

### -IMPORTANT- MAINTENANCE INFORMATION

Serial No. \_\_\_\_\_

Model No. \_\_\_\_\_

Assembly No. \_\_\_\_\_

Stroke \_\_\_\_\_

Cut Cable A \_\_\_\_\_

Cut Cable B \_\_\_\_\_

To repair this cable cylinder order:

Repair Kit No. \_\_\_\_\_

W.C. Branham Inc. - Customer Service  
398 Troy Street  
River Falls, Wisconsin 54022

TELE (715) 426-2000 • FAX (715) 426-1400

### INSTALLATION TIPS!

1. When installing your W.C. Branham cable cylinder be extra careful not to scratch or mar the nylon jacket on the cable. If minor damage does occur it may be removed by buffing the marred area with a very light grade of emery paper. If damage is deep it is best to order a replacement cable assembly. Locate the repair kit part number above.
2. The cable cylinder may be mounted from either the top or bottom surface of the cylinder heads. When attaching the clevis or load bracket to the item to be driven be sure it is in perfect alignment to the center line of the cylinder in order not to deflect the cable to either side. Such deflection will cause premature cable fatigue and seal failure.
3. All cable cylinders are shipped without the cables being pretensioned. The cables must be tensioned after mounting to insure the maximum service life of the cylinder. See pretensioning instructions to the right.

### PRETENSIONING INSTRUCTIONS

There are two types of inherent stretch in cable - constructional and elastic. The constructional stretch is removed by proof loading the cable. The elastic stretch is removed by proper pretensioning the cable.

### -PROOF LOADING THE CABLES-

1. Tighten the clevis terminal lock nuts equally with a torque wrench to the specified torque value in Table 1.
2. Let set for 30 seconds to one minute.
3. Loosen lock nuts to remove tension, but tight enough to eliminate any slack.
4. Proceed with pretensioning instructions.

TABLE 1

TORQUE REQUIRED TO PROOF  
LOAD CABLES

Bore Size	Torque, in.lb
0.5" .....	.15
.75" .....	.15
1.0" .....	.15
1.5" .....	.45
1.75" .....	.45
2.0" .....	.115
2.5" .....	.115
3.0" .....	.210
4.0" .....	.210
2.0"HP .....	.210

### -PRETENSIONING-

1. Block the driven member some distance from the end of travel to keep the cylinder piston from bottoming into the cylinder head. *If the driven member cannot be blocked for cable pretensioning, use the alternate method described on next page.*
2. Apply pressure to the cylinder that is 15% to 20% higher than actual load pressure. Load pressure is defined as the pressure required to move the driven member. *Note: If the driven member is stopped externally before the cylinder piston bottoms out during operation, the relief valve or regulator setting becomes the load pressure.*
3. Upon pressurizing the cylinder you will notice one cable become slack and the other will become tight. Manually adjust out the slack by tightening the terminal lock nut.

## Cable Cylinder Maintenance and Repair Guide (cont'd.)

4. Release the pressure.
5. Block the driven member from the opposite side. Pressurize the other cylinder port. Repeat the manual adjustment procedure on the other cable, step 3.
6. Release the pressure and remove the block from the driven member.
7. The cable is now pretensioned. Additional manual adjustment should not be required. It is suggested, however, that the cable be checked periodically and be part of your overall system preventive maintenance program.
8. Pull the cable assembly back through each head to remove.
9. String a new cable assembly through the head in reverse order. Lubricate O-ring found on O.D. of gland. Take care in reseating the integral gland. Do not use sharp instruments, they may damage the cable seal or damage the nylon cable jacket.

### -ALTERNATE PRETENSIONING METHOD-

1. Tighten clevis lock nuts with a torque wrench to a total pretensioning torque as stated the table below.

#### ALTERNATE PRETENSIONING TORQUE REQUIRED

Bore Size	Torque, in.lb
0.5" .....	.13
.75" .....	.13
1.0" .....	.13
1.5" .....	.28
1.75" .....	.31
2.0" .....	.71
2.5" .....	.98
3.0" .....	.130
4.0" .....	.213
2.0"HP .....	.140

### REPAIRING YOUR CABLE CYLINDER

1. Dismount the cable cylinder from the machinery.
2. Disconnect cables from clevis or load bracket.
3. Remove sheaves from both heads. Save retaining rings for reattachment.
4. Remove the seal gland retaining ring from each head.
5. Remove the tube retaining socket head cap screws from each head.
6. Grasp one cable and pull the piston towards one end until exposed.
7. Disconnect the cables from each end of the piston.

10. Reinstall the seal gland retaining ring.
11. Replace all seals and gaskets.
12. Reconnect the cable assemblies to the piston. **Loctite® (blue)-242 or Permabond #MM-115 must be used on the piston terminal connections.**
13. Insert piston back into the tube taking care to gently tuck the U-Cups into the tube with a blunt instrument.
14. Reattach the cylinder heads using the socket head cap screws taking care to properly align the heads.
15. Remount the sheave assemblies.
16. Reconnect the cable assemblies to the clevis or load bracket.
17. Test the cable cylinder for function and leaks.
18. Reinstall the cable cylinder to the machinery and follow proof-loading and pretensioning instructions listed on previous page.

### PREVENTIVE MAINTENANCE

Your cable cylinder should be part of a preventive maintenance program. Most likely, the cable cylinder is being used in a high production area where downtime is crucial. It is suggested that you order a repair kit for the cable cylinder and place it in your stores area. By doing so, you minimize the downtime should any unforeseen emergency result.

We suggest that the cable cylinder be kept as clean as possible. Periodically inspect the sheaves, cable and gland seals for contaminants.

Adequately lubricate the cable cylinder with SAE 10 or 20 non-detergent oil.