



REAR RAMP DOOR
(CABLE-LESS)
OEM INSTALLATION MANUAL

L I P P E R T
C O M P O N E N T S ®

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Introduction

The Rear Ramp Door (Cable-Less) created by LCI is designed to be a mobile door for loading and unloading toys and other heavy equipment. **DO NOT** exceed the maximum weight capacity. The maximum weight capacity for the door is 1,000 lbs per tire or 3,000 lbs evenly distributed.

Additional information about this product can be obtained from lci.com/support or by using the [MyLCI](#) app. Replacement components can be ordered from <https://store.lci1.com/> or by using the MyLCI app. The MyLCI app is available for free on iTunes® for iPhone® and iPad® and also on Google Play™ for Android™ users.

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Safety

Read and understand all instructions before starting any procedures stated in this manual. Adhere to all safety labels to prevent personal injury and/or product damage. Failure to follow instructions and safety labels may void product warranty.

WARNING

The "WARNING" symbol above is a sign that a procedure has a safety risk involved and may cause death or serious personal injury if not performed safely and within the parameters set forth in this manual.

WARNING

- Do not operate the ramp door on uneven ground.
- Always lower ramp door onto level ground.
- Do not release the ramp door until it rests completely on the ground.
- Do not stand behind the ramp door while operating.
- Keep all body parts clear of the ramp door while closing.
- Do not lower ramp door into a ditch or gully.
- Failure to heed WARNING may result in serious bodily injury or severe component and/or property damage.

NOTE: Although the product is water resistant, LCI recommends storing the door in the closed position during periods of rain to reduce the risk of water intrusion, which may result in delamination.

⚠ CAUTION

The "CAUTION" symbol above is a sign that the procedure has a safety risk involved and may cause personal injury, product or property damage if not performed safely and within the parameters set forth in this manual.

⚠ CAUTION

The system is not built with a preventative measure from overdriving the system. Failure to stop extending the door when it reaches the ground could result in damage of the product or personal property.

⚠ CAUTION

Moving parts can pinch, crush or cut. Keep clear and use caution.

Resources Required

- 2-3 people, depending on task
- Cordless or electric drill or screw gun
- Phillips head screwdriver
- $\frac{5}{16}$ " socket
- $\frac{7}{16}$ " socket
- $\frac{1}{2}$ " socket
- $\frac{9}{16}$ " socket
- $\frac{7}{16}$ " wrench
- $\frac{1}{2}$ " wrench
- Rubber mallet or hammer

Installation

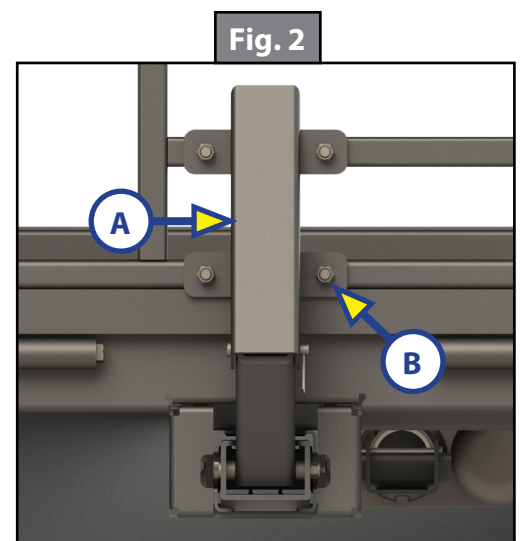
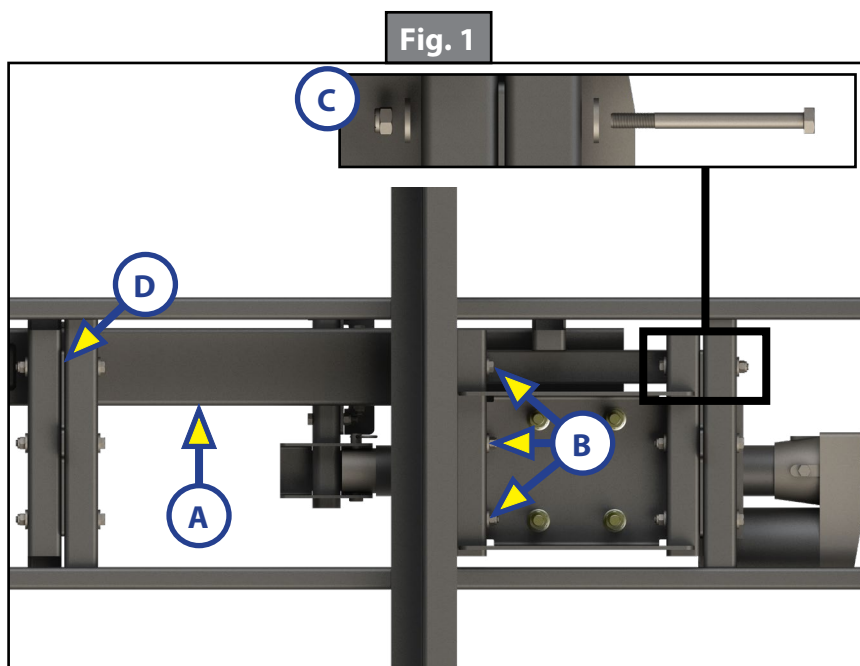
NOTE: Make sure that the rear ramp door is closed and locked into the cinch latch before beginning the installation procedure.

1. Install the drive mechanism (Fig. 1A) to the underside of the chassis by lining up the pre-existing holes in the chassis with the holes in the drive mechanism and secure it using nine $\frac{5}{16}$ " - 18 x 3 $\frac{3}{4}$ " hex bolts and nine $\frac{5}{16}$ " - 18 nylon lock nuts (Fig. 1B). Use $\frac{5}{16}$ " washers on both the bolt and the nut (Fig. 1C).

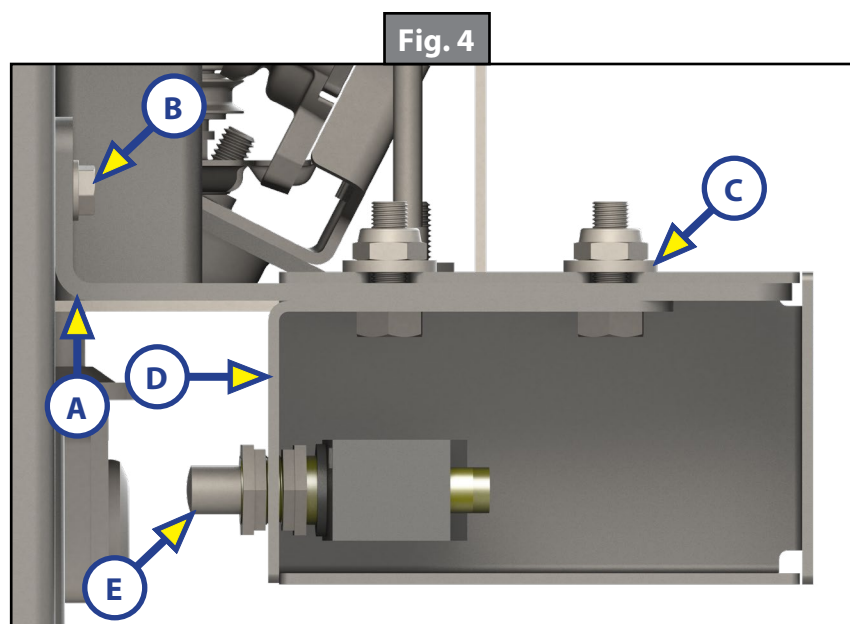
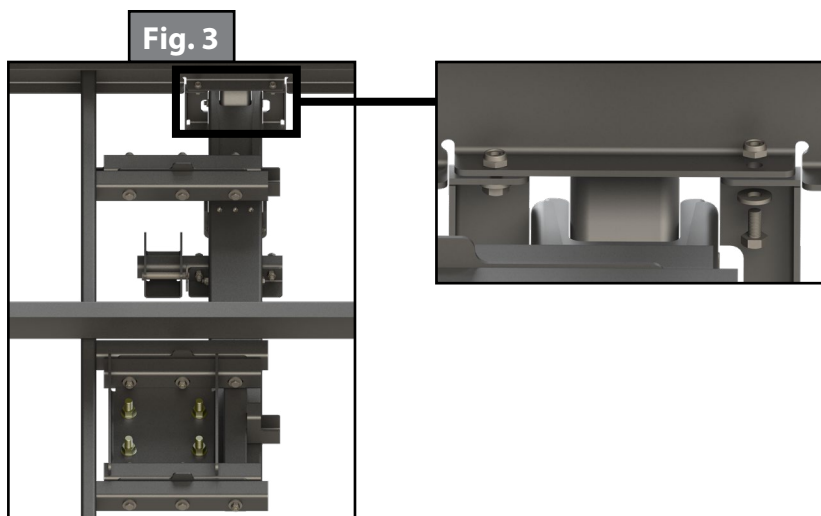
NOTE: If necessary, use a rubber mallet or hammer to drive the bolts through the holes.

NOTE: Before tightening the $\frac{5}{16}$ " bolts, insert the shims between the tubes (Fig. 1D).

2. Install the door weldment push hinge (Fig. 2A) to the door using four $\frac{3}{8}$ " - 16 x 2 $\frac{3}{4}$ " carriage bolts and four $\frac{3}{8}$ " - 16 nylon lock nuts (Fig. 2B).



3. Secure the front portion of the drive mechanism to the bumper using two $\frac{1}{4}$ " - 20 x $\frac{1}{2}$ " bolts with washers and two $\frac{1}{4}$ " - 20 nylon jam nuts (Fig. 3).
4. Install the limit switch mounting brackets (Fig. 4A) just above the door jamb with a 10 - 16 x $\frac{5}{8}$ " self-tapping flange screw (Fig. 4B). Using two $\frac{1}{4}$ " - 20 x $\frac{3}{4}$ " bolts, two $\frac{1}{4}$ " - 20 nylon lock nuts, and two $\frac{1}{4}$ " flat washers (Fig. 4C), situate the limit switch box (Fig. 4D) and tighten in such a position that the door pushes in the switch (Fig. 4E) when closed.

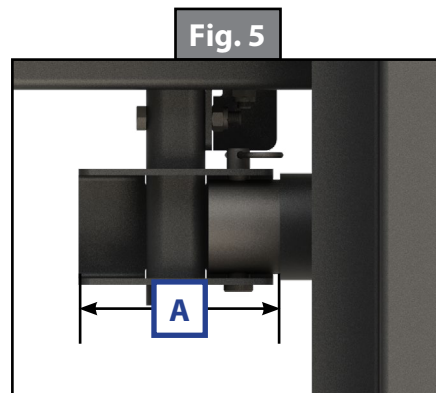


NOTE: If necessary, slide the limit switch box forward or backward along the mounting bracket before tightening.

NOTE: It is important to make sure that both limit switches press in evenly so that they stop both motors at the same time.

NOTE: Actual wire colors can be different dependent on the OEM.

5. Wire the system according to the wiring diagram (Fig. 9):
 - A. Run red from battery main power (Fig. 9A) to BATT+ (Fig. 9B) on solenoid 8AWG 105C Rated with 70amp protected recommend thermobreaker.
 - B. Run black from battery main power to BATT- (Fig. 9C) on solenoid 8AWG 105C Rated.
 - C. Run red from battery main power to key switch (Fig. 9D) 16AWG 105C Rated with 15amp protected recommend thermobreaker.
 - D. Run red from key switch to rocker switch (Fig. 9E) 16AWG 105C Rated.
 - E. Run green from rocker switch to T2 (Fig. 9F) on solenoid 16AWG 105C Rated.
 - F. Run white from rocker switch to T1 (Fig. 9F) on solenoid 16AWG 105C Rated.
 - G. Run 1x red from MTR FWD (Fig. 9G) on solenoid to EACH motor 10AWG 90C Rated with 30amp protected recommend thermobreaker.
 - H. Run purple from MTR REV on solenoid to Left Limit Switch COM (Fig. 9H) 10AWG 90C Rated.
 - I. Run blue from MTR REV on solenoid to Right Limit Switch COM (Fig. 9H) 10AWG 90C Rated.
 - J. Run 1x black from each motor to corresponding Limit Switch (Fig. 9I) NC 10AWG 90C Rated.
 - K. Run 1x black and green on each limit switch (Fig. 9J) 10AWG with 30amp Diode. Black end runs to the NC port on the limit switch and green end runs to the COM port on the limit switch.
6. If a cinch latch is being used, refer to cinch latch wiring diagram (Fig. 10):
 - A. Run cinch latch power harness (Fig. 10A) from main battery power to cinch latch controller 10AWG 90C Rated with a 30A Fuse.
 - B. Run cinch latch harness (Fig. 10B) from cinch latch to cinch latch controller.
 - C. Run key/LED harness (Fig. 10C) as follows:
 - I. Run red (Fig. 10D) to LED power.
 - II. Run green (Fig. 10E) to LED ground.
 - III. In place of step 5C, run red (Fig. 10F) to key switch.
 - IV. In place of step 5D, run purple (Fig. 10G) to key switch.
 - D. Run red from main battery power to 30 on OEM-provided relay (Fig. 11A) 16AWG 105C Rated.
 - E. Run black from battery main ground to 85 on OEM-provided relay (Fig. 11B) 16AWG 105C Rated.
 - F. Splice purple on key switch (from Step 6C.IV) to another purple and run to 86 on OEM-provided relay (Fig. 11C) 16AWG 105C Rated.
 - G. Run red from rocker switch to 87 on OEM-provided relay (Fig. 11D) 16AWG 105C Rated
 - H. Wires from Cinch Latch Controller are provided with the Controller from IDS
7. Once wired, open and close the door and make sure that both limit switches press in evenly and stop the motors at the same time. Then, make sure that both motors are calibrated equally by measuring from the front of the drive mechanism to the tube that the jack extends out of (Fig. 5A) and validating that both motor measurements are within $\frac{3}{16}$ " of each other.



Operation

Extending - With Cinch Latch

1. Insert the key into the system key switch (Fig. 6).
2. Activate power to the drive system by turning the key to the "on" position. This will cause the cinch latch to release the door.

⚠ CAUTION

The system is not built with a preventative measure from overdriving the system. Failure to stop extending the door when it reaches the ground could result in damage of the product or personal property.

3. Press and hold the EXTEND button (Fig. 7A) on the rocker switch (Fig. 7) or keyfob until the door reaches the ground.
4. When the door reaches the ground, release the rocker switch/keyfob.
5. Turn the key to the "off" position.
6. Remove the key from the system key switch.

Fig. 6

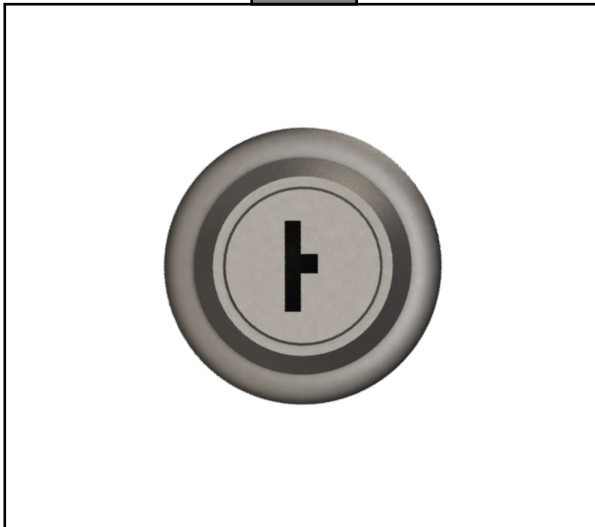
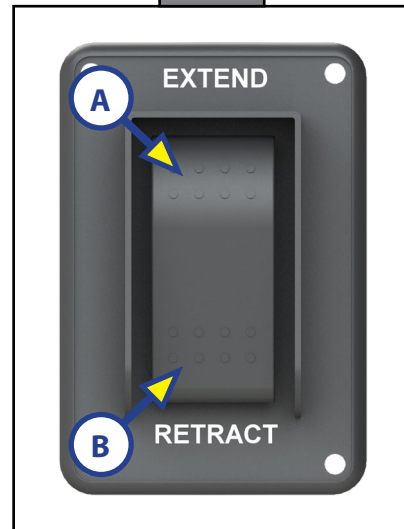
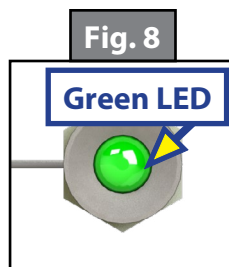


Fig. 7





Retracting - With Cinch Latch

1. Insert the key into the system key switch (Fig. 6).
2. Activate power to the drive system by turning the key to the "on" position.
3. Press and hold the RETRACT button (Fig. 7B) on the rocker switch or keyfob until the door closes.

NOTE: When the door is closed, the drive system will stop on its own.

NOTE: Watch the drive mechanism arms to verify that they stop when the door is closed. If they do not stop, release the rocker switch and check that the limit switches have not shifted position.

4. When door is cinched, the LED will light green (Fig. 8) signifying a proper cinch.
5. Turn the key to the "off" position.
6. Remove the key from the system key switch.

Extending - Without Cinch Latch

⚠ CAUTION

Failure to unlock and move the bar latches or cam latches into their "open" position could cause damage to the system or personal property.

1. Unlock the bar latches or cam latches and move them into their "open" position.
2. Insert the key into the system key switch (Fig. 6).
3. Activate power to the drive system by turning the key to the "on" position.
4. Press and hold the EXTEND button on the rocker switch or keyfob until the door reaches the ground.

⚠ CAUTION

The system is not built with a preventative measure from overdriving the system. Failure to stop extending the door when it reaches the ground could result in damage of the product or personal property.

5. When the door reaches the ground, release the rocker switch/keyfob.
6. Turn the key to the "off" position.
7. Remove the key from the system key switch.

Retracting - Without Cinch Latch

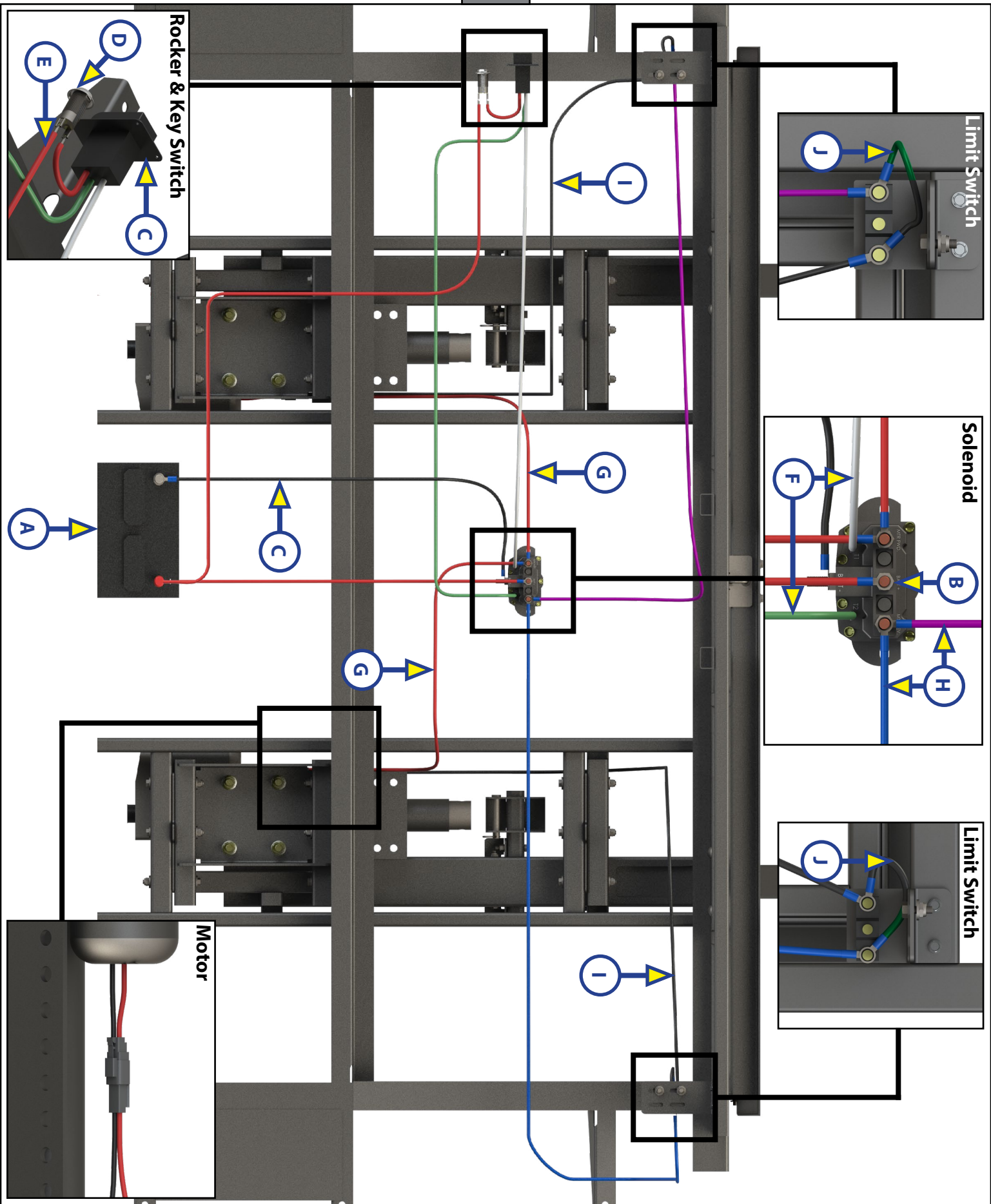
1. Insert the key into the system key switch (Fig. 6).
2. Activate power to the drive system by turning the key to the "on" position.
3. Press and hold the RETRACT button on the rocker switch or keyfob until the door closes.

NOTE: When the door is closed, the drive system will stop on its own.

NOTE: Watch the drive mechanism arms to verify that they stop when the door is closed. If they do not stop, release the rocker switch/keyfob and check that the limit switches have not shifted position.

4. Turn the key to the "off" position.
5. Remove the key from the system key switch.
6. Move the bar latches or cam latches into their "closed" position and lock them.

Fig. 9



Cinch Latch Wiring Diagram (Optional)

Fig. 10

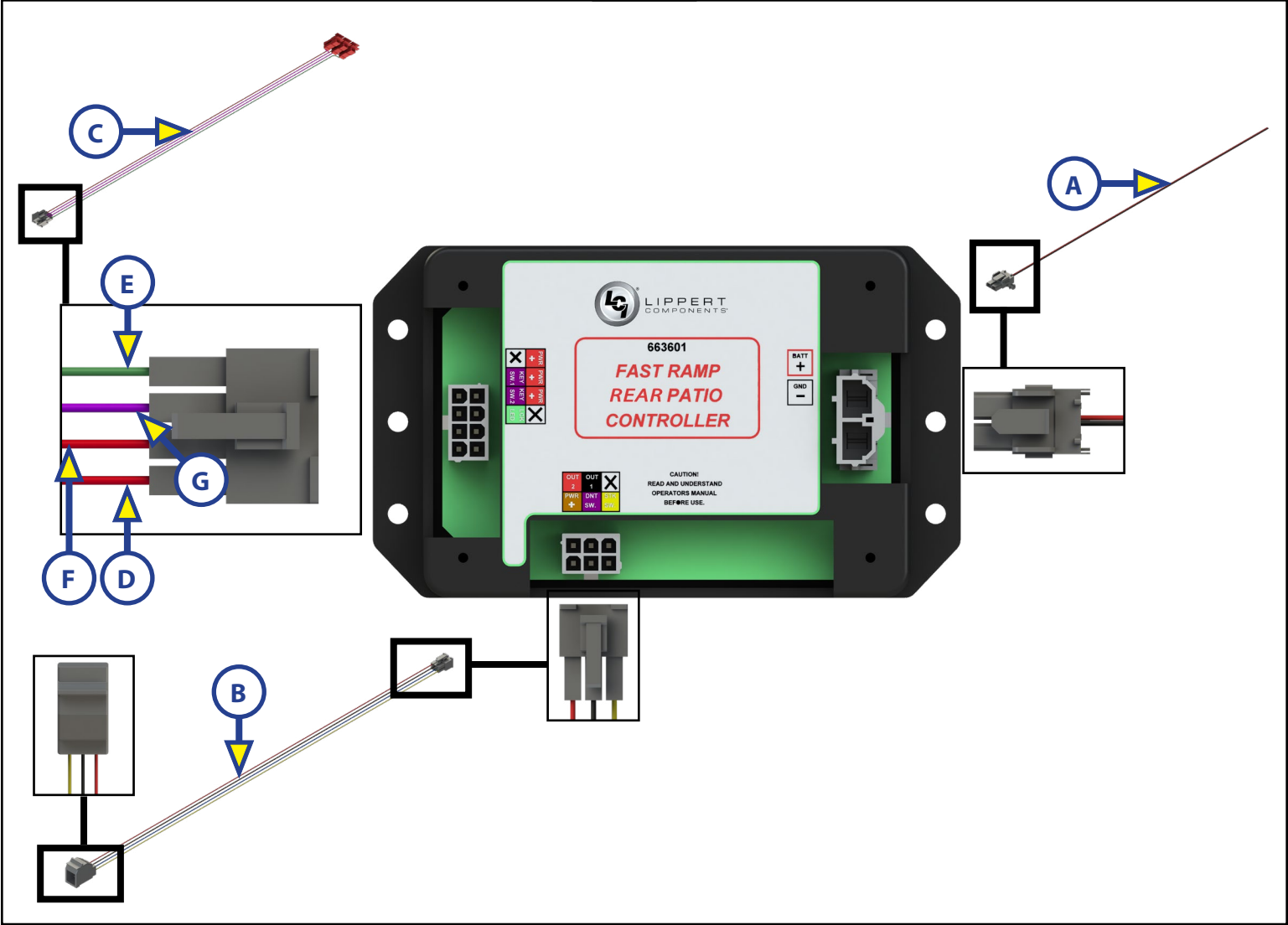
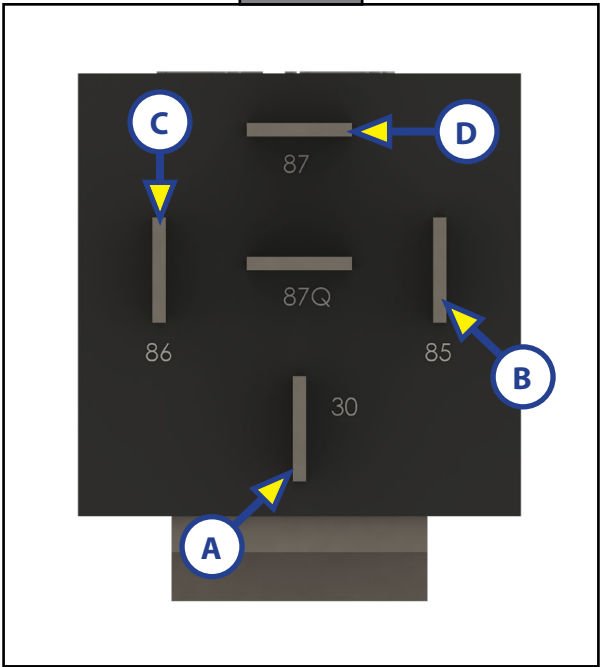


Fig. 11





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