SCT Safe-T-Cable® Tool

Instruction Manual

DANIELS MANUFACTURING CORPORATION®

www.dmctools.com

GENERAL INFORMATION

This instruction manual provides technical information for the SCT Series of Safe-T-Cable® tools. SCT Series tools allow for single-handed tensioning operation. When the tool reaches the factory-set tension, a final squeeze completes the installation to prevent the disengagement of critical components in high-reliability environments.

The Safe-T-Cable system consists of three parts: the cable assembly, the ferrule, and the tool. All cable assemblies and ferrules are made of high-performance alloys that provide strength and corrosion-resistant properties. The tool tensions the cable, crimps the ferrule, and cuts the cable flush in one fluid motion all while maintaining adequate cable tension. Its enhanced benefits include access to tight areas, easy visual inspections, and an installation time that is three times faster than lockwire.

Nose Lengths	3″, 5″, 7″, 9″
Cable Diameters Supported	.022″, .032″, .040″
Tool Tension	Pre-Set
Power Supply	Manual
Dimensions* L x W x H	8″ x 1.5″ x 8″
Weight*	1.5 lbs
Related Specs**	AS3509, AS3510, AS3511

*Measurements are for the tool body with no nose assembly

**SAE publications are available from SAE International at www.sae.org

TOOL SETTINGS

VERIFICATION

Proper use of Safe-T-Cable tools begins with tool setting verification. If the verification check fails, adjustments to the indenter setting are necessary before proceeding. Indenter settings should be checked periodically and must be checked after the nose assembly has been removed or interchanged.

1. Thread the cable through the left swivel and through the right swivel on the SCT-TB1 verification block. Terminate the cable while ensuring the black lever is in the home position and the tool nose is perpendicular to the fastener. (Fig. 1)
2. Apply approximately 2 lbs. of force to the cable with your finger or use the SCTD013 retention tester at the line marked "TEST AREA" (Fig. 2). If the cable touches either the side or bottom surface of the test area, remove the cable from the test block and terminate another cable as described above, taking care to hold the tool perpendicular to the cable. Repeat this process until the cable does not touch either the side or bottom surfaces of the test area.

Fig. 1


Fig. 2

3. Set the correct pull-off load on a calibrated 3/8" drive, in-lb torque wrench (SCTD0001). Place the torque wrench into the square drive hole on the verification block. Orient the test block on a flat surface and apply the specified force for the cable diameter being tested (Fig. 3 + 4). If the cable did not break or pull out, the crimp is acceptable. If the cable breaks or pulls out, adjust the indenter and repeat steps 1-3.

⚠ Release torque when minimum pull-off load is achieved. Do not apply additional tension to the cable.

Fig. 3

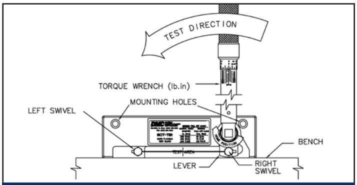


Fig. 4

VERIFICATION OF TOOL SETTINGS
qrco.de/STC_Verification

TOOL SETTINGS CONT.

INDENTER ADJUSTMENT

1. Remove the nose assembly by removing the two 8-32 socket head cap screws and nose adapter (Fig. 5 + 6). If installed, also remove the optional nose adapter extension.

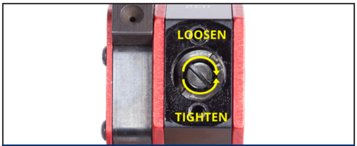


Fig. 5

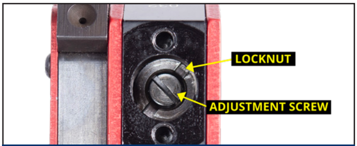


Fig. 6

2. Unlock the locknut using the SCT32084 spanner tool and adjust the pushrod adjustment screw using a 1/4" straight edge screwdriver (Fig. 7 + 8).

Fig. 7

Fig. 8

3. Turn the adjustment screw clockwise to loosen the crimp. Turn the adjustment screw counterclockwise to tighten the crimp. After each adjustment and prior to the re-installation of the nose assembly, use the screwdriver to hold the screw stationary while securely tightening the locknut with the spanner tool.
4. Replace the nose assembly and the two 8-32 socket head cap screws. Prevent binding by alternately turning each screw a small amount until tight.
5. Verify tool calibration. Refer to figures 9 + 10 for flex limits.

⚠ DO NOT adjust the pushrod adjustment screw more than a quarter of a turn each time. Severe adjustments may damage the tool.

⚠ Indenter adjustment is not possible for the SCTXXXSG series tamper-resistant Safe-T-Cable tools.

Flex Limits, Dimensions

A	B	C
0.5" (12.7mm)	0.125" (3.18 mm)	0.062" (1.59 mm)
1.0" (25.4 mm)	0.250" (6.35 mm)	0.125" (3.18 mm)
2.0" (50.8 mm)	0.375" (9.52 mm)	0.188" (4.76 mm)
3.0" (76.2 mm)	0.375" (9.52 mm)	0.188" (4.76 mm)
4.0" (101.6 mm)	0.500" (12.70 mm)	0.250" (6.35 mm)
5.0" (127.0 mm)	0.500" (12.70 mm)	0.250" (6.35 mm)
6.0" (152.4 mm)	0.625" (15.88 mm)	0.312" (7.94 mm)

Fig. 9

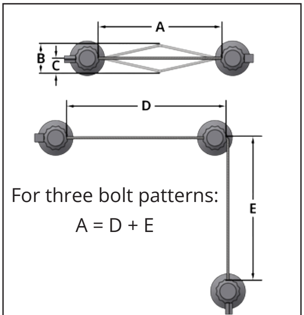


Fig. 10

INSTALLATION AND TERMINATION INSTRUCTIONS

1. Thread the cable assembly through the fasteners such that when tightened the cable will provide a neutral or positive tension. Safe-T-Cable should be installed in only two or three-bolt patterns in accordance with the specs. Two-bolt patterns are recommended. (Fig. 11)
2. Insert the free end of the cable through the ferrule in the cartridge and remove the ferrule by pulling the cable away from the end of the cartridge. (Fig. 12)

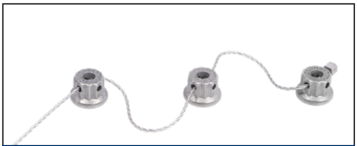


Fig. 11

Fig. 12

3. Rotate the nose of the tool to line up with the free end of the cable. Insert the free end of the cable through the flat side of the tool nose (Fig. 13). Ensure the ferrule is fully seated in the nose and is positioned firmly against the fastener. (Fig. 14)

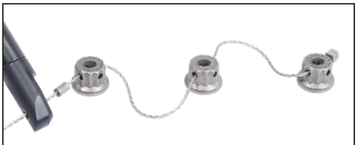


Fig. 13

Fig. 14

4. Insert the free end of the cable into the cable entrance (Fig. 15) and cycle the handle to tension the cable.

NOTE: Grip the cable as close to the free end as possible during insertion to prevent buckling.

Fig. 15

5. When the ferrule is firmly against the fastener, swiftly close the handles to crimp the ferrule and cut the cable.

NOTE: It is important in the final stroke to hold the tool steady and perpendicular to the cable while assuring that a full stroke is used to provide consistent tensioning of the cable.

INSTALLATION AND TERMINATION INSTRUCTIONS CONT.

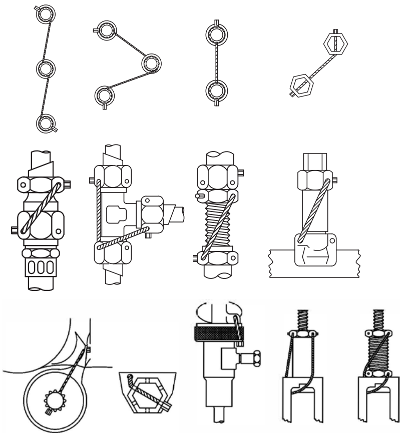
6. Release the tool handle and slide the tool off the crimped ferrule. Pull the excess cable from the tool by activating the pawl release knob. (Fig. 16)

Fig. 16

7. Visually inspect the cable to verify the installation. The cable should be cut flush at the end of the ferrule with no strands extending more than 1/32" from the end. There should be no nicks or other damage (Fig. 17). Verify the cable tension adheres to the flex limits (Fig. 9 & 10).

Fig. 17

Example Applications: Standard Hardware, Tube Couplings, & Other Applications



SCAN FOR A VIDEO TUTORIAL

qrco.de/STCInstallationVideo

ASSOCIATED PRODUCTS

NOSES

Safe-T-Cable noses rotate 360° and are available in multiple lengths.

Cable Diameter	Nose Style	3"	5"	7"	9"
.022"	Standard	SCTN20-3	SCTN20-5	SCTN20-7	SCTN20-9
.032"	Standard	SCTN32-3	SCTN32-5	SCTN32-7	SCTN32-9
	Low-Profile	SCTN32-3L	SCTN32-5L	SCTN32-7L	SCTN32-9L
.040"	Standard	SCTN40-3	SCTN40-5	SCTN40-7	SCTN40-9
	Low-Profile	SCTN40-3L	SCTN40-5L	SCTN40-7L	SCTN40-9L

SCT TOOLS

3", 5", 7", and 9" nose lengths are offered for SCT Series tools. Cable diameters available include .022", .032", and .040".

Cable Diameter	Nose Length	Part Number
.022"	3"	SCT203
	5"	SCT205
	7"	SCT207
	9"	SCT209
.032"	3"	SCT323
	5"	SCT325
	7"	SCT327
	9"	SCT329
.040"	3"	SCT403
	5"	SCT405
	7"	SCT407
	9"	SCT409

ALTERNATIVE POWER TYPE AVAILABLE

qrco.de/STC_Power_Types

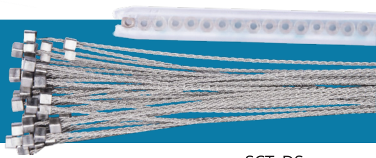
ASSOCIATED PRODUCTS

CABLE KITS

Safe-T-Cable is available in 321 Stainless Steel, Inconel 600, and Inconel 625 allowing it to perform reliably across a wide range of environments. Cable for these tools are available in .022", .032", and .040" diameters and in lengths ranging from 9" – 24". Cable kits consist of 50 cable assemblies and 50 ferrules.

Part Number	Cable Diameter	Component Material	Length	Minimum Pull-Off Load
C10-109	.022" / .026" (1 x 7 Strand)	UNS S32100 Corrossion and Heat Resistant Alloy (AMS5689)	9" (229mm)	30 lb. (133.4 N)
C10-112			12" (305mm)	
C10-115			15" (381mm)	
C10-118			18" (457mm)	
C10-121			21" (533mm)	
C10-124			24" (610mm)	
C10-209	.032" / .038" (3 x 7 Cable)		9" (229mm)	70 lb. (311.4 N)
C10-212			12" (305mm)	
C10-215			15" (381mm)	
C10-218			18" (457mm)	
C10-221			21" (533mm)	
C10-224			24" (610mm)	
C10-309	.040" / .046" (7 x 7 Cable)		9" (229mm)	110 lb. (489.3 N)
C10-312			12" (305mm)	
C10-315			15" (381mm)	
C10-318			18" (457mm)	
C10-321			21" (533mm)	
C10-324			24" (610mm)	

Consult factory for additional cable kits, assembly, and ferrule part numbers.



ACCESSORIES

Accessories for Safe-T-Cable tools include verification equipment, replacement parts, cutters, and pliers.

Part Number	Description
SCT-TB1	Torque Verification Block
SCTD0001	Torque Wrench (20-150 in-lb)
SCTD013	Retention Tester
45-6N	Diagonal Cutters
MPT-250C-SC	Motorized Tensile Tester
SCT32080SA	Nose Adapter
1-1185	Cap Screw
7-1199 & 7-1200	Handle Boots
SCT32059SA	Nose Adapter Extension

BEST PRACTICES

1. Safe-T-Cable assemblies and ferrules should be installed with a Safe-T-Cable tool which has been set to meet the performance requirements of SAE specifications AS3509, AS3510, and AS3511.
2. Users should not pull Safe-T-Cable tight with their hands.
3. The maximum span between two termination points should be 6” (152.4 mm) unless otherwise specified.
4. The maximum bend limit of a Safe-T-Cable installation is 135°. This does not apply to hose fittings, electrical connector coupling mechanisms, turnbuckles, or similar

TOOL CARE

- DO NOT immerse tools in cleaning solution
- DO NOT reuse cable after the initial termination
- Only use tools for their intended purposes
- Gently scrape or brush debris from the crimp cavity to prevent ferrules from sticking. Blow remaining debris with air and apply a light film of any lightweight synthetic or petroleum based oil to the cavity.

CALIBRATION & REPAIR

DMC offers comprehensive calibration and repair services. Our technicians will inspect the tool, replace worn components, and ensure it meets factory specifications.

To begin the calibration or repair process, scan the QR code. U.S. Customers will be directed to the appropriate forms to initiate service through DMC. Customers outside of the U.S. may contact authorized repair centers near them.

qrco.de/Calibrate

SAFETY

Safety is essential in the use and maintenance of DMC tools and equipment. This manual and any markings on the tool provide information for avoiding hazards and unsafe practices related to the use of these tools. Observe all of the safety information provided below:

⚠ Use proper cable size and tool. Improper combinations can result in a incomplete fastener system. Failure to observe this warning could result in severe injury or death.

⚠ Inspect tool before use. If any parts are worn or damaged, send the tool for repair.

Limitation of Liability

DANIELS MANUFACTURING CORPORATION (DMC) IS NOT LIABLE FOR CONSEQUENTIAL OR SPECIAL DAMAGES OF ANY NATURE OR KIND RESULTING FROM THE USE, MISUSE, OF ANY OF ITS PRODUCTS. OWNERS AND USERS OF DMC PRODUCTS ASSUME FULL RESPONSIBILITY FOR INSTRUCTING THEIR EMPLOYEES IN THE PROPER AND SAFE USE OF SUCH PRODUCTS.

Limited Warranty

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

Daniels Manufacturing Corporation
526 Thorpe Road, Orlando, Florida 32824 USA
407-855-6161   dmc@dmctools.com
www.dmctools.com