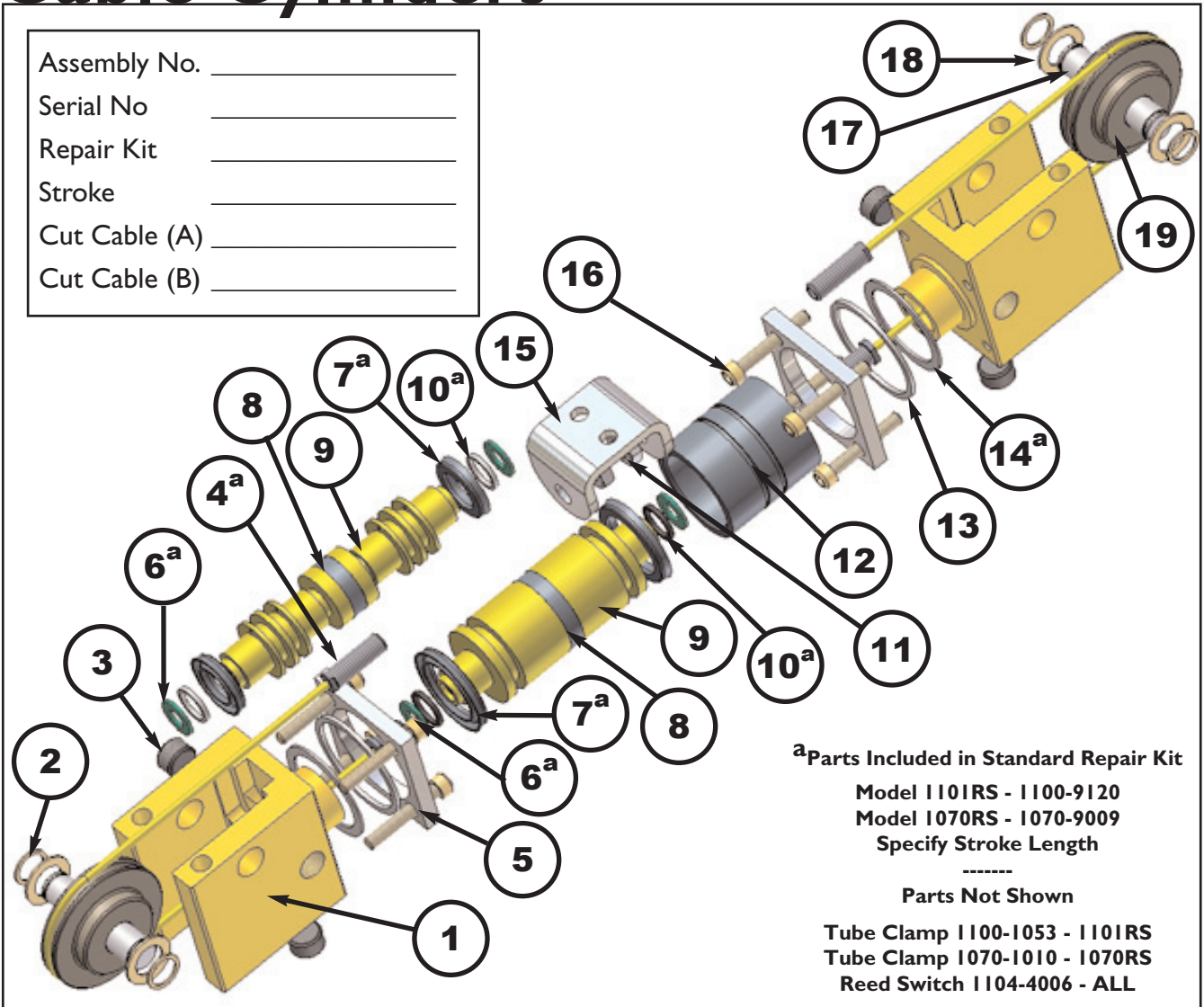


I070RS, I10IRS Cable Cylinders

Assembly No. _____
 Serial No _____
 Repair Kit _____
 Stroke _____
 Cut Cable (A) _____
 Cut Cable (B) _____



^aParts Included in Standard Repair Kit
 Model I10IRS - I100-9120
 Model I070RS - I070-9009
 Specify Stroke Length

 Parts Not Shown
 Tube Clamp I100-1053 - I10IRS
 Tube Clamp I070-1010 - I070RS
 Reed Switch I104-4006 - ALL

ITEM	PART NO.	DESCRIPTION	QTY	ITEM	PART NO.	DESCRIPTION	QTY
1	I104-9164	Head Assy, I10IRS & I070RS	2	11	I100-1011	Nut, Nyloc Jam	2
2	I100-1023	Ring, Retaining Shaft	4	12	I109-1001	I10IRS Tube (Stroke + 2.93)	1
3	4000-1115	Pipe Plug 1/8 NPT	4	12	I079-1000	I070RS Tube (Stroke + 2.79)	1
4 ^a	I100-9118	Cable Assy (Stroke + 5.625)	2	13	I100-1025	Ring, Ret. Tube Model I10IRS	2
5	I100-1015	Clamp Plate, Model I10IRS	2	13	I070-1009	Ring, Ret. Tube Model I070RS	2
5	I070-1004	Clamp Plate, Model I070RS	2	14 ^a	I100-1004	Gasket, Tube Model I10IRS	2
6 ^a	I100-1005	Washer, Cushion Seal	2	14 ^a	I070-1000	Gasket, Tube Model I070RS	2
7 ^a	I100-1001	U-Cup, Piston Model I10IRS	2	15	I100-1012	Bracket, Clevis	1
7 ^a	I070-1001	U-Cup, Piston Model I070RS	2	16	I100-1024	SHCS 8-32 x 1 I10IRS & I070RS	8
8	I100-4-1047	Magnet, Piston I10IRS	1	17	I100-1009	Sheave Pin	2
8	I070-4-1012	Magnet, Piston I070RS	1	18	I100-1106	Spacer, Sheave	4
9	I100-4-1049	Piston, Model I10IRS	1	19	I100-4000	Sheave	2
9	I070-9040	Piston, Model I070RS	1				
10 ^a	I100-1003	O-Ring, Cushion I10IRS & I070RS	2				

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 below.

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.

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 pretensioning the cable.

-PROOF LOADING THE CABLES-

1. Tighten the clevis terminal lock nuts equally with a torque wrench to the specified torque value below.
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.

-PRETENSIONING-

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

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 next column.**

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. **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.
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.

-ALTERNATE PRETENSIONING METHOD-

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

ALTERNATE METHOD 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 THE 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 re-attachment.
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.
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.
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.