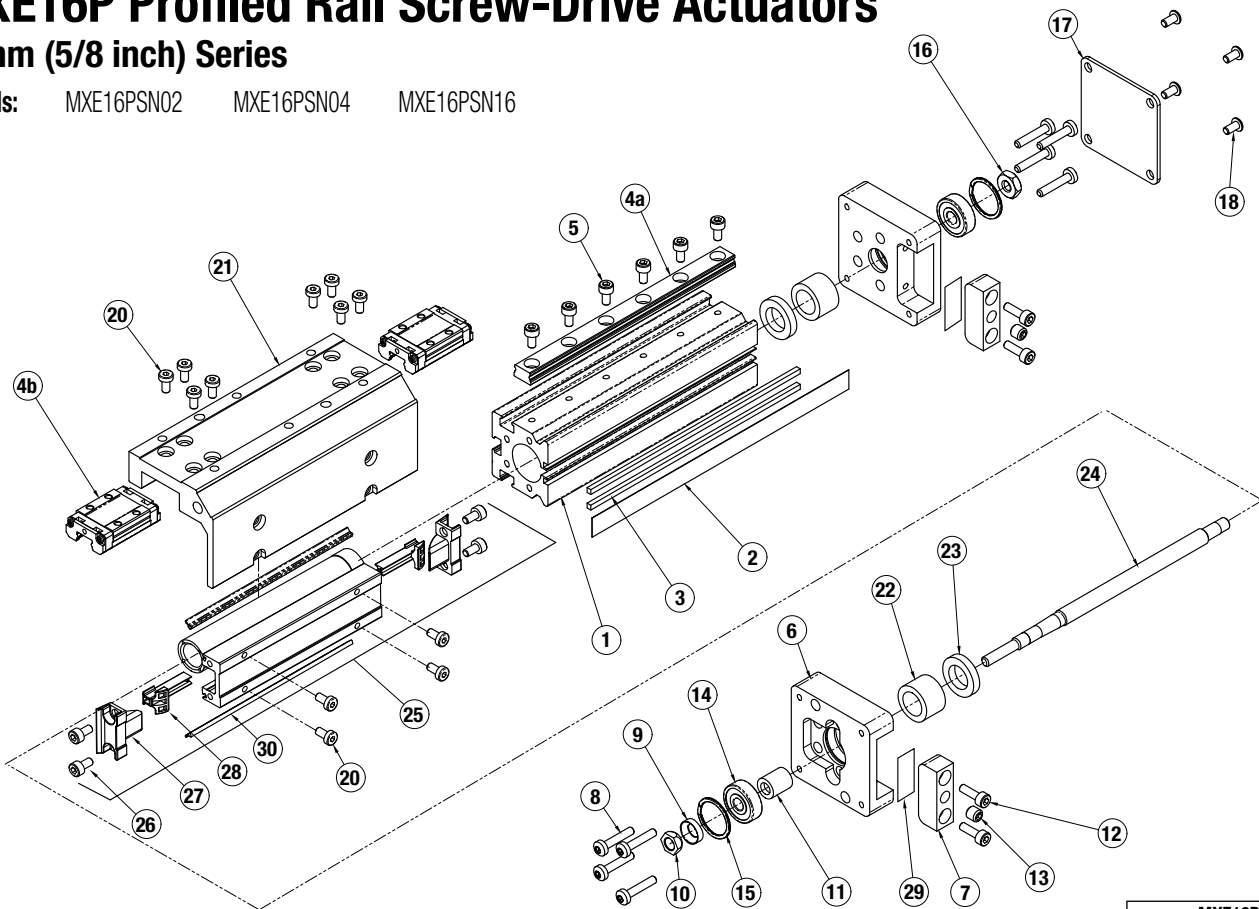


MXE16P Profiled Rail Screw-Drive Actuators

16mm (5/8 inch) Series

Models: MXE16PSN02 MXE16PSN04 MXE16PSN16



Parts Listing

A/R= As Required

ITEM	PART NO. or CONFIG. CODE	DESCRIPTION	MXE16P		
			SN02	SN04	SN16
1	RTBMXE16	Replacement Tube (8316-1016)			
2 ¹	NDBMXE16	New Dust Band (8316-1018)			
3	NMBMXE16	New Magnet Band Kit (8316-1019) (2 magnet strips included)	After Config. Code add: SK (stroke length in inches) or SM (stroke length in mm)		
4a ⁶	NPRMXE16	Replacement Bearing Rail add DW for Dual Carrier add BB for optional Bearing Blocks			
5	4905-1005	SHCS M3 x 0.5 x 6mm	A/R	A/R	A/R
6	8316-1011	Head	2	2	2
7	8316-1017	Band Clamp	2	2	2
8	8316-1022	Pan Head Cap Screw	8	8	8
9	8316-1028	Spherical Washer	1	1	1
10	8316-1027	Lock Nut	1	1	1
11	8316-1029	Bushing	1	1	1
12	0602-3012	Socket Head Cap Screw	4	4	4
13	0601-1093	Set Screw	2	2	2
14	8316-1009	Bearing	2	2	2
15	8316-1005	Retaining Ring	2	2	2
16	2506-1007	Hex Nut	1	1	1
17	8316-1020	Cover Plate, Idle End	1	1	1
18	0602-1056	Button Head Cap Screw	4	4	4
19		Number not used			
20	8125-1022	Low Head Cap Screw	12	12	12
21	8316-1521	Carrier (inch)	1	1	1
	8316-1021	Carrier (metric)	1	1	1
22	8316-1024	Spacer, Nylon	2	2	2
23	8316-1023	Bumper	2	2	2
24	RLSAMXE16-SN02SK ⁴ LMI ⁵	Leadscrew, .250, SN02, LMI (8316-1100)	A/R	-	-
	RLSAMXE16-SN02SK ⁴ RP ⁵	Leadscrew, .250, SN02, RP (8316-1101)	A/R	-	-
	RLSAMXE16-SN04SK ⁴ LMI ⁵	Leadscrew, .250, SN04, LMI (8316-1102)	-	A/R	-
	RLSAMXE16-SN04SK ⁴ RP ⁵	Leadscrew, .250, SN04, RP (8316-1103)	-	A/R	-
	RLSAMXE16-SN16SK ⁴ LMI ⁵	Leadscrew, .250, SN16, LMI (8316-1104)	-	-	A/R
	RLSAMXE16-SN16SK ⁴ RP ⁵	Leadscrew, .250, SN16, RP (8316-1105)	-	-	A/R
25 ^{1,3}	8316-9006	Nut Bracket Assembly, SN02	1	-	-
	8316-9007	Nut Bracket Assembly, SN04	-	1	-
	8316-9008	Nut Bracket Assembly, SN16	-	-	1
26 ³	0601-1038	Socket Head Cap Screw	4	4	4
27 ^{2,3}	8116-1006	End Cap	2	2	2
28 ^{2,3}	8316-1007	Band Ramp	2	2	2
29	8325-1055	Shim	2	2	2
	8325-1056	Shim	2	2	2
	8325-1057	Shim	2	2	2
30 ²	8116-1059	Wiper	2	2	2


¹ Solid Nut Bracket Assembly available to order for replacement. Contact the Factory.

² Parts included in Repair Kits. (RKMXE16PSK or SM___, indicate stroke length in inches or millimeters)

³ Parts included in Nut Bracket Assembly

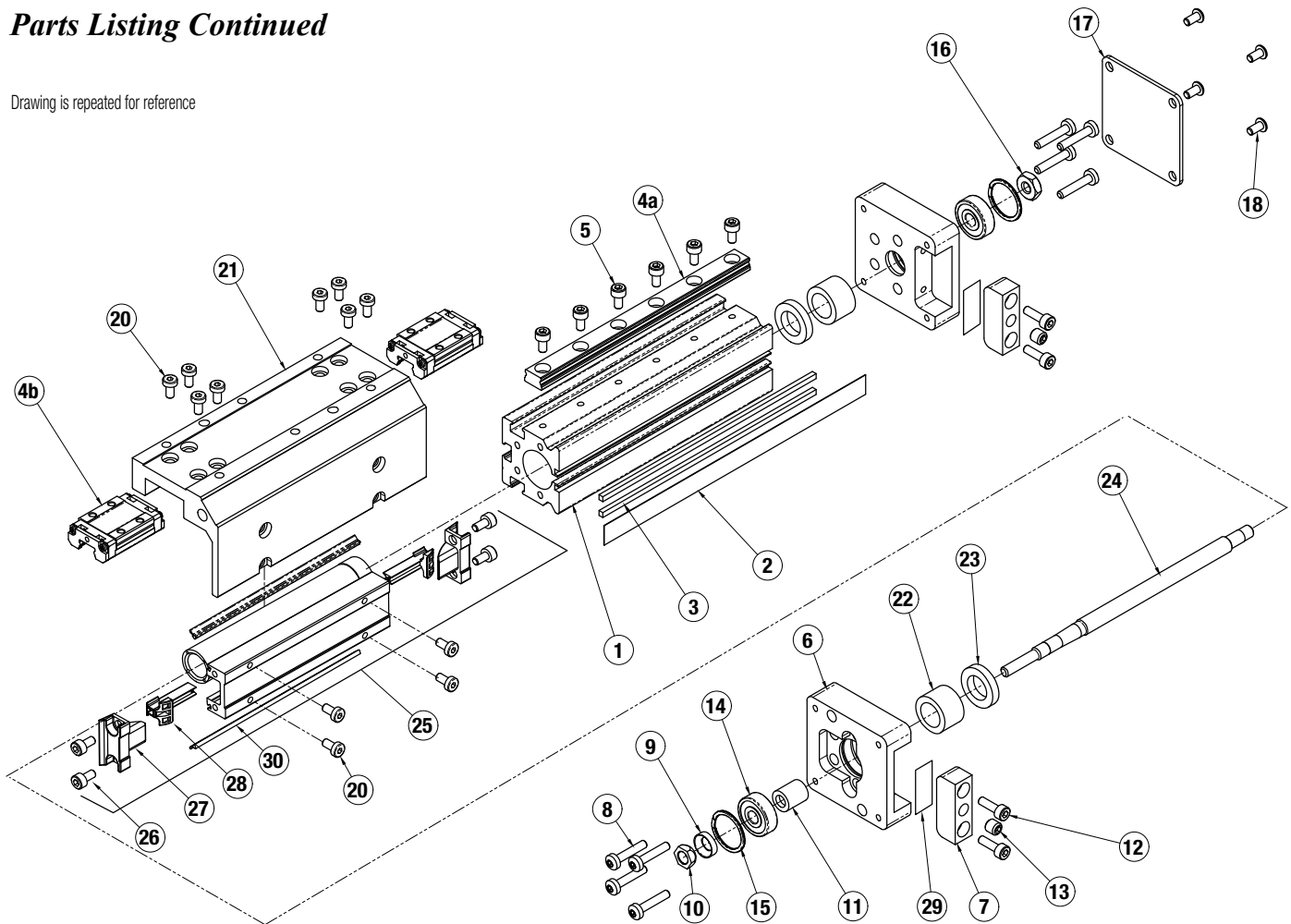
⁴ SK or SM___, indicate stroke length in inches or millimeters

⁵ Length of connecting shaft varies by motor type and size, indicate motor code here

⁶  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.

Parts Listing Continued

Drawing is repeated for reference

**Assembly and Disassembly Instructions****GENERAL 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

- 1. DUST BAND AND CARRIER REMOVAL.** Position the actuator with the Dust Band (2) facing up. Remove the Band Clamps (7) from both Heads (6) of the actuator by removing Screws (12) and backing out the Center Set Screw (13) a couple turns. Carefully lift the Dust Band (2) from the slot in each Head (6) and remove any Shims (29) located under the Band (2) in the Head (6) slot. Retain the Shims (29) for reassembly.

Remove Screws (20) to release the Carrier (21) from the Nut Bracket Assembly (25). Slide the Carrier (21) clear of the Nut Bracket. Remove Nut Bracket End Caps (27) from both ends of the Nut Bracket. 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 (18) and remove the Cover Plate (17) and the Lock Nut (16) from Leadscrew (24). Remove Head Fastener Bolts (8) from both Heads (6). Remove the Non-Drive End Head (6) and the Drive Head/Leadscrew (24) assembly. If necessary, the Nut Bracket Assembly (25) can now be removed from the Leadscrew (24) and the Band Ramps (28) may also be removed from the Nut Bracket Assembly (25) 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 (25) and cannot be removed. If Nuts are worn, a new Nut Bracket Assembly (25) must be ordered.

If Drive End Head (6) and Bearing (14) must be removed from the Leadscrew (24), contact the factory prior to removal for specific instructions.

GENERAL ASSEMBLY INSTRUCTIONS

- 1. INSTALL LEAD SCREW ASSEMBLY AND CARRIER.** Install the Band Ramps (28). From the Drive End, install the Head/Leadscrew/Nut Bracket (25) assembly into the Tube (1) making sure the Bearing Rail (4a) is oriented on the left side of the Tube (1). With the Bumper (23) and Nut Spacer (22) in place, position the Non-Drive End Head (6) over the Leadscrew Bearing (14) and loosely install Head Fastener Bolts (8) into the Head (6). Install the Drive End Head Fastener Bolts (8) loosely into the Drive End Head (6).

- 2. INSTALL DUST BAND AND CARRIER.** Install the Dust Band (2) through the Nut Bracket Assembly (25) and install the End Caps (27) onto the Nut Bracket (25). Position Carrier (21) over the Bearing Blocks (4b) and the Nut Bracket (25) and install all Fasteners (20) and leave them loose at this time. By hand, load the Carrier (21) to keep it tight down on the surface of the Bearing Blocks (4b) and tighten the Carrier-to-Nut Bracket Fasteners (20). Tighten the Carrier-to-Bearing Block Fasteners (20).

- 3. PERFORM HEAD ALIGNMENT AND FINAL ASSEMBLY.**

NOTE: Custom tooling is used at the factory to align the Heads (6) to the Tube (1) to maintain parallelism between the top of the Head (6) and top of the Tube (1). This is critical to performance and longevity of the Dust Band (2). In the following steps, it will be necessary to measure parallelism between the Head (6) and the Tube (1).

Move Carrier Assembly (21) to Drive End of Tube (1) and tighten one of the Head Fastener Bolts (8). Support the actuator on the Tube (1) such that the Head (6) is free to float while tightening the Head Fasteners (8).

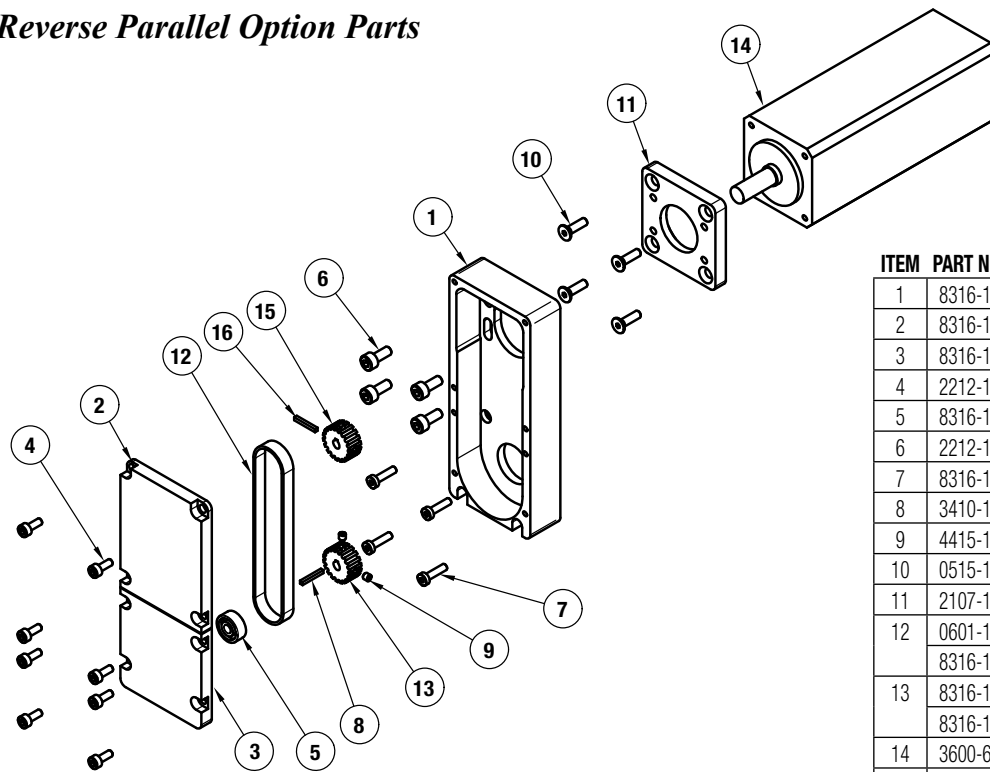
Move Carrier Assembly (21) to Non-Drive End of Tube (1) and tighten these Head Fastener Bolts (8).

Move Carrier Assembly (21) back to the Drive End of Tube (1) and loosen the Fastener (8) that was previously tightened and then tighten all Head Fastener Bolts (8).

Apply Loctite 242 to Hex Nut (16) and thread onto the Leadscrew (24) and torque to 16-20 oz.-in Install Cover Plate (17) with Screws (18).

- 4. INSTALL BAND CLAMPS.** Visually inspect the interface between the Dust Band (2) surface of the Tube (1) and the clamping surface of each Head (6). This should be flush. It may be necessary to install Shims (29) in the pocket of the Head (6) in order to make flush. Position the Carrier (21) near the Drive End. Position the Band (2) in the pocket over any previously installed Shims (29) and install the Band Clamp (7) with the two Cap Screws (12). Lastly, tighten down the Center Set Screw (13). Position the Carrier (21) near the Non-Drive End and repeat the steps to install the other Band Clamp (7).

Reverse Parallel Option Parts



ITEM	PART NO.	DESCRIPTION	QTY
1	8316-1080	HOUSING	1
2	8316-1087	COVER PLATE, UPPER	1
3	8316-1086	COVER PLATE, LOWER	1
4	2212-1090	SOCKET HEAD CAP SCREW	8
5	8316-1008	BEARING	1
6	2212-1092	SOCKET HEAD CAP SCREW	4
7	8316-1085	LOW HEAD CAP SCREW	4
8	3410-1287	KEY	1
9	4415-1015	SET SCREW	2
10	0515-1232	FLAT HEAD CAP SCREW	4
11	2107-1103	MOTOR PLATE	1
12	0601-1069	BELT (1:1 RATIO)	1
	8316-1084	BELT (2:1 RATIO)	1
13	8316-1082	PULLEY (1:1 RATIO)	1
	8316-1083	PULLEY (2:1 RATIO)	1
14	3600-6239	MOTOR	1
15	2107-1055	PULLEY, MOTOR	1
16	1209-1017	SPRING PIN	1

REVERSE PARALLEL DISASSEMBLY INSTRUCTIONS

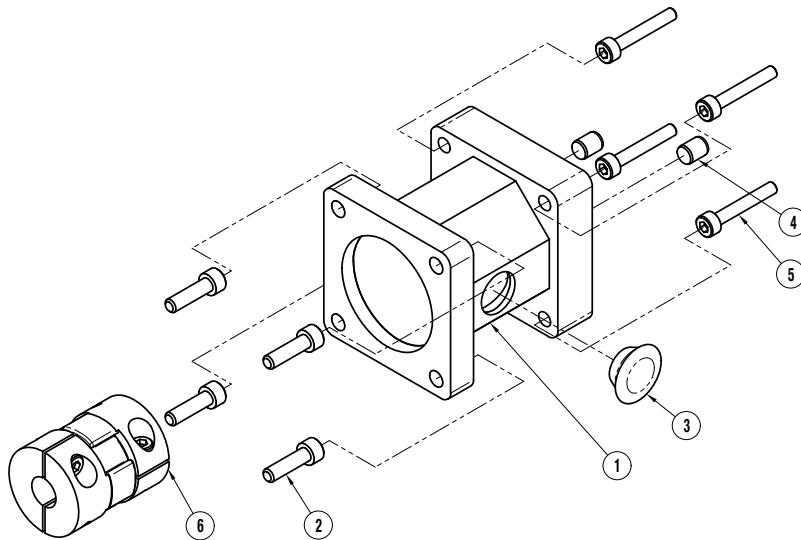
1. Remove the Upper Cover (2), and release the tension on Belt (12) by breaking loose the Motor Screws (6).
2. Remove the Lower Cover (3).
3. The Belt (12) can now be removed along with the Motor.
4. Remove both Pulleys (15) and (13) from their respective shafts.
5. Remove the RP Housing (1) from the actuator Head by removing the Screws (7).

REVERSE PARALLEL ASSEMBLY INSTRUCTIONS

Note: Apply Loctite #242 to all screws upon installation

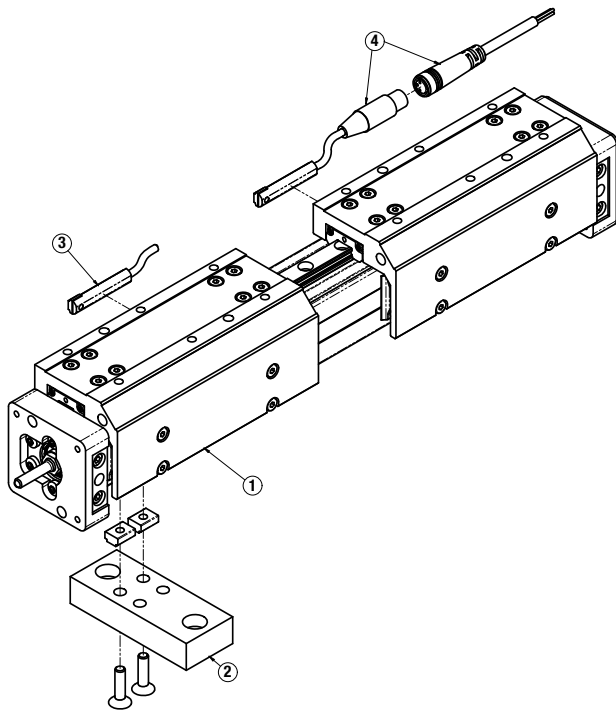
1. Install RP Housing (1) to the actuator Head with Screws (7).
2. Install Driven Pulley (13) to the Leadscrew (24) output shaft.
3. Install the Cover (3) with Bearing (5), onto the RP Housing (1) positioning the Bearing (5) over the Leadscrew (24) shaft.
4. Install the Motor to the RP Housing with Screws (6). Do not tighten the Screws (6) at this time.
5. Install the Drive Pulley (15).
6. Locate the Belt (12) over the Pulleys (15) and (13).
7. Verify that there is clearance between the inside of the RP Housing (1) and each Pulley (15 & 13). Verify that the Pulleys (15 & 13) are aligned with each other.
8. Tension the Belt (12) by pulling the Motor away from the drive shaft with a force of 10 lbs. While tensioning, the actuator should be positioned so the weight of the Motor does not affect the belt tension. Tighten the Motor Screws (6) while the tensioning force is applied to the Motor.
9. Install Cover (2) with the Screws (4) to finalize assembly.

In-Line Mounting Option Parts



ITEM	PART NO.	DESCRIPTION	QTY
1	8316-1070	MOTOR SPACER	1
2	0910-1404	SOCKET HEAD CAP SCREW	4
3	2107-1039	PLUG	1
4	6000-1752	DOWEL PIN	2
5	2212-1111	SOCKET HEAD CAP SCREW	4
6	3600-9311	COUPLER	1

Actuator Options Parts



ITEM	PART NO.	DESCRIPTION	QTY in KIT
1	8316-9514	AUXILIARY CARRIER ASSEMBLY (inch)	
	8316-9014	AUXILIARY CARRIER ASSEMBLY (metric)	
2	8316-9016	MOUNTING PLATE KIT	
	8316-1030	MOUNTING PLATE, .50 THICK	
	8316-1050	T-NUT	
	4410-1018	FLAT HEAD CAP SCREW	

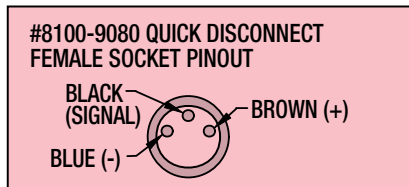
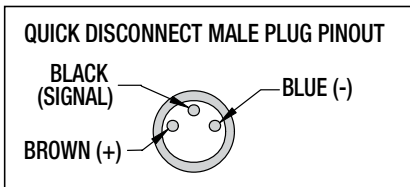
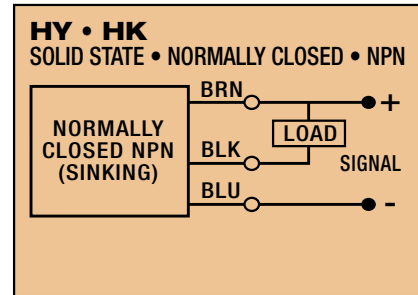
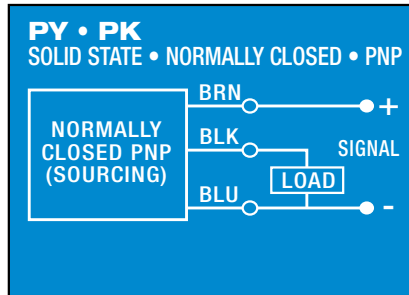
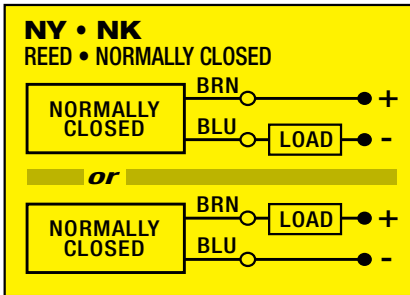
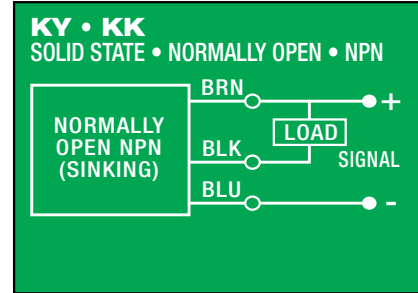
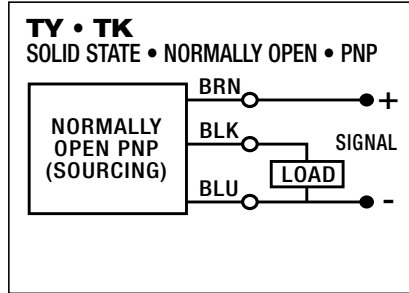
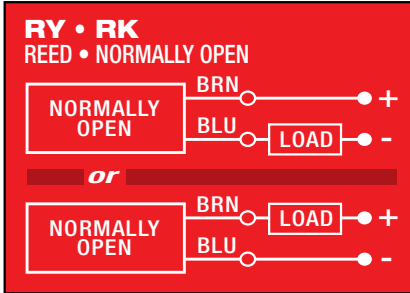
TO ORDER SERVICE PARTS SWITCHES:

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
3	SWMXE16 R Y	5m (197 in)	Open	Reed
4	SWMXE16 R K	Quick-disconnect		
3	SWMXE16 N Y	5m (197 in)	Closed	Reed
4	SWMXE16 N K	Quick-disconnect		
3	SWMXE16 T Y	5m (197 in)	Open	Solid State PNP
4	SWMXE16 T K	Quick-disconnect		
3	SWMXE16 K Y	5m (197 in)	Open	Solid State NPN
4	SWMXE16 K K	Quick-disconnect		
3	SWMXE16 P Y	5m (197 in)	Closed	Solid State PNP
4	SWMXE16 P K	Quick-disconnect		
3	SWMXE16 H Y	5m (197 in)	Closed	Solid State NPN
4	SWMXE16 H K	Quick-disconnect		

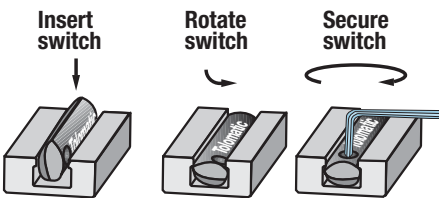
NOTE: When ordering Quick-disconnect mating female connector is included

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



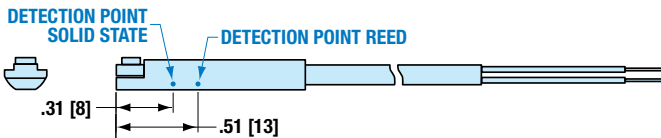
- Switches for MX:
- Include retained mounting hardware
 - In slot, sit below extrusion profile
 - Same for all sizes and bearing styles

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 it such that the switch is halfway in 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 the switch securely into place by tightening the screw on the switch.

SWITCH DETECTION POINT



Dimensions in inches [brackets indicate dimensions in millimeters]

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)



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