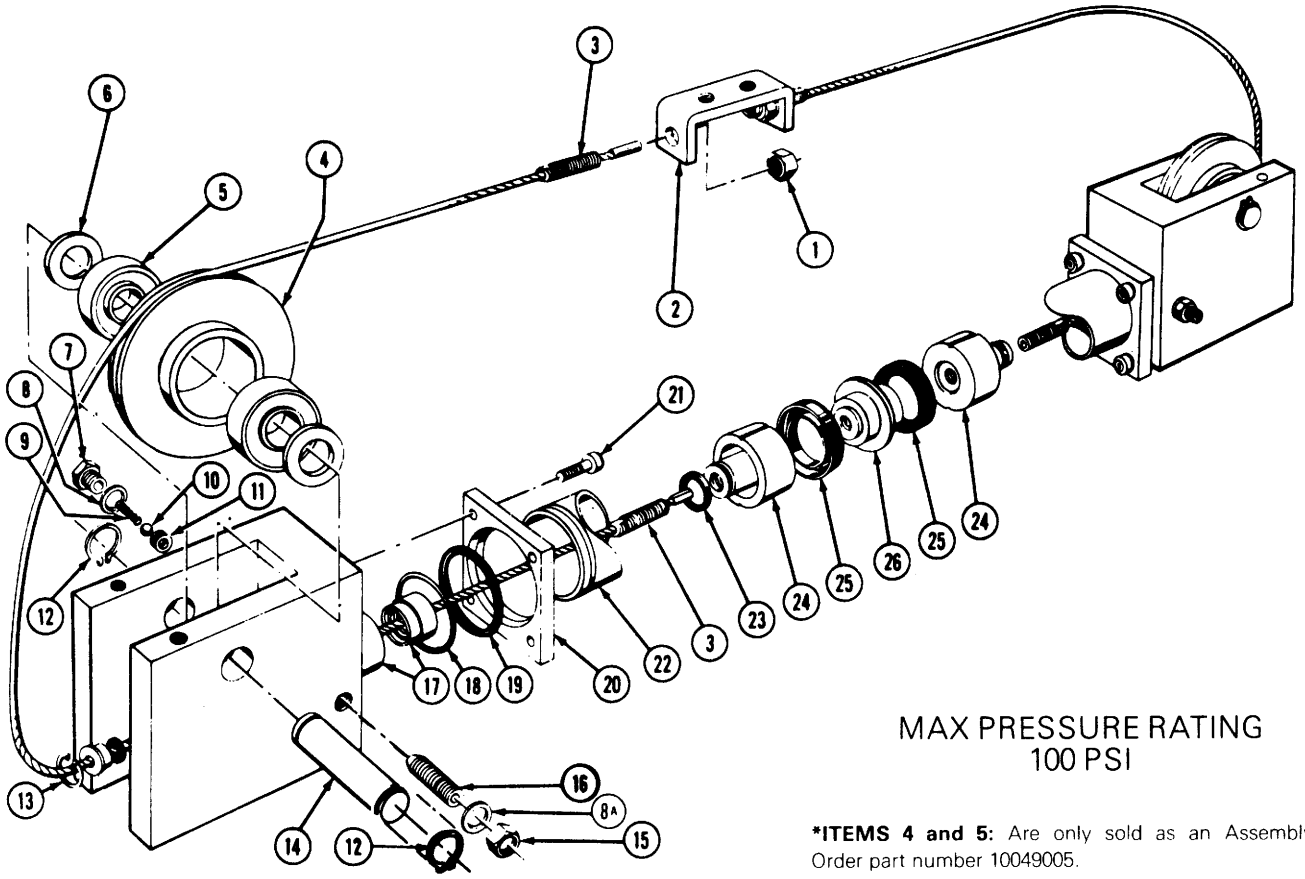
Discontinued Product Style or Size. Parts Sheet is for use only with Repair Kits

Model 100-150 Cable Cylinder

1-½ INCH BORE



***ITEMS 4 and 5:** Are only sold as an Assembly. Order part number 10049005.

PARTS LIST

ITEM	PART NO.	DESCRIPTION	QTY.
	10049002	Repair Kit (specify Stroke)	1
1	07201008	Lock Nut, 3/8-24	2
2	10041057	Clevis	1
**3	10049001	Cable Assembly (specify stroke)	2
*4	10041175	Pulley	2
*5	10041055	Bearing, Ball	4
6	10041053	Washer, Spacer	4
7	10041045	Screw, Check Valve	2
8	10041048	Washer, Seal	2
8A	10041067	Washer, Seal	2
9	10041046	Spring, Check Valve	2
10	10041047	Ball, Check Valve	2
11	10041142	Seat, Check Valve	2
12	10041056	Retaining Ring	4
13	10041023	Retaining Ring	2

ITEM	PART NO.	DESCRIPTION	QTY.
14	10041052	Shaft, Pulley	2
15	10041050	Seal Nut	2
16	10041044	Screw, Cushion Needle	2
17	10049004	Head Assembly, Cylinder	2
**18	10041037	O-Ring	2
19	10041036	Retaining Ring	2
20	10041034	Plate, Clamp	2
21	10041066	Cap Screw, Socket Head	8
22	10041029	Tube Cylinder—Steel (specify stroke)	1
	10041069	Tube — Aluminum (specify stroke)	1
**23	10041022	Quad Ring	2
24	10041041	Skirt, Piston	2
**25	10041020	U-Cup	2
26	10041040	Piston	1

NOTE: A Repair Kit contains all parts marked with (**)

MODEL 100-150 CABLE CYLINDER

INSTALLATION

When uncrating cylinder, be extra careful not to scratch or mar the nylon covering on the cable. If possible, keep plastic wrapping on cylinder until ready to install. Cylinder may be mounted from either top or bottom. When attaching cable bracket to driven mechanism, be sure it is in perfect alignment and that it does not deflect the cable to the side as this would cause excessive wear.

PRETENSIONING INSTRUCTIONS

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

There are two (2) types of stretch in cable – constructional and elastic. The constructional stretch is removed by proof loading of the cable. The elastic stretch is removed by proper pretensioning of the cables.

– PROOF LOADING OF CABLES –

On Cylinders Without Automatic Tensioners

Step I – Tighten the clevis terminal lock nuts equally with a torque wrench to torques listed in Figure A.
Step II – Let set for 30 seconds.
Step III – Loosen lock nuts to remove tension. (But tight enough to eliminate any slack.)
Step IV – Follow Pretensioning Instructions.

– PRETENSIONING –

Block the load some distance from the end of travel to keep cylinder from bottoming. Next apply a pressure that is 15-20% higher than actual load pressure.

Load pressure is defined as the pressure required to move the load. Note when the load is stopped externally before the piston bottoms the relief valve or regulator setting becomes the load pressure.

Upon pressurizing, you will notice one cable will become tight and the other will become slack. Manually adjust out the slack. Release the pressure. Block load on the opposite side and pressurize the other port. Repeat the manual adjustment on the other cable. Release pressure and remove blocks.

The cylinder is now pretensioned. Additional manual adjustment should not be required.

TO REBUILD CYLINDER

1. Remove cylinder from machinery.
2. Disconnect cable from cable bracket and remove pulleys on both ends of cylinder.
3. Remove internal retaining rings (13) from both heads and remove one head from cylinder by removing the four cap screws (21).
4. Pull piston towards the removed head, and remove from tube.
5. Disconnect cables from piston and pull back through head and gland to remove.
6. Install new U cups and O rings on piston and rethread new cables through heads and connect to piston.
7. Being careful not to damage cable or U-cup, install washers and seal in gland and head and reinstall retaining rings. (Always lubricate seals when installing.)
8. Push piston back into tube by gently tucking in the U cup with a screwdriver or pencil. Mount head back on cylinder with cap screws (12). Replace pulleys and connect cable to cable bracket.
9. Operate cylinder back and forth by hand several times to be sure it is properly assembled before applying air.
10. Reinstall cylinder on machinery.

MAINTENANCE

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

Your Tol-O-Matic 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 the seals in the cylinder to return it to new operative condition.

It is suggested, however, that the cable be checked periodically from a preventive maintenance standpoint.

If the load cannot be blocked for cable pretensioning as stated above, an alternate method can be used.

– ALTERNATE METHOD –

Tighten clevis lock nuts with a torque wrench to total pretensioning torque as stated for various models in Figure B.

FIGURE A

TORQUE TO PROOF LOAD THE CABLE

100-150:		
45 Inch-pounds	5.0843 Newton-meters	46.152 Kilogram-centimeters

FIGURE B

MODEL NO.	PRETENSIONING TORQUE	+	STARTING TORQUE OF NUTS ON TERMINALS	=	TOTAL PRETENSIONING TORQUE
100-150	8.0 IN. LBS. 0.9038 N-m 9.217 Kg-cm		20 IN. LBS. 2.260 N-m 23.043 Kg-cm		28.0 IN. LBS. 3.1638 N-m 32.26 Kg-cm

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