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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.

F and FO Series Clamps



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.



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
3/6	1-3/8"	.020	FS311	100	.025	F311	100
	1"	.022	FS4	100	.025	F4	100
	1-1/4"	.022	FS5	100	.025	F5	100
	1-1/2"	.022	FS6	100	.031	F 6	100
	1-3/4"	.022	FS7	100	.031	F7	100
	2"	.022	FS8	100	.031	F8	100
	2-1/4"	.022	FS9	100	.031	F 9	100
	2-1/2"	.022	FS10	50	.031	F10	50
E/0"	2-3/4"	.022	FS11	50	.031	F11	50
5/8"	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.



(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
3/0	1-3/8"	.020	FOS311	100	.025	FO311	100
	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	F012	50
	3-1/2"	.022	FOS14	50	.031	F014	50
	4"	.022	FOS16	50	.031	FO16	50
5/8"	4-1/2"	.022	FOS18	50	.031	FO18	50
3/6	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

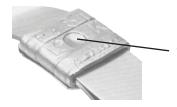
K Series Clamps

Material availability:

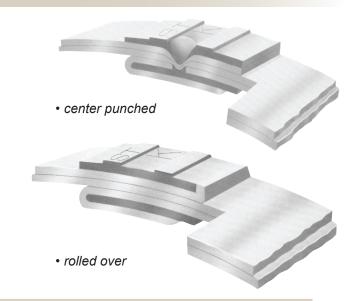
- stainless steel bands are 300 series and
 the buckles are 302 series
- galvanized steel

Installation tools:

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

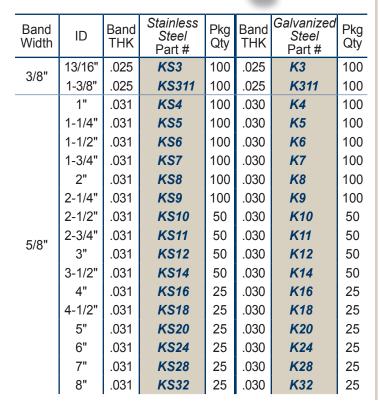


punch indentation for ease of center punching



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	<i>Stainless Steel</i> Part #	Pkg Qty
	2"	.030	KS87501	100
	2-1/4"	.030	KS97501	100
	2-1/2"	.030	K\$107501	50
	2-3/4"	.030	KS117501	50
	3"	.030	K\$127501	50
3/4"	3-1/2"	.030	KS147501	50
3/4	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	<i>Galvanized Steel</i> Part #	Pkg Qty
	13/16"	.025	JS201	100	.025	JS301	100
0/0"	1"	.025	JS243	100	.025	JS343	100
3/8"	1-3/8"	.025	JS202	100	.025	JS302	100
	2"	.025	JS245	100	.025		
	1"	.030	JS203	100	.030	JS303	100
1/2"	1-1/4"	.030	JS204	100	.030	JS304	100
	2-3/4"	.030	JS230	100	.030	JS330	100
	1-1/2"	.030	JS205	100	.030	JS305	100
	1-3/4"	.030	JS206	100	.030	JS306	100
5/8"	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
	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
2/4"	4"	.030	JS213	25	.030	JS313	25
3/4"	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
	1"	.025	HBC4S	100
	11/4"	.025	HBC5S	100
	1½"	.025	HBC6S	100
	13/4"	.025	HBC7S	100
	2"	.025	HBC8S	100
	21/4"	.025	HBC9S	100
	21/2"	.025	HBC10S	50
5/8"	23/4"	.025	HBC11S	50
3/0	3"	.025	HBC12S	50
	3½"	.025	HBC14S	50
	4"	.025	HBC16S	25
	41/2"	.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).









Buckles

Band Width	201 Stainless Steel Part #	Pkg Qty	<i>Galvanized</i> 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.

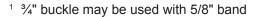
Caution! Strapping edges can be extremely sharp! All necessary precautions should be taken to prevent installer's hands from being cut during the assembly process.

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





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 $\underline{x} \underline{2}$

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.

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°.

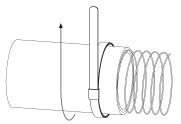
Preparing the Hose for Assembly

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.



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

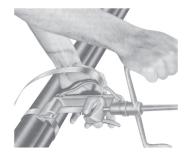
1

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: steelweight: 3.30 lbs.length: 14"

Part #	
C2	

Illustrations are not in correct proportion to one another.

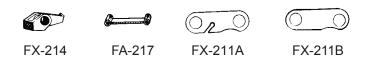
For applying 3/8" and 5/8" band clamps

	020			Qty Per Tool	Part Description	Part #
C-207	FX-211A	FX-211B	C-212	1	Holding dog	C-207
		_		2	Puller links	FX-211A
				2	Puller links	FX-211B
EV 244	EA 047	F 222	EA 220	1	Puller link pin	C-212
FX-214	FA-217	F-233	FA-220	1	Pulling dog	FX-214
	Ö	A	_	1	Pulling dog spring	FA-217
C) Tal	O		<u>C</u>	1	Pulling dog pin	F-233
CA-231	F-242	EXP-201	F-232	1	Ball handle assembly	FA-220
				1	Pusher puller assembly	CA-231
		mmy		3	Retaining rings	F-242
		•	_	1	Cutter	EXP-201
C-200	F-233	F-217	C-243	1	Crescent ring	F-232
				1	Cutter handle	C-200
				1	Holding dog pin	F-233
C-236				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)



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.



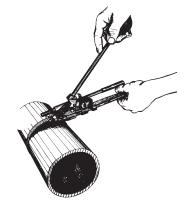
2

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



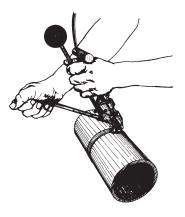
3

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

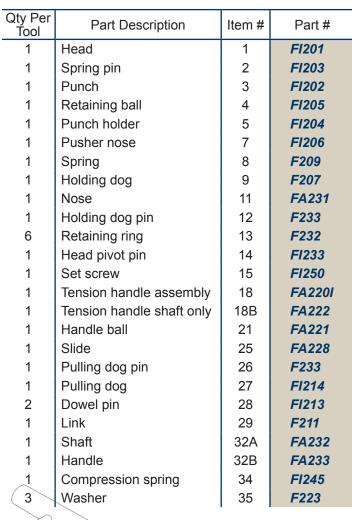
material: steelweight: 3.27 lbs.length: 12"

3

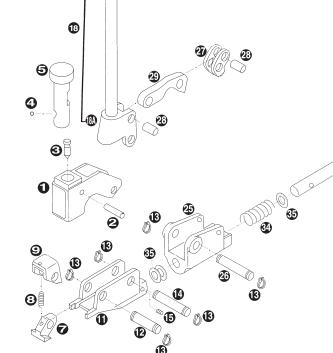


F1

For applying 5/8" band clamps







a

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

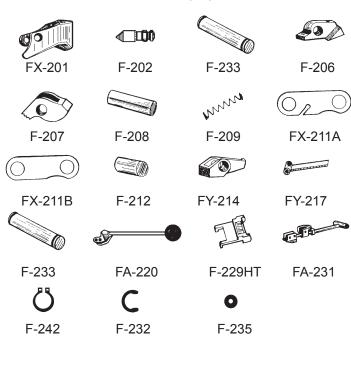


material: steelweight: 2.50 lbs.length: 13"

Part # **F100**

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

Illustrations are not in correct proportion to one another.



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

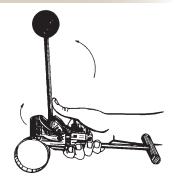
FX-211A

FX-211B

Operating Instructions for the F100 Installation Tool

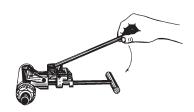
1

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

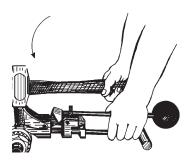
Slip the hose with nipple inserted into the clamp and locate clamp directly over groove - (position of groove can be laid out on hose with chalk), tighten the clamp with downward strokes of ball handle, using short strokes after initial slack is out so that ball handle finishes in down position.



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

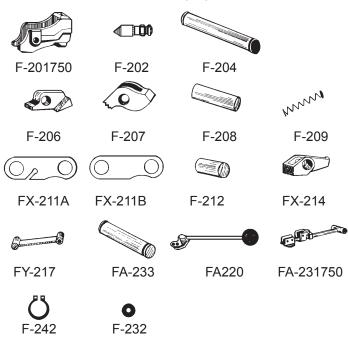


material: steelweight: 3.35 lbs.length: 13"

Part #	
F175	

For applying 3/4" band clamps - K series

Illustrations are not in correct proportion to one another.



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

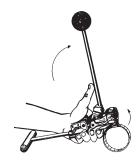
FX-211A

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

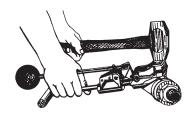
Slip the hose with nipple inserted into the clamp and locate clamp directly over groove - (position of groove can be laid out on hose with chalk), tighten the clamp with downward strokes of ball handle, using short strokes after initial slack is out so that ball handle finishes in down position.



3

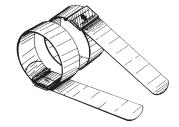
Hold the tool with clamp resting on Vee block, vise or other solid surface. Swing punch head down against lock and strike hard with mallet; this locks the clamp. Raise punch head to free punch. Hold hose to keep from turning and raise both handles of tool up together which will break off band at lock.

(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



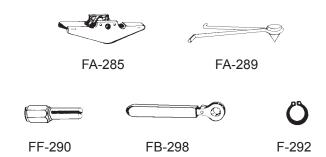
Small portable hand tool.

material: steelweight: 0.84 lbs.length: 10"

Part #	
F38	

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

Illustrations are not in correct proportion to one another.



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

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.



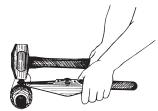
3

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 clamptool 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

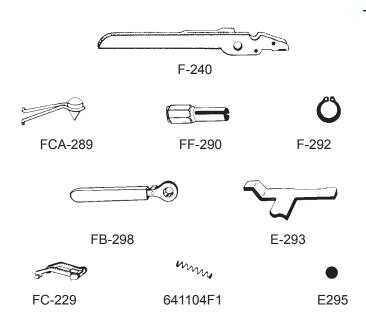


Intermediate size tool with anti-backlash ratchet.

material: steelweight: 1.17 lbs.length: 11"

Part #
F40

Illustrations are not in correct proportion to one another.



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

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.



