

# INSTALLATION and MAINTENANCE INSTRUCTIONS

## SZ-24 DIRECT DRIVE HAZARDOUS DUTY ELECTRIC CABLE REELS

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

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

### ⚠ WARNING

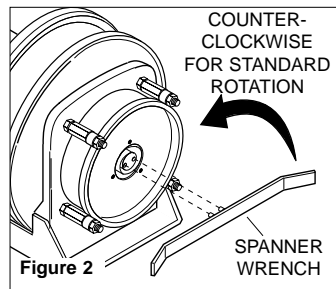
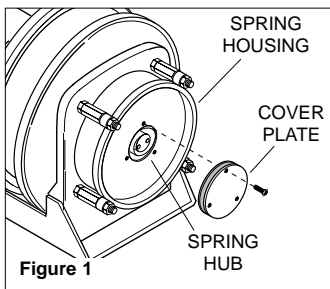
Some reels with large or multiple springs are equipped with a ratcheted adjustment wrench. Follow separate instructions for its use. Failure to use ratcheted wrench, on reels so equipped, could result in serious personal injury.

### ⚠ 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 cable run.
3. Position optional cable guide, if reel is so equipped.
4. Connect free end of cable to junction box on machine or adjust cable stop so that desired length of cable 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.)



### ⚠ CAUTION

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

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

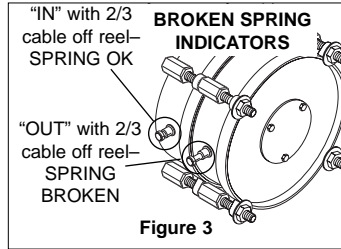
**NOTE:** On reels containing more than one spring, the hubs are connected at the factory. Therefore, by tightening the outer spring, the inside spring(s) will be tightened.

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

### MAINTENANCE

**Periodically:** A. Use compressed air to clean collector assembly and inside of collector housing. Inspect collector assembly for brush wear and pitted slip rings.

B. Inspect cable for wear and check mounting bolts and other hardware for tightness.



C. Check for broken springs by pulling about 2/3 cable 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.

### SPRING REPLACEMENT

### ⚠ 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.

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 cable from machine junction box.
3. Wind all cable 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.**

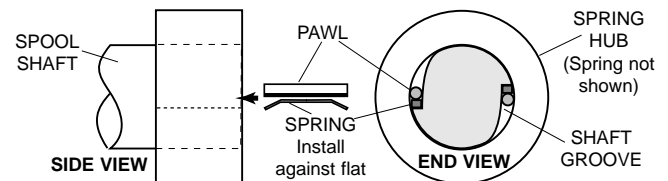
Continue to rotate spool and strike end of shaft several sharp blows with a lead hammer or rubber mallet until shaft rotates freely and hub remains stationary.

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 pawls 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.



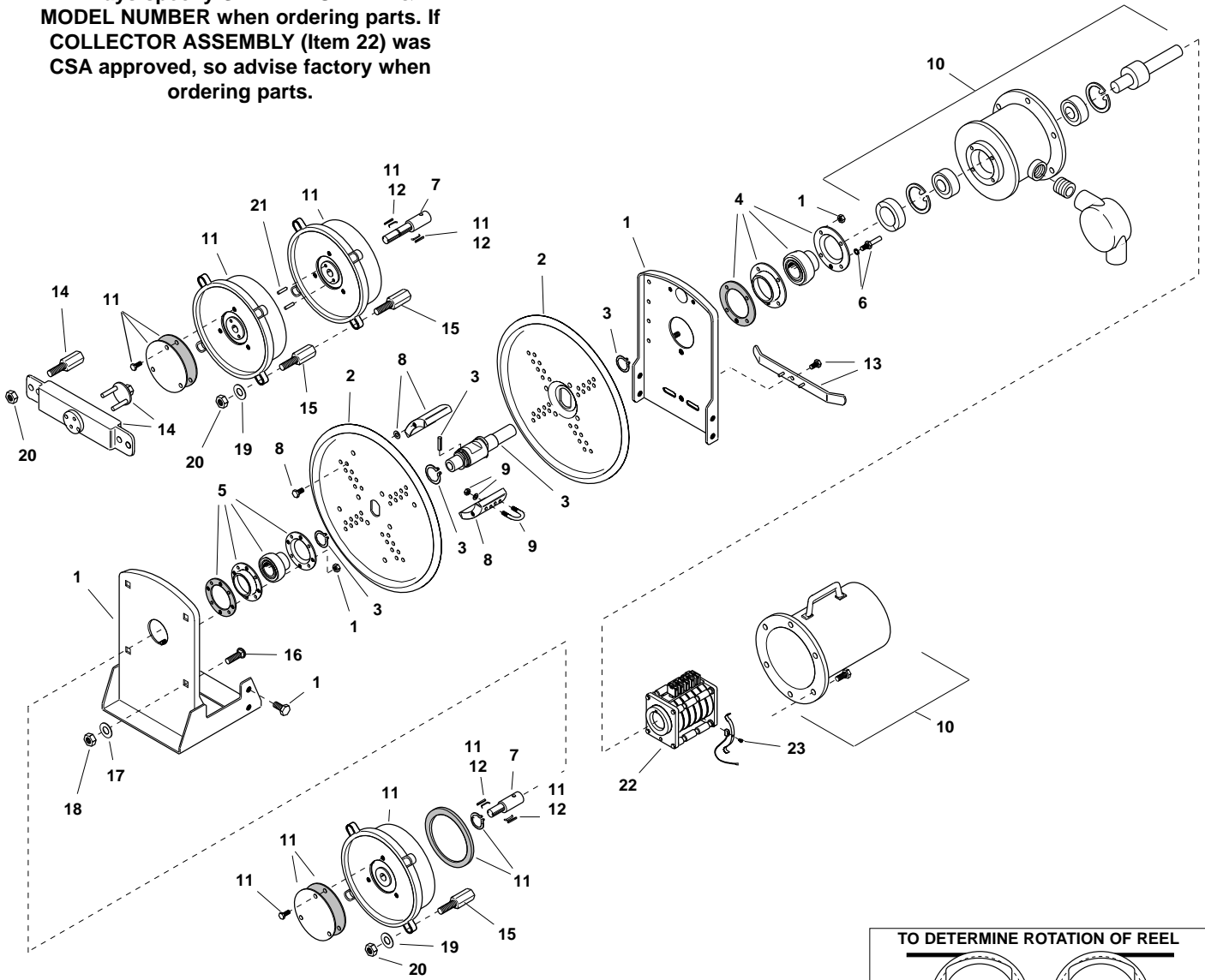
9. Tighten nuts (and extension bolts) securing spring housing(s) to reel frame.
10. Connect free end of cable to junction box on machine or adjust cord stop so that desired length of cord extends from reel.
11. Tension spring with spanner wrench. Refer to **INSTALLATION** section.
12. Replace inspection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

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# ILLUSTRATED PARTS LIST

## SZ-24 DIRECT DRIVE HAZARDOUS DUTY ELECTRIC CABLE REELS

Always specify **SERIAL NUMBER & MODEL NUMBER** when ordering parts. If **COLLECTOR ASSEMBLY (Item 22)** was CSA approved, so advise factory when ordering parts.



**TO DETERMINE ROTATION OF REEL**

|                          |                         |
|--------------------------|-------------------------|
|                          |                         |
| <b>STANDARD ROTATION</b> | <b>REVERSE ROTATION</b> |

Cable is payed out and retracted as shown when viewing reel from spring motor side.

# SZ-24 DIRECT DRIVE HAZARDOUS DUTY CABLE REEL REPLACEMENT PARTS LIST

NOTE: Applicable mounting hardware included with each kit.

| ITEM | KIT NO.  | DESCRIPTION  | QTY. |
|------|----------|--|------|
| 1    | 01239401 | Frame Assembly   | 1    |
| 2    | 012407   | Discs (Set of two)   | 1    |
| 3    | 01239701 | Main Shaft Assembly<br>(Includes drive pin and retaining rings)                                  | 1    |
| 4    | 012402   | Bearing Kit--2" Bore<br>(Includes housing and gasket)  | 1    |
| 5    | 012401   | Bearing Kit--1.75" Bore<br>(Includes housing and gasket)   | 1    |
| 6    | 012456   | Drive Stud Kit   | 1    |
| 7    | 012208   | Stub Shaft, Std. Rotation (351, 601)   | 1    |
| 7    | 01220801 | Stub Shaft, Rev. Rotation (351, 601)   | 1    |
| 7    | 012209   | Stub Shaft, Std. Rot. (621, 751, 801)  | 1    |
| 7    | 01220901 | Stub Shaft, Rev. Rot. (621, 751, 801)  | 1    |
| 7    | 012210   | Stub Shaft, Std. Rot. (622, 752, 802)  | 1    |
| 7    | 01221001 | Stub Shaft, Rev. Rot. (622, 752, 802)  | 1    |
| 7    | 012211   | Stub Shaft, Std. Rot. (623, 753, 803)  | 1    |
| 7    | 01221101 | Stub Shaft, Rev. Rot. (623, 753, 803)  | 1    |
| 7    | 012212   | Stub Shaft, Std. Rot. (624, 754, 804)  | 1    |
| 7    | 01221201 | Stub Shaft, Rev. Rot. (624, 754, 804)  | 1    |
| 7    | 012213   | Stub Shaft, Std. Rotation (1001)   | 1    |
| 7    | 01221301 | Stub Shaft, Rev. Rotation (1001)   | 1    |
| 7    | 012214   | Stub Shaft, Std. Rotation (1002)   | 1    |
| 7    | 01221401 | Stub Shaft, Rev. Rotation (1002)   | 1    |
| 7    | 012371   | Stub Shaft, Std. Rotation (1003)   | 1    |
| 7    | 01237101 | Stub Shaft, Rev. Rotation (1003)   | 1    |
| 7    | 014619   | Stub Shaft, Std. Rotation (1004)   | 1    |
| 7    | 01461901 | Stub Shaft, Rev. Rotation (1004)   | 1    |
| 8    | 012416   | Wrapper Kit--5" Wide, 8" to 14" Dia.<br>(Includes 4 wrapper sections)                            | 1    |
| 8    | 012417   | Wrapper Kit--5" Wide, 15" to 20" Dia.<br>(Includes 8 wrapper sections)                           | 1    |
| 9    | 012444   | Cable Clamp Kit .38--.74 Dia. Cable<br>(U-bolt with lockwashers and hex nuts)                    | 1    |
| 9    | 012445   | Cable Clamp Kit .75--1.11 Dia. Cable   | 1    |
| 9    | 012446   | Cable Clamp Kit 1.12--1.50 Dia. Cable  | 1    |
| 10   | 03303901 | Enclosure Assembly<br>2, 3, 4 pole/35 Amp collectors   | 1    |
| 10   | 03303902 | Enclosure Assembly<br>4, 6 p/35A; 2,3,4p/75A; 2p/125A;<br>2p/200A collectors                     | 1    |
| 10   | 03303903 | Enclosure Assembly<br>10, 12p/35A; 6p/75A; 3p/125A collectors                                    | 1    |
| 10   | 03303904 | Enclosure Assembly<br>14, 16p/35A; 8p/75A; 4p/125A collectors                                    | 1    |
| 10   | 03303905 | Enclosure Assembly<br>20, 24pole/35Amp collectors  | 1    |
| 10   | 03303906 | Enclosure Assembly<br>30, 36 pole/35 Amp collectors  | 1    |
| 11   | 017041   | Spring Motor Kit, Std.. Rot.--35<br>(Includes pawl, pawl springs, cover, gaskets, and snap ring) | ar   |
| 11   | 017042   | Spring Motor Kit, Rev. Rot.--35  | ar   |
| 11   | 017043   | Spring Motor Kit, Std. Rot.--60  | ar   |
| 11   | 017044   | Spring Motor Kit, Rev. Rot.--60  | ar   |
| 11   | 017045   | Spring Motor Kit, Std. Rot.--62  | ar   |
| 11   | 017046   | Spring Motor Kit, Rev. Rot.--62  | ar   |
| 11   | 017047   | Spring Motor Kit, Std. Rot.--75  | ar   |
| 11   | 017048   | Spring Motor Kit, Rev. Rot.--75  | ar   |
| 11   | 017049   | Spring Motor Kit, Std. Rot.--80  | ar   |
| 11   | 017050   | Spring Motor Kit, Rev. Rot.--80  | ar   |
| 11   | 017051   | Spring Motor Kit, Std. Rot.--100   | ar   |
| 11   | 017052   | Spring Motor Kit, Rev. Rot.--100   | ar   |

| ITEM | KIT NO.  | DESCRIPTION   | QTY. |
|------|----------|---|------|
| 12   | 012425   | Pawl Kit (35, 60 Springs)<br>(Includes 2 pawls and springs)           | ar   |
| 12   | 012426   | Pawl Kit (62, 75, 80 Springs)   | ar   |
| 12   | 012427   | Pawl Kit (100 Springs)  | ar   |
| 13   | 017190   | Spanner Wrench (35 - 80 Springs)                                      | 1    |
| 13   | 017191   | Spanner Wrench (100 Springs)  | 1    |
| 14   | 032805   | Ratchet Wrench Kit (75, 80 Springs)<br>(Includes mounting bolts)      | 1    |
| 14   | 032804   | Ratchet Wrench Kit (100 Springs)                                      | 1    |
| 15   | 017054   | Extension Bolts (35 - 80 Springs)<br>(4 bolts per kit--less hardware) | ar   |
| 15   | 017055   | Extension Bolts (100 Springs)   | ar   |
| 16   | 016182   | Carriage Bolt, .50--13 x 1.5  | ar   |
| 17   | 021291   | Lockwasher, .56 Med., Z.P.  | ar   |
| 18   | 100959   | Hex Nut, .50--13, Z.P.  | ar   |
| 19   | 101211   | Flat Washer, .50  | ar   |
| 20   | P06-03   | ESNA Lock Nut, .50--13, Z.P.  | ar   |
| 21   | 021762   | Hub Lock Pins (100 Springs)   | ar   |
| 21   | 021761   | Hub Lock Pins (All Other Springs)                                     | ar   |
| 22   | 012285   | Collector Assembly, 2 Pole, 35 Amp                                    | 1    |
| 22   | 012286   | Collector Assembly, 3 Pole, 35 Amp                                    | 1    |
| 22   | 012287   | Collector Assembly, 4 Pole, 35 Amp                                    | 1    |
| 22   | 012288   | Collector Assembly, 6 Pole, 35 Amp                                    | 1    |
| 22   | 012289   | Collector Assembly, 8 Pole, 35 Amp                                    | 1    |
| 22   | 012290   | Collector Assembly, 10 Pole, 35 Amp                                   | 1    |
| 22   | 012291   | Collector Assembly, 12 Pole, 35 Amp                                   | 1    |
| 22   | 012292   | Collector Assembly, 14 Pole, 35 Amp                                   | 1    |
| 22   | 012293   | Collector Assembly, 16 Pole, 35 Amp                                   | 1    |
| 22   | 012294   | Collector Assembly, 20 Pole, 35 Amp                                   | 1    |
| 22   | 012295   | Collector Assembly, 24 Pole, 35 Amp                                   | 1    |
| 22   | 012296   | Collector Assembly, 30 Pole, 35 Amp                                   | 1    |
| 22   | 012297   | Collector Assembly, 36 Pole, 35 Amp                                   | 1    |
| 22   | 012298   | Collector Assembly, 2 Pole, 75 Amp                                    | 1    |
| 22   | 012299   | Collector Assembly, 3 Pole, 75 Amp                                    | 1    |
| 22   | 012300   | Collector Assembly, 4 Pole, 75 Amp                                    | 1    |
| 22   | 012376   | Collector Assembly, 6 Pole, 75 Amp                                    | 1    |
| 22   | 012377   | Collector Assembly, 8 Pole, 75 Amp                                    | 1    |
| 22   | 037194   | Collector Assembly, 2 Pole, 125 Amp                                   | 1    |
| 22   | 037294   | Collector Assembly, 3 Pole, 125 Amp                                   | 1    |
| 22   | 037295   | Collector Assembly, 4 Pole, 125 Amp                                   | 1    |
| 22   | 012304   | Collector Assembly, 2 Pole, 200 Amp                                   | 1    |
| 23   | 012440   | Brush Kit (35 Amp)<br>(Each kit includes 4 brushes and 4 fingers)     | ar   |
| 23   | 012441   | Brush Kit (75 Amp)  | ar   |
| 23   | 012443   | Brush Kit (125 Amp/200 Amp)   | ar   |
| n.s. | 02180901 | Seal Kit (Use to install cable)                                       | 1    |

**⚠ WARNING**  
Failure to carefully follow instructions in Seal Kit could result in reel that does not meet Hazardous Duty Certification.

**NOTE:**  
Please consult factory for optional accessories: roller guides, ratchet lock, limit switch, hoop guides, spool lock, and swivel base. **If Collector Assembly was CSA approved, so advise factory when ordering parts.**

## MODEL NUMBER EXPLANATION



INDICATES REVERSE ROTATION.  
NO LETTER INDICATES STANDARD ROTATION.

## AMPACITY

| CODE | AMPS |
|------|------|
| 3    | 35   |
| 7    | 75   |
| 12   | 125  |
| 20   | 200  |

## CABLE INSTALLATION & REMOVAL

Use the procedure detailed on HAZARDOUS DUTY CABLE REEL SEALING INSTRUCTIONS (bulletin 039789) which comes with sealing kit (available separately).

### **⚠ CAUTION**

Carefully read and follow instructions supplied with separate sealing kit as well as instructions for sealing compound. Failure to properly follow those instructions could result in damage to equipment, personal injury or death.

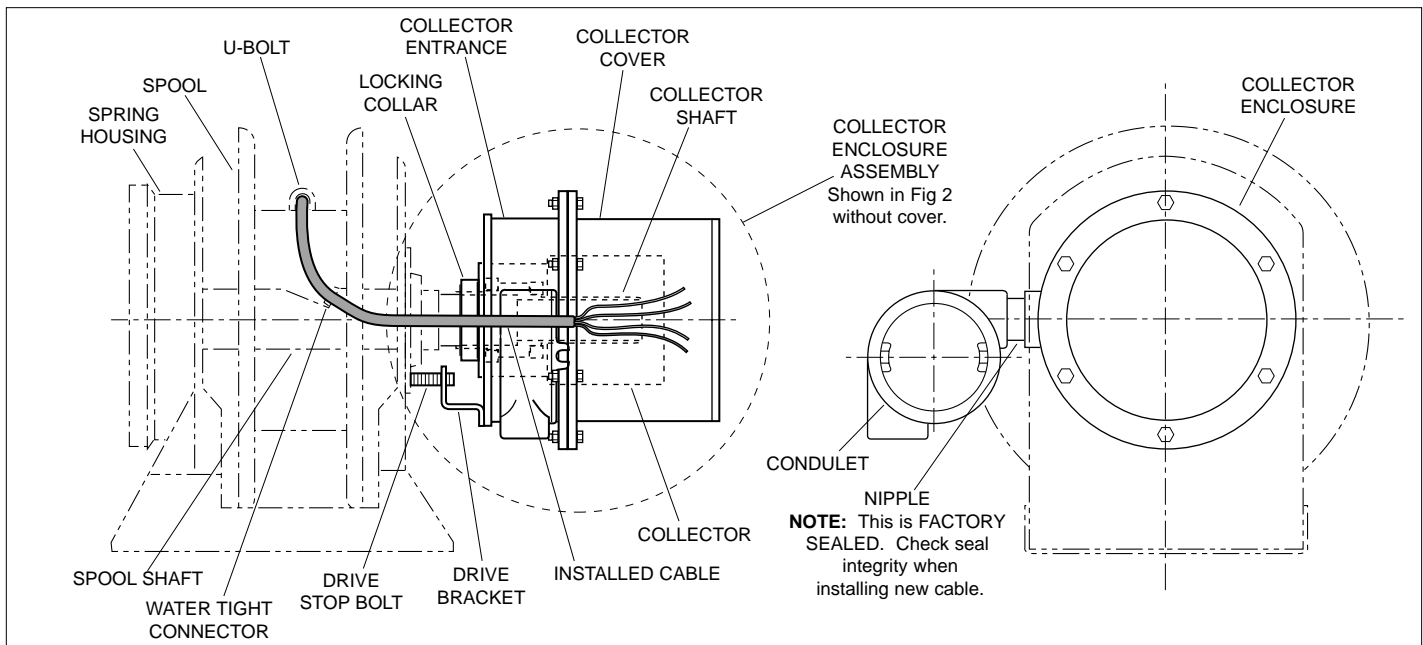
## CABLE REMOVAL

### **⚠ CAUTION**

Always open all breakers and disconnect electrical power to reel. Failure to turn off electrical power could lead to serious injury or death.

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 power to reel.
3. Remove collector cover and gasket.
4. Disconnect electric leads to and from collector.
5. Follow Steps 3–9, REMOVING OLD CABLE, on bulletin 039789.

## CABLE INSTALLATION REFERENCE DRAWING



**GLEASON REEL CORP.**  
600 South Clark St.  
Mayville, WI 53050-0026  
Phone 920-387-4120 • Fax 920-387-4189