

# **Balcrank**<sup>®</sup>

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## **SIGNATURE™ REELS** *Multi-Purpose Transfer*

**Models: 2120-XXX**

See page 3 for Hose Reel Model  
Numbers and Technical Data



Thoroughly read and understand this manual before  
installing, operating or servicing this equipment.


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**OPERATION, INSTALLATION,  
MAINTENANCE AND REPAIR GUIDE**

# General Safety

Thoroughly read and understand this manual before installing, operating or servicing this equipment.


	<b>! IMPORTANT</b>
	Read these safety warnings instructions in this manual completely, before installation and start-up of the reel. It is the responsibility of the purchaser to retain this manual for reference. Failure to comply with the recommendations stated in this manual will damage the reel and void factory warranty.


	<b>! IMPORTANT</b>
	Because this Hose Reel can be incorporated into a pressurized systems, the following safety precautions should be observed.  Check equipment regularly and repair or replace worn and damaged parts.  Never alter or modify any parts of this hose reel, doing so may cause damage to hose reel and/or personal injury.  Under no circumstances should the dispensing valve be aimed at any person at any time. Personal injury may result.  Release pressures built up in the system before any service or repair is begun. See the pressure relief procedure below.  Do not operate bare air/water or lube reels above 3000 psi (206.9 bar). Do not operate bare grease reel above 5000 psi (620.6 bar).  <b>NOTE:</b> If reel is equipped with hose, reel maximum pressure will be determined by the lowest working pressure rating of the hose, bare reel, or dispense valve.  Always read and follow the fluid manufacturer's recommendations regarding the use of protective eyewear, clothing and respirators.


	<b>! WARNING</b>
	Pressure Relief Procedure:  Follow this procedure before maintaining and/or repairing your Premium Hose Reel and/or any part of system.  1) Disconnect the air to the pump. 2) Point dispensing valve away from yourself and others. 3) Open dispensing valve until pressure is relieved.

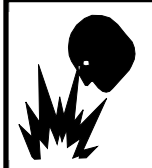
<b>! CAUTION</b>
Be aware of possible fluid thermal expansion! A pressure relief valve should be properly installed in any system where this product is used. Should this product fail as a result of thermal expansion and no pressure relief valve was installed, the product warranty will be voided.

<b>! CAUTION</b>
Fully extend hose before pressurizing or damage may occur to side panels

	<b>! CAUTION</b>
	<b>USE EXTREME CARE WHEN HANDLING THE POWER SPRING!</b>  The spring is ALWAYS under great tension and could be propelled from the case with enough force to cause serious bodily injury.

	<b>! WARNING</b>
	Be sure the mounting surface is strong enough to support the reels, the weight of the fluids and the stress caused by hard pulls on the service hoses. See page 3 for dry weights of the hose reel assemblies.

	<b>! WARNING</b>
	The <b>MAXIMUM WORKING PRESSURE</b> of a hose reel is determined by the lowest rated component in the assembly. The hose reel Technical Data chart on page 3 give the maximum working pressure of bare reels and reels assembled at the factory with hose. The maximum working pressure of a hose reel is indicated on the hose reel identification plate located near the base of the reel.  If adding a service hose and dispensing valve to a bare reel, <b>BE SURE</b> you know the maximum working pressure of <b>ALL</b> components!

	<b>! WARNING</b>
	<b>DANGER:</b> Not for use with fluids that have a flash point below 100°F (38°C). Examples: gasoline, alcohol. Sparking could result in an explosion which could result in death.

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## TECHNICAL DATA

### Maximum Fluid Working Pressure:

Low Pressure Reels (bare).....	3000 psi
Medium Pressure Reels (bare).....	3000 psi
High Pressure Reels (bare).....	5000 psi

### Wetted Parts:

Low & Med. Pressure .....	Steel (plated), Buna-N Bronze, Brass
High Pressure.....	Steel (plated), Buna-N Hardened Steel

### Hose Working Pressure Ratings:

Air/Water Hose .....	3/8" – 300 psi
	1/2" – 300 psi
Nitrogen Hose.....	3/8" – 300 psi
Med. Pressure .....	1/2" – 3000 psi
High Pressure.....	1/4" – 5000 psi
	3/8" – 4000 psi

### Shipping Weight Bare Reels:

Std. Frame (35 ft hose or less).....	45 lbs.
Lrg. Frame (40 ft & above) .....	49 lbs.

## MODEL NUMBERS

Type of Service	Model No.	Hose Size	Max Working Pressure	Outlet Hose	Inlet Hose	Bare Reel		
<b>Low Pressure Air, Water</b> Inlet 1/2" NPT(M) Outlet 3/8" Hose - 1/4" NPT(M) 1/2" Hose - 1/2" NPT(M)	2120-014	30' x 3/8"	300 psi	8136-030	8142-002X	2120-016		
	2120-005	40' x 3/8"	300 psi	8136-040	8142-002X	2120-017		
	2120-015	50' x 3/8"	300 psi	8136-050	8142-002X	2120-017		
	2120-020	50' x 1/2"	300 psi	8141-050	8142-002X	2120-017		
<b>Med. Pressure</b> Oil, ATF, Antifreeze Inlet - 1/2" NPT(M) Outlet - 1/2" NPT(M)	2120-011	30' x 1/2"	3000 psi	8241-030	8249-002X	2120-016		
	2120-012	40' x 1/2"	3000 psi	8241-040	8249-002X	2120-017		
	2120-013	50' x 1/2"	3000 psi	8241-050	8249-002X	2120-017		
<b>High Pressure</b> Grease Inlet - 3/8" NPT(M) Outlet - 1/4" NPT(M)	2120-001*	30' x 1/4"	5000 psi	8321-030	8334-002X	2120-018		
	2120-002*	40' x 1/4"	5000 psi	8321-040	8334-002X	2120-019		
	2120-006*	50' x 1/4"	5000 psi	8321-050	8334-002X	2120-019		
	2120-003*	30' x 3/8"	4000 psi	8331-030	8334-002X	2120-018		
	2120-004*	40' x 3/8"	4000 psi	8331-040	8334-002X	2120-019		
	2120-007*	50' x 3/8"	4000 psi	8331-050	8334-002X	2120-019		
<b>Nitrogen</b> Inlet - 1/2" NPT(M) Outlet - 1/4" NPT(M)	2120-025	30' x 3/8"	300 psi	8135-030	8142-002X	2120-016		
	2120-026	50' x 3/8"	300 psi	8135-050	8142-002X	2120-017		
<b>Bare Reels</b>	<b>Bare Reel Model</b>	<b>Max. Hose Capacity</b>	<b>Bare Reel Max W.P. (psi)</b>	<b>Thread Size Inlet Outlet</b> NPT(F) NPT(F)		<b>Reel Dimensions</b>		
				<b>L.</b>	<b>W.</b>	<b>H.</b>		
	2120-016	40' x 1/2"	3000 psi	1/2"	1/2"	16"	6"	17.5"
	2120-017	50' x 1/2"	3000 psi	1/2"	1/2"	16"	8"	17.5"
	2120-018	40' x 3/8"	5000 psi	3/8"	1/4"	16"	6"	17.5"
2120-019	50' x 3/8"	5000 psi	3/8"	1/4"	16"	8"	17.5"	

\*Reference installation instructions on page 4 item #7, fully extend hose before pressurizing.

## PRODUCT DESCRIPTION

The Signature™ Series hose reel is designed to provide efficient delivery of air, water, oil, or grease through various hose lengths, at an economical price. The inlet (shaft) and outlet (swivel) are threaded. The roller outlet arm can be adjusted to any one of five positions, which allows floor, table, wall or ceiling mounting (when mounting directly to I-beam, clamping kit no. 2230-017 is available for ease of assembly.)

## DIMENSIONS & MOUNTING DIAGRAM

(Mounting Footprint located on page 10)

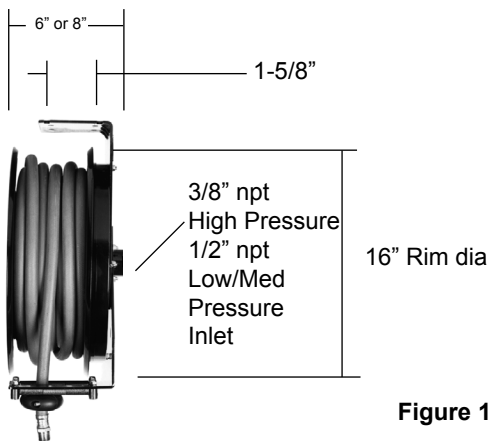


Figure 1

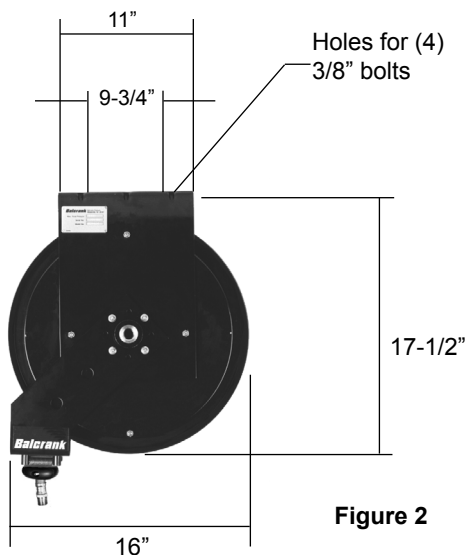


Figure 2

**NOTE:** Model 2120-015 with 50ft. air/water hose is shown. 30 ft. reels are 6" wide, all others are 8" wide. Additional bolt holes are provided in the base to fit the 3" x 4" bolting pattern used on previous versions a Signature™ Series hose reels.

## INSTALLATION

### Tank/Wall Mounting:

The hose reel is shipped ready to use; the power spring tension has been adjusted for table/wall mounting unless ordered without hose. If a bare reel has been ordered see installation of hose instructions and power spring adjustment on following steps.

1. Select the mounting location. Be sure the mounting structure is secure and will not tip when reel is in operation. Tables should be bolted to floor and wall should be part of building structure.
2. Locate the mounting holes for drilling, using measurements on previous page.
3. Adjust the outlet arm position as required by loosening and removing the four 10-32 locknuts (43). Once arm is positioned correctly retighten to 80 to 90 inch pounds.
4. Fasten the base using bolts of a sufficient strength to prevent the reel from "shearing bolts" during operation when hose is pulled.
5. Connect supply line to the inlet of hose reel.



### NOTE

*Do not hard pipe inlet/swivel to any existing structure/system. Flexible connection hose must be used to maintain swivel performance.*

6. If you are installing a hose onto a Bare Reel, connect the service hose to the swivel union (2). Then wrap the hose loosely around the spool. Extend the hose fully and engage the stop pawl. Wrap one to two loops around the spool, then retract the hose again.

**NOTE:** Check the power spring tension; the hose must pull out fully and retract fully. Wrap *ONE* more loop onto spool, extend the hose, and latch it. Do this as many times as necessary until the power spring has the desired tension.

7. Install the hose stop and dispensing valve. Position the hose stop so the hose extends far enough for all operators to reach it. **CAUTION:** *Always Fully Extend* hose before pressurizing or damage may occur to side panels.



### WARNING

Be sure the mounting surface is strong enough to support the reels, the weight of the fluids and the stress caused by hard pulls on the service hoses. See page 3 for dry weights of the hose reel assemblies.

## Ceiling Mounting:

The power spring tension will need to be adjusted for the ceiling height of the building. If a bare reel has been ordered see installation of hose instructions and power spring adjustment on the following steps.

1. Select the mounting location. If the ceiling is very high, suspend a suitable support structure for the reels, so the hoses will be long enough to reach service area.
2. Locate the mounting holes for drilling, using measurements on previous page. If mounting directly to H-Beam use mounting kit 2230-017 (no drilling required).
3. Adjust the outlet arm position as required by loosening and removing the four 10-32 locknuts (43). Once arm is positioned correctly retighten to 80 to 90 inch pounds.
4. Fasten the base using bolts of a sufficient strength to prevent the reel from "shearing bolts" during operation when hose is pulled.
5. Connect supply line to the inlet of hose reel.
6. Hose reels shipped with hoses come from the factory with the tension preset for a typical table/wall installation. For a ceiling installation you will need to adjust for more or less tension, by removing or adding one to two wraps of hose from spool.
7. If your are installing a hose onto a Bare Reel, connect the service hose to the swivel union (2). Then wrap the hose loosely around the spool. Extend the hose fully and engage the stop pawl.
8. Wrap one to two loops around the spool, then retract the hose again.

**NOTE:** Check the power spring tension; the hose must pull out fully and retract fully. Wrap ONE more loop onto spool, extend the hose, and latch it Do this as many times as necessary until the power spring has the desired tension.

9. Install the hose stop and dispensing valve. Position the hose stop so the hose extends far enough for all operators to reach it.

**CAUTION:** Always Fully Extend hose before pressurizing or damage may occur to side panels.

**CAUTION:** Do Not put so many loops onto the reel that the power spring winds tightly before the hose is fully extended. A power spring that has been wound too tight stops rotating before the hose is fully extended. This condition will wear the hose and power spring prematurely. To decrease tension, remove one to two loops of hose from the reel.

## Model 2230-014 Hose Reel Mounting Plate

1. Bolt the hose reel mounting plate onto the mounting channel.
2. Install rear bolts loosely on the mounting plate.
3. Slide the slotted side of the hose reel base into position and hold with the integrated swing clamp which is part of the adapter plate.
4. This leaves both hands free to install and tighten the nuts and bolts which secure the hose reel in final installed position.

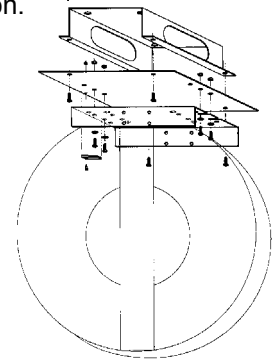
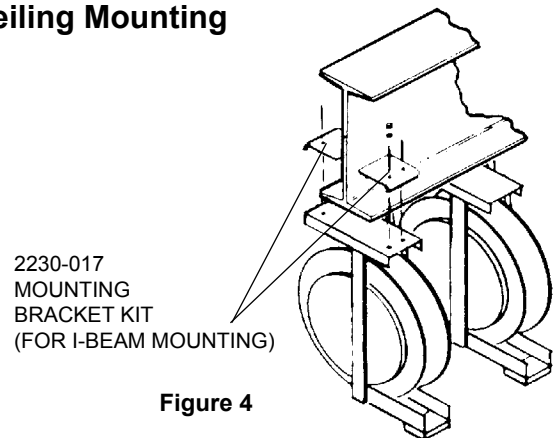


Figure 3

## TYPICAL INSTALLATIONS

### Ceiling Mounting



2230-017  
MOUNTING  
BRACKET KIT  
(FOR I-BEAM MOUNTING)

Figure 4

### Typical Inlet Line Configuration

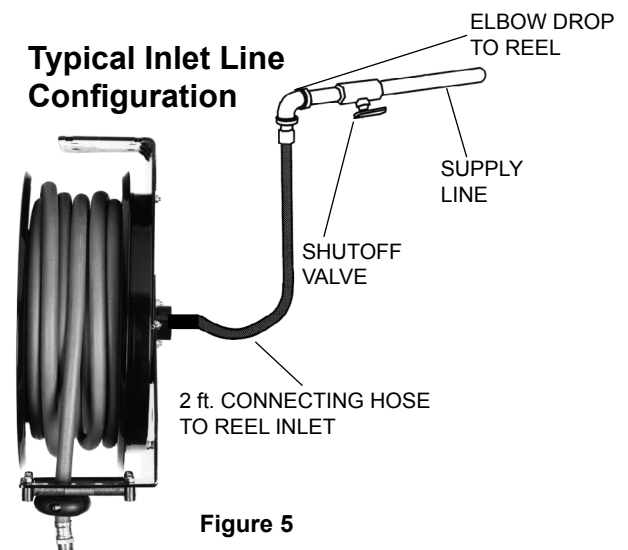
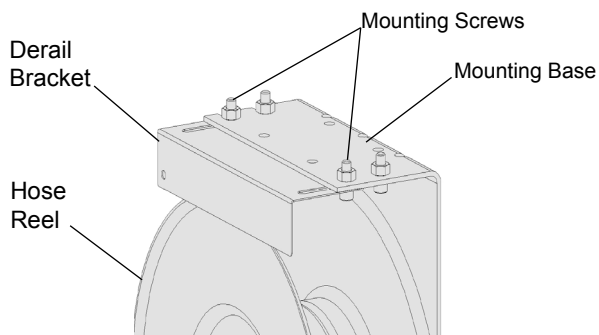


Figure 5

## Installing the Derail Bracket

The derail bracket is included with all Signature Series hose reels except open 30 ft. models.

1. Loosen the two mounting screws, indicated in the diagram, to allow Derail Bracket to be inserted under the Mounting Base (#824455).
2. Adjust Derail Bracket to allow sufficient clearance for the Hose Reel to spin freely. Maximum clearance should be no more than 1/4".
3. Retighten mounting screws.



## MAINTENANCE

### Replacing Service Hose:

1. Be sure the pressure supply has been relieved. **Follow the pressure relieve procedures below.**

### WARNING

Pressure Relief Procedure:

Follow this procedure before maintaining and/or repairing your Premium Hose Reel and/or any part of system.

- 1) Disconnect the air to the pump.
- 2) Point dispensing valve away from yourself and others.
- 3) Open dispensing valve until pressure is relieved.

2. Pull hose on reel down just enough to allow stop pawl to engage ratchet. This will lock reel into position.
3. Remove the dispensing valve and hose stop.

### WARNING:

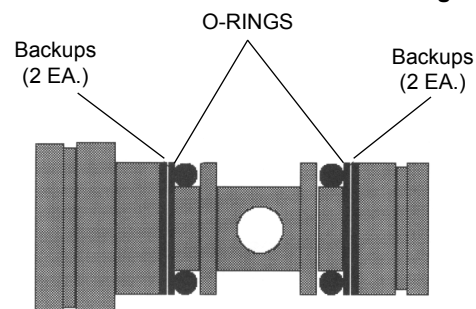
Wear Heavy Leather Gloves when replacing service hose and/or replacing power spring to protect your hands from injury.

4. Wearing **Heavy Leather Gloves**, firmly grab the outside edge of the spool with both hands. Let the spool rotate slowly through your hands until the spool stops. When the spool stops the spring tension will be released. The hose can now be unwrapped and removed from the reel.
5. From open side of reel begin to wrap new hose around spool in a clockwise direction.
6. Pull hose out through roller outlet and reassemble hose bumper stop and dispensing Control Handle.
7. Position the bumper stop so that the hose will extend enough so that all operators can reach it.

### Replacing Seals in Swivel:

1. Be sure the system pressure has been relieved. **Follow the pressure relieve procedures below.**
2. Disconnect inlet hose. Remove the reel to work bench and clamp reel base securely.
3. Extend the hose fully and latch the reel. Unscrew service hose from swivel union (2). Remove the retaining ring (6) and swivel elbow (2).
4. Remove the worn o-rings (4) and backups (3). Clean the swivel shaft and inspect for wear or damage. Grease the new o-rings and swivel shaft. Install the new o-rings and backups, refer to figure 6 below for pictorial illustration for assembling o-rings and backups.

Figure 6



Swivel Seal Assembly

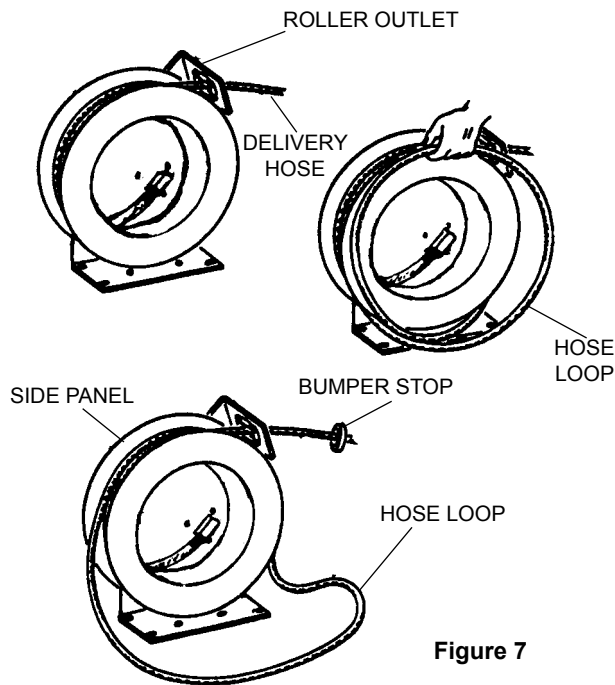


Figure 7

## Wrapping Hose

## MAINTENANCE

### Replacing Power Spring:

1. Be sure the system pressure has been relieved. Follow the pressure relieve procedures.
2. Disconnect inlet hose. Remove the reel to work bench and clamp reel base securely.



### **WARNING**

#### Pressure Relief Procedure:

Follow this procedure before maintaining and/or repairing your Premium Hose Reel and/or any part of system.

- 1) Disconnect the air to the pump.
- 2) Point dispensing valve away from yourself and others.
- 3) Open dispensing valve until pressure is relieved.

3. Retract the hose and remove necessary wraps until *all power spring tension has been removed.*
4. Remove lock nut (44) from shaft (5).
5. Pull out side panels and shaft assembly from base collar (27).

**WARNING:** USE EXTREME CAUTION WHEN HANDLING THE POWER SPRING! The spring is *ALWAYS* under great tension and could be propelled from the case with enough force to cause **SERIOUS** bodily injury. To reduce the risk of serious bodily injury, use extreme caution when removing the top cover (20). Be sure the spring case is lying flat, and then carefully lift up the cover to expose the power spring.

6. Remove reel from clap and lay it on a flat work surface so the base plate (25) of the reel is on the bottom.
7. Remove nuts (13) and then remove spring case assembly (20 & 23) with both screws (35 & 36) and spacers (45 & 46) still attached.
8. Be sure case is laying flat on the work surface. Then using extreme caution, remove both safety cotter pins from sides of case and lift up on the spring case cover (20) to expose the power spring.
9. *Carefully Inspect the Power Spring;* If either end of the power spring is worn or damaged and will not engage the ratchet properly replace the power spring.

If the power spring has become uncoiled inside the spring case, the “keeper” has failed. It is strongly advised that you replace the complete spring case assembly. The “keeper” is a metal band that is placed around the power spring to keep it from uncoiling when removed from the

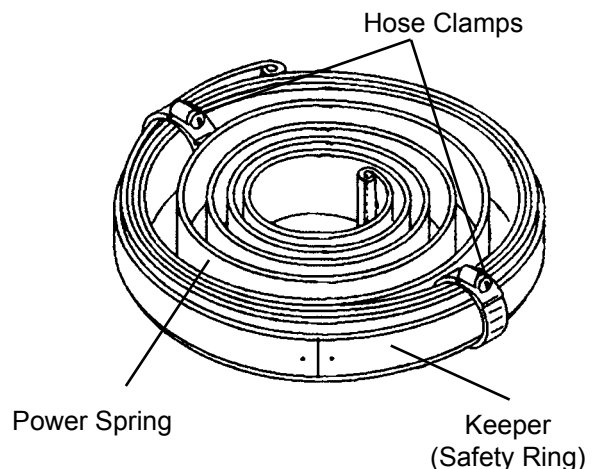
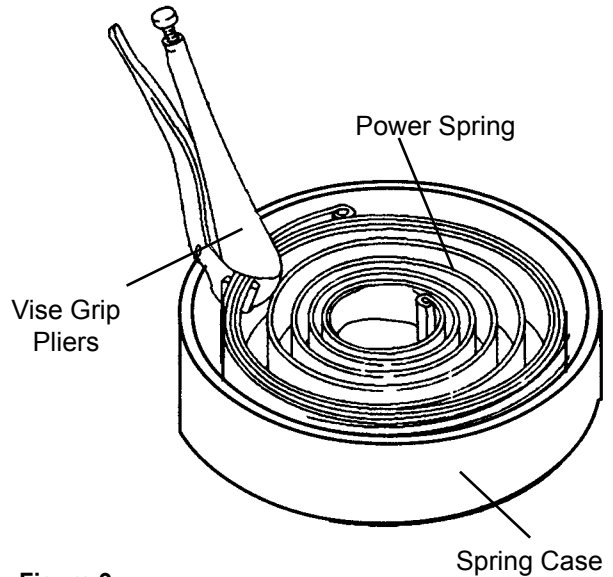


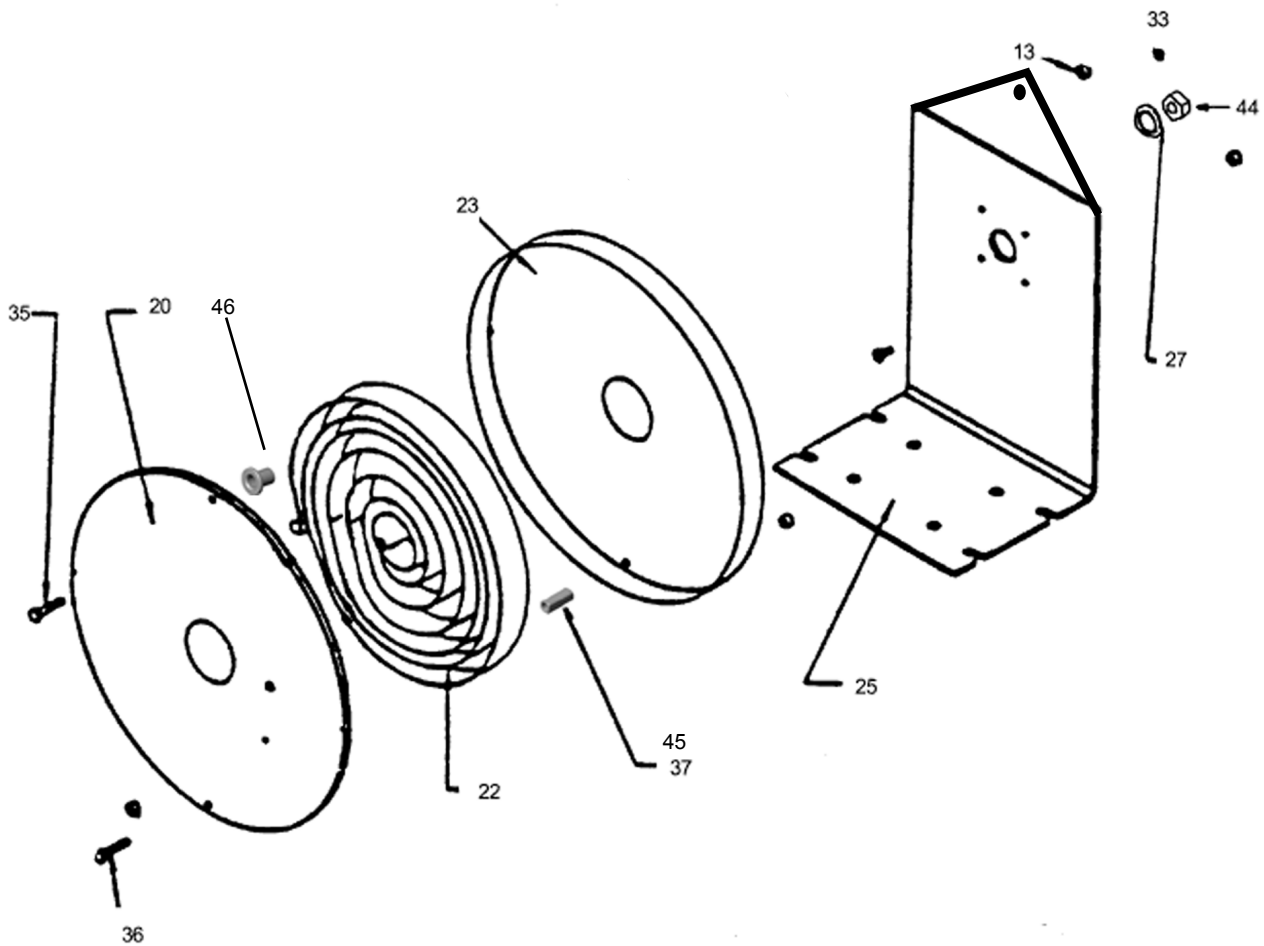
Figure 8  
7 Keeper & Safety Clamps

case. If you attempt to remove the power spring when this condition has occurred the spring **will uncoil quickly** and can **cause serious bodily injury**.

10. Removing the power spring; use locking type pliers to compress and hold several rows of the power spring together, then lift out the power spring slowly and place two hose clamp style clamps around the power spring and keeper before disposing of power spring.
11. Apply a light coat of grease inside the spring case and cover. Install new power spring.
12. Install the new power spring, making sure that it is laid into the spring case **Clockwise** and that the outside end loop is around spring case bolt (35) and spacer (46).
13. Replace spring case cover (20) and insert cotter pins through sides of spring case (23) and cover. Tighten case and cover to reel base (25) and insert side panel and shaft assembly into base collar (27).



**Figure 9**  
Power Spring Removal  
Using Locking Pliers





## MAINTENANCE

### Stop Pawl Replacement:

1. Be sure the system pressure has been relieved. Follow the pressure relieve procedures on this page.
2. Disconnect inlet hose. Remove the reel to work bench and clamp reel base securely.
3. Retract the hose and remove necessary wraps until *all power spring tension has been removed*.
4. Remove lock nut (44) from shaft (5).
5. Pull out side panels and shaft assembly from base collar (27).
6. Stop pawl assembly item's 12, 14, 15, 17, 20, 21 and 32 is now exposed for inspection and replacement of parts as needed.

**CAUTION:** Never alter or modify any parts of this reel. Doing so may cause damage to reel and/or personal injury. Always use genuine Balcrank replacement parts.

7. Once repaired, replace side panels and shaft assembly into base collar (27).
8. Tighten lock nut (44) onto shaft, inspect complete reel for proper function and adjust power spring as needed by adding one to two loops of hose at a time to increase power spring tension.

### WARNING

Pressure Relief Procedure:

Follow this procedure before maintaining and/or repairing your Premium Hose Reel and/or any part of system.

- 1) Disconnect the air to the pump.
- 2) Point dispensing valve away from yourself and others.
- 3) Open dispensing valve until pressure is relieved.

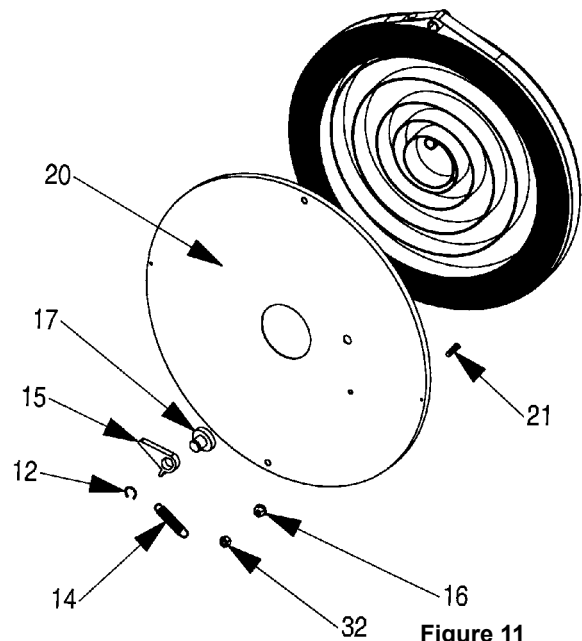


Figure 11

## TROUBLESHOOTING GUIDE

Trouble	Probable Cause	Remedy
No spring tension	Power spring broken (item 22)	Replace power spring (see page 7)
Low or high tension on hose	Lost wraps or too many wraps of hose on reel	Add or take off wraps of hose by pulling hose on reel down just enough to allow stop pawl to engage ratchet. Now wraps can be added or taken off as illustrated on page 6 figure 7
Hose will not retract	Stop pawl lock-up	<b>CAUTION:</b> Following the directions on page 6 paragraph 4, release the tension on the stop pawl by hand for one or two revolutions
Stop pawl will not engage	Spring broken or unhooked	Replace or repair (item 14)
Swivel leaking	Worn o-rings or block	Replace o-rings (item 4 & 3) and block (item 1)

# PARTS DIAGRAM SIGNATURE™ REELS

**NOTE:** High Pressure Swivel parts can be purchased separately, but it is recommended that the complete swivel be replaced if/when swivel fails.

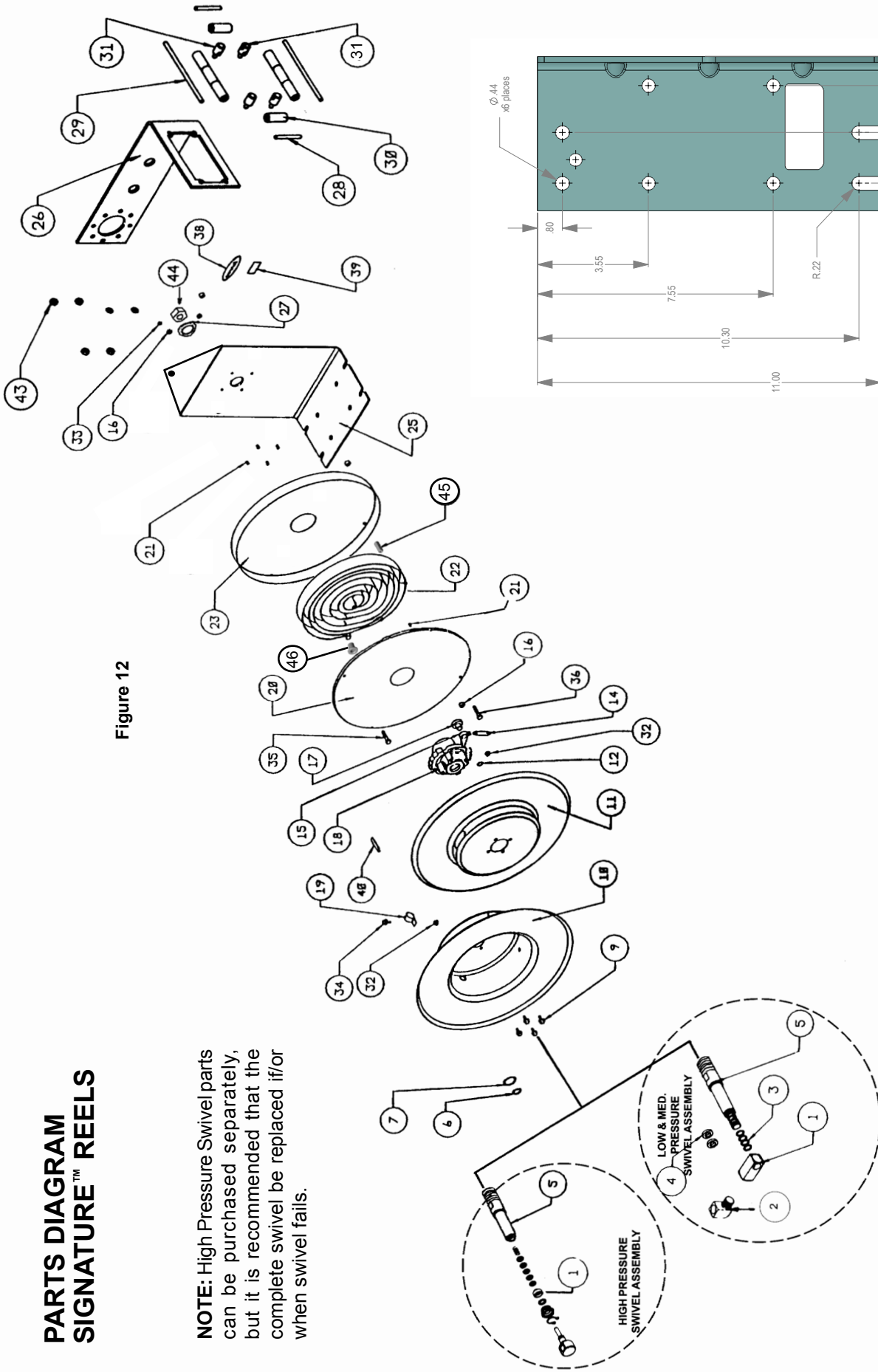
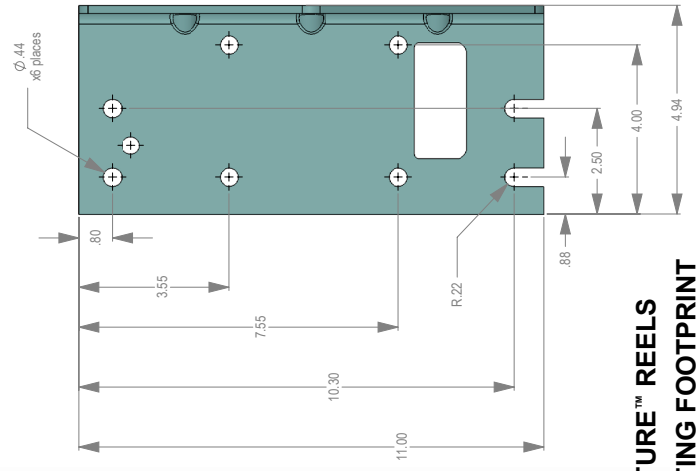


Figure 12



**SIGNATURE™ REELS  
MOUNTING FOOTPRINT**

# PARTS LISTING SIGNATURE™ REELS

Parts Listing for Signature Classic (BARE) Reels				2120-016	2120-017	2120-018	2120-019	Parts Listing for Signature Classic (BARE) Reels				2120-016	2120-017	2120-018	2120-019
Item	Part#	Description	Qty					Item	Part#	Description	Qty				
1	824451	Swivel (Low & Med. Pressure)	1	x	x			23	824459	Spring Case	1	x	x	x	x
1	809396	Swivel (High Pressure)	1			*x	*x			NOT IN USE					
2	3270-051	Elbow	1	x	x			25	824455	Mounting Base	1	x	x	x	x
3	824470	Back-Up Ring	4	x	x			26	Chart C	Outlet Arm	1	x	x	x	x
4	807339	O-Ring	2	x	x			27	828199	1-1/8" Washer	1	x	x	x	x
5	824450	Shaft (Brass)	1	x	x			28	824972	Roller Pin - Short	2	x	x	x	x
5	826397	Shaft (Steel)	1			x	x	29	824973	Roller Pin - Long (3.465")	2	x		x	
6	824473	Retaining Ring	1	x	x	x	x	29	826191	Roller Pin - Long (4.980")	2		x		x
7	824474	Retaining Ring	1	x	x	x	x	30	824956	Roller / Nylon	X	6	8	6	8
		NOT IN USE						31	831252	Roller Support	4	x	x	x	x
9	824480	1/4" - 20 Screw	4	x	x	x	x	32	824478	10-32 Nylok Nut	2	x	x	x	x
10	824961	Side Panel - Deep	1		x		x	33	824479	Set Screw	1	x	x	x	x
11	824462	Side Panel - Shallow	1	x	x	x	x	34	820793	10-32 Screw	1	x	x	x	x
		Side Panel - Shallow	1	x		x		35	805989	1/4" - 20 x 1-1/2" Bolt	1	x	x	x	x
12	824472	Retaining Ring	1	x	x	x	x	36	808300	1/4" - 20 x 1-3/4" Bolt	1	x	x	x	x
13	813561	1/4" - 20 Nylok Nut	6	x	x	x	x			NOT IN USE					
14	824483	Spring "Stop Pawl Assy."	1	x	x	x	x	38	833067	Decal (Balcrank)	1	x	x	x	x
15	824453	Pawl	1	x	x	x	x			NOT IN USE					
16	824477	10-32 Flanged Nut	5	x	x	x	x	40	817342	Hose Guard	1	x	x	x	x
17	824454	Pawl Arbor	1	x	x	x	x			NOT IN USE					
18	824460	Ratchet	1	x	x	x	x			NOT IN USE					
19	Chart A	Hose Clip	1	x	x	x	x	43	813561	1/4" - 20 Nut	4	x	x	x	x
20	Chart B	Spring Cover	1	x	x	x	x	44	828198	1-1/8 - 18 Nut	1	x	x	x	x
21	824476	10-32 Stud	1	x	x	x	x	45	831730	Spacer, Spring Case	1	x	x	x	x
22	826728	Power Spring	1	x				46	831729	Spacer With Shoulder	1	x	x	x	x
22	808966	Power Spring	1		x	x	x								

Chart "A"	
Hose Clip #	Applicable Hose
828150	9/16" O.D.
828151	11/16" O.D.
828152	3/4" O.D.

Chart "B"	
Cover #	Serial #
824952	1007523 & Below
827536	1007524 & Above

Chart "C"		
Bare Reel	Outlet Arm#	Serial#
2120-016 / 2120-018	824408	1007323 & Below
2120-016 / 2120-018	827297	1007324 & Above
2120-017 / 2120-019	824409	1007323 & Below
2120-017 / 2120-019	827298	1007324 & Above

Repair Kits		
Description	Part #	Items
Kit, Swivel Low/Med Pressure	833314	1, 3, 4, 6
Kit, Stop Pawl	833312	12, 14, 15, 16, 21, 32
Kit, Roller Outlet (small arm)	831315	28, 29, 30, 31, 43
Kit, Roller Outlet (large arm)	833313	28, 29, 30, 31, 43

**For Warranty Information Visit:  
[www.balcrank.com](http://www.balcrank.com)**

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Weaverville, NC 28787  
800-747-5300  
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SERVICE BULLETIN SB2002  
Revision R 01/14

**Revision Log:**

Rev. I - added troubleshooting table.  
Rev. J - added item 45 & 46.  
Rev. K - added model 2120-020 &  
removed models 2120-008, -009, & -010  
Rev. L - Added mounting footprint to page 10  
Rev. M - Added caution about thermal  
expansion to page 2  
Rev. N - Added instructions for installing derail  
bracket, changed qty. of item 13 to  
six and removed item 24 (NOT IN USE)  
Rev. O - Added note about inlet connection on  
page 4  
Rev. P - Changed model number for hoses on  
air/water reels  
Rev. Q - Added repair kits table on page 11  
Rev. R - Added nitrogen reel model numbers