

B-Track - Features

Rugged Duty Actuators

Key Features

- Weather-tight sealed
- Patented in-line load transfer
- Heavy wall rod and cover tube
- High performance motors
- Up to 9800 N capacity

Standard models

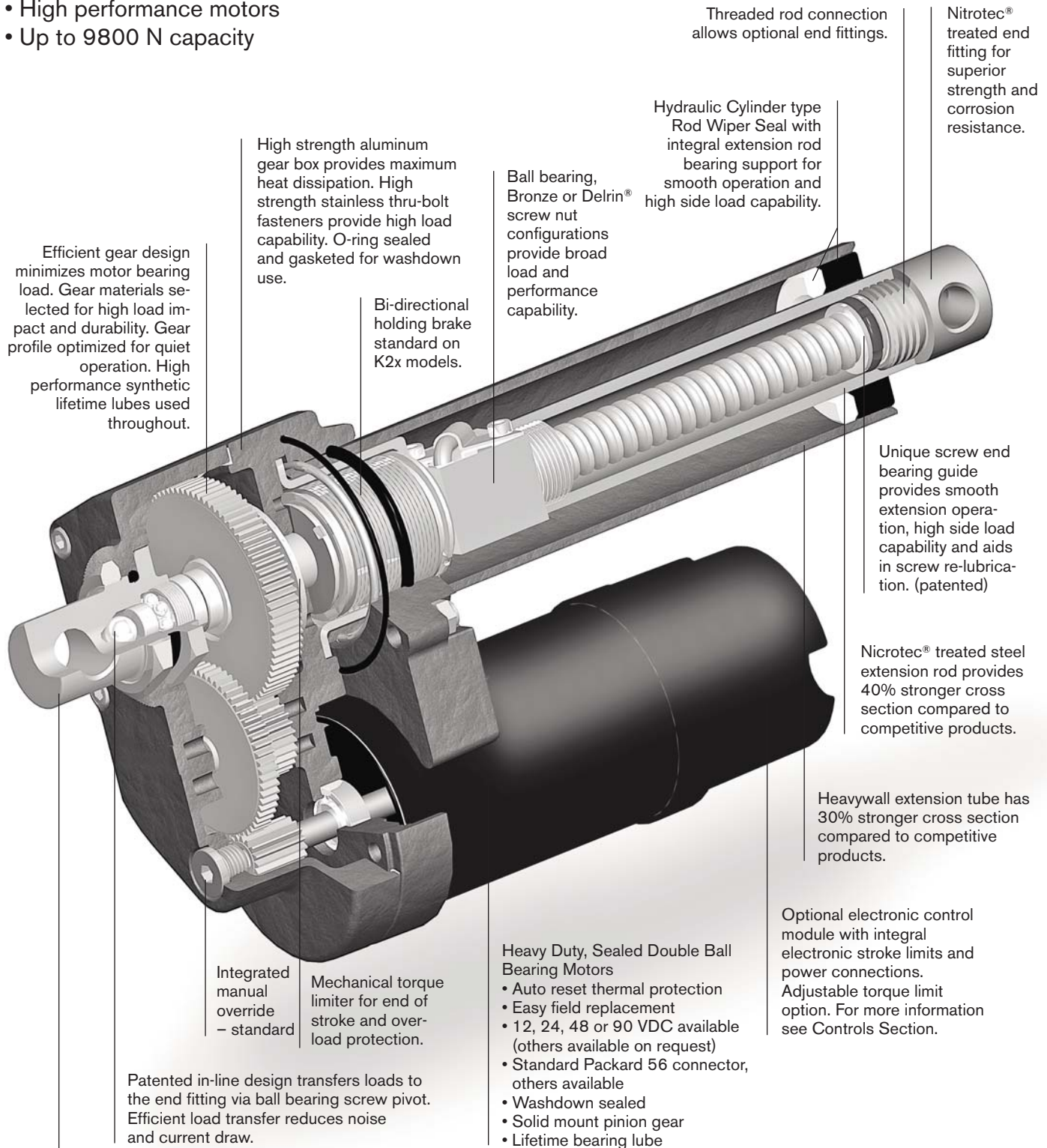
K2VL, K2, K2X

Option models

K2PL/K2XPL

K2JS/K2XJS

K2RA



Efficient gear design minimizes motor bearing load. Gear materials selected for high load impact and durability. Gear profile optimized for quiet operation. High performance synthetic lifetime lubes used throughout.

High strength aluminum gear box provides maximum heat dissipation. High strength stainless thru-bolt fasteners provide high load capability. O-ring sealed and gasketed for washdown use.

Bi-directional holding brake standard on K2x models.

Ball bearing, Bronze or Delrin® screw nut configurations provide broad load and performance capability.

Hydraulic Cylinder type Rod Wiper Seal with integral extension rod bearing support for smooth operation and high side load capability.

Threaded rod connection allows optional end fittings.

Nitrotec® treated end fitting for superior strength and corrosion resistance.

Unique screw end bearing guide provides smooth extension operation, high side load capability and aids in screw re-lubrication. (patented)

Nitrotec® treated steel extension rod provides 40% stronger cross section compared to competitive products.

Heavywall extension tube has 30% stronger cross section compared to competitive products.

Optional electronic control module with integral electronic stroke limits and power connections. Adjustable torque limit option. For more information see Controls Section.

- Heavy Duty, Sealed Double Ball Bearing Motors
- Auto reset thermal protection
 - Easy field replacement
 - 12, 24, 48 or 90 VDC available (others available on request)
 - Standard Packard 56 connector, others available
 - Washdown sealed
 - Solid mount pinion gear
 - Lifetime bearing lube

Integrated manual override – standard

Mechanical torque limiter for end of stroke and overload protection.

Patented in-line design transfers loads to the end fitting via ball bearing screw pivot. Efficient load transfer reduces noise and current draw.

Nitrotec® treated end fittings with integral O-ring seals for superior weather and corrosion resistance. 6 available mounting orientations.

How to select

Step 1 – Determine load and stroke length requirements

Use the Quick Selection guide to identify the model family that will provide the load capacity and stroke length needed for your application

Step 2 – Determine Gear Ratio

Select gear ratio from performance curves for allowable current draw and needed load

Step 3 – Identify motor type and voltage

Select DC motor and motor voltage.

Step 4 – Motor Type

Select M for ignition protected motor. Select needed motor voltage.

Step 5 – Confirm the application Duty Cycle

At full load capacity, actuators have a 25% duty cycle. Duty cycle is the amount of 'on-time' compared to cooling time. A unit that runs for 15 seconds should be off for 45 seconds.

Step 6 – Select Nut Type

Select nut for unit selected. (K2x are all ball bearing).

Step 7 – Select Stroke Length

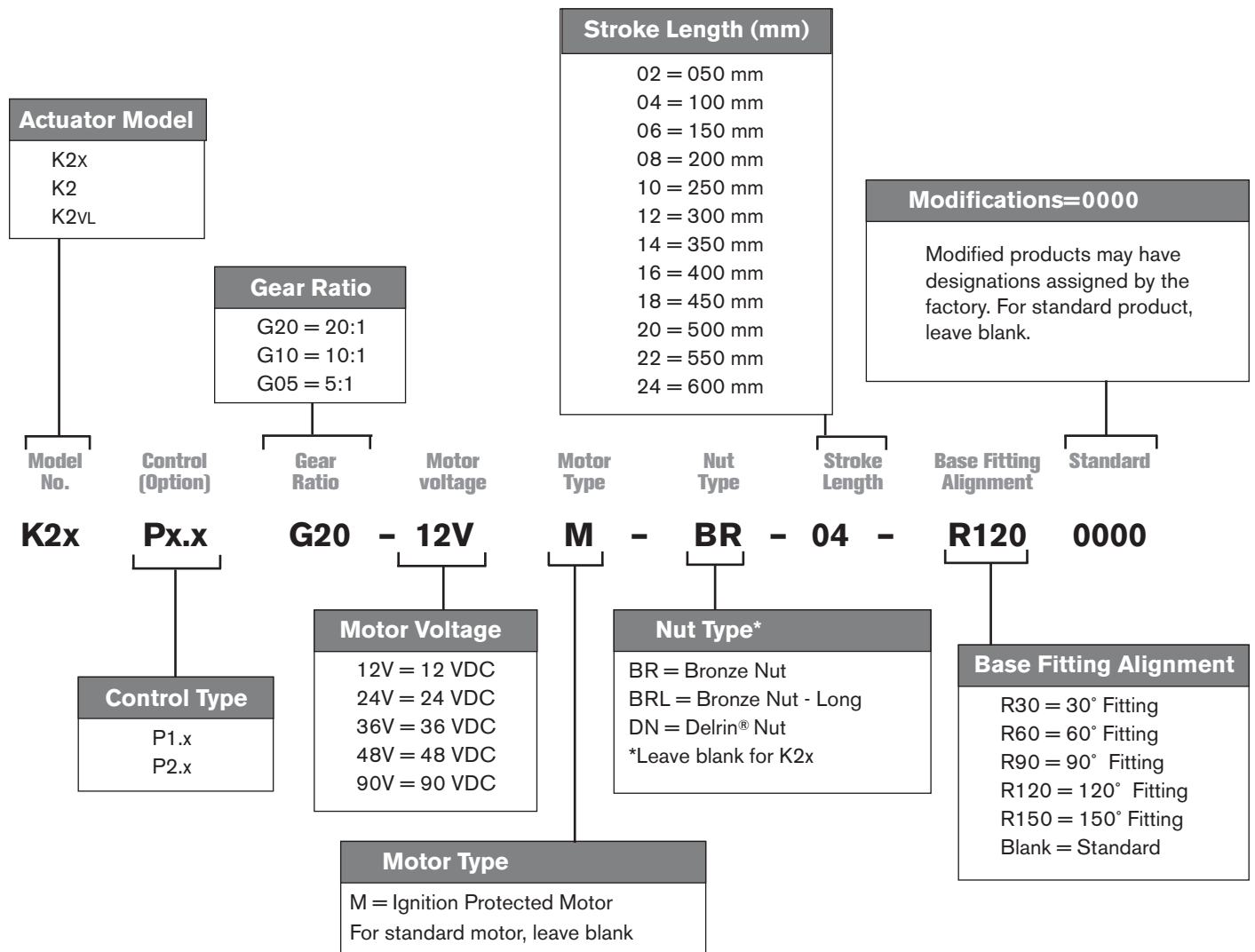
Choose standard lengths from chart. For special length consult factory.

Step 8 – Select end fitting orientation

Leave blank for standard orientation.

Important Unit Restrictions

Side loading and shock loads must be considered in actuator applications. Side loading and cantilevered mounting should be eliminated through proper machine design. Side loading will dramatically reduce unit life. While actuators can withstand limited shock loads, it is recommended that shock loading be avoided wherever possible. (See page 35).



B-Track - K2

Rugged Duty Actuator DC Motor Acme Screw

Up to 5400 N load rated

Up to 50 mm/s Speed



Shown with optional BTC control

The **K2** is the base model in the **B-Track** family. It incorporates a patented in-line load transfer design which provides high load capability for rugged-duty use, efficient power use, compact package size, excellent corrosion and washdown protection, and high performance synthetic lubrication for life, all at an affordable price.

The **K2** uses a solid bronze or Delrin® nut with a rolled hybrid screw yielding high impact capability and long screw life. Heavy-duty double-ended ball bearing motors, hardened gears, O-ring seals and an extension rod bearing system that provides best in class capabilities.

Features

- Protective coatings and O-ring seals throughout
- Patented in-line load system
- Hybrid nut and screw design, no brake needed
- Ball detent overload clutch
- 50 to 600 mm inch stroke lengths
- Up to 5400 N load capacities
- Speeds up to 50 mm/s travel
- Thermal overload incorporated into the motor
- Heavy wall construction
- Double ball bearing motors and heat treated gears
- Rugged extension rod bearing support
- Optional 90 VDC motor for use with SBC-AC control
- Custom mounting options available

Typical applications

- Heavy duty platform and engine lifts
- Deck and implement lifts for tractors and mobile applications
- Wheelchair and scooter lifts
- Bin and tank cover lifts
- Flow gate open/close
- Table positioning

Load/Current/Speed/Duty Cycle

- Maximum Static Rating: 13500 Nm Static (in-line load)
- Refer to performance chart for load/current/speed capabilities
- Stroke Length Tolerance: +/- 1,5 mm
- Motor is protected with auto reset breaker inside motor housing (temperature/current/time dependent)
- Overload clutch setting: +25% over rated dynamic load
- Duty cycle is time/temperature/load dependent, suggested guidelines are:
 - 50% max on-time/50% off-time for loads up to 50% of capability
 - 25% max on-time/75% off-time for loads between 50%-80% of capability
 - 10% max on-time/90% off-time for loads between 80%-100% of capability(Load/stroke profiles will allow some adjustment variation from these guidelines.)

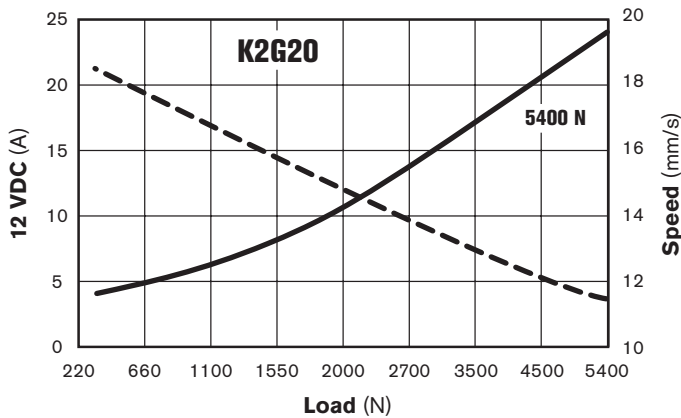
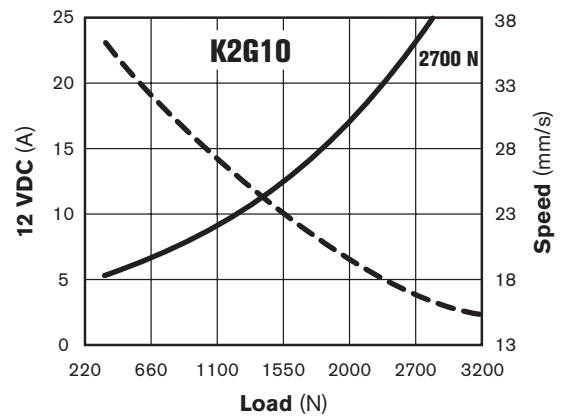
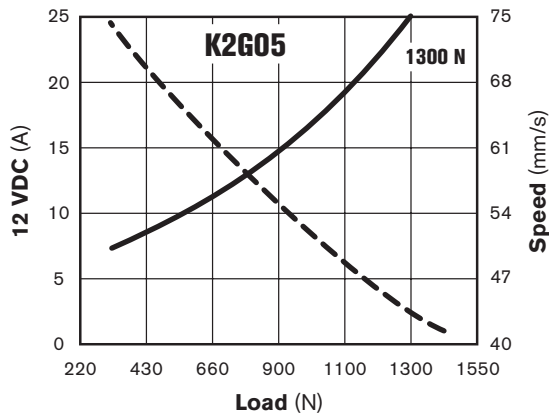
Operating Environment

- Ambient temp range: -35°C to +65°C
- Weather resistant enclosure & seals (IP 65 capable, 250 hour salt spray, 500 hour for paint)
- Normal operating voltage: 10-16 VDC (Ratings are at 12 VDC Normal.)

Control/Connections

- 14 gauge stranded lead wires-UL style 1230 w/PVC insulation Class F 105°C
- Lead wires abrasion protected with braided covering
- Use momentary contact double pole/double throw switch in powering unit for extend/retract operation. (ON)-OFF-(ON) DPDT
- Connectors:
 - Packard 56 series or Delphi Weather-Pack
 - Packard 56 series with 56 series blades (#2984883 & #2962987)
 - Delphi Weather-Pack series (#121015792 & #12010973)

Performance curves

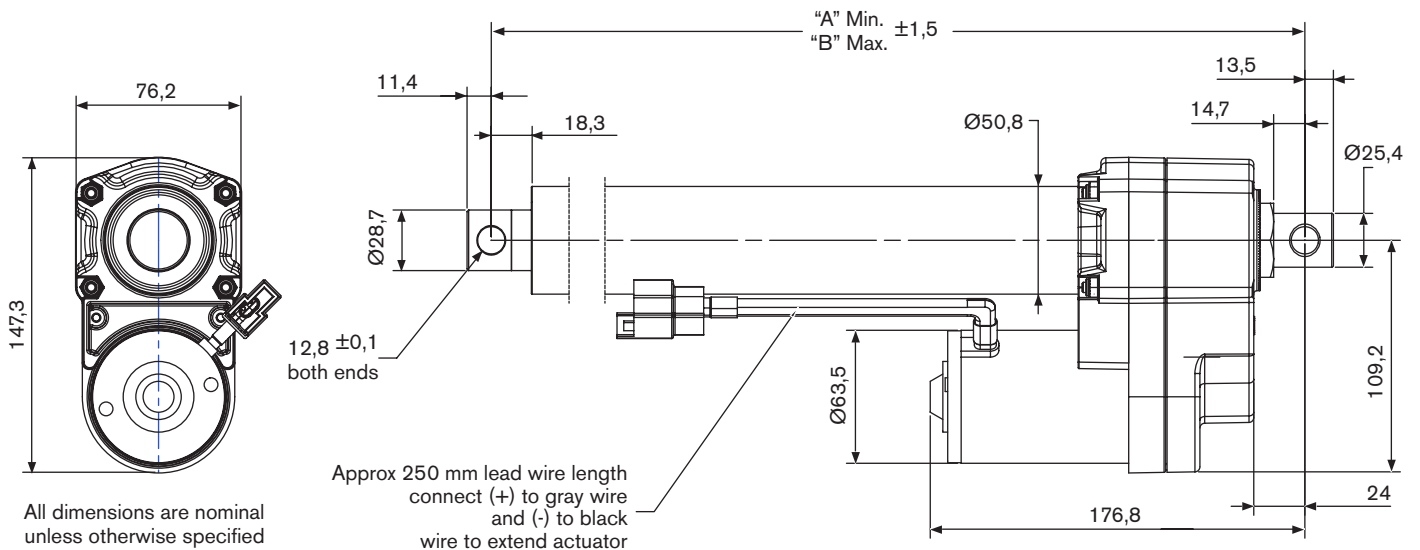


Current draw ———
Speed - - - - -

Dimensions (mm)

B-Track K2	Stroke	050	100	150	200	250	300	350	400	450	500	550	600
	A Min.	211	262	312	364	414	465	516	567	618	745	795	846
	B Max.	262	363	465	567	668	770	872	973	1075	1253	1354	1456

Note: Special lengths available



Custom Actuators

Warner Linear offers a broad range of standard actuators to suit many needs. We realize though, that often special application parameters dictate special actuator configurations and modifications. Warner Linear actuators are designed with this in mind, as many of our products can be readily customized to suit specific requirements.

Our products are built on modules that can be mixed and matched in final assembly. Our final assembly operations are configured to provide flexible assembly to accommodate custom orders, quickly and cost effectively.

If your application has a special need that our standard catalogue products are unable to fit, please contact your Warner Linear representative or consult with our technical specialists so we can configure a product to fit your need.

A few of our standard special offerings:

- Special pin to pin lengths and stroke lengths
- Special end fittings and mounting configurations
- Special paints and motor lead wire lengths and connectors



Examples of special request features (shown above)

Rod End Mounting Option Examples

(consult factory for more options)

1. 1/2" (12,7 mm) Threaded rod end
2. 5/8" (15,9 mm) Threaded rod end
3. 1/2" (12,7 mm) Spherical rod end
4. 5/8" (15,9 mm) Spherical rod end
5. 1" (25,4 mm) Extended rod end
6. Flat sided rod end
7. Vibra mount rod end
8. 1/2" (12,7 mm) Threaded gear box end
9. 3/8" (9,4 mm) Rod end insert

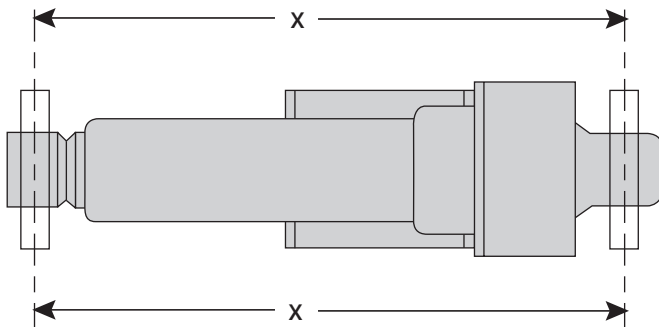


Consult with factory for specific mounting configuration needs.

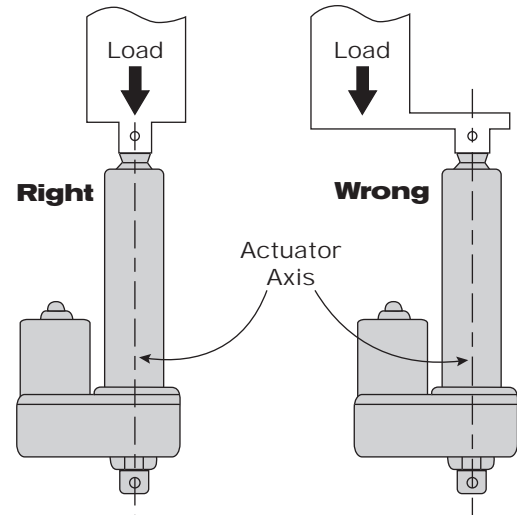
General Mounting Information

Warner Linear actuators are quickly and easily mounted by slipping pins through the holes at each end of the unit and into the brackets on the machine frame and load to be moved.

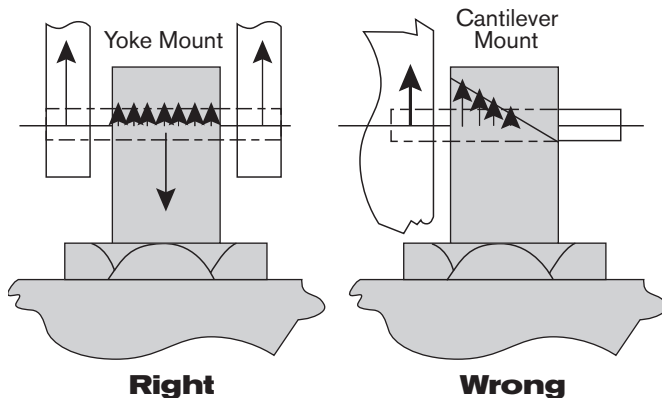
Use of solid pins provide maximum holding capability with a retaining ring or cotter pin on each end to prevent the solid pin from falling out of the mounting bracket (it is best to avoid roll pins and spring pins).



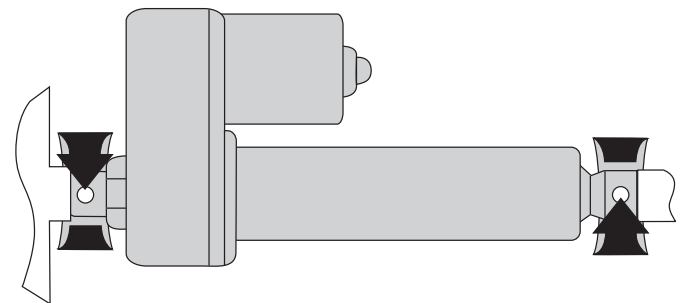
Mounting pins must be parallel to each other as shown above. Pins which are not parallel can cause excess vibration or actuator binding.



Loads should act along the axis of the actuator. Off-center loads may cause binding and lead to premature unit failure.



Ensure that mounting pins are supported at both ends. Cantilevered mounting is unacceptable. Failure to provide proper support will shorten unit life.



Do not attempt to mount M-Track or A-Track actuators by the cover tube. The tube is not designed to support the forces required for tube mounting.

It is very important to use the right cable size in order to supply enough current to the actuator. Otherwise we may face a huge voltage drop which will affect the operation speed and the motor lifetime. Please find below a guide line for the cable size :

Wire section (mm ²)	Current (A)	Remark
1,5	16	
2,5	20*	*or 16 A for long lead length
4	25	
6	32	

All actuator mounting supports must be capable of withstanding the load and torque developed when the unit extends or retracts. Restraining torque values are also provided with the details on each unit.

- M-Track** Torque created 2,24 Nm
- All others** Torque created 11,2 Nm