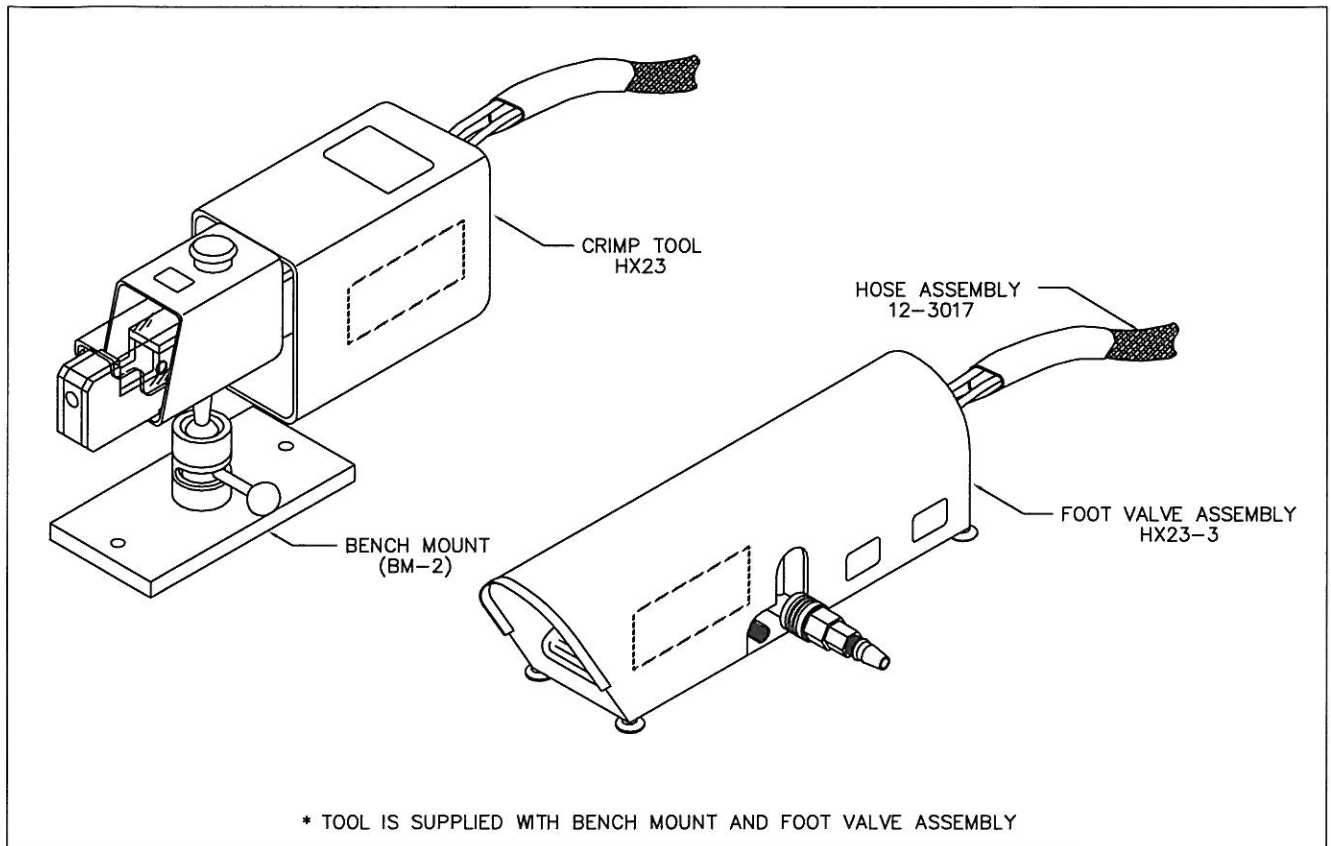


HX23 PNEUMATIC OPEN FRAME CRIMP TOOL

DMC DANIELS
MANUFACTURING
CORPORATION
DATASHEET

SEE PAGE 14 FOR IMPORTANT INFORMATION CONCERNING LIMITED WARRANTY,
LIMITATION OF LIABILITY AND SAFETY.



FEATURES:

1. Operator safety features.
2. Compatibility with existing crimp dies.
3. Full cycle control.
4. Hands free operation.
5. Full pneumatic operation.
6. Adjustable mounting positions.

* See limited warranty on Page 14.

CAUTION: THIS TOOL CAN CAUSE SEVERE BODILY INJURY IF IT IS NOT PROPERLY USED OR IS MODIFIED. IT IS THE PURCHASER'S RESPONSIBILITY TO MAKE CERTAIN THAT EVERY OPERATOR IS FULLY TRAINED AND SUPERVISED IN THE OPERATION OF THIS TOOL. THE EMERGENCY STOP BUTTON IMMEDIATELY TERMINATES THE POWER CRIMP CYCLE.

FEATURES CONTINUED:

1. OPERATOR SAFETY FEATURES

THE HX23 IS EQUIPPED WITH A SEE-THRU GUARD SYSTEM. DO NOT REMOVE OR ALTER THE GUARDS. SHOULD THE GUARDS BECOME DAMAGED OR NON-FUNCTIONAL DO NOT OPERATE THE TOOL. CONTACT DANIELS FOR REPLACEMENT PARTS. THE SEQUENTIAL ACTUATION SYSTEM (AS DESCRIBED IN "HANDS FREE OPERATION") ALLOWS THE OPERATOR TO POSITION THE CONTACT ASSEMBLY WHILE THE DIES ARE UNDER SPRING PRESSURE ONLY. THE OPERATOR IS THEN FREE TO LET THE TOOL HOLD THE CONTACT ASSEMBLY DURING THE CRIMP OPERATION WHILE HIS/HER HANDS AND FINGERS ARE A SAFE DISTANCE FROM THE DIES.

THE HX23 FOOT VALVE ASSEMBLY IS CONSTRUCTED WITH A PROTECTIVE SHROUD TO PREVENT ACCIDENTAL ACTUATION. FOR OPERATION PLACE YOUR FOOT UNDER THE SHROUD ON THE PEDAL AND DEPRESS. REMOVE FOOT FROM PEDAL WHEN REPLACING DIES, ADJUSTING MATERIALS TO BE CRIMPED OR PERFORMING TERMINAL/WIRE PREPARATIONS.

NOTE: THE EMERGENCY STOP BUTTON WILL IMMEDIATELY TERMINATE THE POWER CRIMP CYCLE.

2. COMPATIBILITY WITH EXISTING CRIMP DIES

The HX23 accomodates all M22520/5-XX Military and Daniels "Y" series crimp dies. This affords total utilization of existing dies and total interchangeability with M22520/5-01 (Daniels HX4) hand tool frames.

3. FULL CYCLE CONTROL

Full die closure is assured on every crimp. The internal cycle control network will not allow the tool to open until complete closure is attained. In cases where the cycle cannot be completed, depress the EMERGENCY STOP button and the dies will return to the open position. Be sure to reset the EMERGENCY STOP button after each activation.

4. HANDS FREE OPERATION

There are no awkward levers or mechanisms used to open or close the crimp dies. When the tool is at rest, connected to an air supply, the crimp dies are fully open and the contact/wire assembly can easily be placed in the die cavity. A touch of the foot valve for the first time releases the dies to a gripping position (spring pressure only).

When the operator is satisfied that the contact/wire assembly is positioned correctly, pushing the foot valve a second time completes the crimp using full power and returns the dies to the open position.

5. FULL PNEUMATIC OPERATION

Standard clean, dry shop air at a pressure of 80–95 psi (5.5–6.5 BAR) is required to operate the HX23 tool. There are no electrical or hydraulic requirements.

6. ADJUSTABLE POSITION MOUNTING

The fully adjustable bench mount and multiple attachment provisions allow the tool to be mounted in an infinite number of positions (including vertical).

ACCESSORIES

The HX23 tool comes complete with a Bench Mount, Foot Valve, Hoses, Die Removal Tool, Gaging Dies and Crimp Test Wire. The only items required to be ordered under separate part numbers are the crimping dies (refer to listing of Daniels "Y" and M22520/5-XX series dies used in the Daniels HX4 hand tool).

SPECIFICATIONS

TOOL ASSEMBLY (LESS BENCH MOUNT)

	<u>SIZE</u>	<u>WEIGHT</u>
U.S. (in)	4.5 X 6 X 16	11.5 lb
Metric (cm)	11.4 X 15.2 X 40.6	5.2 kg

FOOT VALVE

	<u>SIZE</u>	<u>WEIGHT</u>
U.S. (in)	4 X 5 X 13.5	6.0 lb
Metric (cm)	10.2 X 12.7 X 34.3	2.7 kg

AIR HOSE LENGTH

9 feet (2.7 meters)

SETTING UP

The tool becomes operational with just a few simple steps:

1. Upon receiving your HX23 Crimp Tool, check to assure all parts were included with the shipment. The items you should find in the shipping container are as follows:
 1. HX23-1 & -2 Basic Tool Assembly
 2. HX23-3 Foot Valve Assembly
 3. BM-2 Bench Mount
 4. 12-3017 Pneumatic Hose Assembly
 5. HX23-DS Datasheet
 6. HX23-37 Support Tool Set (includes items listed below)
 - (1) HX19-99 Die Removal Tool
 - (1) HX23-43 Gaging Die Set
 - (1) HX23-44 Crimp Test Wire

NOTE: Should any part be missing, contact the Daniels Manufacturing Sales Department.

2. To set up the HX23 Crimp Tool using the Bench Mount Assembly, invert the basic tool assembly and screw the post of the base into the threaded hole in the basic tool until tight using the wrench flats provided. Two holes are provided in the base assembly to secure the tool to mounting surfaces in the location selected for use. The tool is designed to operate in any required position (horizontal, vertical, etc.). The knob on the swivel assembly is moved left (see view on Page 1) to loosen. **CAUTION: GRASP TOOL FIRMLY BEFORE LOOSENING.** When tool is in the desired position, move knob firmly to the right to lock in place.

3. Connect either end of the hose assembly (12-3017) to the foot control; assembly (HX23-3) and the other end to the rear of the basic tool (HX23-1 & -2). The hose connectors are keyed. Insure the gasket provided with each connector is in place before assembly. Tighten the two screws at each connector. DO NOT OVERTIGHTEN. Use only clean, dry air at a pressure of 80-95 psi (5.5-6.5 BAR).
4. Verify tool gaging by installing the gaging dies (HX23-43) into the tool (see Illustration 5).

CAUTION: MAKE SURE THAT ALL FOREIGN MATERIAL AND BODY PARTS HAVE BEEN REMOVED FROM THE DIE TRAVEL ZONE.

NOTE: When installing die sets into the HX23, ensure the stationary die is installed into the fixed end of the tool and the movable die is installed in the movable end of the tool. A die rail in the tool is provided to assist in proper die orientation and alignment. Do not force die set into the tool if they appear to bind. Die may be pinned into the tool using pins supplied (see Illustration 1) or may be used without pinning where frequent changing of dies is anticipated.

Depress the foot pedal slowly two times. Tool should release movable die on first depression so it closes, but can be forced open by hand against spring pressure. Second depression should cause the tool to complete the closure cycle and the dies should return to open position. Should the die set/tool not complete its cycle, contact your Daniels representative or the Daniels Sales Department (see NOTE on next page).

5. Using the Crimp Test Wire (HX23-44) and the gaging dies (HX23-43), crimp the wire by following the steps above. After crimping, the hex shape on the wire should measure .114 in. (2.90 mm) or less across the flats (as measured with calipers in the center of the hex). If the hex measures greater than .114 in., contact your Daniels representative or the Daniels Sales Department.

OPERATION:

When the air source is connected to the Foot Valve the dies will open.

1. Position contact/terminal/wire assembly in the die (use locators when provided).

2. Depress foot pedal once to bring the dies together holding part to be crimped (dies are now under spring loaded pressure only).
3. Assure the contact/terminal and wire assembly are properly located.
4. Depress the foot pedal again to complete the crimp. After achieving full pressure and completing the crimp, the tool automatically returns the dies to the open position.

NOTE: IF THE TOOL IS NOT FUNCTIONING PROPERLY, CHECK THE EMERGENCY STOP BUTTON TO MAKE SURE IT IS IN THE "UP" POSITION.

THE FOLLOWING SECTION ILLUSTRATES THE WARNING LABELS THAT APPEAR ON THE HX23 TOOL. PLEASE REVIEW LABELS AND INSURE ALL OPERATORS HAVE BEEN THOROUGHLY INSTRUCTED ON THESE WARNINGS. SHOULD WARNING LABELS BECOME ILLEGIBLE OR REMOVED, DO NOT OPERATE THE TOOL. CONTACT DANIELS MANUFACTURING FOR REPLACEMENT LABELS.



HX23-WL



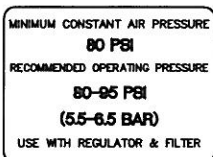
HX23-WR



PH102-WL



HX19-25-WL



HX23-22-WL



HX23-BL



HX23-DDW



HX23-FWL

DIE INSTALLATION & REMOVAL:

The dies may be secured with the pins provided (see Illustration 1). Using the tool provided, remove the stationary die and the movable die as shown (see Illustration 2).

CAUTION: DISCONNECT AIR SUPPLY WHEN CHANGING DIES.

CRIMPING TERMINALS & SPLICES WITH TERMINAL DIES:

Proper terminal and splice location in the die and the proper insertion of the wire in the die will assure that the die's function is maximized (see Illustration 3).

OPENING TOOL WHEN CYCLE IS NOT FULLY COMPLETED:

Depress EMERGENCY STOP button to return dies to the open position. If full cycle is not achieved, contact the Daniels Sales Department. Be sure to reset the EMERGENCY STOP button after each activation.

CARE OF TOOL:

There is virtually no maintenance required. However, it is good practice to keep dies free of debris and accumulations. A small wire brush may be used for this purpose.

DO NOT DO ANY OF THE FOLLOWING:

1. Immerse tool in cleaning solution.
2. Spray oil into tool to lubricate.
3. Attempt to disassemble tool or make repairs.
4. Alter pneumatic system, safety guard or other mechanisms.

This pneumatic crimping tool is a precision tool and should be handled as such.

ILLUSTRATIONS:

ILLUSTRATION 1 (Page 9)

Shows pinning of dies into tool (where applicable).

ILLUSTRATION 2 (Page 10)

Shows die installation and removal procedure using the die removal tool supplied.

ILLUSTRATION 3 (Page 11)

Shows a typical terminal/splice crimping procedure.

ILLUSTRATION 4 (Page 12)

Tension adjustment in the bench mount may be made as shown.

ILLUSTRATION 5 (Page 13)

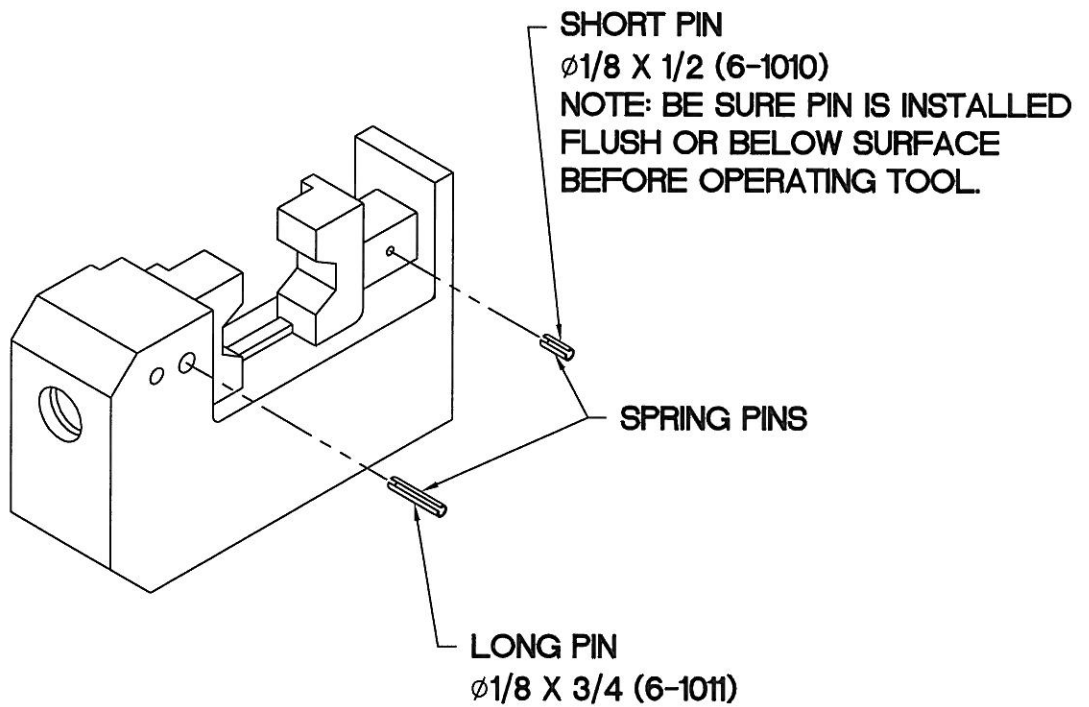
GAGING PROCEDURE:

Install the Gaging Dies (HX23-43) into the tool. Using the Crimp Test Wire (HX23-44), crimp the wire by following the steps on page 5. After crimping, the hex shape on the wire should measure .114 in. (2.90 mm) or less across the flats (as measured with calipers in the center of the hex). If the hex measures greater than .114 in., contact your Daniels representative or the Daniels Sales Department for instructions for return of the tool for repair and recalibration.

DO NOT ATTEMPT TO REPAIR THE TOOL!

NOTE: The Crimp Test Wire (HX23-44) is .125 in (3.18 mm) diameter UNS-C11000 (H04 temper) round copper rod per ASTM B187 and should be available from your local metals supply house.

NOTE: DISCONNECT AIR SUPPLY PRIOR
TO INSTALLING OR REMOVING DIE.
SPRING LOADED GUARD MAY BE
PUSHED BACK FOR ACCESS.



NOTE: PINS SUPPLIED WITH EACH DIE SET.

ILLUSTRATION 1
(PINNING OF DIES)

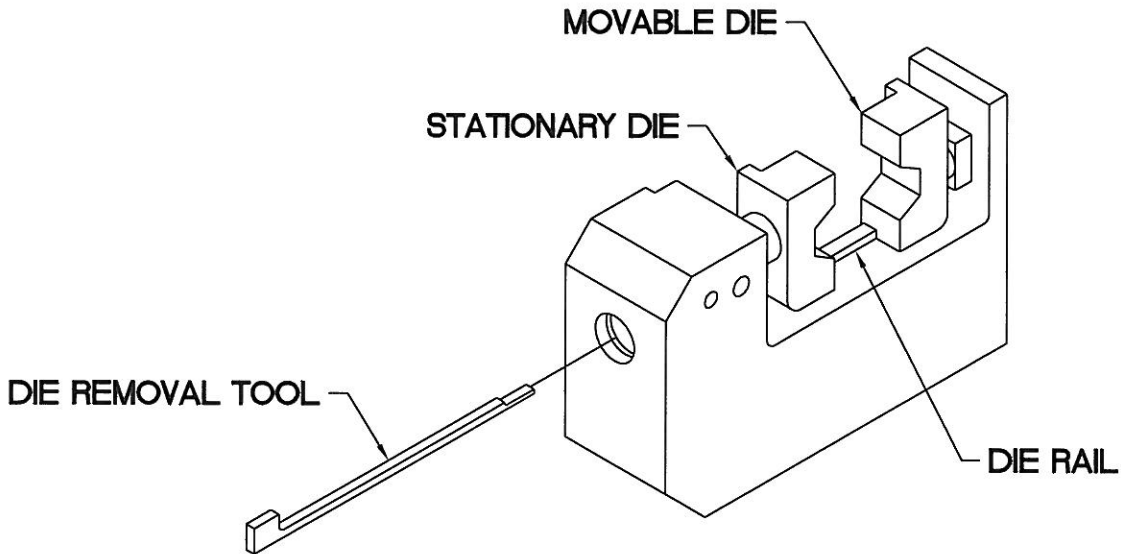


FIG. 1

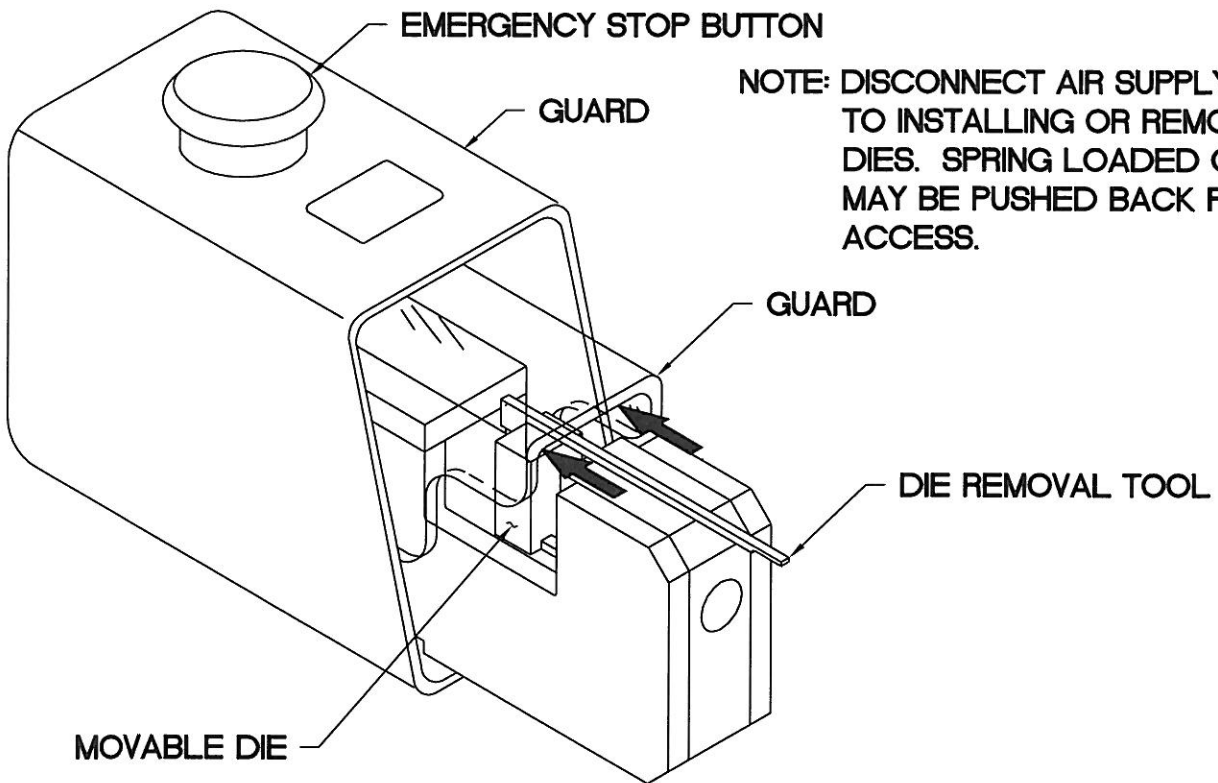


FIG. 2

**ILLUSTRATION 2
(DIE INSTALLATION AND REMOVAL)**

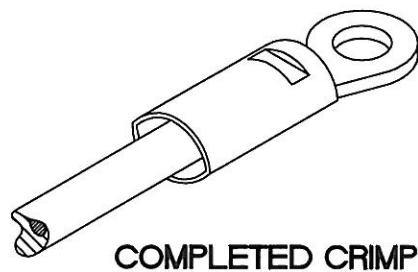
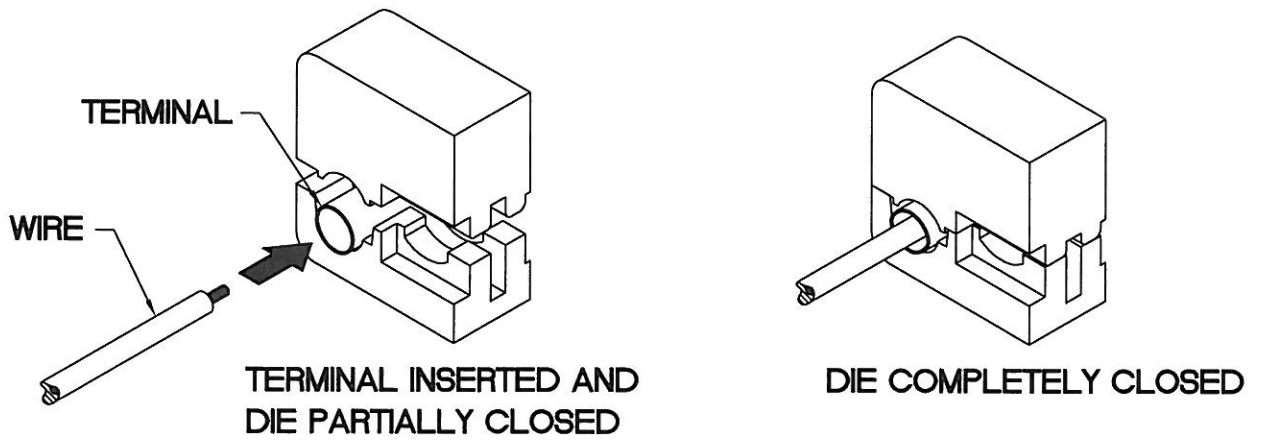
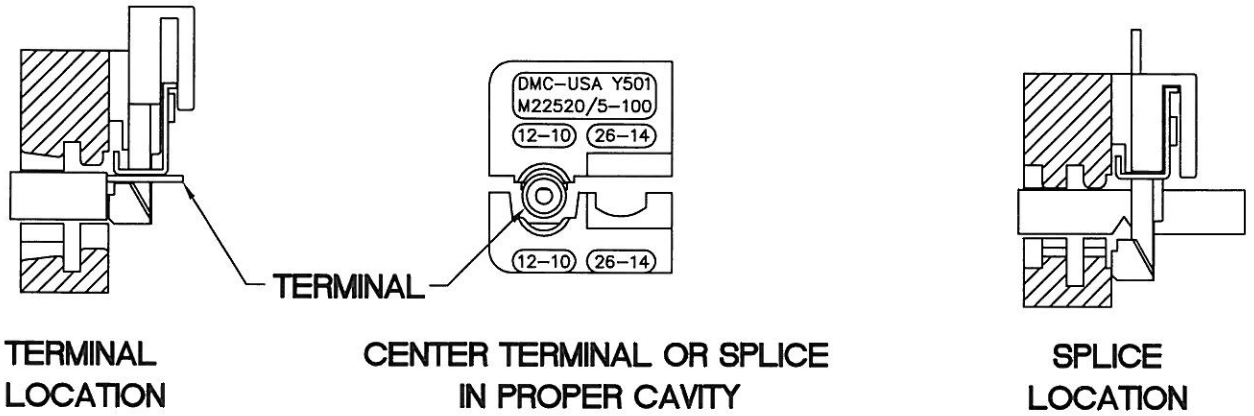


ILLUSTRATION 3
(TERMINAL/SPLICE CRIMPING)

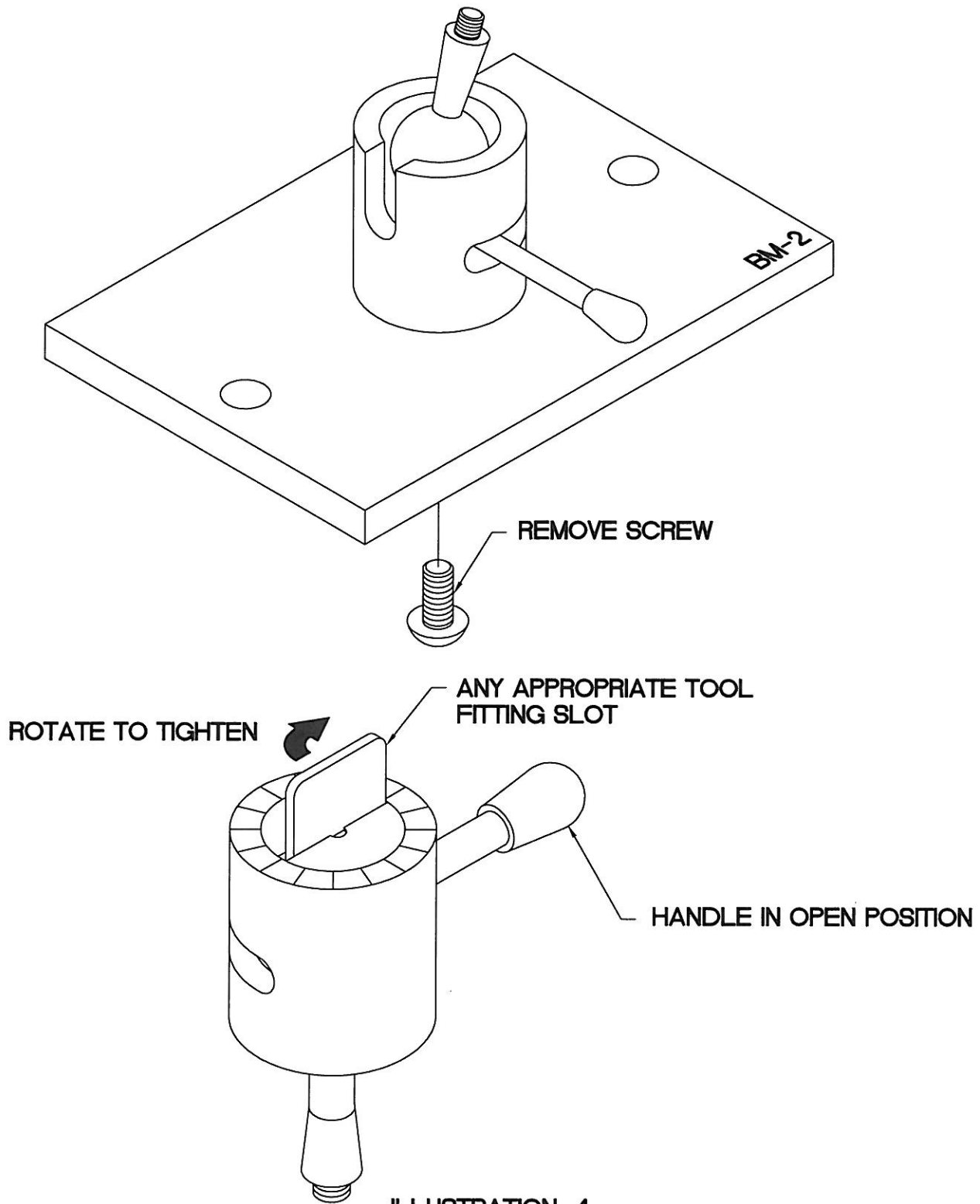
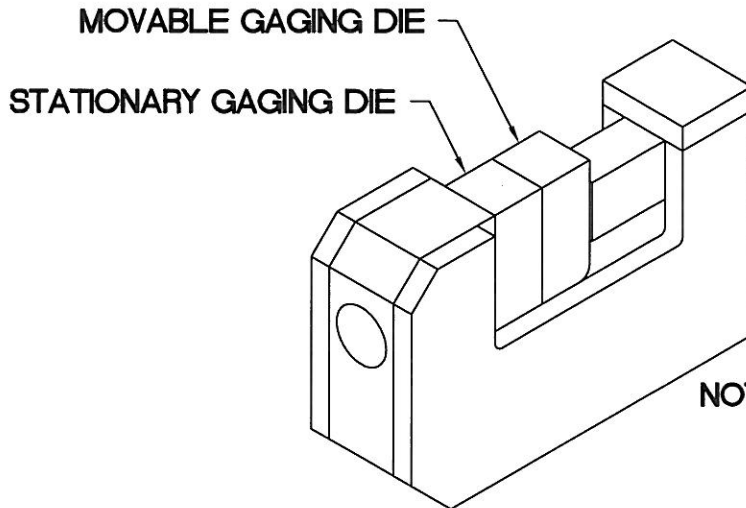


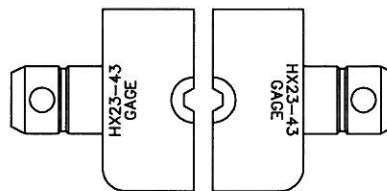
ILLUSTRATION 4
(BENCH MOUNT TENSION ADJUSTMENT)

**NOTE: WHEN GAGING TOOL, SET LINE PRESSURE AT 80-95 PSI;
SEE PAGE 8 FOR SPECIFIC INSTRUCTIONS.**



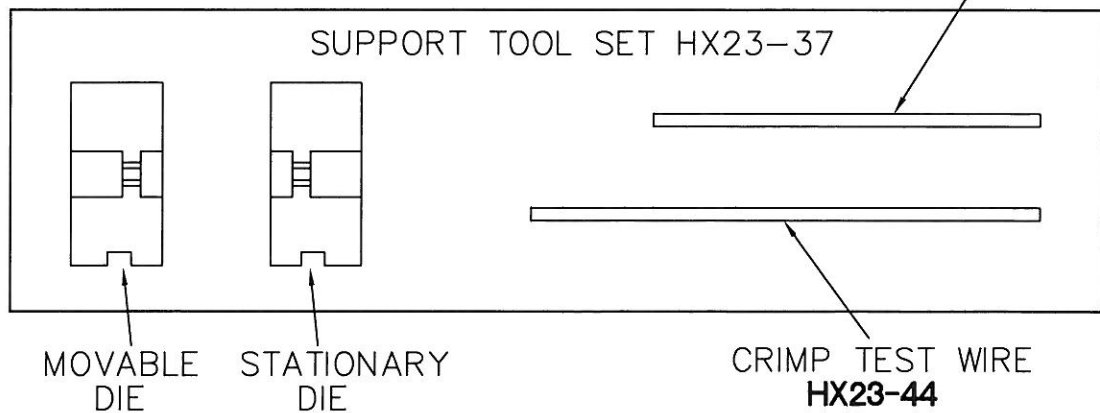
**NOTE: PUSH EMERGENCY
STOP TO RELEASE
DIES**

GAGING DIES



HX23-43

**DIE REMOVAL
TOOL
HX19-99**



**MOVABLE
DIE**

**STATIONARY
DIE**

**CRIMP TEST WIRE
HX23-44**

ILLUSTRATION 5
(GAGING)

SPECIAL SERVICES:

Daniels Manufacturing Corp. offers complete refurbishing and recalibration services. Contact the DMC Sales Department for more information.

DMC engineers and manufactures complete tool kits to satisfy individual customer requirements, such as total aircraft support, general shop maintenance or production, on board ship and vehicle service, etc.

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 WARRANTY

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 or 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.