

# INSTALLATION and MAINTENANCE INSTRUCTIONS

## SHO HOSE REELS

All units are provided with right hand rotation unless otherwise specified. This means that hose is pulled off spool top left or bottom right (spool rotates clockwise to wind hose) **when viewing spring end of reel**. See diagram on parts page.

Clock-type springs provide power for automatic hose take-up. **Spring must be pretensioned at time of installation** to insure that tension is applied to hose at all times. A tension adjustment spanner wrench is provided with each reel.

### ! WARNING

Some reels with large or multiple springs are equipped with a ratcheted adjustment wrench. Follow separate instructions for its use. Failure to use ratcheted wrench, on reels so equipped, could result in serious personal injury.

### ! WARNING

Do not attempt to relieve spring tension using spanner wrench. Doing so may result in personal injury.

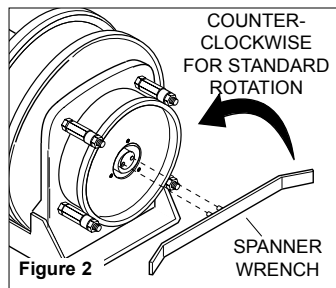
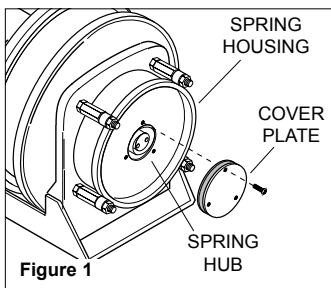
### INSTALLATION

1. Insure that machinery to be serviced by reel is at position closest to reel.
2. Securely mount reel in desired position using 3/8"(M10) bolts. Be sure spool is aligned with hose run.
3. Position optional hose guide, if reel is so equipped.
4. Connect free end of hose fitting on machine or adjust hose stop so that desired length of hose extends from reel.
5. Remove cover plate on spring housing to expose shaft and spring hub. (See Figure 1).
6. Insert spanner wrench into holes in spring hub (Fig 2). Rotate wrench counterclockwise (for standard rotation). Number of 360° turns should match last digit in model number on serial plate. *If model number includes an "R", reel is reverse rotation and wrench must be rotated clockwise.* (See EXPLANATION on parts list page.)

**NOTE: If reel is equipped with ratcheted adjustment wrench, follow instructions on separate sheet.**

NOTE: On reels containing more than one spring, the hubs are connected at the factory. Therefore, by tightening the outer spring, the inside spring(s) will be tightened.

7. Remove collector cover and connect individual supply conductors to collector terminals.

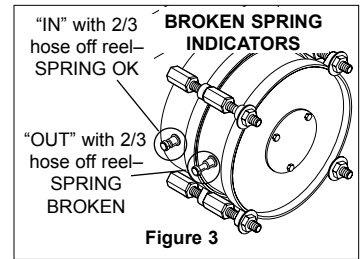


### ! CAUTION

Do not exceed number of turns indicated on serial plate. Over-tensioning can cause a broken spring, sheared shaft or other damage.

### MAINTENANCE

- Periodically:** A. Grease swivel joint if a zerk is provided.  
 B. Inspect hose for wear and check mounting bolts and other hardware for tightness.  
 C. Check for broken springs by pulling about 2/3 hose off reel and observing "Broken Spring Indicators" on sides of spring canisters. See Fig. 3.



**NOTE:** Bearings and springs are prelubricated and require no periodic maintenance.

### ! WARNING

Do not attempt to remove spring from its housing. Clock-type springs can be dangerous to handle. Removal of spring from housing could result in personal injury.

### SPRING REPLACEMENT

The unique SAFETYCHANGE® spring motor consists of a spring and hub sealed within a housing. A replacement spring is supplied sealed in its housing and the old unit should be discarded completely.

1. Turn off all electric power.
2. Disconnect hose from machine junction box.
3. Wind all hose onto reel to relieve all spring tension.
4. Remove inspection cover from face of spring housing.
5. Rotate spool clockwise and observe inner shaft. Shaft should rotate clockwise and hub (with spring attached) should remain stationary.

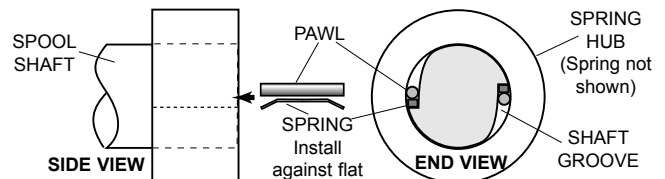
**NOTE: Do not attempt to remove spring if resistance is met or hub tends to rotate with shaft.** Continue to rotate spool and strike end of shaft several sharp blows with a lead hammer or rubber mallet until shaft rotates freely and hub remains stationary.

6. Remove (4) nuts which secure spring motor(s) to frame.
7. Slide spring motor(s) off shaft and discard.

**NOTE:** On multi-spring reels, be sure to remove and **save** dowel pins which connect one spring hub with another. Also remove snap rings on shaft between spring housings.

8. Install replacement spring motor(s), pawls and pawl springs.

**NOTE:** Pawl springs must be located between the pawl and the deepest section of the shaft grooves. Make sure that pawls and pawl springs are inserted flush with ends of shaft and hub or they may rub against inspection cover.



9. Tighten nuts (and extension bolts) securing spring housing(s) to reel frame.
10. Connect free end of hose to junction box on machine or adjust cord stop so that desired length of cord extends from reel.
11. Tension spring with spanner wrench. Refer to **INSTALLATION** section.
12. Replace inspection cover.

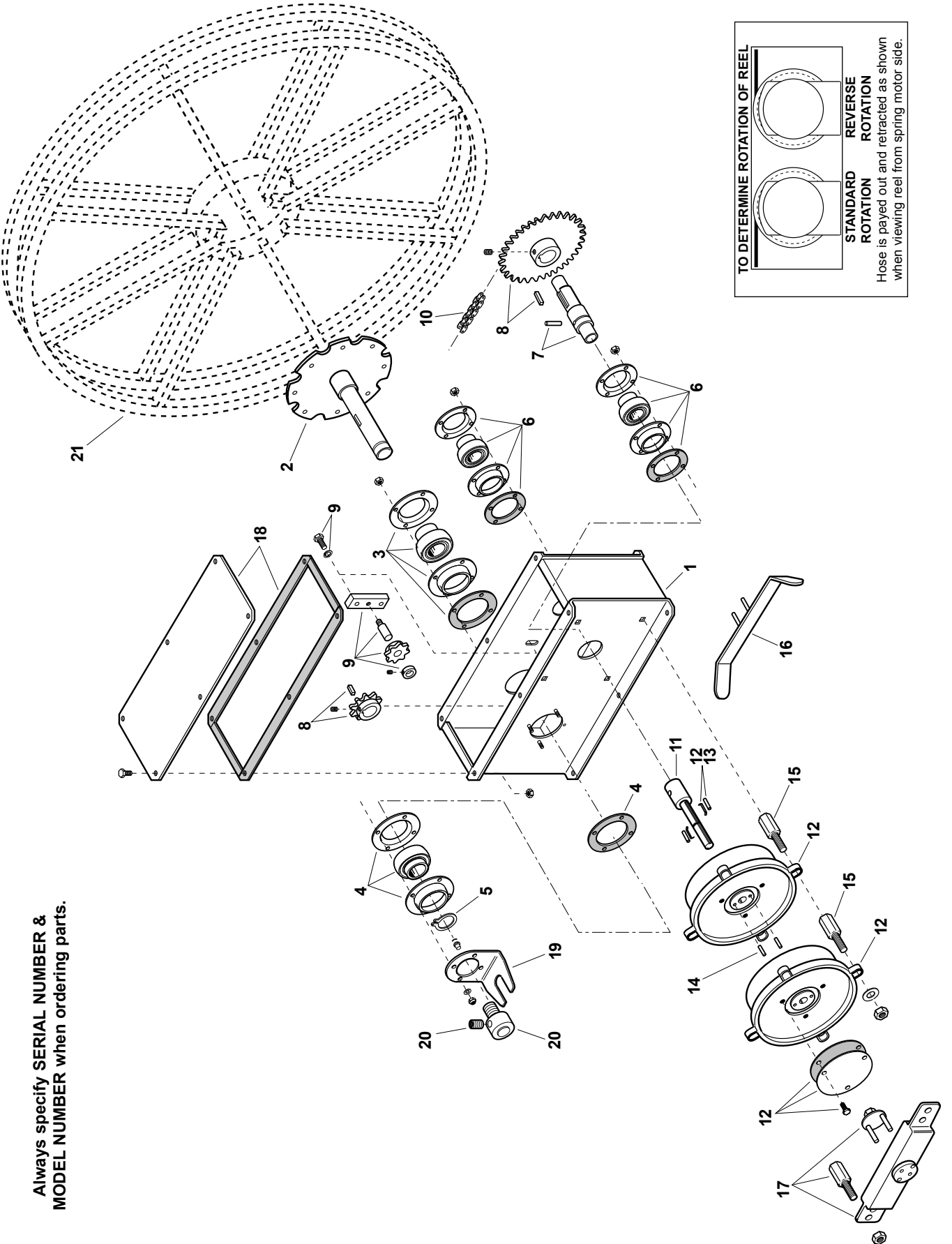
CONTINUED ON LAST PAGE



# ILLUSTRATED PARTS LIST

## SHO HOSE REELS

Always specify SERIAL NUMBER & MODEL NUMBER when ordering parts.



## SHO HOSE REEL REPLACEMENT PARTS LIST

ITEM	KIT NO.	DESCRIPTION	QTY.
1	020554	Frame Assembly-SHO	1
2	027856	Spool Shaft - 14-17" Dia. Spool Wrapper	1
2	027857	Spool Shaft - 18" & Over Dia. Spool Wrapper	1
3	021752	Bearing Kit-2" bore (Includes housing and gasket)	1
4	012402	Bearing Kit-2" Bore (Includes housing and gasket)	1
5	105060	Retaining Ring	1
6	012401	Bearing Kit-1.75" Bore (Includes housing and gasket)	2
7	021753	Spring Shaft Kit (Includes spring shaft, stub shaft drive pin, retaining ring)	1
8	021754	Sprocket Kit, Ratio AA (Includes two sprockets and keys)	1
8	021755	Sprocket Kit, Ratio AB	1
8	021756	Sprocket Kit, Ratio AC	1
8	021757	Sprocket Kit, Ratio AD	1
8	021758	Sprocket Kit, Ratio AE	1
9	021759	Idler Kit (Includes sprocket, shaft, tensioner bar, locking collar and mounting hardware)	1
10	021760	Roller Chain Kit (Includes connecting link)	1
11	012209	Stub Shaft, Std. Rot. (801)	1
11	01220901	Stub Shaft, Rev. Rot. (801)	1
11	012210	Stub Shaft, Std. Rot. (802)	1
11	01221001	Stub Shaft, Rev. Rot. (802)	1
11	012211	Stub Shaft, Std. Rot. (803)	1
11	01221101	Stub Shaft, Rev. Rot. (803)	1
11	012212	Stub Shaft, Std. Rot. (804)	1
11	01221201	Stub Shaft, Rev. Rot. (804)	1
11	012213	Stub Shaft, Std. Rot. (1001)	1
11	01221301	Stub Shaft, Rev. Rot. (1001)	1
11	012214	Stub Shaft, Std. Rot. (1002)	1
11	01221401	Stub Shaft, Rev. Rot. (1002)	1
11	012371	Stub Shaft, Std. Rot. (1003)	1
11	01237101	Stub Shaft, Rev. Rot. (1003)	1
11	014619	Stub Shaft, Std. Rot. (1004)	1
11	01461901	Stub Shaft, Rev. Rot. (1004)	1

ITEM	KIT NO.	DESCRIPTION	QTY.
12	017049	Spring Motor Kit, Std. Rot. -80 (Includes one spring assembly, snap ring, pawl, pawl spring, hub cover and gasket)	AR
12	017050	Spring Motor Kit, Rev. Rot. -80	AR
12	017051	Spring Motor Kit, Std. Rot. -100	AR
12	017052	Spring Motor Kit, Rev. Rot. -100	AR
13	012426	Pawl Kit (80 Springs) (Includes two pawls and two pawl springs)	AR
13	012427	Pawl Kit (100 Springs)	AR
14	021761	Hub Lock Pin Kit-two pins (80 Springs)	AR
14	021762	Hub Lock Pin Kit-two pins (100 Springs)	AR
15	017054	Extension Bolts (80 Springs) (4 bolts per kit-less hardware)	AR
15	017055	Extension Bolts (100 Springs)	AR
16	G64-29	Adjustment Wrench (80 Springs)	1
16	G64-27	Adjustment Wrench (100 Springs)	1
17	032805	Ratchet Wrench (80 Springs)	1
17	032804	Ratchet Wrench (100 Springs)	1
18	021763	Chain Cover Kit (Includes cover, gasket and hardware)	1
19	042229	Hose Stop Bracket	1
20	102159	Swivel Joint Only, 0.25 (Reducer Required)	1
20	102159	Swivel Joint Only, 0.38 (Reducer Required)	1
20	102159	Swivel Joint Only, 0.50 (Reducer Required)	1
20	024670	Swivel Joint Only, 0.75 (Reducer Required)	1
20	102160	Swivel Joint Only, 1.00	1
20	102161	Swivel Joint Only, 1.25	1
20	041276	Swivel Joint Only, 1.50	1
21	*	Spool Assembly	1

\* Consult factory for part number of Spool Assembly and related hardware.  
Please give model number and serial number to obtain correct Spool Assembly.

### MODEL NUMBER EXPLANATION

(Typical Model Number)

**SHO 100 2 - H 12 - XX XX XX - AE - 3**

REEL TYPE    SPRING MOTOR    NUMBER SPRINGS    HOSE DESIGNATION    HOSE CODE\*    SPOOL DIMENSIONS and TYPE    CHAIN RATIO CODE\*\*    PRETENSION CODES

#### \*HOSE CODE

CODE	HOSE I.D.
6	3/8
8	1/2
12	3/4
16	1.00
20	1 1/4
24	1 1/2

#### \*\*CHAIN RATIO CODE

CODE	CHAIN RATIO
AE	1.0:1
AD	1.5:1
AC	2.0:1
AB	2.5:1
AA	3.0:1

## HOSE REMOVAL

Use the following procedure to remove worn or damaged hose from reel prior to installation of new hose.

### CAUTION

Failure to relieve all spring tension prior to removing hose could result in damage to equipment or personal injury. Follow instructions carefully

1. Move machine serviced by reel to a position closest to reel. Springs will still be under pre-tension at this point.
2. Turn off all electric power.
3. Lock spool to prevent turning using wither a spool lock mechanism or by tying off.
4. Disconnect hose from machine junction box.
5. Grip spool by hand and **carefully** release spool lock or tie. Slowly unwind remaining tension.
6. Again lock or tie spool to prevent rotation.
7. Remove hose from spool. Loosen U-bolt and water-tight connector and disconnect conductors from slip ring.
8. Install new hose following instruction at right.

## HOSE INSTALLATION

Use the following procedure to replace hose or if reel was ordered without hose.

1. Unspool new hose from shipping spool and lay out to eliminate twist.  
**NOTE:** This step is not essential, but will aid in winding operation of the reel and prolong hose life.
2. Feed one end of the hose through hose clamp on one spoke, leave enough hose to connect to spool shaft.
3. Tighten U-bolt on hose clamp. **Do not over-tighten.**
4. Wind the hose onto the reel spool by hand rotation spool in direction it turns free of spring tension.
5. Connect free end of hose to machine connections.
6. Pretension reel and complete installation as previously described.

