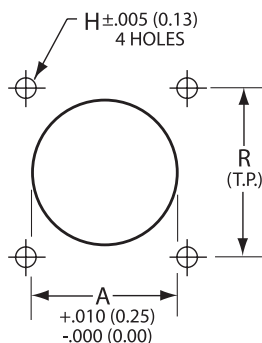


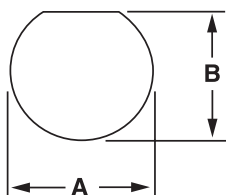
**FLANGED PANEL CUTOUTS**



SHELL SIZE	A FRONT DIA. MIN.	A BACK DIA. MIN.	H +/- .005	R
8	0.516 (13.11)	0.557 (14.15)	0.125 (3.18)	0.594 (15.09)
10	0.625 (15.88)	0.682 (17.32)	0.125 (3.18)	0.719 (18.26)
12	0.750 (19.05)	0.854 (21.69)	0.125 (3.18)	0.812 (20.62)
14	0.906 (23.01)	0.979 (24.87)	0.125 (3.18)	0.906 (23.01)
16	1.016 (25.81)	1.104 (28.04)	0.125 (3.18)	0.969 (24.61)
18	1.141 (28.98)	1.229 (31.22)	0.125 (3.18)	1.062 (26.97)
20	1.266 (32.16)	1.354 (34.39)	0.125 (3.18)	1.156 (29.36)
22	1.375 (34.93)	1.479 (37.57)	0.125 (3.18)	1.250 (31.75)
24	1.484 (37.69)	1.760 (44.70)	0.152 (3.86)	1.375 (34.93)

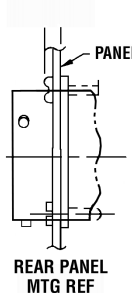
⇒ See page 490 for Nut Plates and Sealing Screws.

**JAM NUT PANEL CUTOUTS**



Shell Size	A Diameter +.10 (.25) -0 (0)	B Flat +.00 (0.0) -.010 (-.25)
8	0.885 (22.48)	0.830 (21.08)
10	1.010 (25.64)	0.955 (24.26)
12	1.135 (28.83)	1.085 (27.56)
14	1.260 (32.01)	1.210 (30.73)
16	1.385 (35.18)	1.335 (33.91)
18	1.510 (38.35)	1.460 (37.08)
20	1.635 (41.53)	1.585 (40.26)
22	1.760 (44.70)	1.710 (43.43)
24	1.885 (47.88)	1.835 (46.61)

**PANEL THICKNESS**

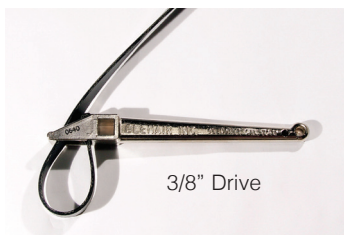


SHELL SIZE	MS27497 JTPQ00R	MS27508 JTP02RE
8		.147 (3.73)
10	.142 (3.01)	.152 (3.86)
12		
14		
16		
18		
20		.179 (4.55)
22		.169 (4.29)
24		

**TOOLING ACCESSORIES**

**TG70 STRAP WRENCH**

The strap wrench is used to connect or disconnect coupling nuts in a confined space, or to tighten or loosen endbells without damaging the connector plating. It also increases torque, allowing you to easily mate or unmate a connector. Do not substitute tools (pipe wrench or pliers), as severe damage may occur.



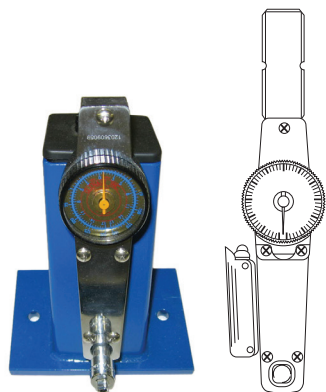
**TG69P NON-MARRING ADJUSTABLE ENDBELL PLIERS FOR FIELD SERVICE**

These pliers have resilient jaws and are used to tighten or remove endbells without damaging the connector plating. They are adjustable and accommodate all connector sizes in this catalog. Do not substitute tools (pipe wrench or pliers), as severe damage may occur. Replacement jaws, part number G77015, are available.



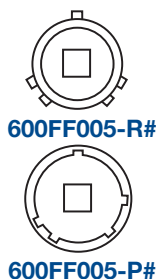
**600 SERIES PRODUCTION SYSTEM**

The 600 series is a complete system for the proper assembly and torquing of connector endbells. The system includes a bench-mounted or hand-held torque wrench, plug and receptacle holders, and a range of endbell tightening tools. Each item is shipped with instructions.



**600-007**  
Bench Mounted Torque Wrench

**600-004**  
Hand Held Torque Wrench



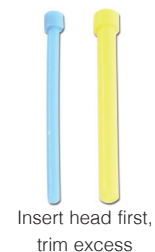
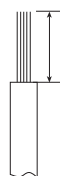
**Plug and Receptacle Holders**

SERIES II SIZE	MIL-DTL-38999 FOR JT	
	RECEPTACLES	PLUGS
9	600FF005-8R#	600FF005-8P#
11	600FF005-10R#	600FF005-10P#
13	600FF005-12R#	600FF005-12P#
15	600FF005-14R#	600FF005-14P#
17	600FF005-16R#	600FF005-16P#
19	600FF005-18R#	600FF005-18P#
21	600FF005-20R#	600FF005-20P#
23	600FF005-22R#	600FF005-22P#
25	600FF005-24R#	600FF005-24P#

# Add polarizations: N, A, B, C, D, E

CONTACTS

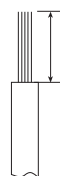
PINS



CONTACT SIZE	WIRE SIZE AWG	PIN CONTACT PART NUMBER	COLOR BANDS			WIRE STRIP LENGTHS	WIRE RANGE		WIRE HOLE FILLER	COLOR
			1	2	3		MIN.	MAX.		
22D	28,26,24&22	M39029/58-360	Orange	Blue	Black	.125 (3.18)	.030 (0.76)	.054 (1.37)	MS27488-22-2	Black
*22M	28,26&24	M39029/58-361	Orange	Blue	Brown	.125 (3.18)	.030 (0.76)	.050 (1.27)	MS27488-22-2	Black
*22	26,24&22	M39029/58-362	Orange	Blue	Red	.125 (3.18)	.034 (0.86)	.060 (1.52)	MS27488-22-2	Black
20	20,22&24	M39029/58-363	Orange	Blue	Orange	.188 (4.77)	.040 (1.02)	.083 (2.11)	MS27488-20-2	Red
16	16,18&20	M39029/58-364	Orange	Blue	Yellow	.188 (4.77)	.065 (1.65)	.109 (2.77)	MS27488-16-2	Blue
12	12&14	M39029/58-365	Orange	Blue	Green	.188 (4.77)	.097 (2.46)	.142 (3.61)	MS27488-12-2	Yellow

\* Inactive for new design

SOCKETS



CONTACT SIZE	WIRE SIZE AWG	SOCKET CONTACT PART NUMBER	COLOR BANDS			WIRE STRIP LENGTHS	WIRE RANGE		WIRE HOLE FILLER	COLOR
			1	2	3		MIN.	MAX.		
22D	28,26,24&22	M39029/57-354	Orange	Green	Yellow	.125 (3.18)	.030 (0.76)	.054 (1.37)	MS27488-22-2	Black
*22M	28,26&24	M39029/57-355	Orange	Green	Green	.125 (3.18)	.030 (0.76)	.050 (1.27)	MS27488-22-2	Black
*22	28,26&24	M39029/57-356	Orange	Green	Blue	.125 (3.18)	.034 (0.86)	.060 (1.52)	MS27488-22-2	Black
20	20,22&24	M39029/57-357	Orange	Green	Violet	.188 (4.77)	.040 (1.02)	.083 (2.11)	MS27488-20-2	Red
16	16,18&20	M39029/57-358	Orange	Green	Gray	.188 (4.77)	.065 (1.65)	.109 (2.77)	MS27488-16-2	Blue
12	12&14	M39029/57-359	Orange	Green	White	.188 (4.77)	.097 (2.46)	.142 (3.61)	MS27488-12-2	Yellow

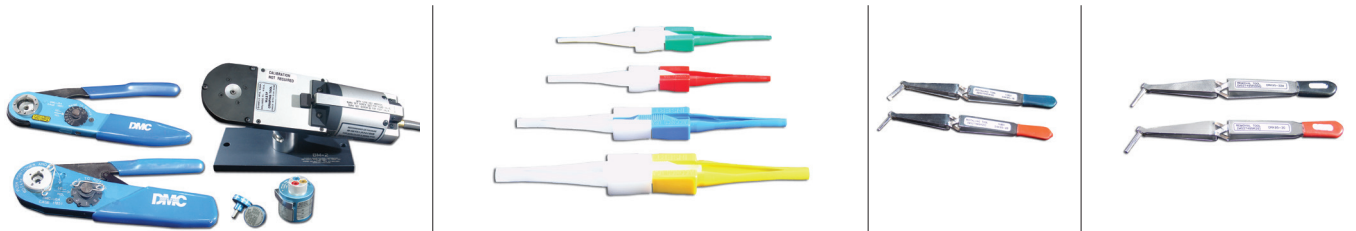
\* Inactive for new design

CONTACT COLOR CODES

0	Black	5	Green
1	Brown	6	Blue
2	Red	7	Violet
3	Orange	8	Gray
4	Yellow	9	White

All dimensions in inches (millimeters in parenthesis)

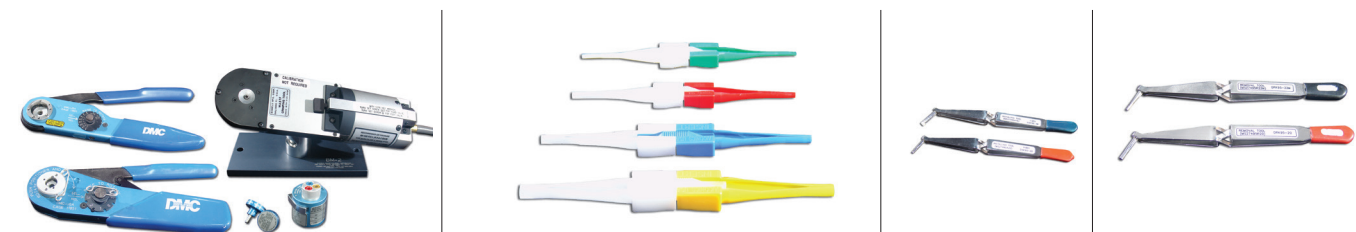
PINS



CONTACT SIZE	HAND-CRIMP TOOL	POWER CRIMP TOOL	TURRET HEADS	USE LOCATOR COLOR	PLASTIC INSERTION/EXTRACTION TOOL	INSERTION TIP COLOR	EXTRACTION TIP COLOR	METAL INSERTION TOOL	COLOR BAND	METAL EXTRACTION TOOL	COLOR BAND	
*22D	M22520/2-01	WA22H	M22520/2-09	-	M81969/14-01	Green	White	MS27495A22M	Black	MS27495R22M	Black	White
*22M	M22520/2-01	WA22H	M22520/2-09	-	M81969/14-01	Green	White	MS27495A22M	Black	MS27495R22M	Black	White
*22	M22520/2-01	WA22H	M22520/2-09	-	M81969/14-01	Green	White	MS27495A22	Black	MS27495R22	Brown	White
20	M22520/1-01	WA27FH	M22520/1-04	Red	M81969/14-10	Red	Orange	MS27495A20	Red	MS27495R20	Red	White
16	M22520/1-01	WA27FH	M22520/1-04	Blue	M81969/14-03	Blue	White	MS27495A16	Blue	MS27495R16	Red	White
12	M22520/1-01	WA27FH	M22520/1-04	Yellow	M81969/14-04	Yellow	White	MS27495A12	Yellow	MS27495R12	Blue	White

†† Contact us for more tool accessories. \* Inactive for new design

SOCKETS



CONTACT SIZE	HAND-CRIMP TOOL	POWER CRIMP TOOL	TURRET HEADS	USE LOCATOR COLOR	PLASTIC INSERTION/EXTRACTION TOOL	INSERTION TIP COLOR	EXTRACTION TIP COLOR	METAL INSERTION TOOL	COLOR BAND	METAL EXTRACTION TOOL	COLOR BAND	
*22D	M22520/2-01	WA22H	M22520/2-06	-	M81969/14-01	Green	White	MS27495A22M	Black	MS27495R22M	Black	White
*22M	M22520/2-01	WA22H	M22520/2-06	-	M81969/14-01	Green	White	MS27495A22M	Black	MS27495R22M	Black	White
*22	M22520/2-01	WA22H	M22520/2-06	-	M81969/14-01	Green	White	MS27495A22	Black	MS27495R22	Brown	White
20	M22520/1-01	WA27FH	M22520/1-06	Red	M81969/14-10	Red	Orange	MS27495A20	Red	MS27495R20	Red	White
16	M22520/1-01	WA27FH	M22520/1-04	Blue	M81969/14-03	Blue	White	MS27495A16	Blue	MS27495R16	Red	White
12	M22520/1-01	WA27FH	M22520/1-04	Yellow	M81969/14-04	Yellow	White	MS27495A12	Yellow	MS27495R12	Blue	White

†† Contact us for more tool accessories. \* Inactive for new design

All dimensions in inches (millimeters in parenthesis)

COAX CONTACTS



COAX CONTACT SIZE	CABLE TYPE	CONTACT PART NUMBER		CRIMPING TOOLS	
		PIN	SOCKET	INNER CONTACT	CRIMP FERRULE
16	RG-178B/U, RG-196A/U	21-033122-564 (M39029/76-425)	21-033121-564 (M39029/78-433)	M22520/2-01 w/ Positioner M22522/2-35 or w/ Daniels Positioner K532	M22520/4-01 w/ Positioner M22520/4-02
	RG-174A/U, RG-188A/U, RG-161/U, RG-187A/U, RG-316/U, RG-179B/U	21-033122-563 (M39029/76-424)	21-033121-563 (M39029/78-432)		
12	RG-180B/U, RG-195A/U	21-033122-541 (M39029/28-409)	21-033121-541 (M39029/27-420)	M22520/2-01 w/ Positioner M22520/2-34 or w/ Daniels Positioner K323	M22520/31-01 w/ Positioner M22520/31-02 or Daniels GS-200 Tool w/ Positioner G2P330
	RG-179B/U	21-033122-546 (M39029/28-211)	21-033121-546 (M39029/27-210)		

PRINTED CIRCUIT BOARD CONTACTS - PIN

PCB PIN CONTACTS	SIZE	TAIL DIAMETER +/- .001	CONTACT STICKOUT MAX./MIN.					
			MS27472 JT00RT	MS27497 JTPQ00RT	MS27499 JT02RE	MS27508 JTP02RE	MS27473 JT06RT	MS27474 JT07RT
10-407552-015	22M	0.019	.379 / .317	.379 / .317	.577 / .520	.577 / .520	.379 / .317	.379 / .317
10-407552-055	22M	0.019	.268 / .206	.268 / .206	.466 / .409	.466 / .409	.268 / .206	.268 / .206
10-407552-085	22M	0.019	.104 / .047	.104 / .047	.302 / .250	.302 / .250	.104 / .047	.104 / .047
10-407552-115	22M	0.019	.042 / NS	.042 / NS	.240 / .188	.240 / .188	.042 / NS	.042 / NS
10-497640-015	20	0.019	.392 / .335	.392 / .335	.590 / .538	.590 / .538	.392 / .335	.392 / .335
10-497640-025	20	0.019	.257 / .200	.257 / .200	.455 / .403	.455 / .403	.257 / .200	.257 / .200
10-497640-045	20	0.019	NS	NS	.192 / .140	.192 / .140	NS	NS
10-497596-015	20	0.025	.102 / .049	.102 / .049	.300 / .252	.300 / .252	.102 / .049	.102 / .049
10-497596-025	20	0.025	.192 / .139	.192 / .139	.390 / .342	.390 / .342	.192 / .139	.192 / .139
10-497596-035	20	0.025	.273 / .220	.273 / .220	.471 / .423	.471 / .423	.273 / .220	.273 / .220
10-497596-055	20	0.025	.390 / .337	.390 / .337	.588 / .540	.588 / .540	.390 / .337	.390 / .337
10-497695-015	16	0.040	.299 / .242	.299 / .242	.497 / .445	.497 / .445	.229 / .242	.229 / .242
10-497630-035	16	0.062	.104 / .047	.104 / .047	.302 / .250	.302 / .250	.104 / .047	.104 / .047
10-497630-055	16	0.062	.257 / .200	.257 / .200	.455 / .403	.455 / .403	.272 / .215	.272 / .200
10-597502-015	12	0.081	.272 / .215	.272 / .215	.470 / .418	.470 / .418	.272 / .215	.272 / .215

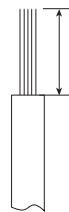
= Standard PC tail used

All dimensions in inches

Wire Hole Filler



Wire Strip Length



Wire Sealing Range



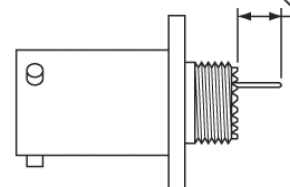
INSTALLATION TOOLS		WIRE STRIP LENGTHS	WIRE SEALING RANGE	
INSERTION	REMOVAL		MIN.	MAX.
M81969/8-07 or M81969/14-03	M81969/8-08 or M81969/14-03	Contact us for details	.065 (1.65)	.109 (2.77)
M81969/8-09 or M81969/14-04	M81969/8-10 or M81969/14-04	Contact us for details	.097 (2.46)	.142 (3.61)

All dimensions in inches (millimeters in parenthesis)

**PRINTED CIRCUIT BOARD CONTACTS - SOCKET**

PCB SOCKET CONTACTS	SIZE	TAIL DIAMETER +/- .001	CONTACT STICKOUT MAX./MIN.					
			MS27472 JT00RT	MS27497 JTPQ00RT	MS27499 JT02RE	MS27508 JTP02RE	MS27473 JT06RT	MS27474 JT07RT
10-597880-051	22M	0.019	.268 / .194	.268 / .194	.466 / .395	.466 / .395	.268 / .194	.268 / .194
10-597880-171	22M	0.019	.268 / .178	.268 / .178	.466 / .409	.466 / .409	.268 / .178	.268 / .178
10-597880-081	22M	0.019	.104 / .035	.104 / .035	.302 / .236	.302 / .236	.104 / .035	.104 / .035
10-497641-025	20	0.019	.257 / .200	.257 / .200	.455 / .403	.455 / .403	.257 / .200	.257 / .200
10-497631-055	16	0.062	.257 / .200	.257 / .200	.455 / .403	.455 / .403	.257 / .200	.257 / .200

Contact Stickout Max./Min.



All dimensions in inches

**EXCERPT FROM MIL-DTL-38999K**

3.43.2 JAN brand. The United States Government has adopted, and is exercising legitimate control over the certification marks "JAN" and "J", respectively, to indicate that items so marked or identified are manufactured to, and meet all the requirements of military specification. Accordingly, items acquired to, and meeting all of the criteria specified herein and in applicable specifications shall bear the certification mark "JAN" except that items too small to bear the certification mark "JAN" shall bear the letter "J". The "JAN" or "J" shall be placed immediately before the PIN except that if such location would place a hardship on the manufacturer in connection with such marking, the "JAN" or "J" may be located on the first line above or below the PIN. Items furnished under contracts or orders which either permit or require deviation from the conditions or requirements specified herein or in applicable specifications shall not bear "JAN" or "J". In the event an item fails to meet the requirements of this specification and the applicable specification sheets or associated detail specifications, the manufacturer shall remove the "JAN" or the "J" from the sample tested and also from all items represented by the sample. The "JAN" or "J" certification mark shall not be used on products acquired to contractor drawings or specification. The United States Government has obtained Certificate of Registration No. 504,860 for the certification mark "JAN".

Note: The "JAN" or "J" is not part of the PIN but indicates a certification.

PIN = Part Identification Number