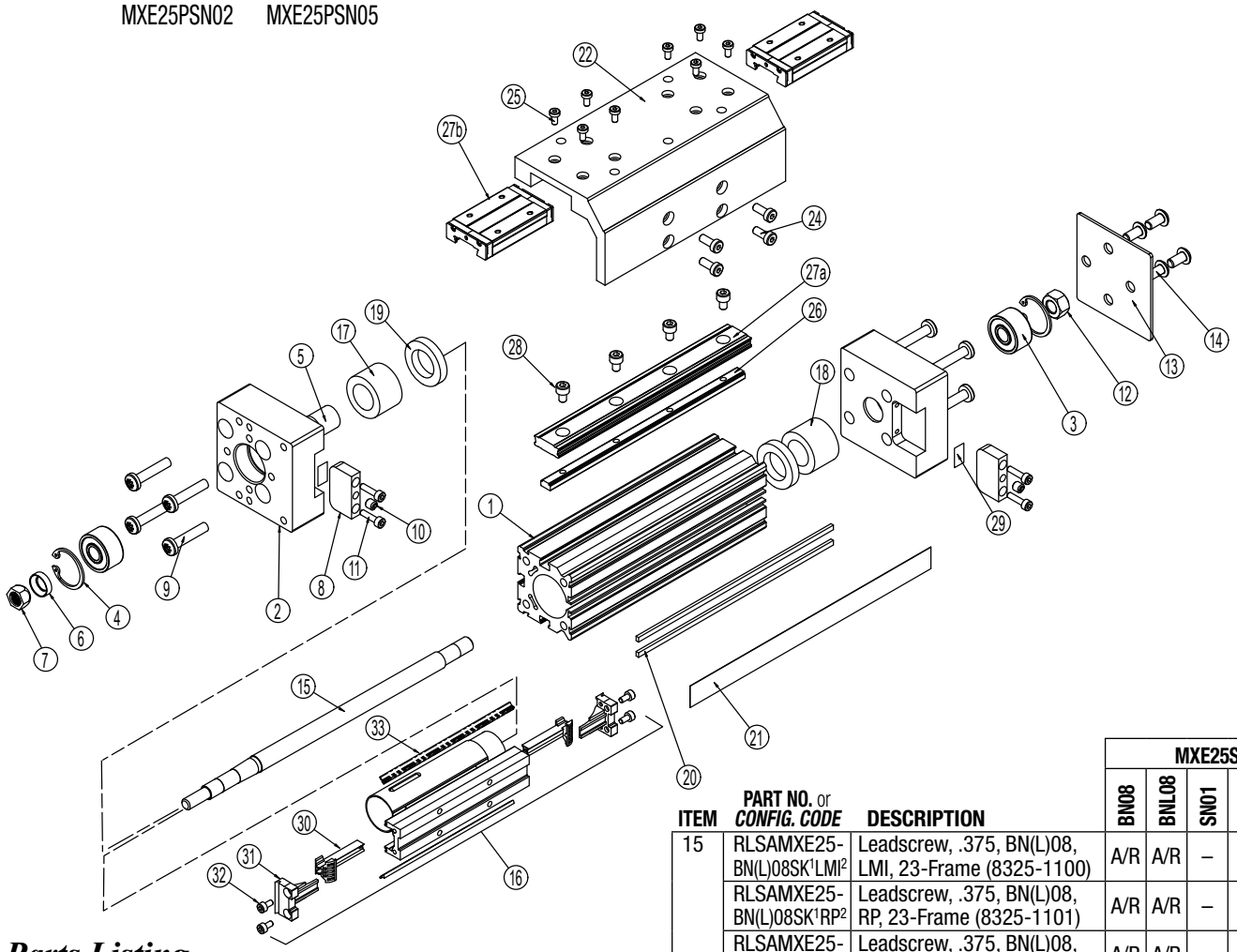
MXE25P Profiled Rail Bearing Screw-Drive Actuators

25mm (1 inch) Series

Models: MXE25PBN08 MXE25PBNL08 MXE25PSN01
MXE25PSN02 MXE25PSN05



Parts Listing

A/R= As Required

ITEM	PART NO. or *CONFIG. CODE*	DESCRIPTION	MXE25S BN08	BNL08	SN01	SN02	SN05
1[1]	RTBMXE25	Replacement Tube (8325-1010)	A/R	A/R	A/R	A/R	A/R
2	8325-1011	Head	2	2	2	2	2
3	4510-1060	Bearing	2	2	2	2	2
4	3410-1207	Retaining Ring	2	2	2	2	2
5	3410-2041	Sleeve	1	1	1	1	1
6	3410-2014	Washer	1	1	1	1	1
7	3410-2013	Lock Nut	1	1	1	1	1
8	8325-1017	Band Clamp	2	2	2	2	2
9	8325-1023	Screw	8	8	8	8	8
10	0601-1093	Set Screw	2	2	2	2	2
11	2212-1112	Screw	4	4	4	4	4
12	0701-1059	Hex Nut	1	1	1	1	1
13	8325-1022	Cover Plate	1	1	1	1	1
14	0110-1424	Screw	4	4	4	4	4

[1] **SK** or *SM_ _ _*, indicate stroke length in **inches** or *millimeters*
[2] Length of connecting shaft varies by motor type and size, indicate motor code here
[3] Solid Nut Bracket Assembly available to order for replacement. Contact the Factory.
[4] Parts included in Nut Bracket Assembly.

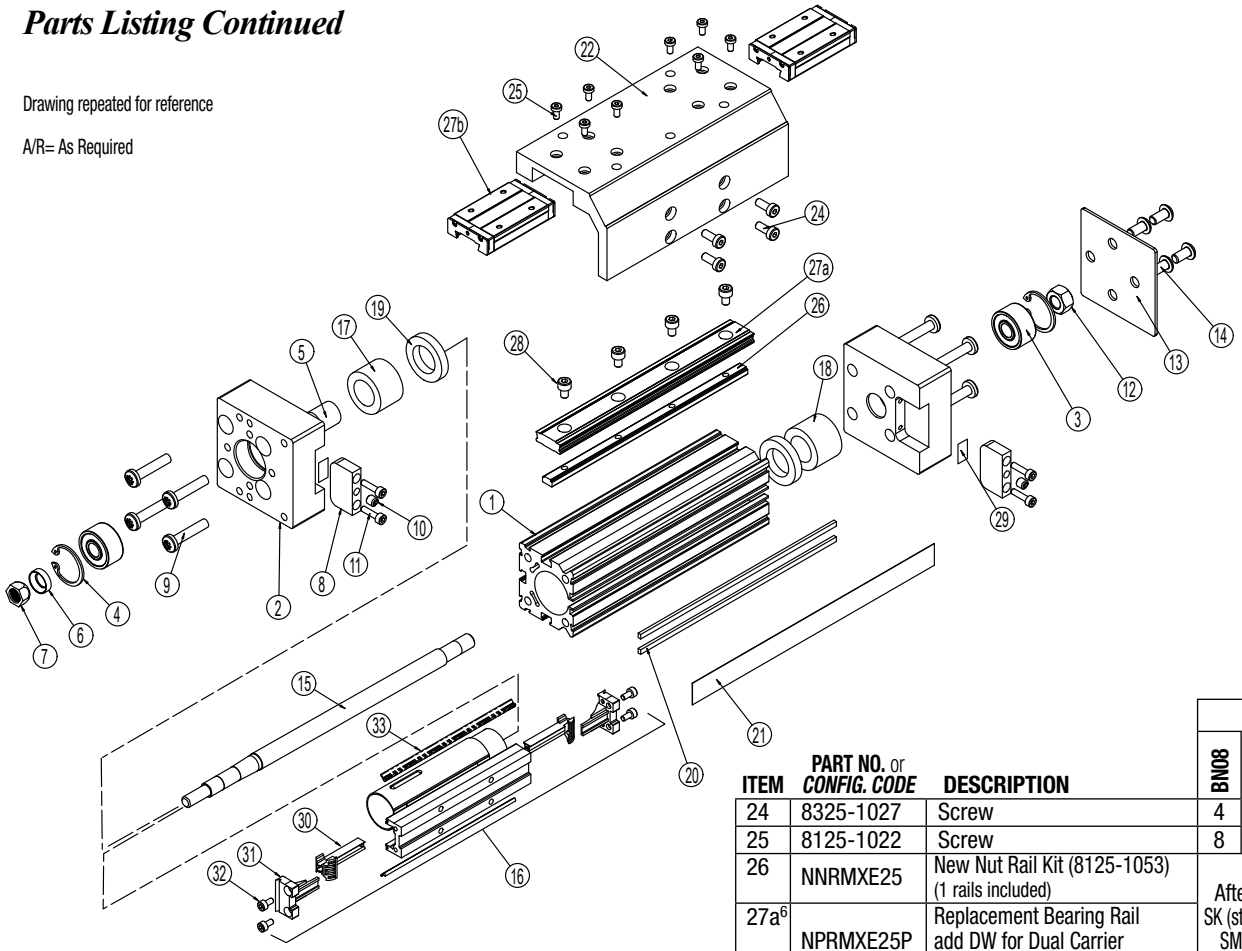
ITEM	PART NO. or *CONFIG. CODE*	DESCRIPTION	MXE25S BN08	BNL08	SN01	SN02	SN05
15	RLSAMXE25-BN(L)08SK[1]LMI[2]	Leadscrew, .375, BN(L)08, LMI, 23-Frame (8325-1100)	A/R	A/R	–	–	–
	RLSAMXE25-BN(L)08SK[1]RP[2]	Leadscrew, .375, BN(L)08, RP, 23-Frame (8325-1101)	A/R	A/R	–	–	–
	RLSAMXE25-BN(L)08SK[1]RP[2]	Leadscrew, .375, BN(L)08, RP, 34-Frame (8325-1102)	A/R	A/R	–	–	–
	RLSAMXE25-SN01SK[1]LMI[2]	Leadscrew, .375, SN01, LMI, 23-Frame (8325-1103)	–	–	A/R	–	–
	RLSAMXE25-SN01SK[1]RP[2]	Leadscrew, .375, SN01, RP, 23-Frame (8325-1104)	–	–	A/R	–	–
	RLSAMXE25-SN01SK[1]RP[2]	Leadscrew, .375, SN01, RP, 34-Frame (8325-1105)	–	–	A/R	–	–
	RLSAMXE25-SN02SK[1]LMI[2]	Leadscrew, .375, SN02, LMI, 23-Frame (8325-1106)	–	–	–	A/R	–
	RLSAMXE25-SN02SK[1]RP[2]	Leadscrew, .375, SN02, RP, 23-Frame (8325-1107)	–	–	–	A/R	–
	RLSAMXE25-SN02SK[1]RP[2]	Leadscrew, .375, SN02, RP, 34-Frame (8325-1108)	–	–	–	A/R	–
	RLSAMXE25-SN05SK[1]LMI[2]	Leadscrew, .375, SN05, LMI, 23-Frame (8325-1117)	–	–	–	–	A/R
	RLSAMXE25-SN05SK[1]RP[2]	Leadscrew, .375, SN05, RP, 23-Frame (8325-1118)	–	–	–	–	A/R
	RLSAMXE25-SN05SK[1]RP[2]	Leadscrew, .375, SN05, RP, 34-Frame (8325-1119)	–	–	–	–	A/R

[5] Parts included in Repair Kits. (RKMXE40PSK or *SM_ _ _*, indicate stroke length in inches or *millimeters*)
[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 repeated for reference

A/R= As Required



ITEM	PART NO. or CONFIG. CODE	DESCRIPTION	MXE25S BN08	BNL08	SN01	SN02	SN05
16[3]	8325-9006[4]	Nut Bracket Assy, SN01	–	–	1	–	–
	8325-9007[4]	Nut Bracket Assy, SN02	–	–	–	1	–
	8325-9008[4]	Nut Bracket Assy, SN05	–	–	–	–	1
	8325-9009	Nut Bracket Assy, BN08	1	1	–	–	–
17	8325-1024	Solid Nut Spacer	–	–	1	1	1
	8325-1026	Ball Nut Spacer	1	1	–	–	–
18	8325-1025	Spacer	1	1	1	1	1
19	3410-1218	Bumper	2	2	2	2	2
20	NMBMXE25	New Magnet Band Kit (8325-1019) (2 magnet strips included)	After Config. Code add: SK (stroke length in inches) or SM (stroke length in mm)				
21[5]	NDBMXE25	New Dust Band (8325-1018)					
22	8325-1021	Carrier, (metric)	1	1	1	1	1
	8325-1521	Carrier, (inch)	1	1	1	1	1

ITEM	PART NO. or CONFIG. CODE	DESCRIPTION	MXE25S BN08	BNL08	SN01	SN02	SN05
24	8325-1027	Screw	4	4	4	4	4
25	8125-1022	Screw	8	8	8	8	8
26	NNRMXE25	New Nut Rail Kit (8125-1053) (1 rails included)	After Config. Code add: SK (stroke length in inches) or SM (stroke length in mm)				
27a[6] 27b[6]	NPRMXE25P	Replacement Bearing Rail add DW for Dual Carrier add BB for optional Bearing Blocks					
28	8125-1023	Screw	A/R	A/R	A/R	A/R	A/R
29	8325-1055	Shim, .005 Thick	2	2	2	2	2
	8325-1056	Shim, .010 Thick	2	2	2	2	2
	8325-1057	Shim, .020 Thick	2	2	2	2	2
30[3,5]	8325-1007	Band Ramp	2	2	2	2	2
31[3,5]	8125-1006	End Cap	2	2	2	2	2
32[3]	0601-1038	Screw	4	4	4	4	4
33[5]	8125-1059	Wiper	2	2	2	2	2

[1] **SK** or *SM_ _ _*, indicate stroke length in **inches** or *millimeters*
[2] Length of connecting shaft varies by motor type and size, indicate motor code here
[3] Solid Nut Bracket Assembly available to order for replacement. Contact the Factory.
[4] Parts included in Nut Bracket Assembly.
[5] Parts included in Repair Kits. (RKMXE40PSK or *SM_ _ _*, indicate stroke length in inches or *millimeters*)
[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.

Assembly and Disassembly Instructions

GENERAL CYLINDER 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 (21) facing up. Remove the Band Clamps (8) from both Heads (2) of the actuator by removing Screws (11) and backing out the Center Set Screw (10) a couple turns. Carefully lift the Dust Band (21) from the slot in each Head (2) and remove any Shims (29) located under the Band (21) in the Head (2) slot. Retain the Shims (29) for reassembly. Remove Screws (24) to release the Carrier (22) from the Nut Bracket Assembly (16). Slide the Carrier (22) clear of the Nut Bracket (16). Remove Nut Bracket End Caps (31) from both ends of the Nut Bracket (16). The Dust Band (21) can now be removed from the actuator.

NOTE: If removal of the Bearing Rail (27a) or Bearing Blocks (27b) is necessary, contact the factory prior to removal for specific instructions.

2. LEADSCREW SUB-ASSY REMOVAL. On the Non-Drive End of the actuator remove the Screws (14) and remove the Cover Plate (13) and the Hex Nut (12) from Leadscrew (15). Remove Screws (9) from both Heads (2). Remove the Non-Drive End Head (2) and the Drive Head/Leadscrew (15) assembly. If necessary, the Nut Bracket Assembly (16) can now be removed from the Leadscrew (15) and the Band Ramps (30) may also be removed from the Nut Bracket Assembly (16) 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 (16) and cannot be removed. If Nuts are worn, a new Nut Bracket Assembly (16) must be ordered.

   If Drive End Head (2) and Bearing (3) must be removed from the Leadscrew (15), contact the factory prior to removal for specific instructions.

GENERAL CYLINDER ASSEMBLY INSTRUCTIONS

1. INSTALL LEADSCREW ASSEMBLY AND CARRIER. Install the Band Ramps (30) to the Nut Bracket (16) with Screws (32). From the Drive End, install the Head/Leadscrew/Nut Bracket Assembly (16) into the Tube (1) making sure the Bearing Rail (27a) is oriented on the left side of the Tube (1). With the Bumper (19) and Nut Spacer (18) in place, position the Non-Drive End Head (2) over the Leadscrew Bearing (3) and loosely install Screws (9) into the Head (2). Install the Drive End Screws (9) loosely into the Drive End Head (2).
2. INSTALL DUST BAND AND CARRIER. Install the Dust Band (21) through the Nut Bracket (16) and install the End Caps (31) onto the Nut Bracket (16). Position Carrier (22) over the Bearing Blocks (27b) and the Nut Bracket (16) and install all Fasteners (24) and leave them loose at this time. By hand, load the Carrier (22) to keep it tight down on the surface of the Bearing Blocks (27b) and tighten the Carrier-to-Nut Bracket Fasteners (24). Tighten the Carrier-to-Bearing Block Fasteners (25).
3. PERFORM HEAD ALIGNMENT AND FINAL ASSEMBLY.

   NOTE: Custom tooling is used at the factory to align the Heads (2) to the Tube (1) to maintain parallelism between the top of the Head (2) and top of the Tube (1). This is critical to performance and longevity of the Dust Band (21). In the following steps it will be necessary to measure parallelism between the Head (2) and the Tube (1).

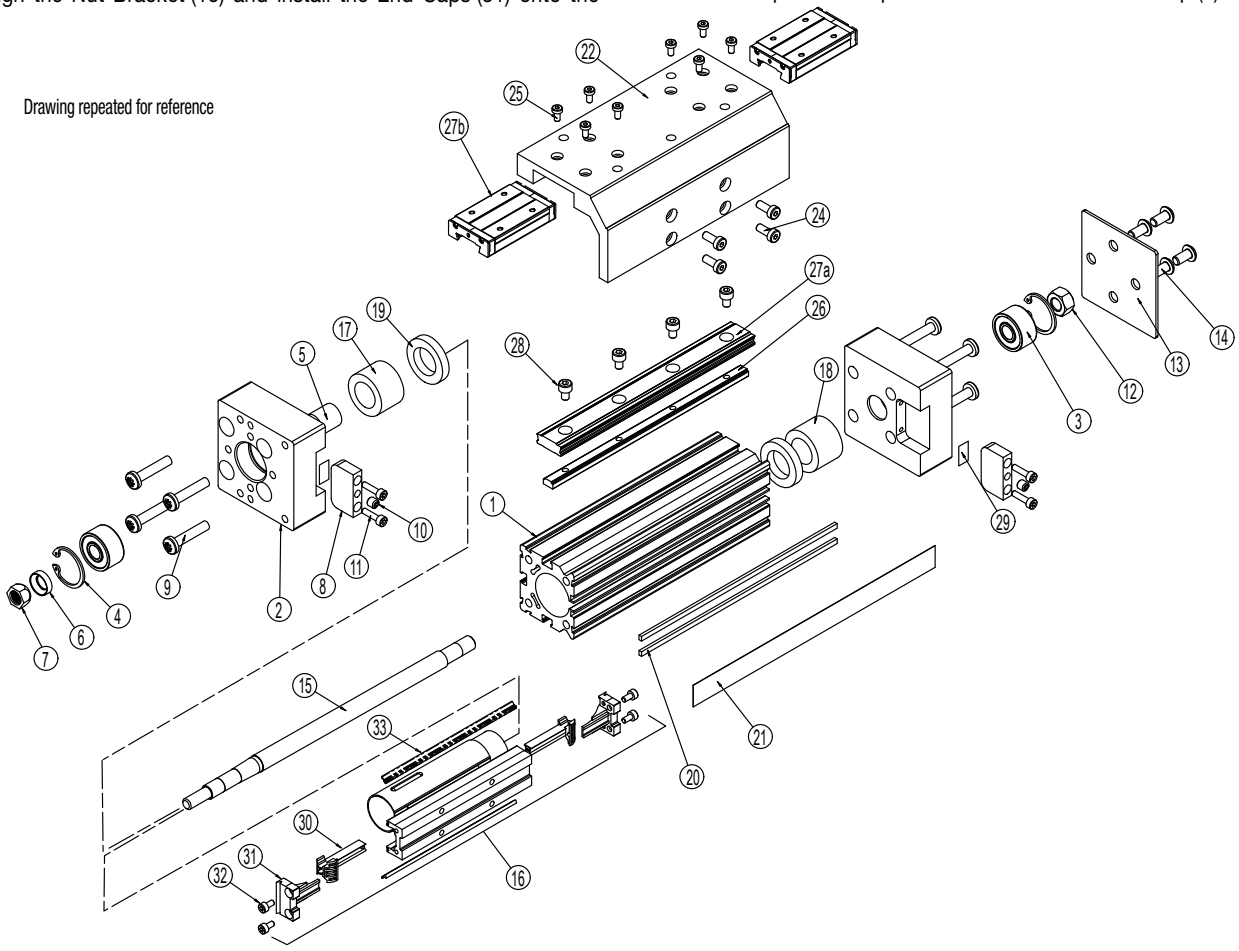
   Move Carrier Assembly (22) to Drive End of Tube (1) and tighten one of the Head Bolts (9). Support the actuator on the Tube (1) such that the Head (2) is free to float while tightening the Head Fasteners (9).

   Move Carrier Assembly (22) to Non-Drive End of Tube (1) and tighten these Head Bolts (9).

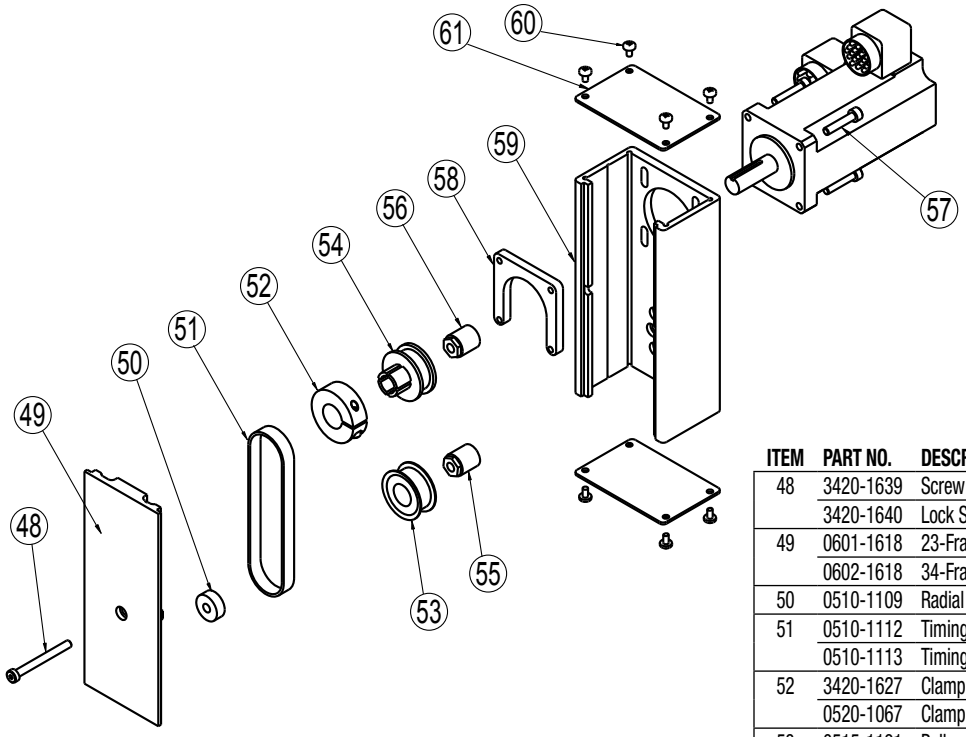
   Move Carrier Assembly (22) back to the Drive End of Tube (1) and loosen the Fastener (9) that was previously tightened and then tighten all Head Fasteners (9).

   Apply Loctite 242 to Hex Nut (12) and thread onto the Leadscrew (15) and torque to 6-8 in-lbs. Install Cover Plate (13) with screws (14).
4. INSTALL BAND CLAMPS. Visually examine the interface between the Dust Band (21) surface of the Tube (1) and the clamping surface of each Head (2). This should be flush. It may be necessary to install Shims (29) in the pocket of the Head (2) in order to make flush. Position the Carrier (22) near the Drive End. Position the Band (21) in the pocket over any previously installed Shims (29) and install the Band Clamp (8) with the two Cap Screws (11). Lastly, tighten down the Center Set Screw (10). Position the Carrier (22) near the Non-Drive End and repeat the steps to install the other Band Clamp (8).

Drawing repeated for reference



Reverse Parallel Motor Mounting Parts



ITEM	PART NO.	DESCRIPTION	1:1 RATIO				2:1 RATIO			
			MRV2x	MRS2X	MRS31,32	MRS33	MRV2x	MRS2X	MRS31,32	MRS33
48	3420-1639	Screw (metric)			1	1			1	1
	3420-1640	Lock Screw (metric)	1	1			1	1		
49	0601-1618	23-Frame Cover	1	1			1	1		
	0602-1618	34-Frame Cover			1	1			1	1
50	0510-1109	Radial Bearing	1	1	1	1	1	1	1	1
51	0510-1112	Timing Belt, 1:1	1	1	1	1				
	0510-1113	Timing Belt, 1:2					1	1	1	1
52	3420-1627	Clamp Collar				1				1
	0520-1067	Clamp Collar	1		1		1		1	
53	0515-1191	Pulley	1	1	1	1				
	0510-1110	Pulley					1	1	1	1
54	0510-1398	Pulley				1				1
	3420-1255	Pulley	1		1		1		1	
	0515-1191	Pulley		1				1		
55	0510-1111	Trantorq, .250 Bore	1	1	1	1	1	1	1	1
56	0510-1111	Trantorq, .250 Bore		1				1		
57	2212-1099	Screw (metric)	4	4	4	4	4	4	4	4
58	0601-1053	23-Frame Motor Plate	1	1			1	1		
	0602-1057	34-Frame Motor Plate			1	1			1	1
59	0601-1608	23-Frame Housing	1	1			1	1		
	0602-1608	34-Frame Housing			1	1			1	1
60	0601-1625	Self-Tapping Screw	8	8	8	8	8	8	8	8
61	0601-1602	23-Frame End Cap	2	2			2	2		
	0602-1602	34-Frame End Cap			2	2			2	2

REVERSE PARALLEL DISASSEMBLY INSTRUCTIONS

1. Remove End Caps (61). Release tension on Belt (51) by breaking loose the Motor Fasteners (57).
2. Remove RP Cover (49).
3. The Belt (51) can now be removed and the Motor can be removed as well.
4. Remove both Drive Pulley (54) and Driven Pulley (53) from their respective shafts.
5. Remove the RP Housing (59) from the Head (2) by removing the RP Housing (59) to Head Fasteners (9).

REVERSE PARALLEL ASSEMBLY INSTRUCTIONS

NOTE: Apply Loctite #242 to all fasteners upon installation

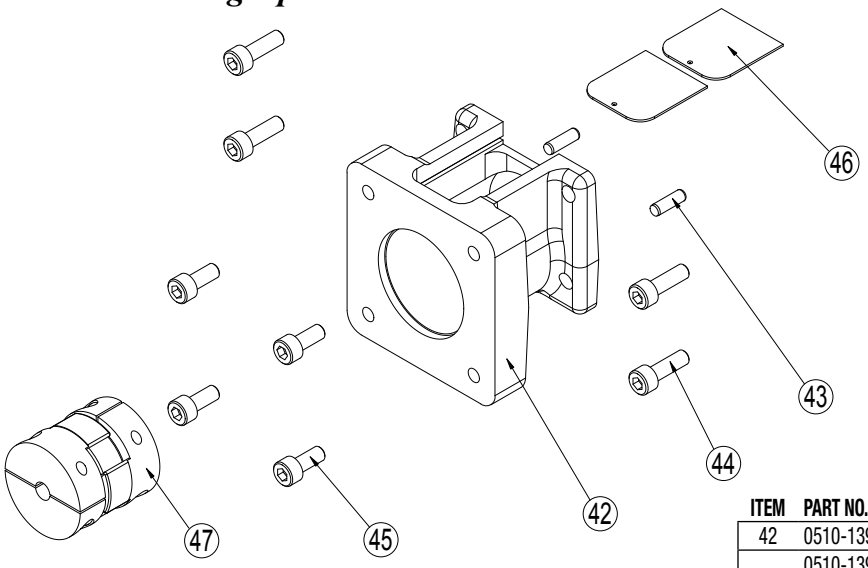
1. Install RP Housing (59) to the Head (2) with Cap Screws (9). Do not fully tighten the Fasteners (9) at this time and verify that the RP Housing (59) can move with respect to the Head (2).
2. Temporarily install the Cover (49) with Bearing (50), onto the RP Housing (59) positioning the Bearing (50) over the Leadscrew (15) shaft. Hold the Cover (49) in place while tightening 2 of the Fasteners (9) that hold the RP Housing (59) to the Head (2).
3. Remove the Cover (49) and finish tightening all Fasteners (9) attaching the RP Housing (59) to the Head (2).
4. Install the Motor to the RP Housing (59) with Fasteners (57). Do not tighten the Fasteners (57) at this time.
5. Install the Driven (53) and Drive Pulley (54) as needed. Tighten each Pulley (53 & 54) to its shaft with either Trantorque (55 & 56) or Collar Clamp (52). If Trantorque (55 & 56), utilize torque wrench to apply 75 in-lbs.
6. Locate the Belt (51) over the Pulleys (53 & 54).
7. Verify that there is clearance between the inside of the RP Housing (59) and each Pulley (53 & 54). Verify that the Pulleys (53 & 54) are aligned to each other.
8. Position the Cover (49) in mating slot of the RP Housing (59) and install the Socket Head Cap Screw (48) to hold in place. Take care not to over tighten. If the Cover (49) is deflected it can interfere with the Leadscrew (15).
9. Tension the Belt (51) by pulling the Motor away from the drive shaft with appropriate force from chart below while the actuator is oriented in a position such that weight of the Motor is not either directly adding or subtracting belt tension. Tighten the Motor Fasteners (57) while this 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.

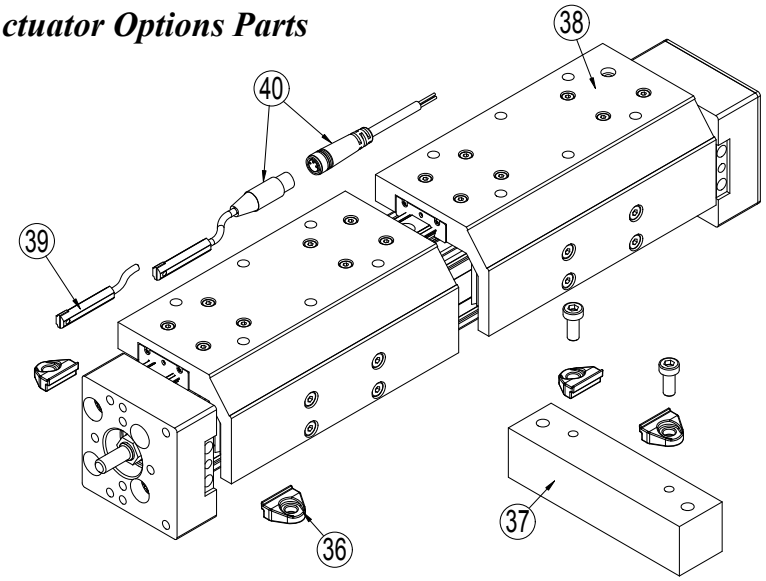
10. Install both End Caps (61) with the Screws (60) to finalize assembly.

In-Line Mounting Options Parts



ITEM	PART NO.	DESCRIPTION	MRV2x	MRV2x, SN01	MRS2x	MRS31,32	MRS33	With Gearhead: MRV2x, MRS2x	With Gearhead: MRS31,MRS32	With Gearhead: MRS33
42	0510-1396	Motor Spacer			1					
	0510-1397	Motor Spacer				1	1		1	1
	4410-1350	Motor Spacer	1	1						
	4410-1352	Motor Spacer						1		
43	1930-1024	Dowel Pin	2	2	2	2	2	2	2	2
44	4415-1016	Screw (metric)			4	4	4		4	4
	1124-1035	Screw (metric)	4	4				4		
45	4910-1004	Screw (metric)			4					
	1124-1035	Screw (metric)				4	4	4	4	4
	4415-1022	Screw (metric)	4	4						
46	4310-1103	Covers	2	2	2	2	2	2	2	2
47	3410-9039	Coupler			1					
	3600-6163	Coupler	1							
	3600-9213	Coupler		1		1		1	1	
	4510-9056	Coupler					1			1

Actuator Options Parts



ITEM	PART NO.	DESCRIPTION
36[1]	**8125-9018**	**Tube Clamp Mount Kit**
	8125-1050	*Tube Clamp*
37[2]	**8325-9016**	**Mounting Plate Kit for 23-Frame Motor**
	8325-9017	**Mounting Plate Kit for 34-Frame Motor**
	8125-1050	*Tube Clamp*
	8125-1071	*Screw (metric)*
	8325-1030	*Mounting Plate for 23-Frame Motor*
	8325-1031	*Mounting Plate for 34-Frame Motor*
38	8325-9014	Auxiliary Carrier Assy (metric)
	8325-9514	Auxiliary Carrier Assy (inch)

[1] Tube Clamp Mount Kit contains 2 tube clamps.
[2] Mounting Plate Kit contains 2 tube clamps, 1 mounting plate, and 2 fasteners.

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
39	SWMXE25 R Y		5m (197 in)	Open	Reed
40	SWMXE25 R K		Quick-disconnect		
39	SWMXE25 N Y		5m (197 in)	Closed	Reed
40	SWMXE25 N K		Quick-disconnect		
39	SWMXE25 T Y		5m (197 in)	Open	Solid State PNP
40	SWMXE25 T K		Quick-disconnect		
39	SWMXE25 K Y		5m (197 in)	Open	Solid State NPN
40	SWMXE25 K K		Quick-disconnect		
39	SWMXE25 P Y		5m (197 in)	Closed	Solid State PNP
40	SWMXE25 P K		Quick-disconnect		
39	SWMXE25 H Y		5m (197 in)	Closed	Solid State NPN
40	SWMXE25 H K		Quick-disconnect		

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

ORDERING REPAIR KITS

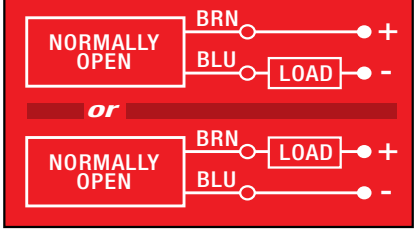
Repair kit includes: dust band, end caps, wipers

The part number for a repair kit begins with RK followed by model, actuator size, bearing type, and stroke length (SK = inch/US Standard, SM = metric)
(NOTE: If unit has an auxiliary carrier also include DC and distance between carrier centers)

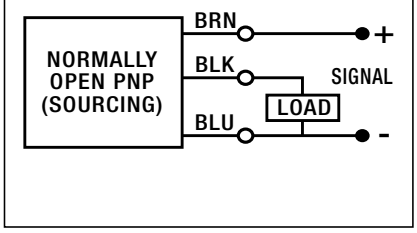
REPAIR KIT	MODEL	ACTUATOR SIZE	BEARING TYPE	STROKE METRIC	STROKE LENGTH	AUXILIARY CARRIER	DISTANCE BETWEEN CARRIERS
RK	MXE	25	P	SM	2007.02	DC	2159

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

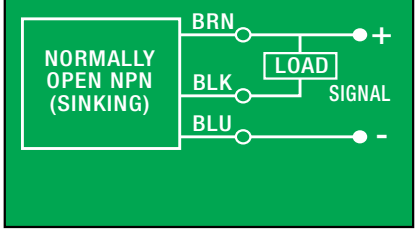
RY • RK
REED • NORMALLY OPEN



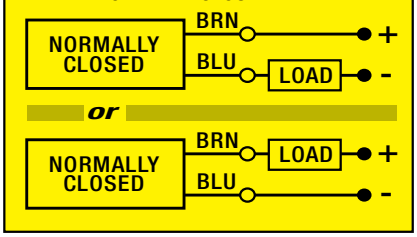
TY • TK
SOLID STATE • NORMALLY OPEN • PNP



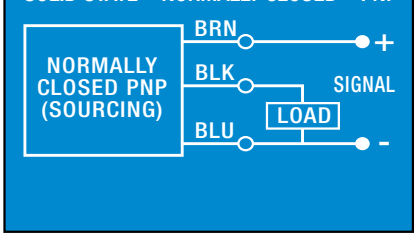
KY • KK
SOLID STATE • NORMALLY OPEN • NPN



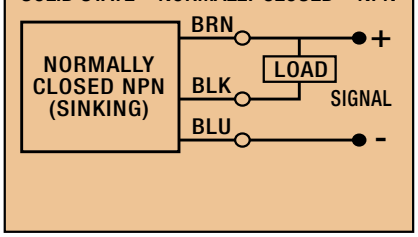
NY • NK
REED • NORMALLY CLOSED



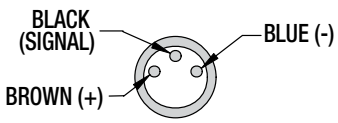
PY • PK
SOLID STATE • NORMALLY CLOSED • PNP



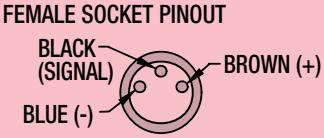
HY • HK
SOLID STATE • NORMALLY CLOSED • NPN



QUICK DISCONNECT MALE PLUG PINOUT

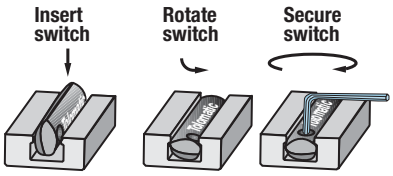


#8100-9080 QUICK DISCONNECT FEMALE SOCKET PINOUT



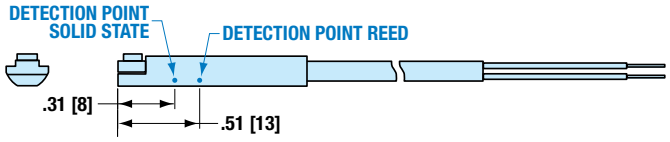
Switches for MX:
- Include retained mounting hardware
- In slot, sit below extrusion profile
- Same for all sizes and bearing styles

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]

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