

# 12V DC LINEAR ACTUATOR INSTRUCTIONS MANUAL

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 **WARNING:** Read carefully and understand all ASSEMBLY AND OPERATION INSTRUCTIONS before operating. Failure to follow the safety rules and other basic safety precautions may result in serious personal injury.

REV 01/08/15

## 12V DC LINEAR ACTUATOR

### INSTRUCTIONS MANUAL

Heavy-duty Linear Actuator can be used in a variety of outdoor and indoor applications. Perfect for agricultural and mobile off road applications, lawn and garden equipment, dump trailers, scissor lifts and more.

 This item is designed for certain applications only. The distributor cannot be responsible for issues arising from modification. We strongly recommend this item not be modified and/or used for any application other than that for which it was designed.

#### SPECIFICATIONS:


Item No.	139616	139617	139618	139619	139620	139621	139622
Stroke (inches)	4	6	8	12	18	24	36
Retracted Length (inches)	11.87	13.87	15.87	21.84	27.84	33.84	47.81
Gear Ratio	40:1						
Load Capacity (lbs.)	2,000						
Static Load (lbs.)	2,600						
Speed at Max. Load (inches/second)	0.28						
Speed at No. Load (inches/second)	0.51						
Current draw at Max. Load (Amps)	20						
Duty Cycle	20%						
Operating Temperature Range (°C/°F)	-30 to 65°C/-22 to 149°F						
Mounting Hole Diameter (inches)	1/2						
Limit Switches/Overload Protection	Built in Limit Switches and Overload protection						
Recommended Fuse Size (Amps)	25						

Table 1

#### GENERAL SAFETY RULES

 **WARNING: Read and understand all instructions.** Failure to follow all instructions listed below may result in serious injury.

 **CAUTION: Do not allow persons to operate or assemble this linear actuator until they have read this manual and have developed a thorough understanding of how the linear actuator works.**

 **WARNING: The warnings, cautions, and instructions discussed in this instruction manual cannot cover all possible conditions or situations that could occur.** It must be understood by the operator that common sense and caution are factors which cannot be built into this product, but must be supplied by the operator.

#### SPECIFIC WARNINGS AND PRECAUTIONS

1. Read and understand the manual before using this linear actuator.
2. Test the 12V DC power source to make sure it has sufficient voltage and amperage to operate the linear actuator.
3. Make sure the motor has fully stopped before changing directions. If you change directions when the motor is running it may damage the motor.
4. Do not attempt to extend or retract the linear actuator by hand. This could damage the actuator.

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## DIMENSIONAL DIAGRAM AND WIRING INSTRUCTIONS

NOTE: All the sizes mentioned in Fig. 1 & 2 are in inches

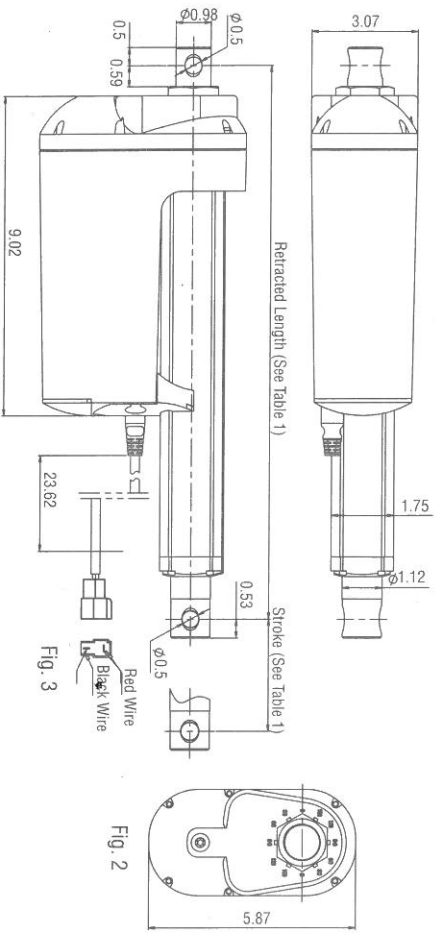


Fig. 1

Fig. 3

Fig. 2

## WIRING DRAWING

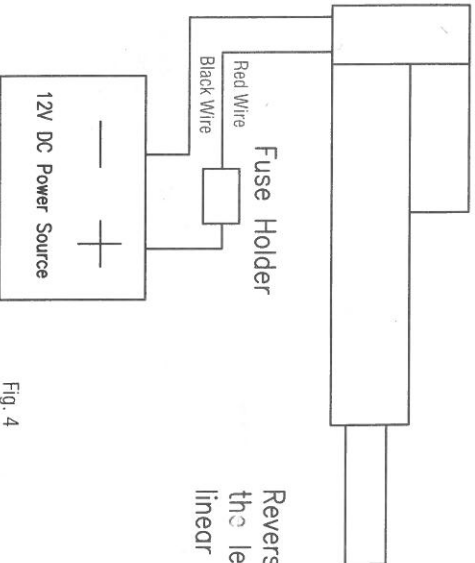


Fig. 4

Reversing the polarity of the leads will make the linear actuator retract

## INSTALLATION

**WARNING: Do not exceed the rated load capacity of the linear actuator.**

Please ensure the linear actuator shaft is fully "retracted". The term "retracted" in this manual refers to the position in which there is no further movement towards the DC motor while the actuator is powered on. (Please refer to Fig. 5 below).

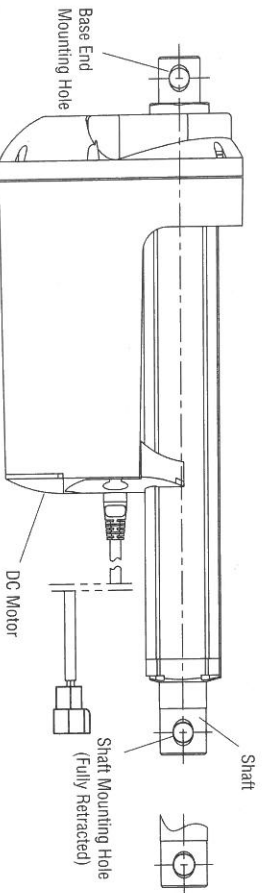


Fig. 5

- The shaft and base end mounting holes of the linear actuator should be installed into 2 mounting brackets. Locations for these mounting brackets should be chosen according to the stroke length of the linear actuator.
- Caution** must be taken to ensure that the two-way movement of the linear actuator is smooth and unobstructed and no twisting or binding will occur.
- After the mounting position has been selected remove and install the mountings brackets.
- Place the linear actuator back in the brackets and install the pins/bolts through the shaft and base end mounting holes. Lubricate the pins/bolts and make sure that they are not sticking or binding.
- The linear actuator should be installed in the horizontal position if it is going to be operated in that direction and likewise for the vertical position.
- Connect the linear actuator to the power source according to the instructions on page 2.
- The linear actuator should be tested after it's installation is complete to ensure that:
  - It's travel distance is meeting the requirements of the application
  - The motor should stop when the shaft reaches the end of it's stroke when extending and retracting
- The installation is complete when all the above criteria are met

**MAINTENANCE**

- Store the linear actuator in a dry place and out of direct sunlight.
- Clean the linear actuator with a dry cloth.