

# SCTPRM SERIES PNEUMATIC ROTARY SAFE-T-CABLE® TOOL

SEE PAGE 13 FOR IMPORTANT INFORMATION CONCERNING  
LIMITED WARRANTY, AND LIMITATION OF LIABILITY

## INTRODUCTION

The Daniels SCTPRM Series Pneumatic Rotary Safe-T-Cable® application tool is designed to crimp ferrules, and tension/cut the cable in accordance with the performance requirements of SAE specification AS4536\*. The application tool installs Safe-T-Cable® kits identified in SAE specifications AS3509\*, AS3510\*, and AS3511\*.

The following steps are important:

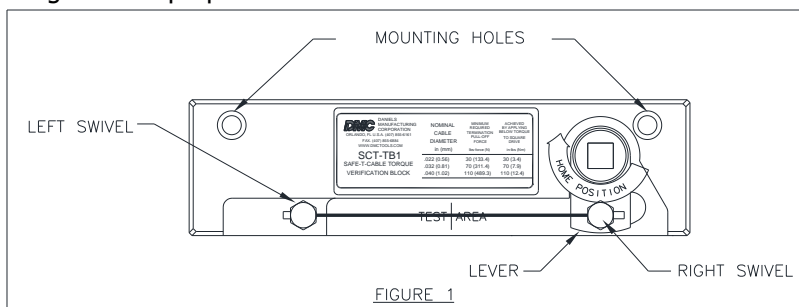
1. Proper tool settings (Section 1.0)
2. Proper cable installation (Section 2.0)
3. Proper loading and use of the application tool (Section 3.0)
4. Verification of proper application (Section 4.0)

\*SAE publications are available from:  
SAE, International  
400 Commonwealth Drive  
Warrendale, PA 15096-001

## 1.0 TOOL MAINTENANCE AND VERIFICATION OF SETTINGS

### 1.1 Checking Indenter Settings with the Daniels SCT-TB1 Torque Verification Block

- 1.1.1** Indenter settings should be checked periodically and must be checked after the nose assembly has been removed or changed.
- 1.1.2** Thread the cable into the left swivel and through the right swivel, holding the lever in the home position as shown in FIGURE 1. If the lever is not kept in the home position the results may be adversely affected. Terminate the cable as per SECTION 3.0
- 1.1.3** Apply approximately 2lb force to the cable with your finger (or use the Daniels SCTD013 Retention Tester) at the line marked "TEST AREA". If the cable touches either the side or bottom surface of the test area, remove the cable from the torque verification block. Properly terminate another cable, holding the tool perpendicular to the cable.



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- 1.1.4** Place a calibrated 3/8" drive torque wrench (SCTD0001) into the square drive hole, orienting the torque verification block and torque wrench on a flat surface as shown in FIGURE 2. Apply the proper pull off load as shown in TABLE 2.

**CAUTION: RELEASE TORQUE WHEN MINIMUM PULL OFF IS ACHIEVED**

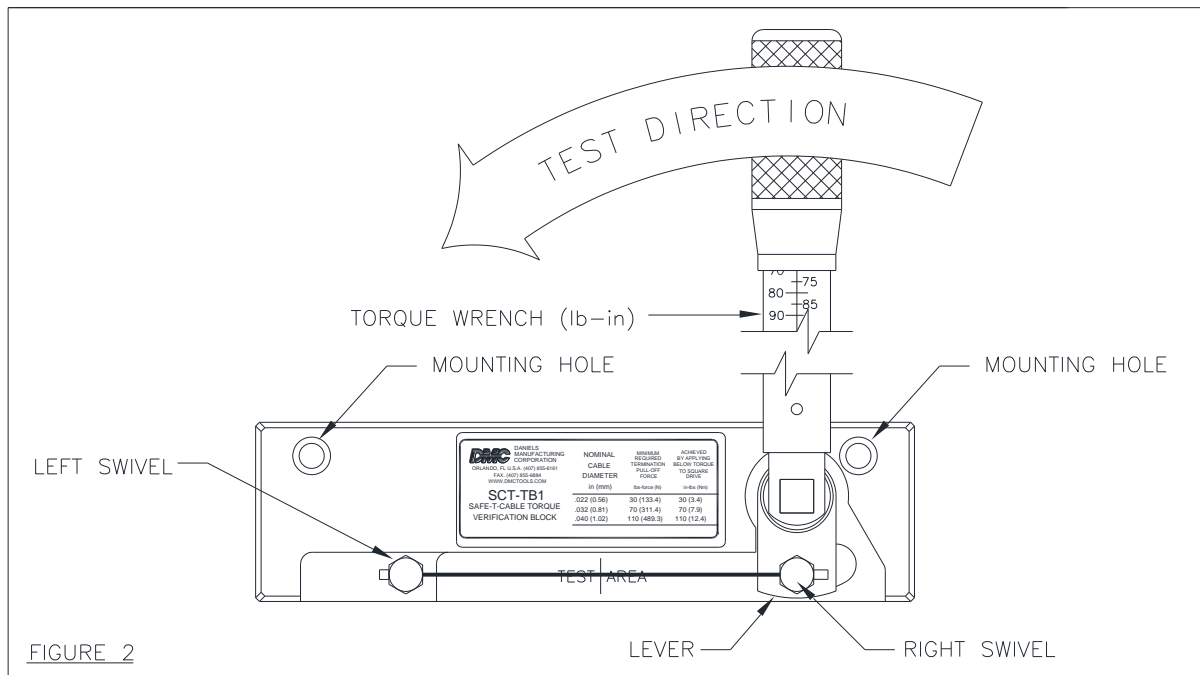


FIGURE 2

**DO NOT APPLY ADDITIONAL TENSION TO THE CABLE**

- 1.1.5** If the cable did not break or pull out of the ferrule after applying the proper torque, remove the torque wrench and apply approximately 2 lb force to the cable with your finger (or Daniels SCTD013) at the line marked "TEST AREA".

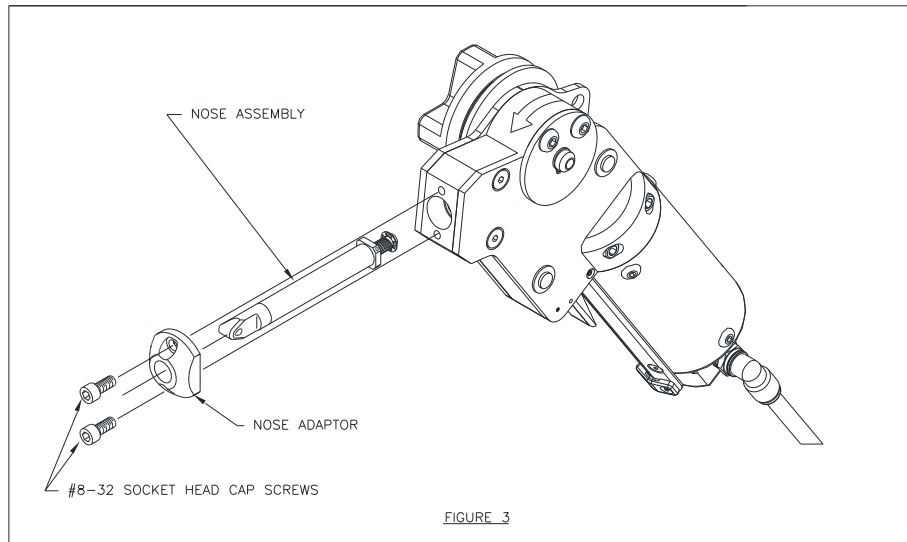
- 1.1.6** If the cable breaks or pulls out of the ferrule, or it touches either the side or bottom surface of the test area, then the crimp is unacceptable and the tool indenter should be adjusted per section 1.2

## 1.2 Indenter Adjustment

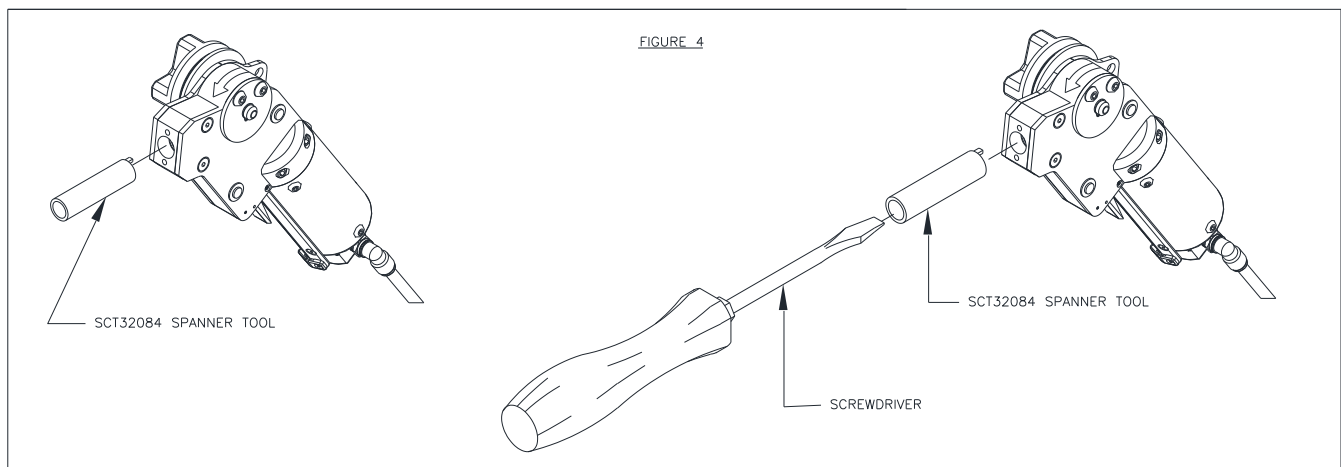
- 1.2.1** Remove the nose assembly by removing the two #8-32 socket head cap screws as shown in FIGURE 3.

- 1.2.2** Loosen the pushrod locknut with the Daniels SCT32084 spanner tool as shown in FIGURE 4.

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- 1.2.3** Adjust the pushrod screw using a screwdriver and SCT32084 Spanner Tool as shown in FIGURE 4. Turn the pushrod adjustment screw clockwise to loosen the crimp (enlarge the gauging dimension). Turn the pushrod adjustment screw counterclockwise to tighten the crimp (reduce the gauging dimension).



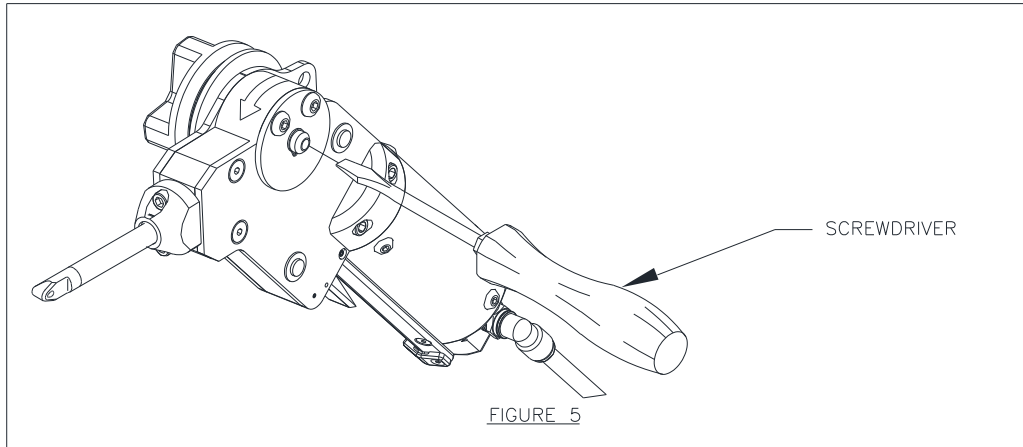
- 1.2.4** Tighten the pushrod locknut using the SCT32084 Spanner Tool as shown in FIGURE 4. Replace the nose assembly and the two #8-32 socket head cap screws. Prevent binding by alternately turning each screw a small amount until tight.

- 1.2.5** Check settings as described in Section 1.1.

**CAUTION: DO NOT ADJUST THE PUSHROD MORE THAN A QUARTER OF A TURN AT A TIME.  
SEVERE ADJUSTMENT MAY DAMAGE THE TOOL.**

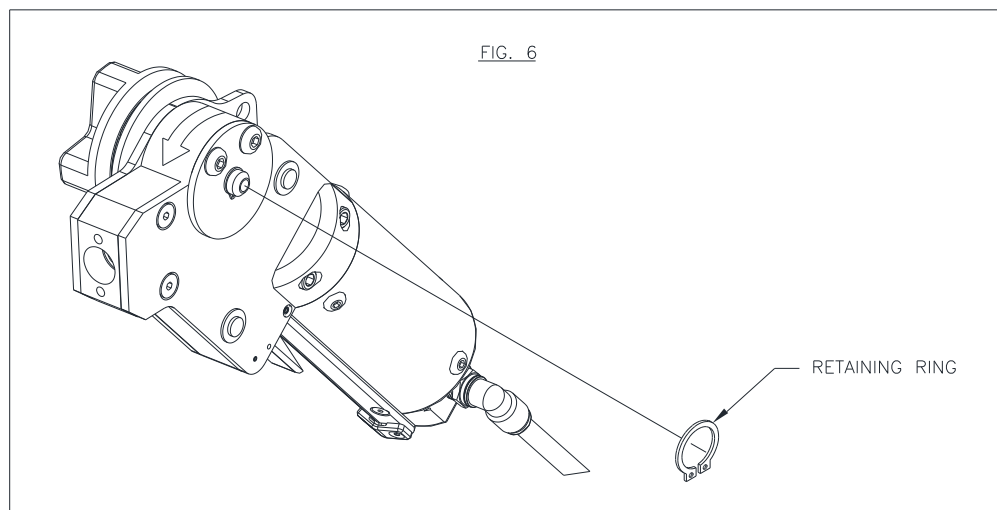
## 1.3 Adjusting the Tension

- 1.3.1** Adjust cable tension using a screwdriver as shown in FIGURE 5. Turning the tension adjustment screw clockwise increases cable tension. Turning the tension adjustment screw counterclockwise decreases cable tension. Proper cable tension is defined in SECTION 4.0. The lowest cable tension setting which meets the requirements of SECTION 4.0 should be used.



## 1.4 TENSION WHEEL LOCATION

- 1.4.1** The tensioning wheel can be mounted on either the left or right side of the tool.
- 1.4.2** To remove the tension wheel, remove the retaining ring shown in FIGURE 6 using Daniels SCTD012 retaining ring pliers or equivalent. Do not remove the retaining ring on the tension wheel knob.

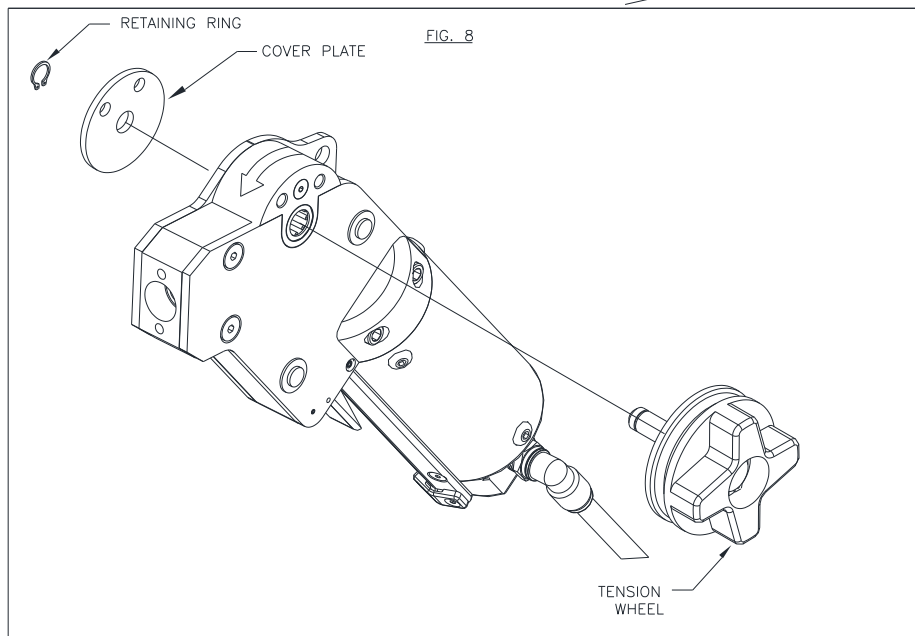
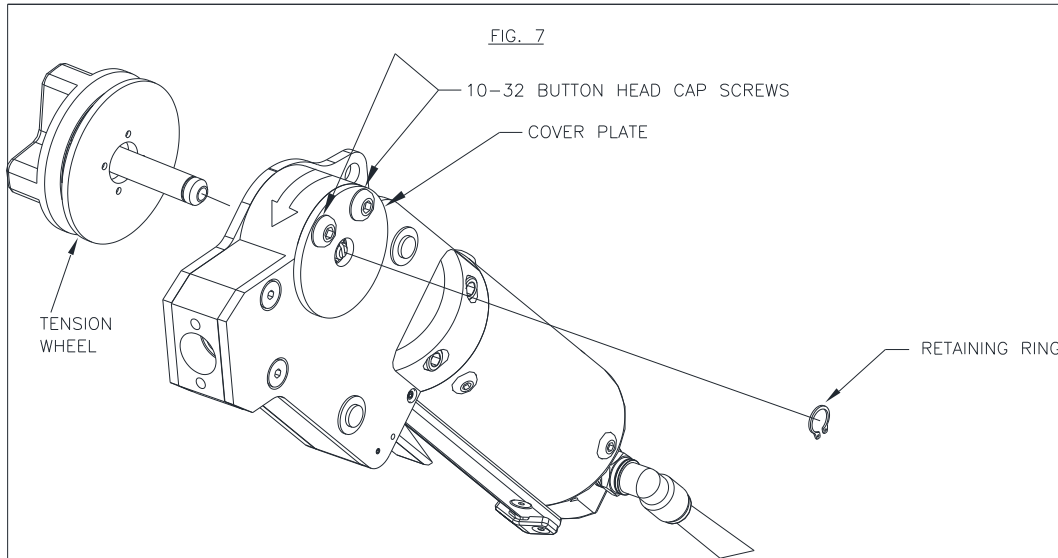


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**1.4.3** Slide the tension wheel assembly off and remove the cover plate from the tool (See FIGURE 7).

**1.4.4** Install the tensioning wheel assembly and the cover plate on the opposite side of where they were previously (See FIGURE 8).



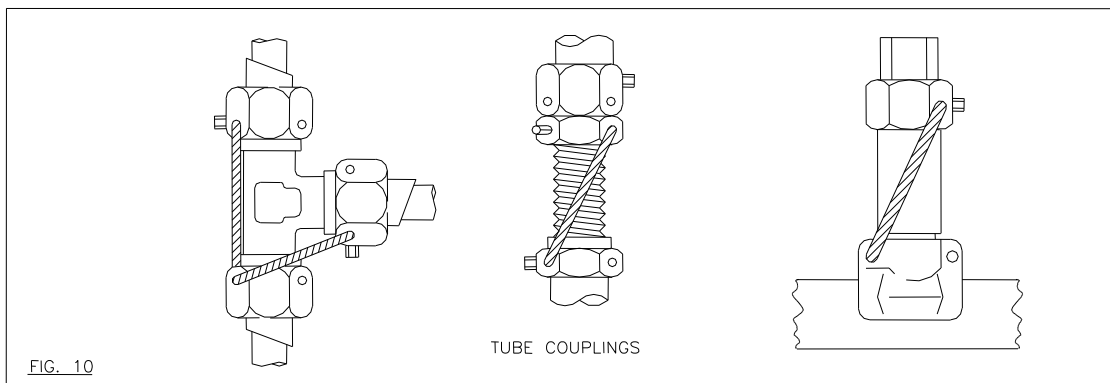
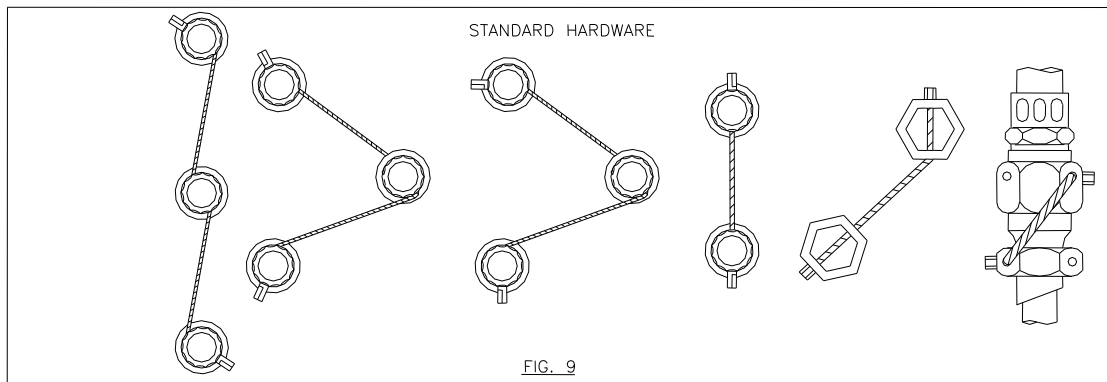
**1.4.5** Reinstall the retaining ring.

### 1.5 MAINTENANCE OF THE CRIMP CAVITY

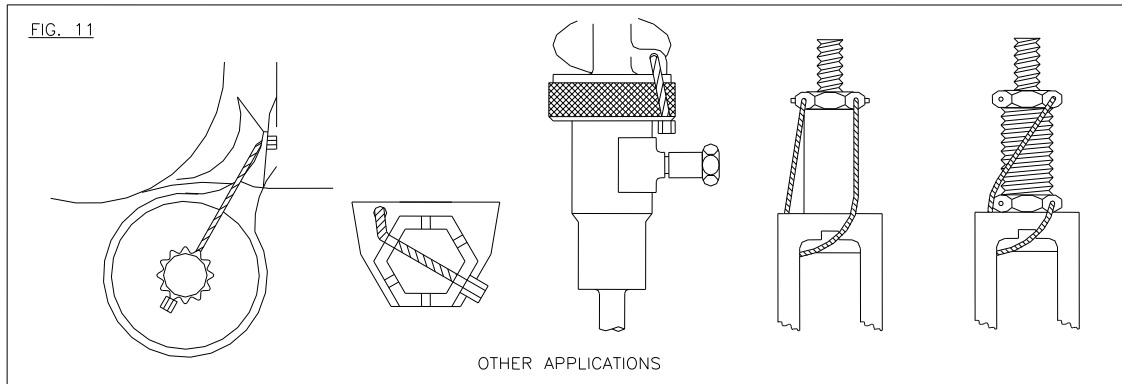
- 1.5.1** Debris can accumulate in the crimp cavity during use. This debris must be removed and the cavity oiled periodically depending upon use and environment. **Ferrule sticking can occur if this procedure is not followed.**
- 1.5.2** Remove debris by gently scraping or brushing the crimp cavity. Blow any remaining debris from the cavity with compressed air.
- 1.5.3** **Coat the cavity with a light film of any lightweight synthetic or petroleum based oil after the cavity has been thoroughly cleaned.**

### 2.0 PROPER CABLE INSTALLATION

- 2.1** Various examples of Safe-T-Cable® installation are shown in FIGURES 9 through 11. Although all possible combinations are not shown, three basic rules apply:
- A. It is recommended that Safe-T-Cable® be installed in such a manner that any tendency for a fastener to loosen will be counteracted by an additional tension on the cable. Sharp turns in excess of 135° should be avoided. Installed Safe-T-Cable® should produce a positive or neutral pull on the fastener.
  - B. Safe-T-Cable® should be installed in two or three bolt patterns. Two bolt patterns being preferred when Safe-T-Cable® is applied to an even number of fasteners.
  - C. Maximum span of Safe-T-Cable® shall be six inches from end to end, unless otherwise specified.

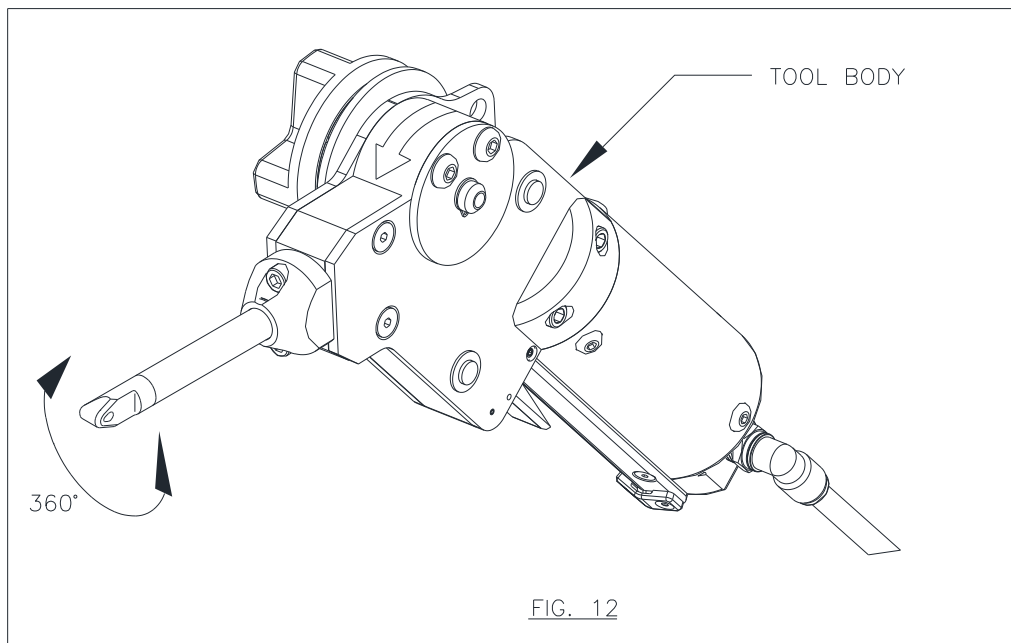


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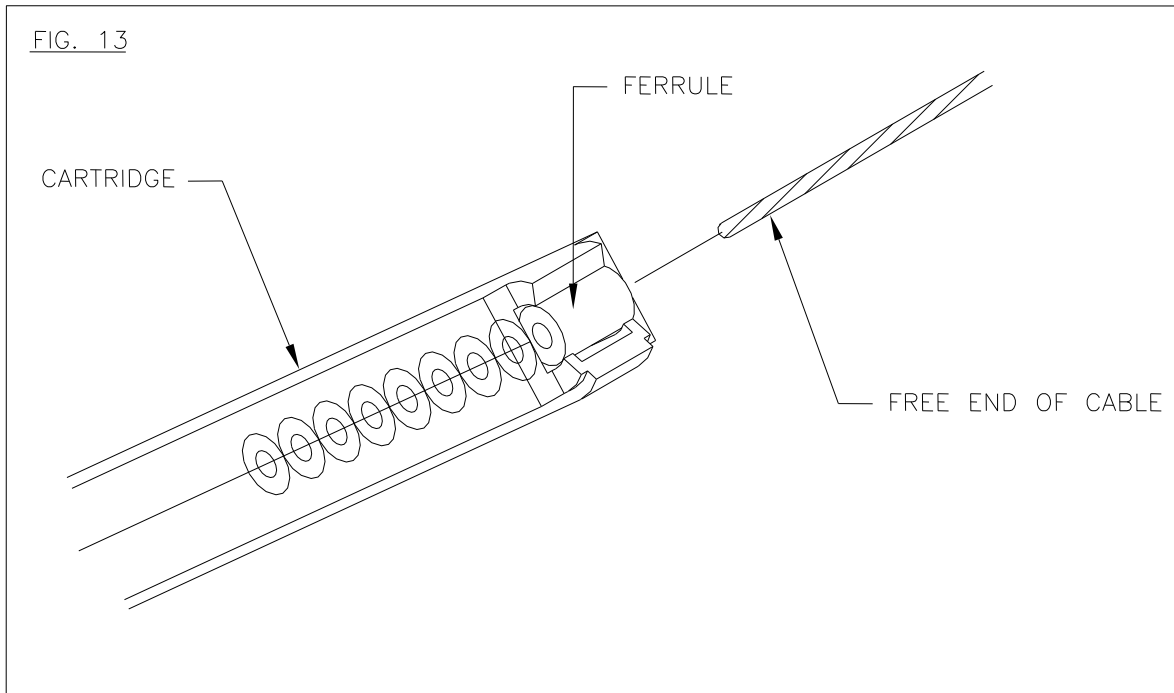


### 3.0 PROPER LOADING AND USE OF THE APPLICATION TOOL

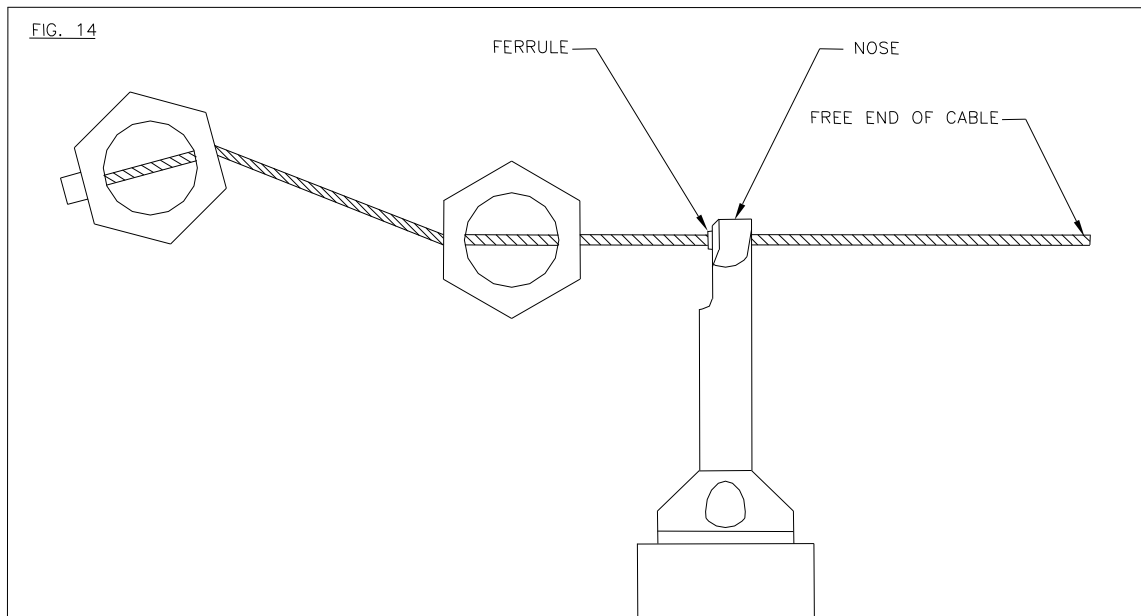
- 3.1** Connect the tool to a clean, dry air supply of 100 to 120 psi.
- 3.2** Install the Safe-T-Cable® through the fasteners as described in Section 2.0.
- 3.3** The nose can rotate to any position (See FIGURE 12). Rotate the nose to the desired position.
- 3.4** Insert the free end of the cable through the last ferrule in the cartridge as shown in FIGURE 13. Remove the ferrule by pulling the cable away from the end of the cartridge.



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- 3.5** Insert the free end of the cable through the nose as shown in FIGURE 14. Slide the tool along the cable to the desired position.

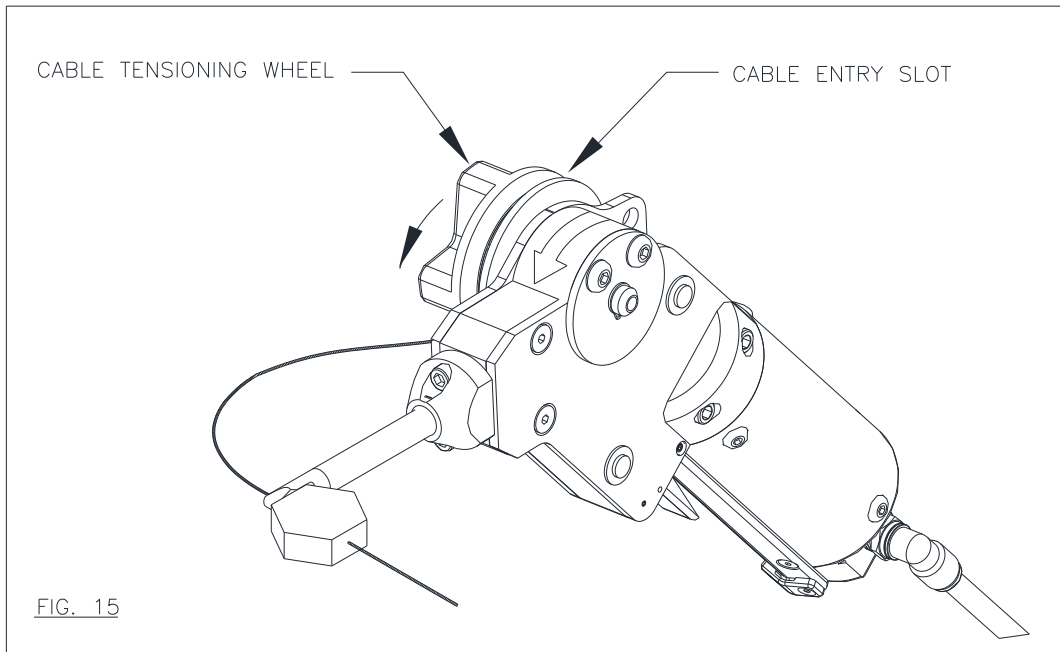




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- 3.6** Wrap the cable around the tensioning wheel in clockwise direction (looking at front face of wheel), while holding the tool nose perpendicular to the fastener as shown in FIGURE 15. Make certain that the ferrule is fully seated in the nose.



- 3.7** Rotate the tensioning wheel in rotation of arrow until the internal clutch slips. A clicking noise can be heard and felt.
- 3.8** Press the trigger and hold.
- 3.9** After crimping and cutting, release the trigger and slide the tool off the crimped ferrule. Unwind the excess cable from the tensioning wheel.

## 4.0 VERIFICATION OF INSTALLATION

- 4.1** Verify proper tension of the cable. Refer to TABLE 1 & FIGURE 16 for Safe-T-Cable® flex limits.
- 4.2** Verify that the cable was installed through the bolts in accordance with SECTION 2.0
- 4.3** Verify that the cable was cut flush at the end of the ferrule with no strand extending more than 1/32" from the end of the ferrule.
- 4.4** Visually inspect the cable for any nicks or other damage that may have occurred during installation.

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## 5.0 SAFE-T-CABLE® SYSTEM PART NUMBERS

### 5.1 SAE Flex Limits:

A inch (mm)	B inch (mm)	C inch (mm)
.5 (12.7)	.125 (3.18)	.062 (1.59)
1.0 (25.4)	.250 (6.35)	.125 (3.18)
2.0 (50.8)	.375 (9.52)	.188 (4.76)
3.0 (76.2)	.375 (9.52)	.188 (4.76)
4.0 (101.6)	.500 (12.70)	.250 (6.35)
5.0 (127.0)	.500 (12.70)	.250 (6.35)
6.0 (152.4)	.625 (15.88)	.312 (7.94)

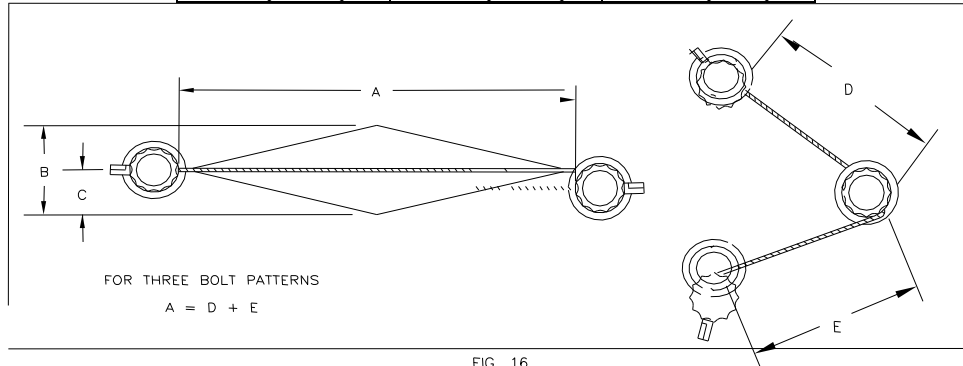


FIG. 16

### 5.2 Tool/accessory part numbers: All sizes and lengths are interchangeable using the same basic tool. Indenter settings must be checked whenever the nose is changed (SECTION 1.1)

<b>HAND APPLICATION TOOLS</b>		
TOOL P/ N	NOM. CABLE Ø	NOSE LENGTH
SCT203	.022 INCHES	3 INCHES
SCT207	.022 INCHES	7 INCHES
SCT323	.032 INCHES	3 INCHES
SCT327	.032 INCHES	7 INCHES
SCT403	.040 INCHES	3 INCHES
SCT407	.040 INCHES	7 INCHES

<b>INTERCHANGEABLE NOSES</b>		
NOSE P/N	NOM. CABLE Ø	NOSE LENGTH
SCTN20-3	.022 INCHES	3 INCHES
SCTN20-7	.022 INCHES	7 INCHES
SCTN32-3	.032 INCHES	3 INCHES
SCTN32-7	.032 INCHES	7 INCHES
SCTN40-3	.040 INCHES	3 INCHES
SCTN40-7	.040 INCHES	7 INCHES

<b>SAFE-T-CABLE® DIAGONAL CUTTERS</b>	
P/N	DESCRIPTION
45-6N	

<b>PNEUMATIC APPLICATION TOOLS</b>		
TOOL P/N	NOM. CABLE Ø	NOSE LENGTH
SCTP203/SCTPRM203	.022 INCHES	3 INCHES
SCTP207/ SCTPRM207	.022 INCHES	7 INCHES
SCTP323/SCTPRM323	.032 INCHES	3 INCHES
SCTP327/SCTPRM327	.032 INCHES	7 INCHES
SCTP403/SCTPRM403	.040 INCHES	3 INCHES
SCTP407/SCTPRM407	.040 INCHES	7 INCHES

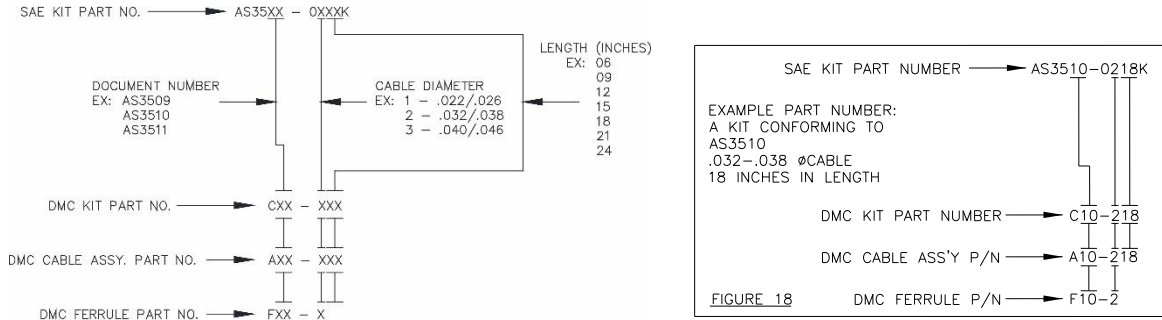
<b>TOOL VERIFICATION TOOLS</b>	
TOOL P/N	DESCRIPTION
SCT-TB1	TORQUE VERIFICATION BLOCK
SCTD0001	TORQUE WRENCH (20-150 lb-in)
SCTD013	RETENTION TESTER

<b>REPLACEABLE TENSION WHEEL</b>	
P/N	DESCRIPTION
SCTPRM-TW-SA	TENSION WHEEL SUB/ASSY

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**5.3** Daniels Safe-T-Cable® kit part numbers: A Safe-T-Cable® kit includes cable with an end fitting attached, and a ferrule. Kits are sold and packaged in groups of 50.



**TABLE 2 .022 , .032 , .040 NOMINAL DIAMETER CABLE KITS**

KIT P/N	(D) CABLE Ø (in)	MATERIAL	(L) LENGTH (in)	MIN. PULL OFF lbf(N)
C10-106	.022-.026 (1 X 7 CABLE)	UNS S32100 CORROSION AND HEAT RESISTANT ALLOY (AMS5689)	6	30 (133.4)
C10-109			9	
C10-112			12	
C10-115			15	
C10-118			18	
C10-121			21	
C10-124			24	
C10-206	.032-.038 (3 X 7 CABLE)	UNS S32100 CORROSION AND HEAT RESISTANT ALLOY (AMS5689)	6	70 (311.4)
C10-209			9	
C10-212			12	
C10-215			15	
C10-218			18	
C10-221			21	
C10-224			24	
C10-306	.040 - .046 (7 X 7 CABLE)	UNS S32100 CORROSION AND HEAT RESISTANT ALLOT (AMS5689)	6	110 (489.3)
C10-309			9	
C10-312			12	
C10-315			15	
C10-318			18	
C10-321			21	
C10-324			24	

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**5.4** Daniels Safe-T-Cable® assembly part numbers: A Safe-T-Cable® assembly consists of a cable with an end fitting attached. Assemblies are sold and packed in groups of 50.

TABLE 3 .022 , .032 , .040 NOMINAL DIAMETER CABLE ASSEMBLIES				
KIT P/N	(D) CABLE Ø (in)	MATERIAL	(L) LENGTH (in)	MIN. PULL OFF lbf(N)
A10-106	.022-.026 (1 X 7 CABLE)	UNS S32100 CORROSION AND HEAT RESISTANT ALLOY (AMS5689)	6	30 (133.4)
A10-109			9	
A10-112			12	
A10-115			15	
A10-118			18	
A10-121			21	
A10-124			24	
A10-206	.032-.038 (3 X 7 CABLE)	UNS S32100 CORROSION AND HEAT RESISTANT ALLOY (AMS5689)	6	70 (311.4)
A10-209			9	
A10-212			12	
A10-215			15	
A10-218			18	
A10-221			21	
A10-224	24			
A10-306	.040 - .046 (7 X 7 CABLE)	UNS S32100 CORROSION AND HEAT RESISTANT ALLOT (AMS5689)	6	110 (489.3)
A10-309			9	
A10-312			12	
A10-315			15	
A10-318			18	
A10-321			21	
A10-324			24	

**5.5** Daniels Safe-T-Cable® ferrule part numbers: Daniels ferrules are sold in groups of 50 and packaged in a cartridge. Consult factory for information concerning low profile installations.

TABLE 4 - FERRULES		
FERRULE P/N	FOR CABLE Ø	MATERIAL
F10-1	.022 INCHES	UNS S32100
F10-2	.032 INCHES	
F10-3	.040 INCHES	

TABLE 5 – ELONGATED FERRULES		
FERRULE P/N	FOR CABLE Ø	MATERIAL
F10-08	.022 INCHES	UNS S32100
F10-04	.032 INCHES	
F10-07	.040 INCHES	

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## ***Invalidation of Limited Warranty***

This manual is provided to those owners of Daniels Manufacturing Corporation (DMC) products who have elected to conduct in house repairs of such products and who thereby consent to waive any rights which they otherwise might have had under the DMC limited warranty applicable to such products.

DMC provides complete repair and maintenance service for all of its products. Owners of DMC products are warned that any tampering, including partial or complete disassembly of the product or attempted repairs of the product will invalidate the limited warranty applicable to said product.

## ***Limitation of Liability***

DANIELS MANUFACTURING CORPORATION IS NOT LIABLE FOR CONSEQUENTIAL OR SPECIAL DAMAGES OF ANY NATURE OR KIND RESULTING FROM THE USE, OR 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 Liability***

DMC (Daniels Manufacturing Corporation) 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 and workmanship, it being understood that DMC products are not consumer products. This warranty shall not cover any damage to any product 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 Daniels Manufacturing Corporation other than those herein set forth.