

**DMC** DANIELS  
MANUFACTURING  
CORPORATION®



TRUSTED TOOLS FOR

**SPACE**

# TOOLING FOR SPACE

Daniels Manufacturing Corporation® (DMC®) has a proud legacy of delivering specialized tools that drive advancements in space exploration. DMC tools have equipped engineers and technicians with the tools necessary to assemble and maintain high-reliability electrical systems for over 75 years. Our product lines are integral to the successful development of spacecraft, satellites, launch vehicles, and ground support equipment.

DMC provides a variety of cutting-edge tooling solutions designed to meet the stringent requirements of aerospace applications. DMC tools are backed by AS9100D and ISO 9001:2015 certifications. Major aerospace organizations such as SAE International, the International Organization for Standardization (ISO), and the Department of Defense have also approved the use of our tools. Space professionals can always trust in DMC tools to withstand the rigorous demands of space.



# COMMON APPLICATIONS

DMC tools play a vital role in the success of mission-critical electrical systems throughout the aerospace industry. Below are several examples of how they are applied in space-related projects.



**Avionics**



**Launch Vehicles and Systems**



**Ground Support Equipment**



**Rockets, Carrier Rocket**



**Spacecraft and Space Vehicles**



**Satellites**



**Engines**



**Electrical Circuits**



**Connector and Wire Harness Assembly**



# CRIMP TOOLS

## INDENT CRIMP TOOLS

DMC's indent crimp tools, such as the AF8® and AFM8®, produce mil-standard 8-indent crimps on machined contacts. These tools provide a mechanical advantage, enabling users to crimp materials that are otherwise difficult to achieve by hand. A precise ratchet system ensures a full-cycle crimp, delivering maximum tensile strength and conductivity. Hundreds of turret accessories expand the tool's capabilities, allowing users to accommodate contacts compatible with space-grade connectors, including MIL-DTL-38999, MIL-DTL-24308, and MIL-DTL-26482.

	AF8	AFM8
AWG	26 - 12	32 - 20
MILITARY P/N	M22520/1-01	M22520/2-01
POSITIONER TYPE	TH or TP	K
DIMENSIONS	9.8" x 2.5" x 1.1"	7.5" x 2.4" x .8"
PNEUMATIC EQUIV.	WA27F	WA22, WA22-LC-X1



## FORM CRIMP TOOLS

DMC's form crimp tools offer unparalleled versatility with hundred of interchangeable dies designed for crimping ferrules, coax connectors, stamped and formed contacts, splices and terminals. The HX4® covers a range of 26-10 AWG making it well-suited for crimping M39012 coax connectors for radio frequency.

	HX4
AWG	26 - 10
MILITARY P/N	M22520/5-01
DIE TYPE	Y Die
DIMENSIONS	11" x 2" x 0.9"
BATTERY EQUIV.	HXE4C, HXE4AC



## GENERAL MAINTENANCE CRIMP TOOLS

DMC's GMT tools are manufactured to OEM or connector supplier specifications and are well-suited for a variety of space-grade applications. Each GMT tool features a fixed jaw that is designed for crimping specific components such as stamped and formed contacts, insulated and uninsulated terminals, splices, end caps, and coaxial connectors. These tools are ideal for crimping environmental contacts and splices. They are also available in pneumatic and battery-powered options.



### GMT232

<b>MILITARY P/N</b>	M22520/37-01
<b>APPLICATION</b>	M81824 Environmental Splices
<b>DIMENSIONS</b>	8.8" x 2.3" x .9"
<b>WEIGHT</b>	1.2 lbs

NSN: 5120-01-120-8721, 5120-01-361-9615



### GMT1005

<b>APPLICATION</b>	Stamped / Formed Solistrand Uninsulated Terminals
<b>DIMENSIONS</b>	8.4" x 2.5" x .5"
<b>WEIGHT</b>	12.8 oz

## INSERTION AND REMOVAL TOOLS

DMC provides insertion and removal (I/R) tools to aid in the installation and extraction of contacts. I/R tools are precisely engineered to apply the right amount of force without compromising the integrity of the termination. They can efficiently accommodate the small wires often found in space applications. Multiple styles of I/R tools are available to accommodate front and rear release connectors.



### DMC1155

General Purpose Insertion  
and Removal Tool Kit



# TWIST-STRIP®

Twist-Strip is an outer jacket wire stripper designed to deliver consistent and precise results. Its innovative design allows it to glide effortlessly around M27500 twisted cables without compromising shielding or inner conductors. Twist-Strip tools can accommodate 1 to 4 conductor cables with diameters ranging from 0.081" to 0.310". Its wide coverage, adjustability, and safety make it ideal for operators working on Level 1, 2, and 3 applications.

	TSK8000	TSK8500
CABLE OUTER DIAMETER RANGE	0.081" - 0.180" Diameter Cable	0.180" - 0.310" Diameter Cable
MILITARY P/N	M32610/01-01	-
DIMENSIONS	1.6" Wide 8.8" Tall	1.7" Wide 9.4" Tall



**ACCESS THE TWIST-STRIP BROCHURE**  
Scan for more information



LaceLok Cable Lacing Fasteners were designed to replace cable ties and hand-tied lacing tape for secondary support of wire harnesses. The LaceLok system is ergonomic and provides consistent support with unrivaled strength and superior performance.

LaceLok is made of aerospace-grade materials and features a small, rounded fastener and meta-aramid fiber lace. This provides superior resistance to fuel, chemicals, abrasion, and extreme operating temperatures. A multi-wrap configuration can increase tensile strength and accommodate pressure sensitive components. Traditional LaceLok is best used for ground systems while outgassed LaceLok is ideal for space applications.

## IMPROVE YOUR CAPABILITIES

The DLT-1100 LaceLok installation tool applies 20 lbs (+/- 2 lbs) of tension to consistently produce reliable lace terminations. It also reduces operator fatigue and repetitive motion injuries common with other secondary support methods.



**DLT-1100**  
LaceLok Installation Tool

The DMC2300-10NA1 is a starter kit that provides all the necessary items to properly install LaceLok. It includes an installation tool, guarded cutters, a replacement blade, and 100 pieces of LaceLok (LF2-10NA1).



**DMC2300-10NA1**  
LaceLok Starter Kit



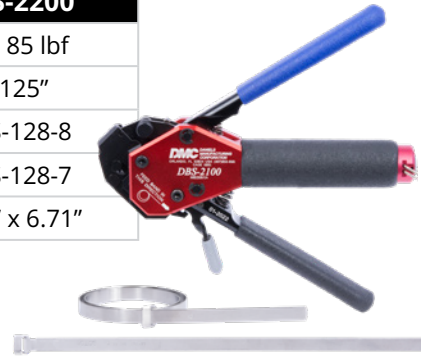
**ACCESS THE LACELOK BROCHURE**  
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# CONNECTOR ASSEMBLY

## BANDING TOOLS

Launch team operators for STS & ELV payloads can protect their underlying harnesses from interference and hardware degradation using DMC banding tools to apply EMI shielding. One-step banding tools are designed with a tension-lock system that accurately tensions, locks, and cuts stamped bands.

	DBS-2100	DBS-2200
TENSION RANGE	145 - 155 lbf	75 - 85 lbf
BAND WIDTH	0.250"	0.125"
COILED BAND P/N	DBS-128-4	DBS-128-8
FLAT BAND P/N	DBS-128-3	DBS-128-7
DIMENSIONS	6.75" x 6.71"	6.75" x 6.71"



**ACCESS THE BANDING BROCHURE**  
Scan for more information



## ADAPTERS

DMC adapters assist technicians in maintaining the integrity of their connectors by securely holding connectors stationary during installation or removal of contacts. DMC offers hundreds of adapters to support the assembly of a variety of space-grade connectors including circular, D-sub, Micro-D, and others. Each adapter features a keying arrangement to accommodate one or more connector families and common holding, tightening, and torquing tools.

CONNECTOR COVERAGE		DMC PART NUMBER
MIL-DTL-38999	Series 2	CM-S-389S (Plugs)
MIL-DTL-38999	Series 3	CM-S-389T (Plugs) CM-S-389TR (Receptacles)
MIL-DTL-38999	Series 1 - 4	DMC2175 (Plugs and Receptacles)
MIL-DTL-26482	Series 1 - 2	CM-S-264 (Plugs)
MIL-DTL-83723	Series 1	
MIL-DTL-26482	Series 1 - 2	CM-S-264R (Receptacles)
MIL-DTL-38999	Series 2	
MIL-DTL-83723	Series 1	
Pattern 602 and 615	-	



## TENSILE TESTING

DMC's tensile testers ensure terminated wires meet the strict strength requirements of space applications. They can perform "force hold" or "pull to fail" testing and are accurate within  $\pm 0.5\%$  of full scale. DMC's tensile testers are based on the EIA-364-08C Electronic Components Industry Standard and come with a certificate of calibration traceable to NIST.



	HPT-200B	MPT-250C	PT-150HA
LBF CAPACITY	2 - 200 lbf	5 - 250 lbf	2 - 150 lbf
POWER TYPE	Battery	Electric Motor	Manual
AWG	26 - 10	26 - 8	26 - 8
APPLICATION	Terminals, Coax Cable	Terminals, Splices, Contacts, STC terminations	Terminals, Contacts

# SAFE-T-CABLE®

Safe-T-Cable® installs 3 times faster than lockwire and produces a stronger and more reliable result. The user-friendly system guarantees consistent installation of .022", .032", .040", and .062" Safe-T-Cable diameters. The system minimizes repetitive motion injuries, prevents Foreign Object Debris (FOD), and eliminates sharp edges. Safe-T-Cable is available in 321 stainless steel, Inconel 600, and Inconel 625 for maximum versatility.

## ADJUSTABLE TENSION MANUAL TOOL SERIES

The most popular manual Safe-T-Cable tool is the adjustable tension tool (SCTR). The rotary tension mechanism on this tool can be adjusted to your cable tension requirements and accommodates all Safe-T-Cable diameters.



**SCTR323**

## BATTERY-POWERED TOOL SERIES

Battery-powered Safe-T-Cable tools allow operators to adjust tension and use next-gen technology to track tool performance, users, and projects. Crimp data is viewable in real-time on the LED display, or can be downloaded via Bluetooth® to an app.



**SCTE323C  
& SCTE625C**



**DMC1001-7R**

## SAFE-T-CABLE TOOL KITS

A variety of Safe-T-Cable tool kits are available including multi-tool configurations with and without verification equipment to support your specific requirements.



**ACCESS THE SAFE-T-CABLE BROCHURE**  
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# TOOL KITS

DMC has built electrical wiring interconnect system (EWIS) maintenance tool kits for over 50 years. Each kit is thoroughly researched to include the necessary tools to prepare, terminate, install, and remove wires.

DMC offers a variety of tool kits to include platform-specific, connector-specific, general purpose, and custom designed options tailored to the unique needs of our customers. Several preconfigured kits that support connectors commonly used in space applications are detailed in the table below.

CONNECTOR COVERAGE		DMC PART NUMBER
MIL-DTL-24308	D-Subminiature Series	DMC1298
MIL-DTL-38999	Series 1 - 4 (Covers 22 to 12 AWG)	DMC727
MIL-DTL-38999	Series 1 - 4 (Power & Coax)	DMC1277
Deutsch (TE)	AS, ASL, ASR, ASC, ASV, AS-Mini, ASDD, AS-Micro, ASHD	DMC2204



### DMC727 SALES LITERATURE

MIL-DTL-38999 Tool Kit

Scan for Kit Contents



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