

LaceLok[®]

Instruction Manual



DMC **DANIELS**[®]
MANUFACTURING
CORPORATION

www.dmctools.com

INSTALLATION TOOL

DLT-1100
(M32555/01-01)



Cutting Blade Cover
Capstan

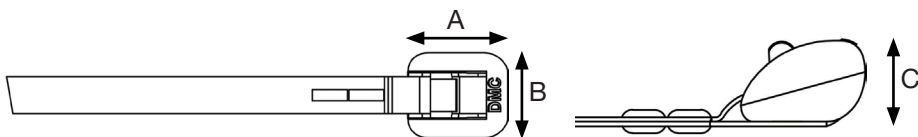
LACELOK

Locking Pin



LACELOK SPECIFICATIONS

Operating Temperature	-65°C to 260°C
Chemical Resistance	Hydraulic fluid, JP-8 jet fuel, lubricating oil, isopropyl alcohol
Fastener Head	Ultra high temperature thermoplastic (PEEK)
Lacing Tape	A-A-52084 Size 2, Finish C
Length (A)	0.28" (7.1 mm)
Width (B)	0.23" (5.8 mm)
Height (C)	0.18" (4.6 mm)
Overall Length	6" - 24" (152-610 mm)



STANDARDS AND CLASSIFICATIONS

SAE INTERNATIONAL

LaceLok (CLF) is approved for use as a secondary wiring support device for aerospace vehicles under **AS50881H**.

U.S. MILITARY

MIL-DTL-32554 Straps, Tie-Down, Adjustable, Non-Metallic, Cable Bundling

MIL-DTL-32555 Tool, Installation, for Adjustable Tie-Down Straps

NAVAIR 01-1A-505-1 Tech Manual - Installation Practices for Aircraft Electronic Wiring

TO 1-1A-14 Technical Manual (Air Force)

TM 1-1500-323-24-1 Technical Manual (Army)

MIL-HDBK-522 Guidelines for Inspection of Aircraft EWIS

INSTRUCTIONS

1. Wrap LaceLok around the wire bundle one to three times (Fig. 1).
2. Feed the end of lace through the fastener and under the locking pin. Cinch tightly (Fig. 2).
3. Loop the end of lace over the locking pin and back through the fastener. Cinch tightly (Fig. 3).



Fig. 1



Fig. 2



Fig. 3

4. Side-load the lace into the capstan (Fig. 4).
5. While maintaining tension on the lace, position the fastener in the nose of the tool (Fig. 5).
6. Ensuring the fastener is properly nested, squeeze tool trigger two to three times to tighten, lock, and cut the excess lace.
7. The operator will hear and see the activated fastener (Fig. 6).



Fig. 4



Fig. 5

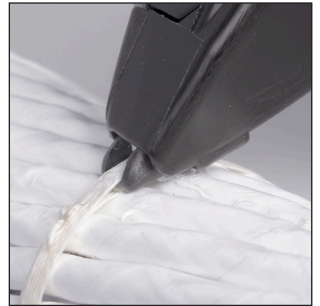


Fig. 6



Scan the QR code or visit https://qrco.de/LaceLok_Training_Video to view the official DMC LaceLok Training Video

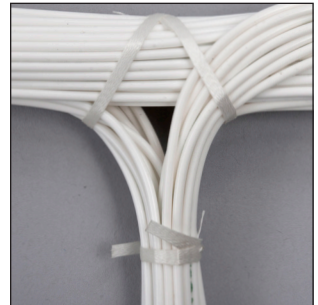
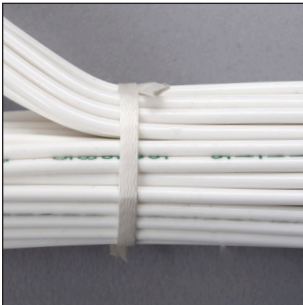
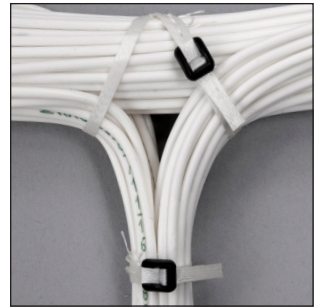
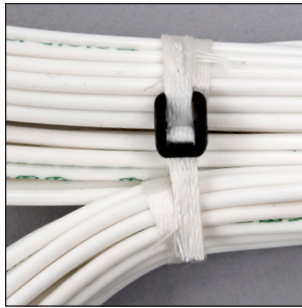
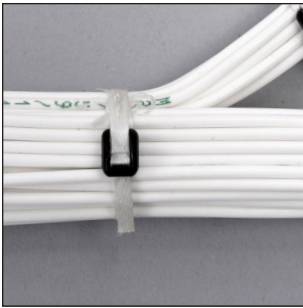
INSTALLATION PRACTICES

LaceLok is exceptionally strong with a single wrap. Additional strength can be achieved by simply applying a second or third wrap around the wire harness prior to activation. Multiple wrap installations should be used where increased tensile strength or additional resistance to radial motion is needed. Double and triple wrap configurations are ideal for pressure sensitive components such as coaxial and fiber optic cables.

Number of Wraps	Application	Minimum Tensile Strength
Single	1/4" to 1" (.6 cm to 2.5 cm) diameter cable bundles	55 lbs. (240 N)
Double	<1/4" and 1" to 3" (<.6 cm and 2.5 cm to 7.5 cm) diameter cable bundles	110 lbs. (490 N)
Triple	>3" (> 7.5 cm) diameter cable bundles or Exposure to JP-8 jet fuel	165 lbs. (730 N)

BREAKOUT EXAMPLES

LaceLok can be used to create breakouts in a similar application method as plastic cable ties or hand-tied lace by replacing the traditional hand-tied lace knot with the LaceLok fastener. Examples of breakouts include, but are not limited to the following examples. It is up to the responsible engineering authority to determine the applicable method and application of LaceLok.



INSPECTION

A proper installation of LaceLok is shown in Fig. 7. To confirm that LaceLok has been installed correctly ensure the following:

1. The LaceLok locking pin is activated.
2. The locking pin is angled away from the cut end of the lace.
3. LaceLok is adequately tight around bundle.
4. The lacing tape is not twisted in the fastener or around the bundle.
5. The lacing tape is cut cleanly.
6. The cut end of the lacing tape measures 0.5 in. +/- 0.25.

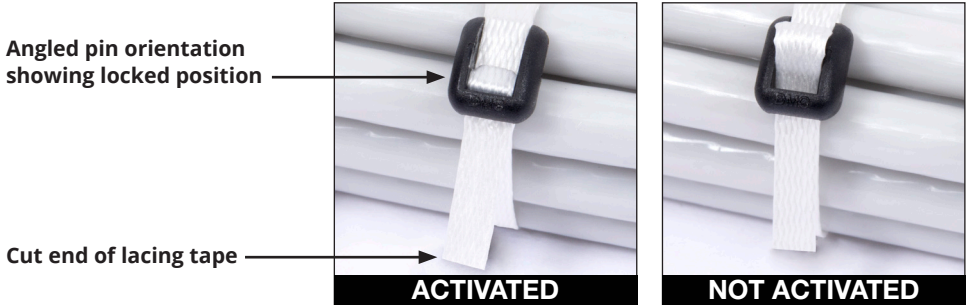


Fig. 7

MAINTENANCE

The installation tool was designed to require no calibration and minimal maintenance. Users should keep the tool clean and free of debris. Users can change the blade as needed. For all other repair work, users must return to the tool to DMC or to a DMC authorized repair center.

Warnings

- Do not disassemble housing halves or injury may occur due to spring-loaded components.
- The warranty will be voided if the housing is disassembled.
- The cutting blade is sharp and could cause injury.

Cutting Blade and Nose Replacement

1. Unscrew the cutting blade cover screw (1-1025).
2. Remove the cutting blade cover (DLT-1100-33).
3. Carefully remove the used yellow cutting blade (DLT-1100-SA5).
4. Replace the cutting blade with the new cutting blade.
5. Reinstall cutting blade cover, or replace as necessary.



BEST PRACTICES

LaceLok is used to support wire bundles, not gather the bundle. Before installing LaceLok, it may be helpful to bundle the wire with a clamp or other bundling device. If a clamp is not available, operators may hold the bundle together with their non-dominant hand (Fig. 8).



Fig. 8

To ensure the bundle is secured properly, it is important that the lacing tape is not twisted during installation (Fig. 9).

Remember the lace is not fed through the nose of the tool, but rather side-loaded through the capstan.

To achieve the best termination, remember to align the tool to the fastener so that it is nested in the nose of the tool. Do not position the tool in front, to the side, or perpendicular to the fastener. Failure to correctly align the tool can result in a faulty installation.



Fig. 9

When performing a multiple wrap installation, be sure to wrap the lace around the bundle multiple times, but only through the fastener once on the final pass around the bundle. Do not thread the lace through the fastener multiple times (Fig. 10).



Fig. 10

A lockstitch method can be used for larger bundles, bundles of multi-conductor cables, or bundles where additional resistance to lateral movement is needed. A lockstitch is completed by looping the lace around one component and then completing the wraps and termination as normal (Fig. 11).

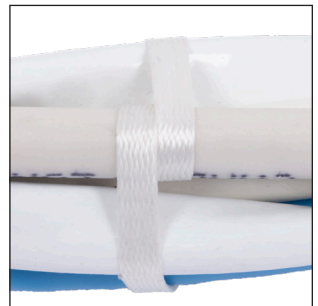


Fig. 11

LACELOK ORDERING INFORMATION

DMC PART NUMBERING SYSTEM

LF2-XX CCC

LENGTH

06 = 6" (15 cm)
10 = 10" (25 cm)
18 = 18" (45 cm)
24 = 24" (61 cm)

COLOR

NA1 = Natural (White)
NA2 = Natural w/Dark Tracer
BLK = Black
BLU = Blue
BRN = Brown
GRY = Gray
GRN = Green
ORN = Orange
PNK = Pink
RED = Red
VIO = Violet

MILITARY PART NUMBERING SYSTEM

M32554-XX-1-XXX

LENGTH

06 = 6" (15 cm)
10 = 10" (25 cm)
18 = 18" (45 cm)
24 = 24" (61 cm)

COLOR

NA1 = Natural (White)
NA2 = Natural w/Dark Tracer
BLK = Black
BLU = Blue
BRN = Brown
GRY = Gray
GRN = Green
ORN = Orange
PNK = Pink
RED = Red
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Color	Length	DMC Part #	Military Part #	NSN
NA1 (White)	6"	LF2-06NA1	M32554-06-1-NA1	5975-01-718-7002
	10"	LF2-10NA1	M32554-10-1-NA1	5975-01-718-6969
	18"	LF2-18NA1	M32554-18-1-NA1	5975-01-718-8486
	24"	LF2-24NA1	M32554-24-1-NA1	5975-01-718-6985
NA2 (White w/ Dark Tracer)	6"	LF2-06NA2	M32554-06-1-NA2	NSN Pending
	10"	LF2-10NA2	M32554-10-1-NA2	NSN Pending
	18"	LF2-18NA2	M32554-18-1-NA2	NSN Pending
	24"	LF2-24NA2	M32554-24-1-NA2	NSN Pending
Black	6"	LF2-06BLK	M32554-06-1-BLK	5975-01-718-6919
	10"	LF2-10BLK	M32554-10-1-BLK	5975-01-718-6973
	18"	LF2-18BLK	M32554-18-1-BLK	5975-01-718-6977
	24"	LF2-24BLK	M32554-24-1-BLK	5975-01-718-6996

LaceLok is sold in packages of 100. It is available in various colors including blue, brown, gray, green, orange, pink, red, and violet. An outgassed version of LaceLok is also available. Order using the above DMC part # preceded with "S." Outgassed LaceLok is approved for commercial use and meets the requirements for ASTM E595-15(2021) and NASA Technical Standard MSFC-SPEC-1443. Contact DMC for additional part numbers.

Tool and Tool Kits	Length	DMC Part #	Military Part #	NSN
LaceLok Installation Tool	N/A	DLT-1100	M32555/01-01	5120-01-720-6605
Starter Kit: LaceLok Installation Tool, Cutting Blade, Guarded Cutter, 100 Quantity of White LaceLok	10"	DMC2300-10NA1	N/A	NSN Pending
	18"	DMC2300-18NA1		

Additional kits are available with various lengths and colors of LaceLok including blue, brown, gray, green, orange, pink, red, and violet. Contact DMC for additional part numbers.



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