

Connector Tooling Guide



*An ISO9001
and AS9100
Registered
Company*

DMC DANIELS[®]
MANUFACTURING
CORPORATION

Preface and Table of Contents

Daniels tools have been utilized in military aircraft and aerospace programs for over 50 years (DMC founded in 1949).

By continuously planning and adding to our product lines, we are now fulfilling the demands of other high technology fields such as computers, lasers, communications, and many other areas of electronic packaging.

The people behind the DMC name are pleased to present our Connector Assembly Tools and Accessories on the pages that follow. We believe the application data which accompanies each section will answer your specific questions concerning tooling; however, we encourage you to contact us by telephone or fax for the personal services of our knowledgeable staff of application experts.

NOTICE

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WE ARE NOT LIABLE FOR CONSEQUENTIAL OR SPECIAL DAMAGES OF ANY NATURE OR KIND, RESULTING FROM THE USE OF ANY OF OUR PRODUCTS.

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Important Facts About Crimping

CRIMPING: THEN AND NOW

The first multi-pin connectors were terminated by soldering the conductor to non-removable contacts. However, high temperature applications and the need for simple and reliable field service led to the introduction of connectors with removable contacts. These were crimped onto the conductor rather than being soldered.

The first standard crimp tool developed to crimp these new contacts was introduced in the early sixties. MS3191-1, a military drawing, defined this tool and its accessories. The MS3191-1 utilized a four indent crimp pattern together with a positive stop locator which controlled the travel of the indenters (crimp depth).

The MS3191-1 design was a compromise between simplicity of operation and crimp performance since the crimp depth for any given contact was not adjustable to accommodate the differing diameters of the conductors to which it would be crimped. It was, however, suitable for the crimp connectors of that era.

An improved tool design featuring independently adjustable crimp depths was soon introduced as MS3191-4. The MS3191-4 had an internal adjustment, totally independent of the locator, which permitted the selection of seven separate crimp depths, allowing optimal crimping of conductors ranging from AWG 12 to 26 regardless of the wire barrel size of the contact.

MS3191-4 also introduced the use of the double tipped indenter to produce an eight indent crimp pattern which has consistently achieved superior tensile pull off values.

MS3191-4 introduced the concept of a turret head containing three locators which could be used without separating any of them from the basic crimp tool.

In 1969 two military specifications for crimp tools were developed to replace the existing military drawings. They were MIL-T-22520C (Navy) and MIL-T-83724 (USAF) which defined a standard size crimp tool similar to the MS3191-4, but with an expanded eight step crimp depth range. These specifications also defined a miniature crimp tool to crimp conductors as

small as AWG 32.

Both documents were combined in 1971 into MIL-C-22520D. *All previous military standards for crimp tools were then cancelled including the MS3191.*

MIL-C-22520 (changed in 1996 to MIL-DTL-22520) has since replaced many other crimp tool documents including: MS3198, MS22910, MS17776, MS28731, MS90388, MS14037, MS27437, MS27828, MS27832, MS55619, MS27426 and others. This list includes specifications for indent crimp tools, terminal lug crimp tools, pneumatic tools, coaxial cable crimp tools and connector service kits.

The establishment of MIL-DTL-22520 was a milestone on the road to crimp tool standardization. Its development has eliminated the waste and confusion which accompanied the overlapping applications of many different "standard" crimp tools called out by a deluge of unrelated military drawings.

MIL-DTL-22520 established a single specification which set forth performance requirements for all crimp tools to be used on military standard electrical connectors.

THE CRIMPING CONCEPT

Crimping is a method of firmly attaching a terminal or contact end to an electrical conductor by pressure forming or reshaping a metal barrel together with the conductor. The forming of a satisfactory crimp depends on the correct combination of conductor, crimp barrel and tool.

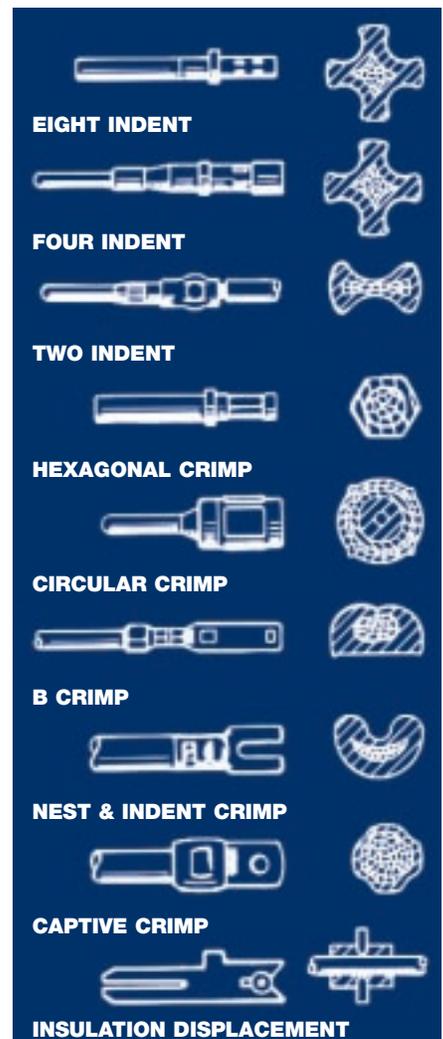
When applied with a properly matched tool, a union would be established which has both good electrical and mechanical characteristics. The tool will provide these requirements consistently and reliably with repeatability assured by quality cycle controlled tooling. There are several common configurations of crimped joint; several examples are shown below.

The electrical resistance of a properly designed and controlled crimped joint should be equal to, or less than, the resistance of an equal section of wire. Specifications state the requirements in terms of millivolt

drop at a designated current.

The mechanical strength of a crimped joint and hence its pull-out force (tensile strength), varies with the deformation applied. Therefore, by properly shaping the deformation a high pull-out force can be achieved, i.e. the crimp die of the tool determines the crimp configuration and deformation.

The dies in the tool determine the completed crimp configuration which is generally an element of contact and/or connector design. Some of the design considerations are: a) The type of contact, its size, shape, material and function, b) The type and size of wires to be accommodated, c) The type of tooling into which the configuration must be built.



Tensile Test Systems

For Wire Terminations and Similar Applications



THE DEPENDABLE ALPHA-TEST™ SYSTEM

Now available from DMC is a line of Electronic Tensile Test Systems which may be used in conjunction with SPC Programs or other Quality Control disciplines in both OEM and maintenance applications. The electronic digital readout displays are a fast and reliable source of test data, and in some models the data may be output to a printer or other RS232 compatible devices.

The rugged construction and the

portable design of these test machines make any of them a superior choice for on-site or laboratory use in an infinite variety of applications. The operation of the equipment is simple yet versatile, and DMC will customize the gripping jaws or other components to make test sample installation and removal an easy task.

Models are available with output display readings in Pounds, Newtons, and/or Kilograms to conform with the requirements of the users system. Units are available for either 115 or 230 volt power input.

It's only natural that the company which supplies the best wire termination tools and equipment would add the very best Digital Tensile Testers to further meet the demand for fewer sources and improved support through a wider range of user needs.



MODEL HPT-200 HAND-HELD
PULL TESTER

Also consult DMC for Model HPT-200 hand-held pull tester which blends the accuracy and rugged design of the Alphasron pull testers into a portable battery powered unit.

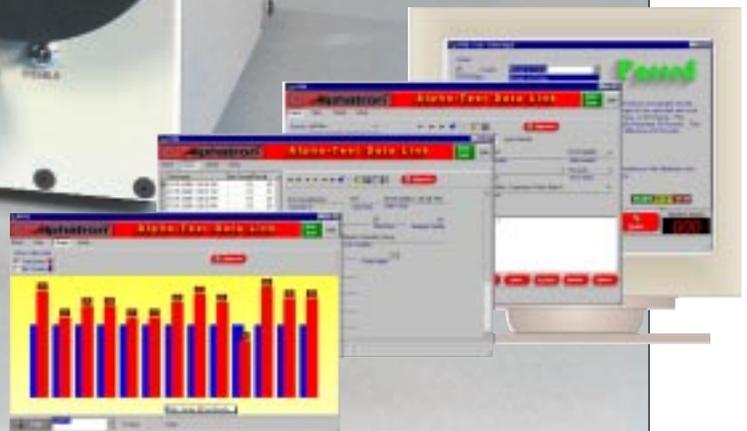


- .5% Accuracy (1/2 of 1%)
- Portable Designs
- Easy to Operate
- SPC Compatible
- Many Grips Available
- Custom Applications Are No Problem

Featured is Model MPT-200A. Other models are listed on Page 3, 4 and 5.

Now Available . . . ALPHA-TEST DATA LINK SOFTWARE

To serve the data collection needs of your test lab or in-process operations. Part No. 15-7010



Tensile Test Systems

Technical Information



MOTORIZED PULL TESTERS



MPT-500A



MPT-200A

MANUAL PULL TESTERS



**MANUAL PULL TESTERS
PT-100 & PT-100A
MODEL PT-100A SHOWN**



**HAND-HELD PORTABLE PULL TESTER
MODEL HPT-200**

GENERAL SPECIFICATIONS

	MPT-500A	MPT-200A	PT-100A	PT-100	HPT-200
Capacity	500 lbf 226.8 kg	200 lbf 90.7 kg 889 N	150 lbf 68.0 kg 667 N	100 lbf 45.4 kg 445 N	200 lbf 90.7 kg 889 N
Accuracy	±0.5% (1/2 of 1%)				
Resolution	0.1 lbf				
Display Type	Digital Display w/Peak Hold Reading				
Display	LED w/.56" high digits	LED w/.56" high digits	LED w/.56" high digits	LED w/.56" high digits	LCD w/.56" high digits
Electrical	115 VAC 50/60 Hz 230 VAC 50/60 Hz	115 VAC 50/60 Hz or 12 VDC Int. Battery			
Operating Temperature	50°F to 100°F (10° to 38°C)				

Dimensions	MPT-500A	MPT-200A	PT-100A	PT-100	HPT-200
Height	8 in. (20.3 cm)	7-1/2 in. (18.9 cm)	14 in. (35.5 cm)	14 in. (35.5 cm)	2 in. (5.08 cm) case
Width	10 in. (25.4 cm)	10 in. (25.4 cm)	9 in. (22.9 cm)	9 in. (22.9 cm)	9.5 in. (24.13 cm) case
Depth	17 in. (43.2 cm)	11 in. (27.9 cm)	14 in. (35.5 cm)	14 in. (35.5 cm)	6.25 in. (15.87 cm) case
Weight	35 lbs. (15.88 kg) (less options)	26 lbs. (11.78 kg) (less options)	15 lbs. (6.8 lg)	15 lbs. (6.8 kg)	2.5 lbs. (1.21 kg) case and hand unit

SPECIFICATIONS FOR THE MPT-200A MOTORIZED WIRE CRIMP PULL TESTER

Rate of pull: 1 to 10"/min. Push-button Selectable in 10 1"/min. Increments.
 ± 1/8"/min. @ 1-5"/min. Rate of Pull
 ± 1/4"/min. @ 6-10"/min. Rate of Pull
 Auto-Stop at Wire/Crimp Break Point
 Auto Return to Start Position in Reset Mode
 15 Position Slotted Lower Terminal Grip.

MPT-500A Options: See page 4.

MPT-200A Options: 0-250 lb. Capacity 1 lb. Resolution • Universal Self-Tightening Cam-Type Lower Grip • Ring Terminal Lower Grip • Display Units in Kilograms • Display Units in Newtons • Lb/Kg Switching • Lb/Newton Switching • 7.5-30"/min. Selectable Rates of Pull in 10 2.5"/min. Increments • Adjustable Set-point for Motor Stop at Pre-Set Force • RS232 Output.

PT-100A Options: Extra-wide Cam Grips (.75 in. wide) • Ring Terminal Lower grip • 15 Position Slotted Lower Terminal Grip • Safety Cable Grips (Upper and Lower)

PT-100 Options: Upper Self Tightening (PT-100A type) • Ring Terminal Lower Grip • Upper Assembly for Short Wires (.25 in. min.) • Spark Plug Lower Grip Assembly • 90° Plug Wire Upper Support Assembly.

HPT-200 Options: See page 5.

MPT-200A-SC MOTORIZED SAFE-T-CABLE™ TESTER

The specifications for this model are the same as MPT-200A.

The MPT-200A-SC is equipped to test .020", .032" and .040" diameter Safe-T-Cable™.



MPT 500-A Heavy Duty Motorized Pull Tester



PRECISION WIRE CRIMP PULL TESTING FOR HIGH STRENGTH APPLICATIONS...

The MPT-500A Motorized Pull Tester has a range from five pounds force to five hundred (2224.1N, 226.8Kg). You can expect the same precision and dependability that has established all ALPHATRON® testers as the first choice for wire harness builders and component suppliers throughout the industry. The 500 pound capacity of this tester will extend the range of testing capabilities to size 4 Mil-Spec applications, and size 4/0 in commercial and automotive applications (Reference AS7928 and UL486 Respectively).

The portable design (33 pounds,

8"x10"x17") and the rugged construction (machined aluminum and steel) contribute to the versatility and reliability of the MPT-500A Pull Tester. A variety of options, including standard and custom grips for all types of wire terminations are available on this tester. The operation of the tester is simple and has automatic reset and auto-stop features incorporated into the design.

The peak-hold digital display indicates the highest pull force that is measured by the accurate load cell/digital processor until the reset switch is pressed. This test value can be manually recorded, or can be integrated into a network database using the DMC Alpha-Test Data Link (ATDL) software, or other RS232 compatible data-point collection programs.

The MPT-500A Wire Crimp Pull Tester completes the range of all digital precision ALPHATRON® testers from DMC. Consult the factory for more specific information, and application verification.



PERFORMANCE

- Capacity: 5 to 500 lb. F. (2224.1N, 226.8Kg)
- Safe Overload: 150% of capacity
- Readout Accuracy: $\pm 0.5\%$
- Resolution: 1.0 lb.
- Speed Control Accuracy: $\pm 1/8$ in./min. @ 1–5 in./min. rate of pull
- $\pm 1/4$ in./min. @ 6–10 in./min. rate of pull
- Standard Display: Pounds (XXX)
- Optional Display: Kilograms (XXX)
- Operating Temperature: 50°F to 100°F (10°C to 38°C)
- Auto-stop enable/disable switch

PHYSICAL

- Weight: 35 lbs., less options
- Height: 8 inches
- Width: 10 inches
- Depth: 17 inches
- Cabinet: Painted carbon steel

ELECTRICAL

- Power: 115VAC, 50/60 Hz std. (230VAC 50/60 Hz optional)

OPTIONAL FEATURES AND ACCESSORIES

- Optional and Custom Wire/Termination Grips
- Display units in Kilograms
- Adjustable setpoint for motor stop at preset force
- Constant force pull
- RS232 output
- 230VAC 50/60 Hz operation (International Power Cord Configuration)

Safe-T-Cable®

HPT-200 Hand Held Wire Crimp Pull Tester



Daniels Manufacturing Corporation introduces a portable tensile tester capable of pull testing wire crimps up to 200 pounds (up to 10 AWG wire in most cases).

THE LAB IS NO LONGER THE LIMIT...

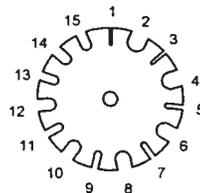
It is only natural that the company, which is known throughout the world for quality wire termination tools and equipment would add the very best portable tensile tester to meet your need for fewer sources and improved support through a wider range of capabilities. The HPT-200 hand held pull tester combines the accuracy and rugged design of the Alphatron pull testers into a portable battery powered unit. We follow that up with our expert factory service and calibration.

The HPT-200 portable tester is an extension of the Alphatron Wire Crimp Pull Tester line of products, which include the PT-100, PT-100A, MPT-200A and MPT-500A. These testers perform pull-force measurements on wire terminations. The rugged construction and portable design of these test machines make any of them a superior choice for on-site or laboratory use.

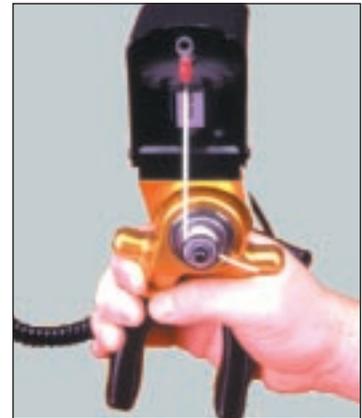
The lightweight Alphatron HPT-200 is a self-contained tester that extends your testing capability to the shop floor. You no longer have to wait for process samples to arrive in the QA Lab. Durable construction and a convenient carry case ensure protection. The patented Low Stress tensioning mechanism makes the HPT-200 versatile and easy to use. A built in NIHM battery provides up to 14 hours use on a single charge and the Power Management Circuit allows use during charging.

UPPER GRIP

Standard Terminal Grip



SLOT DIMENSION			
No.	Size (in.)	No.	Size (in.)
1	.031	9	.094
2	.250	10	.188
3	.047	11	.110
4	.236	12	.172
5	.063	13	.125
6	.218	14	.158
7	.080	15	.141
8	.203		



- Portable, lightweight and ergonomic design
- Built-in NIMH battery, with charger
- Up to 14 hour use on a single charge
- Patented, low stress tensioning mechanism
- Protective carrying case
- Shoulder bag (optional)
- Built-in calibration test
- Accuracy: (0.5% reading + 1 LSD)
- Resolution: (0.1 pounds)
- Display in newtons, or kilograms is available

SPECIFICATIONS:

Capacity: 200LBF 90.7 kg 889N

Accuracy: ± .5% Reading + 1 LSD*

Resolution: .1 lbf

Display Type: Digital display w/peak hold reading

Display: LDC w/.56 in. high digits

Electrical: 115 VAC 50/60 Hz or 12 VDC Int. Battery

Operating Temperature: 50°F to 100°F (10° to 38°C)

Height: 2 in. (5.08 cm) case

Width: 9.5 in. (24.13 cm) case
Depth: 6.25 in. (15.87 cm) case

Weight: 2.5 lbs. (1.21 kg) case and hand unit

*Least Significant Digit

Standard Adjustable Crimp Tool

UPPER RANGE CRIMP TOOL AF8 M22520/1-01

The DMC AF8 qualified to MIL-DTL-22520/1, has virtually limitless application within the specified wire range of 12 through 26 AWG. Over a thousand turret heads are available to adapt the tool frame to your specific military or proprietary contact/wire combination. The 8 impression crimp, which is standard in the AF8, assures absolute maximum tensile strength with almost every closed barrel contact. In addition, special indent configurations are available upon request.

The precision ratchet controls cycling of the tool in both directions of handle movement. This assures the same accurate crimp every time. It's like having a quality control inspector at every work station.

Positive crimp depth is controlled by an 8 position selector knob conveniently located on the tool frame. The

operator simply dials the desired step for the wire being used. This setting can be secured by use of a locking pin or safety wire. The carefully engineered design achieves the absolute maximum mechanical advantage; along with the tool's light weight, operator fatigue is minimized.

The AF8 measures 9 $\frac{1}{4}$ " x 2 $\frac{1}{2}$ " x 1 $\frac{1}{4}$ " approximately and weighs 15 oz.

For proper operation, the tool must be mated with one of the following optional accessories: a military standard or non-military turret head (TH-XXX Part No. Series), a military standard or non-military positioner (TP-XXX Part No. Series), or a universal head (Part No. UH2-5). This is done simply by orienting the head in the keyed position, and by tightening the hex socket screws provided as part of the head.

A permanent dataplate is affixed to all turret heads and positioners. This plate lists specific contact part numbers, the corresponding position color code (for 3 position turret heads), and

suggested selector depth settings for the wire size being used.

The universal head is ideally suited for lab work and prototype production applications. This head is attached in the same manner as explained above. The selected contact is inserted through the entry hole on the opposite side of the tool frame from the head. The height adjusting screw is then rotated until the contact is in the proper position for crimping. The screw can be secured with the locknut provided. The wire sizes listed on the tool frame selector knob can be used as a reference starting point; however, some testing will be necessary to determine the optimum selector setting for your contact/wire combination.

Periodic gaging is recommended to insure accurate calibration. This can be done easily by setting the tool selector knob to position #4, and checking indenter closure with the M22520/3-1 "GO/NO-GO" gage (DMC part no. G125).



Other than keeping the unit clean and properly stored when not in service, no operator maintenance is required. DMC offers complete factory service by knowledgeable technicians within a reasonable turnaround time. Complete instructions concerning the use, care and warranty are supplied with each tool. Additional copies are available on request.

MILITARY P/N	DMC P/N	DESCRIPTION	NSN
M22520/1-01	AF8	TOOL FRAME	5120-01-335-8571
M22520/1-02	TH1A	TURRET	5120-01-335-8834
M22520/1-03	TH4	TURRET	5120-01-335-8835
M22520/1-04	TH163	TURRET	5120-01-335-8836
M22520/1-05	UH2-5	UNIVERSAL POSITIONER	5120-01-335-8583
M22520/1-06	TP45	POSITIONER	5120-01-335-8584
M22520/1-07	TP85	POSITIONER	5120-01-335-8585
M22520/1-08	TH199S	TURRET	5120-01-335-8837
M22520/1-09	TP360	POSITIONER	5120-01-335-8586
M22520/1-10	TP365	POSITIONER	5120-01-335-8587
M22520/1-11	TP465	POSITIONER	5120-01-335-8588
M22520/1-12	TH270	TURRET	5120-01-335-8838
M22520/1-13	TH285	TURRET	5120-01-335-8839
M22520/1-14	TH286	TURRET	5120-01-335-8840
M22520/1-15	TP485	POSITIONER	5120-01-335-8589
M22520/1-16	TP513	POSITIONER	5120-01-335-8590
M22520/1-17	TP651	POSITIONER	5120-01-335-8591
M22520/3-1	G125	GAGE	5220-00-165-7604



Miniature Adjustable Crimp Tools

LOWER RANGE CRIMP TOOL AFM8 M22520/2-01

Qualified to MIL-DTL-22520/2, the DMC AFM8 is designed for most of the miniature and sub-miniature connector types that are so widely used in all types of electronic systems. Originally developed for the Air Force, the AFM8 meets the need for a miniature tool accommodating wire sizes 20 through 32 AWG.

The AFM8 gives a Mil-Standard 8 impression crimp, which assures maximum tensile strength. The cycle controlled precision ratchet assures consistently accurate crimps every time. The tool frame has a built-in 8 step selector knob for ease in dialing the correct crimp depth setting for the wire being used.

Positioners adapt the tool frame to a particular application. The data plate on each positioner designates which contacts the positioner accommodates for its wire size and indicates selector position. Crimp depth is dialed on the

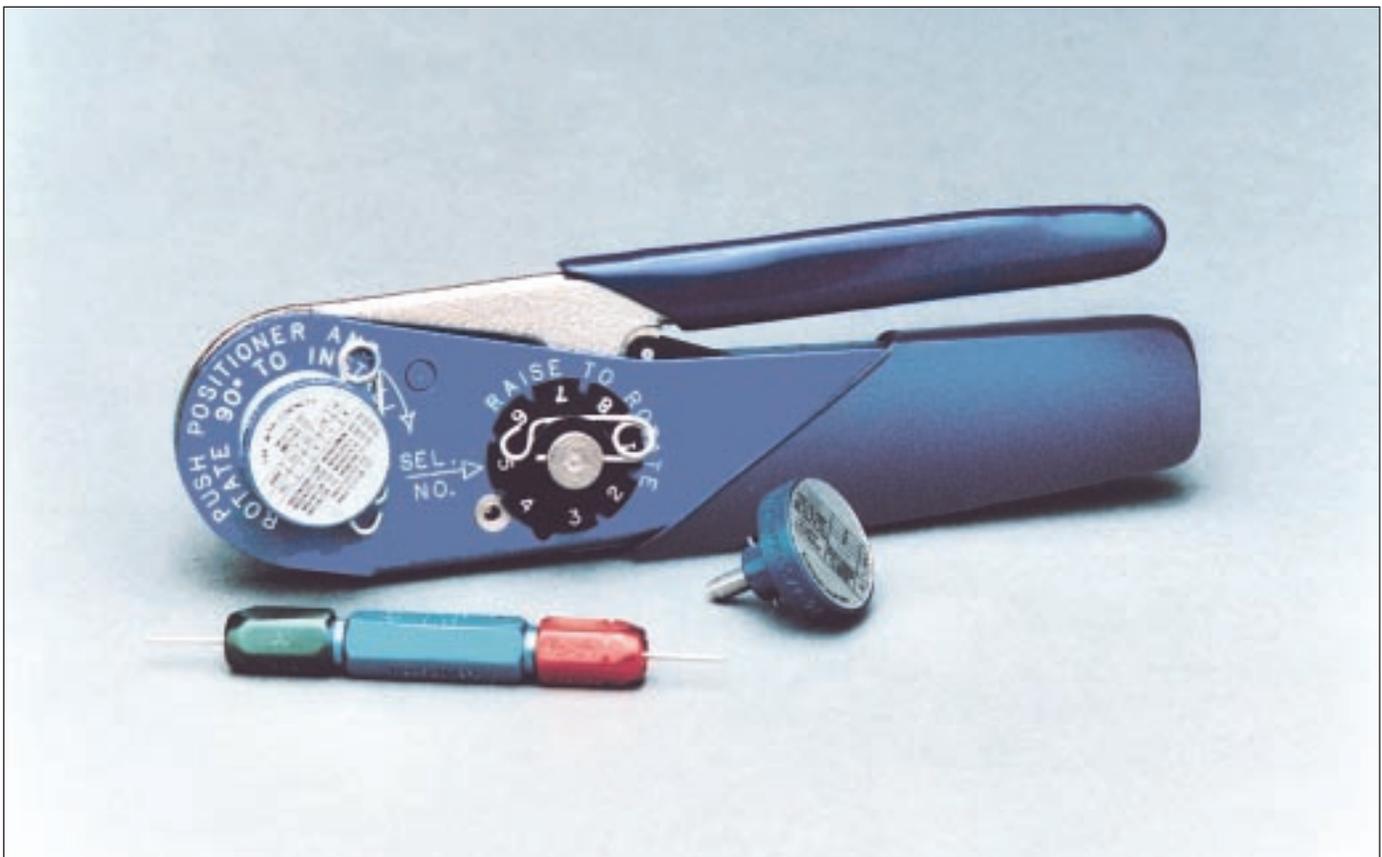
8 step selector knob by merely raising the knob and rotating it to the proper position. The positioner is easily removed and changed.

Periodic gaging is recommended to insure accurate calibration. This is easily accomplished with the M22520/3-1 "GO/NO-GO" gage (DMC part no. G125) on SEL setting #8. The AFM8 is 6 3/4" in length and weighs approximately 10 oz.

Other than keeping the tool clean and properly stored when not in use, no operator maintenance is required. DMC's complete factory service is available. Complete instructions concerning the use, care and warranty are supplied with each tool. Additional copies are available from the factory.

MILITARY P/N	DMC P/N	DESCRIPTION	NSN
M22520/2-01	AFM8	TOOL FRAME	5120-01-335-8572
M22520/2-02	K1S	POSITIONER	5120-01-335-8592
M22520/2-03	K60S	POSITIONER	5120-01-335-8593
M22520/2-04	K151	POSITIONER	5120-01-335-8594
M22520/2-05	K3	POSITIONER	5120-01-335-8595
M22520/2-06	K41	POSITIONER	5120-01-335-8624
M22520/2-07	K40	POSITIONER	5120-01-335-8625

MILITARY P/N	DMC P/N	DESCRIPTION	NSN
M22520/2-08	K13-1	POSITIONER	5120-01-335-8626
M22520/2-09	K42	POSITIONER	5120-01-335-8627
M22520/2-10	K43	POSITIONER	5120-01-335-8628
M22520/2-11	K287	POSITIONER	5120-01-335-8629
M22520/2-12	K286	POSITIONER	5120-01-335-8630
M22520/2-13	K338	POSITIONER	5120-01-335-8631
M22520/2-14	K340	POSITIONER	5120-01-335-8632
M22520/2-15	K341	POSITIONER	5120-01-335-8633
M22520/2-16	K339	POSITIONER	5120-01-335-8634
M22520/2-17	K342	POSITIONER	5120-01-335-8635
M22520/2-18	K343	POSITIONER	5120-01-335-8636
M22520/2-19	K330-2	POSITIONER	5120-01-335-8637
M22520/2-20	K331-2	POSITIONER	5120-01-335-8638
M22520/2-21	K332-2	POSITIONER	5120-01-335-8609
M22520/2-22	K212	POSITIONER	5120-01-335-8610
M22520/2-23	K267-1	POSITIONER	5120-01-335-8611
M22520/2-24	K75S-1	POSITIONER	5120-01-335-8612
M22520/2-25	K261-1	POSITIONER	5120-01-335-8613
M22520/2-26	K262-1	POSITIONER	5120-01-335-8614
M22520/2-27	K269-1	POSITIONER	5120-01-335-8615
M22520/2-28	K373-1	POSITIONER	5120-01-335-8616
M22520/2-29	K372-1	POSITIONER	5120-01-335-8617
M22520/2-30	K404	POSITIONER	5120-01-335-8618
M22520/2-31	K406	POSITIONER	5120-01-335-8619
M22520/2-32	K496	POSITIONER	5120-01-335-8620
M22520/2-33	K74S	POSITIONER	5120-01-335-8621
M22520/2-34	K323	POSITIONER	5120-01-335-8622
M22520/2-35	K532-1	POSITIONER	5120-01-335-8623
M22520/2-36	K473	POSITIONER	5120-01-335-8596
M22520/3-1	G125	GAGE	5220-00-165-7604



ULTRA PRECISION CRIMP TOOL (MODEL MH800)

All DMC tools are designed and built to the highest standards of precision and quality, but some applications call for more. One such case is miniature and sub-miniature contacts which have extremely thin wire barrel dimensions. The answer to this demand is the model MH800 Ultra Precision Crimp Tool which utilizes the same basic components as the Model AFM8 (M22520/2-01) Crimp Tool with tighter gaging tolerances and a special indenter tip configuration that assures a uniform flow of metal during the crimping operation.

The model MH800 accommodates wire sizes 20 thru 32 AWG (the miniature to sub-miniature range). It accommodates the K series or M22520/2-XX positioners and is easily identified by a distinctive orange handle grip. It is the same size and weight as model AFM8. Gaging is accomplished with the G100 "GO/NO-GO" gage.

MIDDLE RANGE CRIMP TOOL MH860 M22520/7-01

Qualified to MIL-DTL-22520/7, the DMC MH860 is a recent addition to the military specification. It was developed to meet the demonstrated need for supporting the majority of electrical systems with one versatile crimp tool frame.

The MH860 accepts the entire middle wire range of 16 through 28 AWG, with positioners which adapt it to virtually all applications consistent with others in the MIL-DTL-22520 family.

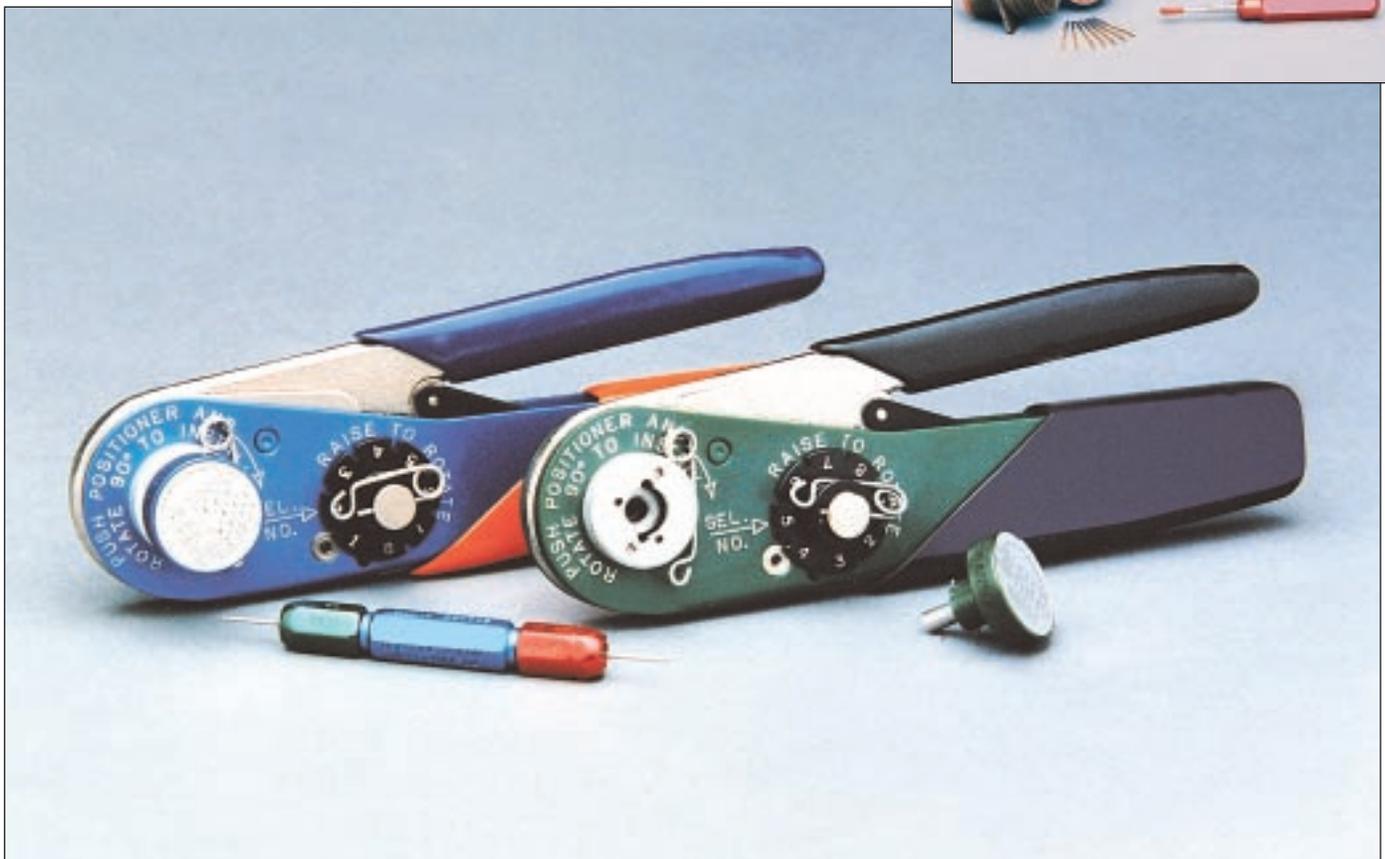
MILITARY P/N	DMC P/N	DESCRIPTION	NSN
M22520/7-01	MH860	TOOL FRAME	5120-01-335-8573
M22520/7-02	86-1S	POSITIONER	5120-01-335-8597
M22520/7-03	86-2	POSITIONER	5120-01-335-8598
M22520/7-04	86-3	POSITIONER	5120-01-335-8599
M22520/7-05	86-4	POSITIONER	5120-01-335-8600
M22520/7-06	86-5	POSITIONER	5120-01-335-8601
M22520/7-07	86-6	POSITIONER	5120-01-335-8602
M22520/7-08	86-7	POSITIONER	5120-01-335-8603
M22520/7-09	86-11S	POSITIONER	5120-01-335-8604
M22520/7-10	86-12S	POSITIONER	5120-01-335-8605
M22520/7-11	86-19	POSITIONER	5120-01-335-8606
M22520/7-12	86-20	POSITIONER	5120-01-335-8607
M22520/7-13	86-21	POSITIONER	5120-01-335-8608
M22520/3-3	G145	GAGE	5120-00-338-0378

THE MIL-C-28840 TOOLING

MIL-C-28840 connectors were developed for the Navy, for use with jacketed cable in shipboard applications. They are a high density circular connector series utilizing a high shock threaded coupling system with front release crimped contacts.

For these connectors DMC has added a new crimping tool to its range, the M22520/34-01, and other tools as follows:

MILITARY P/N	DESCRIPTION	DMC P/N
M22520/34-01	BASIC CRIMP TOOL	39-000
M22520/34-02	POSITIONER	39-102
M22520/35	GAGE	G345
M81969/33-01	INST. TOOL (STRAIGHT)	DAK55-22SA
M81969/33-02	INST. TOOL (OFFSET)	DAK55-22JA
M81969/34-01	REMOVAL TOOL	DRK56-22A



Pneumatic Crimp Tools

The DMC Power Crimp tools WA27F, WA22P and WA22 are direct equivalents of their corresponding hand tools. They use the same turret heads or positioners, gages and other accessories. As production needs grow, all that needs to be added is the tool frame itself. The resulting power capability can in many instances compare with an automated system costing thousands of dollars more.

These pneumatic tools are widely used in both military and proprietary programs. Their popularity has come about in part because of their unequalled reputation for trouble-free, dependable service and their cost saving and adaptability.

Whether upper, middle or lower range, the power tools fulfill the same precise crimp requirements as the hand models. They use the same indenter configuration, the same gaging dimensions and selector settings. No additional operator training is

necessary. Accurate calibration is maintained by a unique 8 step machined steel block that holds gaging tolerances far longer than the usual adjustment screw method. This solid gaging means high output with less downtime.

The compact size and light weight of these tools allows them to be used easily as hand tools, as well as high production bench tools. The hand trigger is designed for equal ease of use by right or left handed operators. Bench mounted, the optional foot valve allows hands-free operation. The bench mount will allow the tool to be secured at virtually any angle for individual comfort, thereby minimizing operator fatigue.

The foot valve, when installed in-line with an air supply, makes a portable system which is adaptable to any work bench. Air supply requirements are 80-120 PSI (5.5 to 8.0 atmospheres) clean dry air. The

system uses standard air fittings readily available in most shops.

UPPER RANGE WA27F (EQUIVALENT TO AF8)

accommodates TH-XXX MIL-standard and commercial series turret heads or TP-XXX MIL-standard and commercial series positioners, length 10", diameter 2 3/4", weight 50 oz.

MIDDLE RANGE WA22P (EQUIVALENT TO MH860)

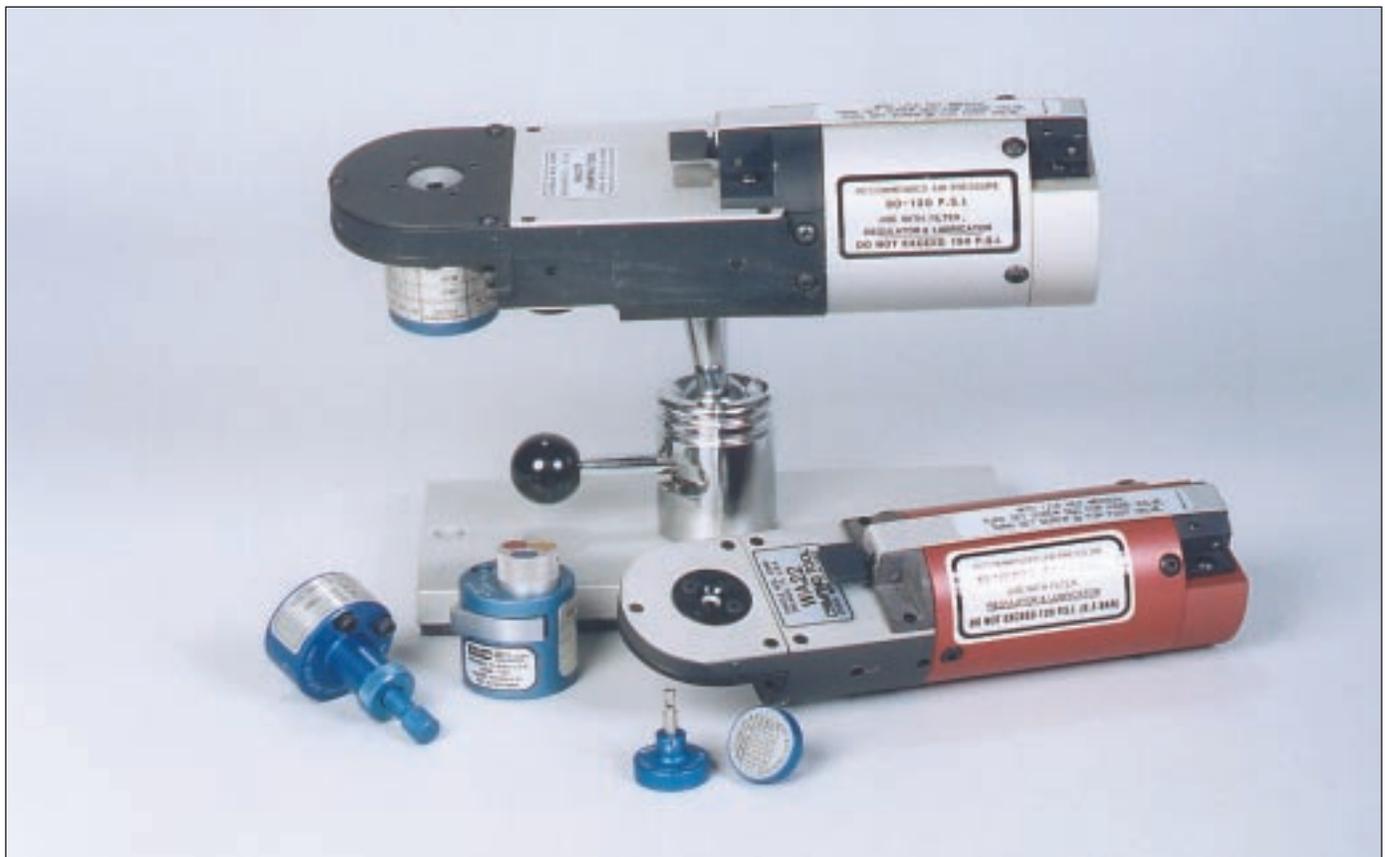
accommodates MIL-standard and commercial 86-XXX series positioners, length 8", diameter 2 1/4", weight 32 oz.

LOWER RANGE WA22 (EQUIVALENT TO AFM8)

accommodates MIL-standard and commercial K series positioners, length 8", diameter 2 1/4", weight 32 oz.

BENCH MOUNT BM-2

FOOT VALVE WA10



Specialty Pneumatic Tools

For 4/8 Indent Crimping



The DMC pneumatic crimp tools have proven themselves to be economical and dependable throughout four decades of use by the leading aircraft and aerospace OEMs, and maintainers. DMC has developed two special concepts, using the MIL-SPEC equivalent pneumatic tools as their basis. Together these special tools can take first end and second end terminations to the next level of ease and manufacturability.

FIRST END PACKAGE (QA SERIES AUTOMATIC POSITIONER CRIMP TOOL)

The standard WA22 and WA27F tools (or similar versions) can be fitted with components that allow the positioner (contact locator) to extend past the indent mechanism. When the contact is loaded into the tool, the wire barrel remains above the tool in clear view. The operator can then insert the wire into the contact (wire barrel) where the operator can see that it is inserted correctly, with all strands inside the contact.

When this is verified, the contact is lowered into the crimp tool by slight movement of the wire. When the contact reaches the correct crimp position, it will automatically apply the crimp to the contact and wire.

SECOND END PACKAGE (WA22LC-X1 HAND-HELD PNEUMATIC CRIMP TOOL)

The same basic tool that is commonly bench mounted for first end terminations is now available in a lighter, more ergonomic version for hand-held operation. The WA22LC-X1 tool features a smaller profile and lighter weight which makes it especially useful for second end terminations on vertical and horizontal wiring form boards.

Consult DMC Customer Service for these and other Pneumatic Crimp Tools.



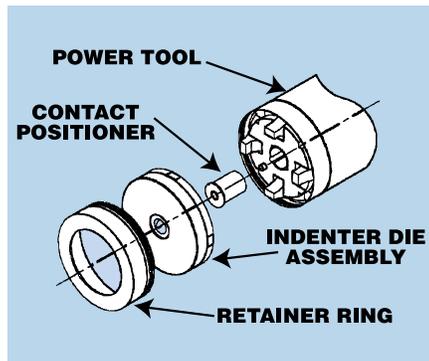
**FIRST END PACKAGE
(QA SERIES AUTOMATIC POSITIONER CRIMP TOOL)**
Consult factory for special positioner part numbers and pricing.



**SECOND END PACKAGE
(WA22LC-X1 HAND-HELD PNEUMATIC CRIMP TOOL)**

Large Gage Pneumatic Crimp Tools

WA23 PNEUMATIC CRIMP TOOL



DMC's heavy pneumatic crimp tool functions with the push of a button for operator ease. This heavy duty crimp tool accommodates large size contacts 8 through 0000 (AWG) and operates on standard 90–125 psi (5.4–8.16 BAR) shop air sources.

It is engineered with the operator's safety in mind and features a full cycle control system. This tool is portable and needs no extra booster for large size contacts.

The standard die assembly and locator are easily interchangeable with no special tool required. Custom dies and locators may be designed to specific requirements. An optional foot valve is available upon request.

NOW FEATURING...

Die Assemblies
and Locators for:

- Pre-Insulated and Un-Insulated Ring Terminals for Military and Commercial Applications (MS25036, MS20659, MIL-T-7928)
- Other Non-Mil Dies and Locators Are Also Available

M22520/23 Tool, Die and Locator List

MIL #	DESCRIPTION	DMC #
M22520/23-01	Crimp Tool	WA23
M22520/23-02	Die Assy. 8	WA23-2
M22520/23-03	Die Assy. 6	WA23-3
M22520/23-04	Die Assy. 4	WA23-4
M22520/23-05	Die Assy. 1/0	WA23-5
M22520/23-06	Die Assy. 2/0	WA23-6
M22520/23-07	Die Assy. 4/0	WA23-7
M22520/23-09	Locator 8	WA23-9
M22520/23-10	Locator 6	WA23-10
M22520/23-11	Locator 4	WA23-11
M22520/23-12	Locator 4, 4N, 4G	WA23-12
M22520/23-13	Locator 1/0	WA23-13
M22520/23-14	Locator 1/0, 1/0N	WA23-14
M22520/23-15	Locator 2/0, 2/0N	WA23-15
M22520/23-16	Locator 4/0, 4/0N	WA23-16

P/N	CONTACT SIZE	"GO"	"NO-GO"	GAGE P/N
M22520/23-02	8	.130	.136	G693
M22520/23-03	6	.171	.178	G694
M22520/23-04	4	.195	.202	G695
M22520/23-05	0	.325	.332	G696
M22520/23-06	00	.351	.358	G697
M22520/23-07	0000	.425	.432	G698



Large Gage Contact Application Information



CONTACT APPLICATION CROSS REFERENCE

MIL-C-5015 Front Release (3400 Series)

CONTACT PART #	BIN CODE	TYPE P/S	SIZE	DIE ASSEMBLY	LOCATOR
M39029/44	291	P	8	WA23-2	WA23-9
M39029/45	298	S	8	WA23-2	WA23-9
M39029/44	292	P	4	WA23-4	WA23-11
M39029/45	299	S	4	WA23-4	WA23-11
M39029/44	293	P	0	WA23-5	WA23-13
M39029/45	300	S	0	WA23-5	WA23-13

MIL-C-5015 Rear Release (3450 Series)

M39029/29	214	P	8	WA23-2	WA23-9
M39029/30	220	S	8	WA23-2	WA23-9
M39029/29	215	P	4	WA23-4	WA23-11
M39029/30	221	S	4	WA23-4	WA23-11
M39029/29	216	P	0	WA23-5	WA23-13
M39029/30	222	S	0	WA23-5	WA23-13

MIL-C-22992 Class L Heavy Duty Cylindrical Connector

M39029/48	317	P	6	WA23-3	WA23-10
M39029/48	318	P	6N	WA23-3	WA23-10
M39029/48	319	P	6G	WA23-3	WA23-10
M39029/49	329	S	6	WA23-3	WA23-10
M39029/49	330	S	6G	WA23-3	WA23-10
M39029/48	320	P	4	WA23-4	WA23-12
M39029/48	321	P	4N	WA23-4	WA23-12
M39029/48	322	P	4G	WA23-4	WA23-12
M39029/49	331	S	4	WA23-4	WA23-12
M39029/49	332	S	4G	WA23-4	WA23-12
M39029/48	323	P	1/0	WA23-5	WA23-14
M39029/48	324	P	1/0N	WA23-5	WA23-14
M39029/49	333	S	1/0	WA23-5	WA23-14
M39029/48	325	P	2/0	WA23-6	WA23-15
M39029/48	326	P	2/0N	WA23-6	WA23-15
M39029/49	334	S	2/0	WA23-6	WA23-15
M39029/48	327	P	4/0	WA23-7	WA23-16
M39029/48	328	P	4/0N	WA23-7	WA23-16
M39029/49	335	S	4/0	WA23-7	WA23-16

J-Tech

541-220-0808	214	P	8	WA23-2	WA23-9
541-220-0404	215	P	4	WA23-4	WA23-11
542-220-0808	220	S	8	WA23-2	WA23-9
542-220-0404	221	S	4	WA23-4	WA23-11

Amphenol/Bendix

10-497100-6	317	P	6	WA23-3	WA23-10
10-497102-6	318	P	6N	WA23-3	WA23-10
10-497222-6	319	P	6	WA23-3	WA23-10
10-497100-4	320	P	4	WA23-4	WA23-12
10-497102-4	321	P	4N	WA23-4	WA23-12
10-497222-4	322	P	4G	WA23-4	WA23-12
10-497100-3	323	P	1/0	WA23-5	WA23-14
10-497102-3	324	P	1/0N	WA23-5	WA23-14
10-497100-43	327	P	4/0	WA23-7	WA23-16
10-497102-43	328	P	4/0N	WA23-7	WA23-16
10-497101-6	329	S	6	WA23-3	WA23-10
10-497223-6	330	S	6G	WA23-3	WA23-10
10-497101-4	331	S	4	WA23-4	WA23-12
10-497223-4	332	S	4G	WA23-4	WA23-12
10-497101-3	333	S	1/0	WA23-5	WA23-14
10-497101-43	335	S	4/0	WA23-7	WA23-16

Burndy Corporation (FCI)

CONTACT PART #	BIN CODE	TYPE P/S	SIZE	DIE ASSEMBLY	LOCATOR
B559-01-3	318	P	6N	WA23-3	WA23-10
B559-01-6	319	P	6	WA23-3	WA23-10
B559-01-1	320	P	4	WA23-4	WA23-12
B559-01-2	321	P	4N	WA23-4	WA23-12
B559-01-10	322	P	4G	WA23-4	WA23-12
B559-01-4	323	P	1/0	WA23-5	WA23-14
B559-01-5	324	P	1/0N	WA23-5	WA23-14
B559-01-8	327	P	4/0	WA23-7	WA23-16
B559-01-9	328	P	4/0N	WA23-7	WA23-16
B560-01-2	329	S	6	WA23-3	WA23-10
B560-01-4	330	S	6G	WA23-3	WA23-10
B560-01-1	331	S	4	WA23-4	WA23-12
B560-01-6	322	S	4G	WA23-5	WA23-14
B560-01-3	333	S	1/0	WA23-5	WA23-14
B560-01-5	335	S	4/0	WA23-7	WA23-16

ITT Cannon

030-3198-003	214	P	8	WA23-2	WA23-9
030-3199-004	215	P	4	WA23-4	WA23-11
030-3200-003	216	P	0	WA23-5	WA23-13
031-3116-003	220	S	8	WA23-2	WA23-9
031-3117-003	221	S	4	WA23-4	WA23-11
031-3118-003	222	S	0	WA23-5	WA23-13

Matrix Science/Amphenol

5000-029-0008	214	P	8	WA23-2	WA23-9
5000-029-0004	215	P	4	WA23-4	WA23-11
5000-029-0000	216	P	0	WA23-5	WA23-13
5100-033-0008	220	S	8	WA23-2	WA23-9
5100-033-0004	221	S	4	WA23-4	WA23-11
5100-033-0000	222	S	0	WA23-5	WA23-13

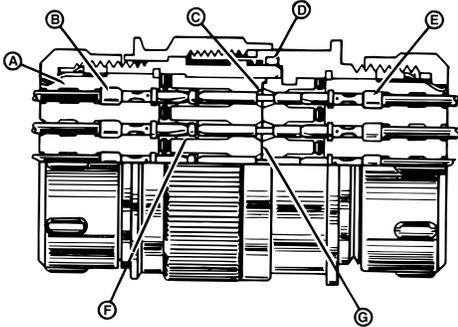
Tri-Star

916-0808-093	214	P	8	WA23-2	WA23-9
916-0404-094	215	P	4	WA23-4	WA23-11
916-0000-095	216	P	0	WA23-5	WA23-13
915-0808-093	220	S	8	WA23-2	WA23-9
915-0404-094	221	S	4	WA23-4	WA23-11
915-0000-095	222	S	0	WA23-5	WA23-13
915-0606-595	317	P	6	WA23-3	WA23-10
915-0606-596	318	P	6N	WA23-3	WA23-10
915-0606-597	319	P	6G	WA23-3	WA23-10
915-0404-576	320	P	4	WA23-4	WA23-12
915-0404-577	321	P	4N	WA23-4	WA23-12
915-0404-578	322	P	4G	WA23-4	WA23-12
915-1001-498	323	P	1/0	WA23-5	WA23-14
915-1001-499	324	P	1/0N	WA23-5	WA23-14
915-2020-579	325	P	2/0	WA23-6	WA23-15
915-2020-580	326	P	2/0N	WA23-6	WA23-15
915-4040-598	327	P	4/0	WA23-7	WA23-16
915-4040-599	328	P	4/0N	WA23-7	WA23-16
916-0606-595	329	S	6	WA23-3	WA23-10
916-0606-597	330	S	6G	WA23-3	WA23-10
916-0404-576	331	S	4	WA23-4	WA23-12
916-0404-578	332	S	4G	WA23-4	WA23-12
916-1001-498	333	S	1/0	WA23-5	WA23-14
916-2020-579	334	S	2/0	WA23-6	WA23-15
916-4040-598	335	S	4/0	WA23-7	WA23-16

Cross reference information was compiled from (QPL) Qualified Products Listing. Additional tooling is available for other die, locator and wire size applications.

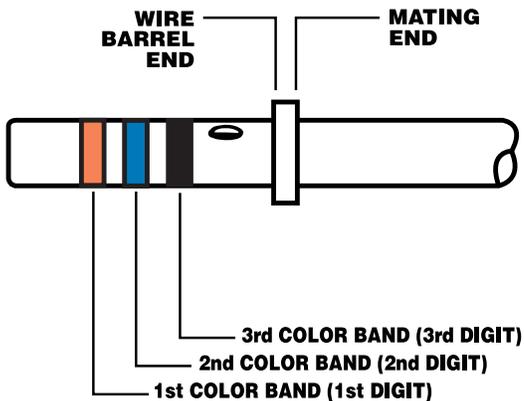
Technical Application Guide

TYPICAL COMPLEX CABLE CONNECTOR



- A. Wire Seal
- B. Socket Contact
- C. Chamfered Socket Lead-In
- D. Peripheral O-Ring Seal
- E. Pin Contact
- F. Contact Retention Clip
- G. Interfacial Seal

CONTACT COLOR CODE AND BIN*

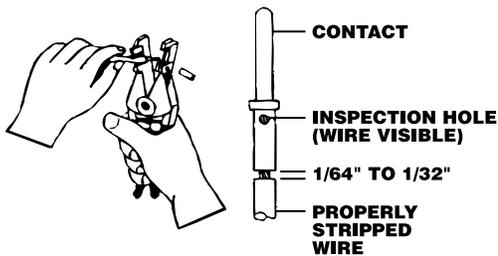


0 - Black	5 - Green
1 - Brown	6 - Blue
2 - Red	7 - Violet
3 - Orange	8 - Gray
4 - Yellow	9 - White

*BASIC IDENTIFICATION NUMBER

- Example shown: 360 (Orange, Blue, Black)
- Manufacturers have the option of identifying contacts by stamping the bin code on the shoulder or the wire barrel (size 16 and larger).

WIRE STRIPPING TECHNIQUE



1. Determine the proper length of insulation to be removed. Wire must be visible in inspection hole. Insulation must be 1/64" – 1/32" from end of contact or inside of insulation cup.
2. Insert wire into exact center of correct cutting slot for wire size to be stripped. Each slot is marked with wire size.
3. Close handles together as close as possible.
4. Release handles, allowing wire holder to return to open position.
5. Remove stripped wire.
6. After stripping, strands of wire should be twisted firmly together in the same direction as the normal lay of the wire.
7. Stripped wire with nicked or cut strands is not acceptable.

IMPORTANT NOTICE – The tooling listed in the technical application guides of this catalog and other DMC publications represents data which has been compiled over many years of product use and application. Some tooling suggested herein may or may not cover a user's specific contract or manufacturing requirements. It is the user's responsibility to carry out sufficient testing to verify suitability of the specific DMC product selected for the specific requirements of each particular application.

M39029 CONTACT QUICK LOCATION CHART

CONTACT PART NUMBER	PAGE NUMBER	CONTACT PART NUMBER	PAGE NUMBER	CONTACT PART NUMBER	PAGE NUMBER	CONTACT PART NUMBER	PAGE NUMBER
M39029/1	43	M39029/27	47	M39029/55	47	M39029/85	Call DMC
M39029/2	35	M39029/28	47	M39029/56	25, 26, 27	M39029/86	Call DMC
M39029/3	35	M39029/29	30, 39	M39029/57	17, 26, 28	M39029/87	Call DMC
M39029/4	19, 38, 40, 41	M39029/30	30, 39	M39029/58	17, 25, 26, 27	M39029/88	Call DMC
M39029/5	19, 38, 40, 41	M39029/31	18, 20, 21, 23, 37	M39029/59	47	M39029/89	Call DMC
M39029/6	46	M39029/32	18, 20, 21, 23, 37	M39029/60	47	M39029/90	27
M39029/7	46	M39029/33	31	M39029/63	17	M39029/91	27
M39029/8	46	M39029/34	22	M39029/64	17	M39029/92	Call DMC
M39029/9	Inactive	M39029/35	22	M39029/65	Inactive	M39029/93	Call DMC
M39029/10	Inactive	M39029/36	22	M39029/66	Inactive	M39029/94	Call DMC
M39029/11	36	M39029/37	22	M39029/68	Inactive	M39029/95	Call DMC
M39029/12	36	M39029/38	Inactive	M39029/69	42	M39029/96	Call DMC
M39029/13	46	M39029/40	Inactive	M39029/70	42	M39029/97	Call DMC
M39029/14	46	M39029/41	Inactive	M39029/71	Inactive	M39029/98	Call DMC
M39029/15	Inactive	M39029/42	Inactive	M39029/72	Inactive	M39029/99	Call DMC
M39029/16	34	M39029/43	Inactive	M39029/73	Call DMC	M39029/100	Call DMC
M39029/17	33	M39029/44	29	M39029/74	Call DMC	M39029/101	Call DMC
M39029/18	33	M39029/45	29	M39029/75	47	M39029/102	Call DMC
M39029/19	46	M39029/46	32	M39029/76	47	M39029/103	Call DMC
M39029/20	46	M39029/47	31, 32	M39029/77	47	M39029/104	Call DMC
M39029/21	46	M39029/48	16	M39029/78	47	M39029/105	Call DMC
M39029/22	33, 34, 44	M39029/49	16	M39029/79	Inactive	M39029/106	Call DMC
M39029/23	Inactive	M39029/50	47	M39029/80	Inactive	M39029/107	Call DMC
M39029/24	Inactive	M39029/51	47	M39029/83	24	M39029/108	Call DMC
M39029/25	47	M39029/54	47	M39029/84	24	M39029/109	Call DMC
M39029/26	47						

Refer to Technical Application Guide
 (Pages 16-43)

**QPL (Qualified Product List) sources listed in the following charts may change. Verify source QPL status at the following website:
<http://www.dscc.dla.mil/programs/MilSpec/>**



MIL-C-22992 CLASS L

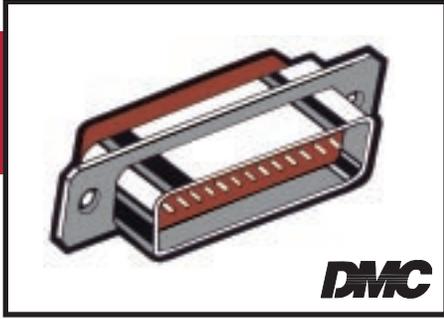
CIRCULAR HEAVY DUTY FRONT RELEASE CONTACTS

CONNECTOR PART NUMBER	DESCRIPTION	QPL SOURCES
MS90555	WALL MOUNT RECEPTACLE	AMPHENOL CORP. ITT CANNON
MS90556	STRAIGHT PLUG	
MS90557	IN-LINE RECEPTACLE	
MS90558	WALL MOUNT PLUG	

CONTACTS	SIZE (AWG)		PIN/SOC.	PART NUMBER* (CURRENT)	PART NUMBER (SUPERSEDED)	WIRE RANGE
	MATING END	WIRE BARREL				
<p>TYPICAL CONTACT CONFIGURATION</p>	6	6	P	M39029/48-317	MS90559-11	6
	6N	6	P	M39029/48-318	MS90559-12	6
	6G	6	P	M39029/48-319	MS90559-14	6
	6	6	S	M39029/49-329	MS90560-7	6
	6G	6	S	M39029/49-330	MS90560-8	6
	4	4	P	M39029/48-320	MS90559-8	4
	4N	4	P	M39029/48-321	MS90559-9	4
	4G	4	P	M39029/48-322	MS90559-13	4
	4	4	S	M39029/49-331	MS90560-5	4
	4G	4	S	M39029/49-332	MS90560-9	4
	0	0	P	M39029/48-323	MS90559-5	0
	0N	0	P	M39029/48-324	MS90559-6	0
	0	0	S	M39029/49-333	MS90560-3	0
	2/0	2/0	P	M39029/48-325	MS90559-3	2/0
	2/0N	2/0	P	M39029/48-326	MS90559-3	2/0
	2/0	2/0	S	M39029/49-334	MS90560-2	2/0
	4/0	4/0	P	M39029/48-327	MS90559-1	4/0
	4/0N	4/0	P	M39029/48-328	MS90559-2	4/0
4/0	4/0	S	M39029/49-335	MS90560-1	4/0	

TOOL SELECTION		CRIMP TOOL AND ACCESSORY					ASSEMBLY TOOLS	
BIN*	COLOR	AF8	AFM8	MH860	WA23 (POS)	WA23 (DIE)	INSTALLING	REMOVAL
317	ORANGE-BROWN-VIOLET				WA23-10	WA23-3	—	DRK178-6A
318	ORANGE-BROWN-GRAY				WA23-10	WA23-3		DRK178-6A
319	ORANGE-BROWN-WHITE				WA23-10	WA23-3		DRK178-6A
329	ORANGE-RED-WHITE				WA23-10	WA23-3		DRK178-6A
330	ORANGE-ORANGE-BLACK				WA23-10	WA23-3	—	DRK178-6A
320	ORANGE-RED-BLACK				WA23-12	WA23-4		DRK178-5A
321	ORANGE-RED-BROWN				WA23-12	WA23-4		DRK178-5A
322	ORANGE-RED-RED				WA23-12	WA23-4		DRK178-5A
331	ORANGE-ORANGE-BROWN				WA23-12	WA23-4		DRK178-5A
332	ORANGE-ORANGE-RED				WA23-12	WA23-4		DRK178-5A
323	ORANGE-RED-ORANGE				WA23-14	WA23-5	—	DRK178-3A
324	ORANGE-RED-YELLOW				WA23-14	WA23-5		DRK178-3A
333	ORANGE-ORANGE-ORANGE				WA23-14	WA23-5		DRK178-3A
325	ORANGE-RED-GREEN				WA23-15	WA23-6	—	DRK178-2A
326	ORANGE-RED-BLUE				WA23-15	WA23-6		DRK178-2A
334	ORANGE-ORANGE-YELLOW				WA23-15	WA23-6		DRK178-2A
327	ORANGE-RED-VIOLET				WA23-16	WA23-7		DRK178-1A
328	ORANGE-RED-GRAY				WA23-16	WA23-7	—	DRK178-1A
335	ORANGE-ORANGE-GREEN				WA23-16	WA23-7		DRK178-1A

*The three number suffix on M39029 series contacts is referred to as a "BIN" code. See page 14 for color stripe association.



MIL-C-24308

MINIATURE RECTANGULAR RACK AND PANEL REAR RELEASE CONTACTS

CONNECTOR PART NUMBER	DESCRIPTION	QPL SOURCES
M24308/2	POLARIZED SHELL SOCKET CONTACTS	ADI ELECTRONICS INC. AMPHENOL CORP. CW INDUSTRIES CINCH CONNECTOR CRISTEK INTERCONNECTS INC. FCI FRAMATONE GROUP GENERAL CONNECTOR CORP. GLASSEAL PRODUCTS INC. ITT CANNON POSITRONIC INDUSTRIES INC. TYCO ELECTRONICS
M24308/4	POLARIZED SHELL PIN CONTACTS	
M24308/6	POLARIZED SHELL SOCKET CONTACTS NON-MAGNETIC	
M24308/8	POLARIZED SHELL PIN CONTACTS NON-MAGNETIC	

CONTACTS	SIZE (AWG)		PIN/SOC.	PART NUMBER* (CURRENT)	PART NUMBER (SUPERSEDED)	WIRE RANGE
	MATING END	WIRE BARREL				
<p>TYPICAL CONTACT CONFIGURATION</p>	20	20	P	M39029/64-369	M24308/11-1	20-24
	20	20	S	M39029/63-368	M24308/10-1	20-24
	22	22D	P	M39029/58-360	M24308/13-1	22-28
	22	22D	S	M39029/57-354	M24308/12-1	22-28

TOOL SELECTION		CRIMP TOOL AND ACCESSORY					ASSEMBLY TOOLS	
BIN*	COLOR	AF8	AFM8	MH860	WA23 (POS)	WA23 (DIE)	INSTALLING	REMOVAL
369	ORANGE-BLUE-WHITE	TP585	K13-1	86-30-1			DAK145 or M81969/1-02	DRK145 or M81969/1-02
368	ORANGE-BLUE-GRAY	TP585	K13-1	86-30-1			DAK145 or M81969/1-02	DRK145 or M81969/1-02
360	ORANGE-BLUE-BLACK		K42	86-6			DAK95-22MB or M81969/1-04	DRK95-22MB or M81969/1-04
354	ORANGE-GREEN-YELLOW		K41	86-5			DAK95-22MB or M81969/1-04	DRK95-22MB or M81969/1-04

*The three number suffix on M39029 series contacts is referred to as a "BIN" code. See page 14 for color stripe association.



MIL-C-26482 SERIES 1

CIRCULAR BAYONET COUPLING FRONT RELEASE CONTACTS

CONNECTOR PART NUMBER	DESCRIPTION	QPL SOURCES
MS3120	WALL MOUNT FLANGE RECEPTACLE	AMPHENOL CONNECTORS ARRAY CONNECTORS CORP. FCI FRAMATONE GROUP ITT CANNON – ITT CANNON MEXICO VEAM
MS3121	CABLE CONNECTING PLUG	
MS3122	BOX MOUNT FLANGE RECEPTACLE	
MS3124	JAM NUT REAR MOUNT RECEPTACLE	
MS3126	STRAIGHT PLUG	
MS3127	BOX MOUNT FLANGE RECEPTACLE	
MS3128	WALL MOUNT FLANGE RECEPTACLE	

CONTACTS	SIZE (AWG)		PIN/SOC.	PART NUMBER* (CURRENT)	PART NUMBER (SUPERSEDED)	WIRE RANGE
	MATING END	WIRE BARREL				
<p>TYPICAL CONTACT CONFIGURATION</p>	12	12	P	M39029/31-234	MS3192-12-12A	12-14
	12	12	S	M39029/32-253	MS3193-12-12A	12-14
	16	16	P	M39029/31-228	MS3192-16-16A	16-20
	16	16	S	M39029/32-247	MS3193-16-16A	16-20
	20	20	P	M39029/31-240	MS3192-20A-20A	20-24
	20	20	S	M39029/32-259	MS3193-20A-20A	20-24

TOOL SELECTION		CRIMP TOOL AND ACCESSORY					ASSEMBLY TOOLS	
BIN*	COLOR	AF8	AFM8	MH860	WA23 (POS)	WA23 (DIE)	INSTALLING	REMOVAL
234	RED-ORANGE-YELLOW	TH1A					DAK12B	DRK12B
253	RED-GREEN-ORANGE	TH1A					DAK12B	DRK12B
228	RED-RED-GRAY	TH1A		86-2			DAK16B	DRK16B
247	RED-YELLOW-VIOLET	TH1A		86-2			DAK16B	DRK16B
240	RED-YELLOW-BLACK	TH1A	K1S	86-1S			DAK20B	DRK20B
259	RED-GREEN-WHITE	TH1A	K1S	86-1S			DAK20B	DRK20B

*The three number suffix on M39029 series contacts is referred to as a "BIN" code. See page 14 for color stripe association.



MIL-C-26482 SERIES 2

CIRCULAR BAYONET COUPLING REAR RELEASE CONTACTS

CONNECTOR PART NUMBER	DESCRIPTION	QPL SOURCES
MS3470	WALL MOUNT FLANGE RECEPTACLE	AERO ELECTRIC CONNECTOR, INC. AMPHENOL CONNECTORS DEUTSCH FCI ELECTRONICS ITT CANNON HERMETIC SEAL CORPORATION
MS3471	CABLE CONNECTING RECEPTACLE	
MS3472	WIDE FLANGE WALL MOUNT RECEPTACLE	
MS3474	JAM NUT RECEPTACLE	
MS3475	PLUG RFI	
MS3476	STRAIGHT PLUG	

CONTACTS	SIZE (AWG)		PIN/SOC.	PART NUMBER* (CURRENT)	PART NUMBER (SUPERSEDED)	WIRE RANGE
	MATING END	WIRE BARREL				
<p>TYPICAL CONTACT CONFIGURATION</p>	12	12	P	M39029/4-113	M39029/4-12-12	12-14
	12	12	S	M39029/5-118	M39029/5-12-12	12-14
	12	16	P	M39029/4-114	M39029/4-12-16	16-20
	12	16	S	M39029/5-119	M39029/5-12-16	16-20
	16	16	P	M39029/4-111	M39029/4-16-16	16-20
	16	16	S	M39029/5-116	M39029/5-16-16	16-20
	16	20	P	M39029/4-112	M39029/4-16-20	20-24
	16	20	S	M39029/5-117	M39029/5-16-20	20-24
	20	20	P	M39029/4-110	M39029/4-20-20	20-24
	20	20	S	M39029/5-115	M39029/5-20-20	20-24

TOOL SELECTION		CRIMP TOOL AND ACCESSORY					ASSEMBLY TOOLS	
BIN*	COLOR	AF8	AFM8	MH860	WA23 (POS)	WA23 (DIE)	INSTALLING	REMOVAL
113	BROWN-BROWN-ORANGE	TH1A					DAK83-12B	DRK83-12B
118	BROWN-BROWN-GRAY	TH1A					DAK83-12B	DRK83-12B
114	BROWN-BROWN-YELLOW	TH1A		86-2			DAK83-12B	DRK83-12B
119	BROWN-BROWN-WHITE	TH1A		86-2			DAK83-12B	DRK83-12B
111	BROWN-BROWN-BROWN	TH1A		86-2			DAK83-16B	DRK83-16B
116	BROWN-BROWN-BLUE	TH1A		86-2			DAK83-16B	DRK83-16B
112	BROWN-BROWN-RED	TH1A	K1S	86-2			DAK83-16B	DRK83-16B
117	BROWN-BROWN-VIOLET	TH1A	K1S	86-2			DAK83-16B	DRK83-16B
110	BROWN-BROWN-BLACK	TH1A	K1S	86-1S			DAK83-20B	DRK83-20B
115	BROWN-BROWN-GREEN	TH1A	K1S	86-1S			DAK83-20B	DRK83-20B

*The three number suffix on M39029 series contacts is referred to as a "BIN" code. See page 14 for color stripe association.



MIL-C-26500

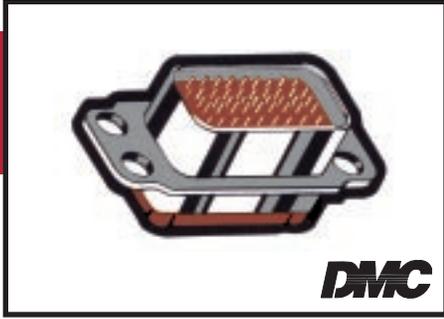
**CIRCULAR
THREADED OR BAYONET COUPLING
FRONT RELEASE CONTACTS**

CONNECTOR PART NUMBER	DESCRIPTION	QPL SOURCES
MS24264	FLANGE MOUNT RECEPTACLE	PYLE-NATIONAL CONNECTORS AERO ELECTRIC CONNECTOR, INC. RMS COMPANY CINCH CONNECTOR DIVISION AMPHENOL CONNECTORS HERMETIC SEAL CORPORATION AMERICAN MICRO PRODUCTS, INC.
MS24265	SINGLE HOLE MOUNT RECEPTACLE	
MS24266	STRAIGHT PLUG	
MS27613	WALL MOUNT RECEPTACLE	
MS27614	JAM NUT	
MS27615	PLUG	

CONTACTS	SIZE (AWG)		PIN/SOC.	PART NUMBER* (CURRENT)	PART NUMBER (SUPERSEDED)	WIRE RANGE
	MATING END	WIRE BARREL				
<p>TYPICAL CONTACT CONFIGURATION</p>	12	12	P	M39029/31-235	MS24254-12P	12-14
	12	12	S	M39029/32-254	MS24255-12S	12-14
	16	16	P	M39029/31-229	MS24254-16P	16-20
	16	16	S	M39029/32-248	MS24255-16S	16-20
	20	20	P	M39029/31-241	MS24254-20P	20-24
	20	20	S	M39029/32-260	MS24255-20S	20-24

TOOL SELECTION		CRIMP TOOL AND ACCESSORY					ASSEMBLY TOOLS	
BIN*	COLOR	AF8	AFM8	MH860	WA23 (POS)	WA23 (DIE)	INSTALLING	REMOVAL
235	RED-ORANGE-GREEN	TH1A					DAK12B	DRK12B
254	RED-GREEN-YELLOW	TH1A					DAK12B	DRK12B
229	RED-RED-WHITE	TH1A		86-2			DAK16B	DRK16B
248	RED-YELLOW-GRAY	TH1A		86-2			DAK16B	DRK16B
241	RED-YELLOW-BROWN	TH1A	K1S	86-1S			DAK20B	DRK20B
260	RED-BLUE-BLACK	TH1A	K1S	86-1S			DAK20B	DRK20B

*The three number suffix on M39029 series contacts is referred to as a "BIN" code. See page 14 for color stripe association.



MIL-C-26518 CLASS R

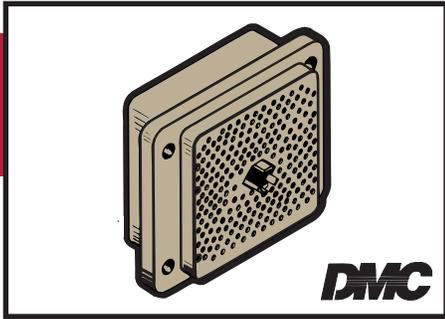
MINIATURE RECTANGULAR RACK AND PANEL FRONT RELEASE CONTACTS

CONNECTOR PART NUMBER	DESCRIPTION	QPL SOURCES
M24285	RECEPTACLE	AMPHENOL CONNECTORS
M24286	PLUG	

CONTACTS	SIZE (AWG)		PIN/SOC.	PART NUMBER* (CURRENT)	PART NUMBER (SUPERSEDED)	WIRE RANGE
	MATING END	WIRE BARREL				
<p>TYPICAL CONTACT CONFIGURATION</p>	12	12	P	M39029/31-235	MS24254-12P	12-14
	12	12	S	M39029/32-254	MS24255-12S	12-14
	16	16	P	M39029/31-229	MS24254-16P	16-20
	16	16	S	M39029/32-248	MS24255-16S	16-20
	20	20	P	M39029/31-241	MS24254-20P	20-24
	20	20	S	M39029/32-260	MS24255-20S	20-24

TOOL SELECTION		CRIMP TOOL AND ACCESSORY					ASSEMBLY TOOLS	
BIN*	COLOR	AF8	AFM8	MH860	WA23 (POS)	WA23 (DIE)	INSTALLING	REMOVAL
235	RED-ORANGE-GREEN	TH1A					DAK12B	DRK12B
254	RED-GREEN-YELLOW	TH1A					DAK12B	DRK12B
229	RED-RED-WHITE	TH1A		86-2			DAK16B	DRK16B
248	RED-YELLOW-GRAY	TH1A		86-2			DAK16B	DRK16B
241	RED-YELLOW-BROWN	TH1A	K1S	86-1S			DAK20B	DRK20B
260	RED-BLUE-BLACK	TH1A	K1S	86-1S			DAK20B	DRK20B

*The three number suffix on M39029 series contacts is referred to as a "BIN" code. See page 14 for color stripe association.



MIL-C-28748

RECTANGULAR RACK AND PANEL

CONNECTOR PART NUMBER	DESCRIPTION	QPL SOURCES
M28748/3	PIN CONTACTS SIZE 16 & 20	CONTINENTAL CONNECTOR CO. POSITRONIC INDUSTRIES, INC. WINCHESTER ELECTRONICS DELPHI CONNECTION SYSTEMS J-TECH, INC.
M28748/4	SKT CONTACTS SIZE 16 & 20	
M28748/9	PIN CONTACTS 16 POLARIZED CENTER SCREW LOCK	
M28748/10	SKT CONTACTS 16 POLARIZED CENTER SCREW LOCK	
M28748/13	PIN CONTACTS 22	
M28748/14	SKT CONTACTS 22	

CONTACTS	SIZE (AWG)		PIN/SOC.	PART NUMBER* (CURRENT)	PART NUMBER (SUPERSEDED)	WIRE RANGE
	MATING END	WIRE BARREL				
<p>TYPICAL CONTACT CONFIGURATION</p>	16	16	P	M39029/36-278	MS17807-16-16	16-20
	16	16	S	M39029/37-280	MS17808-16-16	16-20
	16	20	P	M39029/36-277	MS17807-16-20	20-24
	16	20	S	M39029/37-279	MS17808-16-20	20-24
	16	16	P	M39029/34-273	MS17803-16-16	16-20
	16	16	S	M39029/35-276	MS17804-16-16	16-20
	16	20	P	M39029/34-272	MS17803-16-20	20-24
	16	20	S	M39029/35-275	MS17804-16-20	20-24
	20	20	P	M39029/34-271	MS17803-20-20	20-24
	20	20	S	M39029/35-274	MS17804-20-20	20-24
	22	22	P	M39029/34-440	M39029/34-22-22	22-26
	22	22	S	M39029/35-441	M39029/35-22-22	22-26

TOOL SELECTION		CRIMP TOOL AND ACCESSORY					ASSEMBLY TOOLS	
BIN*	COLOR	AF8	AFM8	MH860	WA23 (POS)	WA23 (DIE)	INSTALLING	REMOVAL
278	RED-VIOLET-GRAY	TH4					DAK123A	DRK124A
280	RED-GRAY-BLACK	TH4					DAK123A	DRK124A
277	RED-VIOLET-VIOLET	TH4					DAK123A	DRK124A
279	RED-VIOLET-WHITE	TH4					DAK123A	DRK124A
273	RED-VIOLET-ORANGE	TH4		86-146			DAK123A	DRK124A
276	RED-VIOLET-BLUE	TH4		86-146			DAK123A	DRK124A
272	RED-VIOLET-RED	TH4		86-146			DAK123A	DRK124A
275	RED-VIOLET-GREEN	TH4		86-146			DAK123A	DRK124A
271	RED-VIOLET-BROWN	TH4		86-146			DAK123A	DRK124A
274	RED-VIOLET-YELLOW	TH4		86-146			DAK123A	DRK124A
440	YELLOW-YELLOW-BLACK		K280				DAK123-22A	DRK124-22A
441	YELLOW-YELLOW-BROWN		K280				DAK123-22A	DRK124-22A

*The three number suffix on M39029 series contacts is referred to as a "BIN" code. See page 14 for color stripe association.



MIL-C-38300

**CIRCULAR
THREADED OR BAYONET COUPLING
FRONT RELEASE CONTACTS**

CONNECTOR PART NUMBER	DESCRIPTION	QPL SOURCES
MS24264	FLANGE MOUNT RECEPTACLE	NO QPL SOURCES
MS24265	SINGLE HOLE MOUNT RECEPTACLE	
MS24266	STRAIGHT PLUG	

CONTACTS	SIZE (AWG)		PIN/SOC.	PART NUMBER* (CURRENT)	PART NUMBER (SUPERSEDED)	WIRE RANGE
	MATING END	WIRE BARREL				
<p>TYPICAL CONTACT CONFIGURATION</p>	16	16	P	M39029/31-229	MS24254-16P	16-20
	16	16	S	M39029/32-248	MS24255-16S	16-20
	20	20	P	M39029/31-241	MS24254-20P	20-24
	20	20	S	M39029/32-260	MS24255-20S	20-24

TOOL SELECTION		CRIMP TOOL AND ACCESSORY					ASSEMBLY TOOLS	
BIN*	COLOR	AF8	AFM8	MH860	WA23 (POS)	WA23 (DIE)	INSTALLING	REMOVAL
229	RED-RED-WHITE	TH1A		86-2			DAK16B	DHK16B
248	RED-YELLOW-GRAY	TH1A		86-2			DAK16B	DHK16B
241	RED-YELLOW-BROWN	TH1A	K1S	86-1S			DAK20B	DHK20B
260	RED-BLUE-BLACK	TH1A	K1S	86-1S			DAK20B	DHK20B

*The three number suffix on M39029 series contacts is referred to as a "BIN" code. See page 14 for color stripe association.



MIL-C-28840

**CIRCULAR – THREADED COUPLING
FRONT RELEASE CONTACTS
HIGH DENSITY – HIGH SHOCK**

CONNECTOR PART NUMBER	DESCRIPTION	QPL SOURCES
M28840/10	WALL MOUNT RECEPTACLE	GLENAIR, INC. ITT CANNON DELPHI CONNECTION SYSTEMS
M28840/11	CABLE CONNECTING RECEPTACLE	
M28840/12	BOX MOUNT RECEPTACLE	
M28840/14	JAM NUT MOUNT RECEPTACLE	
M28840/16	STRAIGHT PLUG	
M28840/17	PLUG OPEN WIRE ASSEMBLY	
M28840/18	PLUG OPEN WIRE ASSEMBLY 90° ELBOW	
M28840/19	PLUG OPEN WIRE ASSEMBLY 45° ELBOW	
M28840/20	WALL MOUNT ASSEMBLY STRAIGHT	
M28840/21	CABLE CONVERTING ASSEMBLY STRAIGHT	
M28840/26	PLUG ASSEMBLY STRAIGHT	
M28840/28	PLUG ASSEMBLY 90° ELBOW	
M28840/29	PLUG ASSEMBLY 45° ELBOW	

CONTACTS	SIZE (AWG)		PIN/SOC.	PART NUMBER* (CURRENT)	PART NUMBER (SUPERSEDED)	WIRE RANGE
	MATING END	WIRE BARREL				
<p>TYPICAL CONTACT CONFIGURATION</p>	20	20	P	M39029/83-508	M39029/83-20-20	20-24
	20	20	S	M39029/84-509	M39029/84-20-20	20-24
	20	22	P	M39029/83-450	M39029/83-20-22	22-26
	20	22	S	M39029/84-452	M39029/84-20-22	22-26
	20	28	P	M39029/83-451	M39029/83-20-28	28-32
	20	28	S	M39029/84-453	M39029/84-20-28	28-32

TOOL SELECTION		CRIMP TOOL AND ACCESSORY				ASSEMBLY TOOLS	
BIN*	COLOR	AF8	AFM8	MH860	39-000	INSTALLING	REMOVAL
508	GREEN-BLACK-GRAY		K534		39-102	DAK55-22SA (STRAIGHT)	DRK56-22A
509	GREEN-BLACK-WHITE		K534		39-102	DAK55-22JA (OFFSET)	DRK56-22A
450	YELLOW-GREEN-BLACK		K534		39-102	DAK55-22SA (STRAIGHT)	DRK56-22A
452	YELLOW-GREEN-RED		K534		39-102	DAK55-22JA (OFFSET)	DRK56-22A
451	YELLOW-GREEN-BROWN		K534		39-102	DAK55-22SA (STRAIGHT)	DRK56-22A
453	YELLOW-GREEN-ORANGE		K534		39-102	DAK55-22JA (OFFSET)	DRK56-22A

*The three number suffix on M39029 series contacts is referred to as a "BIN" code. See page 14 for color stripe association.



MIL-C-38999 SERIES 1

SCOOP PROOF – CIRCULAR BAYONET COUPLING REAR RELEASE CONTACTS

CONNECTOR PART NUMBER	DESCRIPTION	QPL SOURCES
MS27466	WALL MOUNT FLANGE RECEPTACLE	AMPHENOL CONNECTORS AERO ELECTRIC CONNECTOR INC. PYLE-NATIONAL CONNECTORS SOCAPEX DEUTSCH FCI ELECTRONICS ITT CANNON VEAM AMERICAN MICRO PRODUCTS, INC. GLENAIR INC. HERMETIC SEAL CORPORATION HI REL CONNECTORS INC. SEALTRON INC.
MS27467	STRAIGHT PLUG	
MS27468	JAM NUT MOUNT RECEPTACLE	
MS27496	RECEPTACLE	
MS27505	BOX MOUNT FLANGE RECEPTACLE	
MS27656	BACK PANEL WALL MOUNT RECEPTACLE	

CONTACTS	SIZE (AWG)		PIN/SOC.	PART NUMBER* (CURRENT)	PART NUMBER (SUPERSEDED)	WIRE RANGE
	MATING END	WIRE BARREL				
<p>TYPICAL CONTACT CONFIGURATION</p>	12	12	P	M39029/58-365	MS27493-12	12-14
	12	12	S	M39029/56-353	MS27490-12	12-14
	16	16	P	M39029/58-364	MS27493-16	16-20
	16	16	S	M39029/56-352	MS27490-16	16-20
	20	20	P	M39029/58-363	MS27493-20	20-24
	20	20	S	M39029/56-351	MS27490-20	20-24
	22	22	P	M39029/58-362	MS27493-22	22-26
	22	22	S	M39029/56-350	MS27490-22	22-26
	22	22M	P	M39029/58-361	MS27493-22M	24-28
	22	22M	S	M39029/56-349	MS27490-22M	24-28
	22	22D	P	M39029/58-360	MS27493-22D	22-28
	22	22D	S	M39029/56-348	MS27490-22D	22-28
	10	10	P	M39029/58-528	—	10
	10	10	S	M39029/56-527	—	10

TOOL SELECTION		CRIMP TOOL AND ACCESSORY					ASSEMBLY TOOLS	
BIN*	COLOR	AF8	AFM8	MH860	WA23 (POS)	WA23 (DIE)	INSTALLING	REMOVAL
365	ORANGE-BLUE-GREEN	TH163					DAK95-12B	DRK95-12B
353	ORANGE-GREEN-ORANGE	TH163					DAK95-12B	DRK95-12B
364	ORANGE-BLUE-YELLOW	TH163		86-3			DAK95-16B	DRK95-16B
352	ORANGE-GREEN-RED	TH163		86-3			DAK95-16B	DRK95-16B
363	ORANGE-BLUE-ORANGE	TH163	K43	86-7			DAK95-20B	DRK95-20B
351	ORANGE-GREEN-BROWN	TH163	K43	86-7			DAK95-20B	DRK95-20B
362	ORANGE-BLUE-RED		K42	86-6			DAK95-22B	DRK95-22B
350	ORANGE-GREEN-BLACK		K40	86-4			DAK95-22B	DRK95-22B
361	ORANGE-BLUE-BROWN		K42	86-6			DAK95-22MB	DRK95-22MB
349	ORANGE-YELLOW-WHITE		K40	86-4			DAK95-22MB	DRK95-22MB
360	ORANGE-BLUE-BLACK		K42	86-6			DAK95-22MB	DRK95-22MB
348	ORANGE-YELLOW-GRAY		K40	86-4			DAK95-22MB	DRK95-22MB
528	GREEN-RED-GRAY	1716P-1 (Complete Tool)					DAK95-10B	DRK95-10B
527	GREEN-RED-VIOLET	1716P-1 (Complete Tool)					DAK95-10B	DRK95-10B

*The three number suffix on M39029 series contacts is referred to as a "BIN" code. See page 14 for color stripe association.



MIL-C-38999 SERIES 2

**LOW SILHOUETTE – CIRCULAR
BAYONET COUPLING
REAR RELEASE CONTACTS**

CONNECTOR PART NUMBER	DESCRIPTION	QPL SOURCES
MS27472	WALL MOUNT FLANGE RECEPTACLE	AERO ELECTRIC CONNECTOR INC. AMPHENOL CONNECTOR HI REL CONNECTORS INC. ITT CANNON FCI ELECTRONICS AMERICAN MICRO PRODUCTS, INC. GLENAIR INC. HERMETIC SEAL CORPORATION SEALTRON INC. VEAM
MS27473	STRAIGHT PLUG	
MS27474	JAM NUT MOUNT RECEPTACLE	
MS27499	BOX MOUNT RECEPTACLE	
MS27508	BOX MOUNT FLANGE RECEPTACLE	
MS27497	BACK PANEL WALL MOUNT RECEPTACLE	
MS27484	RFI PLUG	

CONTACTS	SIZE (AWG)		PIN/SOC.	PART NUMBER* (CURRENT)	PART NUMBER (SUPERSEDED)	WIRE RANGE
	MATING END	WIRE BARREL				
<p>TYPICAL CONTACT CONFIGURATION</p>	12	12	P	M39029/58-365	MS27493-12	12-14
	12	12	S	M39029/57-359	MS27491-12	12-14
	16	16	P	M39029/58-364	MS27493-16	16-20
	16	16	S	M39029/57-358	MS27491-16	16-20
	20	20	P	M39029/58-363	MS27493-10	20-24
	20	20	S	M39029/57-357	MS27491-20	20-24
	22	22	P	M39029/58-362	MS27493-22	22-26
	22	22	S	M39029/57-356	MS27491-22	22-26
	22	22M	P	M39029/58-361	MS27493-22M	24-28
	22	22M	S	M39029/57-355	MS27491-22M	24-28
	22	22D	P	M39029/58-360	MS27493-22D	22-28
	22	22D	S	M39029/57-354	MS27491-22D	22-28

TOOL SELECTION		CRIMP TOOL AND ACCESSORY					ASSEMBLY TOOLS	
BIN*	COLOR	AF8	AFM8	MH860	WA23 (POS)	WA23 (DIE)	INSTALLING	REMOVAL
365	ORANGE-BLUE-GREEN	TH163					DAK95-12B	DRK95-12B
359	ORANGE-GREEN-WHITE	TH163					DAK95-12B	DRK95-12B
364	ORANGE-BLUE-YELLOW	TH163		86-3			DAK95-16B	DRK95-16B
358	ORANGE-GREEN-GRAY	TH163		86-3			DAK95-16B	DRK95-16B
363	ORANGE-BLUE-ORANGE	TH163	K43	86-7			DAK95-20B	DRK95-20B
357	ORANGE-GREEN-VIOLET	TH163	K43	86-7			DAK95-20B	DRK95-20B
362	ORANGE-BLUE-RED		K42	86-6			DAK95-22B	DRK95-22B
356	ORANGE-GREEN-BLUE		K41	86-5			DAK95-22B	DRK95-22B
361	ORANGE-BLUE-BROWN		K42	86-6			DAK95-22MB	DRK95-22MB
355	ORANGE-GREEN-GREEN		K41	86-5			DAK95-22MB	DRK95-22MB
360	ORANGE-BLUE-BLACK		K42	86-6			DAK95-22MB	DRK95-22MB
354	ORANGE-GREEN-YELLOW		K41	86-5			DAK95-22MB	DRK95-22MB

*The three number suffix on M39029 series contacts is referred to as a "BIN" code. See page 14 for color stripe association.



MIL-C-38999 SERIES 3

TRI-START COUPLING CIRCULAR REAR RELEASE CONTACTS

CONNECTOR PART NUMBER	DESCRIPTION	QPL SOURCES
D38999/20	WALL MOUNT FLANGE RECEPTACLE	AERO ELECTRIC CONNECTOR INC. AMPHENOL CONNECTORS PYLE-NATIONAL CONNECTORS DEUTSCH FCI ELECTRONICS HI REL CONNECTORS INC. ITT CANNON VEAM G&H TECHNOLOGY INC. AMERICAN MICRO PRODUCTS, INC. HERMETIC SEAL CORPORATION SEALTRON INC.
D38999/24	JAM NUT MOUNT RECEPTACLE	
D38999/26	STRAIGHT PLUG	

CONTACTS	SIZE (AWG)		PIN/SOC.	PART NUMBER* (CURRENT)	PART NUMBER (SUPERSEDED)	WIRE RANGE
	MATING END	WIRE BARREL				
<p>TYPICAL CONTACT CONFIGURATION</p>	12	12	P	M39029/58-365	MS27493-12	12-14
	12	12	S	M39029/56-353	MS27490-12	12-14
	16	16	P	M39029/58-364	MS27493-16	16-20
	16	16	S	M39029/56-352	MS27490-16	16-20
	20	20	P	M39029/58-363	MS27493-20	20-24
	20	20	S	M39029/56-351	MS27490-20	20-24
	22	22	P	M39029/58-362	MS27493-22	22-26
	22	22	S	M39029/56-350	MS27490-22	22-26
	22	22M	P	M39029/58-361	MS27493-22M	24-28
	22	22M	S	M39029/56-349	MS27490-22M	24-28
	22	22D	P	M39029/58-360	MS27493-22D	22-28
	22	22D	S	M39029/56-348	MS27490-22D	22-28
	10	10	P	M39029/58-528	—	10
	10	10	S	M39029/56-527	—	10

TOOL SELECTION		CRIMP TOOL AND ACCESSORY					ASSEMBLY TOOLS		
BIN*	COLOR	AF8	AFM8	MH860	WA23 (POS)	WA23 (DIE)	INSTALLING	REMOVAL	
365	ORANGE-BLUE-GREEN	TH163					DAK95-12B	DRK95-12B	
353	ORANGE-GREEN-ORANGE	TH163					DAK95-12B	DRK95-12B	
364	ORANGE-BLUE-YELLOW	TH163		86-3			DAK95-16B	DRK95-16B	
352	ORANGE-GREEN-RED	TH163		86-3			DAK95-16B	DRK95-16B	
363	ORANGE-BLUE-ORANGE	TH163	K43	86-7			DAK95-20B	DRK95-20B	
351	ORANGE-GREEN-BROWN	TH163	K43	86-7			DAK95-20B	DRK95-20B	
362	ORANGE-BLUE-RED		K42	86-6			DAK95-22B	DRK95-22B	
350	ORANGE-GREEN-BLACK		K40	86-4			DAK95-22B	DRK95-22B	
361	ORANGE-BLUE-BROWN		K42	86-6			DAK95-22MB	DRK95-22MB	
349	ORANGE-YELLOW-WHITE		K40	86-4			DAK95-22MB	DRK95-22MB	
360	ORANGE-BLUE-BLACK		K42	86-6			DAK95-22MB	DRK95-22MB	
348	ORANGE-YELLOW-GRAY		K40	86-4			DAK95-22MB	DRK95-22MB	
528	GREEN-RED-GRAY	1716P-1 (Complete Tool)						DAK95-10B	DRK95-10B
527	GREEN-RED-VIOLET	1716P-1 (Complete Tool)						DAK95-10B	DRK95-10B

MIL-STD-1760 CRIMP TOOLS	M39029/90-529	PIN	INNER CONTACT	AFM8 TOOL K709 POS.	INTERMEDIATE AND OUTER	HX4 TOOL Y631 DIE
	M39029/91-530	SOC				

*The three number suffix on M39029 series contacts is referred to as a "BIN" code. See page 14 for color stripe association.



MIL-C-38999 SERIES 4

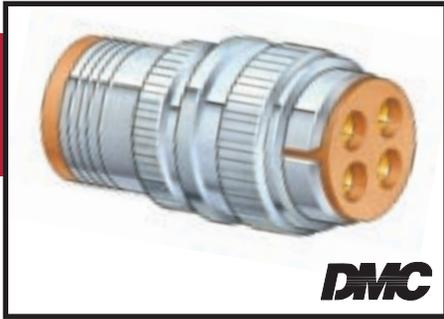
BREECH LOCK COUPLING CIRCULAR REAR RELEASE CONTACTS

CONNECTOR PART NUMBER	DESCRIPTION	QPL SOURCES
D38999/40	WALL MOUNT FLANGE RECEPTACLE	DEUTSCH G&H TECHNOLOGY INC.
D38999/42	BOX MOUNT FLANGE RECEPTACLE	
D38999/44	JAM NUT MOUNT RECEPTACLE	
D38999/46	STRAIGHT PLUG	

CONTACTS	SIZE (AWG)		PIN/SOC.	PART NUMBER* (CURRENT)	PART NUMBER (SUPERSEDED)	WIRE RANGE
	MATING END	WIRE BARREL				
<p>TYPICAL CONTACT CONFIGURATION</p>	12	12	P	M39029/58-365	MS27493-12	12-14
	12	12	S	M39029/56-353	MS27490-12	12-14
	16	16	P	M39029/58-364	MS27493-16	16-20
	16	16	S	M39029/56-352	MS27490-16	16-20
	20	20	P	M39029/58-363	MS27493-20	20-24
	20	20	S	M39029/56-351	MS27490-20	20-24
	22	22	P	M39029/58-362	MS27493-22	22-26
	22	22	S	M39029/56-350	MS27490-22	22-26
	22	22M	P	M39029/58-361	MS27493-22M	24-28
	22	22M	S	M39029/56-349	MS27490-22M	24-28
	22	22D	P	M39029/58-360	MS27493-22D	22-28
	22	22D	S	M39029/56-348	MS27490-22D	22-28

TOOL SELECTION		CRIMP TOOL AND ACCESSORY					ASSEMBLY TOOLS	
BIN*	COLOR	AF8	AFM8	MH860	WA23 (POS)	WA23 (DIE)	INSTALLING	REMOVAL
365	ORANGE-BLUE-GREEN	TH163					DAK95-12B	DRK95-12B
353	ORANGE-GREEN-ORANGE	TH163					DAK95-12B	DRK95-12B
364	ORANGE-BLUE-YELLOW	TH163		86-3			DAK95-16B	DRK95-16B
352	ORANGE-GREEN-RED	TH163		86-3			DAK95-16B	DRK95-16B
363	ORANGE-BLUE-ORANGE	TH163	K43	86-7			DAK95-20B	DRK95-20B
351	ORANGE-GREEN-BROWN	TH163	K43	86-7			DAK95-20B	DRK95-20B
362	ORANGE-BLUE-RED		K42	86-6			DAK95-22B	DRK95-22B
350	ORANGE-GREEN-BLACK		K40	86-4			DAK95-22B	DRK95-22B
361	ORANGE-BLUE-BROWN		K42	86-6			DAK95-22MB	DRK95-22MB
349	ORANGE-YELLOW-WHITE		K40	86-4			DAK95-22MB	DRK95-22MB
360	ORANGE-BLUE-BLACK		K42	86-6			DAK95-22MB	DRK95-22MB
348	ORANGE-YELLOW-GRAY		K40	86-4			DAK95-22MB	DRK95-22MB

*The three number suffix on M39029 series contacts is referred to as a "BIN" code. See page 14 for color stripe association.



MIL-C-5015 SERIES 3400

CIRCULAR THREADED COUPLING FRONT RELEASE CONTACTS

CONNECTOR PART NUMBER	DESCRIPTION	QPL SOURCES
MS3400	WALL MOUNT RECEPTACLE	AERO-ELECTRIC CONNECTORS J-TECH, INC. ELECSYS, INC.
MS3401	CABLE CONNECTING RECEPTACLE	
MS3402	BOX MOUNT RECEPTACLE	
MS3404	JAM NUT MOUNT RECEPTACLE	
MS3406	STRAIGHT PLUG	
MS3408	PLUG 90°	
MS3409	PLUG 45°	
MS3412	WALL MOUNT RECEPTACLE (AN TYPE)	

CONTACTS	SIZE (AWG)		PIN/SOC.	PART NUMBER* (CURRENT)	PART NUMBER (SUPERSEDED)	WIRE RANGE
	MATING END	WIRE BARREL				
<p>TYPICAL CONTACT CONFIGURATION</p>	0	0	P	M39029/44-293	MS90453-0-0	0-2*
	0	0	S	M39029/45-300	MS90454-0-0	0-2*
	4	4	P	M39029/44-292	MS90453-4-0	4-6*
	4	4	S	M39029/45-299	MS90454-4-0	4-6*
	8	8	P	M39029/44-291	MS90453-8-0	8-10*
	8	8	S	M39029/45-298	MS90454-8-0	8-10*
	12	12	P	M39029/44-290	MS90453-12-12	12-14
	12	12	S	M39029/45-297	MS90454-12-12	12-14
	12	16	P	M39029/44-289	MS90453-12-16	16-20
	12	16	S	M39029/45-296	MS90454-12-16	16-20
	16	16	P	M39029/44-288	MS90453-16-16	16-20
	16	16	S	M39029/45-295	MS90454-16-16	16-20
	16	22	P	M39029/44-287	MS90453-16-22	22-26
	16	22	S	M39029/45-294	MS90454-16-22	22-26

*NOTE: 2 AWG, 6 AWG and 10 AWG requires reducing sleeve MS3348 (**)

TOOL SELECTION		CRIMP TOOL AND ACCESSORY					ASSEMBLY TOOLS	
BIN*	COLOR	AF8	AFM8	MH860	WA23 (POS)	WA23 (DIE)	INSTALLING	REMOVAL
293	RED-WHITE-ORANGE				WA23-5	WA23-13	DAK55-0B	DRK56-0B
300	ORANGE-BLACK-BLACK				WA23-5	WA23-13	DAK55-0B	DRK56-0B
292	RED-WHITE-RED				WA23-4	WA23-11	DAK55-4B	DRK56-4B
299	RED-WHITE-WHITE				WA23-4	WA23-11	DAK55-4B	DRK56-4B
291	RED-WHITE-BROWN				WA23-2	WA23-9	DAK55-8B	DRK56-8B
298	RED-WHITE-GRAY	TH1A			WA23-2	WA23-9	DAK55-8B	DRK56-8B
290	RED-WHITE-BLACK	TH1A					DAK55-12A	DRK56-12A
297	RED-WHITE-VIOLET	TH1A					DAK55-12A	DRK56-12A
289	RED-GRAY-WHITE	TH1A					DAK55-12A	DRK56-12A
296	RED-WHITE-BLUE	TH1A					DAK55-12A	DRK56-12A
288	RED-GRAY-GRAY	TH1A		86-2			DAK55-16A	DRK56-16A
295	RED-WHITE-GREEN	TH1A		86-2			DAK55-16A	DRK56-16A
287	RED-GRAY-VIOLET	TH1A		86-2			DAK55-16A	DRK56-16A
294	RED-WHITE-YELLOW	TH1A		86-2			DAK55-16A	DRK56-16A

*The three number suffix on M39029 series contacts is referred to as a "BIN" code. See page 14 for color stripe association.



MIL-C-5015G

SERIES 3450

CIRCULAR THREADED COUPLING REAR RELEASE CONTACTS

CONNECTOR PART NUMBER	DESCRIPTION	QPL SOURCES
MS3450	WALL MOUNT RECEPTACLE	AERO-ELECTRIC CONNECTORS ITT CANNON J-TECH, INC. AMPHENOL CONNECTORS ELECSYS, INC.
MS3451	CABLE CONNECTING RECEPTACLE	
MS3452	BOX MOUNT RECEPTACLE	
MS3454	JAM NUT MOUNT RECEPTACLE	
MS3456	STRAIGHT PLUG	
MS3459	SELF-LOCK COUPLING PLUG	

CONTACTS	SIZE (AWG)		PIN/SOC.	PART NUMBER* (CURRENT)	PART NUMBER (SUPERSEDED)	WIRE RANGE
	MATING END	WIRE BARREL				
<p>TYPICAL CONTACT CONFIGURATION</p>	12	12	P	M39029/29-213	M39029/29-12-12	12-14
	12	12	P	—	OR MS3162-12-12	12-14
	12	12	S	M39029/30-219	M39029/30-12-12	12-14
	12	12	S	—	OR MS3163-12-12	12-14
	16	16	P	M39029/29-212	M39029/29-16-16	16-20
	16	16	P	—	OR MS3162-16-16	16-20
	16	16	S	M39029/30-218	M39029/30-16-16	16-20
	16	16	S	—	OR MS3163-16-16	16-20
	8	8	P	M39029/29-214	M39029/29-8-8	8
	8	8	S	M39029/30-220	M39029/30-8-8	8
	4	4	P	M39029/29-215	M39029/29-4-4	4
	4	4	S	M39029/30-221	M39029/30-4-4	4
	0	0	P	M39029/29-216	M39029/29-0-0	0
	0	0	S	M39029/30-222	M39029/30-0-0	0

TOOL SELECTION		CRIMP TOOL AND ACCESSORY					ASSEMBLY TOOLS	
BIN*	COLOR	AF8	AFM8	MH860	WA23 (POS)	WA23 (DIE)	INSTALLING	REMOVAL
213	RED-BROWN-ORANGE	TH1A TH1A					DAK83-12B DAK83-12B	DRK83-12B DRK83-12B
219	RED-BROWN-WHITE	TH1A TH1A					DAK83-12B DAK83-12B	DRK83-12B DRK83-12B
212 —	RED-BROWN-RED	TH1A TH1A		86-2 86-2			DAK83-16B DAK83-16B	DRK83-16B DRK83-16B
218 —	RED-BROWN-GRAY	TH1A TH1A		86-2 86-2			DAK83-16B DAK83-16B	DRK83-16B DRK83-16B
214 220	RED-BROWN-YELLOW RED-RED-BLACK				WA23-9 WA23-9	WA23-2 WA23-2	— —	DRK250-8 OR M81969/14-06 DRK250-8 OR M81969/14-06
215 221	RED-BROWN-GREEN RED-RED-BROWN				WA23-11 WA23-11	WA23-4 WA23-4	— —	DRK250-4 OR M81969/14-07 DRK250-4 OR M81969/14-07
216 222	RED-BROWN-BLUE RED-RED-RED				WA23-13 WA23-13	WA23-5 WA23-5	— —	DRK250-0 OR M81969/14-08 DRK250-0 OR M81969/14-08

*The three number suffix on M39029 series contacts is referred to as a "BIN" code. See page 14 for color stripe association.



MIL-C-81511 SERIES 1

**SCOOP PROOF – CIRCULAR
BAYONET COUPLING
FRONT RELEASE CONTACTS**

CONNECTOR PART NUMBER	DESCRIPTION	QPL SOURCES
M81511/21	FLANGE MOUNT RECEPTACLE	AMPHENOL CONNECTORS
M81511/35	FLANGE MOUNT RECEPTACLE	
M81511/23	JAM NUT RECEPTACLE	
M81511/36	JAM NUT RECEPTACLE	
M81511/25	CABLE CONNECTING RECEPTACLE	
M81511/37	CABLE CONNECTING RECEPTACLE	
M81511/26	STRAIGHT PLUG	
M81511/38	STRAIGHT PLUG	

CONTACTS	SIZE (AWG)		PIN/SOC.	PART NUMBER* (CURRENT)	PART NUMBER (SUPERSEDED)	WIRE RANGE
	MATING END	WIRE BARREL				
<p>TYPICAL CONTACT CONFIGURATION</p>	12	12	P	M39029/47-338	MS90461A12-12	12-14
	12	12	P	M39029/47-339	OR MS90461B12-12	12-14
	12	12	S	M39029/33-269	MS3343A12-12	12-14
	12	12	S	M39029/33-270	OR MS3343B12-12	12-14
	16	16	P	M39029/47-336	MS90461A16-16	16-20
	16	16	P	M39029/47-337	OR MS90461B16-16	16-20
	16	16	S	M39029/33-267	MS3343A16-16	16-20
	16	16	S	M39029/33-268	OR MS3343B16-16	16-20
	20	20	P	M39029/47-315	MS90461A20-20	20-24
	20	20	P	M39029/47-316	OR MS90461B20-20	20-24
	20	20	S	M39029/33-265	MS3343A20-20	20-24
	20	20	S	M39029/33-266	OR MS3343B20-20	20-24
	23	22	P	M39029/47-313	MS90461A23-22	22-26
	23	22	P	M39029/47-314	OR MS90461B23-22	22-26
	23	22	S	M39029/33-263	MS3343A23-22	22-26
	23	22	S	M39029/33-264	OR MS3343B23-22	22-26
	23	28	P	M39029/47-311	MS90461A23-28	28-32
	23	28	P	M39029/47-312	OR MS90461B23-28	28-32
23	28	S	M39029/33-261	MS3343A23-28	28-32	
23	28	S	M39029/33-262	OR MS3343B23-28	28-32	

TOOL SELECTION		CRIMP TOOL AND ACCESSORY					ASSEMBLY TOOLS	
BIN*	COLOR	AF8	AFM8	MH860	WA23 (POS)	WA23 (DIE)	INSTALLING	REMOVAL
338	ORANGE-ORANGE-GRAY	TH199S					DAK126-12A	DRK125-12A
339	ORANGE-ORANGE-WHITE	TH199S					DAK126-12A	DRK125-12A
269	RED-BLUE-WHITE	TH199S					DAK126-12A	DRK129-12A
270	RED-VIOLET-BLACK	TH199S					DAK126-12A	DRK129-12A
336	ORANGE-ORANGE-BLUE	TH199S		86-12S			DAK126-16A	DRK125-16A
337	ORANGE-ORANGE-VIOLET	TH199S		86-12S			DAK126-16A	DRK125-16A
267	RED-BLUE-VIOLET	TH199S		86-12S			DAK126-16A	DRK129-16A
268	RED-BLUE-GRAY	TH199S		86-12S			DAK126-16A	DRK129-16A
315	ORANGE-BROWN-GREEN	TH199S		86-11S			DAK126-20A	DRK125-20A
316	ORANGE-BROWN-BLUE	TH199S		86-11S			DAK126-20A	DRK125-20A
265	RED-BLUE-GREEN	TH199S		86-11S			DAK126-20A	DRK129-20A
266	RED-BLUE-BLUE	TH199S		86-11S			DAK126-20A	DRK129-20A
313	ORANGE-BROWN-ORANGE		K60S				DAK126-23A	DRK125-23A
314	ORANGE-BROWN-YELLOW		K60S				DAK126-23A	DRK125-23A
263	RED-BLUE-ORANGE		K60S				DAK126-23A	DRK129-23A
264	RED-BLUE-YELLOW		K60S				DAK126-23A	DRK129-23A
311	ORANGE-BROWN-BROWN		K60S				DAK126-23A	DRK125-23A
312	ORANGE-BROWN-RED		K60S				DAK126-23A	DRK125-23A
261	RED-BLUE-BROWN		K60S				DAK126-23A	DRK129-23A
262	RED-BLUE-RED		K60S				DAK126-23A	DRK129-23A

*The three number suffix on M39029 series contacts is referred to as a "BIN" code. See page 14 for color stripe association.



MIL-C-81511 SERIES 2

**50% SCOOP PROOF – CIRCULAR
BAYONET COUPLING
FRONT RELEASE CONTACTS**

CONNECTOR PART NUMBER	DESCRIPTION	QPL SOURCES
M81511/1	FLANGE MOUNT RECEPTACLE	AMPHENOL CONNECTORS
M81511/31	FLANGE MOUNT RECEPTACLE	
M81511/3	JAM NUT MOUNT RECEPTACLE	
M81511/32	JAM NUT MOUNT RECEPTACLE	
M81511/5	CABLE CONNECTING RECEPTACLE	
M81511/33	CABLE CONNECTING RECEPTACLE	
M81511/6	STRAIGHT PLUG	
M81511/34	STRAIGHT PLUG	

CONTACTS	SIZE (AWG)		PIN/SOC.	PART NUMBER* (CURRENT)	PART NUMBER (SUPERSEDED)	WIRE RANGE
	MATING END	WIRE BARREL				
<p>TYPICAL CONTACT CONFIGURATION</p>	12	12	P	M39029/47-338	MS90461A12-12	12-14
	12	12	P	M39029/47-339	OR MS90461A12-12	12-14
	12	12	S	M39029/46-309	MS90460A12-12	12-14
	12	12	S	M39029/46-310	OR MS90460B12-12	12-14
	16	16	P	M39029/47-336	MS90461A16-16	16-20
	16	16	P	M39029/47-337	OR MS90461B16-16	16-20
	16	16	S	M39029/46-307	MS90460A16-16	16-20
	16	16	S	M39029/46-308	OR MS90460B16-16	16-20
	20	20	P	M39029/47-315	MS90461A20-20	20-24
	20	20	P	M39029/47-316	OR MS90461B20-20	20-24
	20	20	S	M39029/46-305	MS90460A20-20	20-24
	20	20	S	M39029/46-306	OR MS90460B20-20	20-24
	23	22	P	M39029/47-313	MS90461A23-22	22-26
	23	22	P	M39029/47-314	OR MS90461B23-22	22-26
	23	22	S	M39029/46-303	MS90460A23-22	22-26
	23	22	S	M39029/46-304	OR MS90460B23-22	22-26
	23	28	P	M39029/47-311	MS90461A23-28	28-32
	23	28	P	M39029/47-312	OR MS90461B23-28	28-32
23	28	S	M39029/46-301	MS90460A23-28	28-32	
23	28	S	M39029/46-302	OR MS90460B23-28	28-32	

TOOL SELECTION		CRIMP TOOL AND ACCESSORY					ASSEMBLY TOOLS	
BIN*	COLOR	AF8	AFM8	MH860	WA23 (POS)	WA23 (DIE)	INSTALLING	REMOVAL
338	ORANGE-ORANGE-GRAY	TH199S					DAK126-12A	DRK125-12A
339	ORANGE-ORANGE-WHITE	TH199S					DAK126-12A	DRK125-12A
309	ORANGE-BLACK-WHITE	TH199S					DAK126-12A	DRK129-12A
310	ORANGE-BROWN-BLACK	TH199S					DAK126-12A	DRK129-12A
336	ORANGE-ORANGE-BLUE	TH199S		86-12S			DAK126-16A	DRK125-16A
337	ORANGE-ORANGE-VIOLET	TH199S		86-12S			DAK126-16A	DRK125-16A
307	ORANGE-BLACK-VIOLET	TH199S		86-12S			DAK126-16A	DRK129-16A
308	ORANGE-BLACK-GRAY	TH199S		86-12S			DAK126-16A	DRK129-16A
315	ORANGE-BROWN-GREEN	TH199S		86-11S			DAK126-20A	DRK125-20A
316	ORANGE-BROWN-BLUE	TH199S		86-11S			DAK126-20A	DRK125-20A
305	ORANGE-BLACK-GREEN	TH199S		86-11S			DAK126-20A	DRK129-20A
306	ORANGE-BLACK-BLUE	TH199S		86-11S			DAK126-20A	DRK129-20A
313	ORANGE-BROWN-ORANGE		K60S				DAK126-23A	DRK125-23A
314	ORANGE-BROWN-YELLOW		K60S				DAK126-23A	DRK125-23A
302	ORANGE-BLACK-RED		K60S				DAK126-23A	DRK129-23A
304	ORANGE-BLACK-YELLOW		K60S				DAK126-23A	DRK129-23A
311	ORANGE-BROWN-BROWN		K60S				DAK126-23A	DRK125-23A
312	ORANGE-BROWN-RED		K60S				DAK126-23A	DRK125-23A
301	ORANGE-BLACK-BROWN		K60S				DAK126-23A	DRK129-23A
302	ORANGE-BLACK-RED		K60S				DAK126-23A	DRK129-23A

*The three number suffix on M39029 series contacts is referred to as a "BIN" code. See page 14 for color stripe association.



MIL-C-81511 SERIES 3

**SCOOP PROOF – CIRCULAR
BAYONET COUPLING
REAR RELEASE CONTACTS**

CONNECTOR PART NUMBER	DESCRIPTION	QPL SOURCES
M81511/41	FLANGE MOUNT RECEPTACLE	DEUTSCH
M81511/45	CABLE CONNECTING RECEPTACLE	
M81511/46	STRAIGHT PLUG	
M81511/49	JAM NUT MOUNT RECEPTACLE	

CONTACTS	SIZE (AWG)		PIN/SOC.	PART NUMBER* (CURRENT)	PART NUMBER (SUPERSEDED)	WIRE RANGE
	MATING END	WIRE BARREL				
<p>TYPICAL CONTACT CONFIGURATION</p>	12	12	P	M39029/18-180	M39029/18-12-12	12-14
	12	12	S	M39029/17-175	M39029/17-12-12	12-14
	16	16	P	M39029/18-179	M39029/18-16-16	16-20
	16	16	S	M39029/17-174	M39029/17-16-16	16-20
	16	16	S	M39029/22-193	M39029/22-16-16	16-20
	20	20	P	M39029/18-178	M39029/18-20-20	16-20
	20	20	S	M39029/17-173	M39029/17-20-20	20-24
	20	20	S	M39029/22-192	M39029/22-20-20	20-24
	22	22	S	M39029/22-191	M39029/22-22-22	22-28
	22	28	S	M39029/22-190	M39029/22-22-28	28-32
	23	22	P	M39029/18-177	M39029/18-23-22	22-28
	23	22	S	M39029/17-172	M39029/17-23-22	22-28
	23	28	P	M39029/18-176	M39029/18-23-28	28-32
	23	28	S	M39029/17-171	M39029/17-23-28	28-32

TOOL SELECTION		CRIMP TOOL AND ACCESSORY					ASSEMBLY TOOLS	
BIN*	COLOR	AF8	AFM8	MH860	WA23 (POS)	WA23 (DIE)	INSTALLING	REMOVAL
180	BROWN-GRAY-BLACK	TP360					M81969/16-03	M81969/16-03
175	BROWN-VIOLET-GREEN	TP365					M81969/16-03	M81969/16-03
179	BROWN-VIOLET-WHITE		K341	86-2			M81969/16-02	M81969/16-02
174	BROWN-VIOLET-YELLOW		K343	86-2			M81969/16-02	M81969/16-02
193	BROWN-WHITE-ORANGE	TH343		86-21			M81969/16-02	M81969/16-02
178	BROWN-VIOLET-GRAY		K340	86-1S			M81969/16-01	M81969/16-01
173	BROWN-VIOLET-ORANGE		K342	86-1S			M81969/16-01	M81969/16-01
192	BROWN-WHITE-RED	TH343	K503	86-20			M81969/16-01	M81969/16-01
191	BROWN-WHITE-BROWN		K330-3	86-19			M81969/16-04	M81969/16-04
190	BROWN-WHITE-BLACK		K330-3	86-19			M81969/16-04	M81969/16-04
177	BROWN-VIOLET-VIOLET		K338				M81969/16-04	M81969/16-04
172	BROWN-VIOLET-RED		K339				M81969/16-04	M81969/16-04
176	BROWN-VIOLET-BLUE		K338				M81969/16-04	M81969/16-04
171	BROWN-VIOLET-BROWN		K339				M81969/16-04	M81969/16-04

*The three number suffix on M39029 series contacts is referred to as a "BIN" code. See page 14 for color stripe association.



MIL-C-81511 SERIES 4

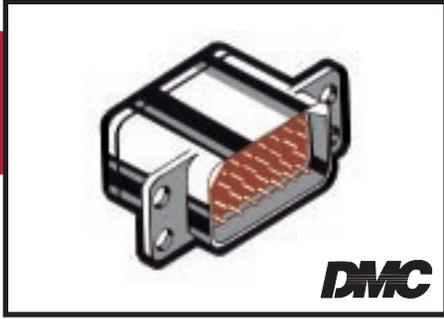
**50% SCOOP PROOF
CIRCULAR
REAR RELEASE CONTACTS**

CONNECTOR PART NUMBER	DESCRIPTION	QPL SOURCES
M81511/51	FLANGE MOUNT RECEPTACLE	DEUTSCH
M81511/53	JAM NUT MOUNT RECEPTACLE	
M81511/55	CABLE CONNECTING RECEPTACLE	
M81511/56	STRAIGHT PLUG	

CONTACTS	SIZE (AWG)		PIN/SOC.	PART NUMBER* (CURRENT)	PART NUMBER (SUPERSEDED)	WIRE RANGE
	MATING END	WIRE BARREL				
<p>TYPICAL CONTACT CONFIGURATION</p>	12	12	P	M39029/18-180	M39029/18-12-12	12-14
	12	12	S	M39029/16-170	M39029/16-12-12	12-14
	16	16	P	M39029/18-179	M39029/18-16-16	16-20
	16	16	S	M39029/16-169	M39029/16-16-16	16-20
	16	16	S	M39029/22-193	M39029/22-16-16	16-20
	20	20	P	M39029/18-178	M39029/18-20-20	20-24
	20	20	S	M39029/16-168	M39029/16-20-20	20-24
	20	20	S	M39029/22-192	M39029/22-20-20	20-24
	22	22	S	M39029/22-191	M39029/22-22-22	22-28
	22	28	S	M39029/22-190	M39029/22-22-28	28-32
	23	22	P	M39029/18-177	M39029/18-23-22	22-28
	23	22	S	M39029/16-167	M39029/16-23-22	22-28
	23	28	P	M39029/18-176	M39029/18-23-28	28-32
	23	28	S	M39029/16-166	M39029/16-23-28	28-32

TOOL SELECTION		CRIMP TOOL AND ACCESSORY					ASSEMBLY TOOLS	
BIN*	COLOR	AF8	AFM8	MH860	WA23 (POS)	WA23 (DIE)	INSTALLING	REMOVAL
180	BROWN-GRAY-BLACK	TP360					M81969/16-03	M81969/16-03
170	BROWN-VIOLET-BLACK	TP360					M81969/16-03	M81969/16-03
179	BROWN-VIOLET-WHITE		K341	86-2			M81969/16-02	M81969/16-02
169	BROWN-BLUE-WHITE		K341	86-2			M81969/16-02	M81969/16-02
193	BROWN-WHITE-ORANGE			86-21			M81969/16-02	M81969/16-02
178	BROWN-VIOLET-GRAY		K340				M81969/16-01	M81969/16-01
168	BROWN-BLUE-GRAY		K340				M81969/16-01	M81969/16-01
192	BROWN-WHITE-RED	TH343	K503	86-20			M81969/16-01	M81969/16-01
191	BROWN-WHITE-BROWN		K330-3	86-19			M81969/16-04	M81969/16-04
190	BROWN-WHITE-BLACK		K330-3	86-19			M81969/16-04	M81969/16-04
177	BROWN-VIOLET-VIOLET		K338				M81969/16-04	M81969/16-04
167	BROWN-BLUE-VIOLET		K338				M81969/16-04	M81969/16-04
176	BROWN-VIOLET-BLUE		K338				M81969/16-04	M81969/16-04
166	BROWN-BLUE-BLUE		K338				M81969/16-04	M81969/16-04

*The three number suffix on M39029 series contacts is referred to as a "BIN" code. See page 14 for color stripe association.



MIL-C-81659 SERIES 1

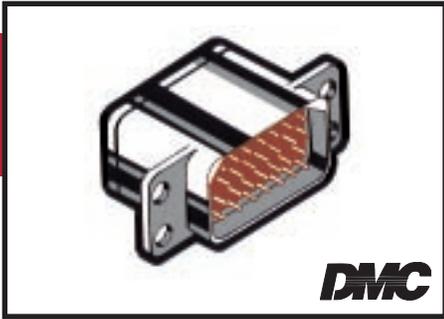
RECTANGULAR FRONT RELEASE CONTACTS

CONNECTOR PART NUMBER	DESCRIPTION	QPL SOURCES
M81659/1 THRU M81659/27	RECEPTACLE OR PLUG, TYPE 1 AND 2 CLASS 1 AND 2 SHELL DESIGNATOR A OR B	NO QPL SOURCES

CONTACTS	SIZE (AWG)		PIN/SOC.	PART NUMBER* (CURRENT)	PART NUMBER (SUPERSEDED)	WIRE RANGE
	MATING END	WIRE BARREL				
<p>TYPICAL CONTACT CONFIGURATION</p>	16	16	P	M39029/2-106	M39029/2-16-16	16-20
	16	16	S	M39029/3-109	M39029/3-16-16	16-20
	20	20	P	M39029/2-105	M39029/2-20-20	20-24
	20	20	S	M39029/3-108	M39029/3-20-20	20-24
	22	22	P	M39029/2-104	M39029/2-22-22	22-26
	22	22	S	M39029/3-107	M39029/3-22-22	22-26

TOOL SELECTION		CRIMP TOOL AND ACCESSORY					ASSEMBLY TOOLS	
BIN*	COLOR	AF8	AFM8	MH860	WA23 (POS)	WA23 (DIE)	INSTALLING	REMOVAL
106	BROWN-BLACK-BLUE	TH1A		86-2			DAK55-16A	DRK56-16A
109	BROWN-BLACK-WHITE	TH1A		86-2			DAK55-16A	DRK56-16A
105	BROWN-BLACK-GREEN	TH1A	K287				CONSULT FACTORY	CONSULT FACTORY
108	BROWN-BLACK-GRAY	TH1A	K287				CONSULT FACTORY	CONSULT FACTORY
104	BROWN-BLACK-YELLOW		K287				CONSULT FACTORY	CONSULT FACTORY
107	BROWN-BLACK-VIOLET		K287				CONSULT FACTORY	CONSULT FACTORY

*The three number suffix on M39029 series contacts is referred to as a "BIN" code. See page 14 for color stripe association.



MIL-C-81659 SERIES 2 (ARINC 404)

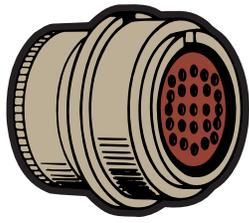
RECTANGULAR REAR RELEASE CONTACTS

CONNECTOR PART NUMBER	DESCRIPTION	QPL SOURCES
M81659 THRU M81659/72	RECEPTACLE OR PLUG, TYPE 2, 3 AND 4 CLASS 1 AND 2 SHELL DESIGNATOR A OR B	TYCO ELECTRONICS ITT CANNON RADIALL, S.A.

CONTACTS	SIZE (AWG)		PIN/SOC.	PART NUMBER* (CURRENT)	PART NUMBER (SUPERSEDED)	WIRE RANGE
	MATING END	WIRE BARREL				
 <p>TYPICAL CONTACT CONFIGURATION</p>	12	12	P	M39029/11-147	M39029/11-12-12	12-14
	12	12	S	M39029/12-151	M39029/12-12-12	12-14
	16	16	P	M39029/11-146	M39029/11-16-16	16-20
	16	16	S	M39029/12-150	M39029/12-16-16	16-20
	20	20	P	M39029/11-145	M39029/11-20-20	20-24
	20	20	S	M39029/12-149	M39029/12-20-20	20-24
	22	22	P	M39029/11-144	M39029/11-22-22	22-26
	22	22	S	M39029/12-148	M39029/12-22-22	22-26

TOOL SELECTION		CRIMP TOOL AND ACCESSORY					ASSEMBLY TOOLS	
BIN*	COLOR	AF8	AFM8	MH860	WA23 (POS)	WA23 (DIE)	INSTALLING	REMOVAL
147	BROWN-YELLOW-VIOLET	TP465					—	DRK337
151	BROWN-GREEN-BROWN	TP465					—	DRK337
146	BROWN-YELLOW-BLUE	TH1A		86-2			M81969/1-03	M81969/1-03
150	BROWN-GREEN-BLACK	TH1A		86-2			M81969/1-03	M81969/1-03
145	BROWN-YELLOW-GREEN		K13-1	86-30-1			M81969/1-02	M81969/1-02
149	BROWN-YELLOW-WHITE		K13-1	86-30-1			M81969/1-02	M81969/1-02
144	BROWN-YELLOW-YELLOW		K267-1	86-137			M81969/1-01	M81969/1-01
148	BROWN-YELLOW-GRAY		K267-1	86-137			M81969/1-01	M81969/1-01

*The three number suffix on M39029 series contacts is referred to as a "BIN" code. See page 14 for color stripe association.



DMC

MIL-C-81703 SERIES 2

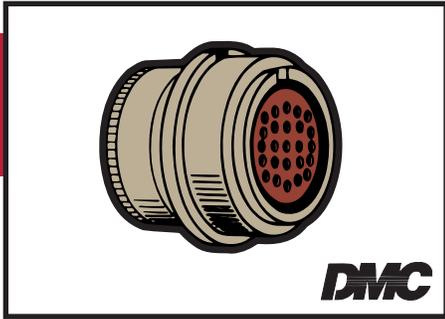
**CIRCULAR
RACK & PANEL OR PUSH PULL COUPLING
FRONT RELEASE CONTACTS**

CONNECTOR PART NUMBER	DESCRIPTION	QPL SOURCES
MS3140	WALL MOUNT FLANGE RECEPTACLE	DEUTSCH
MS3144	JAM NUT MOUNT RECEPTACLE	
MS3147	STRAIGHT PLUG	
MS3148	PLUG LANYARD COUPLING	

CONTACTS	SIZE (AWG)		PIN/SOC.	PART NUMBER* (CURRENT)	PART NUMBER (SUPERSEDED)	WIRE RANGE
	MATING END	WIRE BARREL				
<p>TYPICAL CONTACT CONFIGURATION</p>	12	12	P	M39029/31-234	MS3192-12-12A	12-14
	12	12	S	M39029/32-253	MS3193-12-12A	12-14
	16	16	P	M39029/31-228	MS3192-16-16A	16-20
	16	16	S	M39029/32-247	MS3193-16-16A	16-20
	20	20	P	M39029/31-223	MS3192-20-20A	20-24
	20	20	S	M39029/32-242	MS3193-20-20A	20-24

TOOL SELECTION		CRIMP TOOL AND ACCESSORY					ASSEMBLY TOOLS	
BIN*	COLOR	AF8	AFM8	MH860	WA23 (POS)	WA23 (DIE)	INSTALLING	REMOVAL
234	RED-ORANGE-YELLOW	TH1A					DAK12B	DRK12B
253	RED-GREEN-ORANGE	TH1A					DAK12B	DRK12B
228	RED-RED-GRAY	TH1A		86-2			DAK16B	DRK16B
247	RED-YELLOW-VIOLET	TH1A		86-2			DAK16B	DRK16B
223	RED-RED-ORANGE	TH1A	K1S	86-1S			DAK20B	DRK20B
242	RED-YELLOW-RED	TH1A	K1S	86-1S			DAK20B	DRK20B

*The three number suffix on M39029 series contacts is referred to as a "BIN" code. See page 14 for color stripe association.



MIL-C-81703 SERIES 3

**CIRCULAR
RACK & PANEL OR PUSH PULL COUPLING
REAR RELEASE CONTACTS**

CONNECTOR PART NUMBER	DESCRIPTION	QPL SOURCES
MS3445	PLUG RACK & PANEL	DEUTSCH
MS3424	WALL MOUNT FLANGE RECEPTACLE	
MS3446	PLUG RACK & PANEL	
MS3464	JAM NUT MOUNT RECEPTACLE	
MS3467	STRAIGHT PLUG	
MS3468	PLUG LANYARD COUPLING	

CONTACTS	SIZE (AWG)		PIN/SOC.	PART NUMBER* (CURRENT)	PART NUMBER (SUPERSEDED)	WIRE RANGE
	MATING END	WIRE BARREL				
<p>TYPICAL CONTACT CONFIGURATION</p>	12	12	P	M39029/4-113	M39029/4-12-12	12-14
	12	12	S	M39029/5-118	M39029/5-12-12	12-14
	12	16	P	M39029/4-114	M39029/4-12-16	16-20
	12	16	S	M39029/5-119	M39029/5-12-16	16-20
	16	16	P	M39029/4-111	M39029/4-16-16	16-20
	16	16	S	M39029/5-116	M39029/5-16-16	16-20
	16	20	P	M39029/4-112	M39029/4-16-20	20-24
	16	20	S	M39029/5-117	M39029/5-16-20	20-24
	20	20	P	M39029/4-110	M39029/4-20-20	20-24
	20	20	S	M39029/5-115	M39029/5-20-20	20-24

TOOL SELECTION		CRIMP TOOL AND ACCESSORY					ASSEMBLY TOOLS	
BIN*	COLOR	AF8	AFM8	MH860	WA23 (POS)	WA23 (DIE)	INSTALLING	REMOVAL
113	BROWN-BROWN-ORANGE	TH1A					DAK83-12B	DRK83-12B
118	BROWN-BROWN-GRAY	TH1A					DAK83-12B	DRK83-12B
114	BROWN-BROWN-YELLOW	TH1A					DAK83-12B	DRK83-12B
119	BROWN-BROWN-WHITE	TH1A					DAK83-12B	DRK83-12B
111	BROWN-BROWN-BROWN	TH1A		86-2			DAK83-16B	DRK83-16B
116	BROWN-BROWN-BLUE	TH1A		86-2			DAK83-16B	DRK83-16B
112	BROWN-BROWN-RED	TH1A	K1S	86-2			DAK83-16B	DRK83-16B
117	BROWN-BROWN-VIOLET	TH1A	K1S	86-2			DAK83-16B	DRK83-16B
110	BROWN-BROWN-BLACK	TH1A	K1S	86-1S			DAK83-20B	DRK83-20B
115	BROWN-BROWN-GREEN	TH1A	K1S	86-1S			DAK83-20B	DRK83-20B

*The three number suffix on M39029 series contacts is referred to as a "BIN" code. See page 14 for color stripe association.



MIL-C-83723 SERIES 2

CIRCULAR THREADED COUPLING REAR RELEASE CONTACTS

CONNECTOR PART NUMBER	DESCRIPTION	QPL SOURCES
M83723/17	CABLE CONNECTING RECEPTACLE SKT CONTACTS	AERO-ELECTRIC CONNECTORS ITT CANNON J-TECH, INC. AMPHENOL CONNECTORS ELECSYS, INC.
M83723/18	CABLE CONNECTING RECEPTACLE PIN CONTACTS	
M83723/19	WALL MOUNT RECEPTACLE SKT CONTACTS	
M83723/20	WALL MOUNT RECEPTACLE PIN CONTACTS	
M83723/21	BOX MOUNT RECEPTACLE SKT CONTACTS	
M83723/22	BOX MOUNT RECEPTACLE PIN CONTACTS	
M83723/23	PLUG SKT CONTACTS	
M83723/24	PLUG PIN CONTACTS	

CONTACTS	SIZE (AWG)		PIN/SOC.	PART NUMBER* (CURRENT)	PART NUMBER (SUPERSEDED)	WIRE RANGE
	MATING END	WIRE BARREL				
<p>TYPICAL CONTACT CONFIGURATION</p>	12	12	P	M39029/29-213	M39029/29-12-12	12-14
	12	12	S	M39029/30-219	M39029/30-12-12	12-14
	16	16	P	M39029/29-212	M39029/29-16-16	16-20
	16	16	S	M39029/30-218	M39029/30-16-16	16-20

TOOL SELECTION		CRIMP TOOL AND ACCESSORY					ASSEMBLY TOOLS	
BIN*	COLOR	AF8	AFM8	MH860	WA23 (POS)	WA23 (DIE)	INSTALLING	REMOVAL
213	RED-BROWN-ORANGE	TH1A					DAK83-12B	DRK83-12B
219	RED-BROWN-WHITE	TH1A					DAK83-12B	DRK83-12B
212	RED-BROWN-RED	TH1A		86-2			DAK83-16B	DRK83-16B
218	RED-BROWN-GRAY	TH1A		86-2			DAK83-16B	DRK83-16B

*The three number suffix on M39029 series contacts is referred to as a "BIN" code. See page 14 for color stripe association.



MIL-C-83723 SERIES 3

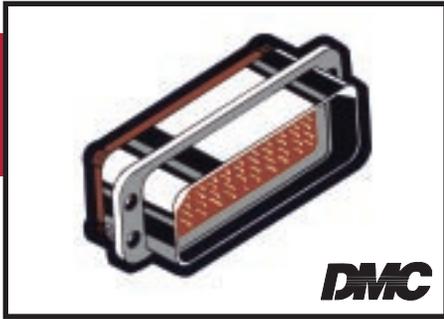
CIRCULAR BAYONET AND THREADED COUPLING REAR RELEASE CONTACTS

CONNECTOR PART NUMBER	DESCRIPTION	QPL SOURCES
M83723/71	FLANGE MOUNT RECEPTACLE	AERO ELECTRIC CONNECTOR, INC. AMPHENOL CONNECTORS PYLE NATIONAL CONNECTORS DEUTSCH J-TECH HI-REL CONNECTORS, INC. ITT CANNON
M83723/71	FLANGE MOUNT RECEPTACLE	
M83723/83	FLANGE MOUNT RECEPTACLE	
M83723/82	FLANGE MOUNT RECEPTACLE	
M83723/74	SINGLE HOLE MOUNT RECEPTACLE	
M83723/73	SINGLE HOLE MOUNT RECEPTACLE	
M83723/85	SINGLE HOLE MOUNT RECEPTACLE	
M83723/84	SINGLE HOLE MOUNT RECEPTACLE	
M83723/76	STRAIGHT PLUG	
M83723/75	STRAIGHT PLUG	
M83723/87	STRAIGHT PLUG	
M83723/86	STRAIGHT PLUG	
M83723/78	RFI PLUG	
M83723/77	RFI PLUG	
M83723/96	SELF LOCKING PLUG	
M83723/95	SELF LOCKING PLUG	

CONTACTS	SIZE (AWG)		PIN/SOC.	PART NUMBER* (CURRENT)	PART NUMBER (SUPERSEDED)	WIRE RANGE
	MATING END	WIRE BARREL				
	12	12	P	M39029/4-113	M39029/4-12-12	12-14
	12	12	P	—	OR M83723-33B12	12-14
	12	12	S	M39029/5-118	M39029/5-12-12	12-14
	12	12	S	—	OR M83723-34B12	12-14
	12	16	P	M39029/4-114	M39029/4-12-16	16-20
	12	16	S	M39029/5-119	OR M39029/5-12-16	16-20
	16	16	P	M39029/4-111	M39029/4-16-16	16-20
	16	16	P	—	OR M83723-33B16	16-20
	16	16	S	M39029/5-116	M39029/5-16-16	16-20
	16	16	S	—	OR M83723-34B16	16-20
	16	20	P	M39029/4-112	M39029/4-16-20	20-24
	16	20	S	M39029/5-117	OR M39029/5-16-20	20-24
	20	20	P	M39029/4-110	M39029/4-20-20	20-24
	20	20	P	—	OR M83723-33B20	20-24
	20	20	S	M39029/5-115	M39029/5-20-20	20-24
	20	20	S	—	OR M83723-34B20	20-24

TOOL SELECTION		CRIMP TOOL AND ACCESSORY					ASSEMBLY TOOLS	
BIN*	COLOR	AF8	AFM8	MH860	WA23 (POS)	WA23 (DIE)	INSTALLING	REMOVAL
113	BROWN-BROWN-ORANGE	TH1A					DAK83-12B	DRK83-12B
—		TH1A					DAK83-12B	DRK83-12B
118	BROWN-BROWN-GRAY	TH1A					DAK83-12B	DRK83-12B
—		TH1A					DAK83-12B	DRK83-12B
114	BROWN-BROWN-YELLOW	TH1A		86-2			DAK83-16B	DRK83-16B
119	BROWN-BROWN-WHITE	TH1A		86-2			DAK83-16B	DRK83-16B
111	BROWN-BROWN-BROWN	TH1A		86-2			DAK83-16B	DRK83-16B
—		TH1A		86-2			DAK83-16B	DRK83-16B
116	BROWN-BROWN-BLUE	TH1A		86-2			DAK83-16B	DRK83-16B
—		TH1A		86-2			DAK83-16B	DRK83-16B
112	BROWN-BROWN-RED	TH1A	K1S	86-2			DAK83-20B	DRK83-20B
117	BROWN-BROWN-VIOLET	TH1A	K1S	86-2			DAK83-20B	DRK83-16B
110	BROWN-BROWN-BLACK	TH1A	K1S	86-1S			DAK83-20B	DRK83-20B
—		TH1A	K1S	86-1S			DAK83-20B	DRK83-20B
115	BROWN-BROWN-GREEN	TH1A	K1S	86-1S			DAK83-20B	DRK83-20B
—		TH1A	K1S	86-1S			DAK83-20B	DRK83-20B

*The three number suffix on M39029 series contacts is referred to as a "BIN" code. See page 14 for color stripe association.



MIL-C-83733

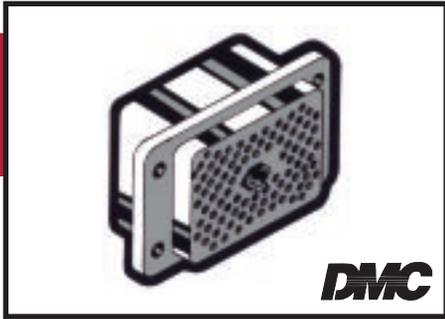
RECTANGULAR MINIATURE RACK AND PANEL REAR RELEASE CONTACTS

CONNECTOR PART NUMBER	DESCRIPTION	QPL SOURCES
M83733/1	STANDARD HOLE MOUNT	DELPHI CONNECTION SYSTEMS
M83733/2	GUIDE PINS AND SPRING MOUNT	
M83733/3	GUIDE SOCKETS	
M83733/4	CAPTIVE SPRINGS	
M83733/5	BUSHING MOUNT	
M83733/6	CLINCH NUT MOUNT	
M83733/7	GUIDE SKTS AND SPRING MOUNT	
M83733/8	GUIDE PINS	
M83733/9	STAGGERED STANDARD HOLE MOUNT	
M83733/10	STAGGERED BUSHING MOUNT	
M83733/11	STAGGERED CLINCH NUT MOUNT	
M83733/12	STAGGERED SPRING MOUNT	

CONTACTS	SIZE (AWG)		PIN/SOC.	PART NUMBER* (CURRENT)	PART NUMBER (SUPERSEDED)	WIRE RANGE
	MATING END	WIRE BARREL				
 TYPICAL CONTACT CONFIGURATION	12	12	P	M39029/4-113	M39029/4-12-12	12-14
	12	12	S	M39029/5-118	M39029/5-12-12	12-14
	16	16	P	M39029/4-111	M39029/4-16-16	16-20
	16	16	S	M39029/5-116	M39029/5-16-16	16-20
	20	20	P	M39029/4-110	M39029/4-20-20	20-24
	20	20	S	M39029/5-115	M39029/5-20-20	20-24
	22	22D	P	M39029/58-360	MS27494-22D	22-28
	22	22D	S	M39029/57-354	MS27492-22D	22-28

TOOL SELECTION		CRIMP TOOL AND ACCESSORY					ASSEMBLY TOOLS	
BIN*	COLOR	AF8	AFM8	MH860	WA23 (POS)	WA23 (DIE)	INSTALLING	REMOVAL
113	BROWN-BROWN-ORANGE	TH1A					M81969/14-04	M81969/14-04
118	BROWN-BROWN-GRAY	TH1A					M81969/14-04	M81969/14-04
111	BROWN-BROWN-BROWN	TH1A		86-2			M81969/14-03	M81969/14-03
116	BROWN-BROWN-BLUE	TH1A		86-2			M81969/14-03	M81969/14-03
110	BROWN-BROWN-BLACK	TH1A	K1S	86-1S			M81969/14-02	M81969/14-02
115	BROWN-BROWN-GREEN	TH1A	K1S	86-1S			M81969/14-02	M81969/14-02
360	ORANGE-BLUE-BLACK		K42	86-6			M81969/14-01	M81969/14-01
354	ORANGE-GREEN-YELLOW		K41	86-5			M81969/14-01	M81969/14-01

*The three number suffix on M39029 series contacts is referred to as a "BIN" code. See page 14 for color stripe association.



MIL-C-85028 SERIES AS

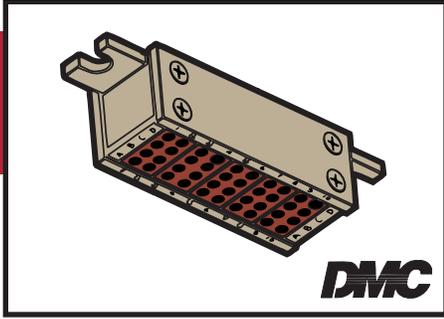
**RECTANGULAR – INDIVIDUAL CONTACT SEALING
POLARIZED CENTER JACK SCREW
PULL THRU INSERTION CONTACTS**

CONNECTOR PART NUMBER	DESCRIPTION	QPL SOURCES
M85028/1	CRIMP REMOVABLE PIN CONTACTS	DELPHI CONNECTION SYSTEMS
M85028/2	CRIMP REMOVABLE SKT CONTACTS	

CONTACTS	SIZE (AWG)		PIN/SOC.	PART NUMBER* (CURRENT)	PART NUMBER (SUPERSEDED)	WIRE RANGE
	MATING END	WIRE BARREL				
<p>TYPICAL CONTACT CONFIGURATION</p>	16	16	P	M39029/70-389	M39029/70-3	16-20
	16	16	S	M39029/69-386	M39029/69-3	16-20
	16	20	P	M39029/70-388	M39029/70-2	20-24
	16	20	S	M39029/69-385	M39029/69-2	20-24
	16	24	P	M39029/70-387	M39029/70-1	24-28
	16	24	S	M39029/69-384	M39029/69-1	24-28

TOOL SELECTION		CRIMP TOOL AND ACCESSORY					ASSEMBLY TOOLS	
BIN*	COLOR	AF8	AFM8	MH860	WA23 (POS)	WA23 (DIE)	INSTALLING	REMOVAL
389	ORANGE-GRAY-WHITE	TP651					DAK1-16P or DAK1-16S	DRK222
386	ORANGE-GRAY-BLUE	TP651					DAK1-16P or DAK1-16S	DRK222
388	ORANGE-GRAY-GRAY	TP651					DAK1-16P or DAK1-16S	DRK222
385	ORANGE-GRAY-GREEN	TP651					DAK1-16P or DAK1-16S	DRK222
387	ORANGE-GRAY-VIOLET	TP651					DAK1-16P or DAK1-16S	DRK222
384	ORANGE-GRAY-YELLOW	TP651					DAK1-16P or DAK1-16S	DRK222

*The three number suffix on M39029 series contacts is referred to as a "BIN" code. See page 14 for color stripe association.



MIL-T-81714

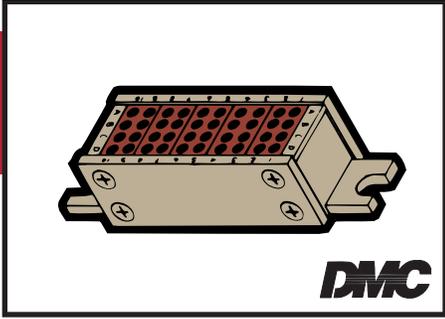
TERMINAL JUNCTIONS

CONNECTOR PART NUMBER	DESCRIPTION	QPL SOURCES
M81714/1	FEEDBACK TYPE SIZE 22	PCD, INC. AMP TYCO DME ELECTRONICS DEUTSCH
M81714/2	FEEDBACK TYPE SIZE 20	
M81714/3	FEEDBACK TYPE SIZE 16	
M81714/4	FEEDBACK TYPE SIZE 12	
M81714/6	FEEDBACK TYPE SIZE 22	
M81714/7	FEEDBACK TYPE SIZE 20	
M81714/8	FEEDBACK TYPE SIZE 16	
M81714/9	FEEDBACK TYPE SIZE 12	
M81714/11	SPLICES	
M81714/12	DOUBLE SPLICES	
M81714/15	TERMINAL GROUNDING	

CONTACTS	SIZE (AWG)		PIN/SOC.	PART NUMBER* (CURRENT)	PART NUMBER (SUPERSEDED)	WIRE RANGE
	MATING END	WIRE BARREL				
 <p>TYPICAL CONTACT CONFIGURATION</p>	12	12	P	M39029/1-103	M39029/1-12-12	12-14
	14	16	P	M39029/1-102	M39029/1-14-16	16-20
	16	20	P	M39029/1-101	M39029/1-16-20	20-24
	16	22	P	M39029/1-100	M39029/1-16-22	22-26
	20	22D	P	M39029/1-507	M39029/1-20-22D	22-28

TOOL SELECTION		CRIMP TOOL AND ACCESSORY					ASSEMBLY TOOLS	
BIN*	COLOR	AF8	AFM8	MH860	WA23 (POS)	WA23 (DIE)	INSTALLING	REMOVAL
103	BROWN-BLACK-ORANGE	TH1A					DAK83-12B	DRK83-12B
102	BROWN-BLACK-RED	TH1A					DAK83-16B	DRK83-16B
101	BROWN-BLACK-BROWN	TH1A	K287				DAK83-20B	DRK83-20B
100	BROWN-BLACK-BLACK		K287				M81969/14-02	M81969/14-02
507	GREEN-BLACK-VIOLET		K496-1				M81969/14-02	M81969/14-02

*The three number suffix on M39029 series contacts is referred to as a "BIN" code. See page 14 for color stripe association.



MIL-STD-1549

COMMON TERMINAL SYSTEM

CONNECTOR PART NUMBER	DESCRIPTION	QPL SOURCES
		NO QPL SOURCES

CONTACTS	SIZE (AWG)		PIN/SOC.	PART NUMBER* (CURRENT)	PART NUMBER (SUPERSEDED)	WIRE RANGE
	MATING END	WIRE BARREL				
 TYPICAL CONTACT CONFIGURATION	12	12	S	M39029/22-605	—	12-14
	16	16	S	M39029/22-193	M39029/22-16-16	16-20
	20	20	S	M39029/22-192	M39029/22-20-20	20-24
	22	22	S	M39029/22-191	M39029/22-22-22	28-32
	22	28	S	M39029/22-190	M39029/22-22-28	28-32

TOOL SELECTION		CRIMP TOOL AND ACCESSORY					ASSEMBLY TOOLS	
BIN*	COLOR	AF8	AFM8	MH860	WA23 (POS)	WA23 (DIE)	INSTALLING	REMOVAL
605	BLUE-BLACK-GREEN	TH343					DAK83-12B	DRK83-12B
193	BROWN-WHITE-ORANGE	TH343		86-21			DAK83-16B	DRK83-16B
192	BROWN-WHITE-RED	TH343	K503	86-20			DAK83-20B	DRK83-20B
191	BROWN-WHITE-BROWN		K330-3	86-19			M81969/14-01	M81969/14-01
190	BROWN-WHITE-BLACK		K330-3	86-19			M81969/14-01	M81969/14-01

*The three number suffix on M39029 series contacts is referred to as a "BIN" code. See page 14 for color stripe association.

Circular Indent Crimp Tools

MODELS: MH801, MH802, MH803, MH804, GS100-1 & GS200-1

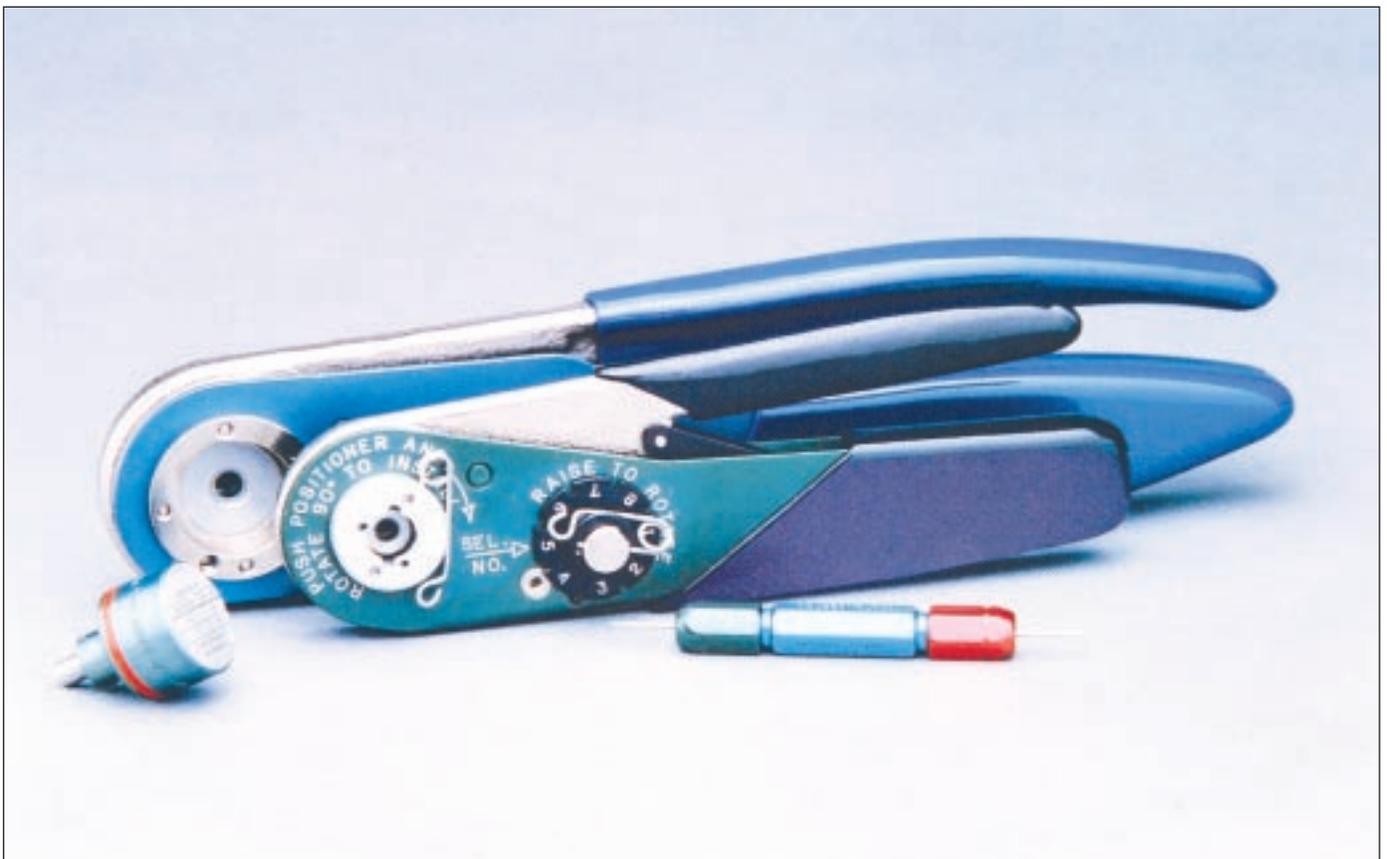
Keeping things simple is a basic philosophy at DMC. When special conditions call for a new tool design, we make every effort to utilize the components of existing tools which have been proven reliable both in field use and controlled test programs. Such is the case with this tool series.

The design of certain shielded contacts require two additional crimping operations. One for the shield crimp sleeve, the other for the outer body. (Note: On the MH801 MH802, MH803, and MH804 tools, in addition to the four opposing indenters these tools also have four retainers which encompass the contact prior to the initiation of the crimping operation thus assuring concentricity.) All of the tools give a concentric circular crimp configuration required by certain shielded contacts to insure compatibility with

connector inserts and installing or removal tools in rear release applications, and/or maintain a consistent electric impedance. Thus an indenter pattern which conforms to the appropriate military drawing (see chart for specific part numbers) was adapted to our familiar standard and miniature tool frames. A full complement of positioners, inspection gages, and other accessories are available for these tool frames.

The technical section on pages 33, 34 lists the part numbers of standard M39029 contacts which require these tools; however, the concept may be adapted to other applications. Consult factory for specific details.

MILITARY P/N	DMC P/N	DESCRIPTION
M22520/4-01	GS100-1	TOOL FRAME
M22520/4-02	GP295	POSITIONER
M22520/3-2	G120	GAGE
M22520/31-01	GS200-1	TOOL FRAME
M22520/31-02	G2P330	POSITIONER
M22520/3-15	G443	GAGE
M22520/19-01	MH801	TOOL FRAME
M22520/19-02	D16P-1M	POSITIONER
M22520/19-03	D16S-1M	POSITIONER
M22520/19-04	D16LS-1M	POSITIONER
M22520/3-4	G256	GAGE (INDENTERS)
M22520/3-5	G257	GAGE (RETAINERS)
M22520/20-01	MH802	TOOL FRAME
M22520/20-02	D16/1-1M	POSITIONER
M22520/20-03	D16/2-1M	POSITIONER
M22520/3-6	G258	GAGE (RETAINERS)
M22520/21-01	MH803	TOOL FRAME
M22520/21-02	D12P-1M	POSITIONER
M22520/21-03	D12S-1M	POSITIONER
M22520/21-04	D12LS-1M	POSITIONER
M22520/3-7	G259	GAGE (RETAINERS)
M22520/22-01	MH804	TOOL FRAME
M22520/22-02	D12/1-1M	POSITIONER
M22520/22-03	D12/2-1M	POSITIONER
M22520/3-8	G260	GAGE (RETAINERS)



Coaxial Contact Tool Selection Guide

SHIELDED CONTACTS AND CONNECTOR SERIES	BIN CODE	CONTACT CAVITY SIZE	INNER CONTACT		SHIELD CRIMP SLEEVE		OUTER CONTACT		INSTALLING TOOL	REMOVAL TOOL
			CRIMPING TOOL	POSITIONER	CRIMPING TOOL	POSITIONER OR DIE	CRIMPING TOOL	POSITIONER OR DIE		
MIL-C-39029/6-PIN CONTACT MIL-C-81511 SERIES 1 AND 2	120	16	AFM8	K262-1	HX4	Y200	HX4	Y200	DAK126-16A	DRK125-16A
	121	12	AFM8	K261-1	HX4	Y152	HX4 HX3	Y152 X123	DAK126-12A	DRK125-12A
	122	12	AFM8	K261-1	HX4	Y152	HX4 HX3	Y152 X123	DAK126-12A	DRK125-12A
	123	12	AFM8	K261-1	HX4 HX3	Y152 X123	HX4 HX3	Y152 X123	DAK126-12A	DRK125-12A
	124	12	AFM8	K261-1	HX4 HX3	Y152 X123	HX4 HX3	Y152 X123	DAK126-12A	DRK125-12A
	125	12	AFM8	K261-1	HX4	Y152	HX4 HX3	Y152 X123	DAK126-12A	DRK125-12A
MIL-C-39029/7-PIN CONTACT MIL-C-26482 SERIES 2 MIL-C-81703 SERIES 3	126	12	AFM8	K269-1	HX4	Y203			DAK83-12B	DRK83-12B
	127	12	AFM8	K269-1	HX4	Y203			DAK83-12B	DRK83-12B
	128	12	AFM8	K269-1	HX4	Y203			DAK83-12B	DRK83-12B
MIL-C-39029/8-SKT CONTACT MIL-C-26482 SERIES 2 MIL-C-81703 SERIES 3	129	12	AFM8	K269-1	HX4	Y203			DAK83-12B	DRK83-12B
	130	12	AFM8	K269-1	HX4	Y203			DAK83-12B	DRK83-12B
	131	12	AFM8	K269-1	HX4	Y203			DAK83-12B	DRK83-12B
MIL-C-39029/13-SKT CONTACT MIL-C-81511 SERIES 1	152	16	AFM8	K262-1	HX4	Y200	HX4	Y200	DAK126-16A	DRK129-16A
	153	12	AFM8	K261-1	HX4	Y152	HX4 HX3	Y152 X123	DAK126-12A	DRK129-12A
	154	12	AFM8	K261-1	HX4	Y152	HX4 HX3	Y152 X123	DAK126-12A	DRK129-12A
	155	12	AFM8	K261-1	HX4 HX3	Y152 X123	HX4 HX3	Y152 X123	DAK126-12A	DRK129-12A
	156	12	AFM8	K261-1	HX4 HX3	Y152 X123	HX4 HX3	Y152 X123	DAK126-12A	DRK129-12A
	157	12	AFM8	K261-1	HX4	Y152	HX4 HX3	Y152 X123	DAK126-12A	DRK129-12A
MIL-C-39029/14-SKT CONTACT MIL-C-81511 SERIES 2	158	16	AFM8	K262-1	HX4	Y200	HX4	Y200	DAK126-16A	DRK129-16A
	159	12	AFM8	K261-1	HX4	Y152	HX4 HX3	Y152 X123	DAK126-12A	DRK129-12A
	160	12	AFM8	K261-1	HX4	Y152	HX4 HX3	Y152 X123	DAK126-12A	DRK129-12A
	161	12	AFM8	K261-1	HX4 HX3	Y152 X123	HX4 HX3	Y152 X123	DAK126-12A	DRK129-12A
	162	12	AFM8	K261-1	HX4 HX3	Y152 X123	HX4 HX3	Y152 X123	DAK126-12A	DRK129-12A
	163	12	AFM8	K261-1	HX4	Y152	HX4 HX3	Y152 X123	DAK126-12A	DRK129-12A
MIL-C-39029/19-PIN CONTACT MIL-C-81511 SERIES 3 AND 4	181	16	AFM8 AFM8	K373-1 K373-1	MH802 MH802	D16/1-1M D16P-1M	MH801 MH801	D16P-1M D16P-1M	MS3160-16	MS3160-16
	182	12	AFM8 AFM8	K372-1 K372-1	MH804 MH804	D12/1-1M D12/1-1M	MH803 MH803	D12P-1M D12P-1M	MS3160-12	MS3160-12
	183	12	AFM8 AFM8 AFM8	K372-1 K372-1 K372-1	MH804 MH804 MH804	D12/1-1M D12/1-1M D12/1-1M	MH803 MH803 MH803	D12P-1M D12P-1M D12P-1M	MS3160-12	MS3160-12
	184	16	AFM8 AFM8	K373-1 K373-1	MH802 MH802	D16/2-1M D16/2-1M	MH801 MH801	D12LS-1M D12LS-1M	MS3160-16	MS3160-16
	185	12	AFM8 AFM8	K372-1 K372-1	MH804 MH804	D12/2-1M D12/2-1M	MH803 MH803	D12LS-1M D12LS-1M	MS3160-12	MS3160-12
	186	12	AFM8 AFM8 AFM8	K372-1 K372-1 K372-1	MH804 MH804 MH804	D12/2-1M D12/2-1M D12/2-1M	MH803 MH803 MH803	D12LS-1M D12LS-1M D12LS-1M	MS3160-12	MS3160-12
MIL-C-39029/20-SKT CONTACT MIL-C-81511 SERIES 3	187	16	AFM8 AFM8	K373-1 K373-1	MH802 MH802	D16/2-1M D16/2-1M	MH801 MH801	D16S-1M D16S-1M	MS3160-16	MS3160-16
	188	12	AFM8 AFM8	K372-1 K372-1	MH804 MH804	D12/1-1M D12/1-1M	MH803 MH803	D12S-1M D12S-1M	MS3160-12	MS3160-12
	189	12	AFM8 AFM8 AFM8	K372-1 K372-1 K372-1	MH804 MH804 MH804	D12/1-1M D12/1-1M D12/1-1M	MH803 MH803 MH803	D12S-1M D12S-1M D12S-1M	MS3160-12	MS3160-12
	187	16	AFM8 AFM8	K373-1 K373-1	MH802 MH802	D16/2-1M D16/2-1M	MH801 MH801	D16S-1M D16S-1M	MS3160-16	MS3160-16
	188	12	AFM8 AFM8	K372-1 K372-1	MH804 MH804	D12/1-1M D12/1-1M	MH803 MH803	D12S-1M D12S-1M	MS3160-12	MS3160-12
	189	12	AFM8 AFM8 AFM8	K372-1 K372-1 K372-1	MH804 MH804 MH804	D12/1-1M D12/1-1M D12/1-1M	MH803 MH803 MH803	D12S-1M D12S-1M D12S-1M	MS3160-12	MS3160-12

Coaxial Contact Tool Selection Guide



SHIELDED CONTACTS AND CONNECTOR SERIES	BIN CODE	CONTACT CAVITY SIZE	INNER CONTACT		SHIELD CRIMP SLEEVE		OUTER CONTACT		INSTALLING TOOL	REMOVAL TOOL
			CRIMPING TOOL	POSITIONER	CRIMPING TOOL	POSITIONER OR DIE (CAVITY)	CRIMPING TOOL	POSITIONER OR DIE (CAVITY)		
MIL-C-39029/25-PIN CONTACT MIL-C-26482 SERIES 1	204	12	AFM8	K496	HX4	Y189			DAK12B	DRK12B
	205	12	AFM8	K496						
	206	12	AFM8	K496	HX4	Y189				
MIL-C-39029/26-SKT CONTACT MIL-C-26482 SERIES 1	207	12	AFM8	K496	HX4	Y189			DAK12B	DRK12B
	208	12	AFM8	K496						
	209	12	AFM8	K496	HX4	Y189				
MIL-C-39029/27-SKT CONTACT MIL-C-38999 SERIES 2	210	12	AFM8	K323			GS200-1	G2P330	DAK95-12B	DRK95-12B
	402									
	403									
	404									
	405									
	406									
	407									
408										
MIL-C-39029/28-PIN CONTACT MIL-C-38999 SERIES 1, 2, 3 & 4	211	12	AFM8	K323			GS200-1	G2P330	DAK95-12B	DRK95-12B
	409									
	410									
	411									
	412									
	413									
	414									
415										
MIL-C-39029/50-PIN CONTACT MIL-C-83733	340	12	AFM8	K404			HX4	Y215	DAK83-12B	DRK83-12B
							HX3	X101		
MIL-C-39029/51-SKT CONTACT MIL-C-83732	341	12	AFM8	K404			HX4	Y215	DAK83-12B	DRK83-12B
							HX3	X101		
MIL-C-39029/54-PIN CONTACT MIL-C-26500	342	12	AFM8	K74S			HX4	Y215	DAK12B	DRK12B
							HX3	X101		
	343	8	AFM8	K75S-1			HX4	Y215	DAK55-8B	DRK56-8B
MIL-C-39029/55-SKT CONTACT MIL-C-26500	344	12	AFM8	K74S			HX4	Y215	DAK12B	DRK12B
							HX3	X101		
	345	8	AFM8	K75S-1			HX4	Y215	DAK55-8B	DRK56-8B
MIL-C-39029/59-SKT CONTACT MIL-C-38999 SERIES 1, 3 & 4	366	8	AFM8	K406			HX4	Y197	BY HAND	DRK95-8B
							HX3	H102		
MIL-C-39029/60-PIN CONTACT MIL-C-38999 SERIES 1, 3 & 4	367	8	AFM8	F406			HX4	Y197	BY HAND	DRK95-8B
							HX3	X102		
MIL-C-39029/75-SKT CONTACT MIL-C-38999 SERIES 1, 3 & 4	416	12	AFM8	K323			GS200-1	G2P330	DAK95-12B	DRK95-12B
	417									
	418									
	419									
	420									
	421									
	422									
423										
MIL-C-39029/76-PIN CONTACT MIL-C-38999 SERIES 1, 2, 3 & 4	424	16	AFM8	K532-1			GS100-1	GP295	DAK95-16B	DRK95-16B
	425									
	426									
	427									
MIL-C-39029/77-SKT CONTACT MIL-C-38999 SERIES 1, 3 & 4	428	16	AFM8	K532-1			GS100-1	GP295	DAK95-16B	DRK95-16B
	429									
	430									
	431									
MIL-C-39029/78-SKT CONTACT MIL-C-38999 SERIES 2 MIL-C-24308	432	16	AFM8	K532-1			GS100-1	GP295	DAK95-16B	DRK95-16B
	433									
	434									
	435									

Open Frame Crimp Tools

M22520/5-01 (HX4) M22520/10-01 (HX3)

The DMC HX4 and HX3 series crimp tools feature a system of interchangeable dies which eliminate the need of separate fixed die crimp tools for each and every different application. Many maintenance and manufacturing concerns have standardized on one of these models, thus eliminating the cost associated with maintaining and calibrating bulky inventories of single purpose tools.

Tremendous flexibility and cost advantages exist with this crimping system due to the wide variety of interchangeable dies which are available for these tool frames. As new requirements evolve, a new set of dies is all that's required to meet the demand. A truly modern concept which will not require major change with time...only simple additions.

Crimping dies are snapped into the tool frame and retained in place by internal spring clips. They may be

permanently secured, if desired, by driving a roll pin into the holes provided.

The tool frames are equipped with a positive ratchet assembly which controls complete handle movement in both directions.

Hexagonal crimp dies are available in a variety of combinations having single, double, and even triple cavity design. These dies accommodate most coaxial and biaxial connectors and contacts conforming to MIL-C-39012, MIL-C-39029, and numerous proprietary configurations. Other designs are available for coaxial connections requiring different termination techniques.

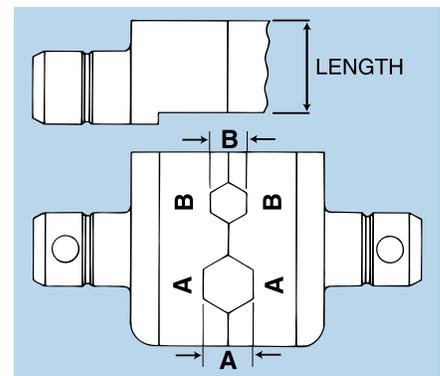
Dies in various crimp patterns are also available for insulated and uninsulated terminal lugs, wire splices and end caps relating to M7928, MS17143, MS25036, MS25181, MS27429, MS25274, MS20659, M81824, MS21003 through MS21015, and commercial part numbers. Several power contacts too large for conventional hand tools are also covered by

interchangeable dies for the standard tool frame (HX4).

If your application requirement is not already covered by one of our standard dies our engineering department will be pleased to discuss a design to suit your needs.

The HX4 is 11" in length and weighs approximately 21 oz. The HX3 is 9" in length and weighs 11 oz.

TYPICAL DIE SET



DIE P/N			DIE CLOSURE DIMENSIONS			
DMC P/N	MILITARY P/N	NATIONAL STOCK NO. N.S.N.	A HEX.	LENGTH	B HEX.	LENGTH
HX4	M22520/5-01	5120-01-335-8575	Crimp Tool Frame			
Y200P	M22520/5-02	5120-01-335-8244	.091	.090	.068	.270
Y196	M22520/5-03	5120-01-335-8245	.128	.325	.105	.325
Y152	M22520/5-04	5120-01-335-8246	.138	.090	.118	.270
Y197	M22520/5-05	5120-01-335-8247	.213	.325	.178	.325
Y203	M22520/5-06	5120-01-335-8248	.128	.094		
Y195	M22520/5-07	5120-01-335-8249	.255	.325		
Y215	M22520/5-08	5120-01-335-8250	.128	.375		
Y204P	M22520/5-09	5120-01-335-8251	.178	.400	.068	.093
Y189	M22520/5-10	5120-01-335-8252	.160	.400		
Y205P	M22520/5-11	5120-01-335-8253	.213	.400	.068	.093
Y206P	M22520/5-13	5120-01-335-8254	.255	.400	.068	.093
Y207P	M22520/5-15	5120-01-335-8255	.263	.400	.068	.093
Y193	M22520/5-17	5120-01-335-8256	.118	.375		
Y142	M22520/5-19	5120-01-335-8257	.255	.400	.213	.400
Y149	M22520/5-21	5120-01-335-8258	.475	.400		
Y145	M22520/5-23	5120-01-335-8259	.384	.400		
Y110P	M22520/5-25	5120-01-335-8260	.429	.400	.100	.120
Y151	M22520/5-27	5120-01-335-8261	.532	.400		
Y109P	M22520/5-29	5120-01-335-8262	.324	.400	.100	.120
Y150	M22520/5-31	5120-01-335-8263	.501	.400		
Y136	M22520/5-33	5120-01-335-8264	.343	.400	.105	.400
Y137	M22520/5-35	5120-01-335-8265	.324	.400	.128	.400
Y138	M22520/5-37	5120-01-335-8266	.314	.400	.151	.400
Y139	M22520/5-39	5120-01-335-8267	.309	.400	.160	.400
Y140	M22520/5-41	5120-01-335-8268	.290	.400	.178	.400
Y141	M22520/5-43	5120-01-335-8269	.268	.400	.197	.400
Y143	M22520/5-45	5120-01-335-8270	.231	.400	.218	.400
Y144	M22520/5-47	5120-01-335-8271	.359	.400		
Y146	M22520/5-49	5120-01-335-8292	.401	.400		
Y147	M22520/5-51	5120-01-335-8293	.431	.400		
Y148	M22520/5-53	5120-01-335-8294	.454	.400		
Y102	M22520/5-55	5120-01-335-8295	.324	.400		
Y209P	M22520/5-57	5120-01-335-8296	.213	.400	.100	.120

DIE P/N			DIE CLOSURE DIMENSIONS			
DMC P/N	MILITARY P/N	NATIONAL STOCK NO. N.S.N.	A HEX.	LENGTH	B HEX.	LENGTH
Y208P	M22520/5-59	5120-01-335-8297	.255	.400	.100	.120
Y178	M22520/5-61	5120-01-335-8298	.429	.400		
Y314P	M22520/5-63	5120-01-335-8299	.263	.400	.091	.090
Y501	M22520/5-100	5120-01-335-8300	Pre-Insulated Terminal Crimp 26-10 AWG			
Y527	M22520/5-101	5120-01-335-8301	Pre-Insulated Splice Crimp 26-20 AWG			
Y539	M22520/5-102	5120-01-335-8302	Splice Crimp 12-16 AWG			
Y540	M22520/5-103	5120-01-335-8303	Splice Crimp 16-26 AWG			

DIE P/N			DIE CLOSURE DIMENSIONS			
DMC P/N	MILITARY P/N	NATIONAL STOCK NO. N.S.N.	A HEX.	LENGTH	B HEX.	LENGTH
HX3	M22520/10-01	5120-01-335-8582	Crimp Tool Frame			
X115S	M22520/10-02	5120-01-335-8304	.091	.090	.068	.270
X103	M22520/10-03	5120-01-335-8305	.255	.325		
X123	M22520/10-04	5120-01-335-8277	.138	.090	.118	.270
X101	M22520/10-05	5120-01-335-8278	.128	.325	.105	.325
X125	M22520/10-06	5120-01-335-8279	.160	.400		
X102	M22520/10-07	5120-01-335-8280	.213	.325	.178	.325
X140	M22520/10-08	5120-01-335-8281	.128	.093		
X129	M22520/10-09	5120-01-335-8282	.118	.327		
X136	M22520/10-10	5120-01-335-8283	.128	.375		
X225	M22520/10-11	5120-01-335-8284	.105	.400		
X118	M22520/10-13	5120-01-335-8285	.128	.400		
X226	M22520/10-15	5120-01-335-8286	.151	.400		
X149	M22520/10-17	5120-01-335-8287	.178	.400		
X147	M22520/10-19	5120-01-335-8288	.197	.400		
X144	M22520/10-21	5120-01-335-8289	.213	.400		
X155	M22520/10-23	5120-01-335-8290	.218	.400		
X156	M22520/10-25		.231	.400		
X187	M22520/10-27	5120-01-335-8291	.255	.400		
X515	M22520/10-100	5120-01-335-8272	Terminal/Splice Crimp 12-10 AWG			
X511	M22520/10-101	5120-01-335-8273	Terminal/Splice Crimp 26-14 AWG			
X525	M22520/10-102	5120-01-335-8274	Terminal/Splice Crimp 26-20 AWG			
X527	M22520/10-103	5120-01-335-8275	Splice Crimp 16-12 AWG			
X528	M22520/10-104	5120-01-335-8276	Splice Crimp 26-16 AWG			

Pneumatic Open Frame Tool

HX23 BENCH CRIMP PRESS

Compatibility with Existing Crimp Dies

The HX23 accommodates all M22520/5-XX military and Daniels "Y" series crimp dies.

This affords total utilization of existing dies and total interchangeability with M22520/5-01 (Daniels HX4) hand tool frames.

Full Cycle Control

Full die closure is assured on every crimp. The internal cycle control network will not allow the tool to open until complete closure is attained. A simple procedure is available to open the tool in cases where a complete cycle cannot be effected. A secure method is provided to prevent unauthorized personnel from defeating the cycle control system.

Hands Free Operation

There are no awkward levers or mechanisms used to open or close the crimp dies. These operations waste time and distract the operator's attention.

When the tool is in the normal condition, the crimp dies are fully open where contact assemblies can easily be inserted. A touch of the foot valve releases the dies to a gripping position (spring pressure only). When the operator is satisfied that the contact assembly is positioned correctly, another actuation of the same foot valve completes the crimp and quickly returns the die to open position.

Operator Safety Features

The HX23 is equipped with a transparent guard which affords the protection, but does not restrict vision.

The Hands Free Operation system allows the operator to position the contact assembly while the die is under spring pressure only.

The operator is then free to let the

tool hold the contact assembly during the crimp cycle while the operator's hands and fingers are a safe distance from the crimping die.

The HX23 foot valve assembly is constructed with a protective shroud to prevent accidental actuation. For operation the operator places their foot under the shroud to depress the pedal.

Full Pneumatic Operation

Standard clean, dry shop air at the recommended pressure is all that is required to operate the HX23 tool. There are no electrical or hydraulic requirements.

SPECIFICATIONS		
COMPONENTS	SIZE	WEIGHT
TOOL FRAME (LESS BENCH MOUNT)	(in) 4" x 6 x 16 (cm) 11.4 x 15.2 x 40.6	11 ⁰ LBS 5.2 KG
FOOT VALVE	(in) 4 x 5 x 13" (cm) 10.2 x 12.7 x 34.3	6 LBS 2.7 KG
CABLE	9 Feet - 2.7 Meters	N/A
AIR REQUIREMENTS 80-95 PSI (5.4-6.4 BAR)		

SAFETY FEATURES:

- 2 Step Crimping Process
- Emergency Stop Switch

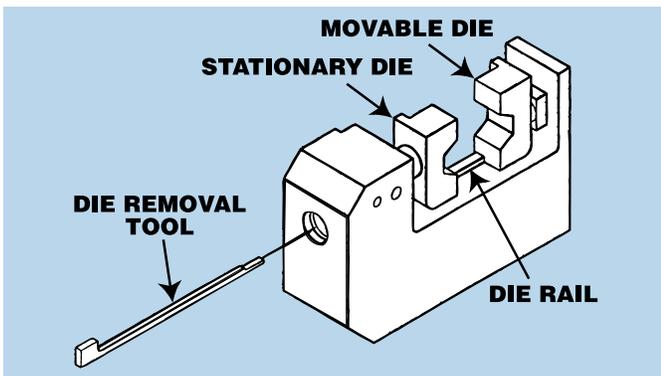


BENCH MOUNT AND FOOT PRESS INCLUDED

Open Frame Operation, Dies, and EHCY Series Electric Tool



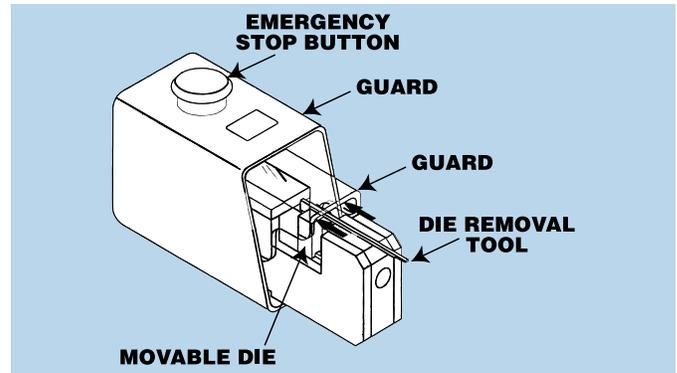
The HX23 crimp tool features a system of interchangeable dies which eliminates the need for separate fixed die crimp tools for each and every different application. Dies in various crimp patterns are available for MIL-C-39029 shielded contacts, MIL-C-39012 coaxial connectors, MIL-T-7928 terminals and splices, and other commercial and military terminating components.



1. The die sets snap in and out of the crimp tool for interchangeability. A die removal tool is included with the HX23 for operator convenience.

CAUTION: Always disconnect the air supply when changing the die sets.

COMMON CRIMP DIES ARE LISTED ON PAGES 27, 49 AND 53-65. For Other Applications Consult Factory.



2. The first pulse of the foot valve will close the HX23 under light spring pressure. This grips the crimp termination device in the proper location for crimping. The second pulse completes the crimp, and returns the tool to the fully open position.

ADJUSTABLE DIES FOR TERMINALS & SPLICES

Adjustable Crimping Dies accept terminations which conform to MIL-T-7928, MS25036 (class 1 and 2) and other military or commercial specifications.

COLOR	SIZE	P/N
YELLOW	12-10	Y670
BLUE	16-14	Y671
RED	22-18	Y672
YELLOW	26-24	Y678



ELECTRIC/HYDRAULIC CRIMP TOOL (EHCY SERIES)

A Totally Self-Contained Portable Crimp System

The models EHCY* and EHC36** are fast cycling bench-top crimp tools designed to be lightweight and rugged. The versatile features of the EHCY* and EHC36** make this a good choice where production and quality cannot be compromised. These units are small in overall size (10.0" H x 7.1" W x 19.1" L) and weigh approximately 27 pounds, but they have ample die force power to do most jobs. The crimp cycle time is only two seconds.

***EHCY Model** accepts the popular DMC "Y" series dies (featured on pages 27, 49, 53-65). This model is generally the preferred choice.

****EHC36 Model** accepts HD36 series dies.

EHCFF Foot Press (optional)



Pneumatic/Hydraulic Portable Crimp Tool Systems



THE FULL PH SERIES PORTABLE CRIMP SYSTEM

DMC presents the ultimate Power Tool System Package for Crimping, or other functions which require high force, portability, and absolute cycle control...

Through the use of DMC Advanced Air Logic Technology, standard shop air pressure is converted to an extremely versatile (and portable) power application system. Couple that with a variety of hand-held applicators with standard Crimp Dies, or Fixed Jaw Assemblies that can be converted to a new application by a simple disconnection*, and re-attachment of the new hose/tool assembly.

This system provides the user with a compact hand-held or bench mounted tool that weighs little more than the comparable hand tool. The power converter (with the air logic network) is housed in a separate rugged metal case. The two units are connected with a 9 foot hose assembly.

The models pictured here are a few examples of the tools which are available from DMC. Other configurations can also be supplied.



PH4005

PH4001

1. The PH4001 and 4005 tool systems accommodate all the crimp dies which are used in the M22520/5-01 (HX4) hand tool frame.
2. The PH1003 tool system is equivalent to the GMT232 hand tool, and crimps M81824 environmental splices.
3. The PH-HYBRID tool system utilizes the frame and dies of several popular hand tools which are mounted to the DMC power unit.

ACCESSORIES

Bench Mount – The BM-2 Bench Mount is adjustable for a comfortable position.

Foot Press – The PHFV-3 Foot Press can be easily attached to all PH series tools for hands-free actuation.

Vacuum Generator – The PHVG Vacuum Generator is used to remove air from Hydraulic cables and cylinders.



PH1003



PH-HYBRID



BENCH MOUNT



FOOT PRESS



VACUUM GENERATOR

PNEUMATIC/HYDRAULIC TOOLS			
EQUIVALENT HAND TOOL	PH SERIES SYSTEM P/N*	HAND-HELD PORTION ONLY**	APPLICATION (COMMENTS)
GMT232 or AD1377 (Tyco)	PH1003	PHMT232	M81824/1 Environmental Splices
GMT281 or 69324 (Tyco)	PH1002	PHMT1002	22-10 AWG Solistrand Terminals & Splices
59461 (Tyco)	PH2001	PHST59461	12-10 AWG Stratotherm
90382-2 (Tyco)	PH2005	PH90382-2	Multi-Mate Contacts 16-12 AWG Type XII
576781 (Tyco)	PH2006	PHST576781	16 AWG Stratotherm
576778 (Tyco)	PH2007	PHST576778	22-24 AWG Stratotherm
HX4 (DMC) M22520/5-01	PH4001	PH4	Accepts All "Y" Series Dies (M22520/5-XX)
HX4 (DMC) M22520/5-01	PH4005	PH4ST	Accepts All "Y" Series Dies (M22520/5-XX)
Pneumatic/ Hydraulic	PHRPU4 (Controller)	Powers All PH-Series Tools (Included in System Designation) (Column 2)	

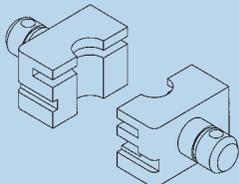
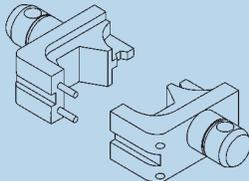
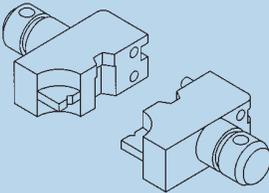
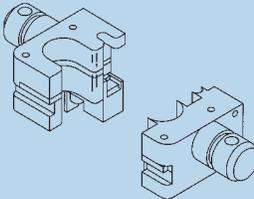
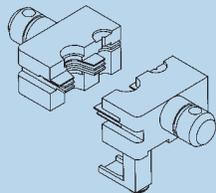
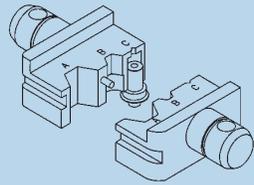
*Includes PHRPU4 Power Controller and Plug-In Hand Tool
 **Part Number refers to the hand tool and hose assembly only.
 Dies, Foot Press, Vacuum Generator and other recommended accessories are available from DMC. Consult factory for details.

DMC Crimp Dies For A Full Range of Capabilities



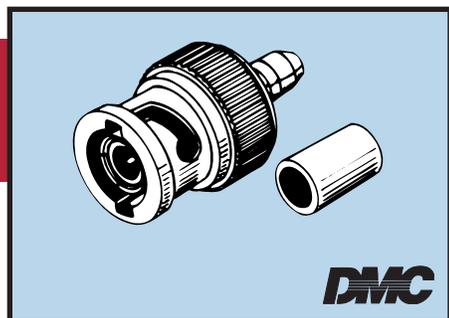
DMC constantly adds new crimp die designs that are comparable to connector and terminal supplier dies or tools. A few of the popular "Y" die applications are featured in the following chart. For more options, consult factory.

TYPICAL DIE CONFIGURATIONS



MFR. TOOL	DMC	MFR. TOOL	DMC	MFR. TOOL	DMC	MFR. TOOL	DMC
AMP 220009-1-B	Y827	AMP 9036402A	Y929	CANNON 304-0445-000	Y894	KINGS KTH2214	Y892
AMP 220015-1	Y587	AMPHENOL 227-100	Y128P	CANNON 317-1795-000	Y694	KINGS KTH2216	Y893
AMP 220045-2	Y588	AMPHENOL 227-1221-6001	Y951	CANNON 317-2071-000	Y824	KINGS KTH2229	Y911
AMP 220066-1	Y586	AMPHENOL 227-1228	Y240S	CANNON 317-7178-000	Y830	M22520/5-104	Y692
AMP 227-1400	Y800P	AMPHENOL 227-1242	Y323S	CANNON 317-9727-002	Y707	MAC PANEL 452303	Y430-MP
AMP 277-980-3	Y773P	AMPHENOL 227-125	Y129	CANNON 990-001-391/392	Y358	MOLEX 8657-5001/2	Y922
AMP 330369	Y755	AMPHENOL 227-1350	Y324S	CANNON 995-0001-761	Y704	MOLEX 86760-5003	Y926
AMP 45158-2	Y717	AMPHENOL 227-1351-1	Y325	CANNON 995-0002-113	Y702	MOLEX 90026 & 90027	Y820
AMP 45238-2	Y721	AMPHENOL 227-1351-2	Y344	CANNON 995-0002-143	Y708	MS20659	Y502
AMP 45239-2	Y720	AMPHENOL 227-1351-3	Y326	CANNON 995-0002-228	Y793	MS20659	Y571
AMP 45240-2	Y719	AMPHENOL 227-1351-4	Y346	CANNON APK 15 & 25	Y831	MS25312-1	Y510
AMP 45241-2	Y718	AMPHENOL 227-1351-5	Y347	CANNON BUCH. 612992	Y331	MS25312-2	Y509
AMP 46121	Y521	AMPHENOL 227-1351-6	Y348	CANNON CCT-406M	Y321	MS25312-3	Y508
AMP 46468	Y522	AMPHENOL 227-1354	Y355S	CANNON CCT-C1	Y316	MS25312-4	Y507
AMP 46470	Y519	AMPHENOL 227-1355	Y356S	CANNON CCT-C10	Y320	MS27143	Y627
AMP 46673	Y751	AMPHENOL 227-1358	Y357	CANNON CCT-C2	Y555	MS27144	Y627
AMP 46988	Y752	AMPHENOL 227-1392-03	Y488S	CANNON CCT-C3	Y317	MS27148	Y627
AMP 48-326-XX	Y640	AMPHENOL 227-1395	Y654	CANNON CCT-C5	Y318	RADIALL R282 235 901	Y915
AMP 49935	Y788	AMPHENOL 227-1402	Y677	CANNON CCT-C6	Y319	RADIALL R282230	Y342
AMP 501295-1	Y923	AMPHENOL 227-1403	Y493	CANNON CCT-C7A	Y557	RAYCHEM AD1377	Y516
AMP 525651	Y934	AMPHENOL 227-1408	Y713S	CANNON CCT-C8	Y558	T & B WT232	Y173
AMP 58237-1	Y902	AMPHENOL 227-1409	Y688P	CANNON CCT-C9	Y559	T & B 683-51470-4	Y520
AMP 58237-2	Y897	AMPHENOL 227-1414	Y780	CANNON CCT-CKM1	Y560	T & B RA18-188	Y580
AMP 58238-2-A	Y896	AMPHENOL 227-200	Y133	CANNON CCT-CX2	Y556	T & B WT157N	Y689
AMP 58249-1	Y692	AMPHENOL 227-350	Y132	CANNON CCT-DM	Y322	T & B WT200	Y119
AMP 583424	Y906	AMPHENOL 227-375	Y131	DEUTSCH 20055	Y380	T & B WT200-06-08	Y360
AMP 583424-1,-2	Y904	AMPHENOL 227-400	Y130P	KINGS 683-514/0-3	Y397	T & B WT200-06-11	Y443
AMP 583424-5	Y903	AMPHENOL 227-425	Y134	KINGS 683-51559	Y467	T & B WT201-03-10	Y410
AMP 583424-6	Y905	AMPHENOL 227-600	Y225	KINGS KTH1002	Y464	T & B WT202-06-08	Y409
AMP 58423-1	Y810P	AMPHENOL 227-909-2022	Y700	KINGS KTH1061	Y575	T & B WT202-06-08	Y411
AMP 58423-2	Y811P	AMPHENOL 227-909-2023	Y701	KINGS KTH1077	Y828P	T & B WT203	Y198
AMP 59215	Y619	AMPHENOL 227-909-2043	Y621	KINGS KTH1078	Y609	T & B WT209, 409	Y211
AMP 59239-14	Y518	AMPHENOL 227-911	Y442	KINGS KTH1079	Y630P	T & B WT210, 410	Y212
AMP 59250	Y506	AMPHENOL 227-911	Y623	KINGS KTH2002	Y269	T & B WT226	Y169
AMP 59255	Y753	AMPHENOL 227-980-1	Y685	KINGS KTH2012	Y277	T & B WT227	Y170
AMP 59459	Y745	AMPHENOL 227-980-2	Y686	KINGS KTH2021	Y339	T & B WT229	Y178P
AMP 59461	Y794	AMPHENOL 227-980-5	Y787P	KINGS KTH2024	Y423	T & B WT230	Y179
AMP 59493-1	Y843	AMPHENOL 294-1832	Y200P	KINGS KTH2042	Y209P	T & B WT231	Y180
AMP 59508	Y748	AMPHENOL 294-525	Y152P	KINGS KTH2061	Y572	T & B WT233	Y242
AMP 69149-1	Y732	AMPHENOL 294-532	Y200P	KINGS KTH2062	K575	T & B WT234	Y293
AMP 69223-1	Y733	AMPHENOL 294GB-5031	Y731	KINGS KTH2062	Y762P	T & B WT235	Y246
AMP 69224-1	Y734	AMPHENOL 48-326	Y477	KINGS KTH2063	Y617	T & B WT238	Y245
AMP 69266-1	Y735	AMPHENOL 611X1151	Y336	KINGS KTH2064	Y574	T & B WT311	Y243
AMP 69339	Y589	AMPHENOL 611X1275-1	Y564	KINGS KTH2067	Y573	T & B WT400	Y203
AMP 69352	Y749	AMPHENOL 790-5185	Y255S	KINGS KTH2067	Y760P	T & B WT400	Y215
AMP 69355	Y750	AMPHENOL 790-5284	Y257	KINGS KTH2081	Y613	T & B WT400-02-08	Y219
AMP 69363	Y590	AMPHENOL 790-5285	Y254	KINGS KTH2082	Y600	T & B WT401	Y201
AMP 69365-3	Y950	AMPHENOL 790-5431	Y250	KINGS KTH2101	Y633	T & B WT401, 406, 411	Y292
AMP 69408	Y736	BENDIX 10-40792	Y578	KINGS KTH2103	Y680	T & B WT402	Y214
AMP 69422	Y737	BENDIX 10-40793	Y578	KINGS KTH2105	Y634	T & B WT406	Y216
AMP 69423	Y738	ASTRO. 613876	Y328	KINGS KTH2127	Y635	T & B WT406M	Y321
AMP 69424	Y739	ASTRO. 615550	Y330	KINGS KTH2128	Y636	T & B WT411	Y190
AMP 69425	Y740	BENDIX 11-8447-9	Y578	KINGS KTH2140	Y837P	T & B WT414	Y191
AMP 69429	Y741	BENDIX 21-33145-1	Y690	KINGS KTH2162	Y679	T & B WT419	Y192
AMP 69471	Y742	BURNDY MR8PV-2	Y530	KINGS KTH2168	Y932	TROMPETER CD5-10	Y776
AMP 69477-4	Y938	BURNDY MR8-PVS	Y524	KINGS KTH2175	Y940	TROMPETER CD5-11	Y777
AMP 69493	Y743	BURNDY N14HET-25	Y881	KINGS KTH2177	Y825	TROMPETER CD5-11	Y778
AMP 69493-1	Y744	BURNDY N14RT-10	Y818	KINGS KTH2180	Y829P	TROMPETER CD5-12	Y789
AMP 69646	Y746	BURNDY N14TCHT-1	Y705	KINGS KTH2207	Y888	TROMPETER CD5-13	Y803
AMP 69646	Y537	BURNDY N22RVMT-10	Y512	KINGS KTH2211	Y889	TROMPETER CD5-4	Y631
AMP 69646	Y268	BURNDY N22RVMT-15	Y817	KINGS KTH2212	Y890	TROMPETER CD5-7	Y775
AMP 69811	Y747	BURNDY YAV9C-L36	Y948	KINGS KTH2213	Y891	TROMPETER CD5-9	Y687
AMP 85-35181-SK11	Y692	CANNON 249-1400-000	Y249P	KINGS KTH2213	Y910	WALTER KIDDE M616229	Y412

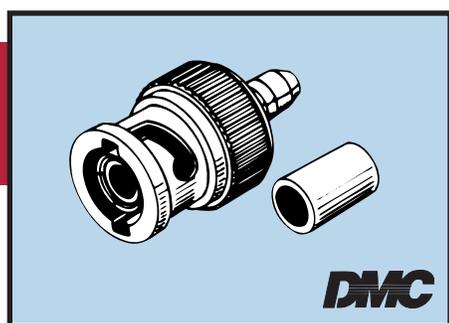
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MIL-C-39012/16 SERIES BNC

CONNECTOR TYPE	CONNECTOR MILITARY PART NO.
PLUG PIN CONTACT	M39012/16-0501
	M39012/16-0502
	M39012/16-0503
	M39012/16-0504

CONTACT GUIDE				APPLICABLE CABLE RG-/U	CRIMP TOOL		POSITIONER OR DIE	
CONTACT MILITARY PART CO.*	PIN OR SKT	COLORBAND						
		□	○					
I.C./M39012/16-12	P	ORA	YEL	122	AF8		TH270	
O.F./M39012/16-50	—	—	—		HX4	HX3	Y197	X102
I.C./M39012/16-11	P	BLU	YEL	180	AF8		TH270	
O.F./M39012/16-50	—	—	—		HX4	HX3	Y197	X102
I.C./M39012/16-10	P	RED	YEL	142 400	AF8		TH270	
O.F./M39012/16-51	—	—	—		HX4	HX3	Y197	X102
I.C./M39012/16-10	P	RED	YEL	58	AF8		TH270	
O.F./M39012/16-52	—	—	—		HX4	HX3	Y197	X102

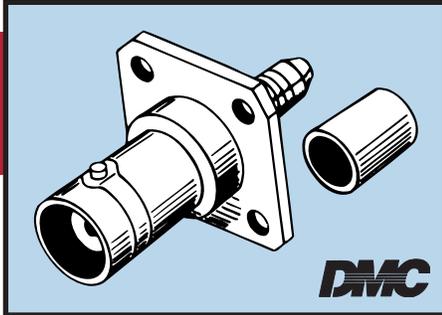


MIL-C-39012/17 SERIES BNC

CONNECTOR TYPE	CONNECTOR MILITARY PART NO.
PLUG SOCKET CONTACT	M39012/17-0501
	M39012/17-0502
	M39012/17-0503
	M39012/17-0504

CONTACT GUIDE				APPLICABLE CABLE RG-/U	CRIMP TOOL		POSITIONER OR DIE	
CONTACT MILITARY PART CO.*	PIN OR SKT	COLORBAND						
		□	○					
I.C./M39012/17-12	S	ORA	GRE	122	AF8		TH270	
O.F./M39012/17-50	—	—	—		HX4	HX3	Y197	X102
I.C./M39012/17-11	S	BLU	GRE	180	AF8		TH270	
O.F./M39012/17-50	—	—	—		HX4	HX3	Y197	X102
I.C./M39012/17-10	S	RED	GRE	142 400	AF8		TH270	
O.F./M39012/17-51	—	—	—		HX4	HX3	Y197	X102
I.C./M39012/17-10	S	RED	GRE	58	AF8		TH270	
O.F./M39012/17-52	—	—	—		HX4	HX3	Y197	X102

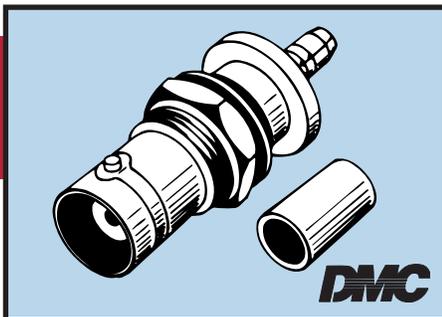
R.F. Connectors Tool Selection Guide



MIL-C-39012/18 SERIES BNC

CONNECTOR TYPE	CONNECTOR MILITARY PART NO.
RECEPTACLE, FLANGE MOUNTED	M39012/18-0501
	M39012/18-0502
	M39012/18-0503
	M39012/18-0504

CONTACT GUIDE				APPLICABLE CABLE RG-/U	CRIMP TOOL		POSITIONER OR DIE	
CONTACT MILITARY PART CO.*	PIN OR SKT	COLORBAND						
		□	○					
I.C./M39012/18-12	S	ORA	GRE	122	AF8		TH270	
O.F./M39012/18-50	—	—	—		HX4	HX3	Y197	X102
I.C./M39012/18-11	S	BLU	GRE	180	AF8		TH270	
O.F./M39012/18-50	—	—	—		HX4	HX3	Y197	X102
I.C./M39012/18-10	S	RED	GRE	142 400	AF8		TH270	
O.F./M39012/18-51	—	—	—		HX4	HX3	Y197	X102
I.C./M39012/18-10	S	RED	GRE	58	AF8		TH270	
O.F./M39012/18-52	—	—	—		HX4	HX3	Y197	X102

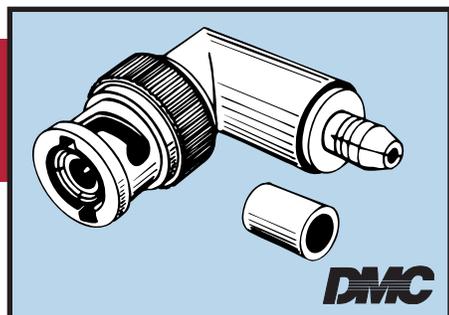


MIL-C-39012/19 SERIES BNC

CONNECTOR TYPE	CONNECTOR MILITARY PART NO.
JAM NUT MOUNT	M39012/19-0501
	M39012/19-0502
	M39012/19-0503
	M39012/19-0504

CONTACT GUIDE				APPLICABLE CABLE RG-/U	CRIMP TOOL		POSITIONER OR DIE	
CONTACT MILITARY PART CO.*	PIN OR SKT	COLORBAND						
		□	○					
I.C./M39012/19-12	S	ORA	BLU	122	AF8		TH270	
O.F./M39012/19-50	—	—	—		HX4	HX3	Y197	X102
I.C./M39012/19-11	S	BLU	BLU	180	AF8		TH270	
O.F./M39012/19-50	—	—	—		HX4	HX3	Y197	X102
I.C./M39012/19-10	S	RED	BLU	142 400	AF8		TH270	
O.F./M39012/19-51	—	—	—		HX4	HX3	Y197	X102
I.C./M39012/19-10	S	RED	BLU	58	AF8		TH270	
O.F./M39012/19-52	—	—	—		HX4	HX3	Y197	X102

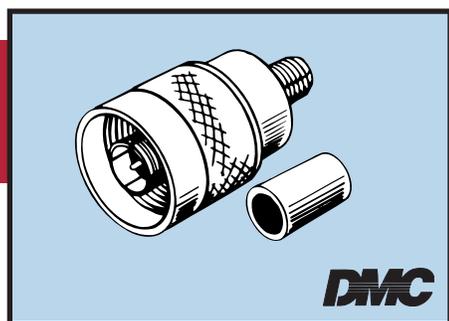
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MIL-C-39012/20 SERIES BNC

CONNECTOR TYPE	CONNECTOR MILITARY PART NO.
PLUG RIGHT ANGLE	M39012/20-0501
	M39012/20-0502
	M39012/20-0503
	M39012/20-0504

CONTACT GUIDE				APPLICABLE CABLE RG-/U	CRIMP TOOL		POSITIONER OR DIE	
CONTACT MILITARY PART CO.*	PIN OR SKT	COLORBAND						
		□	○					
I.C./M39012/20-12	P	ORA	VIO	122	AF8		TH270	
O.F./M39012/20-50	—	—	—		HX4	HX3	Y197	X102
I.C./M39012/20-11	P	BLU	VIO	180	AF8		TH270	
O.F./M39012/20-50	—	—	—		HX4	HX3	Y197	X102
I.C./M39012/20-10	P	RED	VIO	142 400	AF8		TH270	
O.F./M39012/20-51	—	—	—		HX4	HX3	Y197	X102
I.C./M39012/20-10	P	RED	VIO	58	AF8		TH270	
O.F./M39012/20-52	—	—	—		HX4	HX3	Y197	X102

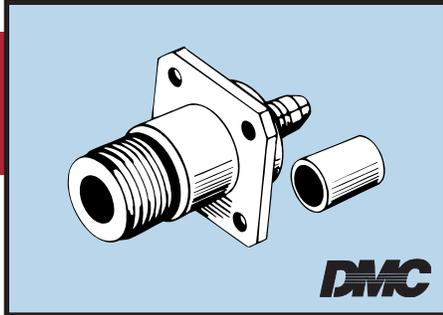


MIL-C-39012/1 SERIES N

CONNECTOR TYPE	CONNECTOR MILITARY PART NO.
PLUG	M39012/01-0501
	M39012/01-0502
	M39012/01-0503

CONTACT GUIDE				APPLICABLE CABLE RG-/U	CRIMP TOOL		POSITIONER OR DIE	
CONTACT MILITARY PART CO.*	PIN OR SKT	COLORBAND						
		□	○					
I.C./M39012/1-10	P	RED	BLA	214 225 393	AF8		TH285	
O.F./M39012/1-50	—	—	—		HX4		Y178	
I.C./M39012/1-10	P	RED	BLA		213	AF8		TH285
O.F./M39012/1-51	—	—	—	HX4			Y178	
I.C./M39012/1-11	P	BLU	BLA	142 400	AF8		TH285	
O.F./M39012/1-52	—	—	—		HX4	HX3	Y142	X144

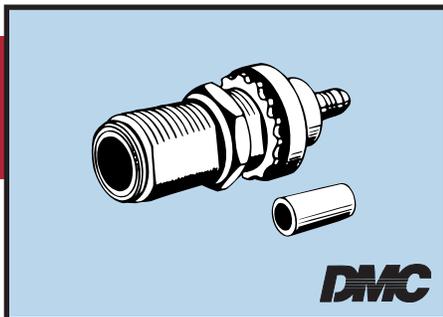
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MIL-C-39012/2 SERIES N

CONNECTOR TYPE	CONNECTOR MILITARY PART NO.
PLUG AND RECEPTACLE FLANGE MOUNTED	M39012/02-0501
	M39012/02-0511
	M39012/02-0502
	M39012/02-0512
	M39012/02-0503
	M39012/02-0513

CONTACT GUIDE				APPLICABLE CABLE RG-/U	CRIMP TOOL		POSITIONER OR DIE	
CONTACT MILITARY PART CO.*	PIN OR SKT	COLORBAND						
		□	○					
I.C./M39012/2-10	S	RED	BRO	214	AF8		TH285	
O.F./M39012/2-50	—	—	—	225	HX4	HX3	Y178	
				393				
I.C./M39012/2-10	S	RED	BRO	213	AF8		TH285	
O.F./M39012/2-51	—	—	—		HX4		Y178	
I.C./M39012/2-11	S	BLU	BRO	142	AF8		TH285	
O.F./M39012/2-52	—	—	—	400	HX4	HX3	Y142	X144

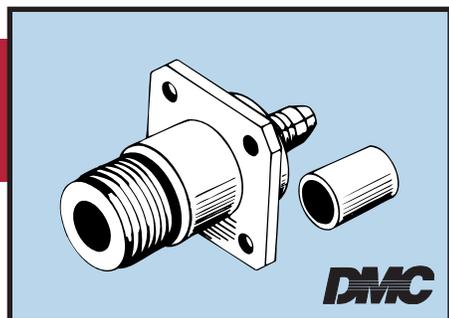


MIL-C-39012/3 SERIES N

CONNECTOR TYPE	CONNECTOR MILITARY PART NO.
JAM NUT MOUNTED	M39012/03-0501
	M39012/03-0502
	M39012/03-0503

CONTACT GUIDE				APPLICABLE CABLE RG-/U	CRIMP TOOL		POSITIONER OR DIE	
CONTACT MILITARY PART CO.*	PIN OR SKT	COLORBAND						
		□	○					
I.C./M39012/3-10	S	RED	RED	214	AF8		TH286	
O.F./M39012/3-50	—	—	—	225	HX4		Y178	
				393				
I.C./M39012/3-10	S	RED	RED	213	AF8		TH286	
O.F./M39012/3-51	—	—	—		HX4		Y178	
I.C./M39012/3-11	S	BLU	RED	142	AF8		TH286	
O.F./M39012/3-52	—	—	—	400	HX4	HX3	Y142	X144

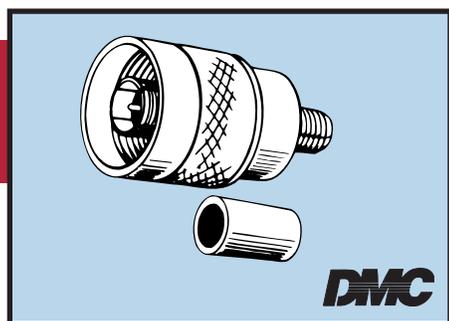
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MIL-C-39012/5 SERIES N

CONNECTOR TYPE	CONNECTOR MILITARY PART NO.
PLUG RIGHT ANGLE	M39012/05-0501
	M39012/05-0502
	M39012/05-0503

CONTACT GUIDE				APPLICABLE CABLE RG-/U	CRIMP TOOL		POSITIONER OR DIE	
CONTACT MILITARY PART CO.*	PIN OR SKT	COLORBAND						
		□	○					
I.C./M39012/5-10	P	RED	ORA	214 225 393	AF8		TH285	
O.F./M39012/5-50	—	—	—		HX4		Y178	
I.C./M39012/5-10	P	RED	ORA		AF8		TH285	
O.F./M39012/5-51	—	—	—	213	HX4		Y178	
I.C./M39012/5-11	P	BLU	ORA	142 400	AF8		TH285	
O.F./M39012/5-52	—	—	—		HX4	HX3	Y142	X144

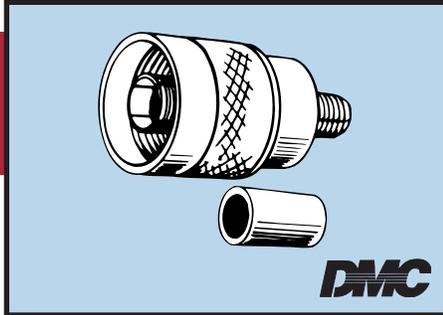


MIL-C-39012/26 SERIES TNC

CONNECTOR TYPE	CONNECTOR MILITARY PART NO.
PLUG PIN CONTACT	M39012/26-0501
	M39012/26-0502
	M39012/26-0503
	M39012/26-0504

CONTACT GUIDE				APPLICABLE CABLE RG-/U	CRIMP TOOL		POSITIONER OR DIE	
CONTACT MILITARY PART CO.*	PIN OR SKT	COLORBAND						
		□	○					
I.C./M39012/20-12	P	CRA	YEL	122	AF8		TH270	
O.F./M39012/26-50	—	—	—		HX4	HX3	Y197	X102
I.C./M39012/26-11	P	BLU	YEL	180	AF8		TH270	
O.F./M39012/26-50	—	—	—		HX4	HX3	Y197	X102
I.C./M39012/26-10	P	RED	YEL	142 400	AF8		TH270	
O.F./M39012/26-51	—	—	—		HX4	HX3	Y197	X102
I.C./M39012/26-10	P	RED	YEL	58	AF8		TH270	
O.F./M39012/26-52	—	—	—		HX4	HX3	Y197	X102

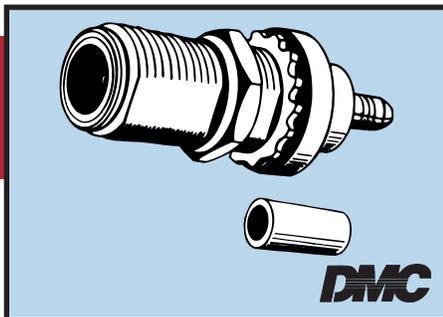
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MIL-C-39012/27 SERIES TNC

CONNECTOR TYPE	CONNECTOR MILITARY PART NO.
PLUG SOCKET CONTACT	M39012/27-0501
	M39012/27-0502
	M39012/27-0503
	M39012/27-0504

CONTACT GUIDE				APPLICABLE CABLE RG-/U	CRIMP TOOL		POSITIONER OR DIE	
CONTACT MILITARY PART CO.*	PIN OR SKT	COLORBAND						
		□	○					
I.C./M39012/27-12 O.F./M39012/27-50	S —	ORA —	GRE —	122	AF8		TH270	
					HX4	HX3	Y197	X102
I.C./M39012/27-11 O.F./M39012/27-50	S —	BLU —	GRE —	180	AF8		TH270	
					HX4	HX3	Y197	X102
I.C./M39012/27-10 O.F./M39012/27-51	S —	RED —	GRE —	142 400	AF8		TH270	
					HX4	HX3	Y197	X102
I.C./M39012/27-10 O.F./M39012/27-52	S —	RED —	GRE —	58	AF8		TH270	
					HX4	HX3	Y197	X102

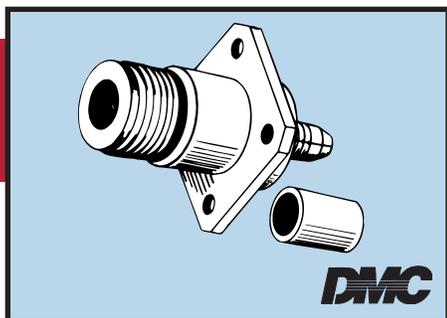


MIL-C-39012/28 SERIES TNC

CONNECTOR TYPE	CONNECTOR MILITARY PART NO.
JAM NUT MOUNT	M39012/28-0501
	M39012/28-0502
	M39012/28-0503
	M39012/28-0504

CONTACT GUIDE				APPLICABLE CABLE RG-/U	CRIMP TOOL		POSITIONER OR DIE	
CONTACT MILITARY PART CO.*	PIN OR SKT	COLORBAND						
		□	○					
I.C./M39012/28-12 O.F./M39012/28-50	S —	ORA —	BLU —	122	AF8		TH270	
					HX4	HX3	Y197	X102
I.C./M39012/28-11 O.F./M39012/28-50	S —	BLU —	BLU —	180	AF8		TH270	
					HX4	HX3	Y197	X102
I.C./M39012/28-10 O.F./M39012/28-51	S —	RED —	BLU —	142 400	AF8		TH270	
					HX4	HX3	Y197	X102
I.C./M39012/28-10 O.F./M39012/28-52	S —	RED —	BLU —	58	AF8		TH270	
					HX4	HX3	Y197	X102

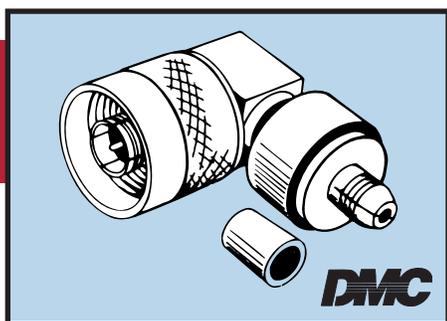
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MIL-C-39012/29 SERIES TNC

CONNECTOR TYPE	CONNECTOR MILITARY PART NO.
RECEPTACLE FLANGE MOUNTING	M39012/29-0501
	M39012/29-0502
	M39012/29-0503
	M39012/29-0504

CONTACT GUIDE				APPLICABLE CABLE RG-/U	CRIMP TOOL		POSITIONER OR DIE	
CONTACT MILITARY PART CO.*	PIN OR SKT	COLORBAND						
		□	○					
I.C./M39012/29-12	S	ORA	GRE	122	AF8		TH270	
O.F./M39012/29-50	—	—	—		HX4	HX3	Y197	X102
I.C./M39012/29-11	S	BLU	GRE	180	AF8		TH270	
O.F./M39012/29-50	—	—	—		HX4	HX3	Y197	X102
I.C./M39012/29-10	S	RED	GRE	142 400	AF8		TH270	
O.F./M39012/29-51	—	—	—		HX4	HX3	Y197	X102
I.C./M39012/29-10	S	RED	GRE	58	AF8		TH270	
O.F./M39012/29-52	—	—	—		HX4	HX3	Y197	X102

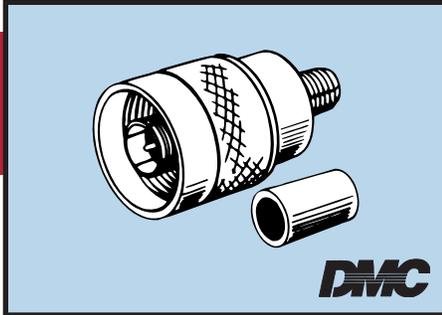


MIL-C-39012/30 SERIES TNC

CONNECTOR TYPE	CONNECTOR MILITARY PART NO.
PLUG RIGHT ANGLE	M39012/30-0501
	M39012/30-0502
	M39012/30-0503
	M39012/30-0504

CONTACT GUIDE				APPLICABLE CABLE RG-/U	CRIMP TOOL		POSITIONER OR DIE	
CONTACT MILITARY PART CO.*	PIN OR SKT	COLORBAND						
		□	○					
I.C./M39012/30-12	P	ORA	VIO	122	AF8		TH270	
O.F./M39012/30-50	—	—	—		HX4	HX3	Y197	X102
I.C./M39012/30-11	P	BLU	VIO	180	AF8		TH270	
O.F./M39012/30-50	—	—	—		HX4	HX3	Y197	X102
I.C./M39012/30-10	P	RED	VIO	142 400	AF8		TH270	
O.F./M39012/30-51	—	—	—		HX4	HX3	Y197	X102
I.C./M39012/30-10	P	RED	VIO	58	AF8		TH270	
O.F./M39012/30-52	—	—	—		HX4	HX3	Y197	X102

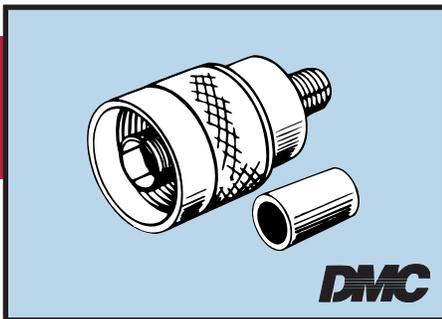
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MIL-C-39012/35 SERIES SC

CONNECTOR TYPE	CONNECTOR MILITARY PART NO.
PLUG PIN CONTACT	M39012/35-0501
	M39012/35-0502
	M39012/35-0503

CONTACT GUIDE				APPLICABLE CABLE RG-/U	CRIMP TOOL		POSITIONER OR DIE	
CONTACT MILITARY PART CO.*	PIN OR SKT	COLORBAND						
		□	○					
I.C./M39012/35-10	P	RED	GRA	214 225 393	AF8		TH286	
O.F./M39012/35-50	—	—	—		HX4	Y178		
I.C./M39012/35-10	P	RED	GRA	213	AF8		TH286	
O.F./M39012/35-51	—	—	—		HX4	Y178		
I.C./M39012/35-11	P	BLU	GRA	142 400	AF8		TH286	
O.F./M39012/35-52	—	—	—		HX4	HX3	Y142	X144

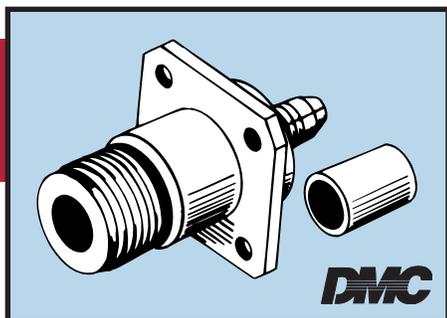


MIL-C-39012/36 SERIES SC

CONNECTOR TYPE	CONNECTOR MILITARY PART NO.
PLUG SOCKET CONTACT	M39012/36-0501
	M39012/36-0502
	M39012/36-0503

CONTACT GUIDE				APPLICABLE CABLE RG-/U	CRIMP TOOL		POSITIONER OR DIE	
CONTACT MILITARY PART CO.*	PIN OR SKT	COLORBAND						
		□	○					
I.C./M39012/36-10	S	RED	WHI	214 225 393	AF8		TH286	
O.F./M39012/36-50	—	—	—		HX4	Y178		
I.C./M39012/36-10	S	RED	WHI	213	AF8		TH286	
O.F./M39012/36-51	—	—	—		HX4	Y178		
I.C./M39012/36-11	S	BLU	WHI	142 400	AF8		TH286	
O.F./M39012/36-52	—	—	—		HX4	HX3	Y142	X144

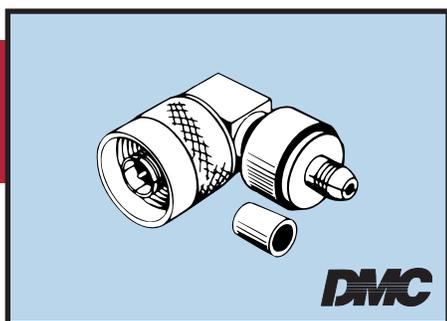
R.F. Connectors Tool Selection Guide



MIL-C-39012/38 SERIES SC

CONNECTOR TYPE	CONNECTOR MILITARY PART NO.
RECEPTACLE FLANGE MOUNTED	M39012/38-0501
	M39012/38-0502
	M39012/38-0503

CONTACT GUIDE				APPLICABLE CABLE RG-/U	CRIMP TOOL		POSITIONER OR DIE	
CONTACT MILITARY PART CO.*	PIN OR SKT	COLORBAND						
		□	○					
I.C./M39012/38-10	S	RED	WHI	214 225 393	AF8		TH286	
O.F./M39012/38-50	—	—	—		HX4		Y178	
I.C./M39012/38-10	S	RED	WHI	213	AF8		TH286	
O.F./M39012/38-51	—	—	—		HX4		Y178	
I.C./M39012/38-11	S	BLU	WHI	142 400	AF8		TH286	
O.F./M39012/38-52	—	—	—		HX4 HX3		Y142	X144

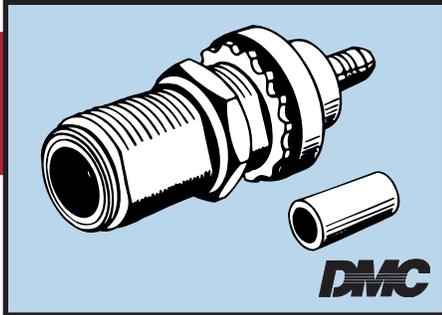


MIL-C-39012/39 SERIES SC

CONNECTOR TYPE	CONNECTOR MILITARY PART NO.
PLUG RIGHT ANGLE	M39012/39-0501
	M39012/39-0502
	M39012/39-0503

CONTACT GUIDE				APPLICABLE CABLE RG-/U	CRIMP TOOL		POSITIONER OR DIE	
CONTACT MILITARY PART CO.*	PIN OR SKT	COLORBAND						
		□	○					
I.C./M39012/39-10	S	RED	ORA	214 225 393	AF8		TH285	
O.F./M39012/39-50	—	—	—		HX4		Y178	
I.C./M39012/39-10	S	RED	ORA	213	AF8		TH285	
O.F./M39012/39-51	—	—	—		HX4		Y178	
I.C./M39012/39-11	S	BLU	ORA	142 400	AF8		TH285	
O.F./M39012/39-52	—	—	—		HX4 HX3		Y142	X144

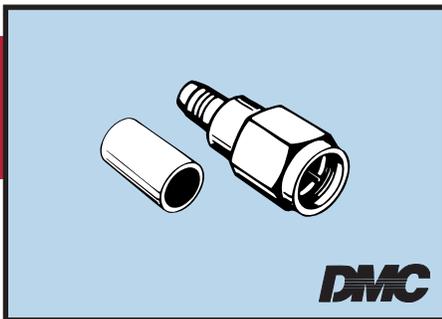
R.F. Connectors Tool Selection Guide



MIL-C-39012/40 SERIES SC

CONNECTOR TYPE	CONNECTOR MILITARY PART NO.
JAM NUT MOUNT	M39012/40-0501
	M39012/40-0502
	M30912/40-0503

CONTACT GUIDE				APPLICABLE CABLE RG-/U	CRIMP TOOL		POSITIONER OR DIE	
CONTACT MILITARY PART CO.*	PIN OR SKT	COLORBAND						
		□	○					
I.C./M39012/40-10	S	RED	GOL	214 225 393	AF8		TH286	
O.F./M39012/40-50	—	—	—		HX4		Y178	
I.C./M39012/40-10	S	RED	GOL	213	AF8		TH286	
O.F./M39012/40-51	—	—	—		HX4		Y178	
I.C./M39012/40-11	S	BLU	GOL	142 400	AF8		TH286	
O.F./M39012/40-52	—	—	—		HX4	HX3	Y142	X144

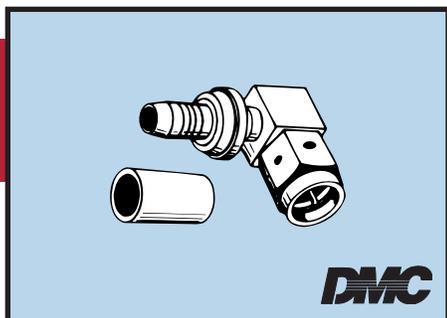


MIL-C-39012/55 SERIES SMA

CONNECTOR TYPE	CONNECTOR MILITARY PART NO.
PLUG PIN CONTACT	M39012/55-3502
	M39012/55-4502

CONTACT GUIDE				APPLICABLE CABLE RG-/U	CRIMP TOOL		POSITIONER OR DIE	
CONTACT MILITARY PART CO.*	PIN OR SKT	COLORBAND						
		□	○					
I.C./M39012/55-10	P	RED	SIL	142	AF8		TP485	
O.F./M39012/55-50	—	—	—		HX4	HX3	Y142	X144
I.C./M39012/55-10	P	RED	SIL	400	AF8		TP485	
O.F./M39012/55-50	—	—	—		HX4	HX3	Y142	X144

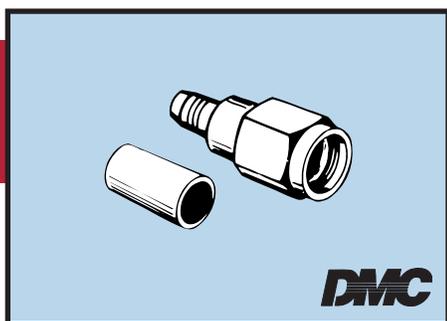
R.F. Connectors Tool Selection Guide



MIL-C-39012/56 SERIES SMA

CONNECTOR TYPE	CONNECTOR MILITARY PART NO.
PLUG RIGHT ANGLE	M39012/56-3502
	M39012/56-4502

CONTACT GUIDE				APPLICABLE CABLE RG-/U	CRIMP TOOL		POSITIONER OR DIE	
CONTACT MILITARY PART CO.*	PIN OR SKT	COLORBAND						
		□	○					
I.C./M39012/56-10	P	RED	MAR	142	AF8		TP485	
O.F./M39012/56-50	—	—	—		HX4	HX3	Y142	X144
I.C./M39012/56-10	P	RED	MAR	400	AF8		TP485	
O.F./M39012/56-50	—	—	—		HX4	HX3	Y142	X144

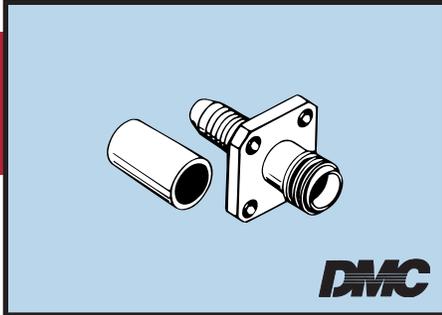


MIL-C-39012/57 SERIES SMA

CONNECTOR TYPE	CONNECTOR MILITARY PART NO.
PLUG SOCKET CONTACT	M39012/57-3502
	M39012/57-4502

CONTACT GUIDE				APPLICABLE CABLE RG-/U	CRIMP TOOL		POSITIONER OR DIE	
CONTACT MILITARY PART CO.*	PIN OR SKT	COLORBAND						
		□	○					
I.C./M39012/57-10	S	RED	MAR	142	AF8		TP485	
O.F./M39012/57-50	—	—	—		HX4	HX3	Y142	X144
I.C./M39012/57-50	S	RED	MAR	400	AF8		TP485	
O.F./M39012/57-50	—	—	—		HX4	HX3	Y142	X144

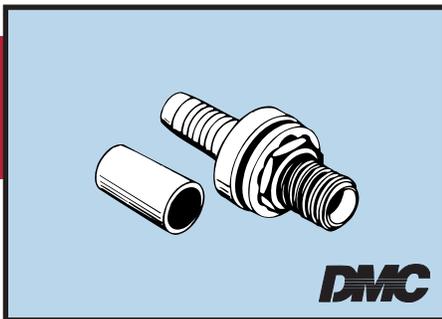
R.F. Connectors Tool Selection Guide



MIL-C-39012/58 SERIES SMA

CONNECTOR TYPE	CONNECTOR MILITARY PART NO.
RECEPTACLE FLANGE MOUNTED	M39012/58-3502
	M39012/58-4502

CONTACT GUIDE				APPLICABLE CABLE RG-/U	CRIMP TOOL		POSITIONER OR DIE	
CONTACT MILITARY PART CO.*	PIN OR SKT	COLORBAND						
		□	○					
I.C./M39012/58-10	S	RED	MAR	142	AF8		TP485	
O.F./M39012/58-50	—	—	—		HX4	HX3	Y142	X144
I.C./M39012/58-10	S	RED	MAR	400	AF8		TP485	
O.F./M39012/58-50	—	—	—		HX4	HX3	Y142	X144



MIL-C-39012/59 SERIES SMA

CONNECTOR TYPE	CONNECTOR MILITARY PART NO.
JAM NUT MOUNTED	M39012/59-3502
	M39012/59-4502

CONTACT GUIDE				APPLICABLE CABLE RG-/U	CRIMP TOOL		POSITIONER OR DIE	
CONTACT MILITARY PART CO.*	PIN OR SKT	COLORBAND						
		□	○					
I.C./M39012/59-10	S	RED	MAR	142	AF8		TP485	
O.F./M39012/59-50	—	—	—		HX4	HX3	Y142	X144
I.C./M39012/59-10	S	RED	MAR	400	AF8		TP485	
O.F./M39012/59-50	—	—	—		HX4	HX3	Y142	X144

HEAVY DUTY CRIMP TOOLS FROM DMC...

DMC is the best source for a wide range of production and maintenance heavy-duty hydraulic tools for reliable crimping. We support a wide range of crimp die configurations, and we will develop the exact die that you need if it is not already offered. Our worldwide network of technical product specialists will see that your needs are met, and the problems that you have are solved.

HD36 Hydraulic Crimper is a combination of a lightweight design, and the precise application of 3.5



HD36

tons force. This power is achieved through multiple actuations of the tool handle. Maximum force

is indicated by the bypass release of the relief valve. The weight is only 3.3 pounds, and the length is 8.5 inches. A selection of interchangeable HD36-XX crimp dies are available from DMC.

HD37 Hydraulic Crimper is configured to accept the M22520/5-XX crimp dies (DMC "Y" series dies featured on pages 27, 49 and 53-65).

Both HD36 and HD37 tools have the following features:

- 3.5 tons of die force.

- Interchangeable die sets.
- Automatic relief valve to prevent over-compression
- Release lever for relaxing crimp pressure and opening dies
- 360° rotating head for ease in confined work areas.
- **WIRE RANGE: (HD36 and HD37 Models) is #26 to #2 AWG in many power applications, and .500 (12.7mm) in coaxial hexagonal crimping.**

HDE37 Battery Powered Crimper

is a long awaited answer to the need for an economical, self-contained portable crimper with ease of operation, and enough power to make repeatable crimps on a wide range of applications. The HDE37 fills that need, and offers a solution where the volume of work exceeds the physical limits of a worker with hand tools, and hoses and cables are unwelcome or unsafe for the environment where the work is being performed. The HDE37 (and HDE36 also available) specifications are the following:

- Length: 14 inches (356mm)
- Width: 2 3/8 inches (60mm)
- Depth: 3 1/8 inches (80mm)
- Weight (with standard battery) 3.5 pounds (1.6kg)
- Sound Level 75 db @ 1 meter
- Crimp force: 4 tons (35kg)
- Average crimp cycle time: 4 seconds



HDE37

- Average crimps per charge: 85 (typical with standard battery)
- Battery Charging voltage: 9.6 Volts
- Charging time: 40 minutes.
- **WIRE RANGE: (HDE36 and HDE37 Models) is #26 to #2 AWG in many power applications, and .500 (12.7mm) in coaxial hexagonal crimping.**

DCTE4 and HXE4 Standard Model Battery Powered Crimpers are faster and lighter than the HDE37, and they accept the dies that correspond to the Commercial Standard DCT4 Tool (featured on page 74, center panel), and the HX4 MIL-STD Crimp Tool (featured on page 48). The Die force is 1.5 tons, and the cycle time is 2 seconds (average). Additional technical information available.

BATTERY POWERED CRIMPERS



HDE37 (HEAVY DUTY MODEL)

DCTE4 & HXE4 (STANDARD MODELS)

CYCLE TIME 2 SECONDS ON STANDARD MODELS



HDE37 BATTERY AND CHARGER

HD51 Medium Duty Hydraulic Crimper is the most popular hand operated hydraulic crimper. The HD51 is still lightweight at 4.6 pounds, but the 5.5 tons of die force and the larger die configuration extends the range of crimping capabilities to 2/0 AWG conductors in many applications. The HD51 Hydraulic Crimper utilizes rugged construction, Lightweight materials, and comfortable handle grips for the best ergonomic advantage. The number of handle closures required to complete the crimp is reduced by the larger and more efficient hydraulic pump system. Other features are the following:

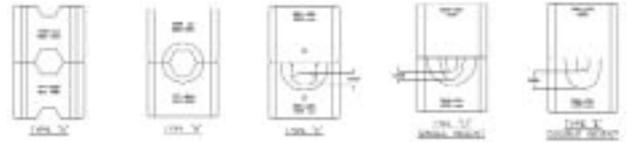
- Length: 14 inches (356 mm)
- Weight 4.6 pounds (2.08kg)
- Crimp force: 5.5 tons (48.93kN)
- Automatic relief valve to prevent over-compression
- Release lever for relaxing crimp pressure and opening dies
- 360° rotating head for ease in confined work areas.
- **WIRE RANGE: (HD51 and XHD51 Models) is #12 to #2/0 AWG in many power applications, and .700 (17.78mm) in coaxial hexagonal crimping.**

XHD51 Remote Hydraulic Crimp Head is a preferred solution for high yield applications on production lines and maintenance rework centers. A pumping system provides the hydraulic power to the remote crimping head, and the crimp head can be mounted in a stationary position, or used as a hand-held tool. The recommended hydraulic pump is the versatile HPU11 air powered pump that is featured on page 69 of this catalog. Other specifications that apply to the XHD51 are the following:

- Length: 7.1 inches (180.3mm)
- Weight 3.85 pounds (1.74kg)
- Crimp force: 5.5 tons (48.93kN)

HD51 SERIES CRIMP DIES

PART NO.	"A" CAVITY	"A" LENGTH	"B" CAVITY	"B" LENGTH	TYPE	APPLICATION
HD51-101	.325 Hex	.125	.216 Hex	.187	A	
HD51-105	.170 Gage	.250			C	#8 Insulated Terminals
HD51-106	.202 Gage	.312			C	#6 Insulated Terminals
HD51-107	.25 Gage	.375			C	#4 Insulated Terminals
HD51-110	.530 Hex	.365			B	
HD51-112	.440 Hex	.358	.538 Hex	.358	A	
HD51-113	.312 Gage	.470			C	#2 Insulated Terminals
HD51-114N	.135 Gage	.312			D	#8 Uninsulated Terminals
HD51-115N	.176 Gage	.312			D	#6 Uninsulated Terminals
HD51-116N	.206 Gage	.312			D	#4 Uninsulated Terminals
HD51-117N	.265 Gage	.312			D	#2 Uninsulated Terminals
HD51-118N	.135 Gage	.312			E	#8 Uninsulated Terminals
HD51-119N	.176 Gage	.312			E	#6 Uninsulated Terminals
HD51-120N	.206 Gage	.312			E	#4 Uninsulated Terminals
HD51-121N	.265 Gage	.312			E	#2 Uninsulated Terminals
HD51-122N	.275 Gage	.470			D	#1/0 Uninsulated Terminals
HD51-123N	.275 Gage	.470			E	#1/0 Uninsulated Terminals
HD51-124N	.370 Gage	.470			E	#2/0 Uninsulated Terminals
HD51-125N	.370 Gage	.470			E	#2/0 Uninsulated Terminals
HD51-127	.445 Hex	.250	.395 Hex	.200	A	
HD51-12B	.410 Gage	.470			C	#1/0 Uninsulated Terminals
HD51-129	.450 Gage	.470			C	#2/0 Uninsulated Terminals
HD51-138	.377 Hex	.435			B	#2 Uninsulated Terminals
HD51-139	.587 Hex	.400			B	
HD51-140	.500 Hex	1.562			A	
HD51-144	.140 Hex	.470			B	
HD51-149	.660 Hex	.400			B	
HD51-150	.352 Hex	.470			B	With Locator
HD51-152	.304 Gage	.470			C	With Locator
HD51-154	.339 Gage	.437			C	With Locator
HD51-159	.312 Gage	.470			B	



XHD51 REMOTE HYDRAULIC CRIMP HEAD



HD51 MEDIUM DUTY HYDRAULIC CRIMPER

HH80C Heavy Duty Hydraulic Crimper delivers the die force necessary to crimp large conductors, but still in a hand operated hydraulic crimper. The HH80C produces 7 tons with the two stage pump that minimizes the number of strokes needed to complete the crimp. This increase in die force and the utilization of the MS25442 and MS90485 extends the range of crimping capabilities to 4/0 AWG conductors in military/aerospace applications, and 750 MCM applications on commercial systems. Boeing ST 2354 Series Dies are also available from DMC. The HH80C Hydraulic Crimper is fitted with comfortable handle grips for the best ergonomic advantage. Other features are the following:

- Length: 24 inches (610 mm)
- Weight 13.0 pounds (5.9kg)
- Crimp force: 7.0 tons (62.28kN)
- Automatic relief valve to prevent over-compression
- Release lever for relaxing crimp pressure and opening dies
- 360° rotating head for ease in confined work areas.
- Advance closing to crimp position is achieved by rotating the handle.

TBHD1 Remote Hydraulic Crimp Head is a another welcome solution where hand crimping is not acceptable. The TBHD1 product accepts the same MS25442, MS90485, and Boeing ST 2354 Die combinations. It is recommended to mount the crimp head in a stationary position, but in some cases the tool can be used as a hand-held crimper. The recommended hydraulic pump is the versatile HPU11 air powered pump that is featured on the following page. Other Specifications that apply to the TBHD1 are the following:

- Length: 7.0 inches (177.8mm)
- Weight 8.0 pounds (3.63kg)
- Crimp force: 7.0 tons (62.28kN)

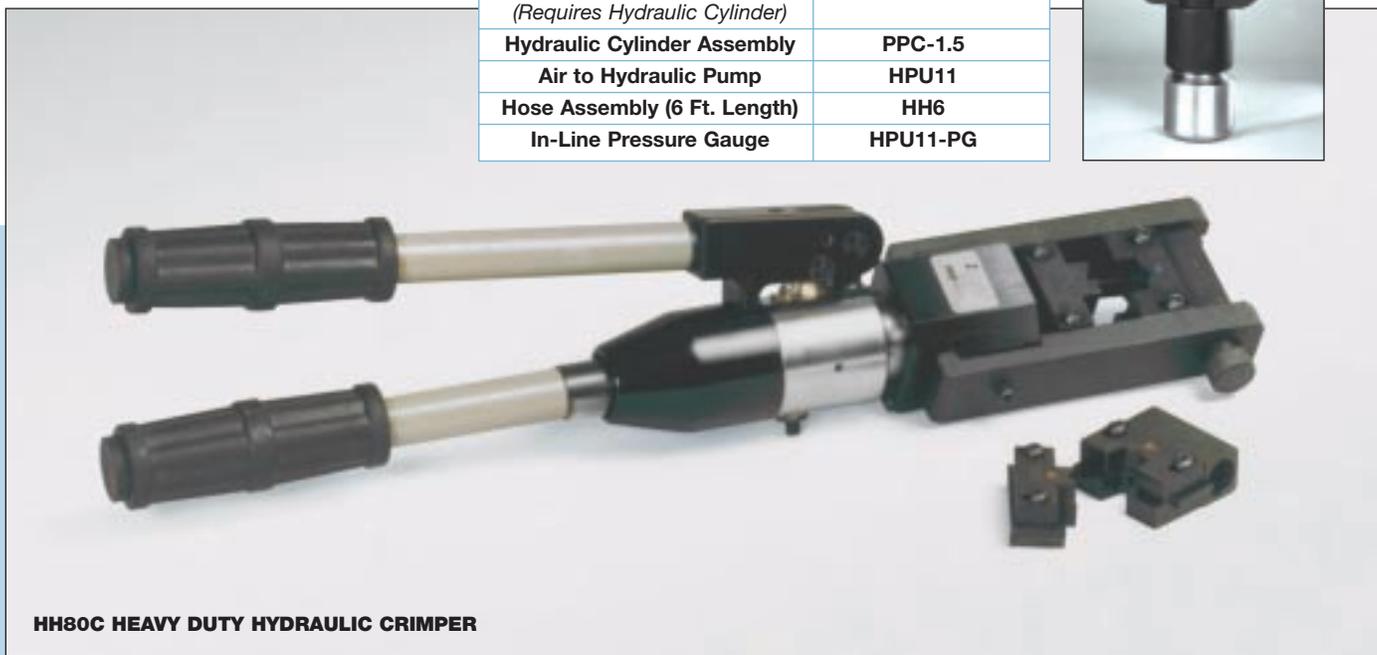
DESCRIPTION	PART NO.
Manual Hydraulic Tool	HH80C
Remote Crimp Head <i>(Requires Hydraulic Cylinder)</i>	TBHD1
Hydraulic Cylinder Assembly	PPC-1.5
Air to Hydraulic Pump	HPU11
Hose Assembly (6 Ft. Length)	HH6
In-Line Pressure Gauge	HPU11-PG



MS23002 & MS90485 DIES & GAGES (FOR TBHD1 & HH80C TOOLS)

MIL DIE P/N	DMC P/N	COMMENTS	DMC GAGE P/N
MS23002-01	MS23002-01	FOR INSULATED SIZE 1/0	G727
MS23002-02	MS23002-02	FOR INSULATED SIZE 2/0	G728
MS23002-03	MS23002-03	FOR INSULATED SIZE 3/0	G282
MS23002-04	MS23002-04	FOR INSULATED SIZE 4/0	G729
MS23002-1	MS23002-1	FOR INSULATED SIZE 1	G726
MS23002-2	MS23002-2	FOR INSULATED SIZE 2	G281
MS23002-4	MS23002-4	FOR INSULATED SIZE 4	G725
MS23002-6	MS23002-6	FOR INSULATED SIZE 6	G724
MS23002-8	MS23002-8	FOR INSULATED SIZE 8	G723
MS90485-01	MS90485-01	FOR NON-INSULATED SIZE 1/0	G835
MS90485-02	MS90485-02	FOR NON-INSULATED SIZE 2/0	G836
MS90485-03	MS90485-03	FOR NON-INSULATED SIZE 3/0	G837
MS90485-04	MS90485-04	FOR NON-INSULATED SIZE 4/0	G838
MS90485-1	MS90485-1	FOR NON-INSULATED SIZE 1	G834
MS90485-2	MS90485-2	FOR NON-INSULATED SIZE 2	G833
MS90485-4	MS90485-4	FOR NON-INSULATED SIZE 4	G722
MS90485-6	MS90485-6	FOR NON-INSULATED SIZE 6	G721
MS90485-8	MS90485-8	FOR NON-INSULATED SIZE 8	G720

Dies conforming to Boeing ST2354 also available, consult factory.



HH80C HEAVY DUTY HYDRAULIC CRIMPER

HPU11 Air Powered Hydraulic Pump is the most economical and efficient way to provide controlled hydraulic pressure for remote crimp heads and similar applications. The use of lightweight materials, and the latest air-over-hydraulic technology makes the HPU11 the best choice. The specifications are the following:

- Length: 13.6 inches
- Width: 6.20 inches
- Height: 8.21 Inches
- Weight: 18 pounds (8.2kg) (with hose and hydraulic fluid)
- Sound Level: 76db
- Vertical or horizontal mounting capable
- Maximum output pressure 10,000 PSI, can be reduced by reducing input air pressure.
- Hydraulic/air ratio is 100-1, input air pressure: 25-125 (1.7-8.6 bar)

HPU11-PG In-Line Hydraulic Pressure Gauge (not shown) is also available from DMC to install into the hydraulic line to monitor the hydraulic pressure. The gauge can be mounted at the tool (remote crimp head) or at the HPU11 output fitting. This is recommended for cycle control monitoring, and when the HPU11 is used with smaller units such as the XHD51 Remote Crimp Head.



HC134 Dieless Hydraulic Crimper is a four-indent crimper that can self adjust to the application. The dieless crimp principal means there is nothing else to add. Dies of a particular configuration are not needed. The tool provides a symmetrical four-sided crimp (at 90° intervals), and the crimp pressure against the resistance of the metal conductor assembly will cause the tool to crimp to a depth where there is metal to metal bottoming (gas tight crimp joint on aluminum and soft copper). The HC134 produces 7 tons. The range of crimping capabilities starts with small conductors (around 1/4 inch in diameter) to 4/0 AWG conductors on copper, and 750 MCM applications on aluminum.

Features:

- Length: 24 inches (610 mm)
- Weight 13.0 pounds (5.9kg)
- Crimp force: 7.0 tons (62.28kN)
- Automatic relief valve to prevent over-compression
- Release lever for opening dies
- 360° rotating head for ease in confined work areas.
- Advance close by rotating handle.

DMC59 Utility Conductor Repair Kit. (NSN 5180-01-220-1807)

A complete repair and service kit for aluminum and soft copper conductor repair and maintenance. The HC134 Crimper and a range of splices and high performance terminals (all two bolt type for high vibration), in a rugged metal box.



Contact Retention Test Tools



Typical application showing tool testing pin contacts.

The quality assurance test most often overlooked is retention (proper seating of contacts). This important test can now be performed simply and in a matter of seconds with the DMC retention testing tools.

These tools are for checking the retention of pins and sockets in electrical connectors. The tester pin and socket tips are aluminum. All tips are replaceable. A nylon hand protector is provided with each tool. The tools can be preset at the factory to your request.

Insert tester into a contact so that the tester and contact are in a straight line. Hold in this position throughout the testing procedure. Use pin end with socket and socket end with pin.

Apply pressure to tester until the indicator band is inline with the body. If contact is still firmly retained, the retention is satisfactory.

TOOL PART NUMBER	RANGE POUNDS
HT250-1	1.5 THRU 3.0
HT250-2	3.2 THRU 5.5
HT250-3	4.0 THRU 8.0
HT250-4	7.0 THRU 18.0
HT250-5	17.0 THRU 25.0
HT250-6	24.0 THRU 40.0

Notice: The above part numbers apply to retention tools only (less tips). All tips must be purchased under separate part number.

RETENTION TESTER				
CONTACT SIZE	COLOR CODE	SOCKET TESTER (M)	SOCKET TESTER (P)	PIN TESTER (P)
12	Yellow	67-012-01	68-012-01P	68-012-01P
16	Blue	67-016-01	68-016-01P	68-016-01P
20	Red	67-020-01	68-020-01P	68-020-01P
22, 22M, 22D	Copper	67-022-01	68-022-01P	68-022-01P
23	Black	67-023-01	68-023-01P	68-023-01P

***Tips Must Be Ordered Separately**



NOTE: Retention test tools are to be used as a simple indicator to verify contact locking. Retention testing to MIL-STD-1344 (method 2007.1) will require different test equipment. For additional information, please consult Daniels Manufacturing Corporation.

Installing and Removal Tools

DMC is dedicated to serving the connector tooling needs of the electronics industry. We, therefore, top off our product package with a wide variety of installing and removal tools.

Although we supply both plastic and metal tools, we recommend the use of the metal tools because of their durability.

When used properly they are more cost effective in that they withstand thousands of contact insertion and removal cycles. The trend to all metal tools is being actively encouraged by most departments of the government.

DMC installing and removal tools are of proven high quality and reliability. In addition to the tools listed in the reference table, we have many more for other connector applications. Consult factory for details.

Illustrated on page 73 are typical rear and front release retention methods found in today's connectors.

M81969/# REFERENCE CHART

MIL-I-81969/#	SUPERCEDED MILITARY #	MIL-I-81969/#	SUPERCEDED MILITARY #	MIL-I-81969/#	SUPERCEDED MILITARY #
1-01	MS3156-22	11-01	M28731/22-01	19-09	MS24256R12
1-02	MS3156-20	13-01	M28731/21-01	19-10	MS24256RH20
	M24308/18-2	14-01	MS27534-22D	19-11	MS24256RH16
1-03	MS3156-16	14-02	MS27534-20	20-01	MS17806
	M24308/18-3		MS3447-20	27-01	MS90562-1
1-04	M24308/18-1		M83723/31-20	27-02	MS90562-2
2-01	MS3323-22	14-03	MS27534-16	27-03	MS90562-3
2-02	MS3323-20		MS3447-16	27-04	MS90562-4
2-03	MS3323-16		M83723/31-16	27-05	MS90562-5
2-04	MS3323-12	14-04	MS27534-12	27-06	MS90562-6
3-01	MS3344-23		MS3447-12	28-01	MS3178-001
3-02	MS3344-20		M83723/31-12	28-02	MS3178-002
3-03	MS3344-16	15-01	MS3483-1	29-01	MS3165-16
3-04	MS3344-12	15-02	MS3483-2	29-02	MS3165-8
3-05	MS3342-23	15-03	MS3483-3		M83723/32-08
3-06	MS3342-20	16-01	MS3160-20	29-03	MS3165-4
3-07	MS3342-16	16-02	MS3160-16		M83723/32-04
3-08	MS3342-12	16-03	MS3160-12	29-04	MS3165-0
4-01	M55301/106-01	16-04	MS3160-22		M83723/32-00
5-01	M55302/105-01	17-01	MS90455-16	30-01	MS3159-22
6-01	M21097/18-01	17-02	MS90455-12	30-02	MS3159-20
7-01	M21097/12-01	17-03	MS24256A20	30-03	MS3159-16
8-01	M55302/79-01	17-04	MS24256A16	30-04	MS3159-12
	MS27495A22M	17-05	MS24256A12	30-05	MS3448-001A
8-02	M55302/79-02	17-06	MS90455-8	30-06	MS3448-001B
	MS27495R22M	17-07	MS90455-4	30-07	MS3448-001C
8-03	MS27495A22	17-08	MS90455-0	31-01	MS18137-20-1
8-04	MS27495R22	18-01	MS17805	31-02	MS18137-20-2
8-05	MS27495A20	19-01	MS90456-16	31-03	MS18137-20-3
8-06	MS27495R20	19-02	MS90456-12	31-04	MS18137-20-4
8-07	MS27495A16	19-03	MS90456-8	31-05	MS14035-02
8-08	MS27495R16	19-04	MS90456-4	31-06	MS14035-03
8-09	MS27495A12	19-05	MS90456-0	31-07	MS14035-01
8-10	MS27495R12	19-06	MS24256R20	31-08	MS14036-01
9-01	M55302/18-01	19-07	MS24256R20	31-09	MS14036-02
10-01	M55302/86-01	19-08	MS24256R16	31-10	MS14036-03



MIL-I-81969 Tool Part Number Guide

ABBREVIATIONS

I – Installation Tool

R – Removal Tool

I/R – Installation and Removal Tool

N/A – Not Available

R – Rear Release

F – Front Release

R/F – Rear and Front Release

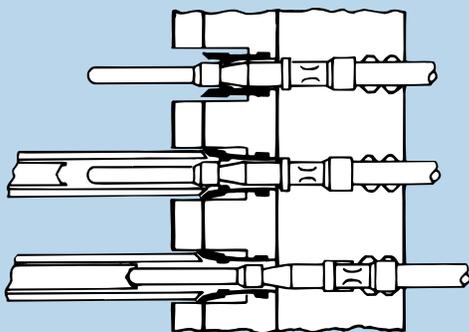
MILITARY P/N	DMC P/N	INSTALLATION OR REMOVAL	SIZE	COLOR CODE
M81969/1-01	M81969/1-01	I/R	22	GRN/WHT
M81969/1-02	M81969/1-02	I/R	20	RED/WHT
M81969/1-03	M81969/1-03	I/R	16	BLU/WHT
M81969/1-04	M81969/1-04	I/R	12	GRN/WHT
M81969/2-01	DAK126-23A	I	22	YEL
M81969/2-02	DAK126-20A	I	20	RED
M81969/2-03	DAK126-16A	I	16	BLU
M81969/2-04	DAK126-12A	I	12	YEL
M81969/3-01	DRK129-23A	R	23	YEL
M81969/3-02	DRK129-20A	R	20	RED
M81969/3-03	DRK129-16A	R	16	BLU
M81969/3-04	DRK129-12A	R	12	YEL
M81969/3-05	DRK125-23A	R	23	YEL/BLK
M81969/3-06	DRK125-20A	R	20	RED/BLK
M81969/3-07	DRK125-16A	R	16	BLU/BLK
M81969/3-08	DRK125-12A	R	12	YEL/BLK
M81969/4-01	WRAP POST			
M81969/4-02	WRAP POST			
M81969/5-01	WRAP POST			
M81969/7-01	DAK52	I	N/A	CLEAR
M81969/8-01	DAK95-22B	R	22D	GRN
M81969/8-02	DRK95-22B	R	22M	GRN/WHT
M81969/8-03	DAK95-22B	I	22	BRN
M81969/8-04	DRK95-22B	R	22	BRN/WHT
M81969/8-05	DAK95-20B	I	20	RED
M81969/8-06	DRK95-20B	R	20	RED/WHT
M81969/8-07	DAK95-16B	I	16	BLU
M81969/8-08	DRK95-16B	R	16	BLU/WHT
M81969/8-09	DAK95-12B	I	12	YEL
M81969/8-10	DRK95-12B	R	12	YEL/WHT
M81969/8-205B	DAK83-20B	I	20	RED/BLK
M81969/8-206B	DRK83-20B	R	20	RED/WHT/BLK
M81969/8-207	DAK83-16B	I	16	BLU/BLK
M81969/8-208	DRK83-16B	R	16	BLU/WHT/BLK
M81969/8-209	DAK83-12B	I	12	YEL/BLK
M81969/8-210	DRK83-12B	R	12	YEL/WHT/BLK
M81969/12-01	DRK248A	I/R	N/A	STRAIGHT

MILITARY P/N	DMC P/N	INSTALLATION OR REMOVAL	SIZE	COLOR CODE
M81969/12-02	DRK246A	I/R	N/A	ANGLED
M81969/14-01	M81969/14-01	I/R	22D	GRN/WHT
M81969/14-02	M81969/14-02	I/R	20	RED/WHT
M81969/14-03	M81969/14-03	I/R	16	BLU/WHT
M81969/14-04	M81969/14-04	I/R	12	YEL/WHT
M81969/14-05	M81969/14-05	I/R	10	GRA/WHT
M81969/14-10	M81969/14-10	I/R	20	RED/ORA
M81969/14-11	M81969/14-11	I/R	20	RED/WHT
M81969/15-01	DRK250-8	R	8	NONE
M81969/15-02	DRK250-4	R	4	NONE
M81969/15-03	DRK250-0	R	1/0	NONE
M81969/16-01	81515-20	I/R	20	RED/WHT
M81969/16-02	81515-16	I/R	16	BLU/WHT
M81969/16-03	81515-12	I/R	12	YEL/WHT
M81969/16-04	81515-23	I/R	23	GRN/WHT
M81969/17-01	DAK55-16A	I	16	BLU
M81969/17-02	DAK55-12A	I	12	YEL
M81969/17-03	DAK20B	I	20	RED
M81969/17-04	DAK16B	I	16	BLU
M81969/17-05	DAK12B	I	12	YEL
M81969/17-06	DAK55-8B	I	8	RED
M81969/17-07	DAK55-4B	I	4	BLU
M81969/17-08	DAK55-0B	I	0	YEL
M81969/17-09	DAK83S-20	I	20	RED
M81969/18-01	DAK123A	I	16/20	GRN
M81969/18-02	DAK123-22A	I	22	GOLD
M81969/19-01	DRK16B	R	16	BLU
M81969/19-02	DRK12B	R	12	YEL
M81969/19-03	DRK56-8B	R	8	RED
M81969/19-04	DRK56-4B	R	4	BLU
M81969/19-05	DRK56-0B	R	0	YEL
M81969/19-06	DRK20B	R	20	RED
M81969/19-07	DRK20A	R	20	RED
M81969/19-08	DRK16A	R	16	BLU
M81969/19-09	DRK12A	R	12	YEL
M81969/19-10	DHK20A	R	20	RED
M81969/19-11	DHK16A	R	16	BLU

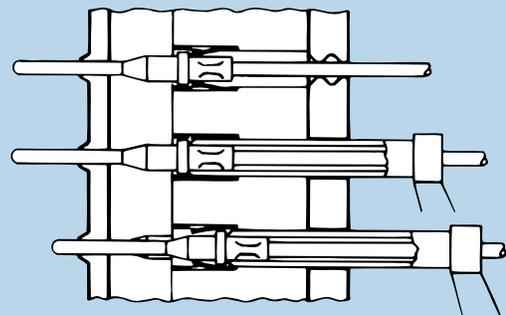
MILITARY P/N	DMC P/N	INSTALLATION OR REMOVAL	SIZE	COLOR CODE
M81969/20-01	DRK124A	R	16	GRN
M81969/20-02	DRK124-22A	R	22	N/A
M81969/21-01	DHK368	I/R	16	N/A
M81969/22-01	DRK222	R	16	N/A
M81969/23-01	DAK1-16P-S	I	16	N/A
M81969/23-02	DAK1-16S-S	I	16	N/A
M81969/27-01	DRK178-1A	R	4/0	N/A
M81969/27-02	DRK178-2A	R	2/0	N/A
M81969/27-03	DRK178-3A	R	1/0	N/A
M81969/27-04	DRK178-4A	R	2	N/A
M81969/27-05	DRK178-5A	R	4	N/A
M81969/27-06	DRK178-6A	R	6	N/A
M81969/28-01	DRK310	R	COAX	N/A
M81969/28-02	DRK337	R	COAX	N/A
M81969/29-01	CIET16-9	R	16	BLU
M81969/29-02	M81969/14-06	R	8	RED
M81969/29-03	M81969/14-07	R	4	BLU
M81969/29-04	M81969/14-08	R	0	YEL
M81969/30A-01	DRK130-22A	R	22	YEL
M81969/30A-02	DRK130-20A	R	20	RED
M81969/30A-03	DRK130-16A	R	16	BLU
M81969/30A-04	DRK130-12A	R	12	YEL
M81969/30A-05	DRK110-20-2	R	20	RED
M81969/30A-06	DRK110-16-2	R	16	BLU
M81969/30A-07	DRK110-12-2	R	12	YEL
M81969/30B-01	DRK501B	R	22	BLK/YEL
M81969/30B-02	DRK502B	R	20	BLK/RED
M81969/30B-03	DRK503B	R	16	BLK/BLU
M81969/30B-04	DRK504B	R	12	BLK/YEL
M81969/30B-05	DRK505B	R	20	SIL/RED

MILITARY P/N	DMC P/N	INSTALLATION OR REMOVAL	SIZE	COLOR CODE
M81969/30B-06	DRK506B	R	16	SIL/BLU
M81969/30B-07	DRK507B	R	12	SIL/YEL
M81969/30B-08	DRK508B	R	22D	BRN/BRN
M81969/30B-09	DRK509B	R	22M	BRN/YEL
M81969/30B-10	DRK510B	R	22	BRN/GRN
M81969/30B-11	DRK511B	R	20	BRN/RED
M81969/30B-12	DRK512B	R	16	BRN/BLU
M81969/30B-13	DRK513B	R	12	BRN/YEL
M81969/30B-19	DRK519B	R	TOOL SET	
M81969/30B-20	DRK520B	R	HANDLE	
M81969/30B-21	DRK521B	R	22	YEL
M81969/30B-22	DRK522B	R	20	RED
M81969/30B-23	DRK523B	R	16	BLU
M81969/30B-24	DRK524B	R	12	YEL
M81969/30B-25	DRK525B	R	20	RED
M81969/30B-26	DRK526B	R	16	BLU
M81969/30B-27	DRK527B	R	12	YEL
M81969/30B-28	DRK528B	R	22D	BRN
M81969/30B-29	DRK529B	R	22M	YEL
M81969/30B-30	DRK530B	R	22	GRN
M81969/30B-31	DRK531B	R	20	RED
M81969/30B-32	DRK532B	R	16	BLU
M81969/30B-33	DRK533B	R	12	YEL
M81969/30B-34	DRK534B	REMOVAL TOOL SET		
M81969/30B-35	DRK535B	REMOVAL TOOL SET		
M81969/30B-36	DRK536B	REMOVAL TOOL SET		
M81969/33-01	DAK55-225A	I/R	22	RED
M81969/33-02	DAK55-22JA	I/R	22	RED
M81969/34-01	DRK56-22A	R	22	RED
M81969/39-01	M81969/39-01	I/R	20	GRN/WHT

TYPICAL FRONT RELEASE CONTACT



TYPICAL REAR RELEASE CONTACT



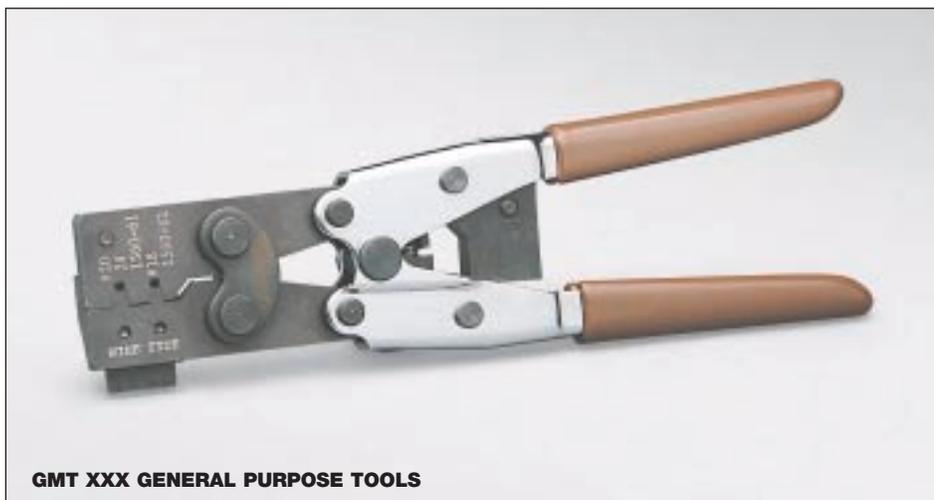
Commercial Standard Hand Crimp Tools



GMT232 FOR ENVIRONMENTAL SPLICES



DCT4 XXX REMOVABLE DIE & FIXED



GMT XXX GENERAL PURPOSE TOOLS

DMC provides custom and standard crimp tools that are manufactured to connector OEM or user requirements. Often these tools are specified as equal in function to the OEM tool. Numerous applications such as open barrel (stamped and formed) contacts, insulated and non-insulated terminals, splices, and end caps, coaxial connectors, and wire fittings of all types are covered by these tools.

GMT232 Hand Crimp Tool for low profile environmental splices M81824/1-XX).

The GMT232 is the most popular tool to cover the range of 12 (yellow), 16 (blue), and 20 (red) splices for low profile environmental splice applications. These precise tools have a locator that is configured to hold the splice in the correct location while either wire is being terminated. The rugged construction of this tool will assure repeatability and long life cycle. Pneumatic versions are available for this crimp tool application.

DCT4 XXX Series Hand Crimp Tool Range.

Several models and types of tools comprise the DCT tool series. Some tools have removable (interchangeable) dies, and others have fixed cavities that are not removable. The handle construction is superior to any tool made today. It will not flex or bend in any direction, therefore the maximum force and repeatability is achieved. The handle grips, and the leverage system is designed for maximum ergonomic benefit. Custom dies and pneumatic versions are available to support the DCT Series tool family.

GMT General Purpose Tools.

Many standard OEM applications are covered by the GMT general purpose tool series. The jaws are fixed, and the locator (where used) is configured to hold the contacts precisely in the correct location for optimum crimping. Pneumatic tools are available to cover the GMT XXX range.

Hand Held Pneumatic Wire Stripping Tool



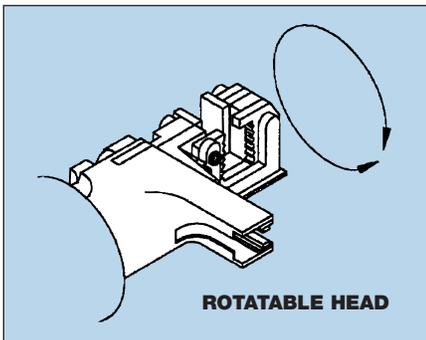
Compact Design allows hand-held tool to be used in confined areas. Light Weight construction and pneumatic actuation system minimize operator fatigue and carpal tunnel injuries.

Fast, smooth stripping operation results in maximum quality wire preparation at a production rate unattainable with hand operated mechanical strippers.

Compatibility with common, commercially available stripper blades, grippers, and other components makes the unit economical, and it assured a wide range of applications with all types of wire.

Rotatable Head permits left or right handed operation.

Wire Stop may be used for precise, repeatable operations.



Adjustable Speed Control allows the operator to regulate the speed of the stripping operation by simply rotating the adjustment collar which is a part of the air hose. This enables greater accuracy and control of the wire stripper.

The WSP-1630 series Pneumatic Wire Stripper is the ultimate combination of performance, reliability, and portability. It was developed in cooperation with major aerospace contractors addressing their needs for a reliable, simple to operate pneumatic wire stripper utilizing the blades and accessories which are certified and inventoried within their existing facilities.

The WSP-1630 part number

applies to the basic pneumatic wire stripper frame with WL5211 blades (less accessories), which accommodates most size 16 AWG and smaller wires. Blades, pads and accessories to cover a variety of wire types and sizes can be ordered and factory installed.

Please contact DMC for specific details about this and other wire stripping products.



EMI/RFI Band Application System

For .125 & .250 Shield Termination Bands



The termination of EMI/RFI shielding materials is a specialized science in today's aerospace wiring systems. Application tooling is a critical factor in the overall performance of the wiring system components.

DMC has worked closely with the world's leading connector accessory manufacturers to develop the necessary tooling and accessories to meet the stringent demands of aerospace and defense system contractors. The resulting products afford the user many benefits which include:

COMPATIBILITY with all currently available termination bands and systems.

RELIABILITY through the use of commercially proven components and tool design practice.

QUALITY and REPEATABILITY which are assured by a patented tension system.

SERVICE AND CALIBRATION – All tools produced by DMC are adjustable, and may be easily recalibrated by the user. Also, expendable components such as cut-off blades are available for simple replacement by the user.

LONG SERVICE LIFE – Properly maintained band application tools will produce thousands of reliable terminations.

AFFORDABILITY – DMC tools continue to be the most cost effective method to produce reliable wiring system shield terminations.

THE PNEUMATIC BAND APPLICATION TOOL...

is a cost effective system that speeds production and improves ergonomic conditions which are present when manual tools are used. Band tension is precisely applied by a dependable pneumatic system which is consistent and repeatable.

The calibration system of the pneumatic band tool is adjustable,

and can be checked by use of the calibration devices available from DMC.

The cutter blade and other components of the DMC Pneumatic Band tools are interchangeable with the DBS-1100 and DBS-1200 series hand tools. The rugged design and field replaceable blades make the PBT/PMBT series the best choice for production applications where EMI/RFI bands are used to terminate wire harness shielding.

THE HAND OPERATED BAND APPLICATION TOOL...

is an excellent choice for many production and maintenance operations. Like the power driven models, they too can be calibrated by the user to provide reliable terminations throughout the service life.

The lightweight construction and small "nose" profile enable the user to apply termination bands in even the tightest of working areas.

Models are available for .250 in. (6.350 mm) and .125 in. (3.175 mm) wide bands from all current suppliers.



DMC Band Application Tools are compatible with all approved brands of shield termination bands.



**DBS-1100/
DBS-1200
SERIES**



**PBT-1100/
PMBT-1200
SERIES**



DBS-1100 & DBS-1200 HAND OPERATED BAND APPLICATION TOOLS

The DBS series Hand Application Tools are constructed to survive the demands of production and maintenance use, and remain precisely adjusted to provide a quality band termination.

The patented tension-lock system gives the operator a positive indication when the precise tension has been applied.

DBS-1100

- .250 Wide Band Application Tool:
- Size and Weight: 5.5" x 7.5", .36 lbs.
 - Calibration Range: 140–160 lbs.
 - Cut-off blade: replaceable with DBS-1200-7

DBS-1200

- .125 Wide Mini-Band Application Tool:
- Size and Weight: 5.5" x 7.5", .52 lbs.
 - Calibration Range: 62–82 lbs.
 - Cut-off blade: replaceable with DBS-1200-7



PBT 1100 & PMBT 1200 PNEUMATIC BAND APPLICATION TOOLS

The PBT & PMBT series Pneumatic Band Application Tools are lightweight, dependable, and easy to operate. Many of the components are interchangeable with the corresponding hand tool.

PBT 100

- .250 Wide Band Application Tool:
- Size and Weight: 8.75" L, 1.52 lbs.
 - Calibration Range: 140–160 lbs.
 - Hose Length: 10' Extended
 - Cut-off blade: replaceable with DBS-1100-7

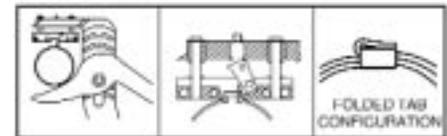
PMBT 1200

- .125 Wide Mini-Band Application Tool:
- Size and Weight: 8.75" L x 1.52 lbs.
 - Calibration Range: 62–82 lbs.
 - Hose Length: 10' Extended
 - Cut-off blade: replaceable with DBS-1200-7



DBS-RO3 ROLL-OVER FOR .250 WIDE BANDS APPLICATION TOOL

The DMC Roll-Over Tool (Part No. **DBS-RO3**) is used to fold the extended band tab securely over the buckle. Experts agree that the "folded tab" method assures maximum strength and reliability. Like other DMC Band Application Tools, the Roll-Over Tool is compatible with all currently available bands.



DMC also provides the **DBS-RO4** Roll-Over Tool for use with .125 wide Mini-Bands. This tool is similar to the DBS-RO3 in size and shape.

CALIBRATION OF EMI/RFI BAND TOOLS

All the DMC Hand and Pneumatic Band Application Tools may be calibrated to insure correct band tension. This **calibration fixture** will allow the operator to gage the exact tension produced by the tool.

A short piece of unused band material is fed into the tool far enough to fully engage the gripping mechanism. The other end is then inserted and latched into the calibration fixture. Full tension is then exerted by the tool and read directly on the precision dial indicator portion of the calibration fixture.

Simple adjustments can be made to the tool. A quick release mechanism is provided to allow the operator to easily remove the tool from the test fixture.



Field calibration fixtures and **Go/No-Go gauges** were developed to allow the user a quick means of checking calibration of band application tools in the field. A band is placed into the calibration fixture. The band is drawn through the tool until the nose of the banding tool is firmly against the calibration fixture. Once the full banding pressure has been applied, insert the "GO" side of the Gauge into the verification slot of the calibration fixture. If it does not insert freely, the tool is exerting excessive force. Likewise, if the NO-GO probe freely enters the verification slot, the tool is below the minimum force, thus alerting the user that the tool is out of calibration.



EMI/RFI Band Application System

For .125 & .250 Shield Termination Bands



BANDING TOOL KITS

DMC1379 – .250 Banding Tool Kit. This kit includes the tools necessary to install and remove termination bands plus a total of 50, 1/4" terminator bands, packaged in a fiberglass case with pre-cut foam inserts and laminated instruction charts.

DMC60A – Complete EMI/RFI Shielding Maintenance Repair System. This kit includes a complete complement of tools to install and remove shield termination material and specialized tapes. Instructions are included to guide the user through all steps of repair from correct tool selection, to set-up and operation of tools and components. It is packaged in a fiberglass case with foam inserts for designated tool storage. Includes calibration fixture and gauge.

APPLICATION TOOLS, ACCESSORIES AND COMPONENTS

.250 WIDTH BAND TOOLS

DBS-1100	Hand Operated Band Application Tool
DBS-1101	Hand Operated Band Application Tool Set (includes DBS-1100, DBS-R03)
DBS-1102	Hand Operated Band Application Tool Set (includes DBS-1100, DBS-R03, DBS-CG2 & G691)
DBS-1100-32	Calibration Adjustment Key
DBS-1100-7	Replacement Blade for .250 Band Tools
DBS-R03	Roll-Over Tool for .250 Band Tab

.125 WIDTH MINI-BAND TOOLS

DBS-1200	Hand Operated Mini Band Tool
DBS-1201	Hand Operated Mini Band Application Tool Set (includes DBS-1200, DBS-R04)
DBS-1202	Hand Operated Mini Band Application Tool Set (includes DBS-1200, DBS-R04, DBS-CG3 & G752)
DBS-1100-7	Replacement Blade for .125 Band Tools
DBS-R04	Roll-Over Tool for .125 Band Tab

PNEUMATIC BAND TOOLS FOR .250 WIDTH BANDS

PBT-1100	Pneumatic Band Application Tool
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PNEUMATIC BAND TOOLS FOR .125 WIDTH BANDS

PMBT-1200	Pneumatic Band Application Tool
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TOOL CALIBRATION INSTRUMENTATION

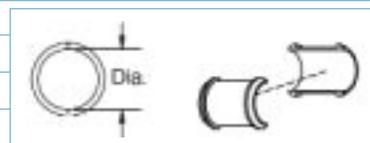
DBS-CG1	Laboratory Calibration Instrument (all tools)
DBS-CG2	Field Calibration Fixture for DBS-1100
G691	Go/No-Go Gage for DBS-CG2 Fixture
DBS-CG2A	Calibration Set which includes DBS-CG2 & G691
DBS-CG3	Field Calibration Fixture for DBS-1200
G752	Go/No-Go Gage for DBS-CG3 Fixture
DBS-CG3A	Calibration Set which includes DBS-CG3 & G752

BANDING APPLICATION KIT

DMC1379	.250 Banding Tool Kit
DMC60A	Complete EMI/RFI Shielding Maintenance/Repair System (.250 bands and tools)

BANDS & RINGS

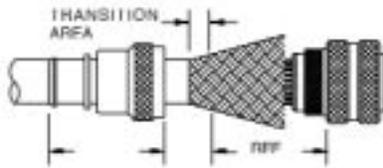
4-1380	.250 wide x 14.0" long EMI/RFI Band (Flat)*
4-1553	.125 wide x 14.0" long EMI/RFI Band (Flat)*
4-1376	.500 Dia. Split Ring Set
4-1377	.750 Dia. Split Ring Set
4-1378	1.00 Dia. Split Ring Set
4-1379	1.50 Dia. Split Ring Set



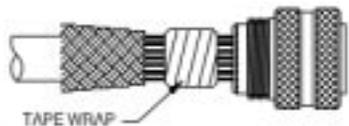
Patent information: Tools featured on this data sheet are covered all or in part by the following patents: 4,934,416 – 5,000,232 – 4,996,868

* Band can also be supplied curled (contact factory)

Careful measurement should be made prior to installing the backshell. The outer jacket is then uniformly removed at a distance which would allow the braid to make a comfortable transition onto the backshell termination area. This dimension will vary depending upon the differences between cable and backshell diameters or other application dependent factors.



The braid is then trimmed to a length which will allow it to extend 1 inch past the backshell termination platform. Then the braid is carefully folded rearward to expose the wires which will be inside the backshell.

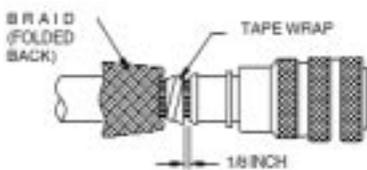
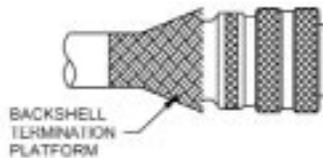


A sufficient number of wraps of self-vulcanizing tape (normally red in color) are applied over the wires to buildup a diameter slightly less than the inside

diameter of the backshell. Care should be taken not to apply tension to the contacts located in the outer perimeter of the connector.

These layers of tape are followed by a minimum of one layer of Teflon tape which will prevent adhesion with the backshell and other components.

The backshell is then installed onto the connector, using a nonabrasive tool such as a strap wrench. The braid is then carefully moved from under the backshell. It is important to retain the woven characteristics of the braid during this step.



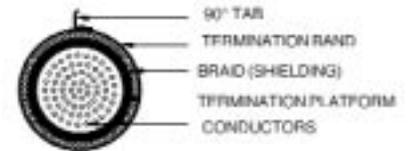
Use self vulcanizing tape or a preformed component to build up the area behind the backshell. It is important that the braid is supported in the transition

from the backshell rear diameter to the natural diameter of the wire bundle. Leave approximately 1/8 inch spacing between the tape wrap and the backshell.

The braid is pushed into position over the backshell termination platform. Care must be taken to make sure the weave is uniform and no large "windows" are present. A shield termination band is then loaded into the tool. The band is then slid over the connector/backshell assembly



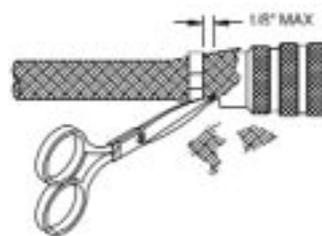
into a position of alignment with the termination platform. Apply an adequate amount of pressure in line with the cable as it enters the backshell to allow the



1/8 inch space to be reduced to zero. The tool is then activated to the preset tension. The band is then bent sharply at the buckle approximately 90° then cut-off using the cut-off lever on the tool. If band is uncurled for any reason, it must be double looped thru the buckle, before termination.

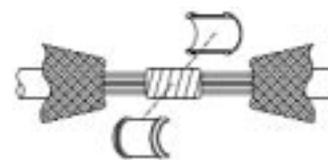
The 90° tab is then curled and folded back over the buckle using the rollover tool.

For braided a non-jacket cable use fine point shears



to trim the excess braid as close to the connector side of the bands as possible. Do not leave any unsecured braid wires longer than 1/8 inch. Do not allow the trimmed wires to fall into any areas where they may present a foreign object damage hazard.

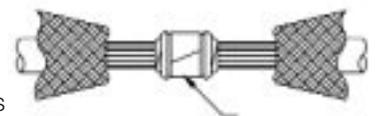
PROCEDURE FOR SPLICING



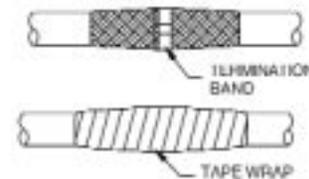
The jacket is present, and shield are cut and separated to expose the wires requiring service. Care must be taken to avoid damaging the insulation on internal wires. The required service

is then completed.

The wire bundle is then protected by a few wraps of self-vulcanizing tape followed by 2-3 layers of teflon tape. An appropriate size split ring set is then selected and installed. One layer of teflon tape is applied over the split ring set to hold the halves in position while the next steps are being performed.



The braid is then overlapped across the split ring set. Be sure the braid ends protrude completely under the band in both directions.



Heat shrinkable tape is then applied over the splice. Where a jacketed cable is used, be sure the tape extends onto the jacket in both directions.

Connector Service Maintenance/Support Kits



Here is where our experience pays off!

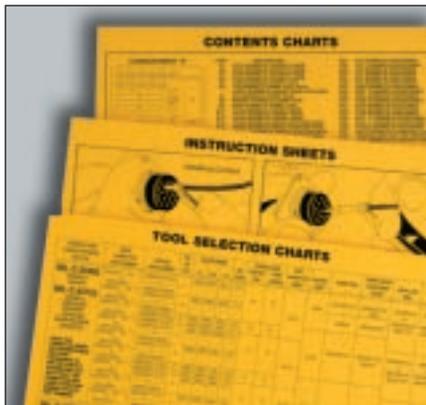
Connectors are a very complex and important part of any electrical network. The associated tooling often involves much research to select, and specific training to operate. Therefore, a technician who is

responsible for the maintenance or production of the entire system cannot be expected to know all the answers, nor does he have the time to do the necessary research. DMC has done this for him. We design and manufacture a package which includes:

- 1) All the necessary tooling (crimping tools, dies, heads, installing tools, removal tools, gages, wire strippers for circular and R.F. connectors and more).
- 2) Complete instructions on set up and use of each item.
- 3) Valuable application data which eliminates guesswork and dangerous trial and error tool selection.

All this is housed in an orderly manner fitting to the expected environment. Our typical kits are supplied in a durable case of either metal, fiberglass, or molded plastic construction with protective foam cavities for each component. A captive restraint mechanism and heavy duty hardware are generally utilized. All reference charts are permanently protected against the elements.

Each item has a designated place identified on the contents chart, thus eliminating the possibility of getting to the job-site without a vital piece of tooling. It also is a means of immediate inventory when the work is completed. The part numbers listed on our typical contents chart enable the user to easily identify components which are needed for replacement.



MILITARY STANDARD KITS

These are specified by many departments of the government, particularly the Navy and Air Force. They conform to MIL-M-83521, MIL-C-22520, and others. The national stock code for most of the above is usually 5120 or 5180.

AIRCRAFT OR SYSTEM SUPPORT KITS

We produce kits for a wide range of individual aircraft and fleet mix. Some typical examples of these are Boeing 707, 727, 737, and 747, Douglas DC8, DC9 and DC10, and others. We can custom design or alter an existing kit to meet the user's requirements.



PRODUCTION (WORK STATION) KITS

DMC work stations are custom designed to fit your production requirements. They can utilize hand tools or pneumatic models. Special holding clamps or work positioners can be included in the container or mounted permanently to the tooling enclosure. Our engineering department can give you details on the best work station for your application.

GENERAL AVIATION KIT

The General Aviation Kit was developed for, and in conjunction with, organizations involved in the maintenance and outfitting of light commercial, business, and personal aircraft. It has since proven to be well suited for service of many types of other systems.

The basic kit covers the standard power contacts sizes 16, 20 and 22D in the following connector families.

MIL-C-24308	MIL-C-83723
MIL-C-26482	Deutsch DS Series
MIL-C-26500	ITT Cannon DPX and
MIL-C-38999	DC Series

Also covered are stamped form contacts used in many general purpose connectors supplied by: AMP, Elco, Winchester, Collins Narco, Bendix, King, Sperry, etc. Plus necessary tooling to cover most common types of RF connectors (i.e. BNC, TNC) using RG/58 and RG/8 coaxial cable.

Experience in the field has shown these to be the most common variety. (See technical application tables elsewhere in the catalog for specific descriptions and contact P/N for military designations.)

We cannot guarantee this kit will solve all your connector maintenance problems, but the necessary tooling and information will certainly be at hand for most requirements.

The durable polyethylene case has an aluminum frame for strength and light weight. The tools are restrained in protective foam cavities.

Our engineering department will confirm coverage of your specific requirements.

BACKSHELL ACCESSORY KITS

DMC produces a variety of innovative tools and adaptors which are used when fitting backshell or strain-relief hardware to electrical connectors. All of these are available as individual components, in sets according to connector series, or in complete system support tool kits. The kits can be individually designed to meet your maintenance or production (work station) demands.

MILITARY STANDARD KITS

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Contact DMC for the List of Aircraft and Systems covered by DMC Connector Service Maintenance/Support Kits.



Limited Warranty*

Daniels Manufacturing Corporation warrants each new unit sold by it to be free from defects in material and workmanship under normal use and service. Its obligation under this warranty is limited to the free correction or, at its option, the refund of the purchase price of any such unit which proves defective within ninety (90) days after delivery to the first user, provided that the unit is returned to it with all transportation charges prepaid and which shall appear to its satisfaction, upon inspection by it, to have been defective in material or workmanship. This warranty shall not cover any damage to such products, which in the opinion of Daniels Manufacturing Corporation, was caused by normal wear, misuse, improper operation or accident.

DANIELS MANUFACTURING CORPORATION IS NOT LIABLE FOR CONSEQUENTIAL OR SPECIAL DAMAGES OF ANY NATURE OR KIND RESULTING FROM THE USE OF ANY OF ITS PRODUCTS. This warranty is in lieu of all other warranties express or implied. No warranty, express or implied, is made or authorized to be made or assumed with respect to products of Daniels Manufacturing Corporation, other than that herein set forth.

* as defined by PL93-637



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