


# SAFETY INFORMATION

 **WARNING:** Intermixing components not specifically designed for use together may result in an unsafe and unreliable hose assembly, which can result in serious bodily injury or property damage.

## IMPORTANT SAFETY INFORMATION !

### WOLF Series Hose Couplings Used With Boston Hose

Selection of the proper hose and hose couplings needs to be made with specific applications in mind. Inadequate attention to selection of hose and couplings can result in hose leakage, bursting, or other failure which can result in serious bodily injury or property damage from steam discharge or flying projectiles. Review hose pressure ratings listed on page 6 & 7.


The following are factors which need to be considered in the selection and use of Wolf Series hose couplings which are designed only to be used with Concord 250 Steam, Hot Tar Pumping, and Hydrocarbon Drain hose.

- Hose size
- Hose length
- Bends
- Temperature
- Material conveyed
- Installation design
- Hose pressure
- Static head pressure
- Corrosion requirements

Please review the crimp specifications on page 6 & 7 to determine the correct tooling to be used when crimping Wolf Series hose couplings to Boston hose.

### Boston Hoses and WOLF Coupling Compatibility

The Wolf couplings and Boston hoses identified in this literature have been engineered and designed as a complete hose assembly system. Each component of the assembly is compatible with the other. Component compatibility, along with the use of quality components, insures the production of reliable hose assemblies. The practice of intermixing hose and couplings not specifically engineered and designed for use together may result in the production of an unsafe and unreliable hose assembly. The Boston warranty is limited to apply only when the Wolf coupling and Boston hoses are assembled to our specifications.

 **WARNING:** Only specially trained persons should engage in applications or testing procedures that require particular skills. Failure to do so may result in damage to the hose products or to other property and, more importantly, may result in serious bodily injury.

## Steam Hose Safety Tips

### Make Your Selection With Safety in Mind

- Be sure to select a hose identified as steam hose.
- Hose identification should be in the form of permanent branding on the hose outer cover, not just on the package.
- You must identify the type of service the steam hose is required to accomplish.
  - a) Is the hose manually handled?
  - b) What is the anticipated frequency of use?
  - c) What is the actual pressure of the steam service?
  - d) Is it subject to surges or peak pressures?
  - e) What is the temperature of the steam?
  - f) Saturated (wet) or superheated (dry) steam?
  - g) What are the external conditions in the area where the hose will be used?
- You should recognize that spillage or accumulations of corrosive chemicals or petroleum based materials externally can have a deteriorating effect on the hose cover.

### Making Sure the Hose is Installed Properly

- Be certain to use hose couplings designed for steam hose service. Follow the coupling manufacturer's instruction for coupling attachment. Check tightness with each use.
- Avoid extreme flexing of the hose near the coupling. If necessary use elbows in the piping system to assure a straight line connection with the hose.
- Installing and using a shut-off valve between the steam source and the hose will maximize service life and operator safety, and

### WE CONSIDER SUCH A VALVE MANDATORY FOR SAFE OPERATION

- The use of spring guards can relieve some of the acute flexing encountered in heavy manual handling applications.
- Provide a suitable means of storing the hose when not in use. A permanent rack or tray will minimize the damage to the hose in storage. Do not hang the hose on a hook, nail, or other device which could cut or damage the hose.

### Common Sense with Steam Hose

- Provide operators with adequate safety clothing. Include gloves, rubber boots, full length protective clothing and eye protection. The objective is to provide protection from scalding burns resulting from splash back of steam or hot water.
- Ensure that the work area is free of tripping hazards and other clutter.
- Check the tightness of the coupling with each use.
- Do not allow the hose to remain pressurized when not in service. Turning off the pressure can provide dramatic increases in steam hose service life.

### Periodic Maintenance of Steam Hose Can Pay Big Dividends

All steam hoses are expected to wear out in time. It is important to continually be on the lookout for hose that has deteriorated to the point where it can no longer provide safe service. The following guidelines can help in that determination. Operators should be aware of the obvious signs of trouble. They include:

- Cover blisters or lumps.
- Cuts or gouges in the outside of the hose which expose the reinforcement.
- Hardened or inflexible hose.
- Steam leakages at the coupling ends or anywhere along the length of the hose.
- Flattened or kinked areas which have damaged the hose.
- A reduction of steam flow indicating that the tube is swelling.

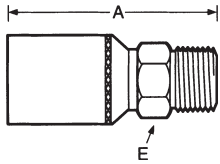
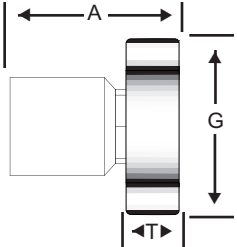
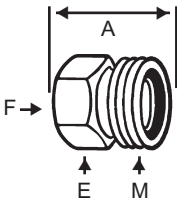
When any of the above abnormalities appear it is good safety sense to immediately remove the hose from service. Once removed, the hose can be carefully inspected before further use. Often times steam hose failures often occur near the ends due to flexing and strain at the couplings. In those cases the hose can frequently be cut back and recoupled, providing additional service life. Hose used in continuous high pressure/ temperature service should be inspected periodically for signs of tube hardening. In most cases it is necessary to remove a coupling for tube inspection.



**WARNING:** Exposure to steam is hazardous. If not properly controlled, steam can cause property damage, serious bodily injury, or death. In order to avoid property damage, serious injury, or death, you must select the proper steam hose for the given application. Also, proper installation, usage and maintenance of the steam hose you select will contribute to increased operator safety.

# WOLF COUPLINGS

**WOLF Series hose couplings are designed to operate in high pressure and temperature applications where spikes and surges are common occurrences. Some common applications include steam, hydrocarbon drain, and hot tar transfer. The hose is not skived when used with WOLF Series hose couplings. The maximum working pressure of the assembly is determined by the maximum working pressure for the hose size and hose end configuration or whichever is less. All coupling components are plated with a zinc yellow dichromate finish.**

Male Pipe (NPTF) Rigid 	Hose I.D.	Catalog Number	Thread Size (NPTF)	A	Hole Diameter	Hex E	
	3/4"	<a href="#">87-0012-02</a>	3/4-14	3.68	0.61	1-1/16	
	1"	<a href="#">87-0016-02</a>	1-11-1/2	4.05	0.81	1-3/8	
Wing Nut Swivel 	Hose I.D.	Catalog Number	Thread Size (NPSM)	A	Hole Dia.	G	T Nom.
	3/4"	<a href="#">87-0012-01</a>	1-1/2-11-1/2	3.48	0.61	3.51	1.06
	1"	<a href="#">87-0016-01</a>	1-1/2-11-1/2	3.51	0.81	3.51	1.06
Female Spud 	Hose I.D.	Catalog Number	Thread Size M (NPSM)	Thread Size F (NPTF)	A	Hole Dia.	Hex E
	3/4"	<a href="#">87-0012-03</a>	1-1/2-11-1/2	3/4-14	1.185	0.61	2
	1"	<a href="#">87-0016-03</a>	1-1/2-11-1/2	1-11-1/2	1.185	0.81	2

<b>Concord 250 Steam</b> <b>Tube:</b> E.P.D.M.; Heat, Detergent, and Swell Resistant <b>Reinforcement:</b> Wire Braid, 10:1 Safety Factor <b>Cover:</b> Black E.P.D.M.-pin pricked. Heat, Age, and Abrasion Resistant <b>Use:</b> Steam service up to 450½F	Product Code	Color	Nominal I.D.	Wire Braids	Nominal O.D.	Weight Per 100Ft. (lb)	Working Press. (PSI)
	M87-9568-02	Black	3/4"	2	1-11/32	70	250
	M87-9568-03	Black	1"	2	1-9/16	96	250
	M87-9570-02	Red	3/4"	2	1-11/32	70	250
	M87-9570-03	Red	1"	2	1-9/16	96	250

<b>Concord 250 O.R. Steam</b> <b>Tube:</b> E.P.D.M.; Heat, Detergent, and Swell Resistant <b>Reinforcement:</b> Wire Braid, 10:1 Safety Factor <b>Cover:</b> Red or Black-pin pricked. Special Heat, Age, Abrasion and Oil Resistant Compound. <b>Use:</b> Steam service up to 450½F	Product Code	Color	Nominal I.D.	Wire Braids	Nominal O.D.	Weight Per 100Ft. (lb)	Working Press. (PSI)
	M87-9682-02	Black	3/4"	2	1-11/32	70	250
	M87-9682-03	Black	1"	2	1-9/16	96	250
	M87-9683-03	Red	3/4"	2	1-11/32	70	250
	M87-9683-02	Red	1"	2	1-9/16	96	250

**Note:** Standard length of Concord 250 steam hose is 50'. Longer lengths are available on request. Concord 250 is available on 225ft. reels.

**Note:** 450°F will reduce the service life from that expected at lower temperatures.

## Crimp Specifications for use with WOLF Series hose couplings.

Hose	Hose I.D.	Nominal Crimp Diameter	Collet Number Using T-410 or T-440	Spacer Ring	Hose Coupling
Concord 250	3/4"	1.51"	T-410-72CN	T-410-12 White Flat Side Up	Wolf Series
Concord 250	1"	1.71"	T-410-73CN	None	Wolf Series

\* Refer to important safety information on the inside front cover of this bulletin prior to assembling Wolf Series Hose Ends with Concord steam hoses.



**WARNING:** The nominal crimp diameter must be achieved for proper coupling retention.

# HOT MATERIAL TRANSFER HOSE

<b>Hot Tar Pumping</b> <b>Tube:</b> Nitrile; Heat Resistant <b>Reinforcement:</b> Wire Braid <b>Cover:</b> Black CPE; Abrasion, Heat, and Oil Resistant <b>Use:</b> For conveying hot tar at temperatures up to 350°F in continuous service and intermittent service up to 400½F	<b>Product Code</b>	Color	Nominal I.D.	Wire Braids	Nominal O.D.	Weight Per 100Ft. (lb)	Working Press. (PSI)
	<b>87-9603-10</b>	Black	1"	2	1-9/16	90	250
<b>Hydrocarbon Drain</b> <b>Tube:</b> Nitrile; Heat and Oil Resistant <b>Reinforcement:</b> Wire Braid <b>Cover:</b> Blue CPE; Age Abrasion, Ozone, Weather and Oil Resistant Compound. <b>Use:</b> Refinery service transferring hydrocarbons. Continuous service up to 350°F.	<b>Product Code</b>	Color	Nominal I.D.	Wire Braids	Nominal O.D.	Weight Per 100Ft. (lb)	Working Press. (PSI)
	<b>87-9690-34</b>	Blue	3/4"	2	1-5/16	60	250

**Note:** Standard Stock Hot Tar Pumping is available in 50', 100' & 150' lengths and Hydrocarbon Drain is available in 50' lengths.

## Crimp Specifications for use with WOLF Series hose coupling.

Hose	Hose I.D.	Nominal Crimp Diameter	Collet Number Using T-410 or T-440	Spacer Ring	Hose Coupling
Hot Tar Pumping	1"	1.71"	T-410-73CN	None	Wolf Series
Hydrocarbon Drain	3/4"	1.46"	T-410-72CN	None	Wolf Series



**WARNING:** The nominal crimp diameter must be achieved for proper coupling retention.

## T-440-1 • Coll-O-Crimp® II Plus



The Coll-O-Crimp® II Plus is ideal for factory, high performance machine operations, construction and mine locations. This machine offers the capabilities of crimping all of the crimp style hose couplings Boston Weatherhead offers. With this coverage, this heavy-duty crimper can handle all of your crimping needs.

**Capacity:** 3/16" I.D. 1 fiber braid through 2" 6 spiral hose; for hoses other than 4 and 6 spiral, conversion tooling is required.

**Mounting:** Bench

**Size:** 27" high, 12" wide, 21" deep

**Weight:** 450 lbs.

**Pump Required (sold separately):** T-441

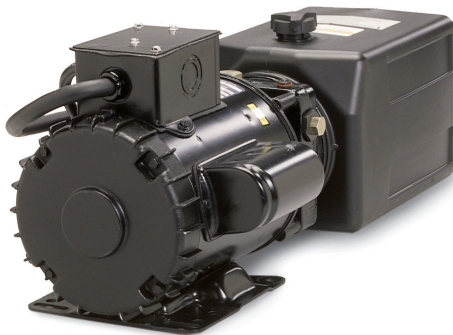
**Ordering Information:**

**T-440-W** Coll-O-Crimp® II Plus Press with pump and tooling package includes each of the following:

<b>T440-1</b>	Coll-O-Crimp® II Plus Press	<b>T-410-72CN</b>	3/4" Wolf Collet
		<b>T-410-73CN</b>	1" Wolf Collet
<b>T-441</b>	220 v 2-stage Electric Pump	<b>T-410-12</b>	White Spacer Ring
		<b>T-410-22</b>	Hose Assembly
		<b>T-440-M</b>	Instruction Kit

## T-441 • Electric Pump (220 V)

The Boston Weatherhead T-441 power unit is designed for use with the latest Coll-O-Crimp® II Plus press. (Shown above only). It features a two-stage pump providing high flow at low pressure for fast ram approach and low flow at high pressure for actual crimping.



**Dimensions:** 7 1/2" high, 10" wide, 22" long

**Weight:** 75 lbs.

**Pressure:** 5,000 PSI

**Reservoir Size:** 6 quarts

**Outlet Port Size:** 3/4"-16 Straight Thread O-Ring

**Motor:** 1 H.P., 3450 R.P.M., 220 volts, 60 cycle, single phase

**Hydraulic Oil:** ISO 32 hydraulic oil or automatic transmission fluid

**Flow:** 2.5 GPM @ 750 PSI, 0.5 GPM @ 5000 PSI

**NOTE:** T-441 pump is to be used with T-440-1 press only.



## Procedures for WOLF Series Hose Couplings

If this is a new installation, please refer to your Coll-O-Crimp® Set-Up and Operating Instructions for installation procedures. Refer to page 1 of this catalog for safety information.

After the initial setup of the Coll-O-Crimp® press, and purging of the system, the ram return stops may need to be repositioned. These stops are normally found rotated to their “inward” position to allow for a faster cycle time, when using other Coll-O-Crimp® tooling. In order to easily accommodate the tooling and crimp the Wolf Series hose couplings, rotate the stops to their “outward” position and proceed as follows.

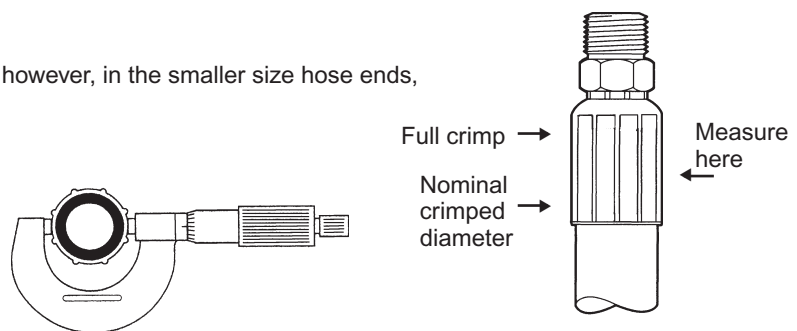
1. Activate the pump by pulling the activating lever or turning on the switch.
2. During the downward travel of the ram, rotate the stops to their outward position.
3. Release the activating lever or switch that permits the ram to fully retract into the press. The proper Wolf Series tooling may now be inserted into the base plate.
4. Place the proper size Wolf Series hose end onto the hose making sure the hose is bottomed in the hose end.
5. Insert the hose assembly from the bottom of the press and through the collet. The top surface of the collet should be positioned slightly above the ferrule shoulder. The surface of the crimp die should fully cover the coupling shell for a “full crimp”. Hold and support the hose assembly from below the press while crimping to ensure that the hose remains completely inserted and bottomed into the hose end.
6. Close the pusher halves on the T-440-1 and activate the pump by turning on the switch. When the pusher contacts the base plate, the crimp is complete.
7. Release the lever or switch and remove the hose assembly to inspect.
8. To ensure a proper crimp has been completed, measure the nominal crimp diameter.

### Nominal Crimp diameter Measurement: Please place this catalog near your Coll-o-Crimp® equipment for reference.

Measuring crimp diameters should be a part of the normal hose assembly procedure. To ensure a proper crimp diameter reading, follow these steps;

1. Measure the diameter in the middle of crimped portion of the hose end.
2. Place the caliper or micrometer in a position to allow a measurement across the pressed (flat) portion of the crimp.
3. See crimp diameters on following chart.

**Note:** In the larger sizes, dial calipers may be used; however, in the smaller size hose ends, a point micrometer will provide an accurate reading.



**NOTE:** Wolf Series hose couplings are designed for use with 3/4" & 1" Concord 250 Steam, 1" Hot Tar Pumping, and 3/4" Hydrocarbon Drain Hose .

**⚠ WARNING:** Failure to properly follow the manufacturer's recommended procedures for the care, maintenance and storage of a particular hose might result in its failure to perform in the manner intended and might result in possible damage to property and serious bodily injury.

# BOSTON WEATHERHEAD WARRANTY INFORMATION

## Warranty:

For one year after date of purchase, Dana Corporation warrants its products to be free from defects in materials and workmanship when properly installed and maintained. Products covered include those items contained in this catalog.

If during the warranty period, a product is discovered to be defective, Dana will, at its option, replace the warranted product or grant the purchaser a credit for the product claimed to be defective. Dana will have the sole discretion to determine whether the product was defective.

This warranty is null and void if the product has been used in the wrong application or has been damaged from an accident or willfully destroyed. In addition, this warranty will not apply to Boston Weatherhead assembly equipment, Boston Weatherhead end fittings, and Boston Weatherhead hose if the claimed defective product has been used in an assembly made from other than Boston Weatherhead parts.

NO WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE, NOR ANY OTHER WARRANTY, EXPRESS OR IMPLIED, IS MADE BY DANA CORPORATION. THE FOREGOING STATES DANA CORPORATION'S ENTIRE AND EXCLUSIVE LIABILITY AND BUYER'S EXCLUSIVE REMEDY FOR ANY CLAIM OR DAMAGES IN CONNECTION WITH THE SALE OF THE PRODUCTS HEREUNDER. IN NO EVENT SHALL DANA CORPORATION BE LIABLE FOR ANY SPECIAL, INCIDENTAL, OR CONSEQUENTIAL DAMAGES WHATSOEVER.

SOME STATES DO NOT ALLOW THE EXCLUSION OR LIMITATION OF INCIDENTAL OR CONSEQUENTIAL DAMAGES, SO THE ABOVE LIMITATION MAY NOT APPLY TO YOU.

THIS WARRANTY GIVES YOU SPECIFIC LEGAL RIGHTS AND YOU MAY ALSO HAVE OTHER LEGAL RIGHTS WHICH VARY FROM STATE TO STATE.

## Claim Information:

To make a claim under this warranty:

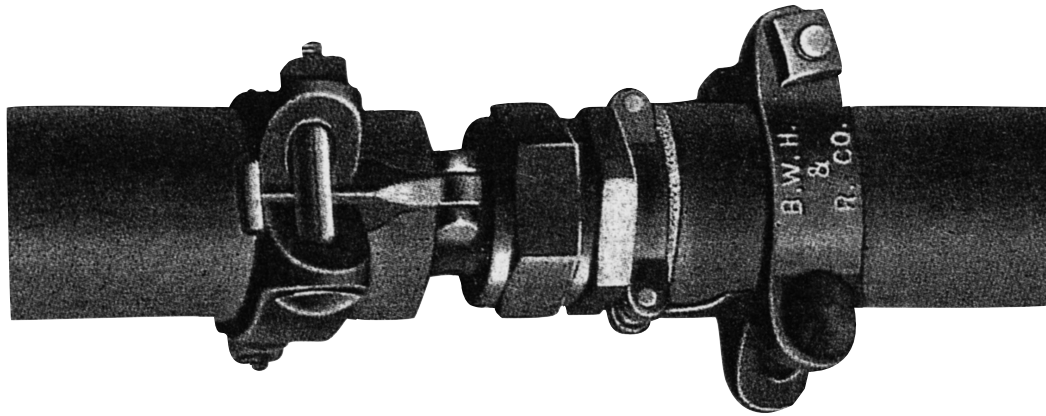
1. Return the defective product along with the purchase receipt and a copy of this certificate to your local distributor or Dana sales representative or to the attention: Quality Manager, at the following address:

Dana Corporation-Boston Weatherhead  
609 Swan Avenue  
Hohenwald, TN 38462

2. In the event of a question or difficulty, contact your local distributor or Dana sales representative or Boston Weatherhead Customer Service at:

Dana Corporation  
Boston Weatherhead Customer Service  
P.O. Box 500  
Hohenwald, TN 38462  
1-800-251-1410 or West Coast 800-451-3808  
Fax: 800-486-3262 or West Coast Fax: 213-722-7411

## Innovative Wolf Coupling from early 1900's



### WOLF STEAM COUPLINGS

This coupling will not leak or blow out under pressure. At the point of greatest tendency to leak, where the coupling is clamped to the hose, we have specially designed wedge-shaped pieces that serve the double purpose of squeezing the hose tightly against the coupling and of holding it in such a manner that it is impossible for it to blow out.

The shape of the clamps and of the wedge-shaped pieces is so proportioned that tightening the bolts produces a uniform and radial pressure around the entire circumference, thus tightly pressing the hose against the tail of the coupling at all points, and making an absolutely tight joint.

The coupling is also held in place by connection with the clamps on the outside. Thus if the hose expands under steam pressure, and loosens its hold upon the tail of the coupling, the holding power on the outside is increased, and it cannot blow out.

The Wolf is easily applied, the only tool required being a wrench.

The clamps are of malleable iron, the bolts of the best Swedish iron, and the other parts of the coupling are of brass.

*Above is a catalog excerpt of the original Wolf Steam Hose Coupling offered by the Boston Woven Hose & Rubber company in the early 1900's.*

**For information about anything in this catalog, contact Boston Weatherhead Customer Service.**

**Dana Corporation  
Boston Weatherhead Customer Service  
P.O. Box 500  
Hohenwald, TN 38462**

**1-800-251-1410 or West Coast 800-451-3808  
Fax: 800-486-3262 or West Coast 213-722-7411  
Internet Address: <http://www.dana.com/boston>**