

# Twist-Strip<sup>®</sup>

## Instruction Manual

TSK8000 & TSK8500



**DMC** **DANIELS<sup>®</sup> MANUFACTURING CORPORATION**

[www.dmctools.com](http://www.dmctools.com)

# IMPORTANT



**Note from Manufacturer:** Prior to the use of this tool, the operator should take a sample of the wire they will be using and test the viability of the strip. Adjustments may be needed for desired outcome that vary from the factory recommendation.



**Note from Manufacturer:** Different suppliers and/or production runs of cable can vary in key strip dimensions and properties. Inspect frequently and readjust blade depth if necessary.



**Note from Manufacturer:** Care should be taken when handling insulation or shielding as nicked, frayed, or broken strands can cause injury.

We are committed to Daniels Manufacturing Corporation (DMC) remaining the major supplier of high reliability tools and maintenance kits for electronic wiring systems to the global aerospace, military, transportation, electrical, and electronic industries through our continuous improvement of all our business practices and processes while, at the same time, maintaining the economic viability of our business.

***George Daniels, President***



To meet this commitment, Daniels Manufacturing Corporation maintains an ISO9001/AS9100 Registered Quality Management System.

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#### PATENT, TRADEMARK, AND COPYRIGHT INFORMATION

The configuration and general design of Twist-Strip® and its related dies follow the content of US patent #7,243,429.

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\*As defined by PL93-637

## 1.0 INTRODUCTION:

It is common for high-speed data cable to utilize one or more shielded twisted conductors. This type of cable is common in all digital electronic networks, and it requires new tooling disciplines.

The TS8000 and TS8500 Twist-Strip® tools are outer jacket wire stripper designed to slit the jacket on single and multi-conductor shielded twisted cable. Safe, accurate and repeatable, the Twist-Strip makes quick work of avionics harnesses and many other cable types, cutting preparation time by up to 3 - 5+ times. The challenge in designing a wire prep system of this type is the non-circular configuration of the cable, and the many types, variations, and stripping nuances of shielded, twisted, multi-wire cable. DMC's intention of the Twist-Strip product line is to give the user a system with the maximum capabilities, while keeping the system portable, self-contained, affordable, and ergonomic. The precise blade adjustment, low friction roller bearing design, articulating/locking arms, and changeable dies make the Twist-Strip very user-friendly and efficient when performing the difficult task of cable preparation.

### 1.1 Overview of Existing Practices:

Removing the jacket from multi-conductor cable is often done by hand with a razor blade. This is a dangerous and difficult way to remove the jacket from any type of electrical cable. A razor blade offers no method of controlling the depth of cut. This will result in a poor quality strip, damage to the shielding, and the probability of injury to the operator.

Tools which score a ring around the outer jacket, but don't slit the jacket horizontally leave the operator with the task of removing a long jacket segment by force. This causes operator fatigue, and the friction caused by pulling wire slugs across the cable can open large windows in the braided shielding, therefore making the shielding less effective.

A few benchtop strippers are available for oval cable, but none are portable, and all are expensive. One very popular benchtop stripper for oval wire weighs 24 pounds, and still requires the operator to pull the insulation slug off the cable.

Laser stripping is another precise method for wire stripping, however it is expensive and has multiple hazards. Laser stripping emits toxic fumes when burning the outer jacket and can be a potential exposure to radiation. The laser stripping process requires a tight braid layer to stop the laser energy. It can penetrate below openings in the woven wire braid and burn holes in the insulation of the inner conductors. When this occurs, solder can reach the inner conductors and cause electrical shorting to ground.

## 1.2 Product Overview:

The patented Twist-Strip tool utilizes custom-made die sets and precise adjustable cutting blades. The adjustable blades allow the tool to compensate for minor thickness variances in the cable jacket and lay length with significantly less downtime. An engineered cabletrack in the dies is contoured to match the outer jacket profile of the cable being stripped. This feature provides controlled rotation of the dies to guide the cutting blades in a precise track along the length of the cable. Twist-Strip is the best way to remove the outer jacket from twisted, shielded multi-conductor cable. The TS8000 and TS8500 eliminate the need for imprecise and dangerous razor blades. The TS8000 die sets can accommodate an outer diameter range of cables from 0.081" - 0.180" while the TS8500 can accommodate an outer diameter range of cables from 0.180" - 0.310".

## 1.3 Cable Variances

Multi-conductor shielded twisted cables can have variations despite being supplied by the same manufacturer; with the same lot code, date code, and/or part number. Varying jacket thickness and cable diameter are two examples of common differences that may be seen in different lots of the same cable.

Since the cable construction standards are based on the performance of the cable rather than dimensional conformance, it has been our observation that outside dimensions have varied by as much as .030", twist pitch (lay) can vary by as much as 40%, and jacket thickness has been observed to vary by as much as .007". The variations are often increased when the cables are produced in different lots, or by different manufacturers, and supplied under the same part numbers. By selecting a matched die set, and by adjusting the blade cutting depths the Twist-Strip tool can accommodate a wide range of configurations and variations in high-speed data cables.

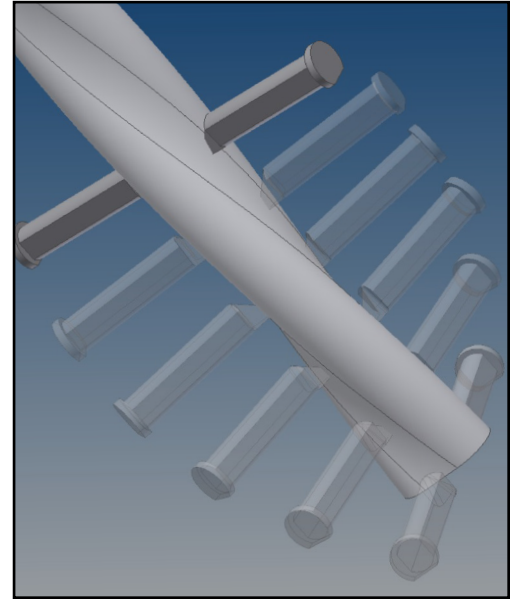
Tape wrapped jacketing (rather than smooth extruded insulation) frequently exhibits greater difficulties when removing the outer jacket. This is due to the inconsistent jacket thickness between the overlapping tape joints, but the adjustable depth feature of Twist-Strip tools can still be effective on tape wrapped cable constructions. DMC recommends adjusting the blade to a shallower depth in order to decrease damage to the shielding.

**Important Note:** *Prior to use of this tool in production the end user will have to test this depth and ensure the viability of the strip. Adjustments may be needed for desired outcomes that vary from the factory recommendation.*

## 2.0 TOOL FEATURES:

### 2.1 Key Features of Twist-Strip:

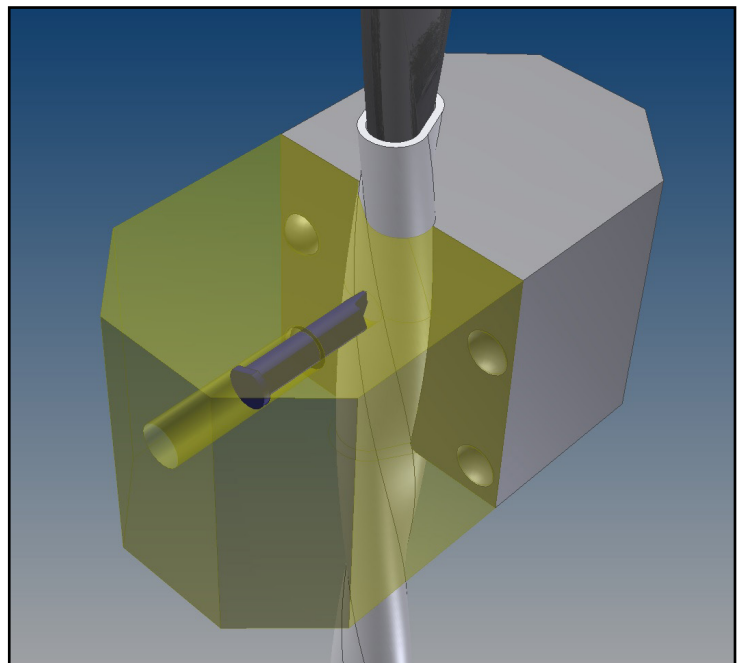
- Strips outer jacket of twisted shielded multi-conductor and round cable
- Accommodates cable with diameters of 0.081" to 0.310"
- Fulfills end stripping of cable
- Utilizes interchangeable stripping dies
- Adjustable blade depth settings
- Rugged lightweight construction
- Die Sets have a contoured cable track
- Adjustable cable strip length
- Locking tool arms
- Locking head
- Low-friction ball bearing design



### 2.2 Interchangeable Dies

A cable track is precisely machined into each die set. This contoured track creates a controlled rotation of the dies/blades as the cable is moved along the track. Custom dies are available when our universal die sets do not suit a particular application.

Spring-loaded blades within each die set are retracted when dies are not installed in the tool. This retraction is a safety feature and also keeps the blade protected from damage. This spring pressure also keeps the blade pressed up against the depth control knob pin to facilitate a controlled blade position.







Twist-Strip Tool



Die Container



Die Set

### 3.0 DIE AND DIE CONTAINER IDENTIFICATION

#### 3.1 Definitions

- **TSDXXX** - indicates DMC part number for TS8000 dies
- **TSDLXXX** - indicates DMC part numbers for TS8500 dies
- **Die Set** - a complete pair of die halves with a DMC part number engraved into the side of the dies
- **Die Half** - 1/2 of a completed die set with DMC part number engraved into the side of the die
- **Die Markings** - physical markings engraved into the side of the die
- **Die Container** - the physical container for storage and shipment of the dies
- **Die Container Label** - sticker on the die container that identifies the cable OD range and starting depth adjustment for the dies

#### 3.2 Die Set Identification

##### 1. Die Part Number

The die part number can be found on the die container label and engraved in the side of the die half. Each die half is marked with an “A” or “B”.

##### 2. Starting Blade Depth

Die sets come with a starting depth setting for the blades, which can be found on the die container. Each die half is marked with an “A” or “B”. The starting blade depth setting for each die half is found on the die container (see above). The starting blade depth for the blade adjustment produces a very light score on the cable jacket. Operator should adjust cutting depth to preferred depth setting.

##### 3. Cable Diameter Gauge Card

The Cable Diameter Gauge Card should be utilized to select a die set. The max OD and part number of the appropriate die set are shown next to each opening. Find the smallest opening in the gauge card that the cable freely passes through without getting snagged or stuck.

**NOTE:** If the cable passes through the opening in the gauge card, but scrapes the sides of the opening or gets stuck, the user should select the next larger diameter die set.



### 3.3 TS8000 Die Set Part Numbers

1 (SINGLE) CONDUCTOR		
CABLE OD RANGE	DMC PART #	BLADE ADJ.*
.061" - .070"	TSD1070	A .009, B .009
.071" - .080"	TSD1080	A .015, B .015
.081" - .090"	TSD1090	A .020, B .020
.091" - .100"	TSD1100	A .025, B .025
.101" - .110"	TSD1110	A .030, B .030
.111" - .120"	TSD1120	A .035, B .035
.121" - .130"	TSD1130	A .040, B .040
.131" - .140"	TSD1140	A .045, B .045
.141" - .150"	TSD1150	A .050, B .050
.151" - .160"	TSD1160	A .055, B .055
.161" - .170"	TSD1170	A .060, B .060
.171" - .180"	TSD1180	A .065, B .065

3 (TRIPLE) CONDUCTOR			
CABLE OD RANGE	LEFT LAY	RIGHT LAY	BLADE ADJ.*
.081" - .090"	TSD3090 M32610/01-13	TSR3090	B .008
.091" - .100"	TSD3100 M32610/01-14	TSR3100	B .015
.101" - .110"	TSD3110 M32610/01-15	TSR3110	B .019
.111" - .120"	TSD3120 M32610/01-16	TSR3120	B .022
.121" - .130"	TSD3130 M32610/01-17	TSR3130	B .025
.131" - .140"	TSD3140 M32610/01-18	TSR3140	B .029
.141" - .150"	TSD3150 M32610/01-19	TSR3150	B .035
.151" - .160"	TSD3160 M32610/01-20	TSR3160	B .040
.161" - .170"	TSD3170 M32610/01-21	TSR3170	B .043
.171" - .180"	TSD3180 M32610/01-22	TSR3180	B .048

2 (DOUBLE) CONDUCTOR			
CABLE OD RANGE	LEFT LAY	RIGHT LAY	BLADE ADJ.*
.081" - .090"	TSD2090 M32610/01-03	TSR2090	A .004, B .004
.091" - .100"	TSD2100 M32610/01-04	TSR2100	A .008, B .008
.101" - .110"	TSD2110 M32610/01-05	TSR2100	A .011, B .011
.111" - .120"	TSD2120 M32610/01-06	TSR2120	A .014, B .014
.121" - .130"	TSD2130 M32610/01-07	TSR2130	A .017, B .017
.131" - .140"	TSD2140 M32610/01-08	TSR2140	A .020, B .020
.141" - .150"	TSD2150 M32610/01-09	TSR2150	A .023, B .023
.151" - .160"	TSD2160 M32610/01-10	TSR2160	A .026, B .026
.161" - .170"	TSD2170 M32610/01-11	TSR2170	A .029, B .029
.171" - .180"	TSD2180 M32610/01-12	TSR2180	A .033, B .033

4 (QUAD) CONDUCTOR			
CABLE OD RANGE	LEFT LAY	RIGHT LAY	BLADE ADJ.*
.091" - .100"	TSD4100	-	A .018, B .018
.101" - .110"	TSD4110	-	A .022, B .022
.111" - .120"	TSD4120	-	A .028, B .028
.121" - .130"	TSD4130	TSR4130	A .031, B .031
.131" - .140"	TSD4140	-	A .035, B .035
.141" - .150"	TSD4150	-	A .039, B .039
.151" - .160"	TSD4160	-	A .043, B .043
.161" - .170"	TSD4170	-	A .046, B .046
.171" - .180"	TSD4180	-	A .050, B .050

\*Recommended starting depth for blade adjustments



## TS8500 Die Set Part Numbers

1 (SINGLE) CONDUCTOR		
CABLE OD RANGE	DMC PART #	BLADE ADJ.*
.181 to .190	TSDL1190	A .079, B .079
.191 to .200	TSDL1200	A .026, B .026
.201 to .210	TSDL1210	A .031, B .031
.211 to .220	TSDL1220	A .036, B .036
.221 to .230	TSDL1230	A .041, B .041
.231 to .240	TSDL1240	A .046, B .046
.241 to .250	TSDL1250	A .051, B .051
.251 to .260	TSDL1260	A .056, B .056
.261 to .270	TSDL1270	A .061, B .061
.271 to .280	TSDL1280	A .066, B .066
.281 to .290	TSDL1290	A .071, B .071
.291 to .300	TSDL1300	A .076, B .076
.301 to .310	TSDL1310	A .081, B .081



2 (DOUBLE) CONDUCTOR		
CABLE OD RANGE	DMC PART #	BLADE ADJ.*
.181 to .190	TSDL2190	A .049, B .04
.191 to .200	TSDL2200	A .052, B .052
.201 to .210	TSDL2210	A .056, B .056
.211 to .220	TSDL2220	A .059, B .059
.221 to .230	TSDL2230	A .062, B .062
.231 to .240	TSDL2240	A .065, B .065
.241 to .250	TSDL2250	A .068, B .068
.251 to .260	TSDL2260	A .072, B .072
.261 to .270	TSDL2270	A .075, B .075
.271 to .280	TSDL2280	A .078, B .078
.281 to .290	TSDL2290	A .022, B .022
.291 to .300	TSDL2300	A .026, B .026
.301 to .310	TSDL2310	A .029, B .029



3 (TRIPLE) CONDUCTOR		
CABLE OD RANGE	DMC PART #	BLADE ADJ.*
.181 to .190	TSDL3190	B .068
.191 to .200	TSDL3200	B .072
.201 to .210	TSDL3210	B .076
.211 to .220	TSDL3220	B .079
.221 to .230	TSDL3230	B .025
.231 to .240	TSDL3240	B .029
.241 to .250	TSDL3250	B .032
.251 to .260	TSDL3260	B .037
.261 to .270	TSDL3270	B .040
.271 to .280	TSDL3280	B .044
.281 to .290	TSDL3290	B .048
.291 to .300	TSDL3300	B .052
.301 to .310	TSDL3310	B .056

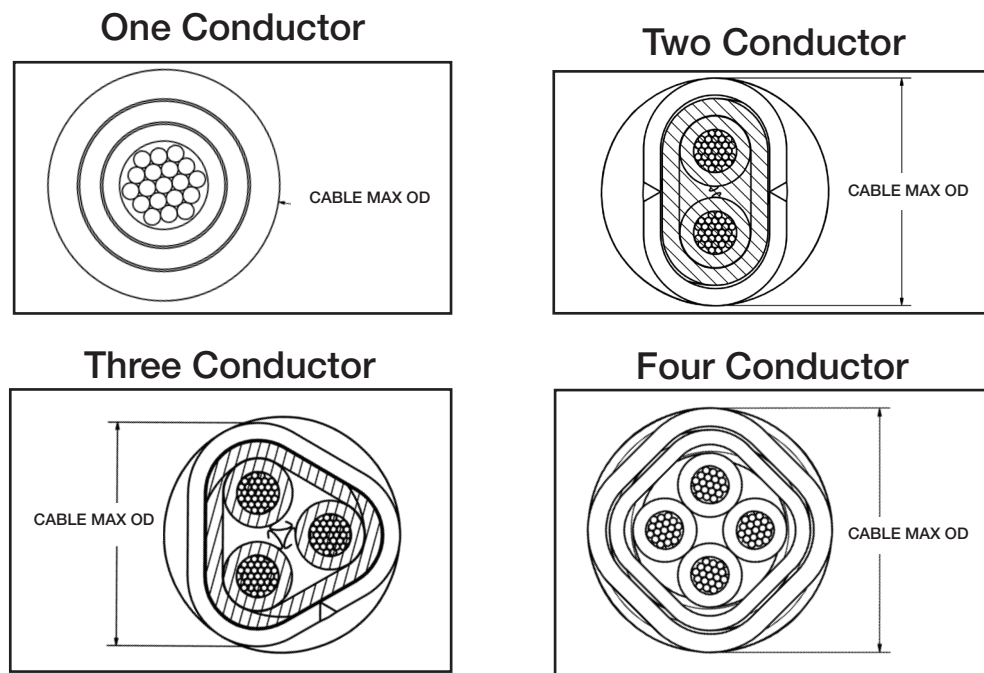


4 (QUAD) CONDUCTOR		
CABLE OD RANGE	DMC PART #	BLADE ADJ.*
.181 to .190	TSDL4190	A .071, B .071
.191 to .200	TSDL4200	A .075, B .075
.201 to .210	TSDL4210	A .079, B .079
.211 to .220	TSDL4220	A .083, B .083
.221 to .230	TSDL4230	A .028, B .028
.231 to .240	TSDL4240	A .032, B .032
.241 to .250	TSDL4250	A .036, B .036
.251 to .260	TSDL4260	A .040, B .040
.261 to .270	TSDL4270	A .044, B .044
.271 to .280	TSDL4280	A .048, B .048
.281 to .290	TSDL4290	A .052, B .052
.291 to .300	TSDL4300	A .056, B .056
.301 to .310	TSDL4310	A .060, B .060



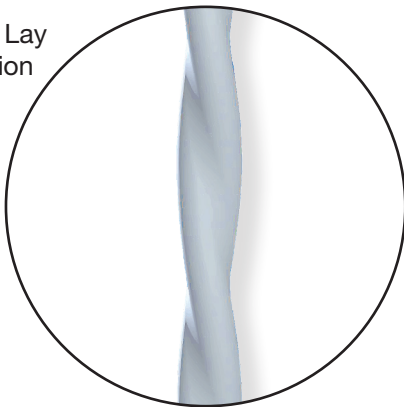
\*Recommended starting depth for blade adjustments

### 3.4 Cable Measurement Method

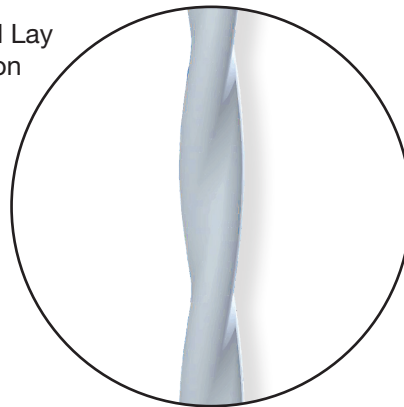


### 3.5 Lay of Cable

Left Hand Lay  
“S” Direction



Right Hand Lay  
“Z” Direction



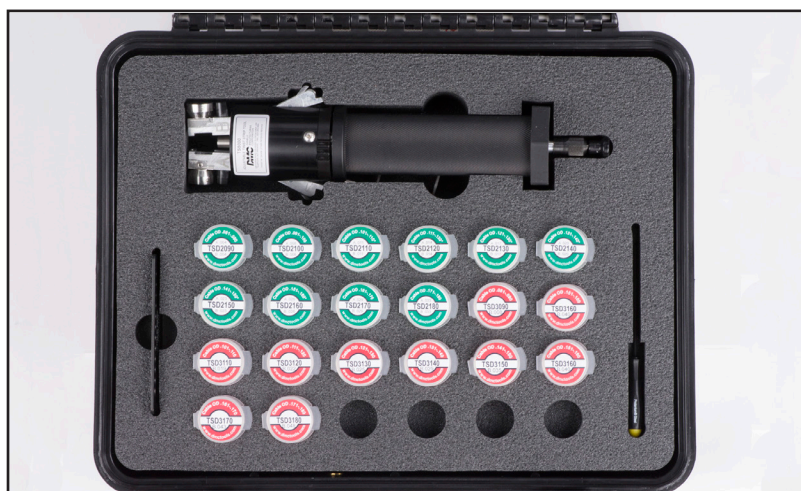
Universal dies are designed for cable with a left twist. Dies designed for cable with a right twist have an “R” in the part number: TS**R**XXXX (for TS8000) and TS**R**LXXXX (for TS8500).

### 3.6 Twist-Strip Tool Kits

DMC works to provide the most comprehensive solutions for high speed data and shielded twisted, multi-conductor cable preparation. The following Twist-Strip tool kits are available:

- **TSK8000:** Twist-Strip Kit with TS8000 tool only
- **TSK8001:** Twist-Strip Kit with TS8000 w/All (12) 1 Conductor Die Sets (Cable diameter range from 0.081" to 0.180")
- **TSK8002:** Twist-Strip Kit with TS8000 w/All (10) 2 Conductor Die Sets (Cable diameter range from 0.081" to 0.180")
- **TSK8003:** Twist-Strip Kit with TS8000 w/All (10) 3 Conductor Die Sets (Cable diameter range from 0.081" to 0.180")
- **TSK8004:** Twist-Strip Kit with TS8000 w/All (9) 4 Conductor Die Sets (Cable diameter range from 0.091" to 0.180")
- **TSK8023:** Twist-Strip Kit with TS8000 w/All (20) 2 & 3 Conductor Die Sets (Cable diameter range from 0.081" to 0.180")
- **TSK8500:** Twist-Strip Kit with TS8500 tool only
- **TSK8501:** Twist-Strip Kit with TS8500 w/All (12) 1 Conductor Die Sets (Cable diameter range from 0.061" to 0.180")
- **TSK8502:** Twist-Strip Kit with TS8500 w/All (10) 2 Conductor Die Sets (Cable diameter range from 0.081" to 0.180")
- **TSK8503:** Twist-Strip Kit with TS8500 w/All (10) 3 Conductor Die Sets (Cable diameter range from 0.081" to 0.180")
- **TSK8504:** Twist-Strip Kit with TS8500 w/All (9) 4 Conductor Die Sets (Cable diameter range from 0.091" to 0.180")
- **TSK8523:** Twist-Strip Kit with TS8500 w/All (20) 2 & 3 Conductor Die Sets (Cable diameter range from 0.081" to 0.180")

All Twist-Strip kits include a CIC Cable Diameter Gauge Card and accessories in an organized, foam-lined case.



## 4.0 TOOL ANATOMY



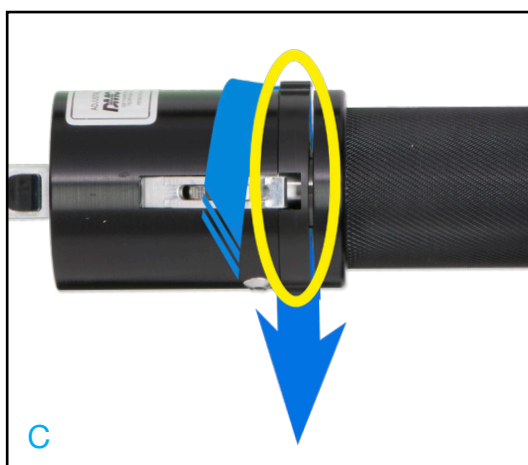


## 5.0 OPERATION OVERVIEW

### 5.1 Opening Tool Arms

Twist-Strip has a unique feature that allows the die arms to remain closed with positive closure force when the tool is in its operational mode. This ensures that the die set will remain closed around the cable when stripping. This is not a spring loaded closure, but a solid mechanism that effectively locks the arms in the closed position. To open and close the tool arms follow these steps:

1. Squeeze the arm release levers (A) flush to the tool core (B) as shown below.
2. While holding the tool arms in the open position, rotate the lock ring to the right into the lock position (C).
3. Release the pressure on the levers, and verify the arms are securely locked in the open position (D).

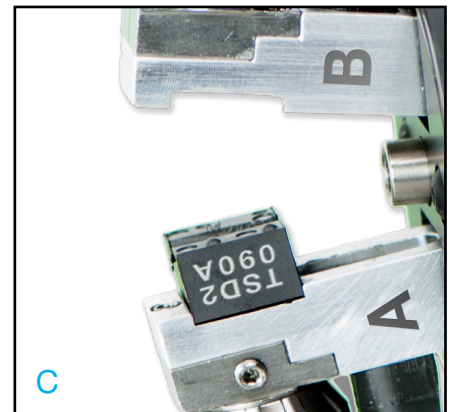
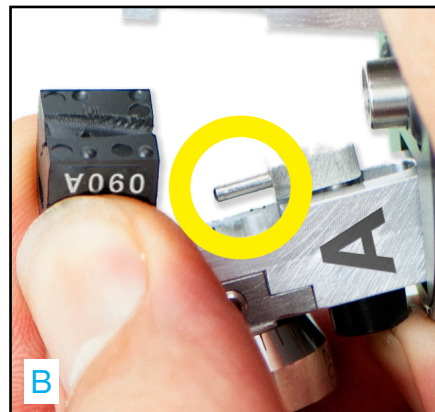
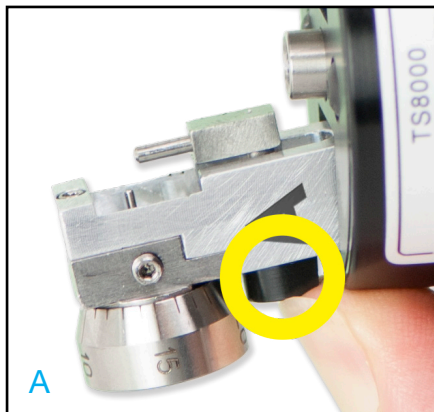


## 5.2 Installing Dies

1. Follow the previous steps, shown in 5.1, to lock the tool arms in the open position.
2. Press the die release button on one tool arm, exposing the die mounting post (A).
3. Place the “A” die half onto the die mounting post of the tool arm marked “A”.
4. Repeat for the “B” die half (B).
5. Check to make sure the die half is fully engaged with the die mounting post.
6. Release the die release button, and check to make sure the die half is fully inserted into the tool arm (C).
7. Repeat this procedure for the other tool arm.

**Note:** Die halves and tool arms are marked “A” and “B”. Operator must ensure that the “A” and “B” die halves are placed on the corresponding tool arms.

**Note:** When changing die sets, always verify that the die part number that appears on both die halves are the same number. Do not mix die part numbers.



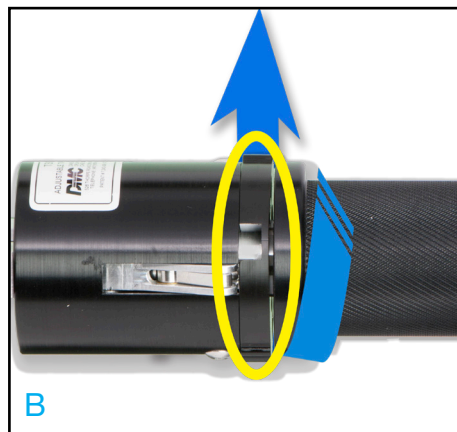


### 5.3 Release Arms to Operate Tool

1. While holding the Arm Release Levers as shown below (A), rotate the lock ring to the unlocked position (B).
2. Gently release the tool arms and inspect the closure of the die set (C).

**Note:** *It is not recommended to allow the tool to snap shut.*

If misalignment or a gap between the die halves is observed, verify the part number is the same on both die halves, inspect to see if any cable remnants or debris is lodged between the die halves. If misalignment is still observed, remove both die halves and reassemble the die set into the tool.

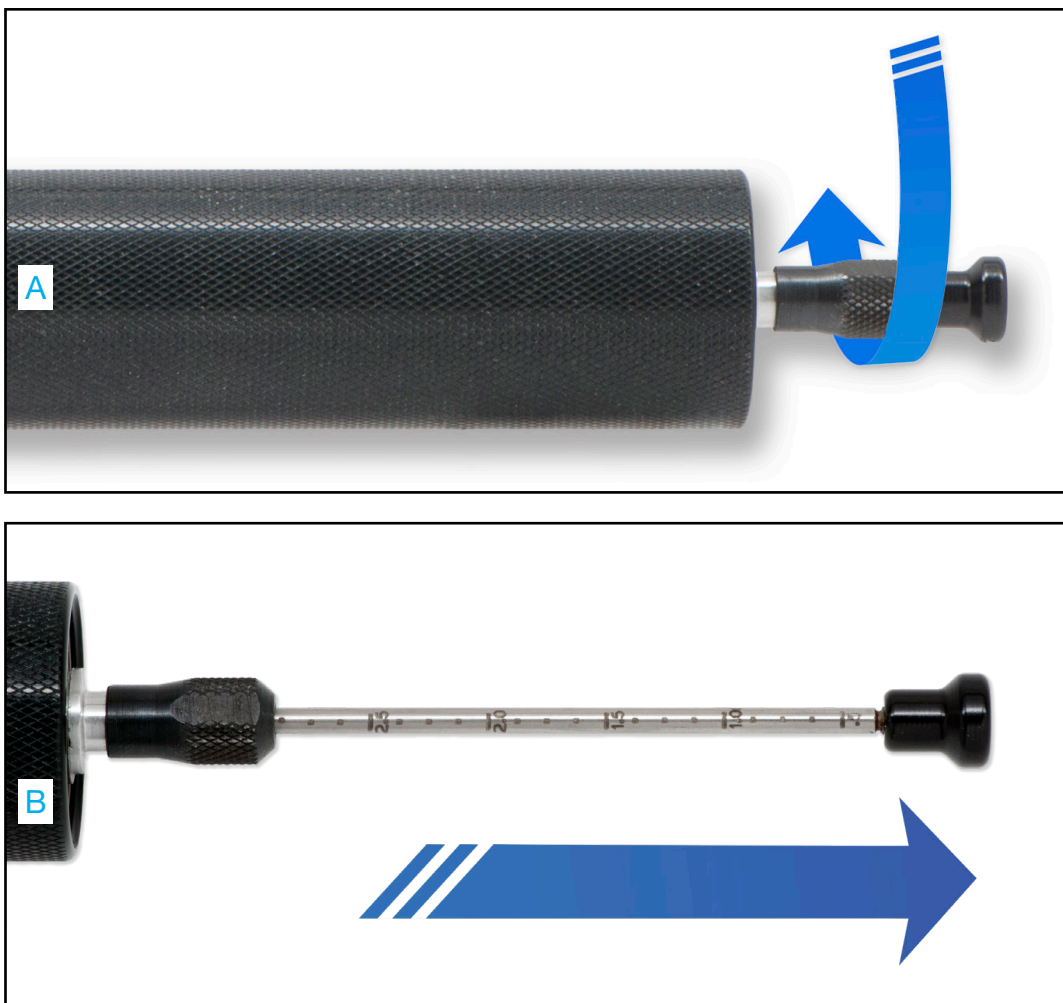


## 5.4 Setting Cable Strip Length

Twist-Strip allows you to adjust the strip length gage for the strip length required. The length rod has both metric and universal graduations. The strip length rod may be completely removed for long strips.

1. Grip the tool core and handle to prevent rotation of the tool core and arms
2. Loosen the collet (A)
3. Adjust the strip length rod (B) by sliding the rod into or out of the collet
4. Re-tighten the collet nut.

**Note:** Numbers and graduations on the strip length rod are for quick reference only. When precise strip length measurements are specified, mark the cable, and insert it into alignment with the blades in the dies, and adjust the strip length rod to correspond to that setting.

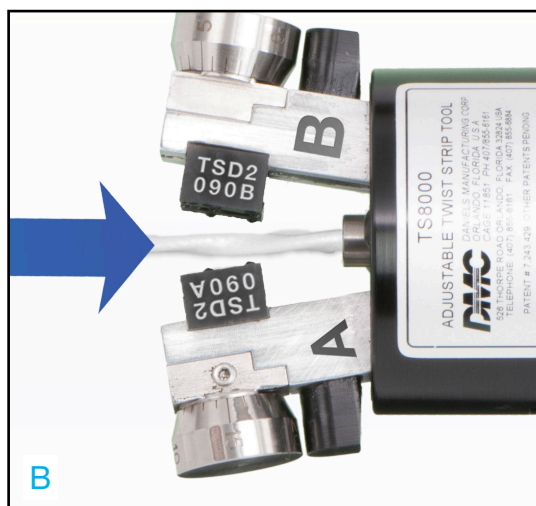


## 5.5 Inserting the Cable for Stripping

1. Squeeze the arm release levers to open the tool arms/die set (A).
2. Insert the cable into the cable entry tube until it stops on the end of the strip length rod (B).
3. Gently release tool arms until the dies are seated flush together (C).

If dies do not fully close, open the arms (by pressing the opposing arm release levers), and rotate the tool core slightly ( $1/8$  -  $1/4$  turn) and then re-close the dies onto the cable. This should realign cable in the track, and allow the dies fully close.

**Note:** *The tool arms are spring loaded, and a slight gap between will close as the dies rotate around the cable in the next steps of the operation.*

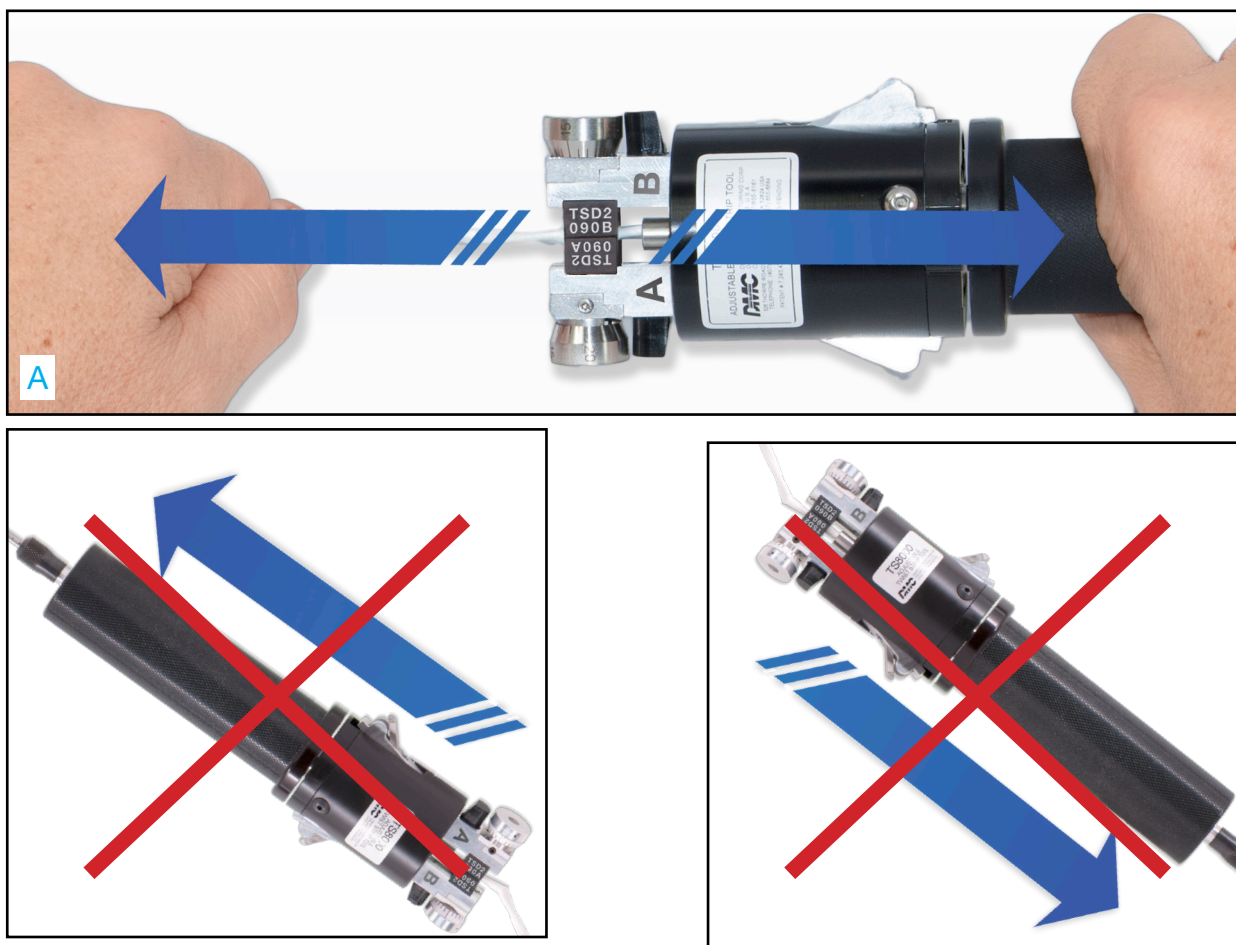


## 5.6 Stripping the Cable

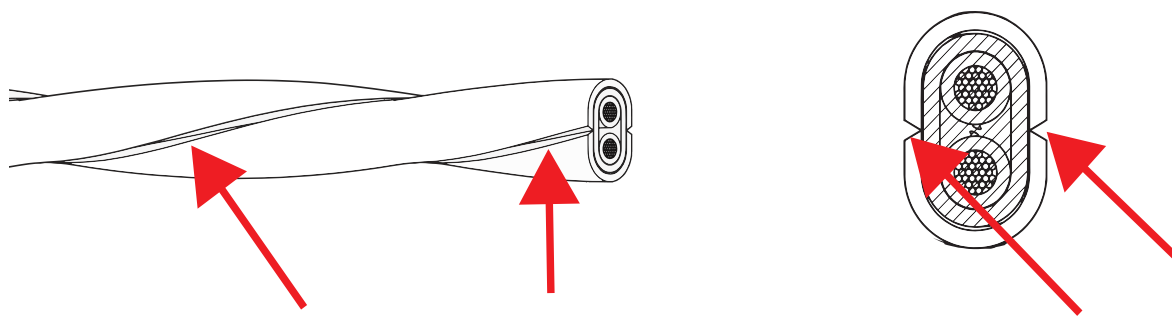
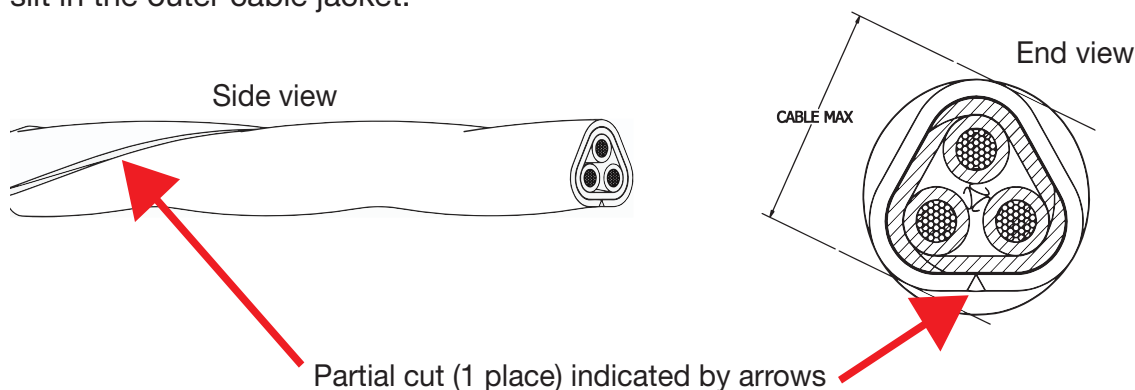
**Important Note:** *Verify that correct die set is installed for the type of cable being stripped.*

1. When the dies are correctly closed around the cable, pull the cable in a smooth and in-line motion away from the tool and the blades in the die set will precisely slit the outer jacket (A). The user may find that scoring instead of cutting completely through the jacket produces the best results. This is acceptable.
2. Some set-up and adjustment will be required to adapt the tool/dies to the exact cable application being prepared for termination.

**Important Note:** *DO NOT pull the cable at an angle, suddenly, or with a jerking motion.*



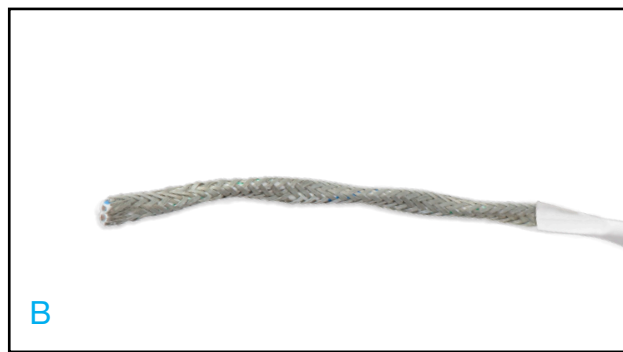
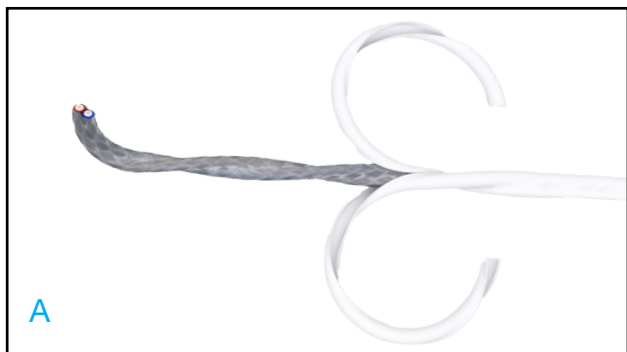
Typical cable after the stripping dies have followed the twist in the cable, and scored a precise slit in the outer cable jacket.



Two opposite slits will occur in the valley of 2 wire cables, whereas, one slit will appear on 3 wire cables. For more information, contact DMC.

## 5.7 Crack and Peel the Jacket

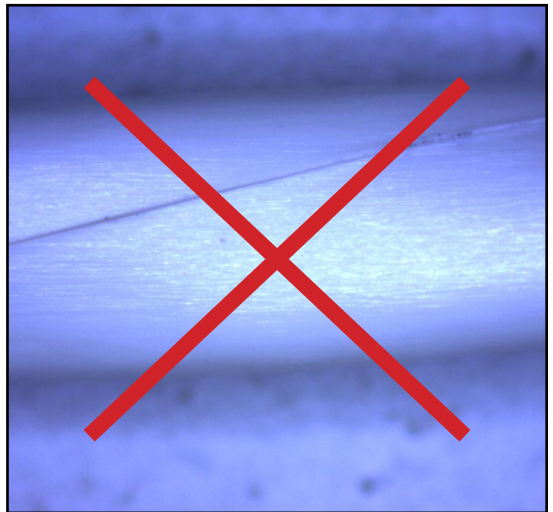
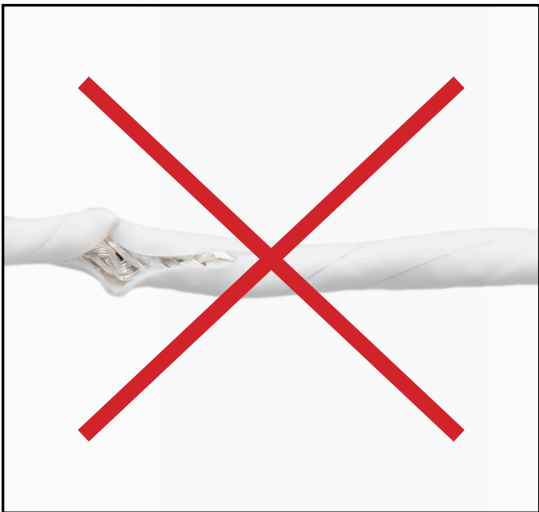
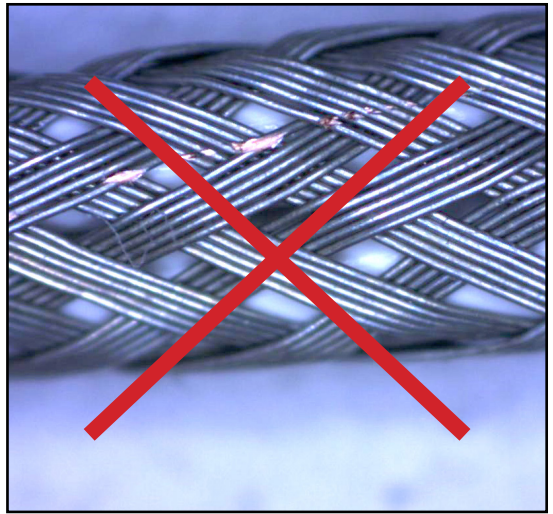
1. Bend cable back and forth 90° to “crack” jacket halves apart (as close to the end as possible). Peel the two halves back and trim with wire snips or side cutters (A). The user may find that the depths for each side are not the same in order to have good quality results. This is acceptable. If no shield damage is present but the wire jacket doesn’t crack apart easily, adjust the depth knob a slight amount for a deeper cut.





## 5.8 Damaged or Improper Strip

1. If shield damage is present and undesired (see below), adjust the depth knob for a shallower cut. A shallower cut may make the jacket more difficult to crack and peel.





## 6.0 DEPTH CONTROL KNOBS

### 6.1 Adjusting the Blade Depth

Twist-Strip has adjustable blade depth settings. Before adjusting the blade depths, verify that you have the “A” and “B” die halves in their proper location. Refer to section 5.2 if needed.

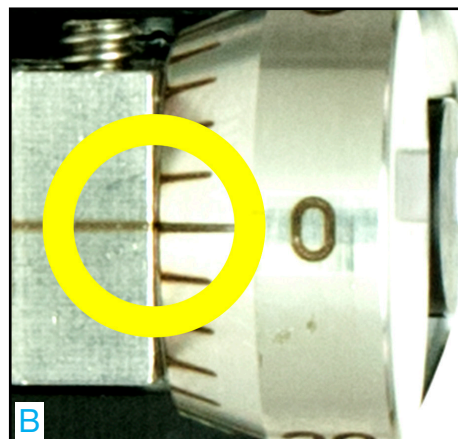
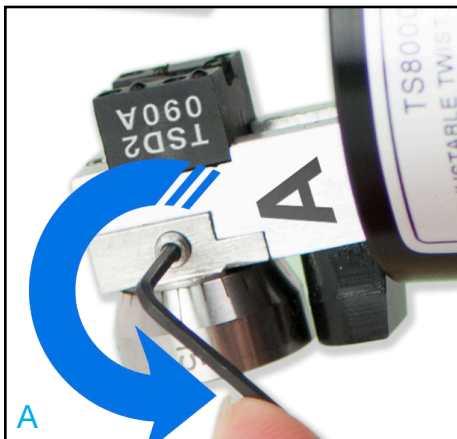
Follow these steps to set the proper blade depth for a die set:

1. Remove dies from tool
2. Unlock depth knob lock screws (A)
3. Turn each depth control knob clockwise until it bottoms on the tool arms (B)
4. Install dies making sure to put the die half marked “A” on the tool arm marked “A” and the die half marked “B” on the tool arm marked “B”
5. Looking at the die container for the installed dies, take note of the recommended starting depth setting for die half “A” (ex: A=.010”)
6. Turn depth control knob on the tool arm marked “A” counter clockwise 10 marks. Each hash mark on the knob represents .001” of blade travel. (B)
7. Lock the depth knob lock screw on Tool Arm marked “A” (A)
8. Repeat steps 5-8 for the die half marked “B”
9. Strip sample wire and inspect for desired result. Adjust the tool as necessary.

**NOTE:** The starting depth for blade adjustment produces a very light score on cable jacket. Operator should adjust cutting depth to preferred depth setting. The starting blade depth setting may be adjusted to accommodate the users desired results and is up to the user to find their preferred setting if different than the recommended setting.

**NOTE:** 3 conductor die sets have a non-concentric shape. Therefore, 3 conductor die sets come with only 1 blade. The blade is in the “B” side die. This will produce a single cut longitudinally on the cable.

**NOTE:** The starting blade depth setting may be adjusted to accommodate the users desired results and is up to the user to find their preferred setting if different from the recommended setting.



## 7.0 TESTING PROCEDURES

### 7.1 Strip Test Procedures

Prior to the use of this tool, the operator should take a sample of the cable and test the strip. Adjustments in accordance with the previous instructions may need to be implemented for the best possible wire preparation solution.

### 7.2 Accuracy of Strip Test

The accuracy of strip test allows the user to verify that the stripping of the cable and the depth settings of the die blades meet the user's requirements. The adjustable blades of the tool accommodate variances in cable. Follow procedures in section 5.0 to properly test and adjust the blade settings to the desired depth.

## 8.0 DIE INSTALLATION QUALITY CHECK

1. Ensure die halves have the same part number.
2. Ensure proper cable part number is being used for specific die set.
3. Set tool to recommended depth settings and test before production.
4. Make sure dies seat flush to one another and are fully retracted into the tool.

## 9.0 SPECIFICATIONS

### 9.1 Tool Specifications:

- Die Arm Lever Force: 4.4 lbs
- Die Arm Lever Length: 1"
- Tool Dimensions: 1.75" wide, 9.75" tall
- Tool Weight: .81 lbs
- Shipping Weight: 2lbs (includes entire tool and accessories in foam lined case)

### 9.2 Cable Specifications:

- # of conductors: 1-4
- Jacket type: extruded
- M27500 Jacket material: 01, 02, 08, 09, 10,15, 17, 18, 20, 21,14, 23

### 9.3 Other Cable Specifications:

- # of conductors: 5 or more
- Jacket type: wrapped
- M27500 Jacket material: 03, 04, 06, 07,11, 12, 16, 22, 24

**NOTE:** *Wrapped jackets create a non-uniform surface for the dies to slide along. This greatly affects the depth at which the blades cut and underlying shield damage may occur.*

10.0

NEMA WC 27500 SHIELDED & UNSHIELDED CABLE PART NUMBERING SYSTEM						
(EXAMPLE: M27500-20SB3T23)						
M27500	-	20	SB	3	T	23
SPECIFICATION NUMBER	-	CONDUCTOR SIZE	BASIC WIRE SPECIFICATION	NUMBER OF CONDUCTORS	SHIELD DESCRIPTION	JACKET TYPE

TABLE 1 - BASIC WIRE SPECIFICATIONS				
SYMBOL	BASIC WIRE SPECIFICATIONS	INSULATION TYPE	TEMP RATING	VOLTAGE
A	SAE AS50861/1	PVC/NYLON	150°C	600V
B	SAE AS50861/2	PVC/NYLON/BRAIDS	150°C	
SB	SAE AS22759/32	XLETFE	150°C	
SC	SAE AS22759/33	XLETFE	200°C	
SD	SAE AS22759/34	XLETFE	150°C	
SE	SAE AS22759/35	XLETFE	200°C	
SM	SAE AS22759/41	XLETFE	200°C	
SN	SAE AS22759/42	XLETFE	200°C	
SP	SAE AS22759/43	XLETFE	200°C	
SR	SAE AS22759/44	XLETFE	200°C	
SS	SAE AS22759/45	XLETFE	200°C	
ST	SAE AS22759/46	XLETFE	200°C	
TE	SAE AS22759/16	ETFE	150°C	
TG	SAE AS22759/18	ETFE	150°C	
MH	SAE AS81044/9	XL/POLY/KNAR	150°C	
MJ	SAE AS81044/10	XL/POLY/KNAR	150°C	
MK	SAE AS81044/11	XL/POLY/KNAR	150°C	
ML	SAE AS81044/12	XL/POLY/KNAR	150°C	
MM	SAE AS81044/13	XL/POLY/KNAR	150°C	

TABLE 2 - SHIELD DESCRIPTIONS			
SINGLE SHIELD	DOUBLE SHIELD	SHIELD DESCRIPTIONS	TEMP RATING
U	-	NOT SHIELDED	-
T	V	TIN PLATED COPPER, ROUND	150°C
S	W	SILVER PLATED COPPER, ROUND	200°C
N	Y	NICKEL PLATED COPPER, ROUND	260°C
F	Z	STAINLESS STEEL, ROUND	400°C
C	R	NICKEL CLAD COPPER, ROUND	400°C
M	K	SILVER PLATED HIGH STRENGTH, COPPER ALLOY, ROUND	200°C

## 11.0

JACKET MATERIAL (TYPE)			
SINGLE JACKET	DOUBLE JACKET	JACKET MATERIAL	TEMP. RATING
00	00	No Jacket	–
01	51	Extruded white PVC	90°C
02	52	Extruded clear nylon	105°C
03	53	White polyimide braid impregnated with clear polyimide finisher over a polyester tape	105°C
04	54	Polyester braid impregnated with high temperature finishers over polyester tape	105°C
05	55	Extruded clear FEP	200°C
06	56	Taped PTFE	260°C
07	57	White taped PTFE	260°C
08	58	Extruded white irradiated PVDF	150°C
09	59	Extruded white FEP	200°C
10	60	Extruded clear PVDF	125°C
11	61	Wrapped FEP	200°C
12	62	Tape of natural polyimide combined with FEP wrapped and heat sealed	150°C
14	64	Extruded white ETFE	150°C
15	65	Extruded clear ETFE	150°C
16	66	Taped PTFE	200°C
17	67	Extruded ECTFE	150°C
18	68	Clear Extruded ECTFE	150°C
20	70	Extruded white PFA	260°C
21	71	Extruded clear PFA	260°C
22	72	Tape of polyimide combined with clear FEP wrapped and heat sealed	200°C
23	73	Extruded white irradiated ETFE	200°C
24	74	PTFE wrapped over a tape layer of natural polyimide combined with FEP and heat sealed	200°C
25	75	Tape layer of white polytetrafluoroethylene (PTFE)	260°C
26	76	Extruded, white (XLETFE)	200°C

12.0 TROUBLESHOOTING

## 12.1 Tool arms will not open

Make sure that the lock ring is not impeding the movement of the die arms. Be sure to press the lever that is inside the die arms, as this lever deactivates the mechanism that locks the arms closed. Lock ring may be worn and needs replacement.

## 12.2 Arms will not stay securely closed with a die set installed

The tool has been worn or damaged and may require repair.

### 12.3 Arms will not stay securely closed with a die set NOT installed

The tool is designed to hold the position that results when the arms close with a die set installed. With no die set installed, the arms travel past the typical closure point, and the mechanism is not designed to lock the arms at this position. Install a die set and re-examine the closure of the tool.

### 12.4 One side of the die set is cutting too deeply or too shallow. How do I know which side to adjust?

Each die half is marked with an “A” or a “B” for identification. DMC recommends placing a mark on one side of the cable with a felt tip marker. Examination of the slit will inform which die half is cutting which side of the cable. This will indicate which side of the die set requires additional adjustment. Adjustment to blade depth of A and B side may vary.

## 13.0 MAINTENANCE, PRECAUTIONS, SERVICE, AND REPAIR

### Preventive Maintenance and Precautions

Twist-Strip tool and die sets are carefully assembled, inspected, and tested by skilled technicians at DMC. The tool is designed to function indefinitely. The end user is to always store the equipment in the included protective case. Do not expose the tool or die sets to excessive moisture, harsh chemicals, or temperature extremes. Keep the tool and die sets free from foreign debris. No additional lubricant is needed.

This tool and the related die sets are precision instruments and are to be handled as such. Do not drop, do not handle forcefully, and do not use this equipment for any purpose other than intended.

## 14.0 SERVICE AND REPAIR

Contact customer service for service and repair of Twist-Strip tools or dies.

Phone: (407) 855-6161

Email: [dmc@dmctools.com](mailto:dmc@dmctools.com)

## 15.0 CUSTOM DIES

For certain applications, a custom die set may be required. DMC requests that a 10ft sample of the User's Cable be sent to DMC, and a project will be opened to evaluate and advise, or to design a new die set for the User's cable application. DMC will determine if a standard die set can be used. If there is not a standard die set, DMC will create a new die set for the particular application. DMC will also test standard and custom die sets with the cable that was supplied by the Twist-Strip User to ensure functionality. Please complete the Cable Sample Worksheet on page 25 and email it to DMC at [dmc@dmctools.com](mailto:dmc@dmctools.com). Please call DMC at (407) 855-6161 or email [dmc@dmctools.com](mailto:dmc@dmctools.com) for more information.





## IMPORTANT INFORMATION

Cable diameters currently serviceable by TSK8000 are 0.081" - 0.180" and by TSK8500 are 0.180" - .310". Please ship **10 feet** of **EACH** cable for which you are requesting Cable Dies. Include one copy of this worksheet with your shipment. Email a copy to [dmc@dmtools.com](mailto:dmc@dmtools.com) with your shipment tracking number. Ship all cable samples and worksheet to:

**Daniels Manufacturing Corporation**  
Attn: Engineering Department  
526 Thorpe Rd - Orlando, FL 32824 (USA)

Phone: (407) 855-6161  
Fax: (407) 855-6884  
Email: [dmc@dmctools.com](mailto:dmc@dmctools.com)

Company	Contact	Date
Address	City, State, Zip	
Telephone	Fax	Email
Approximate Number of Tools Needed:		Approximate Number of Cable Dies Needed:

[illegible]

\*Outer Jacket Strip Length Only

Form 037 Rev C

www.dmctools.com



The World Leader in Tool Systems & Technology for the Aerospace, Military and Telecommunications Industries.

Daniels Manufacturing Corporation is the recognized leading manufacturer for the aircraft, aerospace, and high reliability electronics industries, with experience that spans six decades. Our products have been used on virtually every Defense System, Aircraft Program, Land or Sea Going Transport System, Space Exploration Program, and in many other types of manufacturing and support activities.

Our products include, but are not limited to: Manual, Battery Powered, Pneumatic, Electric, and Hydraulic Crimping Tools, Backshell & Accessory Torque Tools, Contact Insertion & Removal Tools, EMI/RFI Shielding Band Tools, Alphasatron® Wire Crimp Pull Testers. Fiber Optic Cleave Tools, Safe-T-Cable® & Safe-T-Cable® Tools, Wire Strip & Prep Tools, LaceLok®, and Aircraft Maintenance Support Tool Kits.

Our website offers detailed tooling information on our product pages and offers over 8,000 standard items available for purchase from our online store. Can't find what you are looking for? Please contact us and we will be sure to get you the tooling you need. Our contact information is below.

Thank you for your continued support of Daniels Manufacturing Corporation.

Business Hours: 8:00 am - 5:00 pm EST

Email: [DMC@dmctools.com](mailto:DMC@dmctools.com)

Telephone: 407-855-6161

FAX: 407-855-6884

526 Thorpe Road, Orlando, FL 32824-8133 USA

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