



## WEIGHT / COST-SAVING Dummy Contact Sealing Plugs (DCSP)

For reliable sealing of unused contact cavities—without the use of electrical contacts

The use of color-coded M27488 type plastic sealing plugs in unused contact cavities is a requirement in all environmental interconnect applications (IAW NA01-1A-505-1, WP 007 00 or 020 00). Conventional sealing plugs, combined with the connector grommet seal, provide reliable dust and moisture ingress protection. But common contact sealing plugs still require that a properly-sized electrical contact be first inserted into the cavity, followed by the plastic plug. Glenair innovative Dummy Contact Sealing Plugs (DCSP) eliminate the need to use expensive electrical contacts as part of the sealing regimen. Fast and easy-to-install, these longer form-factor Dummy Contact Sealing Plugs (DCSP) are a one-piece solution to contact cavity sealing that results in significant weight reduction, material cost reduction, and assembly labor. Available in Size #23 to Size #8, for connector series D38999, Glenair Dummy Contact Sealing Plugs reduce weight as much as 90% compared to conventional contact/sealing plug configurations.

- Powerful tool in Electrical Wire Interconnect System weight reduction
- Eliminates use of expensive electrical contacts for sealing-only applications
- Leverages connector contact clip for secure retention of the sealing plug—no possibility of FOD
- Easy-to-install single piece design
- Visible quality control / confirmation of cavity fill from back of connector
- EWIS compliant test report available, ref. GT 15-106

## MIL-DTL-38999 Series I Type Dummy contact sealing plugs (DCSP)

**Dummy Contact Sealing Plug (DCSP) Weight Savings: Size #20 Contact Arrangements**

| MIL-DTL-38999 Insert Arrangement |             |                    |                 |              | Spare Socket Cavity Components |                           |                          |                | Spare Pin Cavity Components |                           |                          |                | Mated Pair     |
|----------------------------------|-------------|--------------------|-----------------|--------------|--------------------------------|---------------------------|--------------------------|----------------|-----------------------------|---------------------------|--------------------------|----------------|----------------|
| Shell Size                       | Arrangement | Available Cavities | Filled Cavities | Percent Fill | Socket Contact M39029/56-351   | Sealing Plug MS27488-20-2 | Dummy Contact 680-116-20 | Weight Savings | Pin Contact M39029/58-363   | Sealing Plug MS27488-20-2 | Dummy Contact 680-116-20 | Weight Savings | Weight Savings |
|                                  |             |                    |                 |              | (grams)                        | (grams)                   | (grams)                  | (grams)        | (grams)                     | (grams)                   | (grams)                  | (grams)        | (grams)        |
| 9                                | 98          | 3                  | 2               | 67           | 0.50                           | 0.08                      | 0.06                     | 0.52           | 0.14                        | 0.08                      | 0.06                     | 0.15           | 0.67           |
| 11                               | 98          | 6                  | 4               | 67           | 1.00                           | 0.16                      | 0.12                     | 1.04           | 0.27                        | 0.16                      | 0.12                     | 0.31           | 1.34           |
| 13                               | 98          | 10                 | 8               | 80           | 1.00                           | 0.16                      | 0.12                     | 1.04           | 0.27                        | 0.16                      | 0.12                     | 0.31           | 1.34           |
| 15                               | 19          | 19                 | 14              | 74           | 2.50                           | 0.39                      | 0.30                     | 2.59           | 0.68                        | 0.39                      | 0.30                     | 0.77           | 3.36           |
| 17                               | 26          | 26                 | 20              | 77           | 3.00                           | 0.47                      | 0.36                     | 3.11           | 0.82                        | 0.47                      | 0.36                     | 0.92           | 4.03           |
| 19                               | 32          | 32                 | 24              | 75           | 4.00                           | 0.62                      | 0.48                     | 4.14           | 1.09                        | 0.62                      | 0.48                     | 1.23           | 5.38           |
| 21                               | 41          | 41                 | 32              | 78           | 4.50                           | 0.70                      | 0.54                     | 4.66           | 1.22                        | 0.70                      | 0.54                     | 1.39           | 6.05           |
| 23                               | 55          | 55                 | 44              | 80           | 5.50                           | 0.86                      | 0.66                     | 5.70           | 1.50                        | 0.86                      | 0.66                     | 1.69           | 7.39           |
| 25                               | 61          | 61                 | 48              | 79           | 6.50                           | 1.01                      | 0.78                     | 6.73           | 1.77                        | 1.01                      | 0.78                     | 2.00           | 8.74           |

**Weight Savings per 1,000 Dummy Contact Sealing Plugs (DCSP)**

| Number of Spare Contact Cavities Sealed | Spare Socket Cavity Components |                           |                          |                |       | Spare Pin Cavity Components |                           |                          |                |       | Mated Pair     |       |
|-----------------------------------------|--------------------------------|---------------------------|--------------------------|----------------|-------|-----------------------------|---------------------------|--------------------------|----------------|-------|----------------|-------|
|                                         | Socket Contact M39029/56-351   | Sealing Plug MS27488-20-2 | Dummy Contact 680-116-20 | Weight Savings |       | Pin Contact M39029/58-363   | Sealing Plug MS27488-20-2 | Dummy Contact 680-116-20 | Weight Savings |       | Weight Savings |       |
|                                         | (grams)                        | (grams)                   | (grams)                  | (grams)        | (lbs) | (grams)                     | (grams)                   | (grams)                  | (grams)        | (lbs) | (grams)        | (lbs) |
| 1000                                    | 500.0                          | 78.0                      | 60.0                     | 518.0          | 1.14  | 136.0                       | 78.0                      | 60.0                     | 154.0          | 0.34  | 672.0          | 1.48  |

**Dummy Contact Sealing Plug (DCSP) Weight Savings: Size #22 Contact Arrangements**

| MIL-DTL-38999 Insert Arrangement |             |                    |                 |              | Spare Socket Cavity Components |                           |                          |                | Spare Pin Cavity Components |                           |                          |                | Mated Pair     |
|----------------------------------|-------------|--------------------|-----------------|--------------|--------------------------------|---------------------------|--------------------------|----------------|-----------------------------|---------------------------|--------------------------|----------------|----------------|
| Shell Size                       | Arrangement | Available Cavities | Filled Cavities | Percent Fill | Socket Contact M39029/56-348   | Sealing Plug MS27488-22-2 | Dummy Contact 680-116-22 | Weight Savings | Pin Contact M39029/58-360   | Sealing Plug MS27488-22-2 | Dummy Contact 680-116-22 | Weight Savings | Weight Savings |
|                                  |             |                    |                 |              | (grams)                        | (grams)                   | (grams)                  | (grams)        | (grams)                     | (grams)                   | (grams)                  | (grams)        | (grams)        |
| 9                                | 35          | 6                  | 4               | 67           | 0.50                           | 0.06                      | 0.07                     | 0.49           | 0.14                        | 0.06                      | 0.07                     | 0.13           | 0.62           |
| 11                               | 35          | 13                 | 10              | 77           | 0.75                           | 0.09                      | 0.11                     | 0.73           | 0.22                        | 0.09                      | 0.11                     | 0.20           | 0.93           |
| 13                               | 35          | 22                 | 16              | 73           | 1.49                           | 0.18                      | 0.22                     | 1.46           | 0.43                        | 0.18                      | 0.22                     | 0.40           | 1.85           |
| 15                               | 35          | 37                 | 28              | 76           | 2.24                           | 0.27                      | 0.32                     | 2.19           | 0.65                        | 0.27                      | 0.32                     | 0.59           | 2.78           |
| 17                               | 35          | 55                 | 44              | 80           | 2.74                           | 0.33                      | 0.40                     | 2.67           | 0.79                        | 0.33                      | 0.40                     | 0.73           | 3.40           |
| 19                               | 35          | 66                 | 52              | 79           | 3.49                           | 0.42                      | 0.50                     | 3.40           | 1.01                        | 0.42                      | 0.50                     | 0.92           | 4.33           |
| 21                               | 35          | 79                 | 62              | 78           | 4.23                           | 0.51                      | 0.61                     | 4.13           | 1.22                        | 0.51                      | 0.61                     | 1.12           | 5.25           |
| 23                               | 35          | 100                | 80              | 80           | 4.98                           | 0.60                      | 0.72                     | 4.86           | 1.44                        | 0.60                      | 0.72                     | 1.32           | 6.18           |
| 25                               | 35          | 128                | 102             | 80           | 6.47                           | 0.78                      | 0.94                     | 6.32           | 1.87                        | 0.78                      | 0.94                     | 1.72           | 8.03           |

**Weight Savings per 1,000 Dummy Contact Sealing Plugs (DCSP)**

| Number of Spare Contact Cavities Sealed | Spare Socket Cavity Components |                           |                          |                |       | Spare Pin Cavity Components |                           |                          |                |       | Mated Pair     |       |
|-----------------------------------------|--------------------------------|---------------------------|--------------------------|----------------|-------|-----------------------------|---------------------------|--------------------------|----------------|-------|----------------|-------|
|                                         | Socket Contact M39029/56-348   | Sealing Plug MS27488-22-2 | Dummy Contact 687-116-22 | Weight Savings |       | Pin Contact M39029/58-360   | Sealing Plug MS27488-22-2 | Dummy Contact 680-116-22 | Weight Savings |       | Weight Savings |       |
|                                         | (grams)                        | (grams)                   | (grams)                  | (grams)        | (lbs) | (grams)                     | (grams)                   | (grams)                  | (grams)        | (lbs) | (grams)        | (lbs) |
| 1000                                    | 249.0                          | 30.0                      | 36.0                     | 243.0          | 0.54  | 72.0                        | 30.0                      | 36.0                     | 66.0           | 0.15  | 309.0          | 0.68  |

**Reference Weights**

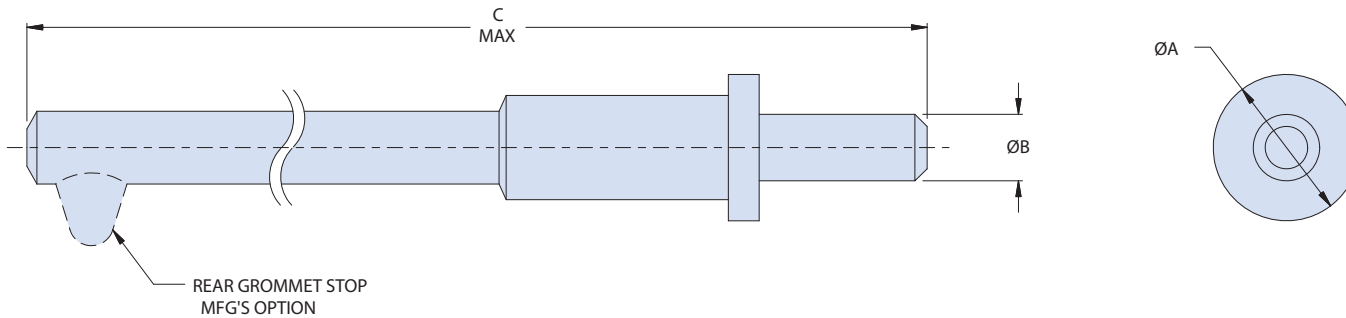
| Component               | Weight (g) | Component               | Weight (g) |
|-------------------------|------------|-------------------------|------------|
| MS27488-22-2            | 0.030      | MS27488-16-3            | 0.140      |
| M39029/58-360           | 0.072      | M39029/58-364           | 0.333      |
| M39029/56-348           | 0.249      | M39029/56-352           | 0.769      |
| Glenair DCSP 660-116-22 | 0.036      | Glenair DCSP 660-116-16 | 0.140      |
| MS27488-20-2            | 0.078      | MS27488-12-3            | 0.260      |
| M39029/58-363           | 0.136      | M39029/58-365           | 0.681      |
| M39029/56-351           | 0.500      | M39029/56-353           | 1.600      |
| Glenair DCSP 660-116-20 | 0.060      | Glenair DCSP 687-116-12 | 0.280      |
|                         |            | Glenair DCSP 687-821-8  | 1.800      |

## MIL-DTL-38999 Series I Type Dummy contact sealing plugs (DCSP)

CONTACTS AND TOOLS

### 680-116 DUMMY CONTACT SEALING PLUG FOR D38999

| Part Number Development |                                                                 |         |      |
|-------------------------|-----------------------------------------------------------------|---------|------|
| Sample Part Number      |                                                                 | 680-116 | -8 B |
| Series                  | 680-116 = Dummy contact sealing plug                            |         |      |
| Dash No.                | See Table I                                                     |         |      |
| Boot Option             | B = Boot supplied with assembly (dash -8 only)<br>Omit for none |         |      |



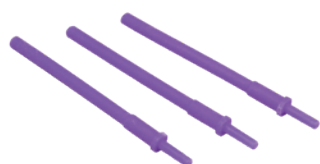
| Table I                         |            |      |      |      |      |       |      |                 |                    |
|---------------------------------|------------|------|------|------|------|-------|------|-----------------|--------------------|
| Contact Cavity Size/Dash Number | Color Code | ØA   |      | ØB   |      | C Max |      | Extraction Tool | Standard Pkg. Size |
|                                 |            | in.  | mm   | in.  | mm   | in.   | mm   |                 |                    |
| -8                              | Green      | .315 | 8.00 | .218 | 5.54 | 1.51  | 38.4 | M81969/14-06    | 100                |
| -12                             | Orange     | .181 | 4.60 | .094 | 2.39 | 1.18  | 30.0 | M81969/14-04    | 100                |
| -16                             | Violet     | .128 | 3.25 | .062 | 1.57 | 1.18  | 30.0 | M81969/14-03    | 500                |
| -20                             | Red        | .093 | 2.36 | .040 | 1.02 | 1.18  | 30.0 | M81969/14-10    | 1000               |
| -22                             | Black      | .061 | 1.55 | .030 | .76  | 1.18  | 30.0 | M81969/14-01    | 1000               |
| -23                             | White      | .054 | 1.37 | .027 | .69  | 1.18  | 30.0 | M81969/1-05     | 1000               |

1. Molded plastic material, 200° minimum temperature limit
2. Designed to seal the unused contact cavities of the MIL-DTL-38999 Ser. I, II, III, IV
3. Size 8 dummy contact requires a boot (ref P/N 859-165-02) to seal the cavity of the grommet, supplied by selecting option "B" in the part number
4. Use 859-106 size 8 sealing plug if any of the following conditions are true:
  - mating connector already has quadrax, differential twinax, coax (pin) or
  - it is uncertain whether such contacts are already installed or will be installed in the contact cavity



## MIL-DTL-38999 Series I Type Dummy contact sealing plugs (DCSP)

| Connector Series / Size / Color Code / Part Number Selection |                                     |            |            |            |            |           |            |
|--------------------------------------------------------------|-------------------------------------|------------|------------|------------|------------|-----------|------------|
| Connector Series                                             | Crimp Removable Contact Cavity Size |            |            |            |            |           |            |
|                                                              | 23                                  | 22         | 20         | 16         | 12         | 8         | 8 w/ Boot  |
| D38999 Series I, III, IV                                     | 680-116-23                          | 680-116-22 | 680-116-20 | 680-116-16 | 680-116-12 | 680-116-8 | 680A116-8B |



### INSTALLATION OF DUMMY CONTACTS

1. Insert Dummy Contacts into unused contact cavities.  
 A. Dummy Contacts may be installed using contact insertion tool, needle nose pliers or by hand (space permitting).  
 B. Isopropyl alcohol may be used to facilitate insertion of Dummy Contacts.
2. Push Dummy Contact into cavity until flange locks into contact retention clip.
3. Attempt to pull Dummy Contact from connector body to ensure full retention.

**Important note: Size #22 and #23 Dummy Contacts In 38999 socket cavities**

4. Dummy Contact shall only be inserted into cavity far enough to engage retention clip.
5. Pull Contact back for maximum tail exposure.

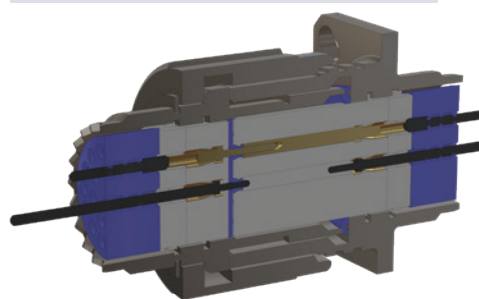
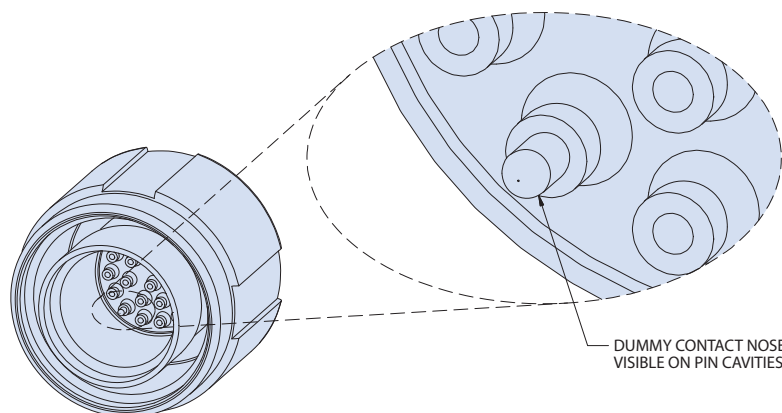
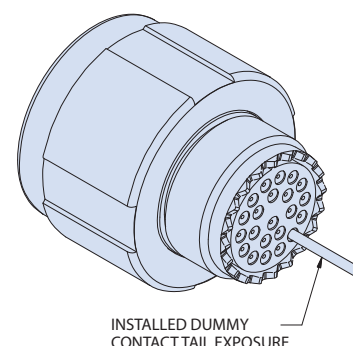
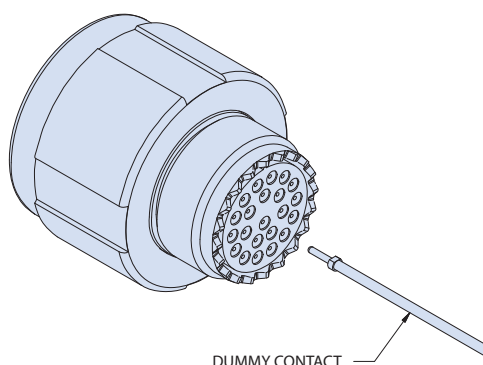


Illustration shows conventional sealing plug / contact configuration (top) and long form-factor Dummy Contact Sealing Plugs (bottom).