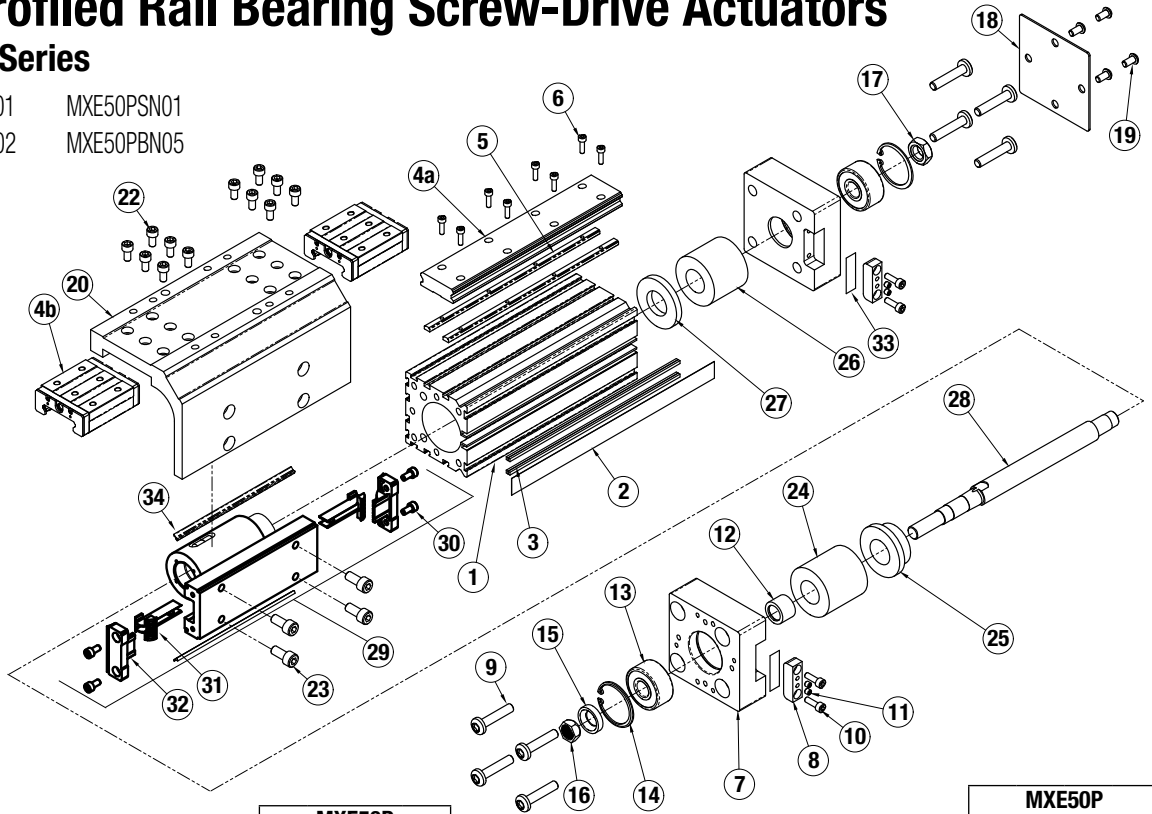


MXE50P Profiled Rail Bearing Screw-Drive Actuators

50mm (2 inch) Series

Models: MXE50PSN01 MXE50PSN01
 MXE50PBN02 MXE50PBN05



Parts Listing

A/R= Length As Required

ITEM	PART NO. or CONFIG. CODE	DESCRIPTION	MXE50P			
			BN02	BN05	SN01	SN02
1	RTBMXE50	Replacement Tube (8350-1010)				
2 ¹	NDBMXE50	New Dust Band (8350-1018)				
3	NMBMXE50	New Magnet Band Kit (8350-1019) (2 magnet strips included)	After Config. Code add: SK (stroke length in inches) or SM (stroke length in mm)			
4a ⁵	NPRMXE50	Replacement Bearing Rail add DW for Dual Carrier				
4b ⁵		add BB for optional Bearing Blocks				
5	NNRMXE50	New Nut Rail Kit (8350-1053) (2 rails included)				
6	4415-1024	SHCS M4 x 0.7 x 14mm	A/R	A/R	A/R	A/R
7	8350-1011	Head	2	2	2	2
8	8350-1017	Band Clamp	2	2	2	2
9	8350-1023	Pan Head Screw	8	8	8	8
10	2212-1097	Socket Head Cap Screw	4	4	4	4
11	0601-1093	Set Screw	4	4	4	4
12	3420-2041	Tapered Leadscrew Sleeve	1	1	1	1
13	3420-1222	Bearing	2	2	2	2
14	2100-1010	Retaining Ring	2	2	2	2
15	1132-1014	Spherical Washer	1	1	1	1
16	0603-1658	Spiralock Spherical Nut	1	1	1	1
17	2410-1157	Hex Nut	1	1	1	1
18	8350-1022	Cover Plate	1	1	1	1
19	8340-1009	Button Head Cap Screw	4	4	4	4
20	8350-1521	Carrier (inch)	1	1	1	1
	8350-1021	Carrier (metric)	1	1	1	1
21		Number not used				
22	8150-1070	Socket Head Cap Screw	12	12	12	12
23	2212-1104	Socket Head Cap Screw, SS	4	4	4	4
24	8350-1025	Nylon Spacer	1	1	1	1
25	8350-1024	Bumper	1	1	1	1
26	3420-1209	Nylon Spacer	1	1	1	1
27	2332-1006	Bumper	1	1	1	1

ITEM	PART NO. or CONFIG. CODE	DESCRIPTION	MXE50P			
			BN02	BN05	SN01	SN02
28	RLSAMXE50-BN02SK ³ LMI ⁴	Leadscrew, .750, BN02, LMI (8350-1100)	A/R	-	-	-
	RLSAMXE50-BN02SK ³ RP ⁴	Leadscrew, .750, BN02, RP (8350-1101)	A/R	-	-	-
	RLSAMXE50-BN05SK ³ LMI ⁴	Leadscrew, .750, BN05, LMI (8350-1102)	-	A/R	-	-
	RLSAMXE50-BN05SK ³ RP ⁴	Leadscrew, .750, BN05, RP (8350-1103)	-	A/R	-	-
	RLSAMXE50-SN02SK ³ LMI ⁴	Leadscrew, .750, SN02, LMI (8350-1104)	-	-	-	A/R
	RLSAMXE50-SN02SK ³ RP ⁴	Leadscrew, .750, SN02, RP (8350-1105)	-	-	-	A/R
	RLSAMXE50-SN01SK ³ LMI ⁴	Leadscrew, .750, SN01, LMI (8350-1106)	-	-	A/R	-
	RLSAMXE50-SN01SK ³ RP ⁴	Leadscrew, .750, SN01, RP (8350-1107)	-	-	A/R	-
	29	8350-9006	Nut Bracket Assembly, BN02	1	-	-
8350-9007		Nut Bracket Assembly, BN05	-	1	-	-
8350-9008		Nut Bracket Assembly, SN02	-	-	-	1
8350-9009		Nut Bracket Assembly, SN01	-	-	1	-
30 ²	0603-1016	Socket Head Cap Screw, SS	4	4	4	4
31 ^{1,2}	8350-1007	Band Ramp	2	2	2	2
32 ^{1,2}	8150-1006	End Cap	2	2	2	2
33	8325-1055	Shim	2	2	2	2
	8325-1056	Shim	2	2	2	2
	8325-1057	Shim	2	2	2	2
34 ¹	8150-1059	Wiper	2	2	2	2

¹ Parts included in Repair Kits. (RKMXE50PSK or SM ____, indicate stroke length in inches or millimeters)

² Parts included in Nut Bracket Assembly

³ SK or SM ____, indicate stroke length in inches or millimeters

⁴ Length of connecting shaft varies by motor type and size, indicate motor code here

⁵ ⚠ 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.

Assembly and Disassembly Instructions

GENERAL ACTUATOR DISASSEMBLY INSTRUCTIONS

Begin with a clean work area. Be sure all replacement parts are present and have no visual damage or defects. The following tools are recommended for proper disassembly and assembly.

- SAE Hex Wrench Set
- Metric Hex Wrench Set
- Torx bit set
- Metric Socket Set
- SAE Socket Set

For best actuator performance it is recommended that the following instructions be read and followed carefully.

1. DUST BAND AND CARRIER REMOVAL

Position the actuator with the Dust Band (2) facing up. Remove the Band Clamps (8) from both Heads (7) of the actuator by removing Screws (9) and backing out the Center Set Screw (11) a couple turns. Carefully lift the Dust Band (2) from the slot in each Head (7) and remove any Shims (33) located under the Band (2) in the Head (7) slot. Retain the Shims (33) for reassembly. Remove Screws (23) to release the Carrier (20) from the Nut Bracket Assembly (29). Slide the Carrier (20) clear of the Nut Bracket (29). Remove Nut Bracket End Caps (30) from both ends of the Nut Bracket (29). The Dust Band (2) can now be removed from the actuator.

NOTE: If removal of the Bearing Rail (4a) or Bearing Blocks (4b) is necessary, contact the factory prior to removal for specific instructions.

2. LEAD SCREW SUB-ASSEMBLY REMOVAL

On the Non-Drive end of the actuator remove the Screws (19) and remove the Cover Plate (18) and the Lock Nut (17) from Leadscrew (28). Remove the Screws (9) from both of the Heads (7) to the Tube (1). Remove the Non-Drive End Head (7) and the Drive Head (7)/Leadscrew Assembly (28). If necessary, the Nut Bracket Assembly (29) can now be removed from the Leadscrew (28) and the Band Ramps (31) may also be removed from the Nut Bracket Assembly (29) if required.

Ball Nut style: Caution is required if removal of the Nut is necessary. Contact the factory for available parts and procedures.

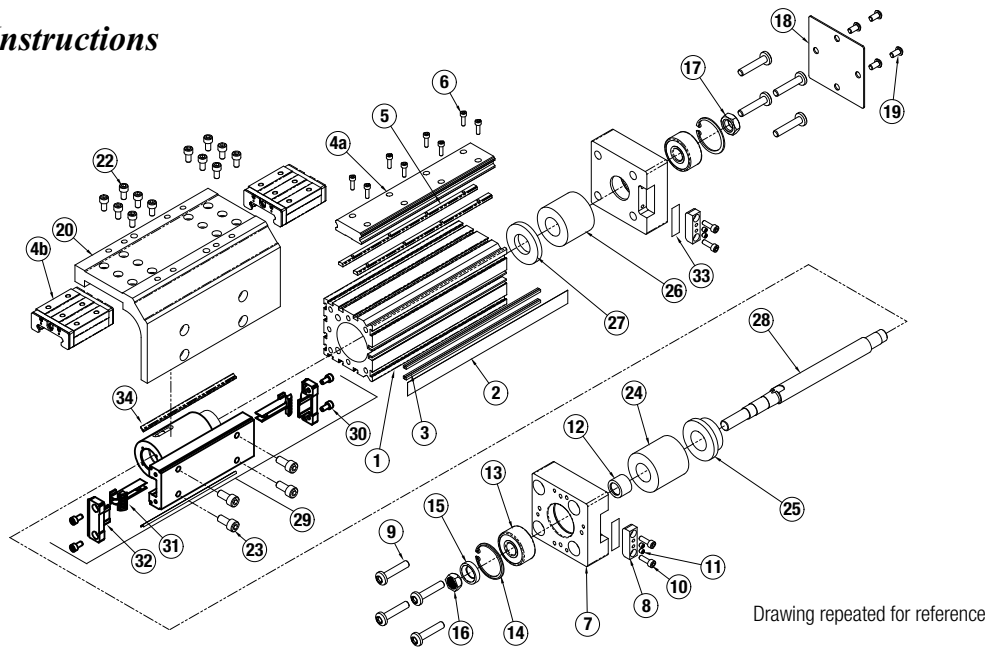
Plastic Nut style: Plastic Nuts are factory pinned into the Nut Bracket (29) and cannot be removed. If Nuts are worn, a new Nut Bracket Assembly (29) must be ordered.

If Drive End Head (7) and Bearing (13) must be removed from the Leadscrew (28), contact the factory prior to removal for specific instructions.

GENERAL CYLINDER ASSEMBLY INSTRUCTIONS

1. INSTALL LEAD SCREW ASSEMBLY AND CARRIER

Install the Band Ramps (31) to the Nut Bracket Assembly (29) with Screws (32). From the Drive End, install the Head (7)/Leadscrew (28)/Nut Bracket Assembly (29) into the Tube (1) making sure the Bearing Rail (4a) is oriented on the left side of the Tube (1). With the Bumper (25) and Nut Spacer (24) in place, position the Non-Drive End Head (7) over the Leadscrew (28) and loosely install



Screws (9) into the Head (7). Install the Drive End Screws (9) loosely into the Drive End Head (7).

2. INSTALL DUST BAND AND CARRIER

Install the Dust Band (2) through the Nut Bracket Assembly (29) and install the End Caps (30) onto the Nut Bracket (29). Position Carrier (20) over the Bearing Blocks (4b) and the Nut Bracket (29) and install all Screws (22,23) and leave them loose at this time. By hand, load the Carrier (20) to keep it tight down on the surface of the Bearing Blocks (4b) and tighten the Carrier (20) to Nut Bracket Fasteners (23). Tighten the Carrier (20) to Bearing Block Fasteners (22).

3. PERFORM HEAD ALIGNMENT AND FINAL ASSEMBLY

NOTE: Custom tooling is used at the factory to align the Heads (7) to the Tube (1) to maintain parallelism between the top of the Head (7) and top of the Tube (1). This is critical to performance and longevity of the Dust Band (2). In the following steps take care to visually align Head (7) to Tube (1).

Move Carrier Assembly (20) to Drive-End of Tube (1) and tighten one of the Head Screws (9). Support the actuator on the Tube (1) so that the Head (7) is free to float while tightening the Head Screws (9).

Move Carrier Assembly (20) to idle end of Tube (1) and tighten these Head Screws (9).

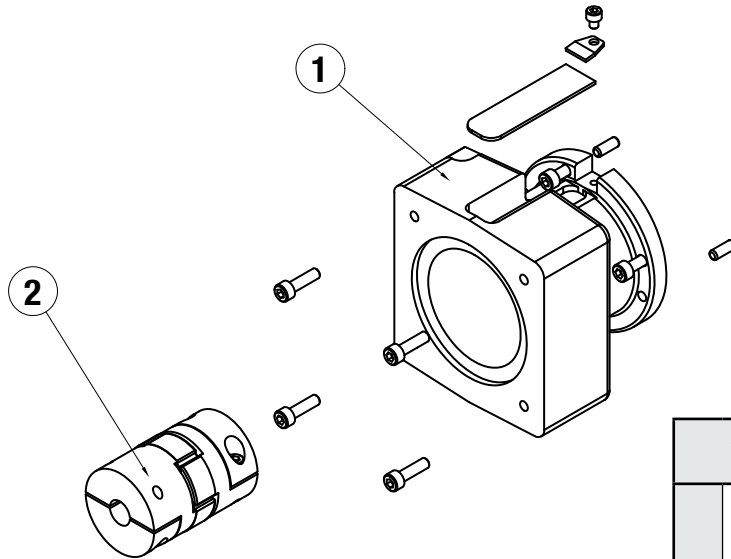
Move Carrier Assembly (20) back to the Drive-End of Tube (1) and loosen the Screw (9) that was previously tightened and then tighten all Head Screws (9).

Apply Loctite 242 to Lock Nut (17) and thread onto the Leadscrew (28) and torque to 18-20 in-lbs (2-2.25 N-m).

4. INSTALL BAND CLAMPS

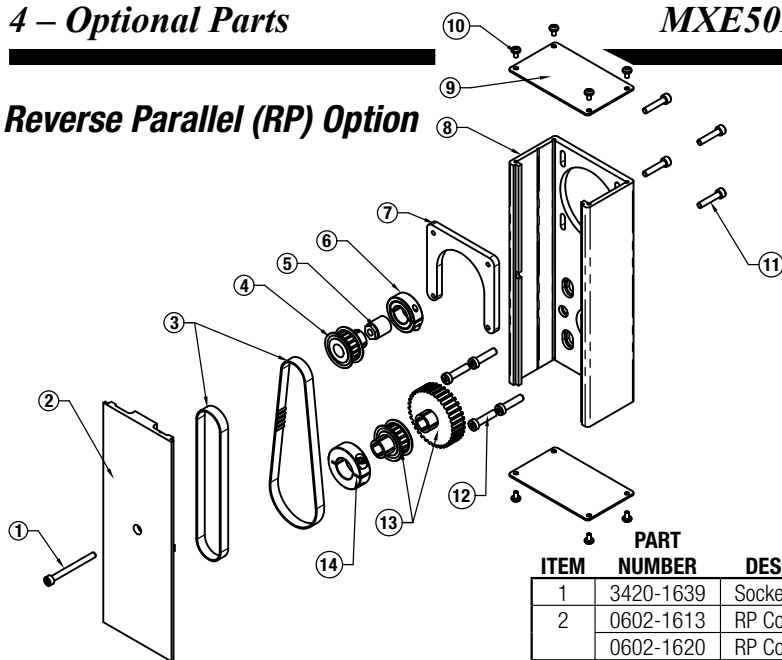
Visually examine the interface between the Dust Band (2) surface of the Tube (1) and the clamping surface of each Head (7). This should be flush. It may be necessary to install Shims (33) in the pocket of the Head (7) in order to make flush. Position the Carrier (20) near the motor end, position the Band (2) in the pocket over any previously installed Shims (33) and install the Band Clamp (8) with the two Cap Screws (10). Lastly, tighten down the Center Set Screw (11). Position the Carrier (20) near the Non-Drive End and repeat the steps to install the Band Clamp (8).

Inline Motor Mount Option



ITEM	PART NUMBER	DESCRIPTION	WITH GEARHEAD						WITHOUT GEARHEAD						
			MRS2XXX/GHS2XX	MRS3XXX/GHS3XX	MRS33XX/GHS3XX	MRV2XXX/GHV2XX	MRV24XX/GHV2XX	MRV3XXX/GHV3XX	MRS2XXX	MRS3XXX	MRS33XX	MRV2XXX	MRV24XX	MRV3XXX	
1	4420-9203	Motor Mounting Kit, JK 330,200 S	1			1	1								
	4420-9200	Motor Mounting Kit, MRS34X,MRV34		1	1			1							1
	4420-9201	Motor Mounting Kit, MRV23X,200									1	1			
	4520-9085	Motor Mounting Kit, MRS2,MCS20/M3S20							1						
	4520-9086	Motor Mounting Kit, MCS20/M3S20								1	1				
2	3600-6173	Coupler, SC035-C,.500/.500,AL				1						1			
	3600-6174	Coupler, SC040-C,.500/.500,AL		1			1	1					1	1	
	3600-9252	Coupler Kit, 14,.50/.50,AL,M4	1												
	3420-9041	Coupler Kit, 19,.50/.50,AL,M5			1										
	3410-9157	Coupler Kit, 19,.25/.50,AL,M5							1						
	3420-9041	Coupler Kit, 19,.50/.50,AL,M5								1					
	3600-9218	Coupler Kit, 19,.50/.63,AL,M5									1				

Reverse Parallel (RP) Option



ITEM	PART NUMBER	DESCRIPTION	1:1					2:1				
			MRV2XXX	MRS2XXX	MRV3XXX	MRS31XX, MRS32XX	MRS33XX	MRV2XXX	MRS2XXX	MRV31XX	MRS31XX, MRS32XX	MRS33XX
1	3420-1639	Socket Head Cap Screw	1	1	1	1	1	1	1	1	1	1
2	0602-1613	RP Cover, 23 Frame	1	1				1	1			
	0602-1620	RP Cover, 34 Frame			1	1	1			1	1	1
3	0515-1064	Timing Belt, 14.0L	1	1	1	1	1					
	0520-1070	Timing Belt, 16.0L						1	1	1	1	1
4	0515-1191	Pulley, 18 Teeth		1					1			
	0510-1398	Pulley, 18 Teeth					1					1
5	0510-1111	Trantorg		1					1			
6	0520-1067	Shaft Collar	2	1	2	2	1	2	1	2	2	1
	0601-1053	U-Plate, 23 Frame	1	1				1	1			
7	0602-1057	U-Plate, 34 Frame			1	1	1			1	1	1
	0602-1603	RP Housing, 23 Frame	1	1				1	1			
8	0602-1610	RP Housing, 34 Frame			1	1	1			1	1	1
	0602-1602	End Cap, RP Housing	2	2	2	2	2	2	2	2	2	2
9	0602-1602	End Cap, RP Housing	2	2	2	2	2	2	2	2	2	
10	0602-1625	Screw	8	8	8	8	8	8	8	8	8	8
11	2212-1099	Socket Head Cap Screw	4	4	4	4	4	4	4	4	4	4
12	8350-1043	Low Head Cap Screw	4	4	4	4	4	4	4	4	4	4
	3420-1255	Pulley, 18 Teeth	2	1	2	2	1	1		1	1	
13	3420-1256	Pulley, 36 Teeth						1	1	1	1	1
	3420-1627	Shaft Collar					1					1

REVERSE PARALLEL DISASSEMBLY INSTRUCTIONS

1. Remove Screws (10) to release Housing End Caps (9). Release the tension on Belt (3) by breaking loose the Motor Screws (11).
2. Remove Screw (1) to remove Cover (2).
3. The Belt (3) can now be removed along with the Motor.
4. Remove both Pulleys (4) and (13) from their respective shafts.
5. Remove the RP Housing (8) from the actuator by removing Screws (12).

REVERSE PARALLEL ASSEMBLY INSTRUCTIONS

NOTE: Apply Loctite #242 to all screws upon installation

1. Install RP Housing (8) to the actuator Head (page 1, #7) with Screws (12). Do not fully tighten the Screws (12) at this time and verify that the RP Housing (8) can move with respect to the Head (page 1, #7).
2. Temporarily install the Cover (2) onto the RP Housing (8). Hold the Cover (2) in place while tightening two of the Screws (12) that hold the RP Housing (8) to the actuator Head (page 1, #7).
3. Remove the Cover (2) and finish tightening all Screws (12) attaching the RP Housing (8) to the actuator Head (page 1, #7).

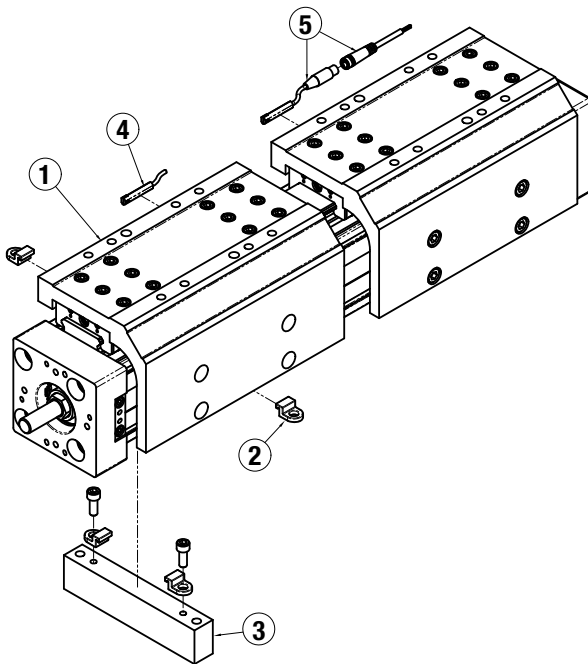
4. Install the Motor to the RP Housing (8) with Screws (11). Do not tighten the Screws (11) at this time.
5. Install Pulleys (4) and (13) as needed. Tighten each Pulley (4,13) to its shaft with either a Trantorque (5) or a Shaft Collar (6,14).
6. Locate the Belt (3) over the Pulleys (4) and (13).
7. Verify that there is clearance between the inside of the RP Housing (8) and each Pulley (4,13). Verify that the Pulleys (4,13) are aligned with each other.
8. Position the Cover (2) in the mating slot of the RP Housing (8) and install the Screw (1) to hold in place. Take care not to over tighten. If the Cover (2) is deflected it can interfere with the Leadscrew. (28)
9. Tension the Belt (3) by pulling the Motor away from the drive shaft with the appropriate tension force shown in the chart below. While tensioning, the actuator should be positioned so the weight of the Motor does not affect the belt tension. Tighten the Motor Screws (11) while the tensioning force is applied to the Motor.

Smallest Shaft Diameter*	Tension Force
.18" to .25"	10 lbs
> .25" to .50"	20 lbs
>.50"	30 lbs

*The smaller of the actuator drive shaft or the motor shaft.

10. Install both End Caps (9) with the Screws (10) to finalize assembly.

Actuator Options Parts



ITEM	PART NO.	DESCRIPTION	QTY in KIT
1	8350-9514	Auxiliary Carrier Assembly, (inch)	
	8350-9014	Auxiliary Carrier Assembly, (metric)	
2	8140-9018	TUBE CLAMP MOUNT KIT	
	8140-1050	Tube Clamp	
3	8350-9016	MOUNTING PLATE KIT	
	8350-1030	Mounting Plate	
	8140-1050	Tube Clamp	
	0604-1057	Socket Head Cap Screw	

TO ORDER SERVICE PARTS SWITCHES:

Switches for MXE include retained mounting hardware and are the same for all actuator sizes and bearing styles

ITEM	Config. Code	Lead	Normally	Sensor Type
4	SWMXE50 R Y	5m (197 in)	Open	Reed
5	SWMXE50 R K	Quick-disconnect		
4	SWMXE50 N Y	5m (197 in)	Closed	Reed
5	SWMXE50 N K	Quick-disconnect		
4	SWMXE50 T Y	5m (197 in)	Open	Solid State PNP
5	SWMXE50 T K	Quick-disconnect		
4	SWMXE50 K Y	5m (197 in)	Open	Solid State NPN
5	SWMXE50 K K	Quick-disconnect		
4	SWMXE50 P Y	5m (197 in)	Closed	Solid State PNP
5	SWMXE50 P K	Quick-disconnect		
4	SWMXE50 H Y	5m (197 in)	Closed	Solid State NPN
5	SWMXE50 H K	Quick-disconnect		

NOTE: When ordering Quick-disconnect mating female connector is included

ORDERING REPAIR KITS

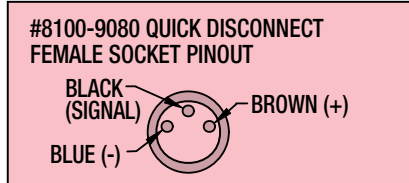
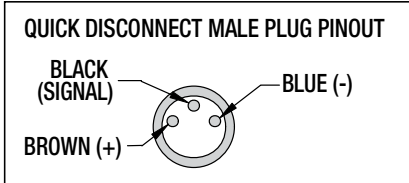
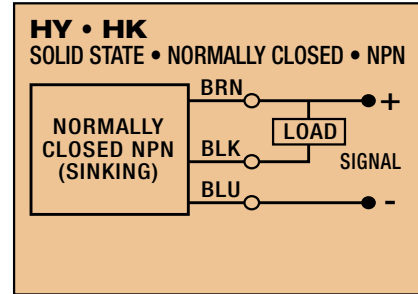
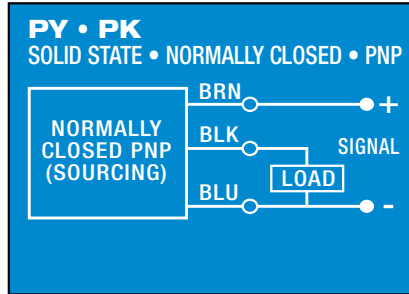
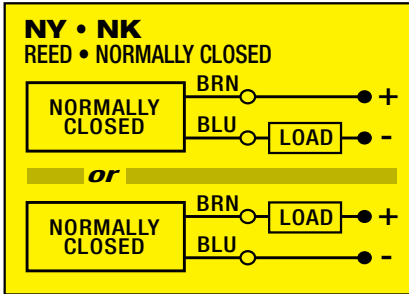
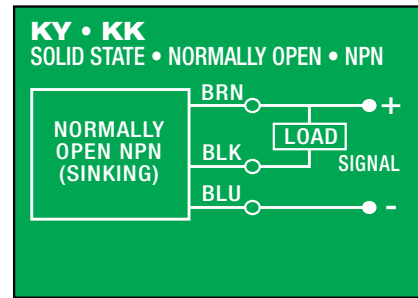
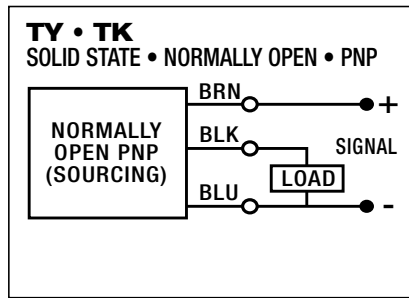
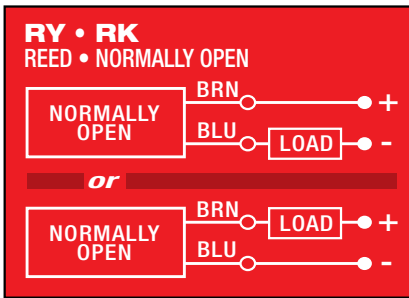
Repair kit includes: dust band, end caps, wipers

The part number for a repair kit begins with RK followed by model, actuator size, bearing type, and stroke length (**S****K** = inch/US Standard, **S****M** = metric)

(NOTE: If unit has an auxiliary carrier also include DC and distance between carrier centers)

REPAIR KIT	MODEL	ACTUATOR SIZE	BEARING TYPE	STROKE METRIC	STROKE LENGTH	AUXILIARY CARRIER	DISTANCE BETWEEN CARRIERS
RK	MXE	50	P	SM	2007	02	DC215.9

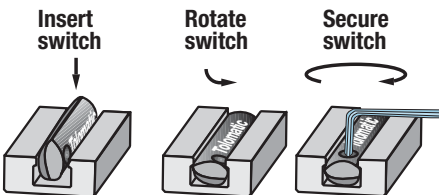
SWITCH WIRING DIAGRAMS AND LABEL COLOR CODING (CE and RoHS Compliant)



Switches for MX:

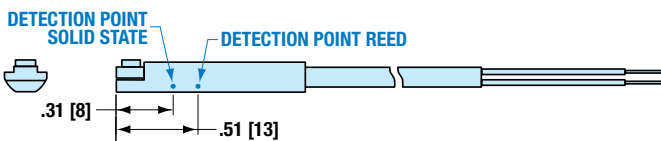
- Include retained mounting hardware
- In slot, sit below extrusion profile
- Same for all sizes and bearing styles

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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