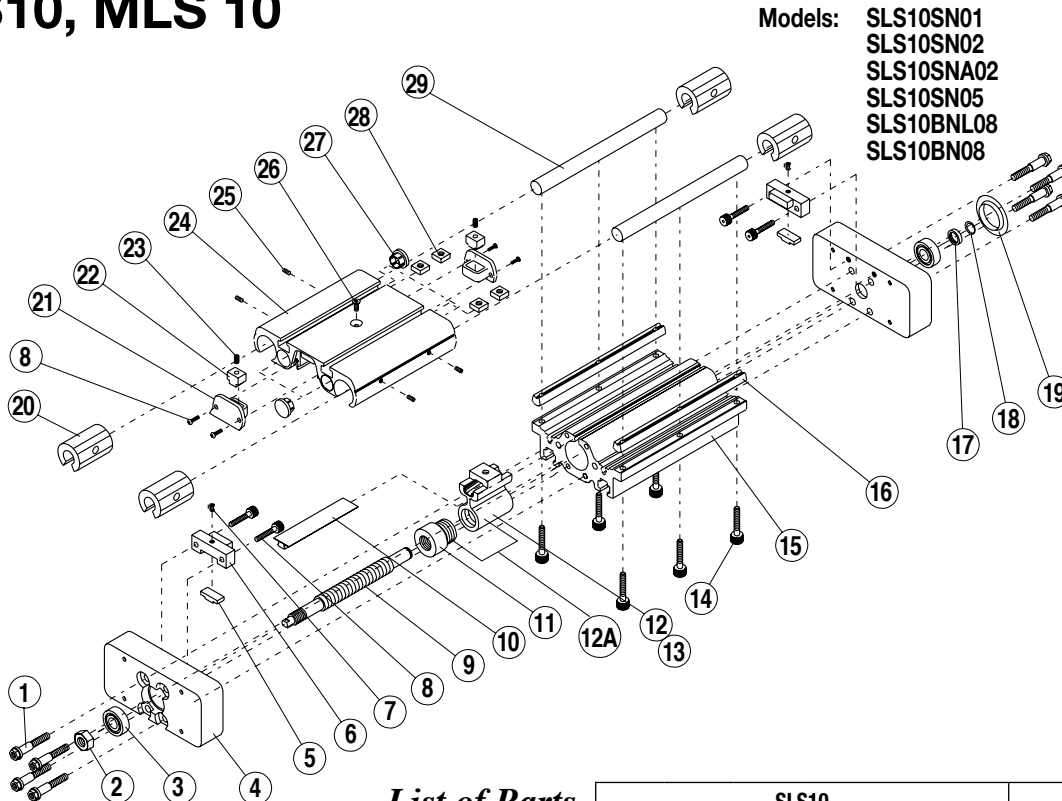


1" Screw-Drive Actuators (Slide Style) SLS10, MLS 10

3600-4013_12



Models: SLS10SN01
SLS10SN02
SLS10SNA02
SLS10SN05
SLS10BNL08
SLS10BN08

MLS10SN12
MLS10SN25
MLS10BN08
MLS10BNL08

List of Parts

ITEM	PART NO.	DESCRIPTION	SLS10						MLS10			
			SN01	SN02	SNA02	SN05	BNL08	BN08	SN12	SN25	BN08	BNL08
1	0910-1344	Screw, Head Tapped, #10-24	8	8	8	8	8	8	8	8	8	8
	4910-1344	Screw,S-Tap,M5X0.8X0.62										
2	0910-1482	Nut, Flexloc, 5/16-24	1	1	1	1	1	1				
	4510-1052	Nut,Mach,M8-1							1	1	1	1
3	4510-1060	Ball Bearing, Radial, 8mm ID	2	2	2	2	2	2	2	2	2	
4	0610-1049	Head, Machined	2	2	2	2	2	2				
	0610-1134	Head,Mach,MSES100							2	2	2	2
5	0520-1028	Band Clamp Slug	2	2	2	2	2	2	2	2	2	
6	0520-9015	Band Clamp Assembly	2	2	2	2	2	2	2	2	2	
7	0515-1049	Screw, Set, #8-32 x .25 Long	2	2	2	2	2	2	2	2	2	
8	3600-1136	BHCS, #6-32 x .50 Long	8	8	8	8	8	8				
	4520-1034	Screw,BHCS,M4-.7 X 12,BLK							8	8	8	8
19	0610-1055	Screw, Lead, Mach., .500 OD, 2TPI, Standard		A/R	A/R							
	0610-1071	Screw, Lead, Mach., .500 OD, 2TPI, Extended		A/R	A/R							
	0610-1056	Screw, Lead, Mach., .375 OD, 8TPI, Standard					A/R	A/R			A/R	A/R
	0610-1072	Screw, Lead, Mach., .375 OD, 8TPI, Extended					A/R	A/R			A/R	A/R
	0610-1057	Screw, Lead, Mach., .500 OD, 1TPI, Standard	A/R									
	0610-1073	Screw, Lead, Mach., .500 OD, 1TPI, Extended	A/R									
	0610-1086	Screw, Lead, Mach., .500 OD, 5TPI, Standard				A/R						
	0610-1098	Screw, Lead, Mach., .500 OD, 5TPI, Extended				A/R						
	0610-1135	Screw,LD,12mm OD,SN25 STD								A/R		
	0610-1136	Screw,LD,12mm OD,SN25 EXT								A/R		
	0610-1137	Screw,LD,12mm OD,SN12 STD								A/R		
	0610-1138	Screw,LD,12mm OD,SN12 EXT								A/R		

Replacement Tube

*Replacement tube for SLS manufactured **after** October 13, 2007 ordering method: **RTB** **LS10** **SK** **MR**

EXAMPLE: **RTB** **SLS10** **SN01** **SK21.25** **MRS23**

Replacement tube for SLS manufactured **before October 13, 2007 order with no. 0610-1058 and specify stroke SK ___ in inches

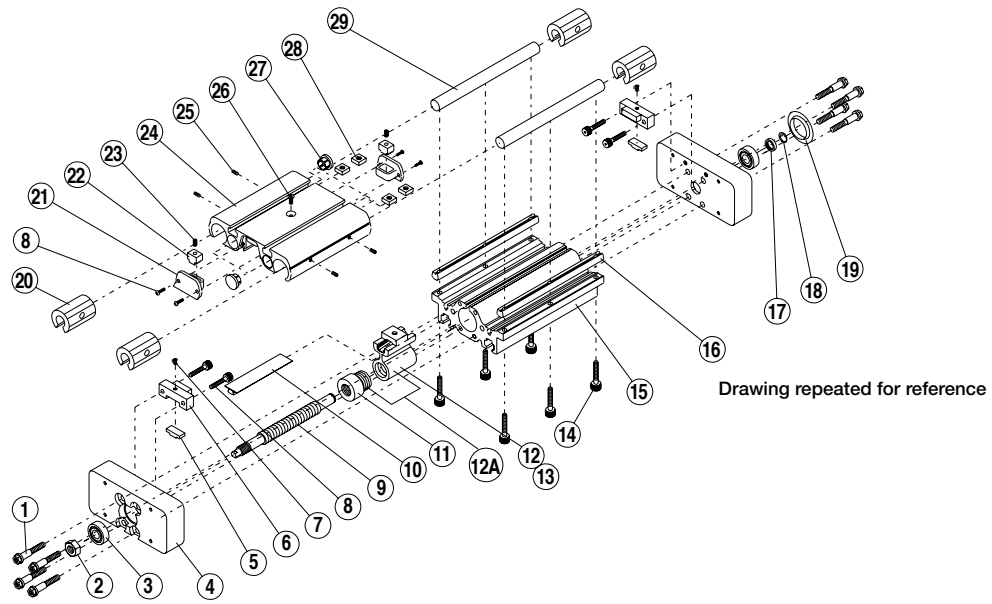
†Configured code is the preferred ordering method: **RLS** **LS10** **SK** **MR**

EXAMPLE: **RLS** **SLS10** **SN01** **SK21.25** **MRS23**

A/R = As Required

Replacement Lead Screw

Model & Size Nut Style & Size Stroke Length Motor Code



List of Parts

ITEM	PART NO.	DESCRIPTION	SLS10					MLS10				
			SN01	SN02	SNA02	SN05	BNL08	BN08	SN12	SN25	BN08	BNL08
10	0912-9000	Dust Band (for units manufactured after 5/1/1998)	A/R	A/R	A/R	A/R	A/R	A/R	A/R	A/R	A/R	A/R
	0910-9017	Dust Band (for units manufactured before 5/1/1998)	A/R	A/R	A/R	A/R	A/R	A/R	A/R	A/R	A/R	A/R
11	0610-9036	Ball Nut/Lead Screw Sub Ass'y, Low Backlash					A/R	A/R			A/R	A/R
	0610-9037	Ball Nut/Lead Screw Sub Ass'y, Low Backlash					A/R	A/R			A/R	A/R
	0910-1430	Standard Ball Nut, 8TPI					A/R	A/R			A/R	A/R
12	0910-9132	Nut Bracket	1	1	1	1	1	1				
12A.	0510-9051	Nut Bracket Assembly 2TPI		1	1							
	0510-9052	Nut Bracket Assembly Anti-Backlash, 2 TPI		1	1							
	0510-9053	Nut Bracket Assembly 1TPI	1									
	0510-9054	Nut Bracket Assembly 5TPI				1						
	4510-9045	Nut Bracket/Solid Nut Assembly,25MM										
	4510-9044	Nut Bracket/Solid Nut Assembly,12MM										
13	N/A	Omnifit 1730 (For Assembly Reference Only)		A/R	A/R		A/R	A/R				
	N/A	Loctite 271 (For Assembly Reference Only)	A/R			A/R						
14	0610-1103	SHCS, M4 X 0.7 X 22mm Long	A/R	A/R	A/R	A/R	A/R	A/R				
	0610-1033	SHCS, M4X0.7X20, BLK							A/R	A/R	A/R	A/R
15*	RTBSLS10	Tube, Machined	A/R	A/R	A/R	A/R	A/R	A/R	A/R	A/R	A/R	A/R
**	0610-1058	Tube, Machined	A/R	A/R	A/R	A/R	A/R	A/R	A/R	A/R	A/R	A/R
16	0610-1059	V-Block, Machined	A/R	A/R	A/R	A/R	A/R	A/R	A/R	A/R	A/R	A/R
17	4510-1059	Cup, Ring Retaining, Ø.315	1	1	1	1	1	1	1	1	1	1
18	0510-1019	Ring, Retaining, Round Section, Ø.315	1	1	1	1	1	1	1	1	1	1
19	0510-1012	Plug, Stimpson, 1.00 Inch	1	1	1	1	1	1	1	1	1	1
20	0610-1005	Linear Bearing	4	4	4	4	4	4	4	4	4	4
21	0610-1012	Endcap, Carriage	2	2	2	2	2	2	2	2	2	2
22	4515-1012	Band Insert	2	2	2	2	2	2	2	2	2	2
23	4520-1012	Spring, Lee	2	2	2	2	2	2	2	2	2	2
24	0610-9040	Carriage Sub Assembly	1	1	1	1	1	1	1	1	1	1
	0610-9047	Carriage Sub Assembly Metric							1	1	1	1
25	0610-1046	Screw, Set, M4 x 0.7 x 6 Long	4	4	4	4	4	4	4	4	4	4
26	2006-1063	Screw, Flat Head, #10-24 x 3/8 Long	1	1	1	1	1	1				
	4410-1016	SFHCS, M5 X 0.8 X 10, BLK							1	1	1	1
27	0610-1021	Plug, Hole, Chrome	4	4	4	4	4	4	4	4	4	4
28	0610-1042	Nut, Square, 1/4-20	8	8	8	8	8	8				
	5610-1042	Nut, Square, M6X1.0, ZINC							8	8	8	8
29	0610-1060	Shaft, Machined	A/R	A/R	A/R	A/R	A/R	A/R	A/R	A/R	A/R	A/R

Replacement Tube

*Replacement tube for SLS manufactured **after** October 13, 2007 ordering method: **RTB** **LS10** **SK** **MR**

EXAMPLE: RTBLSLS10SN01SK21.25MRS23

Replacement tube for SLS manufactured **before October 13, 2007 order with no. 0610-1058 and specify stroke SK ___ in inches

†Configured code is the preferred ordering method: **RLS** **LS10** **SK** **MR**

EXAMPLE: RLSLSLS10SN01SK21.25MRS23

A/R = As Required

Replacement Lead Screw

Model & Size Nut Style & Size Stroke Length Motor Code

Disassembly

1. Remove Slide Actuator from machinery.
2. Remove Screws (#8), and End Caps (#21). *Use care as End Caps are spring loaded.
3. Loosen set screws (#7) in Head Assemblies.
4. Remove Nut (#2) from “drive” side Head. Loosen Screws (#1) in “drive” side Head (#4), then remove Head. Loosen screws in “dead” side Head, then remove Head, Bearing (#3), Plug Protector-Stimpson (#19), Nut Bracket Assembly (#12), and Lead Screw (#9). Unthread Nut Bracket Assembly (#11, #12) from Lead Screw. DO NOT remove nut from lead-screw on actuators equipped with a ball nut, balls will fall out!
5. Remove Screw Sub-Assembly: Remove Plug (#19). Remove Retaining Ring (#18) and Retaining Ring Cup (#17) from “dead” side of Lead Screw. If necessary, remove Bearing (#3) from Lead Screw. Remove screws to detach carriage from nut bracket.
6. Remove Screws (#25), and Bearings (#20), from Carriage (#24).
7. Remove Top Dust Band (#10).

Assembly

1. Thoroughly clean all components, particularly the bore, slot, and bands.
2. Place two Bearings (#20) on each shaft (#29) with lowest set screw holes facing outward.
3. Assemble nut bracket assembly to the leadscrew.
4. Install Heads: Place Lead Screw sub-assembly (“dead” end) in Head (#4). Secure leadscrew to head with a retaining ring cup (#17) and retaining ring (#18).
5. Plastic Nut Style: Coat Lead Screw with Christolube® MCG405.
6. Ball Nut Style: Coat Lead Screw with Mobil HP Grease.
7. Place assembly in Machined Tube (#15). Install second Head (#4), Bearing (#3) and Nut (#2) on “drive” end. Snug up (do not tighten) four Screws (#1) in each Head.
8. Trim/Install Dust Band: Locate on one head a band clamp slug (#5) and Band Clamp Assembly (#6). (NOTE: Width of Slug should match dust Band width.) Tighten with Screw (#8) and Loctite #242. Insert one end of Dust Band (#10) under Band Clamp assembly and Slug until it is tight to the Head. Install Set Screw (#7) into Band Clamp assembly and tighten against Slug.
9. Install Carriage (#24) over Nut Bracket (#12). Care must be taken to assure key in the bottom of the Carriage (#24) fits into the Nut Bracket (#12) slot and two Bearings (#20) per Shaft (#29) is on either side of the Carriage (#24).
10. Push Bearings (#20) in Carriage (#24) as far as Carriage bores will permit.
11. Install Set Screws (#25). Apply Loctite® #242 to Set Screws (#25) and screw them into Carriage (#24) until they bottom out on Bearings (#20), then back them out one half turn.
12. Install Springs (#23) and Band Inserts (#22) into End Caps (#21) and install in Carriage (#24) ends. Push Springs (#23) down to clear underside of Carriage (#24). Use Screws (#8) to hold End Cap (#21) in place.
13. With tin snips, cut the end of the Band so it nearly butts to the other Head. Place Clamp Slug (#5) on top of Band (next to Head), then place Band Clamp Assembly (#6) over Slug.

- Tighten to Head with two Screws (#8) and Loctite #242. Install Set Screw (#7).
14. Move Carriage (#24) to one end of stroke and tighten head bolts (#1) to 70-80 in./lbs. Slide Carriage to opposite side of slide and tighten those head bolts to 70-80 in./lbs.
15. Set Up Lead Screw: Tighten the Nut on the “live” end (motor end) until there is no noticeable axial play in Lead Screw.
16. Test Procedure: Actuate actuator. If Carriage hesitates at any point during the cycle, breakaway is too high. Recommended breakaway for the 1” actuator is a Torque of 25 ounce-inches. Adjust screw torque and alignment as required. Retest.
17. Final Assembly: Locate a Plug (#19) in Head (#4) on dead side end of the Lead Screw (#9).
18. Clean unit thoroughly before reinstalling.

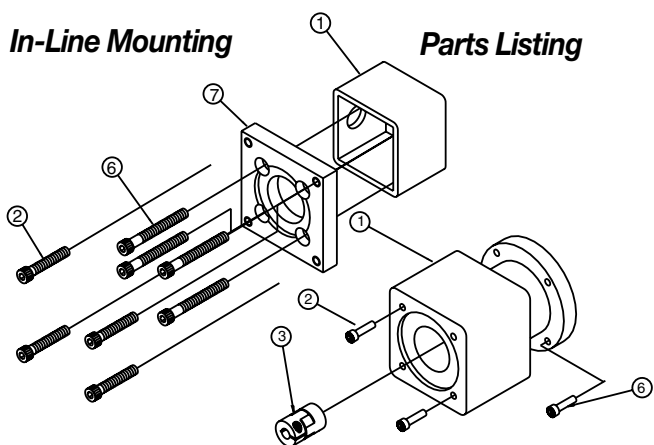
Shaft and Bearing Replacement Instructions

Note: Shaft alignment is critical to assure proper function of the slide actuator.

1. Remove Slide Actuator from machinery.
2. Loosen Set Screw (#7) in Head Assembly (#4) on live end of Actuator. Remove Nut (#2).
3. Remove four screws (#1), and Head Assembly (#4) from same end of Actuator.
4. Remove Screws (#14) from one shaft (#29).
5. Slide Shaft (#29) out of Carriage (#24).
6. Remove and replace Set Screws (#25) and Bearing (#20) from open side of Carriage (#24). Use Loctite® #242 on Set Screws (#25) and screw them into Carriage (#24) until they bottom out on bearings (#20), then back them out one half turn.
7. Slide new Shaft (#29) through Bearings (#20). Replace Screws (#14) loosely, use Loctite® #242 on Screws (#14).
8. Hold Top Dust Band (#10) at open end of Actuator and slide Carriage (#24) to opposing end.
9. Tighten Screws (#14) below Carriage (#24) to 15 inch-pounds minimum.
10. To align Shaft (#29) properly, slide carriage over next Screw (#14) and tighten to 15 inch-pounds minimum. Repeat this until all Screws (#14) are tight.
11. Repeat steps 5 through 11 for second Shaft (#29).
13. Install Head Assembly (#4) to Actuator. If using Square Nuts (#28) be sure they are installed in Tube/Base (#15) before Head is installed. Replace Nut (#2).
14. Loosely install four Screws (#1).
15. Position Carriage (#24) to the end of Actuator with non-removed Head Assembly (#4). Push Carriage (#24) back to other end to remove any slack from Band (#10) and tighten Set Screws in Head Assembly (#4). Tighten Screws (#1) to 100-110 inch-pounds.
16. Run Carriage back and forth along the full stroke to make certain the Slide is properly assembled.
17. Remount the completed Slide Actuator.

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Loctite® is a registered trademark of the Loctite Corporation, www.loctite.com



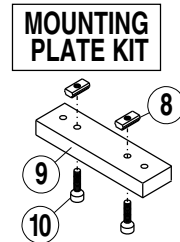
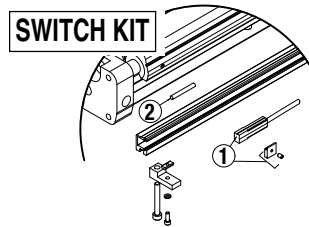
ITEM	PART NO.	DESCRIPTION	In-line mounting with motor				In-line mounting with gearhead other than SN01			
			MRS34X	MRB34X	MRB23X, MRS 23X	MRV23X	MRB23X w/ GHK20	MRS34 w/ GHK30, MRB34 - w/ GHJ30,31	MRV23X w/ GHJ20, 21	**MRV23X w/ GHJ20,21
1	0610-1090	Spacer, AL, Motor, 1.39			1					
	0610-1109	Spacer, AL, Motor, 1.89	1	1						
	3410-1350	Motor Adptr Spacer, 2.49 L, MRV23X				1	1			
	3410-1352	MTR/SPACER					1		1	1
	4410-1350	MTR/SPACER				1				
	4410-1352	MTR/SPACER					1		1	
	4410-1349	MTR/SPACER						1		
2	1024-7711	SHCS, #10-24 x 0.88			4	4	4	4	4	
	0707-1010	SHCS, #10-24 x 0.63	4	4						
	0915-1016	SHCS, #10-24 x 0.50			4					
	4415-1016	SHCS, M5 x 16mm	4	4						
	4910-1004	SHCS, M5 x 12mm			4					
	4415-1020	SHCS, M5 x 20mm				4	4	4	4	
3	3600-9204	Coupler			1					
	3600-9206	Coupler	1							
	3600-9213	Coupler		1	1**	1	1	1**	1	
	3600-6163	Coupler						1		
	4520-9106	Coupler	1							
	4520-9107	Coupler		1			4	4		
	4520-9103	Coupler			1					
	3600-6181	Coupler				1			1	
6	1024-7711	SHCS, #10-24 x 0.88					4	4	4	4
	0910-1314	SHCS, #10-24 x 0.75				4				
	1308-1020	SHCS, #10-24 x 2.0			4					
	0910-1485	SHCS, #10-24 x 2.50	4	4						
	0610-1146	SHCS, M5 x 65	4	4						
	0610-1147	SHCS, M5 x 50			4					
	4415-1020	SHCS, M5 x 20				4	4	4	4	
7	0610-1052	MTR MNT PLT, 1" Bore & #23 MTR			1					
	0610-9063	MTR MNT PLT, 1" Bore & #34 MTR	1	1						
	0610-1148	MTR MNT PLT, 1" Bore & #34 MTR	1	1						
	0610-1147	MTR MNT PLT, 1" Bore & #23 MTR			1					

** = SN01 LEAD SCREW

MRB & MRV MOTORS ARE DISCONTINUED CONTACT TOLOMATIC FOR SUGGESTED REPLACEMENT

SWITCH KIT			QTY.
0601-9101	Switch Rail Hardware Kit		1
CONFIG. CODE ORDERING			
Mounting Hardware & FE conn. included			
CODE	DESCRIPTION		
BT	Switch Only, Reed, Form C, 5m		
BM	Switch Only, Reed, Form C, Male Conn.		
RT	Switch Only, Reed, Form A, 5m		
RM	Switch Only, Reed, Form A, Male Conn.		
CT	Switch Only, Triac, 5m		
CM	Switch Only, Triac, Male Conn.		
KT	Switch Only, Hall-effect, Sinking, 5m		
KM	Switch Only, Hall-effect, Sinking, Male Conn.		
TT	Switch Only, Hall-effect, Sourcing, 5m		
TM	Switch Only, Hall-effect, Sourcing, Male Conn.		
NOTE: When ordered by Config. Code Female connector & all mounting hardware is included			
2.	0910-1238	Magnet Rod	1

ITEM	SLS10 PART NO.	MLS10 PART NO.	DESCRIPTION	QTY.
MOUNTING PLATE KIT				
	0610-9010	0610-9010	KIT Includes all parts listed below (1/4" thick)	
8.	0610-1042	0610-1042	T-Nut	2
9.	0610-1029	0610-1029	Mounting Plate	1
10.	0920-1024	0920-1024	Flat Head Cap Screw	2
MOUNTING PLATE KIT				
	0610-9045	0610-9045	KIT Includes all parts listed below (1/2" thick)	
8.	0610-1042	0610-1042	T-Nut	2
9.	0610-1070	0610-1070	Mounting Plate	1
10.	2317-1014	2317-1014	Socket Head Cap Screw	2



Switch Ordering NOTES:

To order field retrofit switch and hardware kits for all Tolomatic actuators: SW (Then the model and bore size, and type of switch required)

Example: SWSLS10RT

(Hardware and Form A Reed switch with 5 meter lead for 1" size SLS actuator)



Mounting hardware is required if replacing switch for any actuator manufactured before 7/1/97

3. SWITCHES

NOTE: Form A Reed Switches should not be used in TTL logic circuits. A voltage drop caused by the L.E.D. indicator will result. For applications where TTL circuits are used, please contact the factory.

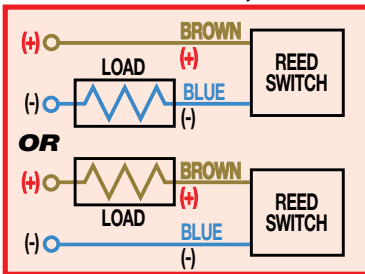
WARNING: An ohmmeter is recommended for testing Reed Switches. NEVER use an incandescent light bulb as a high current rush may damage the switch.

Reed and TRIAC switches are only recommended for signalling position, not directly powering solenoids. For shifting a solenoid, a relay or resistor is recommended between it and the Reed Switch. Switch ratings must not be exceeded at any time.

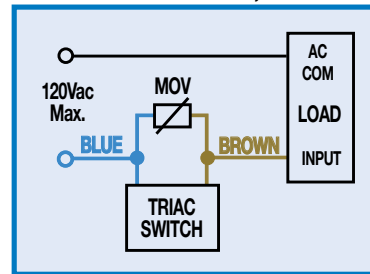
NOTE: For Hall Effect Switch Magnet, be sure the S pole of the magnet (indicated with black dot) is facing toward the switch (down).

WIRING DIAGRAMS

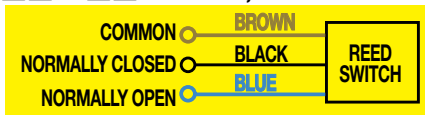
RT & RM DC REED, FORM A



CT & CM AC REED, TRIAC

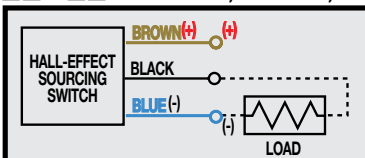


BT & BM DC REED, FORM C

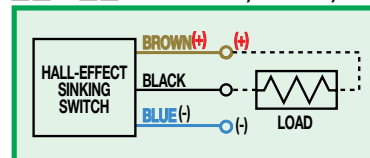


Some actuators may require switch mounting on a specific side of the assembly. Call Tolomatic for details.

TT & TM HALL-EFFECT, SOURCING, PNP



KT & KM HALL-EFFECT, SINKING, NPN



INSTALLATION INFORMATION



THE NOTCHED FACE OF THE SWITCH INDICATES THE SENSING SURFACE AND MUST FACE TOWARD THE MAGNET.

REPLACEMENT OF QD SWITCHES MANUFACTURED BEFORE JULY 1, 1997:

It will be necessary to replace or rewire the female end coupler.



Female Connector 5M



3800 County Road 116, Hamel, MN 55340
 http://www.Tolomatic.com • Email: Help@Tolomatic.com
 Phone: (763) 478-8000 • Fax: (763) 478-8080 • Toll Free: 1-800-328-2174



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