Tolomatic™
EXCELLENCE IN MOTION

Parts Sheet

1001-0233_07

Track Cable Cylinder

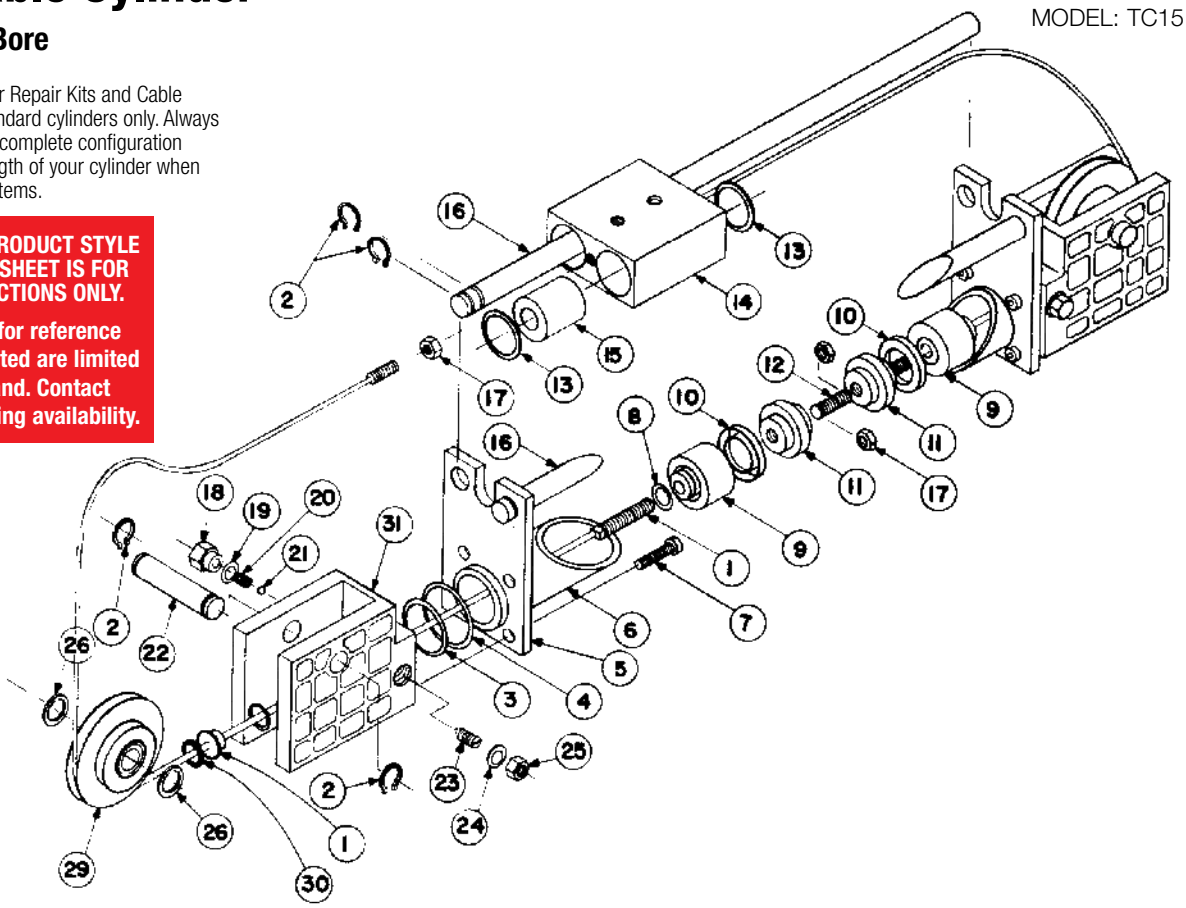
TC15 1-1/2" Bore

MODEL: TC15

Part Numbers noted for Repair Kits and Cable Assemblies are for standard cylinders only. Always make reference to the complete configuration number and stroke length of your cylinder when ordering replacement items.

DISCONTINUED PRODUCT STYLE OR SIZE. PARTS SHEET IS FOR REPAIR INSTRUCTIONS ONLY.

Parts listing is for reference only. All parts listed are limited to stock on hand. Contact Tolomatic regarding availability.



ITEM	PART NO. OR CONFIG. CODE	DESCRIPTION	QTY
[2,3]1.	CATC15SK_	CABLE ASSEMBLY	2
	CATCM15SK_	CABLE ASSEMBLY W/MAGNET OPTION	2
2.	1004-1056	EXTERNAL RETAINING RING	8
[3]3.	1004-1037	O-RING SEAL, BUNA-N MATERIAL	2
	1004-1267	O-RING SEAL, VITON® MATERIAL	2
4.	1004-1036	EXTERNAL RETAINING RING	2
5.	1004-1327	CLAMP PLATE	2
[1]6.	RTBTCS15SK_	STEEL TUBE	1
	RTBTC15SK_	ALUMINUM TUBE	1
	RTBTCM15SK_	ALUMINUM TUBE W/MAGNET OPTION	1
7.	1004-1064	SOCKET HEAD CAP SCREW	8
[3]8.	1004-1022	QUAD RING CUSHION, BUNA-N MATERIAL	2
	1004-1269	QUAD RING CUSHION, VITON® MATERIAL	2
9.	1004-1041	PISTON SKIRT	2
[3]10.	1004-1020	PISTON U-CUP, BUNA-N MATERIAL	2
	1004-1268	PISTON U-CUP, VITON® MATERIAL	2
11.	1004-1040	PISTON	2
12.	1004-1334	PISTON SPACER	1

ITEM	PART NO. OR CONFIG. CODE	DESCRIPTION	QTY
13.	1004-1333	INTERNAL RETAINING RING	4
14.	1004-1326	BEARING BLOCK	1
15.	1004-1332	LINEAR BEARING	4
[1]16.	NGSTC15SK_	GUIDE SHAFT	2
	NGSTCM15SK_	GUIDE SHAFT W/MAGNET OPTION	2
17.	0740-1022	JAM NUT	4
18.	1004-1045	CHECK VALVE SCREW	2
19.	1004-1048	SEAL WASHER	2
20.	1004-1046	CHECK VALVE SPRING	2
21.	1004-1047	CHECK VALVE BALL	2
22.	1004-1052	PULLEY SHAFT	2
23.	1004-1212	NEEDLE CUSHION	2
24.	1004-1067	SEAL WASHER	2
25.	1004-1050	JAM NUT	2
26.	1004-1410	PULLEY SPACER WASHER	4
29.	1004-9005	PULLEY ASSEMBLY	2
30.	1004-1278	INTERNAL RETAINING RING	2
31.	1004-1279	CYLINDER HEAD, SINGLE PORT	2

Tube — Steel Tube[4] — Magnet[6]

[1] Replacement Tube (RTB) & Guide Shaft (NGS) ordering method: ☐☐☐ TC S V M 15 SK ☐☐☐☐☐

EXAMPLE: RTB TC V M 15 SK 21·25

[2] Repair Kit (RK) & Cable Assembly (CA) ordering method: ☐☐ TC S V M 15 SK ☐☐☐☐☐

EXAMPLE: RK TC V M 15 SK 21·25

Repair Kit — Model — Viton® Seals[5] — Size — Stroke Length

[3] Repair Kit (RK) includes: Piston U-Cups, Quad Ring Cushion, O-Ring Seal, Cable Assembly

[4] Steel tubes (S) are incompatible with switches and magnets.

[5] V refers to optional seals of Viton® material.

[6] M is for optional switch magnet, which is required for switches to function. Since the Magnet Option adds length to the piston and the tube length, it must be included when ordering.

Installation

When unpacking a track cable cylinder, BE EXTRA CAREFUL NOT TO SCRATCH OR MAR THE NYLON COVERING ON THE CABLE. The cylinder may be mounted by use of the bolt holes in head. When attaching the bearing block to a driven mechanism, be sure it is in perfect alignment and that the load does not exceed the specifications listed in the catalog.

Pretensioning Instructions

All track cable cylinders are shipped without being pretensioned. They must be tensioned after mounting to insure the maximum service life of the unit.

To pretension a track cylinder, remove one of the guide shafts to gain access to the terminals to adjust the cable tension. Block the load some distance from the end of travel to keep the cylinder from bottoming. Next, apply pressure 15 to 20 percent higher than the actual pressure required to move the load. When the load is stopped externally before the piston bottoms, the relief valve or regulator setting becomes the load pressure.

When pressurized, one cable will become tight while the other becomes slack. Manually take up the slack in the cable. Release the pressure and block the load from the other side. Repeat the manual adjustment on the other cable. Release pressure and remove the blocks. Reinstall the guide shaft which had been removed. Return the regulator to its original setting.

Additional manual adjustment should not be needed initially, after the cylinder has been pretensioned. It is suggested, however, that the cable tension be checked periodically, from a preventive maintenance standpoint.

To Rebuild Cylinder

1. Remove the cylinder from machinery.
2. Remove the guide shafts, then disconnect cables from bearing block and remove pulleys on both ends of cylinder.
3. Remove one head from cylinder by removing the four cap screws.
4. Pull piston towards the removed head and remove from the tube.
5. Disconnect cables from piston. (See Cable Assembly/Disassembly Instructions at right.) Then remove the other cylinder head from tube and disengage cable from it.
6. Install new U-cups and O-rings on pistons.
7. See Cable Assembly/Reassembly Instructions below. Always lubricate seals with oil when installing.
8. Put one cable end through each cylinder head. Reattach one head to tube and connect the end of one cable to the piston. Then connect the other cable to the piston.
9. Push piston back into tube by gently tucking in the U-cup. Mount head back on cylinder with the cap screws. Replace pulleys and connect cables to bearing block.
10. Pretension cables according to the pretensioning instructions.
11. Operate cylinder back and forth by hand several times to be sure it is properly assembled before applying pressure.
12. Reinstall cylinder on machinery. **Note:** Apply (Blue) Locitie® #242 or equivalent to threaded cable terminal before connecting to the piston.

    If the cylinder identification tag is missing, measure the overall length of cylinder, including the heads on both ends. Then refer to catalog dimensional drawing to determine stroke length

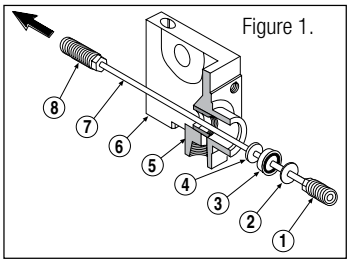


Figure 1.

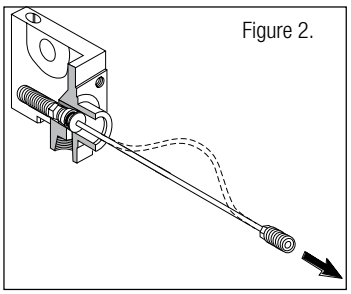


Figure 2.

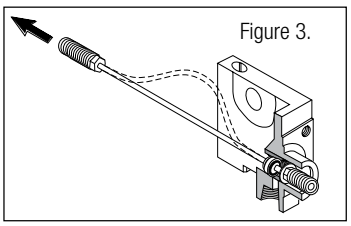


Figure 3.

SNAP IN/OUT CABLE ASSEMBLY INSTRUCTIONS

Your Tolomatic Track Cable Cylinder has been designed to allow assembly and disassembly of cable assemblies from the cylinder heads without the use of tools.

Disassembly: (Refer to Figure 1 & 2)

1. Holding onto cylinder Head (6), pull Piston Terminal (1) until Bearing BlockTerminal (8) is against Washer (4).
2. Put a small amount of slack in Cable (7) as shown in Figure 2.
3. Impart a “snap” action to Piston Terminal (1).
4. With the imparting "snap" action, Washer (2) will release allowing the removal of the complete cable assembly.

Reassembly: (Refer to Figure 1 & 3)

1. Holding onto cylinder Head (6), string Bearing Block Terminal (8) through Gland (5) until Washer (2), U-cup (3) and Washer (4) are held flush against one another by Piston Terminal (1).
2. Put a small amount of slack in Cable (7) as shown in Figure 3.
3. Impart a “snap” action to Bearing Block Terminal (8).
4. With the imparting snap action, Washer (2) will snap into Gland (5).
5. Move the Cable (7) in the opposite direction as shown in Figure 2, to verify if Washer (2) is seated in Gland (5). If not, repeat steps 1-4.

MAINTENANCE

Cylinder should be kept as clean as possible around the pulleys, glands, guide shafts, etc. Always use air that is adequately lubricated with SAE 10 or 20 non-detergent oil. Pulleys have permanently lubricated bearings and require no maintenance.

Your Tolomatic Track Cable Cylinder will give you many cycles of trouble free service. However, should a leak occur, a rebuilding kit can be obtained which enables you to replace all seals in the cylinder to return it to its proper operating condition.

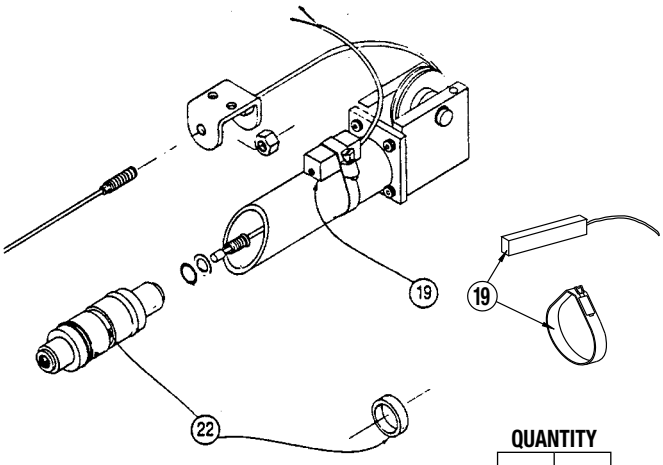
REED SWITCHES

NOTE: Form A Reed Switches should not be used in TTL logic circuits. A voltage drop caused by the L.E.D. indicator will result.For applications where TTL circuits are used, please contact Tolomatic.

WARNING: An ohmmeter is recommended for testing Reed Switches. NEVER use an incandescent light bulb as a high current rush may damage the switch.

Reed and TRIAC switches are only recommended for signalling position, not directly powering soleniods. For shifting a solenoid, a relay or resistor is recommended between it and the switch. Switch ratings must not be exceeded at any time

	CONFIG. CODE ORDERING MOUNTING HARDWARE & FE CONN. INCLUDED	
ITEM	**CODE**	**DESCRIPTION**
19.	BT	SWITCH KIT, REED, FORM C, 5M
	BM	SWITCH KIT, REED, FORM C, QD MALE CONN.
	RT	SWITCH KIT, REED, FORM A, 5M
	RM	SWITCH KIT, REED, FORM A, QD MALE CONN.
	CT	SWITCH KIT, TRIAC, 5M
	CM	SWITCH KIT, TRIAC, QD MALE CONN.



			QUANTITY	
ITEM	**PART NO.**	**DESCRIPTION**	**TC15**	**TCM15**
22.	1075-1019	MAGNET		1

NOTE: When ordered female connector & all mounting hardware is included

To Order Retrofit Kits

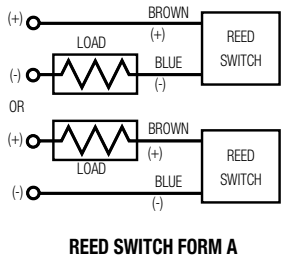
All Switch Kits come with 1 switch and mounting hardware.

Retrofit ordering method: S W T C ☐☐ ☐☐

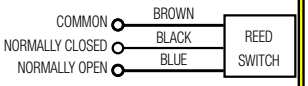
EXAMPLE: S W T C 1 0 R T

Switch Kit — Model — Size — Switch Type Code

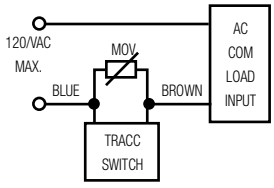
Universal Switch Wiring Diagrams and Label Color Coding



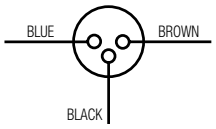
REED SWITCH FORM A
LABEL COLOR: RED
10VA MAX. 200 VDC
500MA MAX. CURRENT



REED SWITCH FORM C
LABEL COLOR: YELLOW
120 VDC/120 VAC MAX.
250MA MAX. CURRENT



TRIAC SWITCH
LABEL COLOR: BLUE
MAX. 1AMP. CONT.
CURRENT @ 86°F
MAX. .5AMP. CONT.
CURRENT @ 140°F
PEAK SURGE CURRENT 10AMP.



QUICK-DISCONNECT
(APPLIES TO ALL SWITCH TYPES)

An Important Note Regarding Field Retrofit of Quick-Disconnect Couplers:

If replacing a Quick-Disconnect switch manufactured before 7-1-97 it will also be necessary to replace or rewire the female-end coupler with the in-line splice

Female Connector 5M

NOTE: The side of the switch with the groove indicates the sensing surface. This must face toward the magnet.

For complete Reed and TRIAC Switch Performance Data, refer to the Tolomatic Pneumatic Products Catalog.

SWITCH TYPE CODE	
BT	FORM C REED SWITCH WITH 5-METER LEAD
BM	FORM C REED SWITCH WITH 5-METER LEAD AND QD
RT	FORM A REED SWITCH WITH 5-METER LEAD

SWITCH TYPE CODE	
RM	FORM A REED SWITCH WITH 5-METER LEAD AND QD
CT	TRIAC SWITCH WITH 5-METER LEAD
CM	TRIAC SWITCH WITH 5-METER LEAD AND QD

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