



INSTALLATION INSTRUCTIONS
SERVICE AND TROUBLESHOOTING

Single Line Hose Reels

Serial Numbers 679532 through 679545

Manual Number 680110-R1

cascade[®]
corporation

Cascade is a Registered Trademark of Cascade Corporation

	Page
INTRODUCTION	i
INSTALLATION	1
SERVICE	3
Disconnecting The Reel	3
Inboard Spring Reel Service	4
Outboard Spring Reel Service	5
Hose Replacement	6
TROUBLESHOOTING GUIDE	7
HOSE LENGTH CALCULATIONS	8

I NTRODUCTION

This manual contains Installation, Service and Troubleshooting information for the Single Line Hose Reels. For additional questions, refer to the back cover for the nearest Cascade Service Department.

Refer to the chart for the appropriate type of junction block for Cascade attachments. See Technical Bulletin 291 for junction block selection and part numbers.

To order replacement parts, contact the Cascade Central Parts Depot:

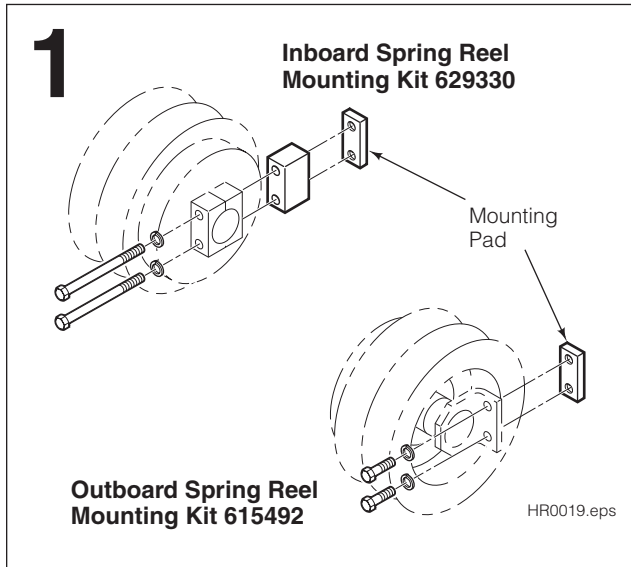
Cascade Corporation
P.O. Box 360
Springfield, Ohio 45505
Tel.: (513) 322-1199
Telex: 279563
Fax: (513) 325-9270

Junction Block Selection Guide		
Attachment	Junction Block	
	With Checks	Without Checks
Sideshifter	X	
Fork Positioner	X	
Integral Carriage	X	
Paper Roll Clamp		X
Push Pull	X	
Carton Clamp		X
Rotators		X
Multiple Load Handlers	X	
Clamps - D Series		X

INSTALLATION

- 1 Install one of the mounting kits listed below to the hose reel shaft.

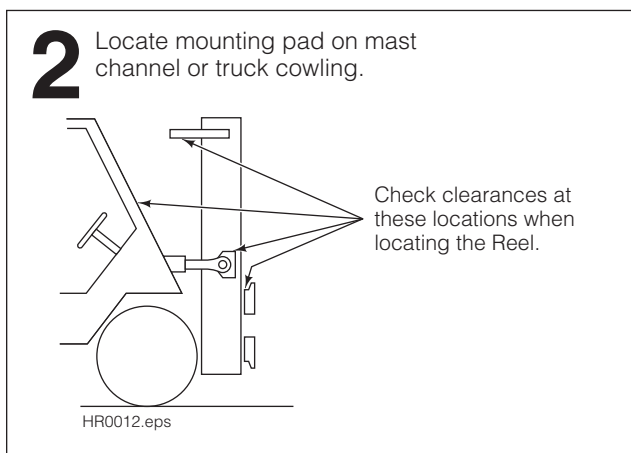
MODEL	MOUNTING KIT
Inboard Spring Reel	629330
Outboard Spring Reel	615492



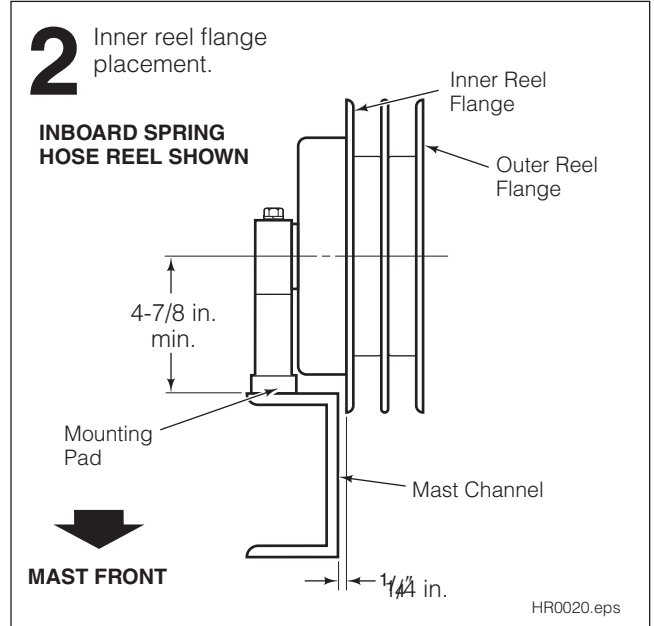
- 2 Determine a location to weld the mounting pad on the mast upright or truck cowling. Consider the following:

- A Locate the mounting pad on the mast channel or truck cowling. The reel flanges must not interfere with:

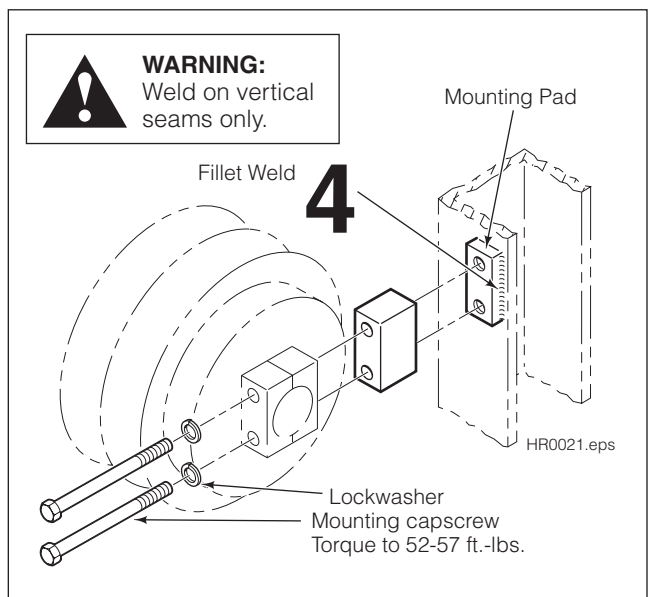
- The truck overhead guard when the mast is tilted all the way back (if the reel is mounted on the mast).
- The truck carriage as it moves past the reel (if the reel is mounted on the mast).
- The mast carriage members when the mast is tilted all the way back (if the reel is mounted on the truck cowling).



- B The inner reel flange should not be no more than 1/4 in. from the side of the mast and should be placed behind the mast channel rather than along the side of it.
- C The reel should not extend beyond the widest part of the truck to prevent possible damage to the reel during truck operation.

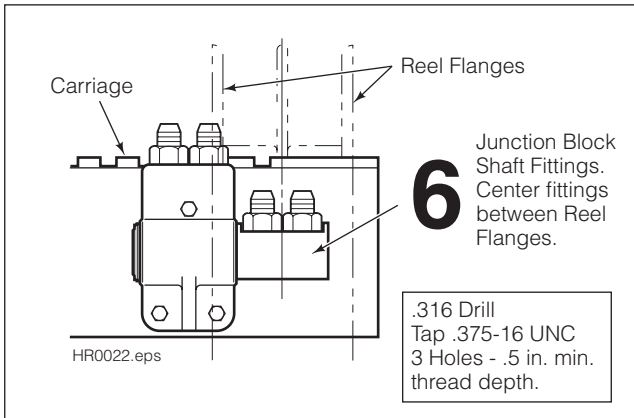


- 3 Remove the mounting kit from the hose reel shaft.
- 4 Weld the mounting pad in place using 3/16 in. fillet welds (use E 60XX rod with no preheat or postheat) along the vertical sides of the mounting pad only. Cover the mast hoist chains to shield from weld splatter.
- 5 Attach the hose reel to the mounting pad. Tighten the caspcrows to a torque of 52-57 ft.-lbs.

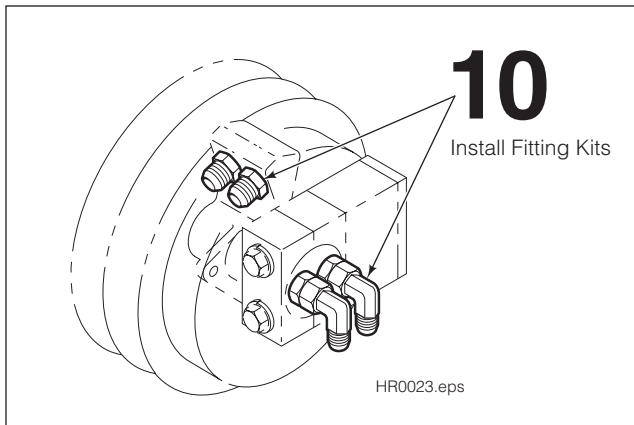


INSTALLATION

- 6 Raise the carriage to a position approximately even with the top of the hose reel. Position the junction block where the shaft fittings are centered between the reel flanges. Using the junction block as a guide, mark the location of the junction block mounting holes on the back side of the carriage. Make sure the junction block is positioned vertically.
- 7 Lower the truck carriage to the floor.
- 8 Drill and tap the holes at the location marked on the carriage. The thread depth should be drilled a minimum of 1/2 in. Hole diameter and drilling information are shown.



- 9 Install the junction block to the carriage using 3/8 in. capscrews and lockwashers. Tighten the capscrews to a torque of 52-57 ft.-lbs.



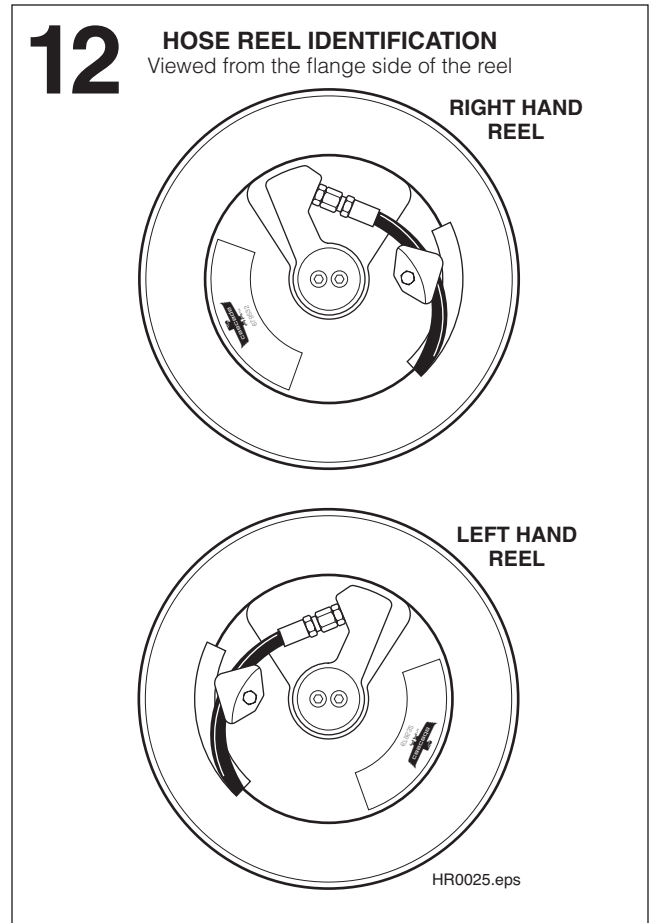
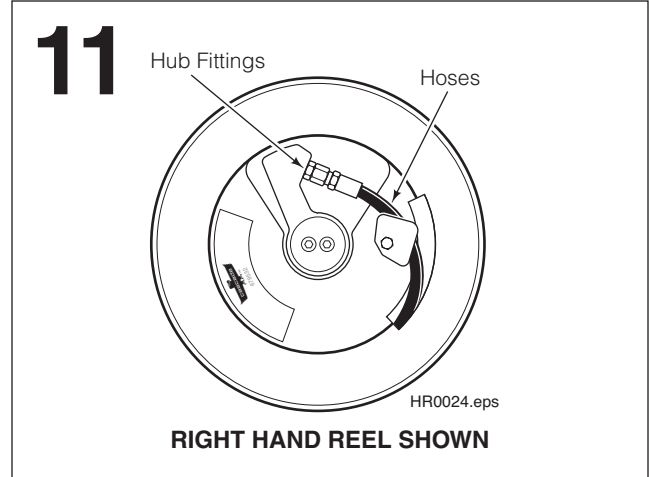
- 10 Install one of the fitting kits listed below to the hose reel shaft and hub ports.

INBOARD SPRING HOSE REELS

FITTING KIT	HOSE SIZE
646063	No. 5
646062	No. 6
646061	No. 8

INBOARD SPRING HOSE REELS

FITTING KIT	HOSE SIZE
646308	No. 5
646307	No. 6
646306	No. 8



- 11 Install the outer hoses to the hose reel hub fittings.

- 12 Wind the outer hose completely onto the reel in the direction indicated (viewed from the flange side):

Right Hand Reel: Wind hose clockwise.

Left Hand Reel: Wind hose counterclockwise.

A Right or Left hand reel is determined as viewed from the flange side of the reel, as shown.

INSTALLATION

- 13** Rewind the reel spring by grasping the end of the outer hose and turning the reel a minimum of 3 turns in the direction indicated (viewed from the flange side):

Right Hand Reel: Wind reel clockwise.

Left Hand Reel: Wind reel counterclockwise.

CAUTION: Rotation in the wrong direction will damage the inner spring.

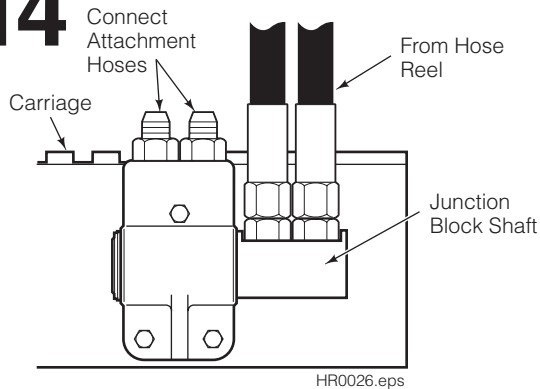
If more tension is required, the reel can be rewound additional turns. The maximum turn capacity is 16 total turns.

CAUTION: Exceeding the turn capacity of the reel will damage the inner reel spring.



WARNING: Do not let the reel unwind when connecting the hose to the junction block.

14

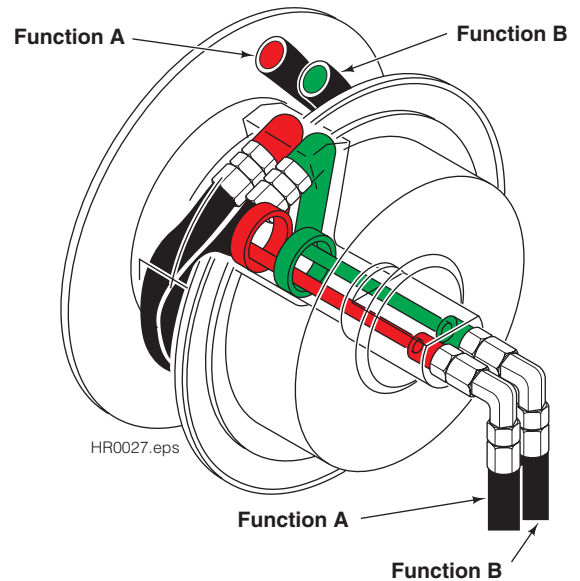


- 14** With the reel rewound, pull the hose ends down and install to the junction block shaft fittings.

- 15** Connect the attachment hoses to the junction block. Be sure the hoses and their functions do not become interchanged.

- 16** Operate the carriage up and down a few times to make sure the hoses track smoothly and no interference exists.

15



SERVICE

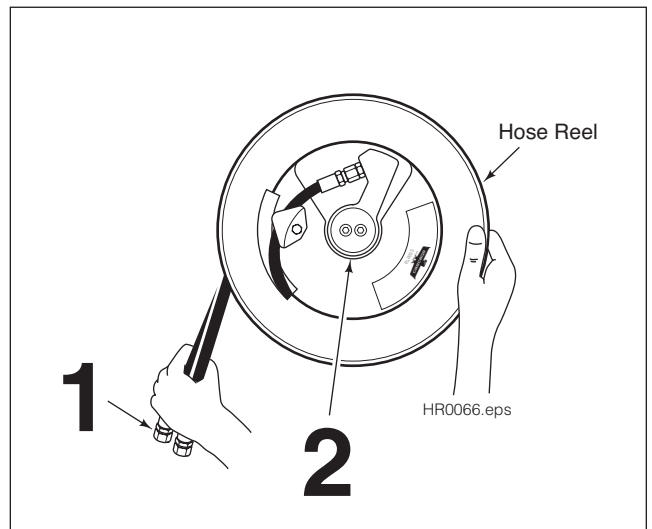
DISCONNECTING THE REEL

- 1** Disconnect the hoses from the junction block shaft fittings. Fasten the loose hose ends to the reel flanges with wire or strapping tape.



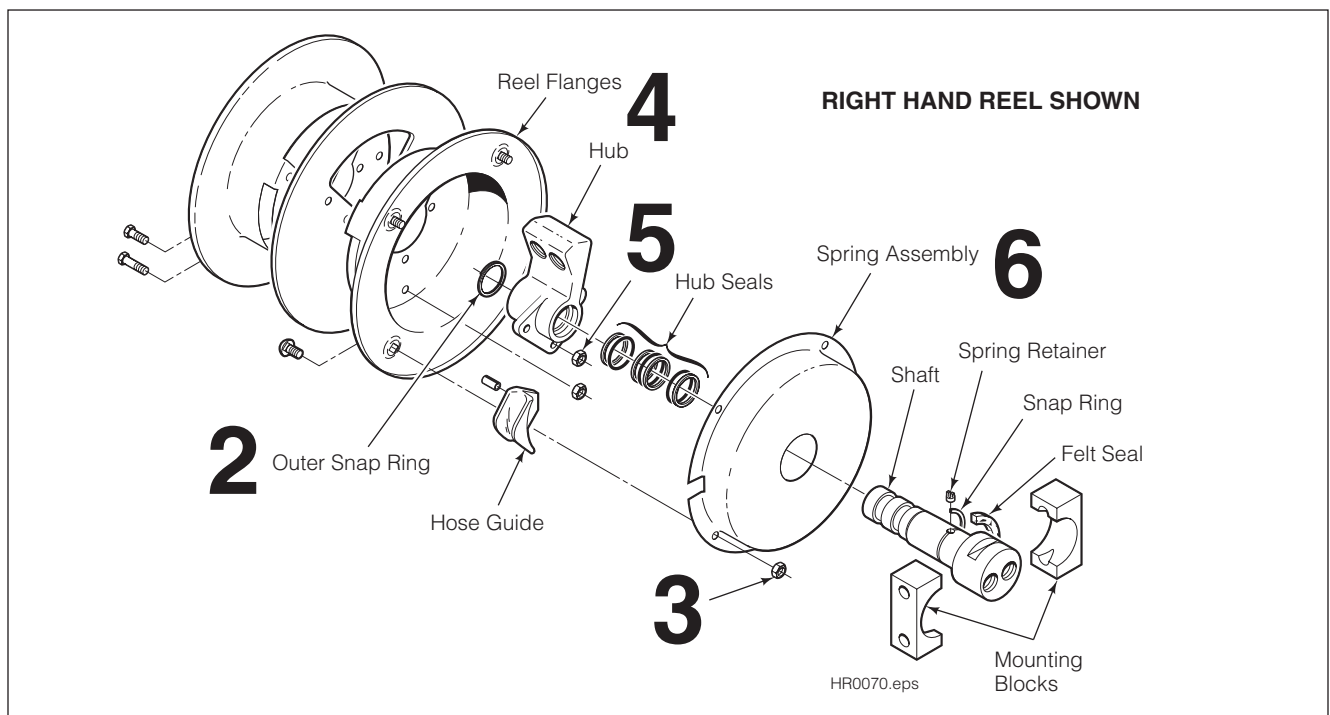
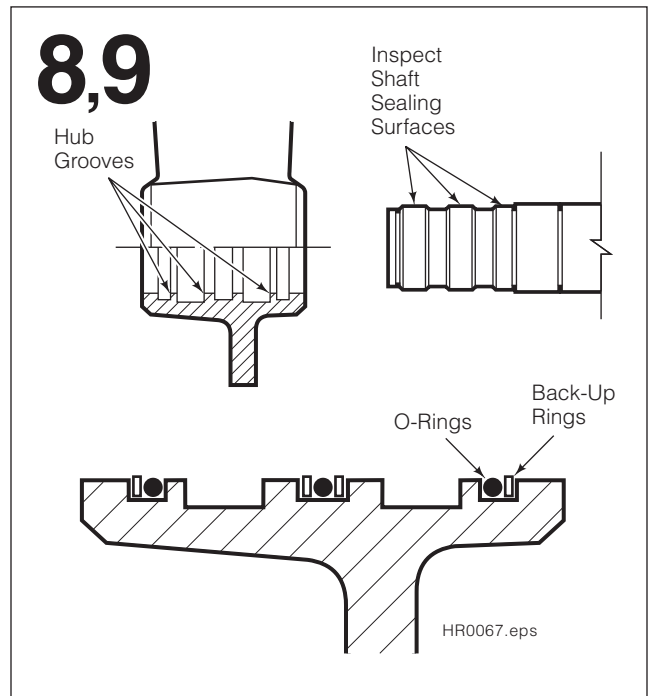
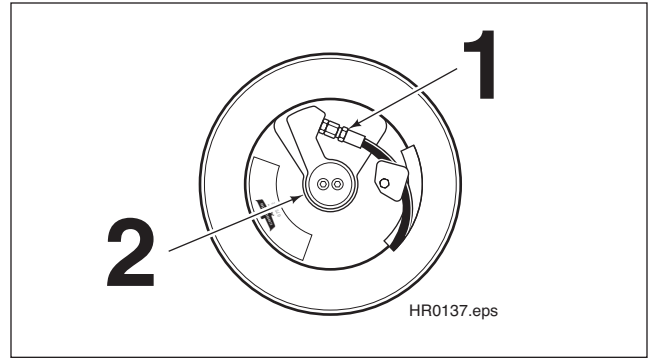
WARNING: Hold hose firmly while disconnecting the hoses from the junction block. Allow the reel spring to unwind slowly while maintaining tension on the hose end.

- 2** Disconnect the hoses from the hose reel shaft fittings.
- 3** Remove the capscrews fastening the reel to the mounting pad. Remove the reel from the mast. For reassembly, tighten the capscrews to a torque of 52-57 in.-lbs.



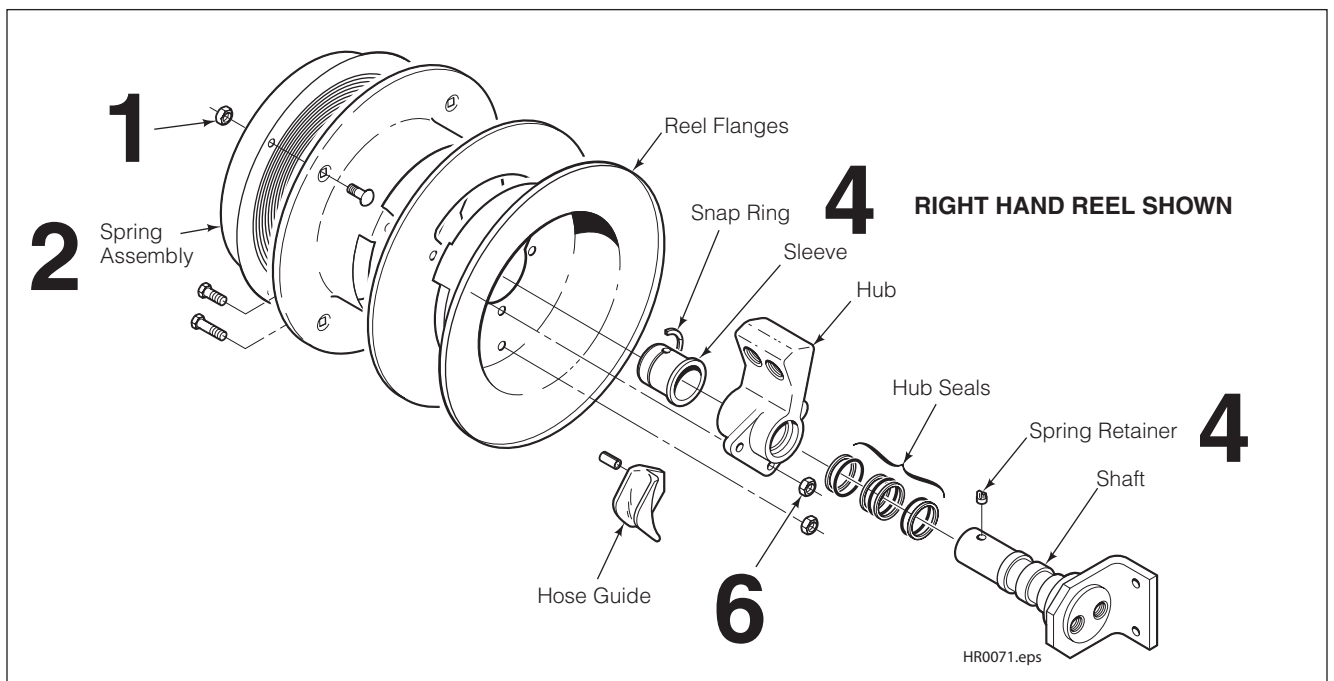
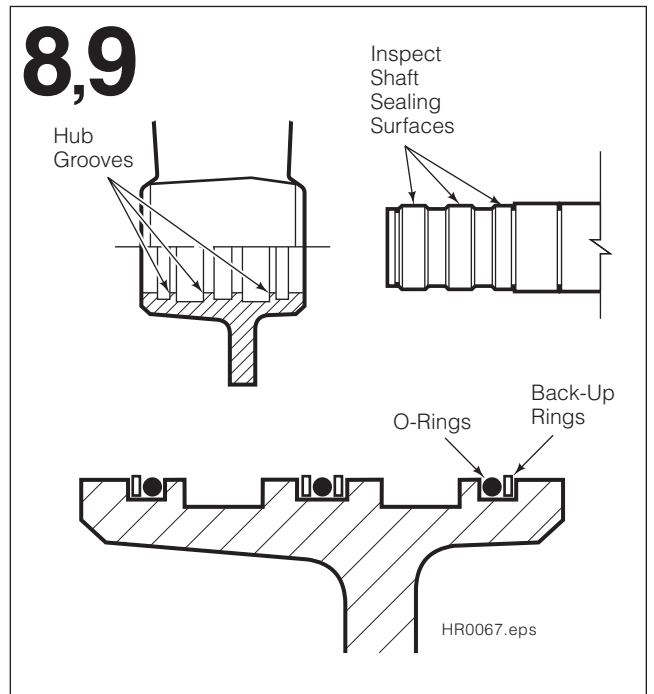
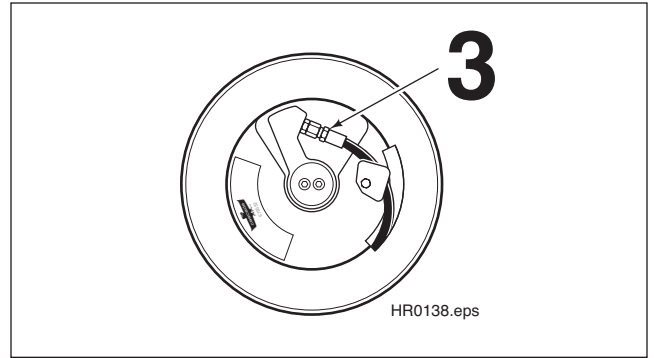
INBOARD SPRING REEL SERVICE

- 1 Disconnect the hoses from the reel hub fittings.
- 2 Remove the outer snap ring from the end of the hose reel shaft.
- 3 Remove the four nuts fastening the spring assembly to the reel flanges. For reassembly, tighten the capscrews to a torque of 70-75 in.-lbs.
- 4 Pull the reel flanges (with hoses) and hub off of the shaft.
- 5 Remove the three capscrews and nuts fastening the reel flanges to the hub. For reassembly, tighten the capscrews to a torque of 70-75 in.-lbs.
- 6 Disengage the spring end of the spring assembly from the spring retainer on the shaft.
- 7 If the spring retainer has been damaged, remove the spring retainer snap ring and install a new spring retainer.
- 8 Remove the seals from the hub. Avoid scratching the grooves. Clean the hub and shaft with solvent.
 - The sealing surface on the shaft is nickel plated. If minor surface imperfections are noted, use emery cloth (320 Grit) to lightly smooth up. If sharp edges or grooves are found, shaft replacement is necessary.
 - Hub grooves must be free of sharp nicks or projections to prevent cutting of the outside diameter of the o-rings during installation.
- 9 For reassembly, reverse the above procedures except as follows:
 - Lubricate the shaft, seal and bore of the hub with hydraulic oil.
 - Install the back-up rings into the hub grooves. Place a portion of the ring in the groove, then bend as required to install. Install the o-ring seals.
 - Install the reel to the mast as described in the Installation Instructions.



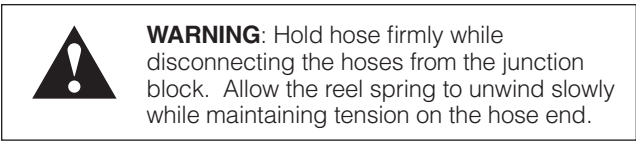
OUTBOARD SPRING REEL SERVICE

- 1 Remove the four nuts fastening the spring assembly to the reel flanges. For reassembly, tighten the capscrews to a torque of 70-75 in.-lbs.
- 2 Disengage the spring end of the spring assembly from the spring retainer on the shaft. Remove the spring assembly.
- 3 Disconnect the hoses from the reel hub fittings.
- 4 Remove the spring retainer snap ring, spring retainer and sleeve from the shaft.
- 5 Pull the reel flanges (with hoses) and hub off of the shaft.
- 6 Remove the three capscrews and nuts fastening the reel flanges to the hub. For reassembly, tighten the capscrews to a torque of 70-75 in.-lbs.
- 7 If the spring retainer has been damaged, it should be replaced at this time.
- 8 Remove the seals from the hub. Avoid scratching the grooves. Clean the hub and shaft with solvent.
 - The sealing surface on the shaft is nickel plated. If minor surface imperfections are noted, use emery cloth (320 Grit) to lightly smooth up. If sharp edges or grooves are found, shaft replacement is necessary.
 - Hub grooves must be free of sharp nicks or projections to prevent cutting of the outside diameter of the o-rings during installation.
- 9 For reassembly, reverse the above procedures except as follows:
 - Lubricate the shaft, seal and bore of the hub with hydraulic oil.
 - Install the back-up rings into the hub groove. Place a portion of the ring in the groove, then bend as required to install. Install the o-ring seals.
 - Install the reel to the mast as described in the Installation Instructions.

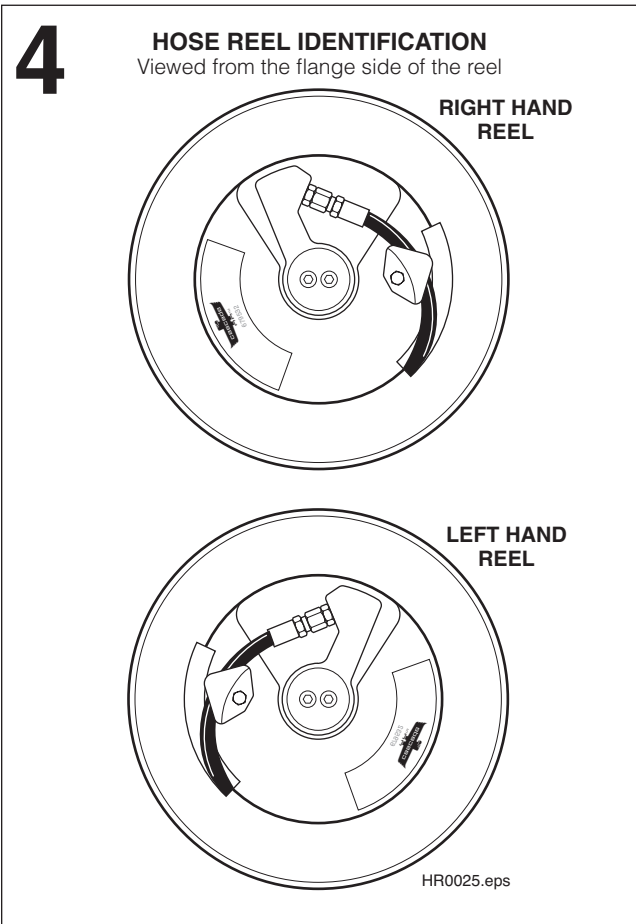
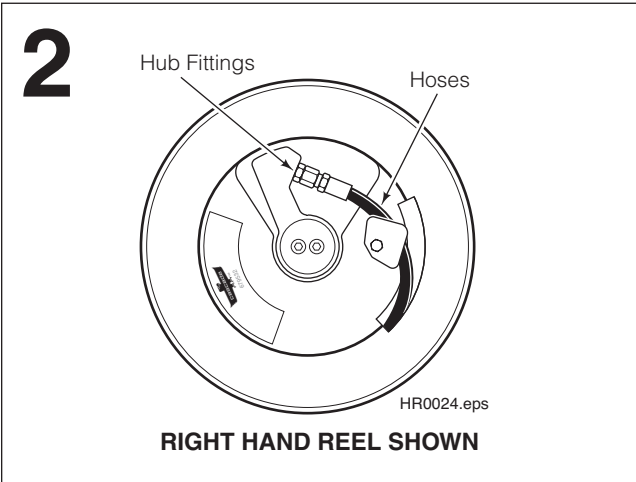


HOSE REPLACEMENT

- 1 Disconnect the hoses from the junction block shaft fittings.



- 2 Disconnect the hoses from the reel hub fittings.



- 3 Install the new outer hoses to the hose reel hub fittings.
- 4 Wind the outer hose completely onto the reel in the direction indicated (viewed from flange side):

Right Hand Reel: Wind hose clockwise.

Left Hand Reel: Wind hose counterclockwise.

A Right or Left hand reel is determined as viewed from the flange side of the reel.

- 5 Prewind the reel spring by grasping the end of the outer hose and turning the reel a minimum of 3 turns in the direction indicated (viewed from the flange side):

Right Hand Reel: Wind reel clockwise.

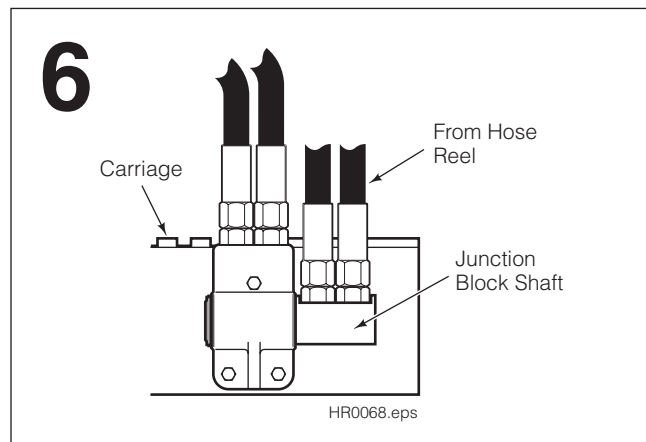
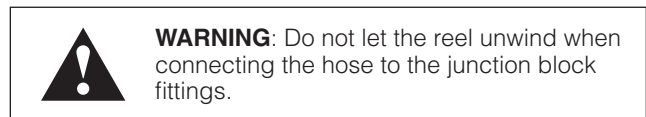
Left Hand Reel: Wind reel counterclockwise.

CAUTION: Rotation in the wrong direction will damage the inner spring.

If more tension is required, the reel can be prewound additional turns. The maximum turn capacity is 16 total turns.

CAUTION: Exceeding the turn capacity of the reel will damage the inner reel spring.

- 6 With the reel prewound, pull the hose ends down and install to the junction block shaft fittings.



- 7 Operate the carriage up and down a few times to make sure the hoses track smoothly and no interference exists.

TROUBLESHOOTING

PROBLEM	PROBLEM CAUSE	SOLUTION
Excessive wear on the hose.	Hose reel and junction block are not in proper alignment.	Align the junction block and hose reel properly. They must be on the same centerline and mounted squarely to each other. See page 2, step 6.
	Hose reel flanges are damaged.	Repair or replace damaged parts.
Hose jumps off the reel during operation.	Incorrect prewind of spring.	Prewind spring. Refer to page 2, step 13 through 16.
	Hose reel and junction block are not in proper alignment.	Align the junction block and hose reel properly. They must be in the same centerline and mounted squarely to each other. See page 2, step 6.
Hose binds during operation.	Hose reel spring is broken.	Replace spring.
	Seals in hub working between shaft and hub.	Replace hub seals.
	Scored seal areas.	Replace the damaged hub and/or shaft.
Hose reel leaks at the hub.	Damaged seals in the hub.	Replace the hub seals.
	Loose or damaged fittings.	Tighten or replace damaged fittings.
	Scored seal areas.	Replace the damaged hub and/or shaft.

H OSE LENGTH CALCULATIONS

H = Total lift height

D = Distance from centerline of reel to junction block.

1 When **H** is equal to, or greater than $2 \times D$, the correct hose length is $H - D + 38$ in.

2 When **H** is less than $2 \times D$, the correct hose length is $D + 38$ in.

Example:

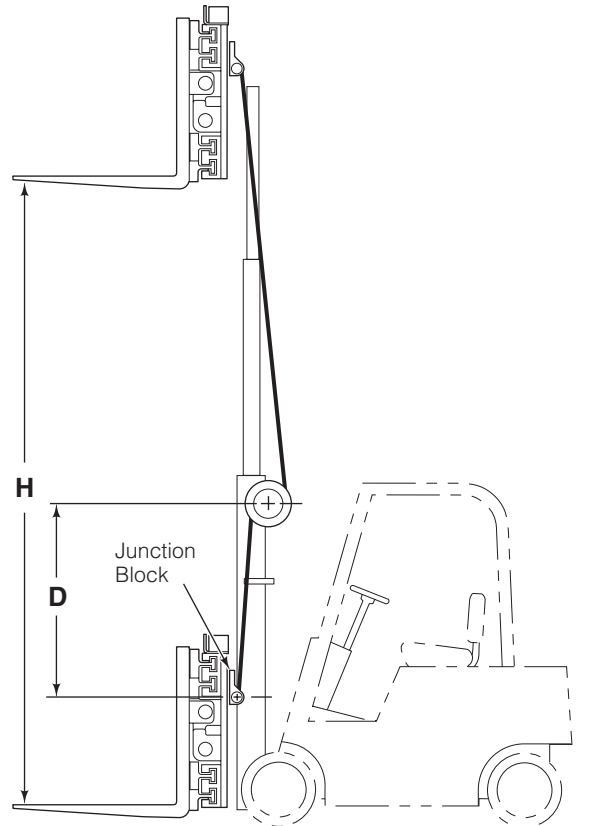
H = 286 in.

D = 96 in.

$2 \times 96 = 192$ (H is greater than $2 \times D$)

$286 - 96 = 190 + 38 = 228$ in.

Correct hose length



HR0069.eps

WORKSHEET

- 1** **H** = (Enter mast lift height here) _____
- 2** **D** = (Enter distance between junction block and center of reel with truck carriage completely lowered) _____
- 3** Multiply **D** by 2 _____
- 4** If line 1 is less than line 3, the hose length should be:

D (line 2)	_____
+ 38 in.	_____ 38 in.
Hose Length =	_____
- 5** If line 1 is equal to or larger than line 3, the hose length should be:

H (line)	_____
- D (line 2)	_____
+ 38 in.	_____ 38 in.
Hose Length =	_____

This page intentionally left blank

Do you have questions you need answered right now? Call your nearest Cascade Service Department. Visit us online at www.cascorp.com

AMERICAS

**Cascade Corporation
U.S. Headquarters**
2201 NE 201st
Fairview, OR 97024-9718
Tel: 800-CASCADE (227-2233)
Fax: 888-329-8207

Cascade Canada Inc.
5570 Timberlea Blvd.
Mississauga, Ontario
Canada L4W-4M6
Tel: 905-629-7777
Fax: 905-629-7785

Cascade do Brasil
Rua João Guerra, 134
Macuco, Santos - SP
Brasil 11015-130
Tel: 55-13-2105-8800
Fax: 55-13-2105-8899

EUROPE-AFRICA

**Cascade Italia S.R.L.
European Headquarters**
Via Dell'Artigianato 1
37030 Vago di Lavagno (VR)
Italy
Tel: 39-045-8989111
Fax: 39-045-8989160

Cascade (Africa) Pty. Ltd.
PO Box 625, Isando 1600
60A Steel Road
Sparton, Kempton Park
South Africa
Tel: 27-11-975-9240
Fax: 27-11-394-1147

ASIA-PACIFIC

Cascade Japan Ltd.
2-23, 2-Chome,
Kukuchi Nishimachi
Amagasaki, Hyogo
Japan, 661-0978
Tel: 81-6-6420-9771
Fax: 81-6-6420-9777

Cascade Korea
121B 9L Namdong Ind.
Complex, 691-8 Gojan-Dong
Namdong-Ku
Inchon, Korea
Tel: +82-32-821-2051
Fax: +82-32-821-2055

Cascade-Xiamen
No. 668 Yangguang Rd.
Xinyang Industrial Zone
Haicang, Xiamen City
Fujian Province
P.R. China 361026
Tel: 86-592-651-2500
Fax: 86-592-651-2571

**Cascade India Material
Handling Private Limited**
No 34, Global Trade Centre
1/1 Rambaugh Colony
Lal Bahadur Shastri Road,
Navi Peth, Pune 411 030
(Maharashtra) India
Phone: +91 020 2432 5490
Fax: +91 020 2433 0881

Cascade Australia Pty. Ltd.
1445 Ipswich Road
Rocklea, QLD 4107
Australia
Tel: 1-800-227-223
Fax: +61 7 3373-7333

Cascade New Zealand
15 Ra Ora Drive
East Tamaki, Auckland
New Zealand
Tel: +64-9-273-9136
Fax: +64-9-273-9137

**Sunstream Industries
Pte. Ltd.**
18 Tuas South Street 5
Singapore 637796
Tel: +65-6795-7555
Fax: +65-6863-1368

