

XLT Series Thrust Slide

Maintenance Instructions & Parts List

Provide Model Number and Serial Number When Ordering Spare Parts.

General

XLT Series Thrust Slides are pneumatic linear actuators that incorporate linear ball bearings and support shafts which provide positive load support and torque resistance.

This manual contains maintenance instructions, replacement parts information and information on various slide options. Consult the factory or product catalog for additional information.

Specifications

- Maximum Operating Pressure: 100 psi
- Operating Characteristics: Double Acting Standard (Single Acting Available)
- Four Support Rod Sizes: 1/4", 3/8", 1/2", 3/4"
- Output Force @ 60 psi: 15 - 105 lb
- Maximum Breakaway Pressure: 5 psi
- Operating Temperature Range:
 - Standard 0° to +180°F
 - Viton Seals 0° to +250°F
- 304 Stainless Steel Cylinder Body
- Stainless Steel Piston Rod
- Mounting: Unrestricted

A. Inspection and Replacement Procedure for Bearings, Seals, Support Shafts and Cylinder.

1. Loosen locknut #12.
2. Remove stop collar, #7 and bumper, #6.
(Applies to bumper option only.)
3. Unscrew cylinder piston rod from tool plate, #13 and remove tool plate with shafts, #16 from housing, #5.
4. Remove fittings from cylinder ports.
5. Remove nut, #11.
6. Pull cylinder, #1 from slide housing, #5.
7. Remove the four press fit seals, #14.
8. Remove the four bearings, #15.
9. Inspect cylinder, bearings, seals and support shafts and replace if necessary.
10. Clean all parts thoroughly.

B. Reassembly Procedure.

1. Apply a few drops of Loctite RC/609 to the outside diameter of the bearings, #15.
2. Press the four bearings, #15 into housing, #5.
3. Press the four seals, #14 into the housing, #5 securing the bearings with no play.
4. Apply a liberal amount of bearing lubricant to all four bearings.

NOTE: Recommended lubricant is Synco Super Lube with Teflon or compatible NLG1 Grade 2 grease.

5. Replace cylinder, #1. Install using nut, #11.
6. Replace support shafts, #16 and tool plate, #13.
7. Screw piston rod of cylinder into tool plate and tighten locknut, #12.
8. Replace bumpers & stop collars.
(Applies to bumper option only.)
9. Install fittings and/or flow controls.

Mounting

The XLT Thrust Slide incorporates square nut "T" slots on all mounting surfaces and two through holes. The "T" slot feature allows the slide housing to be positioned after mounting.

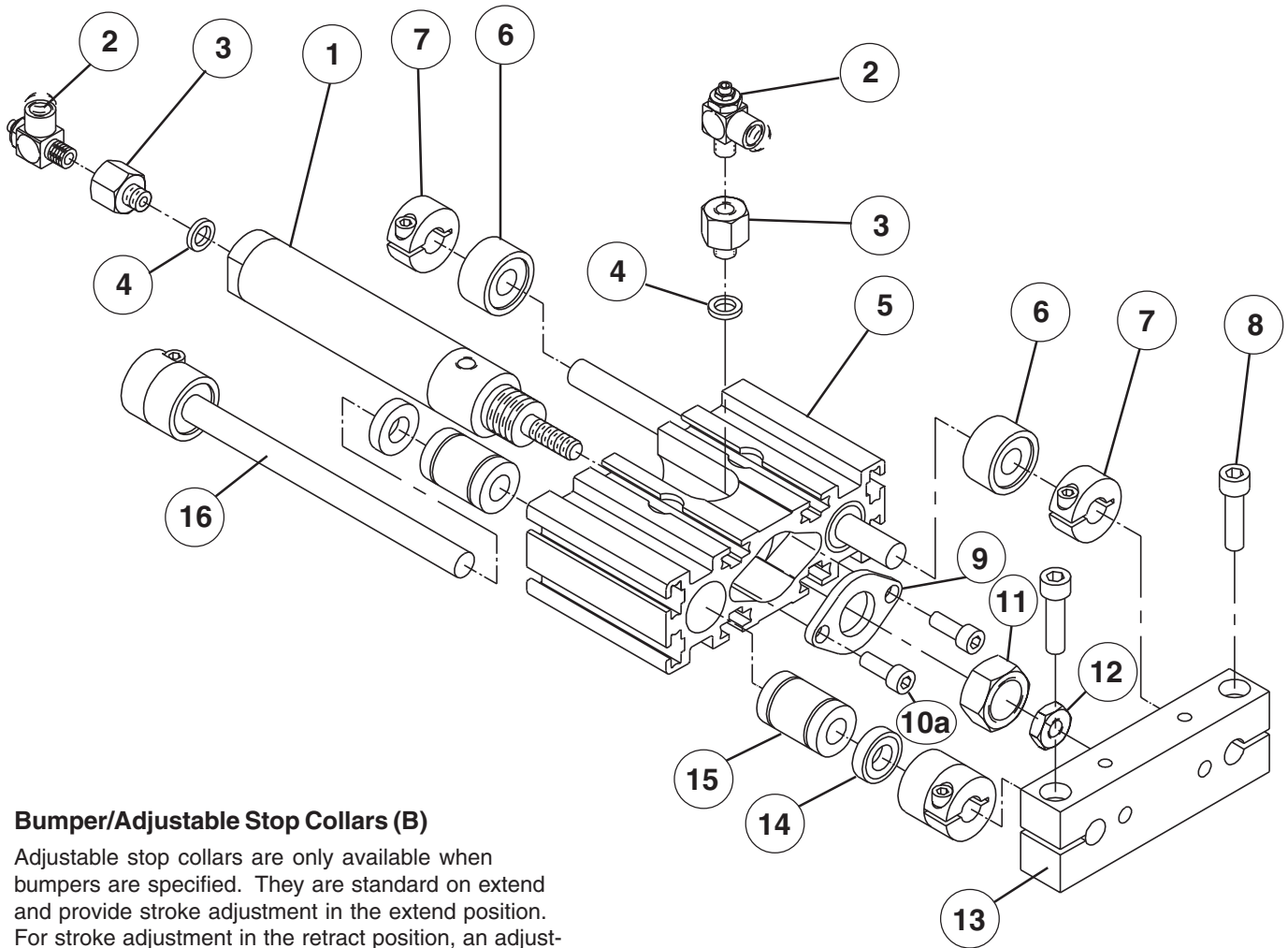
An assortment of square nuts are included with the slide to facilitate mounting. Additional square nuts can be ordered. Each kit contains 8 square nuts (4 primary, 4 secondary).

Model	Kit Number
04	NK04
06	NK06
08	NK08
12	NK12

Lubrication

The pneumatic cylinder and internal bearings are pre-lubricated at the factory and are suitable for non-lubricated applications. However, additional airline lubrication will increase the life of the unit.

Standard Unit - Bumper Option (B) and Flow Control Option (F, G)



Bumper/Adjustable Stop Collars (B)

Adjustable stop collars are only available when bumpers are specified. They are standard on extend and provide stroke adjustment in the extend position. For stroke adjustment in the retract position, an adjustable stop collar can be specified. When bumpers and adjustable stop collars are specified for the retract position, the stroke of the unit is DECREASED by the "W" dimension provided in the table below.

Model	W
04	.281
06	.344
08	.406
12	.500

Right Angle Flow Control (F, G)

Right angle flow control valves allow precise adjustment of cylinder speed by metering exhaust air flow. The Prest-Lok design and 360° orientation capability provide a simple means of plumbing the unit.

Right angle flow controls are designed to permit maximum flow in both directions and provide a wide range of adjustment between the minimum and maximum speeds.

ITEM	DESCRIPTION	QUANTITY
1	AIR CYLINDER	1
2	FLOW CONTROL	2
3	ADAPTER (XLT04 ONLY)	2
4	WASHER (XLT04 ONLY)	2
5	HOUSING	1
6	BUMPER	2 or 4
7	STOP COLLAR	2 or 4
8	SOCKET HEAD CAP SCREW	2
9	MOUNTING PLATE	1
10a	SOCKET HEAD CAP SCREW	2
11	NUT	1
12	NUT	1
13	LOAD PLATE	1
14	SEAL	4
15	BEARING	4
16	SUPPORT SHAFT	2

Proximity Sensors (P, N)

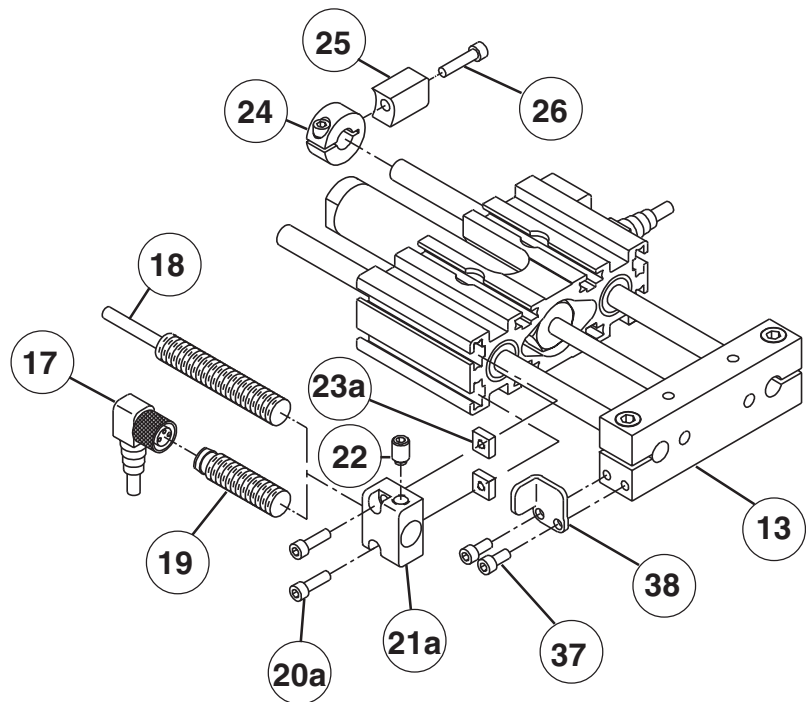
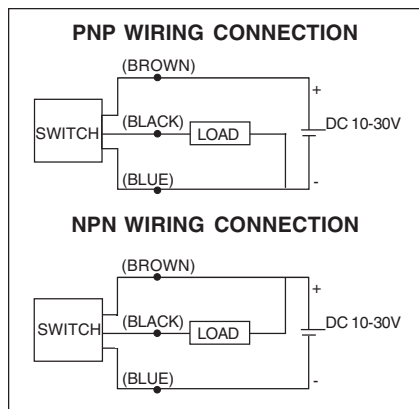
Proximity sensors sense the extend and retract positions of the slide. The proximity sensor is attached to the side of the slide, utilizing the square nut "T" slots. The sensor is installed at the factory and does not require adjustment. Should adjustment be necessary, care should be taken to insure that the sensor does not come into contact with the load plate. Distance from the load plate to the sensor should be approximately .016 inches.

Electrical Specifications

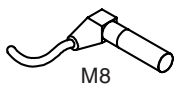
Voltage: 10-30 VDC (3 wire) PNP or NPN
 Current: 7mA at 24 VDC
 Outlet Current: 130mA
 Switching Speed: 1000Hz
 Switching Distance: Steel = 1.0 mm (0.039 in)
 Brass = 0.7 mm (0.028 in)
 Aluminum = 0.4 mm (0.016 in)

Switch is fully encapsulated.

ITEM	DESCRIPTION	QUANTITY
13	LOAD PLATE	1
17	SWITCH ELBOW CONN. PNP	2
17a	SWITCH ELBOW CONN. NPN	2
18	PROX SWITCH - LEAD TYPE, PNP	2
18a	PROX SWITCH - LEAD TYPE, NPN	2
19	PROX SWITCH - PLUG IN, PNP	2
19a	PROX SWITCH - PLUG IN, NPN	2
20a	SOCKET HEAD CAP SCREW	4
21a	SWITCH HOUSING	2
22	SET SCREW	2
23a	SQUARE NUT	4
24	STOP COLLAR FOR PROX	1
25	PROX FLAG	1
26	SOCKET HEAD CAP SCREW	1
37	SOCKET HEAD CAP SCREW	4
38	PROX FLAG	2



Replacement Proximity Sensor



Plug In Style Switch with Connector	
Type	Switch Part Number
PNP	SWP-1P
NPN	SWP-1N

Additional information may be obtained from the Actuator Division in Wadsworth, Ohio or from your nearest Parker Distributor.

XLB Series Base Slide

Maintenance Instructions & Parts List

Provide Model Number and Serial Number When Ordering Spare Parts.

General

XLB Series Base Slides are pneumatic linear actuators that incorporate linear ball bearings and support shafts which provide positive load support and torque resistance.

This manual contains maintenance instructions, replacement parts information and information on various slide options. Consult the factory or product catalog for additional information.

SPECIFICATIONS

- Maximum Operating Pressure: 100 psi
- Operating Characteristics: Double Acting Standard (Single Acting Available)
- Four Support Rod Sizes: 1/4", 3/8", 1/2", 3/4"
- Output Force @ 60 psi: 15 - 105 lb
- Maximum Breakaway Pressure: 5 psi
- Operating Temperature Range:
 - Standard 0° to +180°F
 - Viton Seals 0° to +250°F
- 304 Stainless Steel Cylinder Body
- Stainless Steel Piston Rod
- Mounting: Unrestricted

A. Inspection and Replacement Procedure for Bearings, Seals, Support Shafts and Cylinder.

1. Loosen locknut #12.
2. Unscrew cylinder piston rod from alignment coupling, #9a. Remove air cylinder mounting nut #11a and remove air cylinder #1.
3. Loosen screws, #8 on mounting plate, #13e and remove from support shafts, #16.
4. Remove bumpers, #6 and stop collars, #7.
5. Remove mounting plate, #13d with rods attached from slide housing, #5b.
6. Remove the four press fit seals, #14.
7. Remove the four bearings, #15.
8. Inspect cylinder, bearings, seals and support shafts and replace if necessary.
9. Clean all parts thoroughly.

B. Reassembly Procedure.

1. Apply a few drops of Loctite RC/609 to the outside diameter of the bearings, #15.
2. Press the four bearings, #15 into housing, #5b.
3. Press the four seals, #14 into the housing, #5b. Press the seals in far enough to secure the bearings with no play.
4. Apply a liberal amount of bearing lubricant to all four bearings.

NOTE: Recommended lubricant is Synco Super Lube with Teflon or compatible NLG1 Grade 2 grease.

5. Replace bumpers, #6 and stop collars, #7.
6. Replace mounting plate, #13d with support shafts, #16 attached.
7. Replace mounting plate, #13e and tighten screws, #8. Ensure the two mounting plates are parallel. Should the slide feel rough when manually stroking the unit, loosen the four screws, #8 and re-tighten.
8. Install air cylinder, #1. Secure with mounting nut, #11a.
9. Screw piston rod of cylinder into alignment coupler, #9a and tighten locknut, #12.

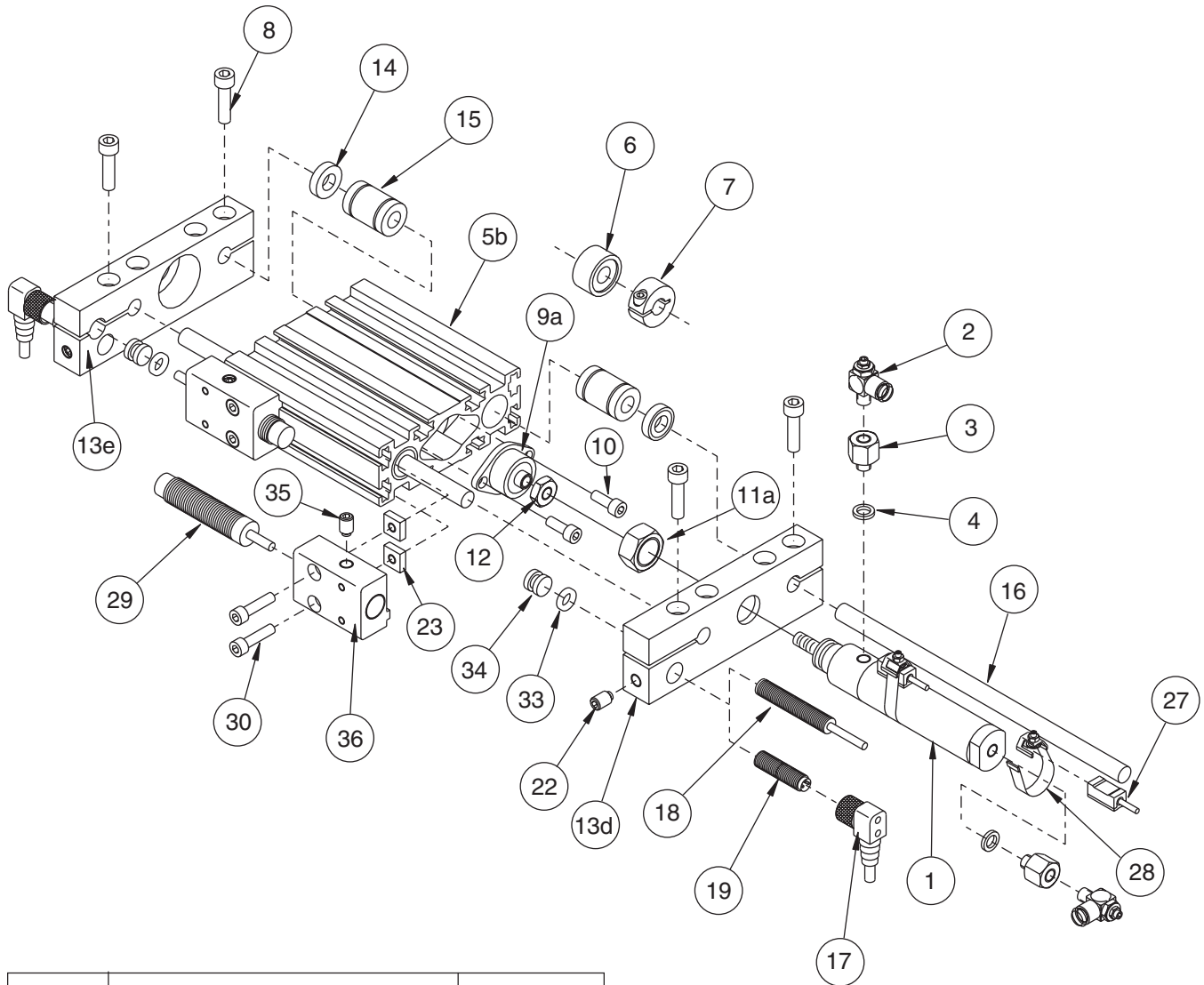
Mounting

The XLB Base Slide incorporates square nut "T" slots on all mounting surfaces and four through holes. The "T" slot feature allows tooling to be attached and positioned after mounting. An assortment of square nuts are included with the slide to facilitate mounting. Additional square nuts may be ordered. Each kit contains 8 square nuts (4 primary and 4 secondary).

Model	Kit Number
04	NK04
06	NK06
08	NK08
12	NK12

Lubrication

The pneumatic cylinder and internal bearings are pre-lubricated at the factory and are suitable for non-lubricated applications. However, additional airline lubrication will increase the life of the unit.



ITEM	DESCRIPTION	QUANTITY	ITEM	DESCRIPTION	QUANTITY
1	AIR CYLINDER	1	18	PROX SWITCH - LEAD TYPE, PNP	2
2	FLOW CONTROL (PRESTO-LOK)	2	18a	PROX SWITCH - LEAD TYPE, NPN	2
2a	FLOW CONTROL (NPT)	2	19	PROX SWITCH - PLUG IN, PNP	2
3	ADAPTER (XLB04 ONLY)	2	19a	PROX SWITCH - PLUG IN, NPN	2
4	WASHER (XLB04 ONLY)	2	22	SET SCREW	2
5b	HOUSING	1	23	SQUARE NUT	4
6	BUMPER	2 or 4	27	REED SWITCH	2
7	STOP COLLAR	2 or 4	27a	HALL EFFECT SWITCH PNP	2
8	SOCKET HEAD CAP SCREW	2	27b	HALL EFFECT SWITCH NPN	2
9a	ALIGNMENT COUPLER	1	28	SWITCH CLAMP	2
10	SOCKET HEAD CAP SCREW	2	29	SHOCK ABSORBER	2
11a	NUT	1	30	SOCKET HEAD CAP SCREW	4
12	NUT	1	33	O-RING FOR STOP PAD	2
13d	MOUNTING PLATE	1	34	STOP PAD	2
13e	MOUNTING PLATE	1	35	SET SCREW (SHOCK)	2
14	SEAL	4	36	SHOCK HOUSING	2
15	BEARING	4			
16	SUPPORT SHAFT	2			
17	SWITCH ELBOW CONN. PNP	2			
17a	SWITCH ELBOW CONN. NPN	2			

XLB Series Base Slide –Options

Bumpers/Adjustable Stop Collars (B)

Bumpers absorb shock, reduce noise, permit faster cycle times and increase production rates. They can be placed on the extend, retract or both positions.

Adjustable stop collars are only available when bumpers are specified. When specifying bumpers and adjustable stop collars, the stroke of the unit is DECREASED by the "W" dimension for each end.

Model	W
04	0.281
06	0.344
08	0.406
12	0.500

Right Angle Flow Control (F, G)

Right angle flow control valves allow precise adjustment of cylinder speed by metering exhaust air flow. The Prest-Lok design and 360° orientation capability provide a simple means of plumbing the unit.

Right angle flow controls are designed to permit maximum flow in both directions and provide a wide range of adjustment between the minimum and maximum speeds.

Proximity Sensors (P, N)

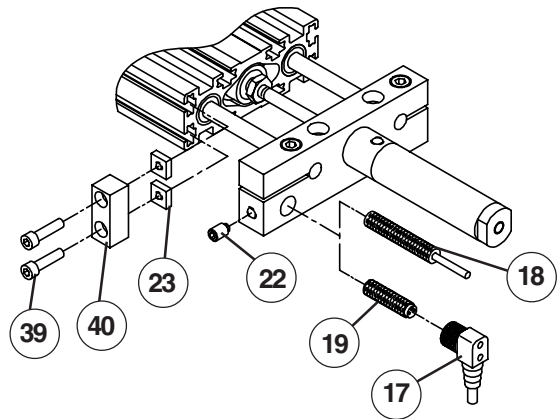
Proximity sensors sense the extend and retract positions of the slide. The proximity sensor is attached to the end plate and is secured with a nylon tipped set screw. The sensor is installed at the factory and does not require adjustment. Should adjustment be necessary, care should be taken to insure that the sensor does not come into contact with the sensor flag. Distance from the flag to the sensor should be approximately .016 inches.

NOTE: When proximity sensors are specified with adjustable bumpers/stop collars, the sensor is mounted on the slide housing.

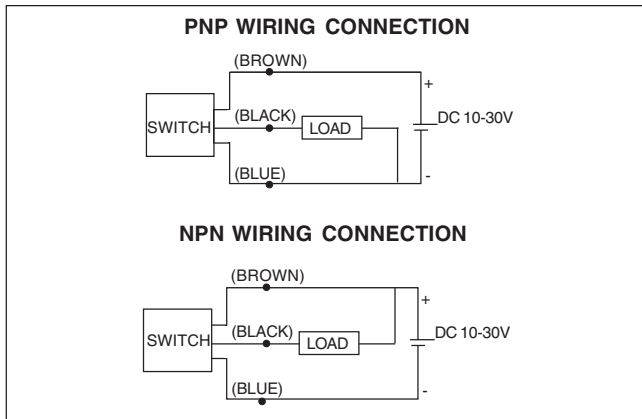
ELECTRICAL SPECIFICATIONS

Voltage: 10-30 VDC (3 wire) PNP or NPN
 Current: 7mA at 24 VDC
 Outlet Current: 130mA
 Switching Speed: 1000Hz
 Switching Distance: Steel = 1.0 mm (0.039 in)
 Brass = 0.7 mm (0.028 in)
 Aluminum = 0.4 mm (0.016 in)

Unit Shown without Shock Absorbers

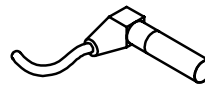


PROXIMITY SENSOR WIRING SCHEMATIC



Sensor is fully encapsulated.

Replacement Proximity Sensor



Plug In Style Switch with Connector	
Type	Switch Part Number
PNP	SWP-1P

ITEM	DESCRIPTION	QTY.
17	SWITCH ELBOW CONNECTOR	2
18	PROX SWITCH-LEAD TYPE	2
19	PROX SWITCH-PLUG IN	2
22	SET SCREW	2
23	SQUARE NUT	4
39	SOCKET HEAD CAP SCREW	4
40	SWITCH FLAG	2

Additional information may be obtained from the Actuator Division in Wadsworth, Ohio or from your nearest Parker Distributor.

Offer Of Sale

The items described in this document and other documents or descriptions provided by Parker Hannifin Corporation, its subsidiaries and its authorized distributors are hereby offered for sale at prices to be established by Parker Hannifin Corporation, its subsidiaries and its authorized distributors. This offer and its acceptance by any customer ("Buyer") shall be governed by all of the following Terms and Conditions. Buyer's order for any such item, when communicated to Parker Hannifin Corporation, its subsidiary or an authorized distributor ("Seller") verbally or in writing, shall constitute acceptance of this offer.

1. Terms and Conditions of Sale: All descriptions, quotations, proposals, offers acknowledgments, acceptances and sales of Seller's products are subject to and shall be governed exclusively by the terms and conditions stated herein. Buyer's acceptance of any offer to sell is limited to these terms and conditions. Any terms or conditions in addition to, or inconsistent with those stated herein, proposed by Buyer in any acceptance of an offer by Seller, are hereby objected to. No such additional, different or inconsistent terms and conditions shall become part of the contract between, Buyer and Seller unless expressly accepted in writing by Seller. Seller's acceptance of any offer to purchase by Buyer is expressly conditional upon Buyer's assent to all the terms and conditions stated herein, including any terms in addition to, or inconsistent with those contained in Buyer's offer. Acceptance of Seller's products shall in all events constitute such assent.

2. Payment: Payment shall be made by Buyer net 30 days from the date of delivery of the items purchased hereunder. Amounts not timely paid shall bear interest at the maximum rate permitted by law for each month or portion thereof that the Buyer is late in making payment. Any claims by Buyer for omissions or shortages in a shipment shall be waived unless Seller receives notice thereof within 30 days after Buyer's receipt of the shipment.

3. Delivery: Unless otherwise provided on the face hereof, delivery shall be made F.O.B. Seller's plant. Regardless of the method of delivery, however, risk of loss shall pass to Buyer upon Seller's delivery to a carrier. Any delivery dates shown are approximate only and Seller shall have no liability for any delays in delivery.

4. Warranty: Seller warrants that the items sold hereunder shall be free from defects in material or workmanship for a period of 18 months from date of shipment from Parker Hannifin Corporation. **THIS WARRANTY COMPRISES THE SOLE AND ENTIRE WARRANTY PERTAINING TO ITEMS PROVIDED HEREUNDER. SELLER MAKES NO OTHER WARRANTY, GUARANTEE, OR REPRESENTATION OF ANY KIND WHATSOEVER. ALL OTHER WARRANTIES, INCLUDING BUT NOT LIMITED TO, MERCHANTABILITY AND FITNESS FOR PURPOSE, WHETHER EXPRESS, IMPLIED, OR ARISING BY OPERATION OF LAW, TRADE USAGE, OR COURSE OF DEALING ARE HEREBY DISCLAIMED.**

NOTWITHSTANDING THE FOREGOING, THERE ARE NO WARRANTIES WHATSOEVER ON ITEMS BUILT OR ACQUIRED WHOLLY OR PARTIALLY, TO BUYER'S DESIGNS OR SPECIFICATIONS.

5. Limitation of Remedy: SELLER'S LIABILITY ARISING FROM OR IN ANY WAY CONNECTED WITH THE ITEMS SOLD OR THIS CONTRACT SHALL BE LIMITED EXCLUSIVELY TO REPAIR OR REPLACEMENT OF THE ITEMS SOLD OR REFUND OF THE PURCHASE PRICE PAID BY BUYER, AT SELLER'S SOLE OPTION. IN NO EVENT SHALL SELLER BE LIABLE FOR ANY INCIDENTAL, CONSEQUENTIAL OR SPECIAL DAMAGES OF ANY KIND OR NATURE WHATSOEVER, INCLUDING BUT NOT LIMITED TO LOST PROFITS ARISING FROM OR IN ANY WAY CONNECTED WITH THIS AGREEMENT OR ITEMS SOLD HEREUNDER, WHETHER ALLEGED TO ARISE FROM BREACH OF CONTRACT, EXPRESS OR IMPLIED WARRANTY, OR IN TORT, INCLUDING WITHOUT LIMITATION, NEGLIGENCE, FAILURE TO WARN OR STRICT LIABILITY.

6. Changes, Reschedules and Cancellations: Buyers may request to modify the designs or specifications for the items sold hereunder as well as the quantities and delivery dates thereof, or may request to cancel all or part of this order, however, no such requested modification or cancellation shall become part of the contract between Buyer and Seller unless accepted by Seller in a written amendment to this Agreement. Acceptance of any such requested modification of cancellation shall be at Seller's discretion, and shall be upon such terms and conditions as Seller may require.

7. Special Tooling: A tooling charge may be imposed for any special tooling, including without limitation, dies, fixtures, molds and patterns, acquired to manufacture items sold pursuant to this contract. Such special tooling shall be and remain Seller's property notwithstanding payment of any charges by Buyer. In no event will Buyer acquire any interest in apparatus belonging to Seller which is utilized in the manufacture of the items sold hereunder, even if such apparatus has been specially converted or adapted for such manufacture and notwithstanding any charges paid by Buyer. Unless otherwise agreed, Seller shall have the right to alter, discard or otherwise dispose of any special tooling or other property in its sole discretion at any time.

8. Buyer's Property: Any designs, tools, patterns, materials, drawings confidential information or equipment furnished by Buyer, or any other items which become Buyer's property, may be considered obsolete and may be destroyed by Seller after two (2) consecutive years have elapsed without Buyer placing an order for the items which are manufactured using such property. Seller shall not be responsible for any loss or damage to such property while it is in Seller's possession or control.

9. Taxes: Unless otherwise indicated on the face hereof, all prices and charges are exclusive of excise, sales, use, property, occupational or like taxes which may be imposed by any taxing authority upon the manufacture, sale or delivery of the items sold hereunder. If any such taxes must be paid by Seller or if Seller is liable for the collection of such tax, the amount thereof shall be in addition to the amounts for the items sold. Buyer agrees to pay all such taxes or to reimburse Seller therefore upon receipt of its invoice. If Buyer claims exemption from any sales, use or other tax imposed by any taxing authority, Buyer shall save Seller harmless from and against any such tax, together with any interest or penalties thereon which may be assessed if the items are held to be taxable.

10. Indemnity For Infringement of Intellectual Property Rights: Seller shall have no liability for infringement of any patents, trademarks, copyrights, trade dress, trade secrets or similar rights except as provided in this Part 10. Seller will defend and indemnify Buyer against allegations of infringement of U.S. patents, U.S. trademarks, copyrights, trade dress and trade secrets (hereinafter 'Intellectual Property Rights'). Seller will defend at its expense and will pay the cost of any settlement or damages awarded in an action brought against Buyer based on an allegation that an item sold pursuant to this contract infringes the Intellectual Property Rights of a third party. Seller's obligation to defend and indemnify Buyer is contingent on Buyer notifying Seller within ten (10) days after Buyer becomes aware of such allegations of infringement, and Seller having sole control over the defense of any allegations or actions including all negotiations for settlement or compromise. If an item sold hereunder is subject to a claim that it infringes the Intellectual Property Rights of a third party, Seller may, at its sole expense and option, procure for Buyer the right to continue using said item, replace or modify said item so as to make it non-infringing, or offer to accept return of said item and return the purchase price less a reasonable allowance for depreciation. Notwithstanding the foregoing, Seller shall have no liability for claims of infringement based on information provided by Buyer, or directed to items delivered hereunder for which the designs are specified in whole or part by Buyer, or infringements resulting from the modification, combination or use in a system of any item sold hereunder. The foregoing provisions of this Part 10 shall constitute Seller's sole and exclusive liability and Buyer's sole and exclusive remedy for infringement of Intellectual Property Right.

If a claim is based on information provided by Buyer or if the design for an item delivered hereunder is specified in whole or in part by Buyer, Buyer shall defend and indemnify Seller for all costs, expenses or judgements resulting from any claim that such item infringes any patent, trademark, copyright, trade dress, trade secret or any similar right.

11. Force Majeure: Seller does not assume the risk of and shall not be liable for delay or failure to perform any of Seller's obligations by reason of circumstances beyond the reasonable control of Seller (hereinafter 'Events of Force Majeure'). Events of Force Majeure shall include without limitation, accidents, acts of God, strikes or labor disputes, acts, laws, rules or regulations of any government or government agency, fires, floods, delays or failures in delivery of carriers or suppliers, shortages of materials and any other cause beyond Seller's control.

12. Entire Agreement/Governing Law: The terms and conditions set forth herein, together with any amendments, modifications and any different terms or conditions expressly accepted by Seller in writing, shall constitute the entire Agreement concerning the items sold, and there are no oral or other representations or agreements which pertain thereto. This Agreement shall be governed in all respects by the law of the State of Ohio. No actions arising out of the sale of the items sold hereunder of this Agreement may be brought by either party more than two (2) years after the cause of action accrues.