

Kwikkee[®] PRODUCTS

by  Lippert Components[®]

KWIKKEE[®] ELECTRIC STEP OEM INSTALLATION MANUAL

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Introduction

This manual provides instructions for installation of Kwikkee® Electric Steps, which are equipped with a step lockout switch, control unit and permanent magnet motor onto a motorized coach. This manual does not apply and should not be used as a reference to previous versions of a Kwikkee® Electric Step.

The control unit is a current sensor as well as a switching device. When the motor assembly moves the step tread to its extended position, or stops moving because of an obstruction such as a curb or the binding of a damaged or bent step frame, the motor draws a larger amount of current. The control unit senses the larger current draw and shuts off the power to the motor.

Control units are equipped with an ignition override system. This system is designed so the vehicle will not be driven with the step in the extended position. When the step is locked in the extended position, the door closed, and the ignition is turned on, the ignition override system will engage and the step will automatically retract.

The Auto Extend feature is another safety feature designed to extend the step when the door is opened for the first time after the vehicle ignition is turned off, regardless of the position of the step switch.

Safety

Read and study the manual before operating the steps. Adhere to all safety labels.

This manual provides general instructions. Many variables can change the circumstances of the instructions, i.e., the degree of difficulty, operation and ability of the individual performing the instructions. This manual cannot begin to plot out instructions for every possibility, but provides the general instructions, as necessary, for effectively interfacing with the device, product or system. Failure to correctly follow the provided instructions may result in death, serious personal injury, severe product and/or property damage.

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

Failure to follow instructions provided in this manual may result in death, serious personal injury and/or severe product and property damage, including voiding of the component warranty.

CAUTION

The “CAUTION” symbol above is a sign that a safety risk is involved and may cause personal injury and/or product or property damage if not safely adhered to and within the parameters set forth in this manual.

⚠ CAUTION

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

⚠ CAUTION

Always wear eye protection when performing service, maintenance or installation procedures. Other safety equipment to consider would be hearing protection, gloves and possibly a full face shield, depending on the nature of the task.

Resources Required

- Cordless or electric drill or screw gun
- Four 3/8" bolts, Grade 5 minimum; length determined by application
- Eight flat washers
- Four locknuts

Installation

1. Use a 12V power source to extend the steps in order to access the mounting holes in the top plate of the step.

⚠ CAUTION

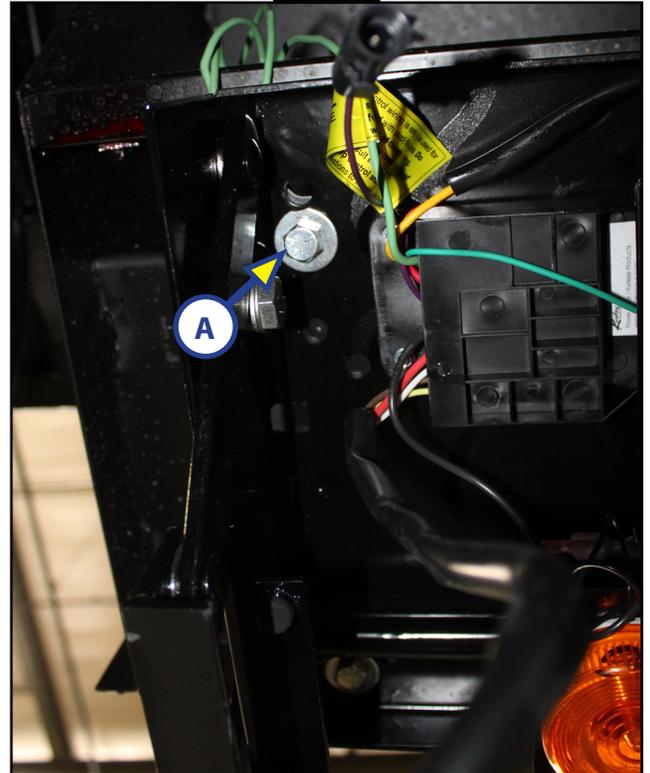
Stand to the side of the step during this operation to avoid the moving parts.

2. Place steps under the pre-drilled holes in the chassis (Fig. 1A).
3. Install fasteners in the steps, including one in each corner. Place a washer between the bolt head and mounting location (Fig. 2A) and another washer on the other side of the mounting location next to the locknut.
4. Firmly tighten the fasteners.

Fig. 1



Fig. 2



⚠ WARNING

Step control wiring is only to be used for step and step light (provided with the step) functions. Do not splice, cut or tap into any of the step wiring. Failure to heed this warning may result in voiding of the warranty and/or failure of the step control, which may result in the loss of step function or fire in the step control.

5. Connect harness to step wires (Fig. 3).
6. Install ground wire to chassis (Fig. 4). The ground wire should be located so that wires will not need to be cut if the step is removed.

NOTE: The remaining purple wire is for an optional porch light (Fig. 5). See Wiring Diagram for Optional Light.

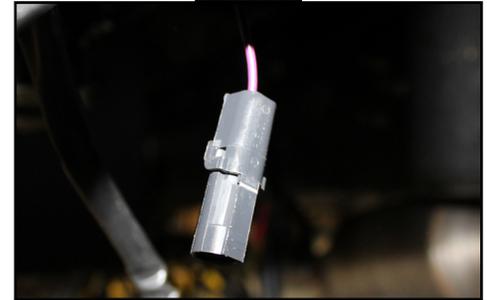
Fig. 3



Fig. 4



Fig. 5



7. Install magnetic switch on the latch side of the door frame, with the magnet on the door (Fig. 6).
8. Connect wires from the step switch to the battery disconnect switch (Fig. 7). See Wiring Diagram for Step With Control Unit.

NOTE: Appearance of switches may vary depending on OEM.

9. Install warning sticker in a visible location on the inside of the door (Fig. 8). The yellow warning sticker reads: "This vehicle is equipped with a Kwieke automatic electric step. Turning the ignition switch to the "ON" position while the vehicle is parked will cause the step to retract. Visually confirm that the step is fully extended prior to exiting the vehicle. BE SAFE - LOOK BEFORE YOU LEAP!"

Fig. 6

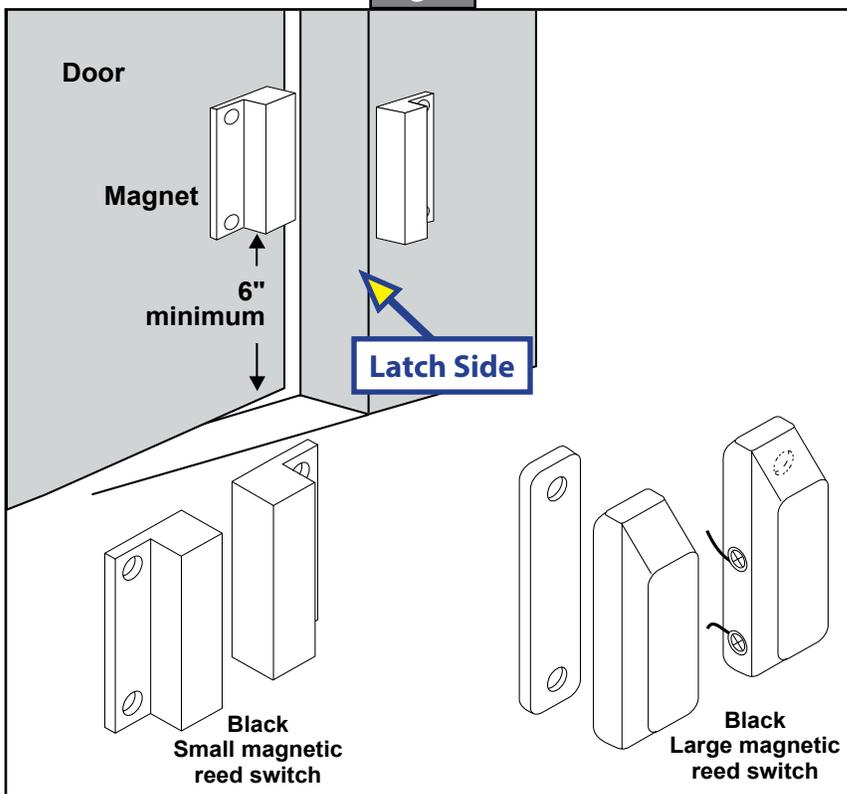
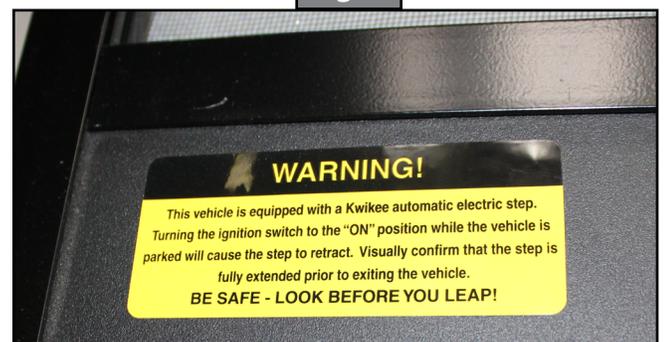


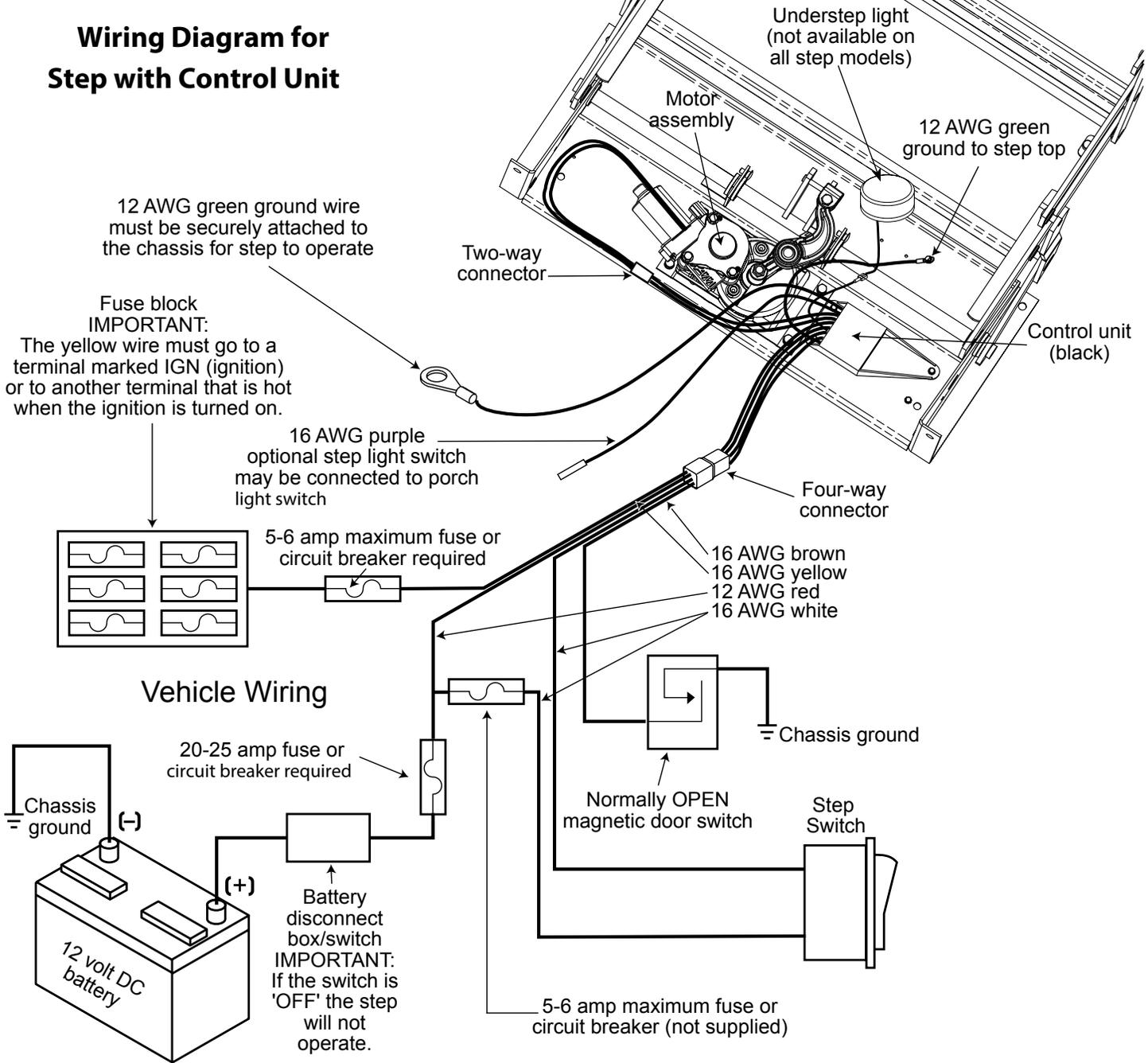
Fig. 7



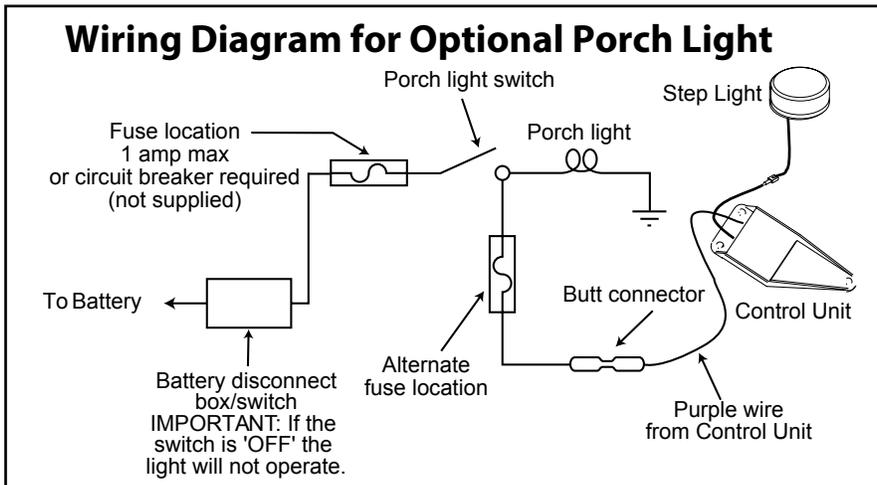
Fig. 8



Wiring Diagram for Step with Control Unit



Wiring Diagram for Optional Porch Light



Operation

CAUTION

Stepping on a partially extended step may cause damage to the step frame. Do not use the step until the step is fully extended.

CAUTION

If the vehicle is driven with the step in the extended position, product and/or property damage may occur.

Step with Control Unit

1. After the installation is complete and with the entrance door open, turn the step override switch to the off position.

NOTE: Some steps are not equipped with a step override switch. They are activated only with a door switch.

2. Close the door. The step should retract and lock in the up position. If equipped with an under-step light, the light will be off.
3. Open the door. The step should extend and lock in the down position. If equipped with the under-step light, the light will be on.

If so equipped, the under-step light operation is as follows: The light is on when the step is extended and the light is off when the step is retracted.

NOTE: In the event the coach door/screen door is left open, the light will turn off after five minutes.

4. If the step is equipped with a step override switch, turn it to the on position. The step should remain in the extended position with the under-step light off when the door is closed.
5. With the step override switch turned on, the step extended and the entrance door closed, turn the vehicle ignition on. The ignition override system will go into effect and the steps will automatically retract.

NOTE: If the yellow wire from the four-way connector is not connected to an ignition power source, the ignition safety system will be inoperative and the step will remain in the extended position. In this case, the step override switch **MUST** be turned off for the step to retract.

6. Turn the vehicle ignition off and open the door. The step will extend and lock in the down position. This is the Auto Extend feature. When the vehicle ignition is turned on, the step will activate with the door movement, regardless of the step override switch position.

Troubleshooting

WARNING

The 12V DC automotive battery contains sulfuric acid which can cause severe burns. Avoid contact with the skin, eyes and clothing. The automotive battery also produces hydrogen gas which is explosive. Keep cigarettes, open flames and sparks away from the battery at all times.

CAUTION

Keep fingers, arms, and legs clear of step mechanism while performing these tests.

If the power wire to the step is disconnected from its source and then reconnected, a spark is common. This is caused by the momentary charging of the control unit and does not necessarily indicate the system is staying on, which would cause a drain on the battery.

Make sure that all ground connections are securely fastened with good metal-to-metal contact. A good ground is required for proper step operation.

If battery drain is suspected, observe the under-step light, if so equipped, while the step is extending. The override step switch must be off for the under-step light to operate.

To determine if a control unit is not shutting off, which would also cause a drain on the battery:

1. Remove the four-way connector to the chassis and the two-way connector between the step motor and the control unit. See Wiring Diagram for Step With Control Unit.
2. Place a voltmeter between the red and yellow motor wires at the two-way connector from the control unit. Reconnect the four-way connector.
3. Turn the step override switch on. If any voltage registers on the voltmeter for more than five seconds, the control unit is not shutting off and may be defective.

NOTE: When doing this test, switch the voltmeter leads back and forth between the red and yellow motor wires to make sure no voltage registers.

4. If any voltage does register, disconnect the four-way connector to keep the step motor from overheating.
5. If no voltage is present, the control unit has shut off and is normal.

If the step assembly does not work or operates erratically, such as extending only part way and then shutting off, the first item that should be checked is the vehicle's battery. Low supply voltage may cause erratic operation of the step. Poor ground connections may also cause erratic operation of the step assembly. Check battery voltage and condition.

A battery in good condition that is properly charged will have a voltage reading of approximately 12.6 volts with no load. Check the voltage at the battery and then also at the four-way connector located on the control unit. Make sure that all battery and step control unit connections are clean and secured. Recharge or replace the battery as necessary, and then retest the step for proper operation.

The step assembly may also operate erratically if the step is being operated directly from a converter, where the output from the converter is not adequate or properly filtered for a clean DC voltage. The converter must be capable of producing a minimum of 30 amps for proper step assembly operation.

If the ground to the control unit is lost, either between the step control unit and the vehicle chassis (the long green ground wire) or between the vehicle battery and the ground (negative battery cable), the step will not function. Make sure the battery terminals and all wire connections are clean and tight. Verify that all wires meet the minimum requirements. See Wiring Diagram for Step With Control Unit.



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