

PA-QR1 Data Sheet



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Pinching Hazards

There is a pinching hazard due to the quick release feature on the PA-QR1 actuator, which has exposed moving parts. Take caution during use to prevent your hands from being pinched.



Free Falling Load

When the quick release is engaged, care must be taken to avoid an unsecured load from rapidly dropping and potentially causing damage to equipment or harm to humans.



Quick Release Feature Engagement

The quick release can be engaged by either pulling the cable with an installed lever, or moving the plastic housing by hand. In order to activate the quick-release feature, a force greater than 70 lbs must be applied to the linear actuator in the pull or push direction. If the typical load is less than this, the user can temporarily apply the load by pulling or pushing on the linear actuator. Warning! Do not move plastic housing by hand when load is applied.

Specifications



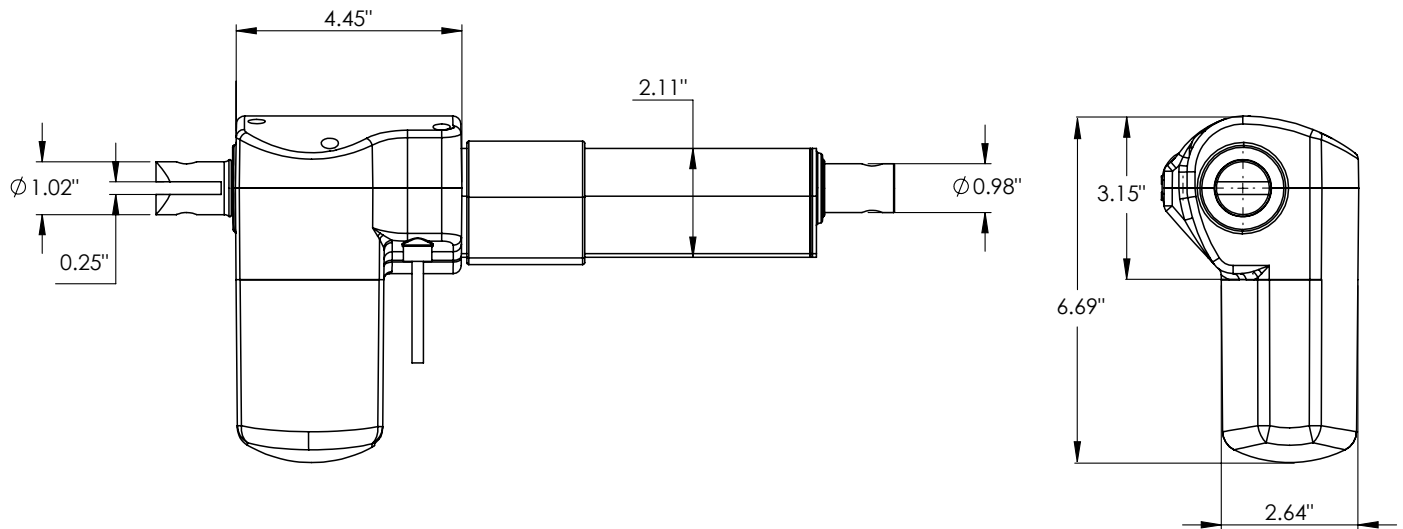
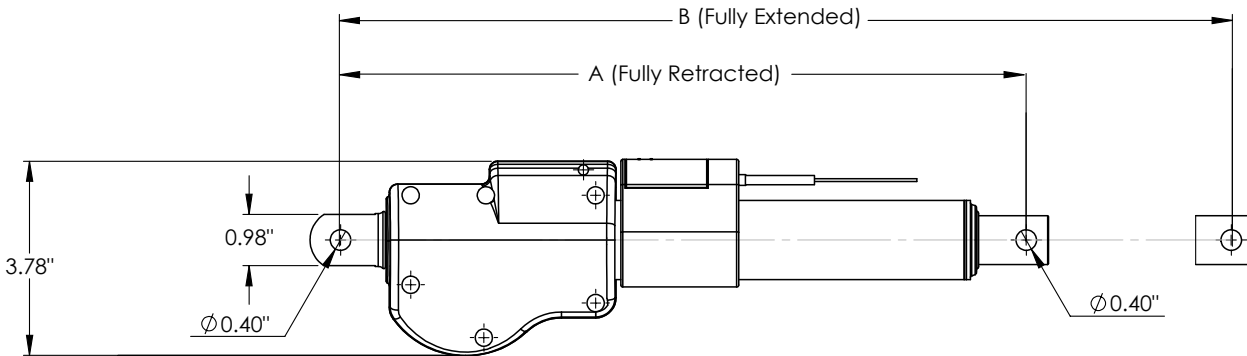
Voltage (VDC)	Load (LBS)			No Load Current (A)	Full Load Current (A)	Speed (inch/sec)	
	Dynamic	Static Push	Static Pull			No Load	Full Load
12	675	1350	1000	1.5	6.0	0.30	0.22
24	675	1350	1000	1.0	3.7	0.32	0.22

Input Voltage	12 VDC, 24VDC
Stroke	4" to 15.71"
Features	Quick Release, Safety Nut and Anti-Pinching
Feedback	None, Hall Effect (Customizable)
Duty Cycle	10% (2 min on, 18 min off)
Weather Protection	IP66
Overload Protection	No
Operational Temperature	0°C to 50°C
Operating Noise	<48dB
Limit Switch	Built in (Non-Adjustable)
Cable Length	40"
Connector	Molex Mini-Fit Jr 2-Pin, Tinned Wire Leads, Customizable
Front Mounting Hole Size	0.4"
Rear Mounting Hole size	0.4"
Actuator Type	Mid-Size
Motor Type	Brushed DC Motor
Screw Type	ACME
Stroke Rod Material	304 Stainless Steel
Housing Material	PA66 + 33GF
Gear Material	Polyoxymethylene
Certifications	CE, IEC
Compatible Mounting Brackets	BRK-02
Warranty	18 Months



Dimensions

(Dimensions in inches)



Hole to Hole

Stroke	4	6	8	10	12	14
PA-QR1						
A	11.28	13.28	15.28	17.28	19.28	21.28
B	15.28	19.28	23.28	27.28	31.28	35.28

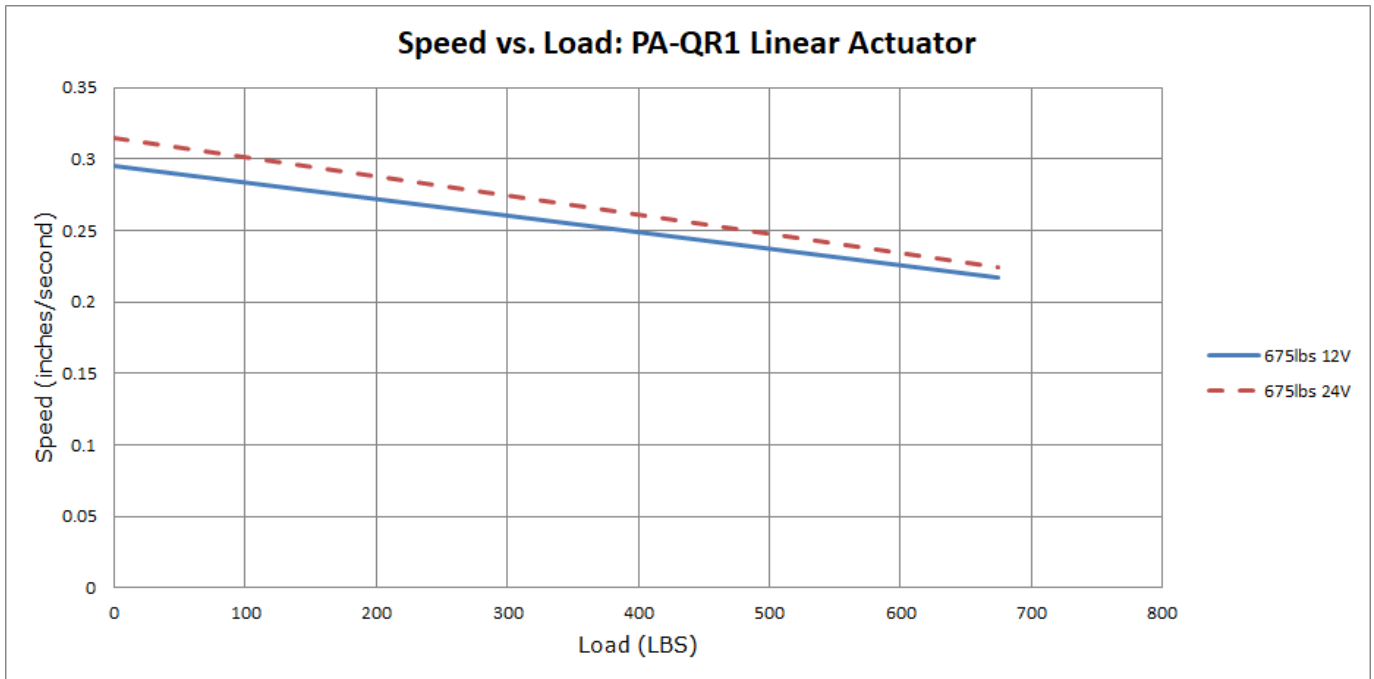
For Stroke Length

$$A = \text{Stroke Length} + 7.28''$$

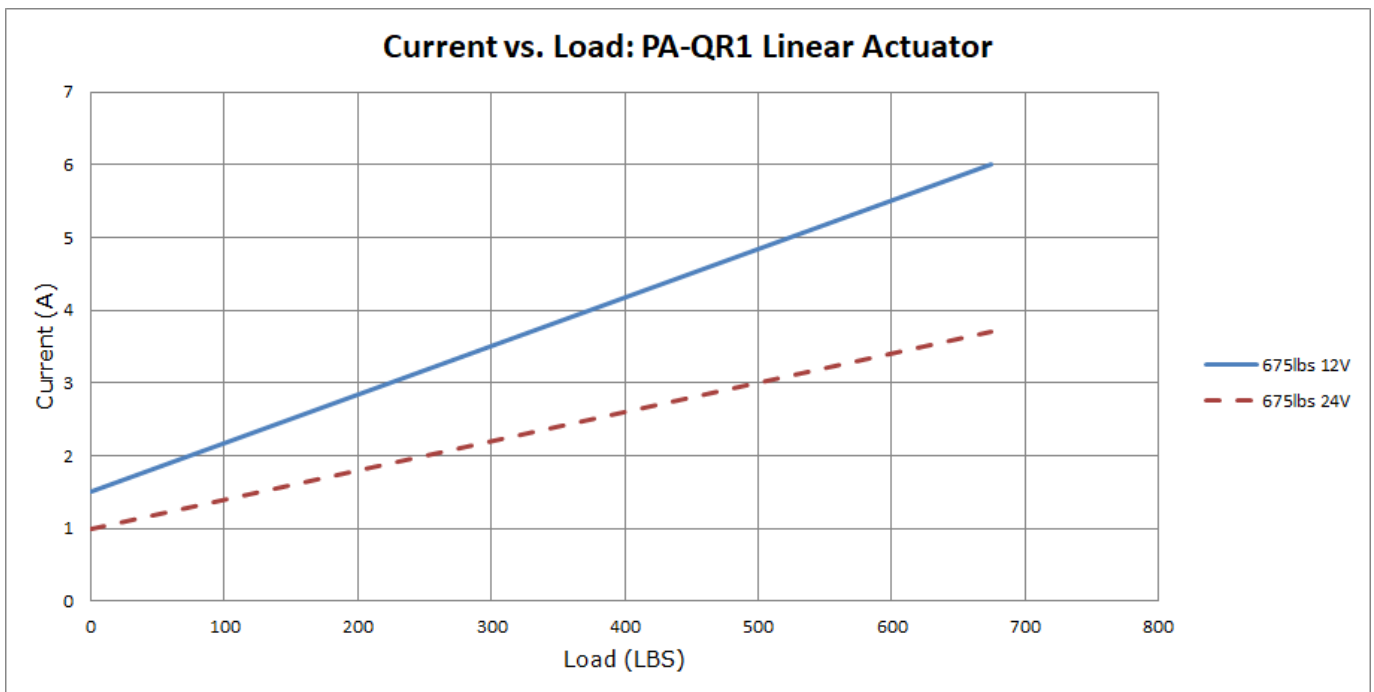
$$B = \text{Stroke Length} \times 2 + 7.28''$$



Speed vs Load



Current vs Load





Setting Up the Quick Release

Pull Cable

The PA-QR1 actuator comes with a pull cable for engaging the quick release from up to 4.92 ft away. The cable should be installed in a way that limits how bent it is, as this can make it harder to engage the quick release function. The included cable can be used with any handle or pull method that will pull the cable by 0.55”.

AC-32 Quick Release Lever

The AC-32 Quick Release Lever was designed to perfectly pair with our PA-QR1 Quick Release Actuator. Adding this component to your order is something we highly recommend, unless you have an alternative lever that can be used. This lever can be purchased separately, and comes with an attached cable that can replace the cable included with the PA-QR1.

To replace the included cable with the AC-32:

1. Remove the lid that covers the existing cable end and the plastic housing on the PA-QR1 by pulling the lid up.

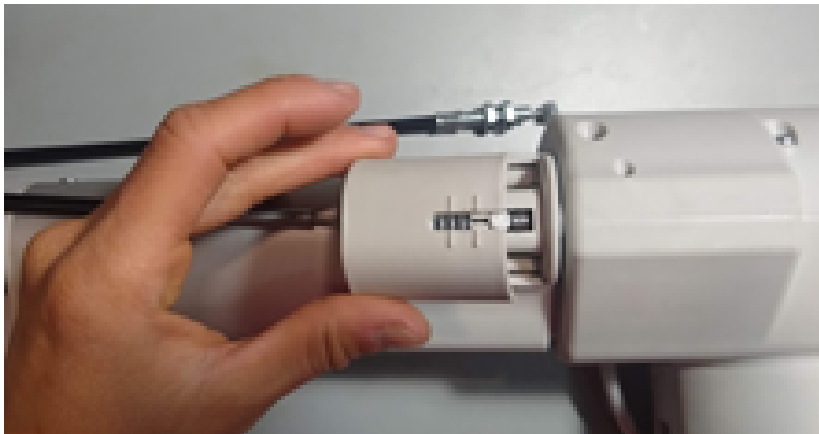


fig 1. Removing lid to expose cable end

2. Remove the cable barrel-style end from the plastic housing. Use a flat head screwdriver to assist, if necessary.



fig 2. Remove cable end from housing



3. Transfer the spring to the AC-32 cable – the steel part at the end of the new cable is a bit bigger than that of the previous cable. Apply force to make the spring move passed the cable end.



fig 3. Transfer spring from housing to AC-32 cable end.

4. Insert the AC-32 cable barrel-style end (found at the end of the cable, farthest from the lever). Ensure that the spring is inserted between the linear actuator cable housing and the cable barrel-style end. Use a flat head screwdriver to assist, if necessary. The cable barrel-style end sits on the plastic housing. The spring and the barrel feature supports holding the cable end in place within the plastic housing.



fig 4. Insert AC-32 cable end with spring into housing.

5. Place the lid back onto the cable housing on the PA-QR1.

For instructions on how to adjust the AC-32 cable on the PA-QR1, please see separate document "AC-32 Technical Information Summary."

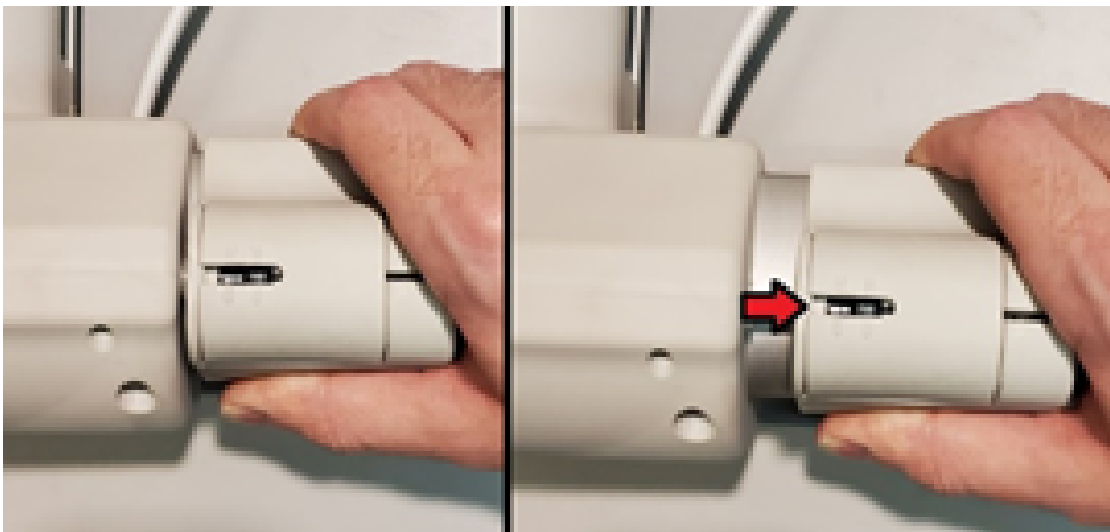


Using the Quick Release

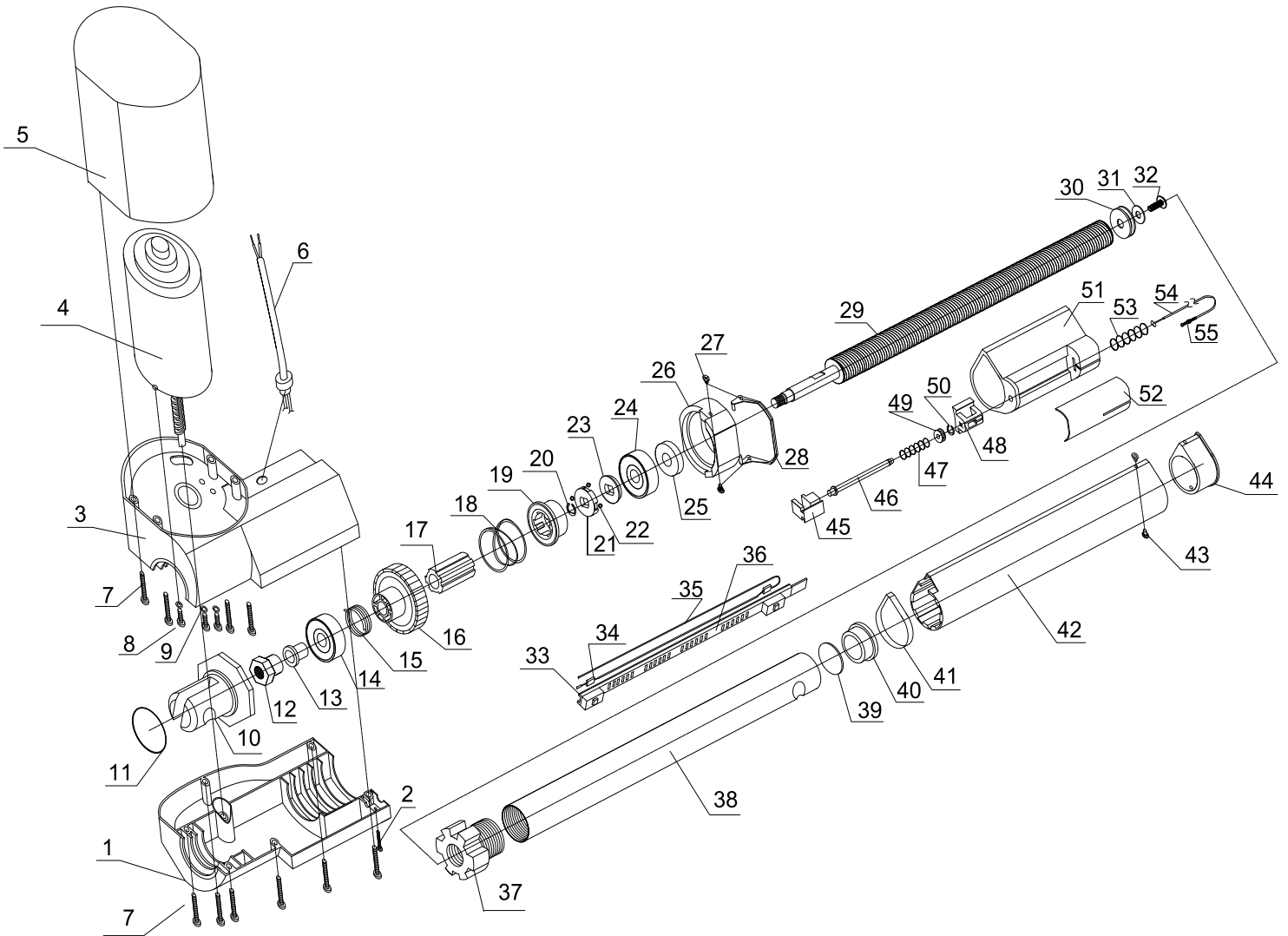
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Warning! Do not move plastic housing by hand when load is applied.



Assembly Parts Expanded View



Assembly Parts Description



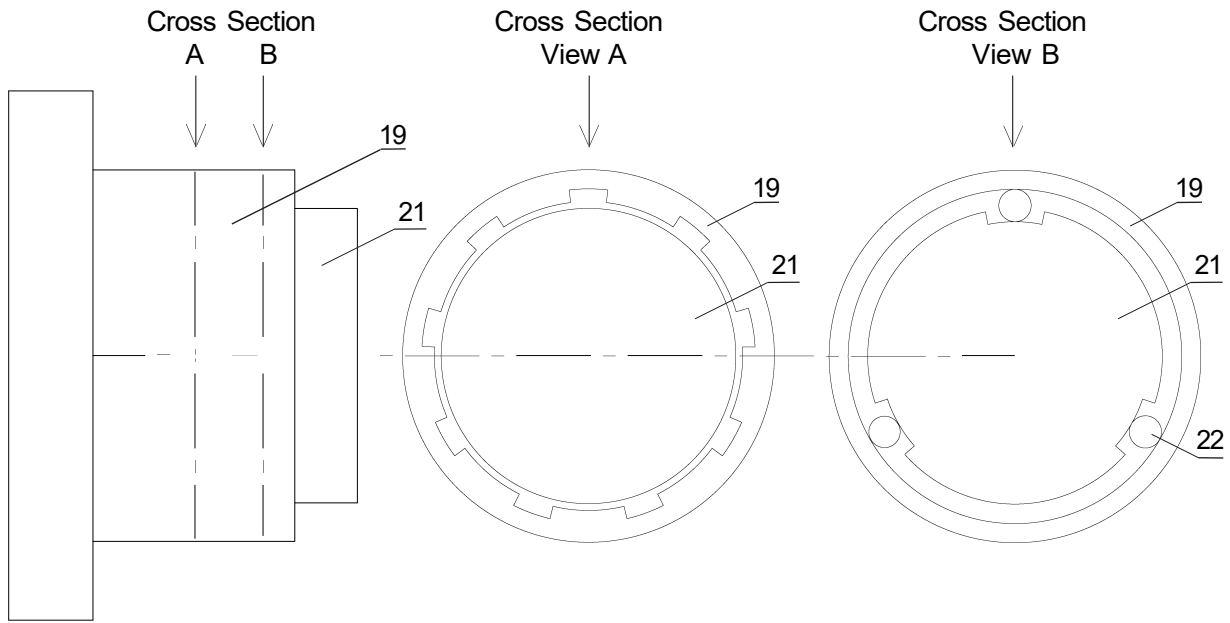
Item	Description	Qty
1	Actuator Bottom Case	1
2	Actuator Case Small Screw	1
3	Actuator Upper Case	1
4	Electric Motor	1
5	Electric Motor Enclosure	1
6	Power Cable	1
7	Actuator Case Hex Screw	10
8	Electric Motor Screw	3
9	Electric Motor Screw Spring Washer	3
10	Mounting Bracket	1
11	Mounting Bracket O-Ring	1
12	Shaft Drive Screw	1
13	Shaft Drive Small Spacer	1
14	Shaft Drive Bottom Bearing	1
15	Holding Spring	1
16	Drive Gear Wheel	1
17	Clutch Sliding Base	1
18	Clutch Spring	1
19	Clutch Control Wheel	1
20	Clutch Support Clip	1
21	Clutch Bearing Balls Holder	1
22	Clutch Bearing Ball	3
23	Clutch Bearing Balls Support	1
24	Shaft Drive Bearing	1
25	Shaft Drive Spacer	1
26	Clutch Base	1
27	Clutch Control Arm Screw	2
28	Clutch Control Arm	1

Item	Description	Qty
29	Treaded Shaft Drive	1
30	Shaft Drive Top Cap	1
31	Shaft Drive Top Cap Washer	1
32	Shaft Drive Top Cap Screw	2
33	Limit Switch	2
34	Diode	2
35	Wire	1
36	Limit Switch Base	1
37	Bottom Shaft Guide	1
38	Shaft	1
39	Shaft Plug	1
40	Shaft Top Cap	1
41	Shaft Enclosure Gasket	1
42	Shaft Enclosure	1
43	Shaft Enclosure Top Cap Screw	2
44	Shaft Enclosure Top Cap	1
45	Clutch Control Arm Hook	1
46	Clutch Control Rod	1
47	Control Rod Spring	1
48	Safety Link Connector	1
49	Control Rod Spacer	1
50	Control Rod Clip	1
51	Safety Link Connector Enclosure	1
52	Safety Link Connector Cover	1
53	Safety Link Spring	1
54	Safety Link	1
55	Safety Link Connect Screw	1

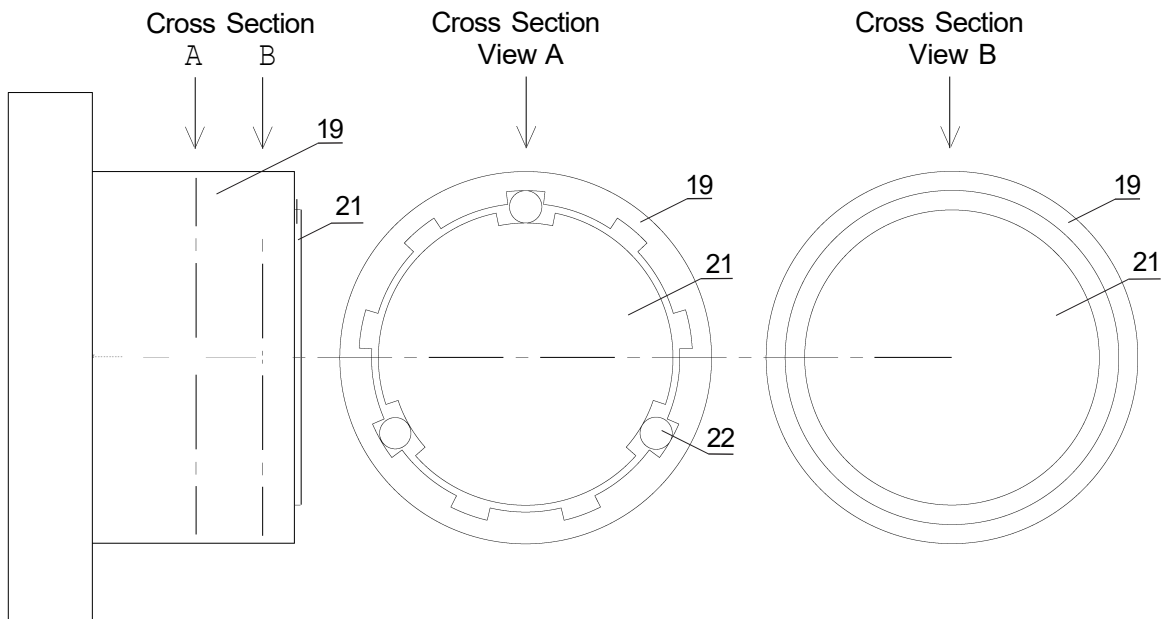


Quick Release Operation

Please refer to assembly parts descriptions (pg 10) for part numbers referenced.



Quick Release Activated. Unlocked.



Quick Release Not Activated. Locked.