



SIGNATURE™ Evolution Reels

Multi-Purpose Transfer

Models: 2140-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.

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

General Safety


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






IMPORTANT

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.





IMPORTANT

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.

Always read and follow the fluid manufacturer's recommendations regarding the use of protective eyewear, clothing and respirators.







WARNING

Pressure Relief Procedure:

Follow this procedure before maintaining and/or repairing your Signature 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.





WARNING

DANGER: 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.




CAUTION


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.



CAUTION

Fully extend hose before pressurizing or damage may occur to side panels







CAUTION

USE EXTREME CARE 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.






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.





WARNING

The **MAXIMUM WORKING PRESSURE** 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 the reels 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.

TABLE OF CONTENTS

Cover	1	Installation	4 & 5
General Safety Information.....	2	Maintenance	6-9
Technical Data	3	Parts Diagram & Mounting foot print	10
Model Numbers	3	Parts Listing.....	11
Mounting Dimensional Data	4	Warranty	12

TECHNICAL DATA

Material Inlet:

Low & Med. Pressure Reels 1/2" NPT (F)
High Pressure Reels 3/8" NPT (F)

Material Outlet:

Low & Med. Pressure Reels 1/2" NPT (F)
High Pressure Reels 3/8" NPT (F)

Wetted Parts:

Low Pressure.....Brass, Acetal & NBR
Med. Pressure.....Steel (plated) & NBR
High Pressure.....Steel (phosphating surface treated) & Polyurethane

Hose Working Pressure Ratings:

Air/Water Hose 3/8" – 300 psi
1/2" – 300 psi

Med. Pressure 1/2" – 2,750 psi

High Pressure..... 3/8" – 5,000 psi

Shipping Weight:

Std. Frame (30 ft hose)..... 38.5 lbs.
Lrg. Frame (50 ft hose)..... 43.5 lbs.

MODEL NUMBERS

Type of service	Model Number	Hose Size	Maximum Working Pressure	Outlet Hose	Inlet Hose	Bare Reel
Low Pressure (LP) Air, Water, Antifreeze	2140-007	30' x 3/8"	300 psi	8136-030	8142-002X	2140-021
	2140-008	50' x 3/8"		8136-050		
	2140-010	30' x 1/2"		8141-030		
	2140-011	50' x 1/2"		8141-050		
Medium Pressure (MP) Lubricants	2140-013	30' x 1/2"	2,750 psi	8241-030	8249-002X	2140-002
	2140-014	50' x 1/2"		8241-050		
High Pressure (HP) Grease	2140-019*	30' x 3/8"	5,000 psi	8332-030	8334-002X	2140-005
	2140-020*	50' x 3/8"		8332-050		

NOTE: All models include a 2.5 ft. inlet hose

*Reference installation instructions on page 5 item #7, fully extend hose before pressurizing.

PRODUCT DESCRIPTION

The Signature™ Evolution Series hose reel is designed to provide efficient delivery of air, water, oil, or grease through various hose lengths, at an economical price. The roller outlet arm can be adjusted to any one of six 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 installation.)

DIMENSIONS & MOUNTING DIAGRAM

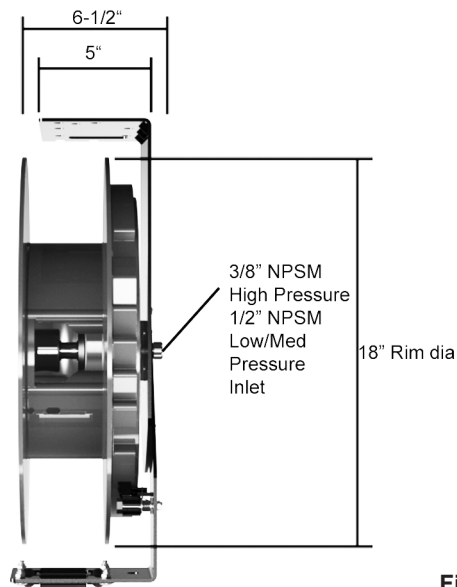


Figure 1

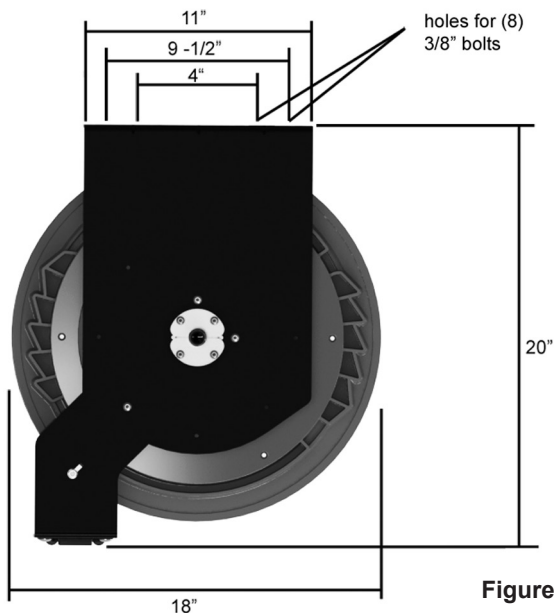



Figure 2


INSTALLATION

The hose reel is shipped ready to use; the power spring tension has been adjusted for table/wall mounting.

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. 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. To move the hose guide arm and the hose outlet mouth, remove screws (Figure 3), place arm and outlet in correct position and replace screws again.
4. Fasten the base using bolts of a sufficient strength to prevent the reel from "shearing bolts" during operation when hose is pulled.

	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.
--	--

5. Connect supply line to the inlet of hose reel.

	NOTE <i>Do not hard pipe inlet/swivel to any existing structure/system. Flexible connection hose must be used to maintain swivel performance.</i>
---	---

6. Hose reels shipped with hoses come from the factory with the maximum tension preset for ceiling installation. For a typical table/wall installation you would need to adjust to less tension by removing one to two wraps of hose from the spool.

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.
8. For smooth operation and longer life, position the reel mounting brackets as per Figure 4, with hose outlet always allowing for the tangent in relation to the reel and hose.

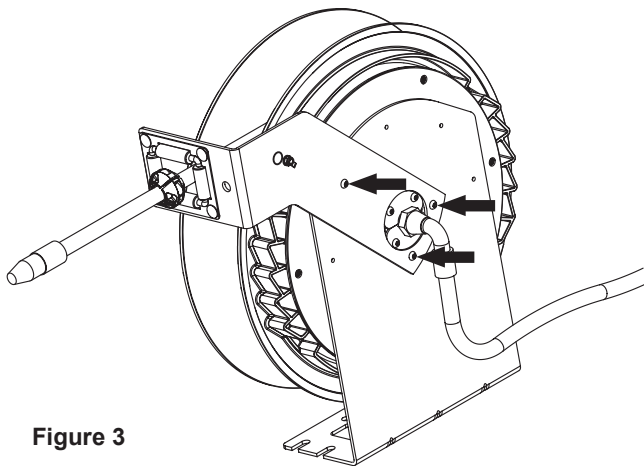


Figure 3

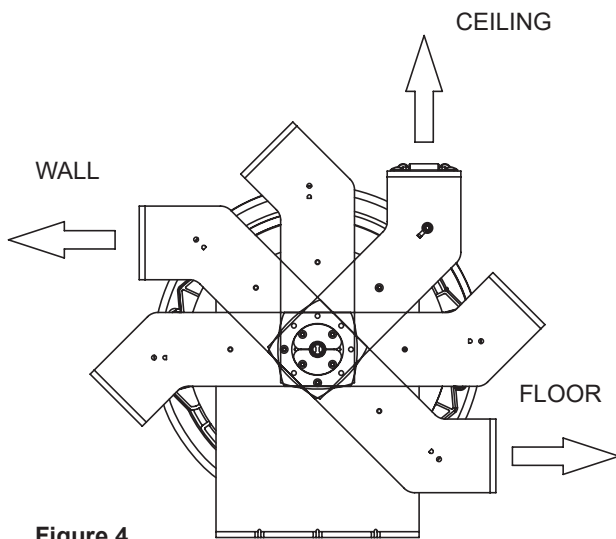


Figure 4



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.

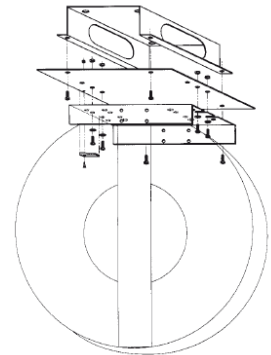


Figure 5

TYPICAL INSTALLATIONS

Ceiling Mounting

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

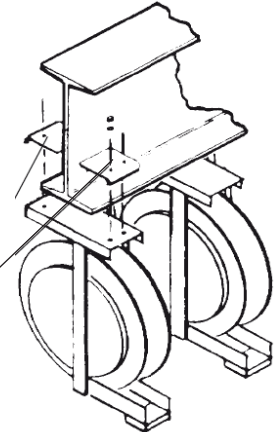


Figure 6

Typical Inlet Line Configuration

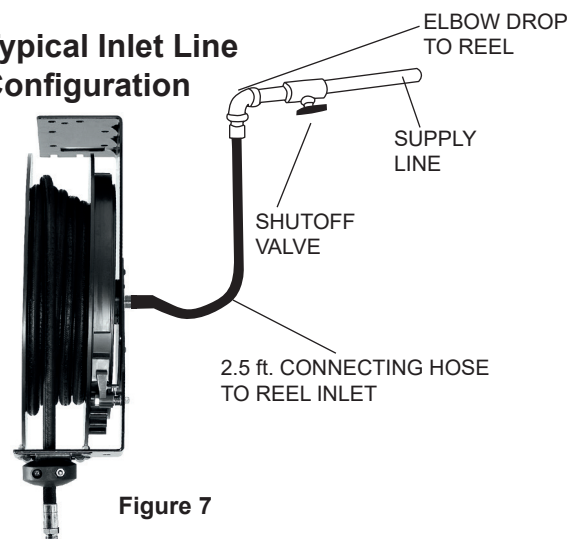


Figure 7

MAINTENANCE

Replacing Service Hose:

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



NOTE: *Dismounting the reel from its position is not required!*



WARNING

Pressure Relief Procedure:

Follow this procedure before maintaining and/or repairing your Signature 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.



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

3. Remove the dispensing valve and hose stop.
4. Wearing **Heavy Leather Gloves**, firmly grasp 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 (figure 8).
5. Reattach the new hose to the swivel through the side panel and affix the hose clamp back to the reel. From open side of the reel begin to wrap new hose by turning the spool in a counter clock-wise direction. By design, you will hear a “pop” sound every time the ratchet jumps the spring.
6. When the new hose is completely wound on the spool, add tension back to the power spring by turning the hose/spool assembly

in a **clock-wise** motion no more than 2 complete rotations to start with. Depending on the length & type of hose as well as the location of the hose reel (ceiling, wall, base mount), power spring tension can be adjusted by adding or taking away a wrap (see instructions below).



ADDING/SUBTRACTING WRAPS ON SINGLE ARM HOSE REEL

NOTE: Wraps can always be added or subtracted from a hose reel with the control handle and bumper stop attached. Simply pull the hose out enough to allow the stop pawl to engage the ratchet. Pull the last loop of hose off the side panel of the hose reel. This will remove (1) wrap of spring tension. To add tension, pull the hose out further -a few feet -and then lock in place by allowing the stop pawl to engage the ratchet. This will allow you the slack to wrap (1) loop back onto the hose reel, thus adding (1) wrap of spring tension (see figure 8).

7. Pull hose out through roller outlet and allow the stop pawl to engage the ratchet. Reassemble hose bumper stop and dispensing control handle.
8. Position the bumper stop so that the hose will extend enough so all operators can reach it.

Wrapping Hose

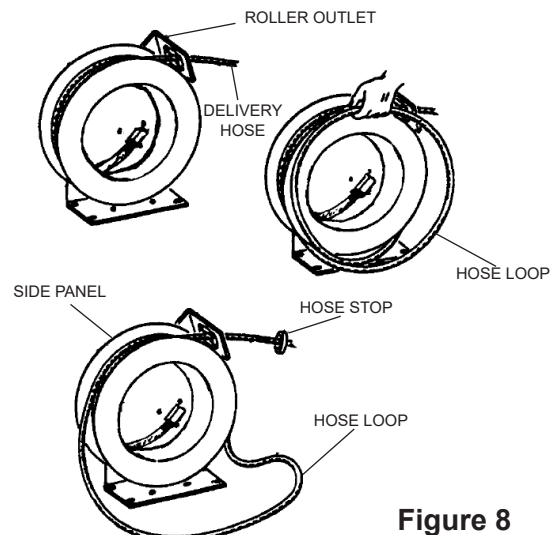


Figure 8



ALWAYS ensure proper operation after spring tension has been set by fully extending the hose & retracting. If the hose reel cannot pull the control handle all the way up to bumper stop setting, more tension is required. Add a wrap to the hose reel. If the hose reel pulls too quickly and jerks the control handle up too fast, less tension is required. Remove a wrap from the hose reel.

Replacing Seals in Swivel:

1. Be sure the pressure supply has been relieved. **Follow the pressure relief procedures on the right.**
2. Pull the hose out and let the hose reel latch.
3. Unscrew the hose from the swivel.
4. Remove the snap ring and pull the swivel off the shaft.
5. Remove the worn o-rings (low/medium pressure reels) or polyurethane seals (high pressure reel). Clean the swivel and shaft. Inspect for wear and damage. Install the new o-rings/seals in the swivel (see figure 9). Grease the o-rings/seals.
6. Slide the swivel back into place being careful not to damage the new o-rings/seals. Secure swivel with snap ring and re-attach hose.

Swivel Seal Assembly

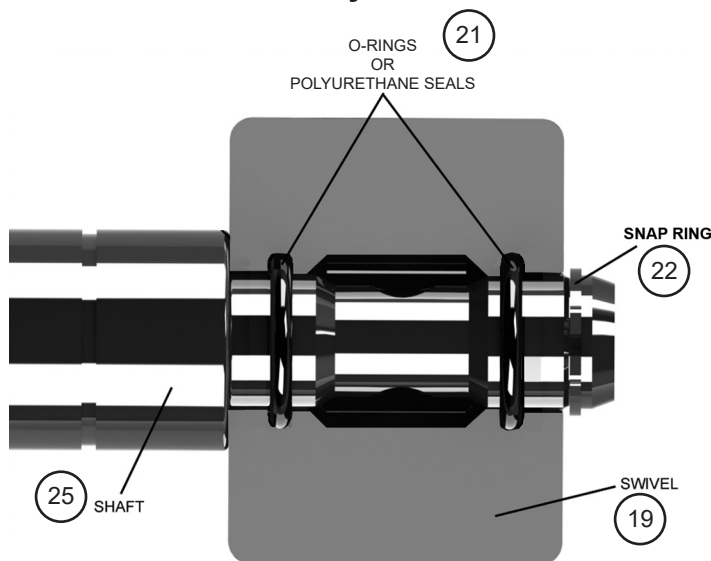


Figure 9

Replacing Spool/Power Spring Canister Assembly:

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



WARNING

Pressure Relief Procedure:

Follow this procedure before maintaining and/or repairing your Signature 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 just enough to allow the stop pawl to engage the 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 grasp the outside edge of the spool with both hands and unlock the ratchet. 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 completely. Unscrew the hose from the swivel and detach the hose clamp. Disconnect the inlet hose. Remove the reel to work bench and lay down with the open side of the reel facing upward. Disconnect the outlet hose from the swivel. Remove snap ring. Remove swivel. Remove 2nd snap ring. Remove 3rd snap ring. Remove spacer/dust cover. Firmly grasp the spool and pull directly upward to remove the spool assembly from the shaft. During installation of the new spool assembly, be sure to align the catch on the spring hub

with the spring catch in the spool assembly.
(see figure 10)

10. Push firmly down until spool can freely rotate and spring is securely caught in the hub.



WARNING: Stop pawl can engage the ratchet prior to a securing the spool assembly in the correct position. Make sure to lift stop pawl out of the way if it prevents the spool from sitting flat on the base.

11. Reassemble with dust cover, snap rings and swivel. DO NOT leave spacer/dust cover out of the assembly – it will allow debris to enter the bearing and void warranty.
12. Transfer hose from old spool assembly to new spool assembly & adjust spring tension per steps 5-8 in **REPLACING SERVICE HOSE** section in this service bulletin.
13. Reel is now ready to be put back into service.



Figure 10

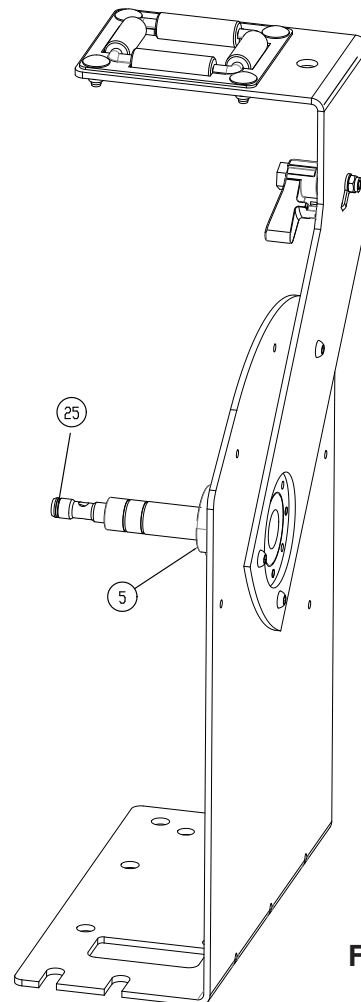
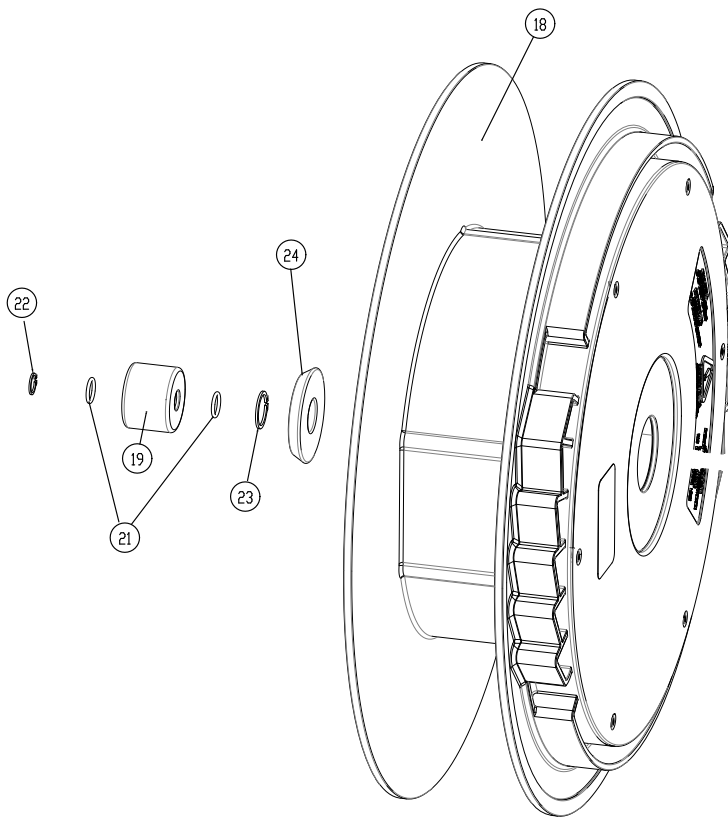



Figure 11

MAINTENANCE

Stop Pawl Replacement:



WARNING

Pressure Relief Procedure:

Follow this procedure before maintaining and/or repairing your Signature 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.

1. Make sure the hose is totally rewound. The spool must be held by the hose stop.
2. Remove the nut (7) that fixes the latch (6).
3. Replace the stop pawl (10) and/or the pawl spring (9).
4. Re-assemble the pieces in reverse order.

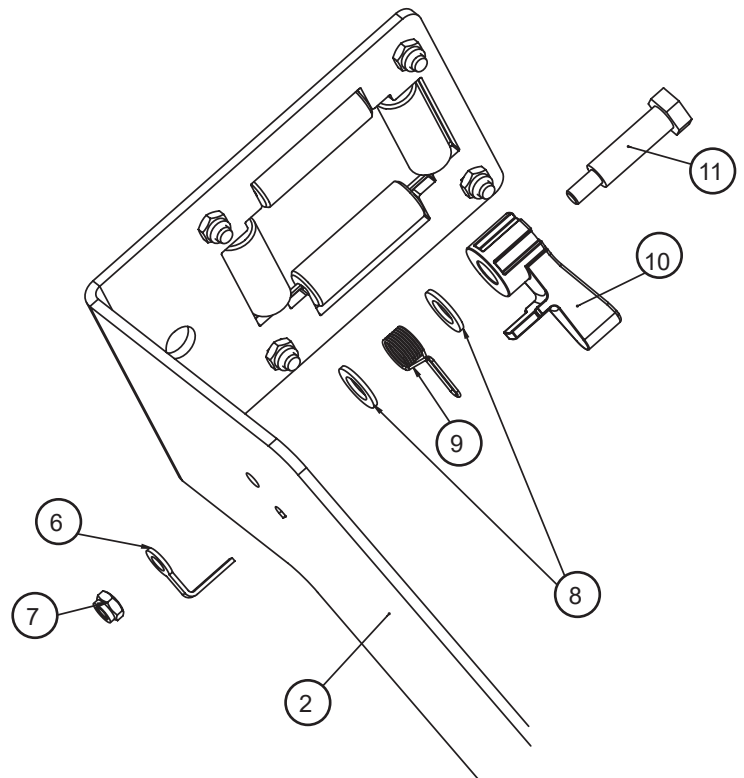



Figure 12

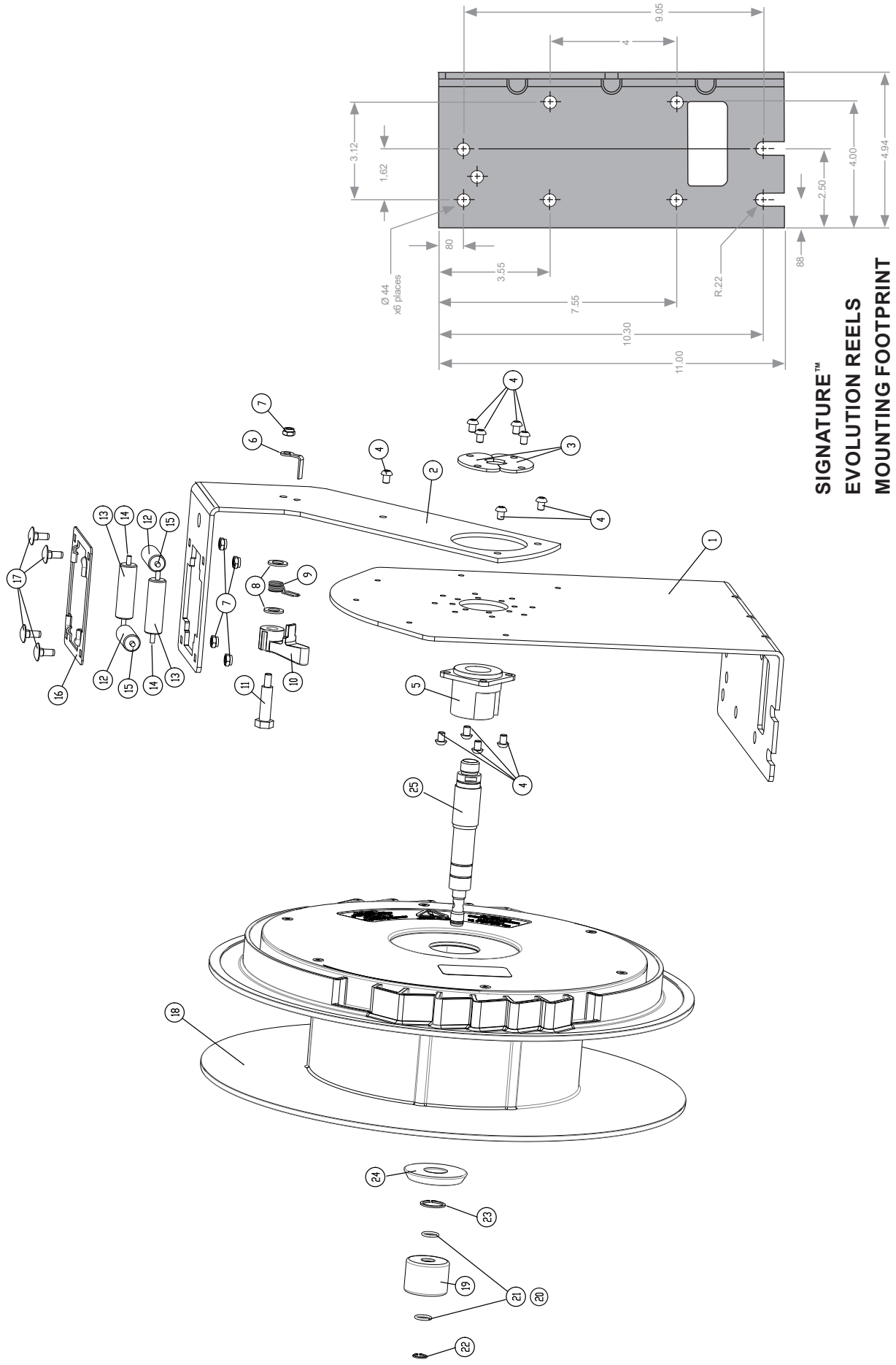


CAUTION: Never alter or modify any parts of this reel. Doing so may cause damage to reel and/or personal injury. Always use genuine Balcrank replacement parts.

TROUBLESHOOTING GUIDE

Symptom	Possible Causes	Solution
Hose does not rewind	Spring is not tensioned enough	Increase spring tension
Leaking hose reel	Hose has a hole or is damaged	Replace the hose
Leaking swivel	Damaged O-rings	Replace the O-rings
Hose does not extend out as much as required	Spring is over tensioned	Decrease spring tension
Hose reel does not latch	Damaged stop pawl	Replace the stop pawl
	Stop pawl not fitted	Assemble the stop pawl properly
	Damaged stop pawl spring	Replace the stop pawl spring

PARTS DIAGRAM SIGNATURE™ EVOLUTION REELS



PARTS LISTING - SIGNATURE™ EVOLUTION REELS

ITEM	DESCRIPTION	QUANTITY	2140-021 LP	2140-002 MP	2140-005 HP
1	Base	1	X	X	X
2	Outlet Arm	1	X	X	X
3	Shaft Plates	2	X	X	X
4	Screw (4mm hex key)	11	X	X	X
5	Spring Hub	1	X	X	X
6	Stop pawl latch	1	X	X	X
7	Nylock nut (10 mm)	5	X	X	X
8	Stop pawl washer	2	X	X	X
9	Stop pawl spring	1	X	X	X
10	Stop pawl	1	X	X	X
11	Stop pawl axle (15 mm)	1	X	X	X
12	Short roller	2	X	X	X
13	Long roller	2	X	X	X
14	Long roller axle	2	X	X	X
15	Short roller axle	2	X	X	X
16	Roller support	1	X	X	X
17	Roller support screw	4	X	X	X
18	Spool	1	X	X	X
19	Low Pressure swivel	1	X		
	Medium Pressure swivel			X	
	High Pressure swivel				X
20	Polyurethane Seal for 3/8" shaft	2			X
21	O-ring NBR for 1/2" shaft	2	X	X	
22	Small shaft snap-ring	1			X
23	Large shaft snap-ring	1			X
		3	X	X	
24	Spacer/dust cover	1	X	X	X
25	LP shaft 1/2" NPSM	1	X		
	MP shaft 1/2" NPSM			X	
	HP shaft 3/8" NPSM				X

REPAIR KITS

Description	Part Number	Included Items
Kit, Stop pawl	833033	6, 7, 8, 9, 10, 11
Kit, Spool (Includes power spring)	833032	18
Kit, Roller outlet	833031	7, 12, 13, 14, 15, 16, 17
Kit, Swivel Seal Replacement (HP)	833030	21, 22
Kit, Swivel Seal Replacement (LP / MP)	833029	21, 22
Kit, LP Swivel assembly	833703	19, 21, 3270-051
Kit, MP Swivel assembly	833701	19, 21, 3270-051
Kit, HP Swivel assembly	833702	19, 20, 3270-050

**For Warranty Information Visit:
www.balcrank.com**

Revision Log:

- Rev. A - Release
- Rev. B - Changed model number for hoses on air/water reels
- Rev. C - Added model numbers for air/water reels with 1/2" hose
- Rev. D - Removed item 20 (not used) and changed description of item 21 for grease reel models
- Rev. E - Changed figures 9, 11 & exploded view on page 10 to reflect current parts. Removed item 20 from parts list
- Rev. F - Corrected description in kit list for 833029 & 833030
- Rev. G - Updated model number for main hose used with model 2140-011
- Rev. H - Added new LP reels to product line.
- Rev. I - Updated installation step 6 copy
- Rev. J - Added repair kits to pages 11 & 12
- Rev. K - Corrected number in kit list for 833702