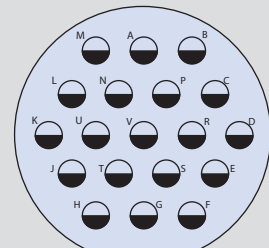
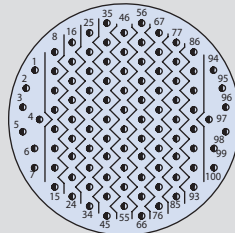
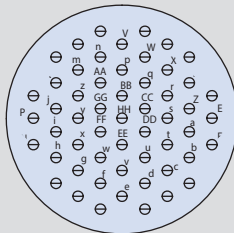
|                                  |         |        |        |        |
|----------------------------------|---------|--------|--------|--------|
| Insert Arrangement               | G35     | H97    | H99    | H21    |
| No. of Contacts and Contact Size | 79 #22D | 16 #16 | 11 #16 | 21 #16 |
| Service Rating                   | M       | I      | II     | II     |

Contact Legend  
#22D • #16 ⊕  
#20 ⊖ #12 ●



|                                  |        |        |        |        |
|----------------------------------|--------|--------|--------|--------|
| Insert Arrangement               | H32    | H34    | H36    | H53    |
| No. of Contacts and Contact Size | 32 #20 | 34 #20 | 36 #20 | 53 #20 |
| Service Rating                   | I      | I      | I      | I      |

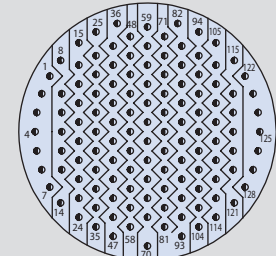
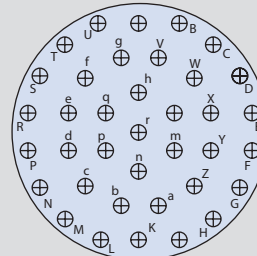
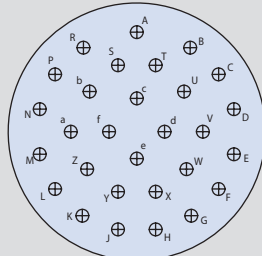
Contact Legend  
#22D • #16 ⊕  
#20 ⊖ #12 ●



|                                  |        |          |        |
|----------------------------------|--------|----------|--------|
| Insert Arrangement               | H55    | H35      | J19    |
| No. of Contacts and Contact Size | 55 #20 | 100 #22D | 19 #12 |
| Service Rating                   | I      | M        | I      |

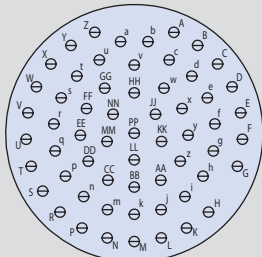
MIL-STD-1560 standard power and signal contact arrangements  
For environmental and hermetic connectors - pin front view

Contact Legend  
#22D • #16 ⊕  
#20 ⊖ #12 ◐



|                                  |        |        |          |
|----------------------------------|--------|--------|----------|
| Insert Arrangement               | J29    | J37    | J35      |
| No. of Contacts and Contact Size | 29 #16 | 37 #16 | 128 #22D |
| Service Rating                   | I      | II     | M        |

Contact Legend  
#22D • #16 ⊕  
#20 ⊖ #12 ◐



|                                  |        |
|----------------------------------|--------|
| Insert Arrangement               | J61    |
| No. of Contacts and Contact Size | 61 #20 |
| Service Rating                   | I      |

| Service Rating | SUGGESTED OPERATING VOLTAGE |      | TEST VOLTAGE AC RMS 60HZ |       |            |       |            |       |            |       |
|----------------|-----------------------------|------|--------------------------|-------|------------|-------|------------|-------|------------|-------|
|                | (Sea Level)                 |      | Sea Level                |       | 50,000 Ft. |       | 70,000 Ft. |       | 100,000 Ft |       |
|                | AC (RMS)                    | DC   | unmated                  | mated | unmated    | mated | unmated    | mated | unmated    | mated |
| M              | 400                         | 550  | 1300                     | 1300  | 550        | 800   | 350        | 800   | 200        | 800   |
| N              | 300                         | 450  | 1000                     | 1000  | 400        | 600   | 260        | 600   | 200        | 600   |
| I              | 600                         | 850  | 1800                     | 1800  | 600        | 1000  | 400        | 1000  | 200        | 1000  |
| II             | 900                         | 1250 | 2300                     | 2300  | 800        | 1000  | 500        | 1000  | 200        | 1000  |

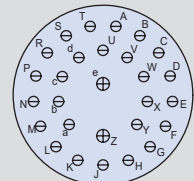
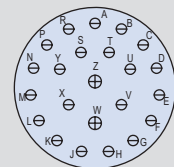
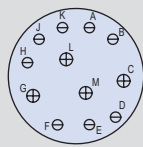
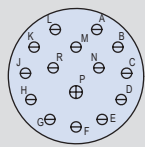
**Note:** The establishment of electrical safety factors is left entirely to the designer, as he is in the position to know exactly what peak voltages, switching currents, transients, etc. can be expected in a particular circuit

| 38999 SERIES III AND IV SHELL SIZE CODE REFERENCE |             |            |             |            |             |
|---|-------------|------------|-------------|------------|-------------|
| Shell size  | Code letter | Shell size | Code letter | Shell size | Code letter |
| 9   | A           | 15         | D           | 21         | G           |
| 11  | B           | 17         | E           | 23         | H           |
| 13  | C           | 19         | F           | 25         | J           |

MIL-STD-1560 standard power and signal contact arrangements  
For environmental and hermetic connectors - pin front view

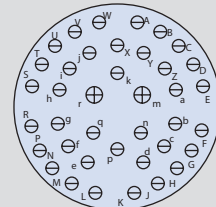
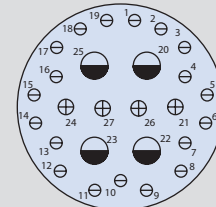
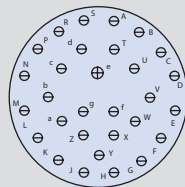
| COMBO CONTACT ARRANGEMENTS  |   |   |                    |     |     |                       |
|---|---|---|--------------------|-----|-----|-----------------------|
| Contact Size (environmental contacts shown in pictures below)   |   |   | Number of Contacts |     |     | D38999<br>Sr III & IV |
|   |   |   | #20                | #16 | #12 |                       |
| Size #20 Contacts<br>Environmental: 7.5 Amp Max. Current<br>Hermetic: 5 Amp Max. Current<br>#20-#24 AWG<br> | Size #16 Contacts<br>Environmental: 13 Amp Max. Current<br>Hermetic: 10 Amp Max. Current<br>#16-#20 AWG<br> | Size #12 Contacts<br>Environmental: 23 Amp Max. Current<br>Hermetic: 17 Amp Max. Current<br>#12-#14 AWG<br> | 14                 | 1   |     | D15                   |
|   |   |   | 8                  | 4   |     | D97                   |
|   |   |   | 21                 | 2   |     | E99                   |
|   |   |   | 26                 | 2   |     | F28                   |
|   |   |   | 29                 | 1   |     | F30                   |
|   |   |   | 19                 | 4   | 4   | G29                   |
|   |   |   | 37                 | 2   |     | G39                   |
|   |   |   | 48                 | 8   |     | J4                    |
|   |   |   |                    | 12  | 12  | J24                   |
|   |   |   | 23                 | 20  |     | J43                   |

Contact Legend  
 #22D • #16 ⊕  
 #20 ⊖ #12 ⊖



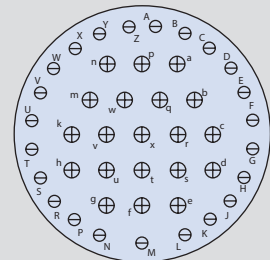
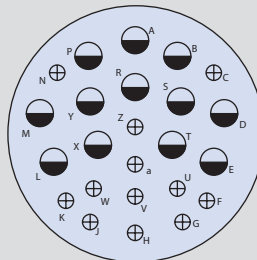
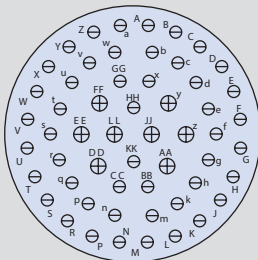
| Insert Arrangement       | D15    |         | D97    |        | E99    |         | F28    |         |
|--------------------------|--------|---------|--------|--------|--------|---------|--------|---------|
| No. of Contacts and Size | 1X #16 | 14X #20 | 4X #16 | 8X #20 | 2X #16 | 21X #20 | 2X #16 | 26X #20 |
| Service Rating           |        |         |        |        |        |         |        |         |

Contact Legend  
 #22D • #16 ⊕  
 #20 ⊖ #12 ⊖



| Insert Arrangement       | F30    |         | G29    |        | G39     |         |
|--------------------------|--------|---------|--------|--------|---------|---------|
| No. of Contacts and Size | 1X #16 | 29X #20 | 4x #12 | 4X #16 | 19X #20 | 37X #20 |
| Service Rating           |        |         |        |        |         |         |

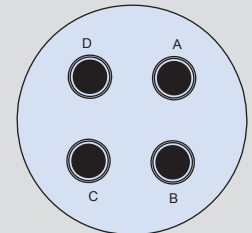
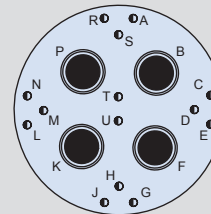
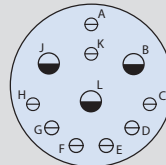
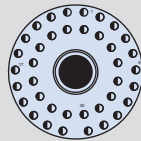
Contact Legend  
 #22D • #16 ⊕  
 #20 ⊖ #12 ⊖



| Insert Arrangement       | J4     |         | J24     |         | J43     |         |
|--------------------------|--------|---------|---------|---------|---------|---------|
| No. of Contacts and Size | 8X #16 | 48X #20 | 12X #12 | 12X #16 | 20X #16 | 23X #20 |
| Service Rating           |        |         |         |         |         |         |

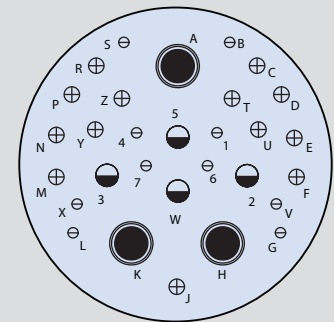
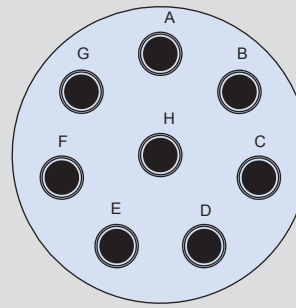
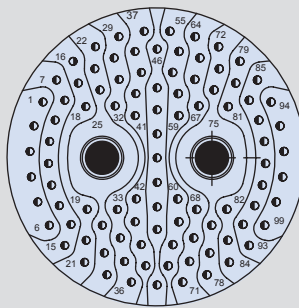
MIL-STD-1560 standard power and signal contact arrangements  
For environmental and hermetic connectors - pin front view

Contact Legend  
 #22D ◦ #16 ⊕  
 #20 ⊖ #12 ◐  
 #8 ●



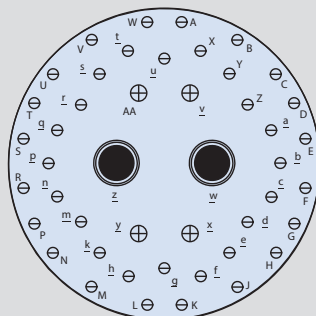
| Insert Arrangement | E2     |          | E11   |        |       | F18    |          | G75    |
|--------------------|--------|----------|-------|--------|-------|--------|----------|--------|
| No. of Contacts    | 1x #8  | 38x #22D | 1x 12 | 2x 12  | 8x 20 | 4x #8  | 14x #22D | 4x #8  |
| Service Rating     | Twinax | M        | Coax  | Twinax | N     | Twinax | M        | Twinax |

Contact Legend  
 #22D ◦ #16 ⊕  
 #20 ⊖ #12 ◐  
 #8 ●



| Insert Arrangement       | J7     |          | J8     | J20    |        |         |         |
|--------------------------|--------|----------|--------|--------|--------|---------|---------|
| No. of Contacts and Size | 2x #8  | 97x #22D | 8x #8  | 3x #8  | 4x #12 | 13x #16 | 10x #20 |
| Service Rating           | Twinax | M        | Twinax | Twinax | Co-ax  | N       | N       |

Contact Legend  
 #22D ◦ #16 ⊕  
 #20 ⊖ #12 ◐  
 #8 ●



| Insert Arrangement       | J46   |        |         | J90    |        |         |
|--------------------------|-------|--------|---------|--------|--------|---------|
| No. of Contacts and Size | 2x #8 | 4x #16 | 40x #20 | 2x #8  | 4x #16 | 40x #20 |
| Service Rating           | Coax  | I      | I       | Twinax | I      | I       |

J46 and J90 share same layout, with the exception of the size #8 contact

| MAX CURRENT RATING (AMPS) |     |    |    |    |
|---------------------------|-----|----|----|----|
| Contact Size              | 22D | 20 | 16 | 12 |
| Environ.                  | 3   |    |    |    |
| Coaxial Contacts: 1 amp   |     |    |    |    |
| Twinax Contacts: 1 Amp    |     |    |    |    |

| CONTACT ARRANGEMENTS |     |     |     |    |                       |
|----------------------|-----|-----|-----|----|-----------------------|
| Number of Contacts   |     |     |     |    | D38999<br>Sr III & IV |
| #22D                 | #20 | #16 | #12 | #8 |                       |
| 38                   |     |     |     | 1  | E2                    |
| 14                   |     |     |     | 4  | F18                   |
|                      |     |     |     | 4  | G75                   |
| 97                   |     |     |     | 2  | J7                    |
|                      |     |     |     | 8  | J8                    |
|                      | 10  | 13  | 4   | 3  | J20                   |
|                      | 40  | 4   |     | 2  | J46                   |
|                      | 40  | 4   |     | 2  | J90                   |