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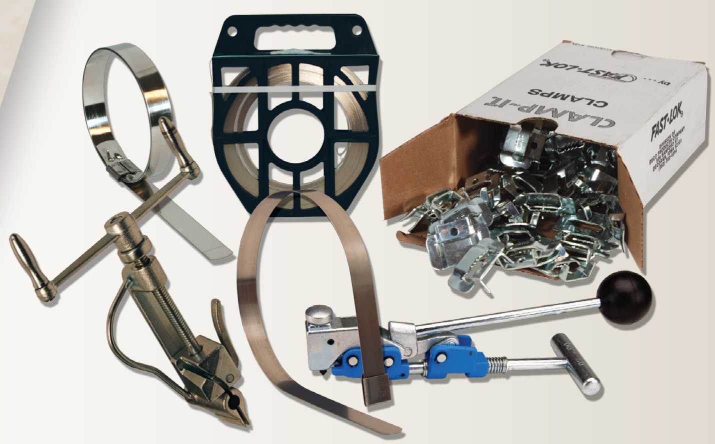
DIXON

*The Right Connection™*

# Band Clamps and Accessories

**dixonvalve.com** • *Customer Service:* **877.963.4966**



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## General Safety

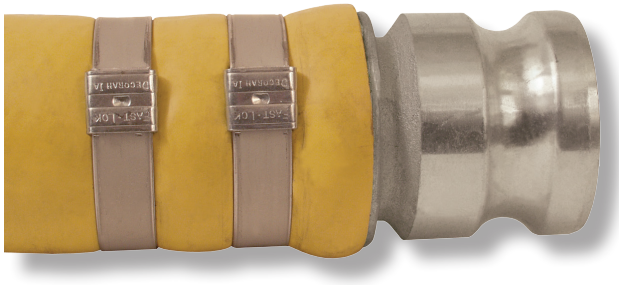
- Use Dixon couplings, retention devices and accessory products only for their intended service.
- All recommendations of the Hose Manufacturer, and the Coupling Manufacturer, must be employed with regards to Size, Temperature, Application, Media, and Pressure when selecting the components for a hose assembly.
- All finished hose assemblies should be tested in accordance with the Rubber Manufacturers Association recommendations.
- All hose assemblies should be thoroughly inspected prior to each use to insure they are undamaged, and properly coupled.
- Use safety clips on couplings, and King Safety Cables on assemblies where required by the manufacturer, as well as State and Federal regulations.
- Call Dixon (877.963.4966) for advice on couplings, retention devices, and accessories for your application.

# Safety Recommendations

The use of band style clamps is a proven method of retaining hose couplings in industrial hose.

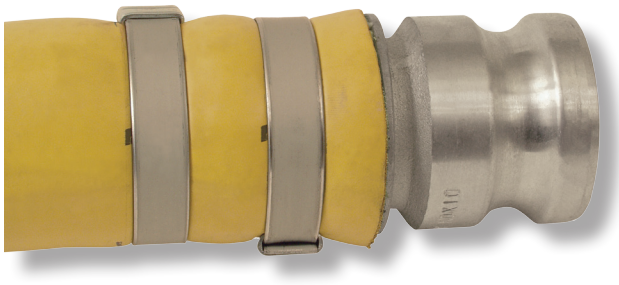
To achieve proper retention and sealing of the hose coupling in the hose, it is imperative that these clamps be installed correctly. Please follow the manufacturer's recommendations as to the proper selection and installation of band clamps.

When installing multiple clamps, the buckles must be offset around the hose, (reference page 8), eliminating the possibility of a straight line leak under the buckle area.



**Improper installation of band clamps**

*Clamps installed with buckles in-line.*



**Proper installation of band clamps**

*Clamps installed with buckles equally rotated.*

The first clamp should be installed just inside the mark on the hose furthermost from the hose end (reference page 11).

Leaving excess band material turned back over the buckle does not improve the performance of the clamp. In fact, a safety hazard develops from this practice by leaving sharp edged material exposed.

## Band Clamps Procedure 2100-2199 PDF's

**Procedure 2100**: *Pre-Formed Band Clamp Using Pneumatic Roll-Over Tool*

**Procedure 2101**: *Pre-Formed Band Clamp Using Punch Style Tool*

**Procedure 2102**: *Pre-Formed Band Clamp Using Punch Style Tool with Roll-Over Tool Attachment*

**Procedure 2103**: *Pre-Formed Band Clamp Using Screw-Action Tool with Roll-Over Tool Attachment*

**Procedure 2104**: *"Clamp-It" Band and Buckle Installation Using Screw Action Tool*

## Band Clamps Procedure 2100-2199 Video's

**Procedure 2100**: *Pre-Formed Band Clamp Using Pneumatic Roll-Over Tool*

**Procedure 2101**: *Pre-Formed Band Clamp Using Punch Style Tool*

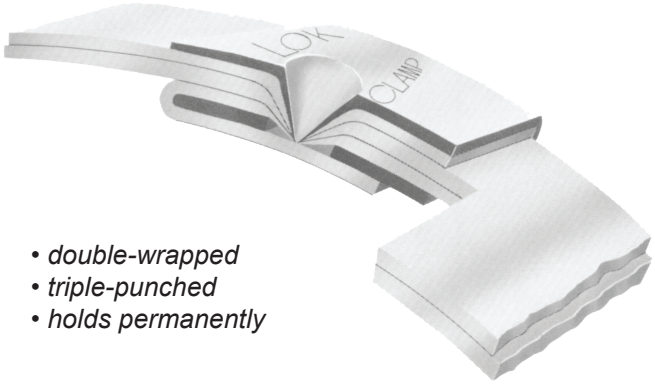
**Procedure 2102**: *Pre-Formed Band Clamp Using Punch Style Tool with Roll-Over Tool Attachment*

**Procedure 2103**: *Pre-Formed Band Clamp Using Screw-Action Tool with Roll-Over Tool Attachment*

**Procedure 2104**: *"Clamp-It" Band and Buckle Installation Using Screw Action Tool*

Reference pages 10 and 11 for selection and preparation guidelines.

# F and FO Series Clamps




- *double-wrapped*
- *triple-punched*
- *holds permanently*

**Material availability:**

- stainless steel -
  bands are 300 series and
  the buckles are 302 series
- galvanized steel

**Installation tools:**

- center punch tools - F1, F38, F40, F100 (other manufacturer's punch style tools may be used)

The F series double-wrapped metal band clamp is formed to a given diameter with a tailpiece through the buckle.

**style F**
*(pre-formed)*

| Band Width | ID | Band THK | *Stainless Steel* Part # | Pkg Qty | Band THK | *Galvanized Steel* Part # | Pkg Qty |
|---|---|---|---|---|---|---|---|
| 3/8" | 13/16" | .020 | ***FS3*** | 100 | .025 | ***F3*** | 100 |
| | 1-3/8" | .020 | ***FS311*** | 100 | .025 | ***F311*** | 100 |
| 5/8" | 1" | .022 | ***FS4*** | 100 | .025 | ***F4*** | 100 |
| | 1-1/4" | .022 | ***FS5*** | 100 | .025 | ***F5*** | 100 |
| | 1-1/2" | .022 | ***FS6*** | 100 | .031 | ***F6*** | 100 |
| | 1-3/4" | .022 | ***FS7*** | 100 | .031 | ***F7*** | 100 |
| | 2" | .022 | ***FS8*** | 100 | .031 | ***F8*** | 100 |
| | 2-1/4" | .022 | ***FS9*** | 100 | .031 | ***F9*** | 100 |
| | 2-1/2" | .022 | ***FS10*** | 50 | .031 | ***F10*** | 50 |
| | 2-3/4" | .022 | ***FS11*** | 50 | .031 | ***F11*** | 50 |
| | 3" | .022 | ***FS12*** | 50 | .031 | ***F12*** | 50 |
| | 3-1/2" | .022 | ***FS14*** | 50 | .031 | ***F14*** | 50 |
| | 4" | .022 | ***FS16*** | 25 | .031 | ***F16*** | 25 |
| | 4-1/2" | .022 | ***FS18*** | 25 | .031 | ***F18*** | 25 |
| | 5" | .022 | ***FS20*** | 25 | .031 | ***F20*** | 25 |
| | 6" | .022 | ***FS24*** | 25 | .031 | ***F24*** | 25 |
| | 7" | .022 | ***FS28*** | 25 | .031 | ***F28*** | 25 |
| | 8" | .022 | ***FS32*** | 25 | .031 | ***F32*** | 25 |

The FO clamp is open-ended and may be applied easily without sliding the clamp over the hose end.

**style FO**
*(open end)*

| Band Width | ID | Band THK | *Stainless Steel* Part # | Pkg Qty | Band THK | *Galvanized Steel* Part # | Pkg Qty |
|---|---|---|---|---|---|---|---|
| 3/8" | 13/16" | .020 | ***FOS3*** | 100 | .025 | ***FO3*** | 100 |
| | 1-3/8" | .020 | ***FOS311*** | 100 | .025 | ***FO311*** | 100 |
| 5/8" | 2" | .020 | ***FOS316*** | 100 | .025 | ***FO316*** | 100 |
| | 3-1/8" | .020 | ***FOS325*** | 100 | .025 | ***FO325*** | 100 |
| | 2" | .022 | ***FOS8*** | 100 | .025 | ***FO8*** | 100 |
| | 2-1/2" | .022 | ***FOS10*** | 50 | .025 | ***FO10*** | 50 |
| | 3" | .022 | ***FOS12*** | 50 | .031 | ***FO12*** | 50 |
| | 3-1/2" | .022 | ***FOS14*** | 50 | .031 | ***FO14*** | 50 |
| | 4" | .022 | ***FOS16*** | 50 | .031 | ***FO16*** | 50 |
| | 4-1/2" | .022 | ***FOS18*** | 50 | .031 | ***FO18*** | 50 |
| | 5" | .022 | ***FOS20*** | 25 | .031 | ***FO20*** | 25 |
| | 6" | .022 | ***FOS24*** | 25 | .031 | ***FO24*** | 25 |
| | 7" | .022 | ***FOS28*** | 25 | .031 | ***FO28*** | 25 |
| | 8" | .022 | ***FOS32*** | 25 | .031 | ***FO32*** | 25 |
| | 9" | .022 | ***---*** | 25 | .031 | ***FO36*** | 25 |
| | 10" | .022 | ***---*** | 25 | .031 | ***FO40*** | 25 |
| | 12" | .022 | ***---*** | 25 | .031 | ***FO48*** | 25 |
| | 14" | .022 | ***---*** | 10 | .031 | ***FO56*** | 10 |

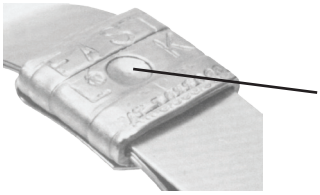
# K Series Clamps

**Material availability:**

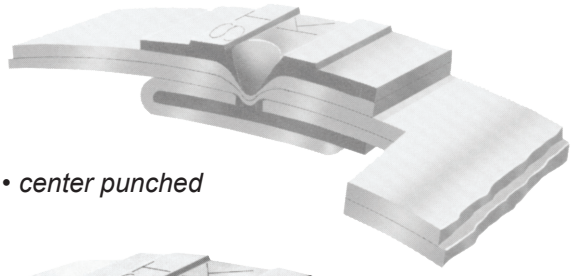
- stainless steel -
  bands are 300 series and
  the buckles are 302 series
- galvanized steel

**Installation tools:**

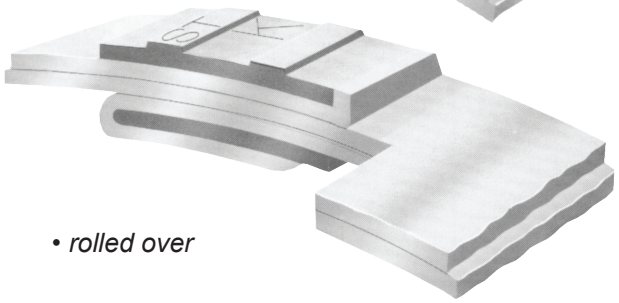
- center punch tools - F1, F40, F100
- roll over tools - 51960 with 51970 adapter
  (other manufacturer's tools may be used)



*punch indentation for ease of center punching*



• *center punched*



• *rolled over*

The uniquely designed K clamp can be locked by a wide variety of manufacturer's tools. K clamps are designed to be slipped over the hose end before the fitting is inserted.

| Band Width | ID | Band THK | *Stainless Steel* Part # | Pkg Qty | Band THK | *Galvanized Steel* Part # | Pkg Qty |
|---|---|---|---|---|---|---|---|
| 3/8" | 13/16" | .025 | ***KS3*** | 100 | .025 | ***K3*** | 100 |
| | 1-3/8" | .025 | ***KS311*** | 100 | .025 | ***K311*** | 100 |
| 5/8" | 1" | .031 | ***KS4*** | 100 | .030 | ***K4*** | 100 |
| | 1-1/4" | .031 | ***KS5*** | 100 | .030 | ***K5*** | 100 |
| | 1-1/2" | .031 | ***KS6*** | 100 | .030 | ***K6*** | 100 |
| | 1-3/4" | .031 | ***KS7*** | 100 | .030 | ***K7*** | 100 |
| | 2" | .031 | ***KS8*** | 100 | .030 | ***K8*** | 100 |
| | 2-1/4" | .031 | ***KS9*** | 100 | .030 | ***K9*** | 100 |
| | 2-1/2" | .031 | ***KS10*** | 50 | .030 | ***K10*** | 50 |
| | 2-3/4" | .031 | ***KS11*** | 50 | .030 | ***K11*** | 50 |
| | 3" | .031 | ***KS12*** | 50 | .030 | ***K12*** | 50 |
| | 3-1/2" | .031 | ***KS14*** | 50 | .030 | ***K14*** | 50 |
| | 4" | .031 | ***KS16*** | 25 | .030 | ***K16*** | 25 |
| | 4-1/2" | .031 | ***KS18*** | 25 | .030 | ***K18*** | 25 |
| | 5" | .031 | ***KS20*** | 25 | .030 | ***K20*** | 25 |
| | 6" | .031 | ***KS24*** | 25 | .030 | ***K24*** | 25 |
| | 7" | .031 | ***KS28*** | 25 | .030 | ***K28*** | 25 |
| | 8" | .031 | ***KS32*** | 25 | .030 | ***K32*** | 25 |

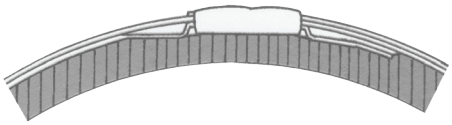
| Band Width | ID | Band THK | *Stainless Steel* Part # | Pkg Qty |
|---|---|---|---|---|
| 3/4" | 2" | .030 | ***KS87501*** | 100 |
| | 2-1/4" | .030 | ***KS97501*** | 100 |
| | 2-1/2" | .030 | ***KS107501*** | 50 |
| | 2-3/4" | .030 | ***KS117501*** | 50 |
| | 3" | .030 | ***KS127501*** | 50 |
| | 3-1/2" | .030 | ***KS147501*** | 50 |
| | 4" | .030 | ***KS167501*** | 25 |
| | 4-1/2" | .030 | ***KS187501*** | 25 |
| | 5" | .030 | ***KS207501*** | 25 |
| | 6" | .030 | ***KS247501*** | 25 |
| | 7" | .030 | ***KS287501*** | 25 |
| | 8" | .030 | ***KS327501*** | 25 |

***Note:*** *3/4" K Clamp must be applied with the F175 hand tool, found on pages 20-21.*

# Smooth I.D. Clamps

**Material availability:**
- 201 stainless steel
- galvanized steel

**Installation tools:**
- roll over tools - 51960 with 51970 adapter (other manufacturer's tools may be used)



*The smooth inside diameter produces a uniform clamping surface to prevent leak paths.*

| Band Width | ID | Band THK | *Stainless Steel* Part # | Pkg Qty | Band THK | *Galvanized Steel* Part # | Pkg Qty |
|---|---|---|---|---|---|---|---|
| 3/8" | 13/16" | .025 | ***JS201*** | 100 | .025 | ***JS301*** | 100 |
| | 1" | .025 | ***JS243*** | 100 | .025 | ***JS343*** | 100 |
| | 1-3/8" | .025 | ***JS202*** | 100 | .025 | ***JS302*** | 100 |
| | 2" | .025 | ***JS245*** | 100 | .025 | --- | --- |
| 1/2" | 1" | .030 | ***JS203*** | 100 | .030 | ***JS303*** | 100 |
| | 1-1/4" | .030 | ***JS204*** | 100 | .030 | ***JS304*** | 100 |
| | 2-3/4" | .030 | ***JS230*** | 100 | .030 | ***JS330*** | 100 |
| 5/8" | 1-1/2" | .030 | ***JS205*** | 100 | .030 | ***JS305*** | 100 |
| | 1-3/4" | .030 | ***JS206*** | 100 | .030 | ***JS306*** | 100 |
| | 2" | .030 | ***JS207*** | 100 | .030 | ***JS307*** | 100 |
| | 2-1/4" | .030 | ***JS208*** | 100 | .030 | ***JS308*** | 100 |
| | 2-1/2" | .030 | ***JS209*** | 100 | .030 | ***JS309*** | 100 |
| 3/4" | 2-3/4" | .030 | ***JS210*** | 50 | .030 | ***JS310*** | 50 |
| | 3" | .030 | ***JS211*** | 50 | .030 | ***JS311*** | 50 |
| | 3-1/2" | .030 | ***JS212*** | 50 | .030 | ***JS312*** | 50 |
| | 4" | .030 | ***JS213*** | 25 | .030 | ***JS313*** | 25 |
| | 4-1/2" | .030 | ***JS214*** | 25 | .030 | ***JS314*** | 25 |
| | 5" | .030 | ***JS215*** | 25 | .030 | ***JS315*** | 25 |
| | 6" | .030 | ***JS216*** | 25 | .030 | ***JS316*** | 25 |
| | 7" | .030 | ***JS218*** | 25 | .030 | --- | --- |

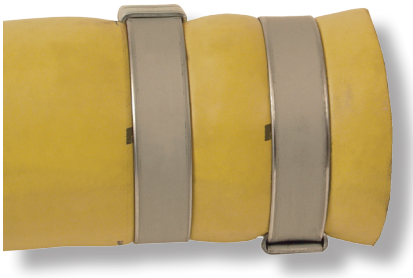
# Smooth I.D. Center Punch Clamps

Center punch clamps are double wrapped and locked with the conical punch of the F100 tool (pages 18 and 19). Recommended for use in applications where conditions are highly corrosive.

- unique dimple design offers excellent sealing strength while maintaining radial compression
- heavy buckle provides optimal holding power
- ideal for thin wall hose
- low profile clamp
- clamp can be applied with the F100 hand tool located on pages 18 and 19
- band width: 5/8"
- band thickness: .025"

| Band Width | ID | Band THK | *201 Stainless Steel* Part # | Pkg Qty |
|---|---|---|---|---|
| 5/8" | 1" | .025 | ***HBC4S*** | 100 |
| | 1¼" | .025 | ***HBC5S*** | 100 |
| | 1½" | .025 | ***HBC6S*** | 100 |
| | 1¾" | .025 | ***HBC7S*** | 100 |
| | 2" | .025 | ***HBC8S*** | 100 |
| | 2¼" | .025 | ***HBC9S*** | 100 |
| | 2½" | .025 | ***HBC10S*** | 50 |
| | 2¾" | .025 | ***HBC11S*** | 50 |
| | 3" | .025 | ***HBC12S*** | 50 |
| | 3½" | .025 | ***HBC14S*** | 50 |
| | 4" | .025 | ***HBC16S*** | 25 |
| | 4½" | .025 | ***HBC18S*** | 25 |
| | 5" | .025 | ***HBC20S*** | 25 |
| | 6" | .025 | ***HBC24S*** | 25 |
| | 7" | .025 | ***HBC28S*** | 25 |
| | 8" | .025 | ***HBC32S*** | 25 |

# Band and Buckle



**Material availability:**
- stainless steel
- galvanized steel

**Installation tools:**
- roll over tools - C2, 51960
  (other manufacturer's tools may be used)

The band and buckle system is an economical method of securing fittings to large diameter rubber hose (2" and above).

**Strapping - 100 ft. per Box**

| Band Width | Length | Band THK | *201 Stainless Steel* Part # | *Galvanized Steel* Part # |
|---|---|---|---|---|
| 3/8" | 100' | .025 | ***SS375*** | ***SG375*** |
| 1/2" | 100' | .031 | ***SS500*** | ***SG500*** |
| 5/8" | 100' | .031 | ***SS625*** | ***SG625*** |
| 3/4" | 100' | .031 | ***SS750*** | ***SG750*** |

**Buckles**

| Band Width | *201 Stainless Steel* Part # | Pkg Qty | *Galvanized Steel* Part # | Pkg Qty |
|---|---|---|---|---|
| 3/8" | ***CS375*** | 100 | ***CG375*** | 100 |
| 1/2" | ***CS500*** | 100 | ***CG500*** | 100 |
| 5/8" | ***CS625*** | 100 | ***CG625*** | 100 |
| 3/4" | ***CS750*** | 100 | ***CG750*** | 50 |

**Note:** Do not use strapping and buckles made of different metals.
Example: Stainless steel strapping must be used with stainless steel buckles.

**Caution!** *Strapping edges can be extremely sharp! All necessary precautions should be taken to prevent installer's hands from being cut during the assembly process.*

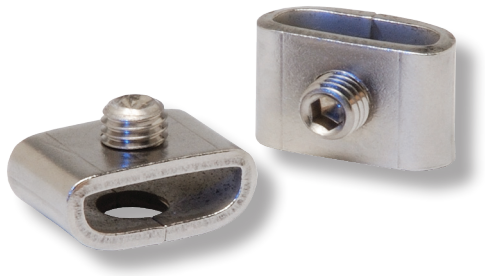
SAFETY ALERT

## Set Screw and Buckles

- Used in applications when a temporary clamp is desired or space limitations do not allow for tool roll-over, set screw locks band after tensioning.
- sold in box quantities only

| Buckle Width | *201 Stainless Steel* Part # | Pkg Qty |
|---|---|---|
| 3/8" | ***SSB375*** | 50 |
| 1/2" | ***SSB500*** | 25 |
| 3/4" | ***SSB750*** [1] | 25 |

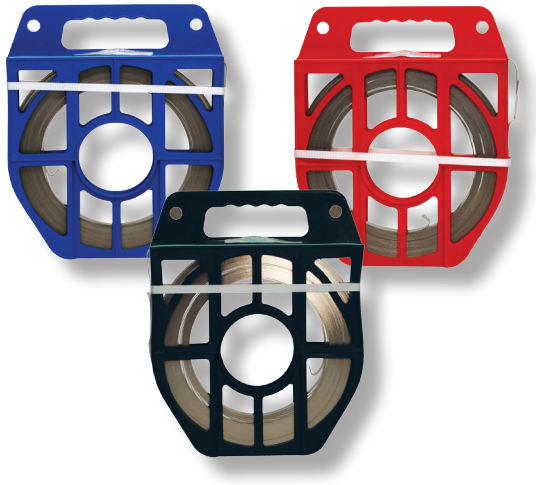
[1] ¾" buckle may be used with 5/8" band



## Stainless Steel Banding

- resistant to moisture
- built-in handle
- full view of available band
- easy to dispense and recoil

| Buckle Width | Band THK | Length | Package Type | *201 Stainless Steel* Part # |
|---|---|---|---|---|
| 1/2" | .030 | 100' | plastic blue tote | ***ST204B*** |
| 5/8" | .030 | 100' | plastic green tote | ***ST205G*** |
| 3/4" | .030 | 100' | plastic red tote | ***ST206R*** |



# Clamp Selection

## Pre-Formed Band Clamps

1. Measure the hose "free" O.D. (Outside Diameter) with a Dixon diameter tape. "Free" O.D. is measured before the stem is inserted.
2. Select the clamp having an Inside Diameter (I.D.) as close to the measured hose O.D. but not less than 1/4". This is so that the clamps can be slid onto the hose before the couplings are inserted.

| | | |
|---|---|---|
| Example: | Hose O.D. is 2-11/16" | Use 3" I.D. clamp |
| | Hose O.D. is 2-7/8" | Use 3-1/2" I.D. clamp |

## Band and Buckle

**Caution!**

*Strapping edges can be extremely sharp! All necessary precautions should be taken to prevent installer's hands from being cut during the assembly process. Do not use strapping and buckles made of different metals or of different widths together.*

1. Measure the hose circumference with a standard tape measure.
2. Cut a piece of strapping that is 6" longer than two times the circumference

| | | |
|---|---|---|
| Example: | Hose circumference | 13 |
| | Multiplied by two | x 2 |
| | Equals | 26 |
| | Plus six inches | +6 |
| | Total length of strap needed | 32" |

3. Slide one end of the strap through the buckle loop. Make certain the 'ears' of the buckle are pointing upand are closest to the end of the strap
4. Slide the buckle approximately 3" down the strap
5. Using pliers, create a strap loop by bending approximately 1/2" of strap material down and under.
6. Slide the buckle into the strap loop.
7. Using pliers, crimp the strap loop tightly to the buckle. Do not squeeze on the buckle loop.
8. Lap the free end of the strap around the hose and through the buckle loop.
9. Again, lap the free end of the strap around hose and through the buckle loop.
10. Using pliers, pull the free end of the strap as tight as possible.
11. Bend the strap free end up and slightly over the buckle. This will prevent the strap from sliding out from under the buckle.

**Note:** Do not use strapping and buckles made of different metals.
Example: Stainless steel strapping must be used with stainless steel buckles.

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**Notes:**

1. Proper tension is achieved when the outside diameter of the band clamp is even with or slightly below the diameter of the hose. This is a rule of thumb measurement of proper clamp tension and can vary from one stem/hose combination to another. The installer's experience with a particular stem/hose combination will tell them when the clamp is properly tensioned.
2. Bend excessive clamp tail away from tool handles to avoid being cut by sharp edges.
3. When multiple clamps are used, clamp buckles must be offset to prevent a leak path. 2 Clamps - Buckles at 180°. 3 Clamps - Buckles at 120°. 4 Clamps - Buckles at 90°.

Pre-Formed Band Clamp Selection Video

"Clamp-It" Band and Buckle Preparation Video

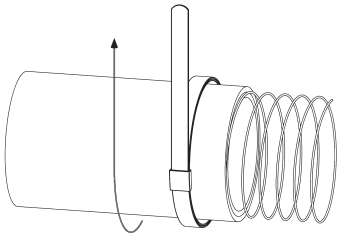
# Preparing the Hose for Assembly

## Cut Hose to Length

**Cut Ends Square** (*Lack of a square cut on the hose end can reduce coupling retention*.)

For hoses having a helical wire:

1. Determine the direction the helical wire is pointing in. This is necessary as proper installation of pre-formed band clamps and bands and buckles rely upon proper orientation of the clamp tail with the helical wire. See illustration below.



General Preparation Instructions Video

2. If helical wire is not used for static grounding, trim the wire back into the carcass of the hose. This is to prevent injury during use of the assembly.

## Clean Hose I.D

## Mark the hose for proper clamp placement

All styles of band clamps (both pre-formed and bands & buckles) require proper placement to achieve maximum retention. Place marks on hose for proper clamp placement as follows:

1. Determine shank serration style
   a. Symmetrical (all serrations the same size). Example: Combination nipples, suction couplings, etc.
   b. Pronounced (some serrations are higher than the other serrations). Example: Cam and groove, King round nipples, etc.
2. Symmetrical Shanks
   a. Determine number of clamps required. Reference Dixon's Pressure Chart for correct number of clamps to install based on coupling style and size.
   b. Place the shank next to the hose to simulate the shank being fully inserted.
   c. Place a mark on the hose that corresponds with the point of the last serration.
   d. When multiple clamps are required, place corresponding number of marks equally spaced from one another and the hose end.
   e. Do not place a clamp directly on the hose end. Leave 1/4" to 3/8" space between the hose end and the last clamp installed.
3. Pronounce shanks
   a. Place the shank next to the hose to simulate the shank being fully inserted.
   b. Place a mark on the hose that corresponds with the point of each pronounced serration.
   c. The correct number of clamps to install will be equal to the number of marks placed on the hose.

## Static Grounding

When required, proper static grounding is essential. Typically, this is accomplished by bending the built- in static wire or the helical wire (or wires) inside the hose I.D. so that it contacts the metal coupling. Caution should be taken to bend in no more wire than necessary. Usually 1/2" of wire bent in is sufficient. Other methods of static grounding are available and may be required due to hose type, hose manufacturer or style of coupling to be installed. Always contact the hose manufacturer for proper static grounding techniques for that particular hose. Improper static grounding can lead to fire, explosions, reduced assembly life, damage to property and injury or death to personnel.

## Seal the Hose Ends

At each end of the hose, the reinforcement is exposed to the outside elements. This exposure can lead to premature assembly failure especially if the end of the assembly is laying in a puddle of water or puddle of product. If the assembly is to be subjected to these conditions, the hose ends must be sealed. Typically, rubber cement or shellac is used. Contact the hose manufacturer for recommendations. Wire reinforce hoses can corrode to the point of failure near the clamp. Textile or fabric reinforced hoses can wick water or product to anywhere in the length of the hose and exit the cover at the weakest spot.

## Coupling Lubricant

The coupling shank and the hose I.D. are to be lubricated prior to coupling insertion. Dixon recommends using Dixon Coupling Lubricant (DCL10 pint, DCL80 gallon). Do not use hand soap, oil, grease, WD 40, Silicone spray, or other substances that may attack the tube material and / or reduce coupling retention.

# Installation Tools

### Clamp Cutter

- material: malleable iron with rubber covered handles
- weight: 2.11 lbs.
- length: 14"

| Part # |
| --- |
| ***F550*** |

### Mallet

- material: ductile iron head, wooden handle
- weight: 2.25 lbs.
- length: 12"

| Part # |
| --- |
| ***F225*** |

# 51960 Installation Tool

Screw-action type tool for installing band and buckles.

- material: plated steel
- weight: 4.00 lbs.
- length: 12"

| Part # |
| --- |
| ***51960*** |

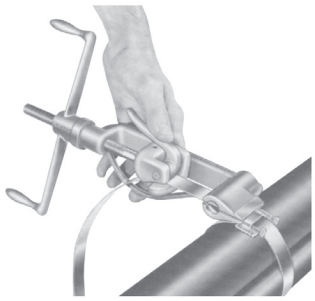
# 51970 Roll-Over Attachment

Adapter for 51960 for installing preformed clamps. For vise applications *only.*

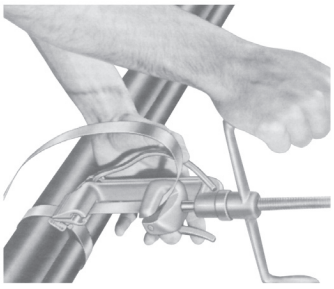
- material: plated steel
- weight: 1.15 lbs.
- length: 10-1/2"

| Part # |
| --- |
| ***51970*** |

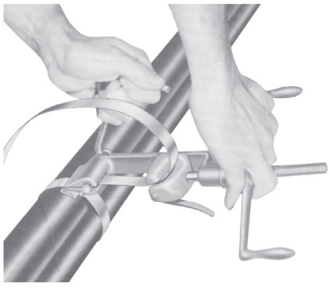
## Operating Instructions for the 51960 Installation Tool



**1**
Hold the tool in the left hand so that the cutter bail is on the bottom and the pulling dog lever is on top. Slide the strap tail through the slot on the right side of the tool.



**2**
Press down on pulling-dog lever and rotate handle to begin tightening. Tighten strap to desired tension. Simultaneously relieve some tension while pushing the tool away as far as possible.



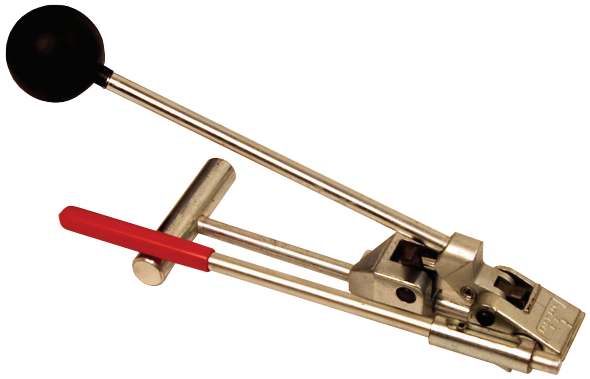
**3**
Pull the cutter bail to cut the strap tail. Tap the buckle ears down to hold the cut strap tail in place.

## Operating Instructions for the 51960 with 51970 Roll-Over Attachment

1. Slide the 51970 Roll - over attachment on to the head of the 51960 Screw - action tool.
2. With handle of 51970 facing installer, place 51960 in a vise and tighten.
3. Slide the clamp tail through the slot on the 51970.
4. Press down on pulling-dog lever and rotate handle to begin tightening.
5. Tighten clamp to desired tension.
6. Simultaneously relieve some tension while rolling hose towards cutter.
7. When clamp buckle engages cutter, pull handle.

# Part Identification for the C2 Installation Tool

This lightweight, side and front entry, jack-type clamping tool is specially designed to provide easy installation of the band and buckle system. Tool adjusts tension and locks buckle in place.

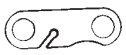


- material: steel
- weight: 3.30 lbs.
- length: 14"

| Part # |
|---|
| ***C2*** |

*Illustrations are not in correct proportion to one another.*

C-207


FX-211A

FX-211B

C-212

FX-214

FA-217

F-233

FA-220

CA-231

F-242

EXP-201

F-232


C-200

F-233

F-217


C-243

C-236

*For applying 3/8" and 5/8" band clamps*

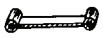
| Qty Per Tool | Part Description | Part # |
|---|---|---|
| 1 | Holding dog | ***C-207*** |
| 2 | Puller links | ***FX-211A*** |
| 2 | Puller links | ***FX-211B*** |
| 1 | Puller link pin | ***C-212*** |
| 1 | Pulling dog | ***FX-214*** |
| 1 | Pulling dog spring | ***FA-217*** |
| 1 | Pulling dog pin | ***F-233*** |
| 1 | Ball handle assembly | ***FA-220*** |
| 1 | Pusher puller assembly | ***CA-231*** |
| 3 | Retaining rings | ***F-242*** |
| 1 | Cutter | ***EXP-201*** |
| 1 | Crescent ring | ***F-232*** |
| 1 | Cutter handle | ***C-200*** |
| 1 | Holding dog pin | ***F-233*** |
| 1 | Holding dog spring | ***F-217*** |
| 1 | 1/8" x 3/8" roll pin | ***C-243*** |
| 2 | 3/16" x 5/8" roll pin | ***C-236*** |

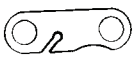
## Sliding Jack Replacement Kit

| Part # |
|---|
| ***F205K*** |

*(Kit fits the F100, F175 and C2 Tools)*

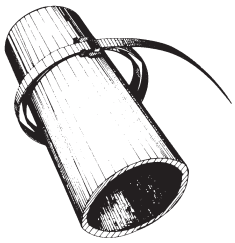
FX-214


FA-217

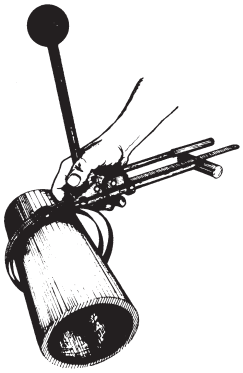

FX-211A

FX-211B

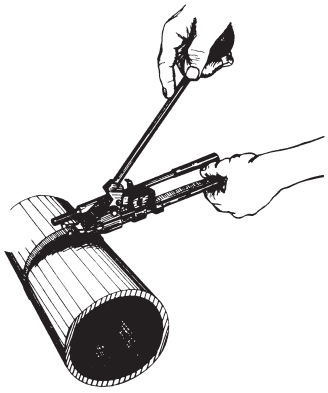
# Operating Instructions for the C2 Installation Tool



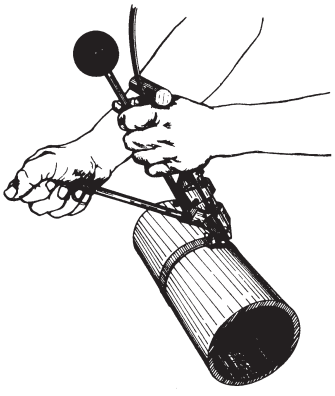
**1**
Pull strapping from carton and cut off. Slide clamp on strap and bend end under at ear side of clamp. Bring opposite end of strap around object twice, each time passing under clamp bridge.



**2**
Raise ball handle to forward position and insert strapping. Slide tool forward.

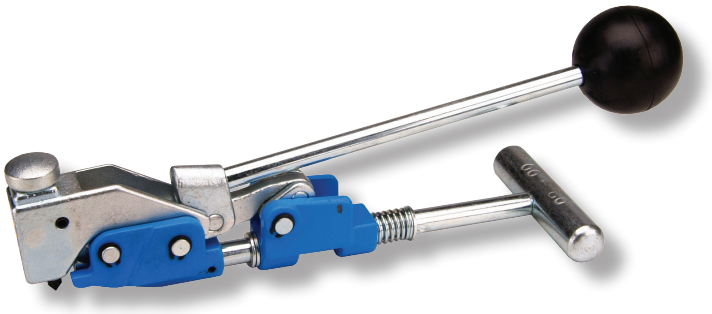


**3**
Slide cutter handle forward for alignment. Jack ball handle to reach desired tension.



**4**
Retract cutter handle and raise to 90-110°. To cut strapping, rotate cutter handle. Increase locking bend by rotating tool forward. Apply thumb pressure on tab as you remove tool. Bend ears with hammer.

# Part Identification for the F1 Installation Tool

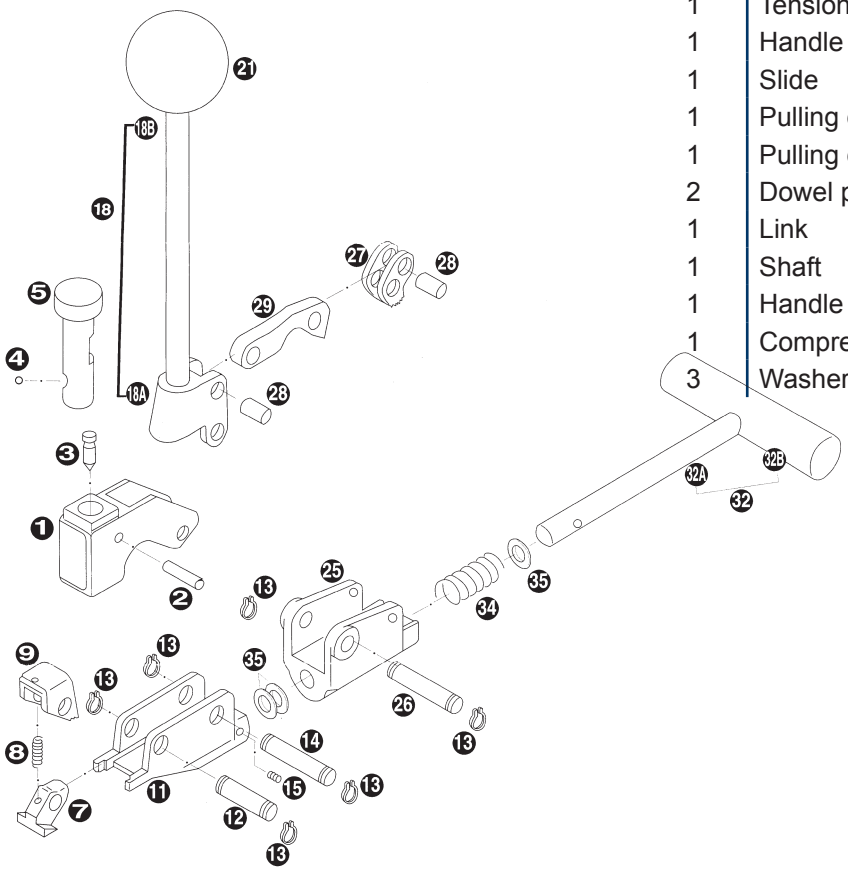


- material: steel
- weight: 3.27 lbs.
- length: 12"

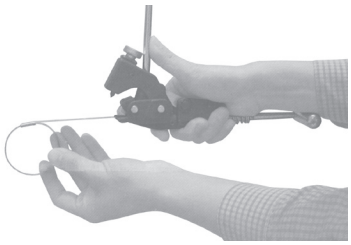
| Part # |
|---|
| ***F1*** |

*For applying 5/8" band clamps*

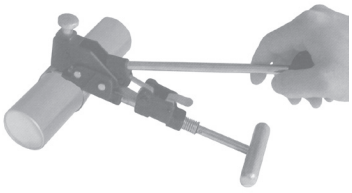
| Qty Per Tool | Part Description | Item # | Part # |
|---|---|---|---|
| 1 | Head | 1 | ***FI201*** |
| 1 | Spring pin | 2 | ***FI203*** |
| 1 | Punch | 3 | ***FI202*** |
| 1 | Retaining ball | 4 | ***FI205*** |
| 1 | Punch holder | 5 | ***FI204*** |
| 1 | Pusher nose | 7 | ***FI206*** |
| 1 | Spring | 8 | ***F209*** |
| 1 | Holding dog | 9 | ***F207*** |
| 1 | Nose | 11 | ***FA231*** |
| 1 | Holding dog pin | 12 | ***F233*** |
| 6 | Retaining ring | 13 | ***F232*** |
| 1 | Head pivot pin | 14 | ***FI233*** |
| 1 | Set screw | 15 | ***FI250*** |
| 1 | Tension handle assembly | 18 | ***FA220I*** |
| 1 | Tension handle shaft only | 18B | ***FA222*** |
| 1 | Handle ball | 21 | ***FA221*** |
| 1 | Slide | 25 | ***FA228*** |
| 1 | Pulling dog pin | 26 | ***F233*** |
| 1 | Pulling dog | 27 | ***FI214*** |
| 2 | Dowel pin | 28 | ***FI213*** |
| 1 | Link | 29 | ***F211*** |
| 1 | Shaft | 32A | ***FA232*** |
| 1 | Handle | 32B | ***FA233*** |
| 1 | Compression spring | 34 | ***FI245*** |
| 3 | Washer | 35 | ***F223*** |



# Operating Instructions for the F1 Installation Tool

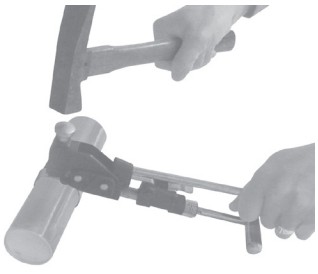


**1**
Push tension handle all the way forward.  Insert the clamp tail and push all the way into tool.

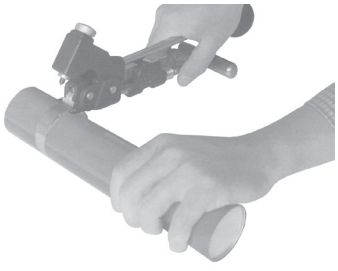


**2**
Tighten the clamp with short downward strokes.  Tension handle should be in down position at completion of tightening clamp.

If clamp tension needs to be released before locking, move slide back against spring.  This raises the pulling dog.



**3**
Holding tension handle down, lock clamp by hitting punch at least twice with mallet.



**4**
Hold hose and raise the tool back and forth to break off clamp tail.  Remove from tool by operating tension handle. when tail has moved through holding dog, raise tension handle and pull tail free.

# Part Identification for the F100 Installation Tool

- material: steel
- weight: 2.50 lbs.
- length: 13"

| Part # |
|---|
| ***F100*** |

*For applying 3/8" and 5/8" band clamps*

*Illustrations are not in correct proportion to one another.*

FX-201

F-202

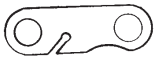
F-233

F-206

F-207

F-208

F-209


FX-211A

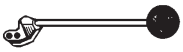
FX-211B

F-212

FY-214

FY-217

F-233


FA-220

F-229HT

FA-231

F-242

F-232

F-235

| Qty Per Tool | Part Description | Part # |
|---|---|---|
| 1 | Punch head | ***FX-201*** |
| 1 | Punch | ***F-202*** |
| 1 | Punch head pin | ***F-233*** |
| 1 | Pusher nose | ***F-206*** |
| 1 | Holding dog | ***F-207*** |
| 1 | Pusher nose pin | ***F-208*** |
| 1 | Holding dog spring | ***F-209*** |
| 2 | Puller links | ***FX-211A*** |
| 2 | Puller links | ***FX-211B*** |
| 1 | Puller link pin | ***F-212*** |
| 1 | Pulling dog | ***FY-214*** |
| 1 | Pulling dog spring | ***FY-217*** |
| 1 | Pulling dog pin | ***F-233*** |
| 1 | Ball handle assembly | ***FA-220*** |
| 1 | 3/8" clamp adapter | ***F-229HT*** |
| 1 | Pusher puller assembly | ***FA-231*** |
| 3 | Retaining rings | ***F-242*** |
| 1 | Crescent ring | ***F-232*** |
| 1 | Punch retainer ring | ***F-235*** |

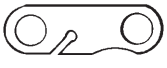
## Sliding Jack Replacement Kit

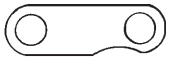
| Part # |
|---|
| ***FY205K*** |

*(Kit fits the F100, F175 and C2 Tools)*

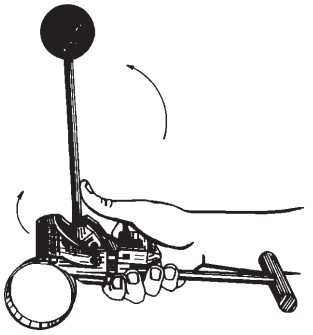
FY-214

FY-217


FX-211A

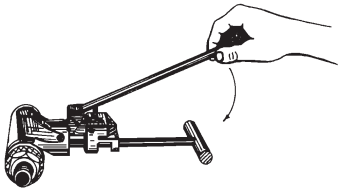

FX-211B

# Operating Instructions for the F100 Installation Tool



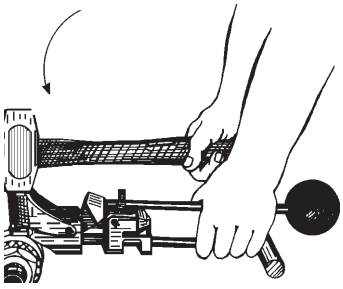
## 1

Hold tool as shown with ball handle all the way forward. Insert clamp and push the end entirely into the tool until the lock is held in pusher housing jaws.



## 2

Slip the hose with nipple inserted into the clamp and locate clamp directly over groove - (position of groove can be laid out on hose with chalk), tighten the clamp with downward strokes of ball handle, using short strokes after initial slack is out so that ball handle finishes in down position.



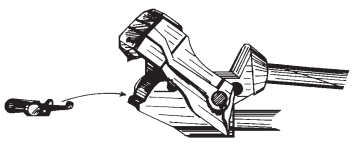
## 3

Hold the tool with clamp resting on Vee block, vise or other solid surface. Swing punch head down against lock and strike hard with mallet; this locks the clamp. Raise punch head to free punch. Hold hose to keep from turning and raise both handles of tool up together which will break off band at lock.
**(optional)** Peen corners of the lock down smooth. To remove cut off end from tool, operate ball handle to work it through holding dog. Then press release lever and pull strip out toward rear of tool.

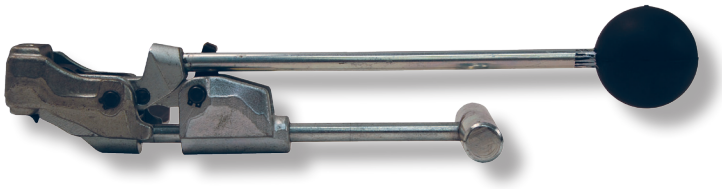
*Instructions for using adapter to apply 3/8" width clamps*

## 4

The F100 tool described above, as shipped, is ready for use in applying all sizes of 5/8" standard and heavy duty hose clamps. To apply the 3/8" wide clamps use the adapter (F-229).
To insert the adapter, hold the tool with the punch head
(FX-201) raised as shown and place the adapter under the pusher nose with the bent ends up and push back until the shoulder rests against the front of the pusher nose. The F-229 clamp adapter under the pusher nose ( F-206) centers the narrower clamp in the tool.



# Part Identification for the F175 Installation Tool



- material: steel
- weight: 3.35 lbs.
- length: 13"

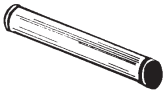
| Part # |
|---|
| ***F175*** |

*For applying 3/4" band clamps - K series*

*Illustrations are not in correct proportion to one another.*

F-201750

F-202

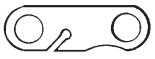

F-204

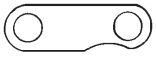
F-206

F-207

F-208

F-209


FX-211A

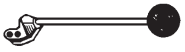

FX-211B

F-212

FX-214

FY-217

FA-233


FA220

FA-231750

F-242

F-232

| Qty Per Tool | Part Description | Part # |
|---|---|---|
| 1 | Punch head | ***F-201750*** |
| 1 | Punch | ***F-202*** |
| 1 | Punch head pin | ***F-204*** |
| 1 | Pusher nose | ***F-206*** |
| 1 | Holding dog | ***F-207*** |
| 1 | Pusher nose pin | ***F-208*** |
| 1 | Holding dog spring | ***F-209*** |
| 2 | Puller links | ***FX-211A*** |
| 2 | Puller links | ***FX-211B*** |
| 1 | Puller link pin | ***F-212*** |
| 1 | Pulling dog | ***FX-214*** |
| 1 | Pulling dog spring | ***FY-217*** |
| 1 | Pulling dog pin | ***F-233*** |
| 1 | Ball handle assembly | ***FA-220*** |
| 1 | Pusher puller assembly | ***FA-231750*** |
| 4 | Retaining rings | ***F-242*** |
| 1 | Wrench | ***F-224*** |

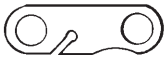
## Sliding Jack Replacement Kit

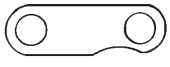
| Part # |
|---|
| ***FY205K*** |

*(Kit fits the F100, F175 and C2 Tools)*

FX-214

FY-217

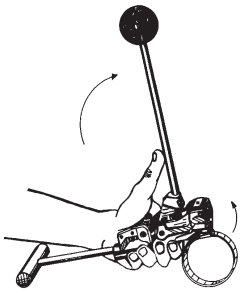

FX-211A


FX-211B

# Operating Instructions for the F175 Installation Tool

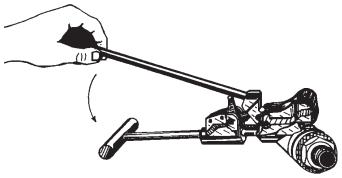
## 1

Hold tool as shown with ball handle all the way forward. Insert clamp and push the end entirely into the tool until the lock is held in pusher housing jaws.



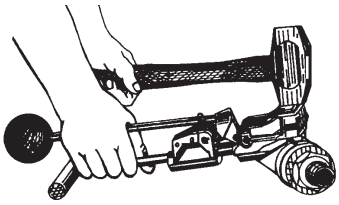
## 2

Slip the hose with nipple inserted into the clamp and locate clamp directly over groove - (position of groove can be laid out on hose with chalk), tighten the clamp with downward strokes of ball handle, using short strokes after initial slack is out so that ball handle finishes in down position.



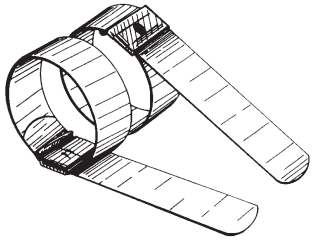
## 3

Hold the tool with clamp resting on Vee block, vise or other solid surface. Swing punch head down against lock and strike hard with mallet; this locks the clamp. Raise punch head to free punch. Hold hose to keep from turning and raise both handles of tool up together which will break off band at lock.
**(optional)** Peen corners of the lock down smooth. To remove cut off end from tool, operate ball handle to work it through holding dog. Then press release lever and pull strip out toward rear of tool.

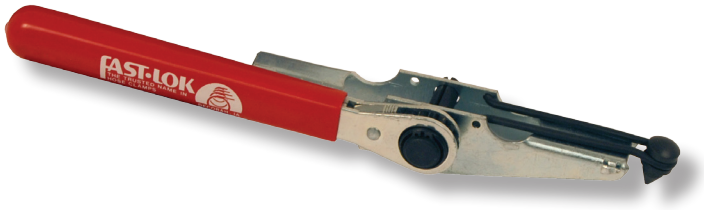


## 4

The F175 tool is to be used for applying 3/4" wide preformed K clamps.



# Part Identification for the F38 Installation Tool




Small portable hand tool.

- material: steel
- weight: 0.84 lbs.
- length: 10"

| Part # |
|---|
| ***F38*** |

*For applying 3/8" and 5/8" band clamps - F series*

| Qty Per Tool | Part Description | Part # |
|---|---|---|
| 1 | Frame | ***FA-285*** |
| 1 | Punch and holder | ***FA-289*** |
| 1 | Winder | ***FF-290*** |
| 2 | Retaining ring | ***F-292*** |
| 1 | Ratchet wrench | ***FB-298*** |

*Illustrations are not in correct proportion to one another.*

FA-285

FA-289

FF-290

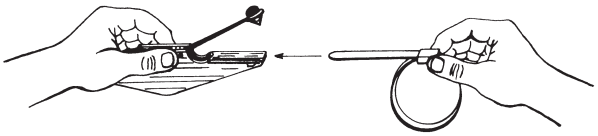
FB-298

F-292

# Operating Instructions for the F38 Installation Tool

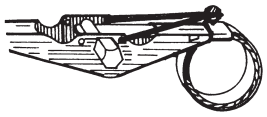
## 1

Push end of clamp completely into slotted end of clamp tool. For 3/8" width clamp use narrow slotted end.



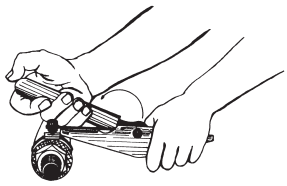
## 2

Push winder into frame with slot engaging clamp end. Ratchet wrench attached to winder.



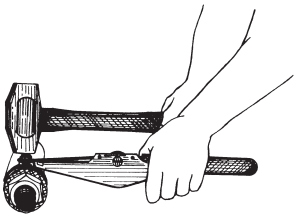
## 3

Push forward with sufficient strokes until desired tension is obtained.



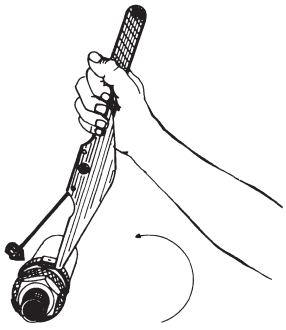
## 4

Push punch down on lock and while holding tension with wrench, strike firm blow with hammer, thus locking the clamp.



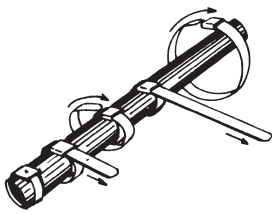
## 5

Raise punch and while holding tension with wrench, swing frame forward and up against edge of lock, breaking off tail piece.
**(optional)** Peen corners of the lock smooth. Twist up tail and when it is free, pull out of winder. To move punch from one end to other end, squeeze legs of punch holder and reengage in holes at opposite end.



## 6

To use open end clamps, wrap and lace the clamp twice around, threading each wrap through the lock, apply clamp-tool and use as above.
**Note:** On applications such as glass, radiator spud or objects where punching would be injurious, pull tension - raise clamp tool to bend strip at right angle - remove winder - clip off 1/4" above the bend - fold end, close over lock.



# Part Identification for the F40 Installation Tool

Intermediate size tool with anti-backlash ratchet.

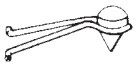
- material: steel
- weight: 1.17 lbs.
- length: 11"

| Part # |
|---|
| ***F40*** |

*For applying 3/8" and 5/8" band clamps - F series*

*Illustrations are not in correct proportion to one another.*

F-240



FCA-289

FF-290

F-292

FB-298

E-293

FC-229

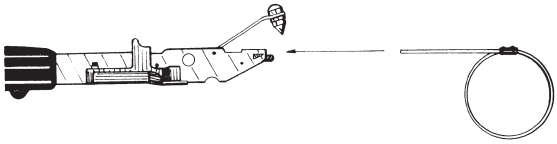
641104F1

E295

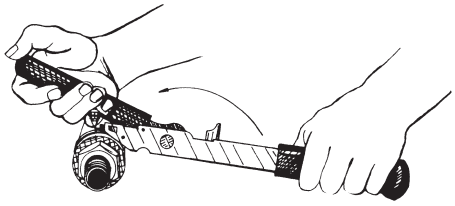
| Qty Per Tool | Part Description | Part # |
|---|---|---|
| 1 | Frame | ***F-240*** |
| 1 | Punch and holder | ***FCA-289*** |
| 1 | Winder | ***FF-290*** |
| 2 | Retaining ring | ***F-292*** |
| 1 | Ratchet wrench | ***FB-298*** |
| 1 | Lever | ***E-293*** |
| 1 | 3/8" clamp adapter | ***FC-229*** |
| 1 | Spring | ***641104F1*** |
| 1 | Ball | ***E-295*** |

# Operating Instructions for the F40 Installation Tool

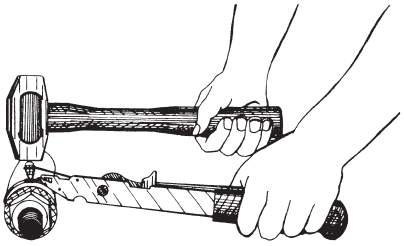
**1**
Push end of clamp into slotted end of clamp tool. Rotate ratchet wrench to engage clamp end in slot in winder.



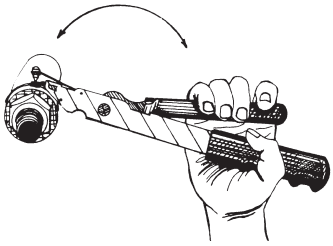
**2**
Push ratchet wrench forward with sufficient strokes until desired tension is obtained.



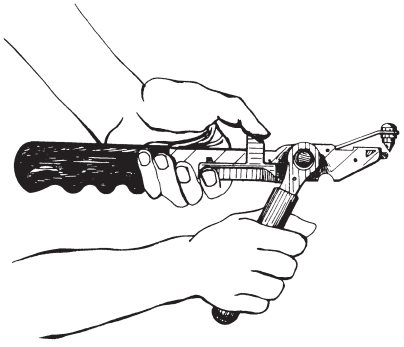
**3**
Grip ratchet wrench and tool together. Push punch down on lock and strike firm blow with hammer, thus locking the clamp tension.



**4**
Raise punch and while holding wrench and tool together, rotate tool forward and up against edge of the lock, breaking off tail piece.



**5**
To remove tail piece, rotate wrench until tail is free from slot in tool. With thumb, slide lever and remove winder and wrench from tool.



**6**
For application of 3/8" wide clamps, swing 3/8" adapter to forward position and follow steps 1 through 5.

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