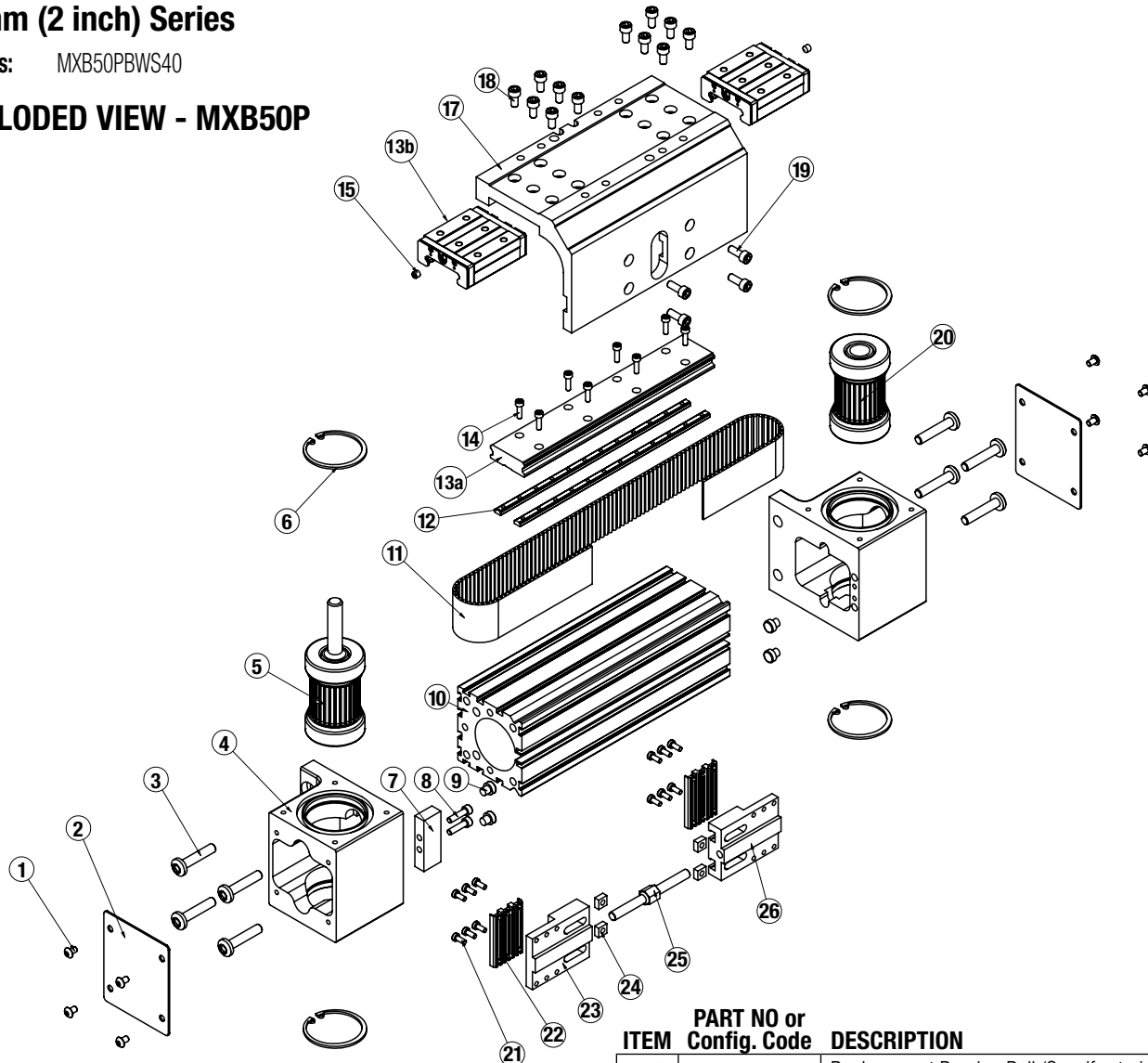


### MXB50P Profiled Rail, Belt-Drive Actuators

#### 50mm (2 inch) Series

Models: MXB50PBWS40

#### EXPLODED VIEW - MXB50P



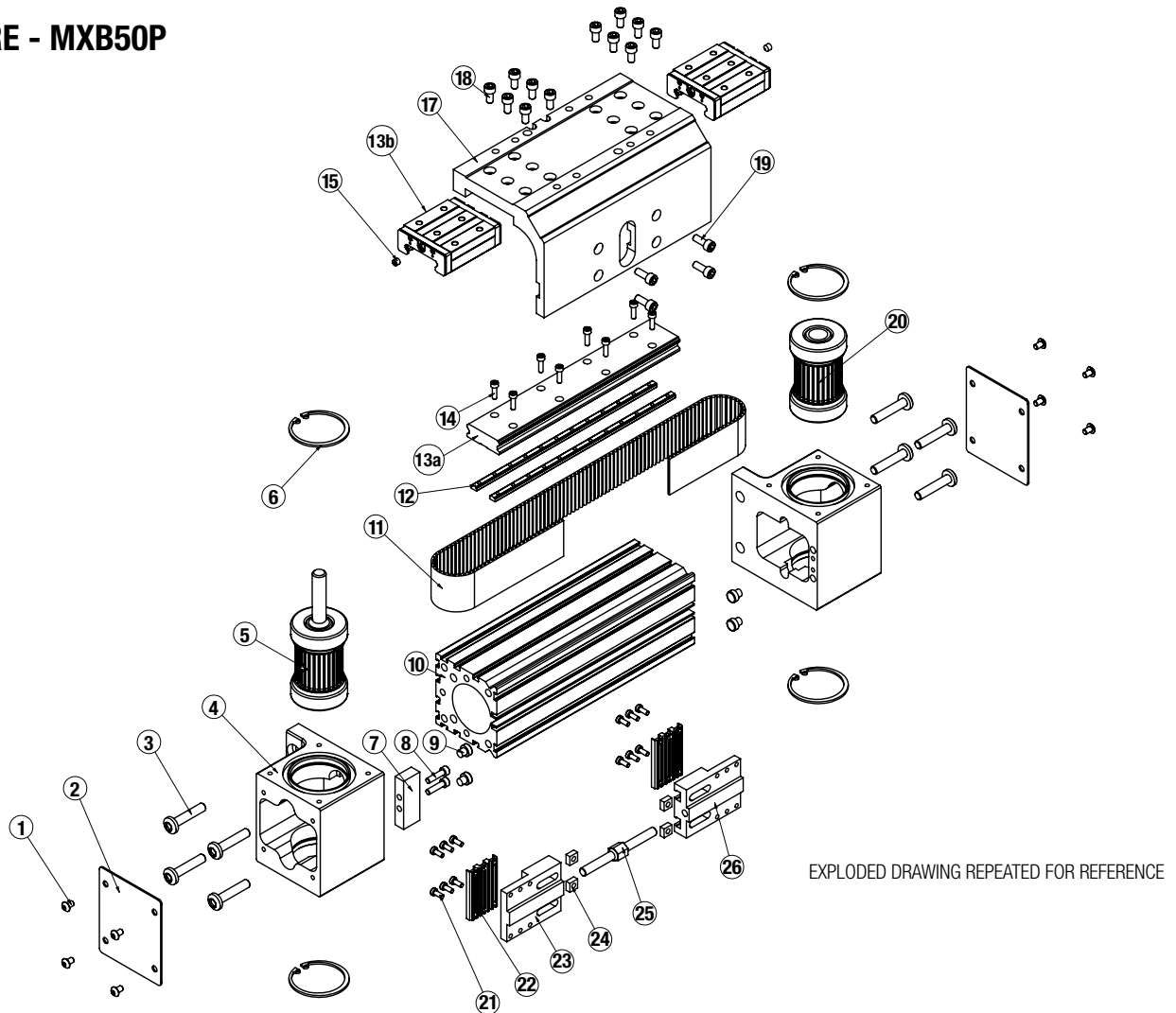
ITEM	PART NO or Config. Code	DESCRIPTION	QTY.
1	8540-1026	Button Head Cap Screw	8
2	8550-1020	Cover Plate	2
3	8350-1023	Head Screw	8
4	8550-1000	Head	2
5	8550-9026	Drive Pulley Assy	1
	8550-9027	Drive Pulley Assy, Dual	1
6	2600-1005	Retaining Ring	4
7	8550-1032	Spacer	1
8	2212-1098	Socket Head Cap Screw	2
9	8525-1002	Bumper	4
10*	RTBMB50	Replacement Tube (8550-1010)	1
11*	RBMXB50	Belt (8550-1019)	1
12*	NNRMB50	Nut Rail (8550-1053)	2

ITEM	PART NO or Config. Code	DESCRIPTION	QTY.
13a**	NPRMB50	Replacement Bearing Rail (Specify stroke) add DW for Dual Carrier	1
13b**		add BB for optional Bearing Blocks	
14	4415-1024	Socket Head Cap Screw	A/R
15	8350-1008	Set Screw	2
16		Number is not used	
17	8550-1021	Carrier, Metric	1
	8550-1521	Carrier, Inch (US Standard)	1
18	8150-1070	Socket Head Cap Screw	12
19	0604-1057	Socket Head Cap Screw	4
20	8550-9028	Idle Pulley Assy	1
21	8125-1070	Low Head Cap Screw	12
22	8550-1005	Belt Clamp, Bottom	2
23	8550-1004	Belt Clamp, LH	1
24	8540-1027	Nut	4
25	8540-1006	Turnbuckle	1
26	8540-1003	Belt Clamp, RH	1

\*Specify stroke length when ordering A/R = As Required

\*\* ⚠ Bearing Blocks and/or Bearing Rail purchased before Oct. 1, 2014 are NOT compatible with current Bearing Blocks and Bearing Rails purchased after Oct. 1, 2014.

## PROCEDURE - MXB50P



## GENERAL ACTUATOR DISASSEMBLY

1. Remove End Cover Plates (2). Remove Socket Head Cap Screws (19). Position the Carrier (17) away from the Belt Clamps (23, 26) exposing the Turnbuckle (25). Loosen the Turnbuckle (25) removing all belt tension. The Carrier (17) can be removed from the Bearing Blocks (13b) by removing Fasteners (18).
2. Remove the Belt (11) from the Belt Clamps (23, 26) by removing Fasteners (21) and Belt Clamp Bottom (22). The Belt (11) can now be removed from the actuator.
3. Remove the Retaining Rings (6) from each of the Heads (4). Note that the Bearing/Pulley Assemblies (5, 20) are slip fit into the Head (4), but are bonded in the bore w/ Loctite 641, so it may be necessary to press the Pulley Assemblies (5, 20) out of the Head (4).
4. Remove the Heads (4) from the Tube (10) by removing Fasteners (3).

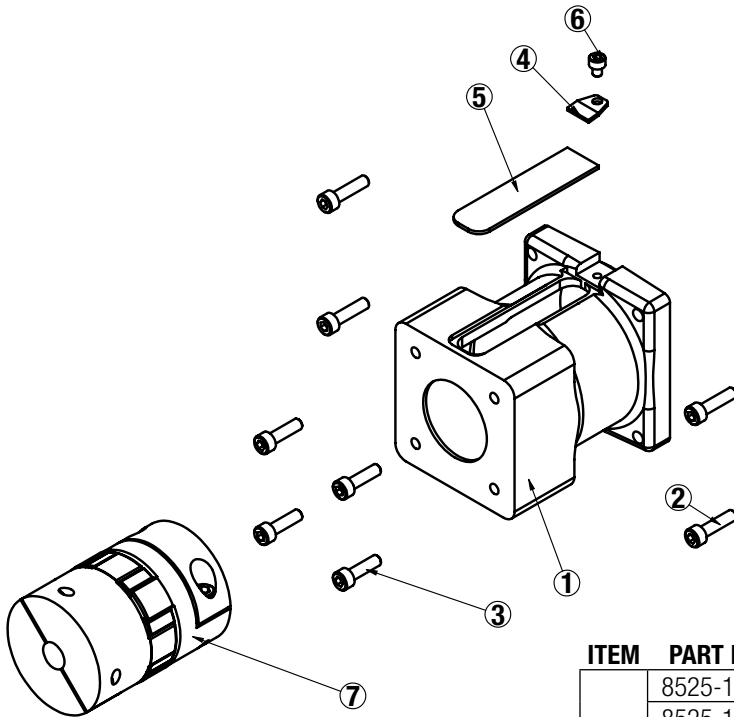
## GENERAL ACTUATOR ASSEMBLY

1. Install the Drive and Idle Heads (4) to the Tube (10). Note that the Bumper Spacer (7) installs onto the Drive End Head (4).
2. Install one Retaining Ring (6) into each Head (4). Apply a light coating of Loctite 641 to the OD of the bearings of the Pulley Assemblies (5, 20) and to the ID of the bearing bores of the Head (4). Install the Drive and Idle Pulley/Bearing Assemblies (5, 20) into the Heads (4).

NOTE THAT ORIENTATION OF THE DRIVE SHAFT IS DETERMINED BY THIS ASSEMBLY STEP. Install the remaining Retaining Ring (6) into each Head (4).

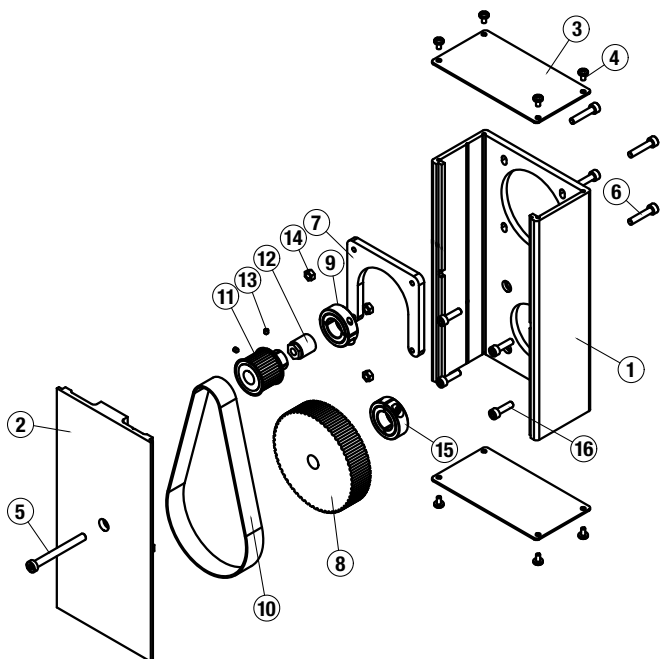
3. Feed the Belt (11) into the Tube (10) from one end of the actuator. Install a Belt Clamp (23, 26) to each end of the Belt (11) with Belt Clamp Bottoms (22) and Fasteners (21). NOTE THAT ONE BELT CLAMP (23) WILL HAVE LEFT HAND THREADS FOR THE TURNBUCKLE (25). Assemble so that Belt Clamp LH (23) is nearest the drive end Head (4). Start the Turnbuckle (25) into each of the Belt Clamps (23, 26). Position Hex Nuts (24) in their respective slots of the Belt Clamps (23, 26).
4. Position Carrier (17) over the Bearing Blocks (13b) and attach with fasteners (18). Position the Carrier (17) over the Belt Clamps (23, 26) and install Fasteners (19) leaving loose at this time.
5. TENSION THE BELT: To measure belt tension, position the edge of the Carrier (17) that is nearest the Head (4) 10" from the inside edge of the Head (4) (either end of the actuator). Locate a force gage on the Belt (11) 4" from the inside edge of the Head (4). Deflect the Belt (11) 1/4" [6 mm] in either direction. The force gage should read between 16 and 20 lbs. [71 - 89 N]
6. Adjust the Turnbuckle (25) to achieve this tension, then tighten the Fasteners (19) to secure the Belt Clamps (23, 26) to the Carrier (17).

**EXPLODED VIEW & PARTS LIST - LMI - INLINE MOTOR MOUNT**



ITEM	PART NO.	DESCRIPTION	MOTOR					MOTOR & GH	
			MRV21,22,23,24	MRV31,32,33	MRS21,22,23	MRS31,32	MRS33	MRV2x, MRS2x & GHV205,210	MRV3x, MRS3x & GHV305,310
1	8525-1051	Motor Spacer	1						
	8525-1053	Motor Spacer		1					
	8525-1050	Motor Spacer			1				
	8525-1052	Motor Spacer				1	1		
	8525-1054	Motor Spacer						1	
	8525-1055	Motor Spacer							1
2	2212-1098	Socket Head Cap Screws	4	4	4	4	4	4	4
3	4415-1063	Socket Head Cap Screws	4	4		4	4		4
	2212-1096	Socket Head Cap Screws			4				
	2212-1097	Socket Head Cap Screws						4	
4	1906-1022	Clamp	1	1	1	1	1	1	1
5	3410-1120	Cover	1	1	1	1	1	1	1
6	1124-1159	Socket Head Cap Screw	1	1	1	1	1	1	1
7	3600-9242	Coupler	1	1		1		1	1
	3410-9157	Coupler			1				
	3600-9244	Coupler					1		

**EXPLODED VIEW & PARTS LIST - RP - REVERSE PARALLEL MOTOR MOUNT**



MOTOR				
MRV21, 22, 23, 24	MRV31, 32, 33	MRS21, 22, 23	MRS31, 32	MRS33

ITEM	PART NO.	DESCRIPTION	MRV21, 22, 23, 24	MRV31, 32, 33	MRS21, 22, 23	MRS31, 32	MRS33
1	3420-1603	Housing	1		1		
	3420-1604	Housing		1			
	3420-3034	Housing				1	1
2	3420-1613	Cover	1	1			
	3420-1614	Cover		1			
	3420-3035	Cover				1	1
3	3420-1602	Cap	2	2	2	2	2
4	0601-1625	Screw	8	8	8	8	8
5	3420-1641	Low Head Cap Screw	1	1	1	1	1
6	2212-1098	Socket Head Cap Screws	4				
	2212-1099	Socket Head Cap Screws		4		4	4
	2212-1096	Socket Head Cap Screws			4		
7	0602-1057	U-plate		1		1	1
8	3415-1439	Pulley	1	1		1	1
	3410-1439	Pulley			1		
9	0520-1067	Collar Clamp				1	
	0515-1080	Collar Clamp					1
10	3415-1441	Belt	1	1			
	3410-1441	Belt			1		
	2164-1008	Belt				1	1
11	3415-1438	Pulley	1	1			
	3420-9191	Pulley			1		
	3415-1436	Pulley				1	
	3420-1436	Pulley					1
12	0510-1111	Trantorq			1		
13	0610-1190	Set Screw	2	2			
14	0603-2089	Nut	4		4		
15	0520-1067	Collar Clamp	1	1	1	1	1
16	3420-1644	Low Head Cap Screws	4	4	4	4	4

**PROCEDURE - MXB50P**

**REVERSE PARALLEL DISASSEMBLY INSTRUCTIONS:**

1. Remove End Caps (3). Release tension on Belt (10) by breaking loose the Motor Fasteners (6).
2. Remove RP Cover (2).
3. Remove both Drive Pulley (11) and Driven Pulley (8) from their respective shafts. The Belt (10) will come off with the Pulleys (8, 11).
4. Remove Motor Fasteners (6) from the U-Plate (7), to remove the motor from the Housing (1).
5. Remove the Housing (1) from the Head (page 1 #4) by removing Fasteners (16).

**REVERSE PARALLEL ASSEMBLY INSTRUCTIONS:**

\*Apply Loctite #242 to all fasteners upon installation

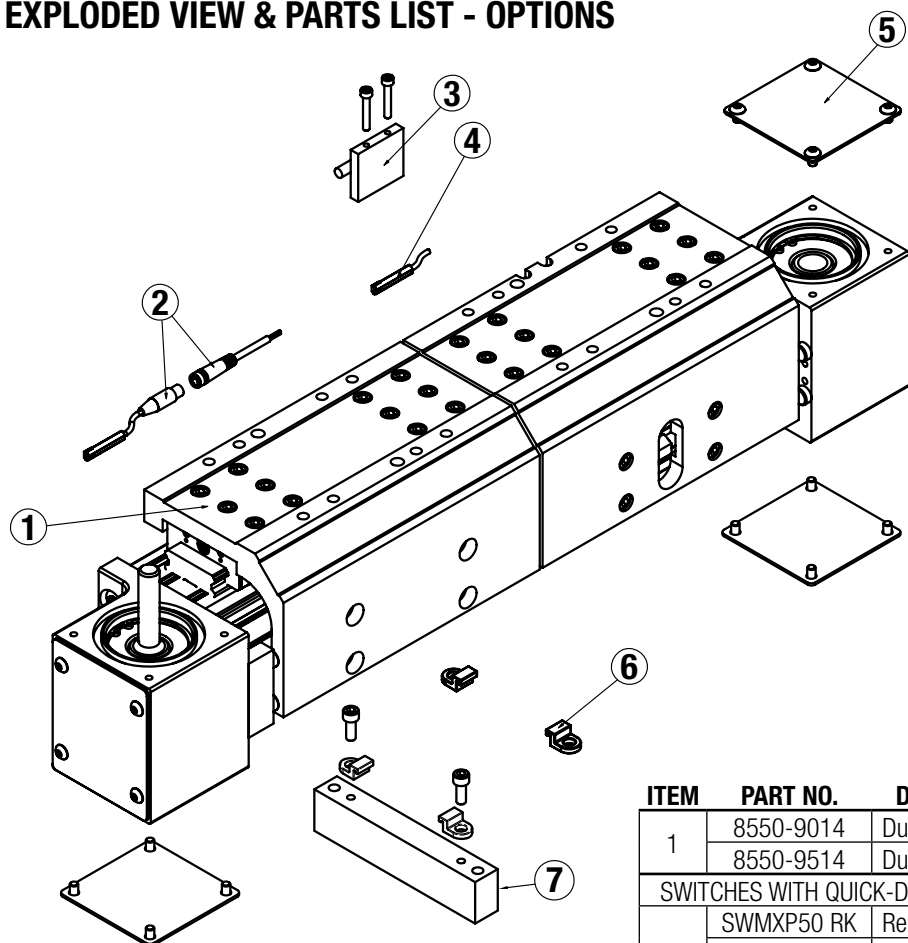
1. Install Housing (1) to the Head (page 1 #4) with Cap Screws (16).
2. Install the Motor to the Housing (1) with Fasteners (6) into the U-Plate (7). Do not tighten the Fasteners (6) at this time.
3. Locate the Belt (10) over the Pulleys (8, 11) and slide the Drive (11) and Driven (8) Pulleys over their respective shafts. Tighten each Pulley (8, 11) to its shaft with either Trantorque (12) or Collar Clamp (15). If Trantorque (12), use a torque wrench to apply appropriate torque. 1/2" hex on Trantorque (12) apply 75 in-lbs. (8.5 N-m). 5/8" hex on Trantorque (12) apply 100 in-lbs. (11.3 N-m).

4. Verify that there is clearance between the inside of the Housing (1) and each Pulley (8, 11). Verify that the Pulleys (8, 11) are aligned to each other.
5. Position the Cover (2) in mating slot of the Housing (1) and install the Fastener (5) to hold in place. Take care not to overtighten. If the Cover (2) is deflected it can interfere with the moving parts.
6. Tension the Belt (10) by pulling the motor away from the Drive Shaft Assembly (page 1 #5) with the appropriate force in the chart below. Tighten the Motor Fasteners (6) while this force is applied to the motor.

Motor Frame	Tension Force
MRB23, MRS17/23	10 lbs (44 N)
MRV23, MRS34	20 lbs (89 N)
MRV34, MRB34	30 lbs (133 N)

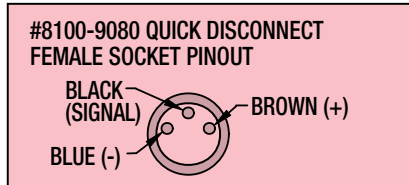
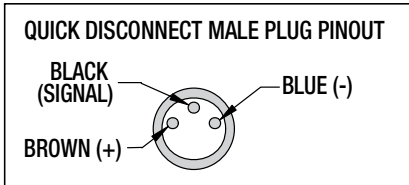
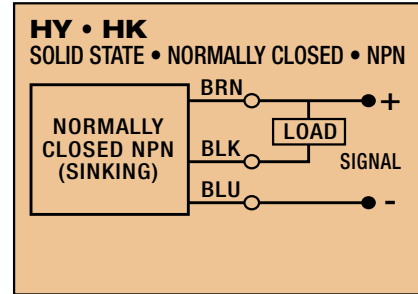
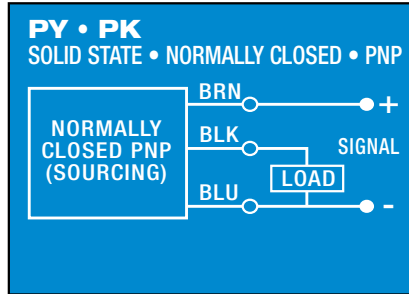
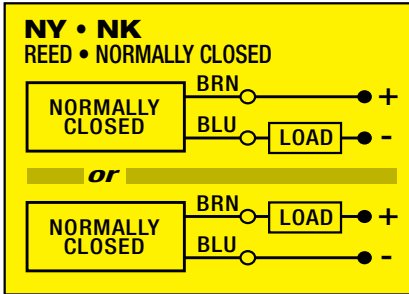
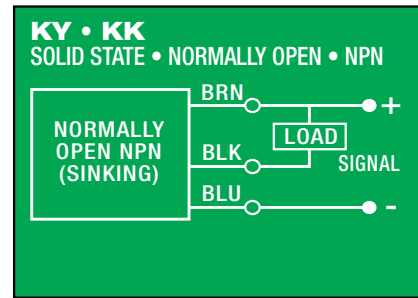
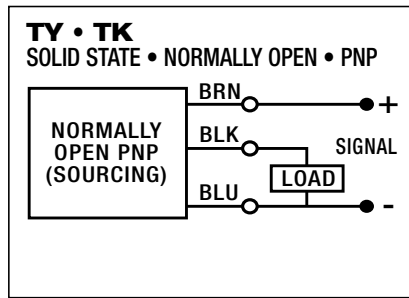
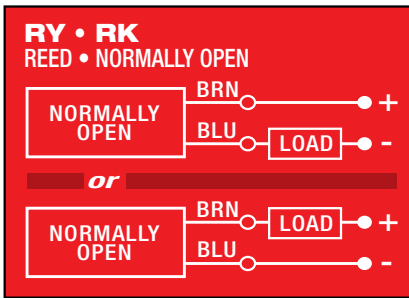
7. Install both End Caps (3) with the Screws (4) to finalize assembly.

**EXPLODED VIEW & PARTS LIST - OPTIONS**

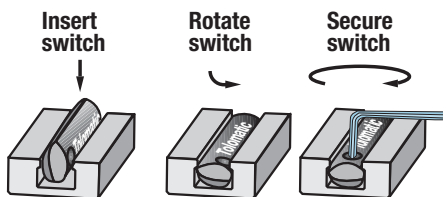


ITEM	PART NO.	DESCRIPTION
1	8550-9014	Dual Carrier Assembly, metric
	8550-9514	Dual Carrier Assembly, inch (US Standard)
SWITCHES WITH QUICK-DISCONNECT COUPLERS		
2	SWMXP50 RK	Reed Switch, SPST Normally Open
	SWMXP50 NK	Reed Switch, SPST Normally Closed
	SWMXP50 TK	Solid State Switch, PNP (Sourcing) Normally Open
	SWMXP50 KK	Solid State Switch, NPN (Sinking) Normally Open
	SWMXP50 PK	Solid State Switch, PNP (Sourcing) Normally Closed
	SWMXP50 HK	Solid State Switch, NPN (Sinking) Normally Closed
NOTE: Includes retained hardware & female connector for quick-disconnect		
3	8550-9009	Magnet Kit
	8550-1028	Magnet Block
	8340-1008	Magnet
	0601-1674	Socket Head Cap Screw
SWITCHES WITHOUT QUICK-DISCONNECT COUPLERS		
4	SWMXP50 RY	Reed Switch, SPST Normally Open
	SWMXP50 NY	Reed Switch, SPST Normally Closed
	SWMXP50 TY	Solid State Switch, PNP (Sourcing) Normally Open
	SWMXP50 KY	Solid State Switch, NPN (Sinking) Normally Open
	SWMXP50 PY	Solid State Switch, PNP (Sourcing) Normally Closed
	SWMXP50 HY	Solid State Switch, NPN (Sinking) Normally Closed
5	8540-9008	Side Cover Plate Assembly
	8540-1020	Cover Plate
	8540-1026	Button Head Cap Screw
6	8140-1050	Tube Clamp
7	8350-9016	Mounting Plate Kit
	8350-1030	Mounting Plate
	8140-1050	Tube Clamp
	0604-1057	Socket Head Cap Screw

SWITCH WIRING DIAGRAMS AND LABEL COLOR CODING (CE and RoHS Compliant)

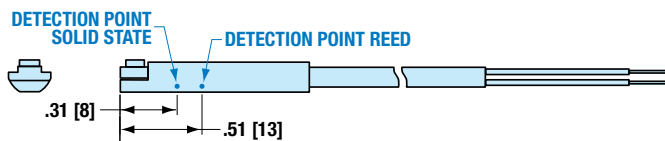


SWITCH INSTALLATION AND REPLACEMENT



Place switch in side groove on tube at desired location with "Tolomatic" facing outward. While applying light pressure to the switch, rotate the switch halfway into the groove. Maintaining light pressure, rotate the switch in the opposite direction until the switch is fully inside the groove with "Tolomatic" visible. Re-position the switch to the exact location and lock it securely into place by tightening the screw on the switch.

SWITCH DETECTION POINT



Dimensions in inches [brackets indicate dimensions in millimeters]



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