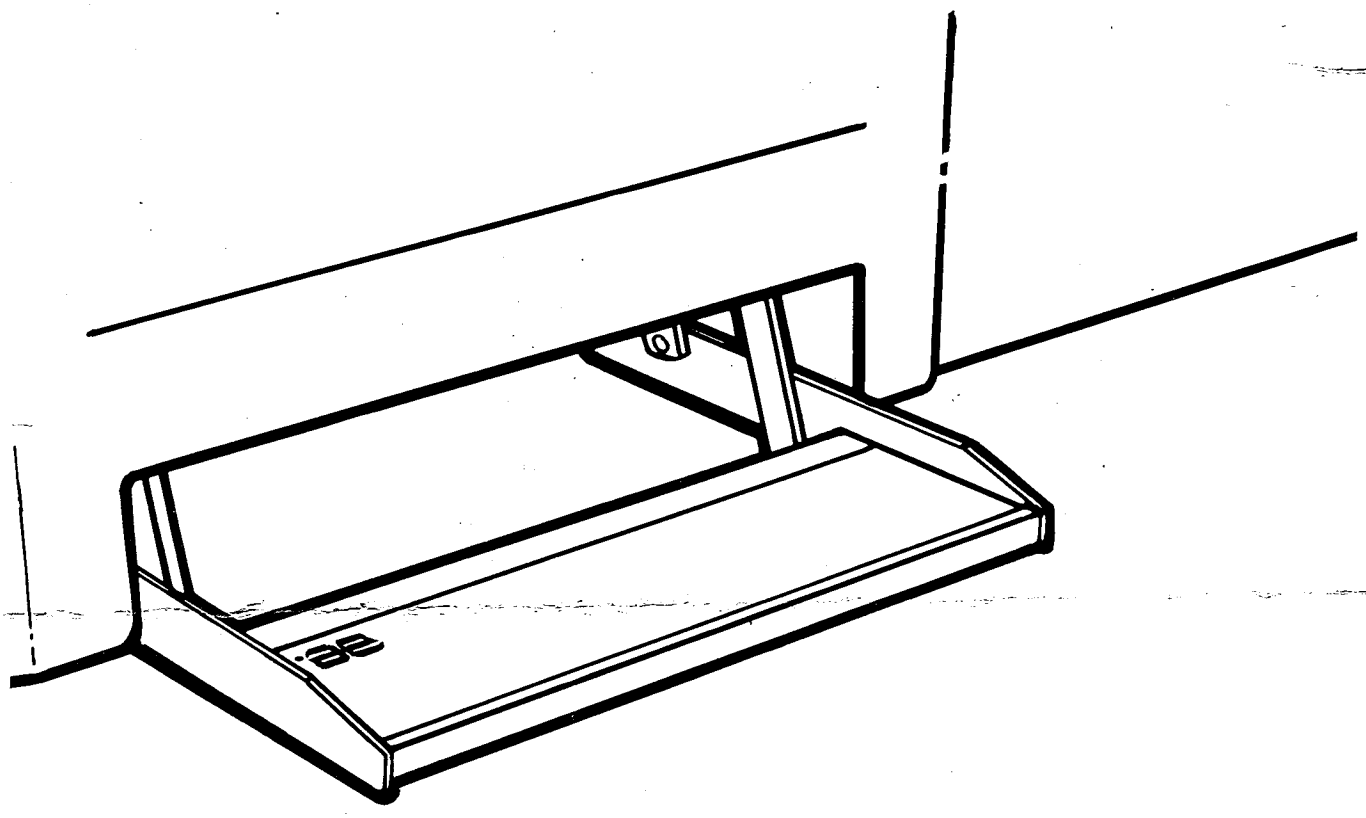
A&E SUPER STEP I

INSTALLATION/OPERATION MANUAL



164509-A88 SEPTEMBER 1988

Application

The A&E Super Step I is designed to fit motorhomes, travel trailers, and 5th wheel trailers. This instruction deals with the typical motorhome installation.

Because of the many differences in coach types and locations of vehicle components, the installation requirements will vary. These procedures are suggestions only.

IMPORTANT: Read the entire installation procedure before starting installation.

NOTE: The Dometic Corporation assumes no liability for damages or injuries resulting from installation or operation of this product.

The Dometic Corporation reserves the right to modify appearances and specifications without notice.

Contents:	Qty
Prewired Super Step I	1
Door Switch	1
Door Switch Recess Plate	1
ON/OFF Panel Switch	1

Tools Required:

- ☐ Electric Drill
- ☐ Phillips Screw Driver
- ☐ Drill Bits: 3/4", 7/16", 5/8", 13/64"
- ☐ Wrench or Socket: 9/16"
- ☐ Wire Cutters
- ☐ Tin Snips
- ☐ Wire Crimpers or Pliers

Additional Materials Needed:

- ☐ 4 Each – *3/8"-16 Hex Bolts (Length depends upon application)
- ☐ 12 Each – *7/16" I.D. Flat Washers
- ☐ 4 Each – *3/8"-16 Nylock Nuts
- ☐ 1 Each – 1/4" × 1/2" Self Tapping Screw
- ☐ 2 Each – 6/32" × 1/2" Self Tapping Screws
- ☐ 1 – 20-Amp Circuit Breaker
- ☐ #14 Gauge Wire
- ☐ #10 Gauge Wire
- ☐ Electrical Tape
- ☐ 3–1/4" Quick Disconnect Terminals for #10 Gauge Wire
- ☐ 2–1/4" Quick Disconnect Terminals for #14 Gauge Wire

***NOTE: Most vehicles already have four bolts for mounting steps, extending below the vehicle in the stairwell. If present, 3/8"-16 Hex Bolts will not be necessary.**

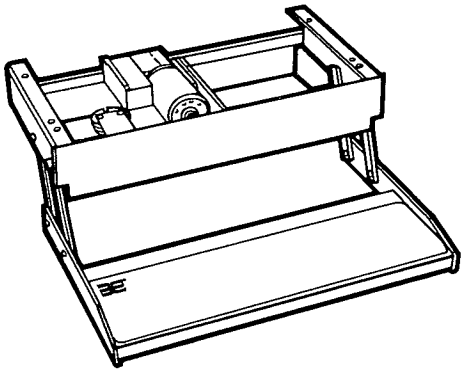
1. INSTALLATION OF STEP.

NOTE: Extend the step before installing.

A. Connect the ground (GREEN) wire from motor to the negative side of 12 VDC battery and connect a wire from the 12 VDC positive side of battery to the yellow Barrel connector on (RED) wire from door switch harness. This will extend the step to a "down" position. USE CAUTION – Super Step I takes only 1/2 second to extend.

Disconnect 12 VDC source from Super Step I.

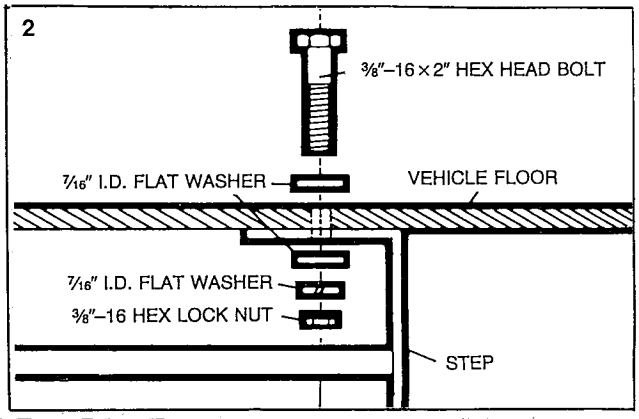
1



B. If there are no existing bolts in vehicle stairwell, use the holes in the Super Step I frame as a guide and mark the stairwell with the locations for the four bolts. Fig. 1.

NOTE: If mounting bolts already exist, proceed to Step 1D.

2



C. Lift carpet from the vehicle's interior stairwell. Drill four 7/16" holes at premarked positions on the underside of vehicle stairwell. Place a 7/16" I.D. Flat Washer on each Carriage Bolt and insert a bolt into each hole from inside vehicle. Replace carpet. Fig. 2.

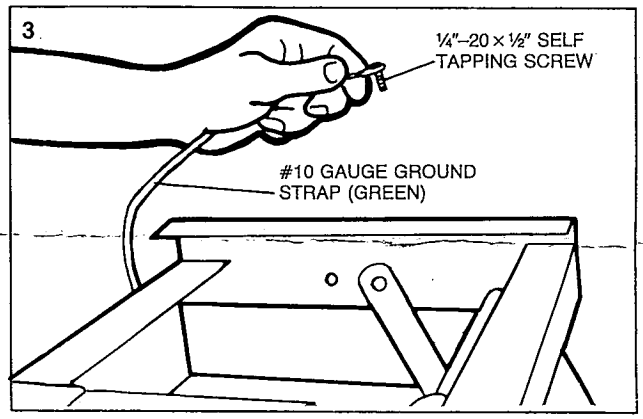
D. Position Super Step I so that front of Super Step I frame is next to vehicle side. Ensure Super Step I Motor has a minimum clearance of 1/16" from bottom of vehicle. If not, place enough 7/16" I.D. Flat Washers between Super Step I frame and vehicle body.

E. Secure Super Step I to vehicle by placing a 7/16" I.D. Flat Washer and 3/8"-16 Nylock Nut over bolt and tighten.

2. GROUND SUPER STEP I TO VEHICLE FRAME.

A. Locate 10 gauge green wire with ring connector attached to Super Step frame.

3



B. Drill a 13/64" hole in vehicle frame within reach of 10 gauge green ground strap wire. Fig. 3.

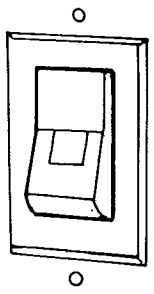
C. Place a 1/4"-20 × 1/2" Self Tapping Screw through Ring Connector and secure ground strap to frame.

NOTE: Be sure ground wire does not interfere with Super Step Motor Mechanism.

3. INSTALLATION OF ON/OFF PANEL SWITCH.

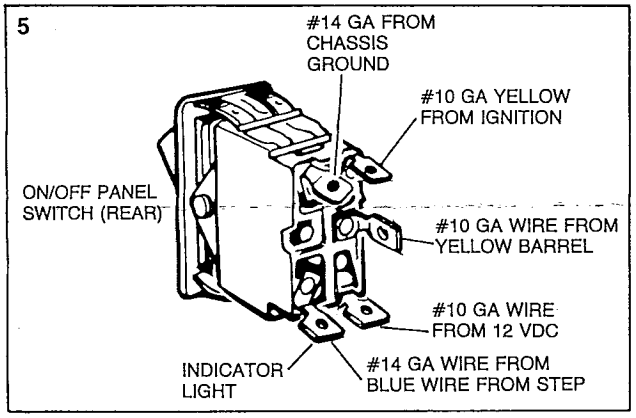
A. Choose a suitable location for the ON/OFF Panel Switch. Common locations are mounted in the dash or in a cabinet wall by the door. Fig. 4.

4



B. Using the provided template as a guide, mark and cut the indicated hole at the chosen location.

5



C. Connect the ON/OFF Switch as follows:

1. Run a 14 gauge wire between blue wire of Super Step Control Box to bottom left terminal of switch.
2. Run a 10 gauge wire from 12 Volt DC source to bottom right terminal of switch.
3. Run a 10 gauge wire from yellow Barrel Connector at Super Step Harness to middle terminal of switch.
4. Run a 10 gauge wire from vehicle ignition to upper right terminal of switch.

NOTE: Use ignition terminal that is live with ignition "ON".

5. Run a 14 gauge wire from a chassis ground to upper left terminal of switch.

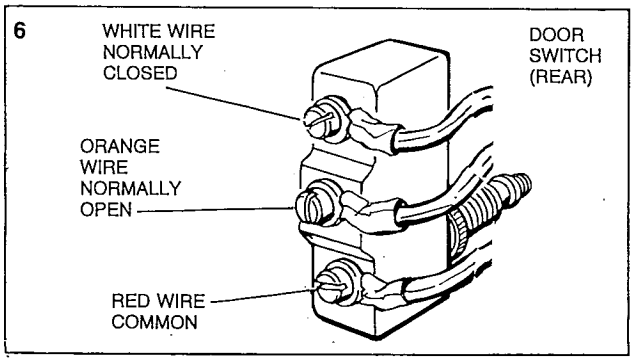
D. Slide ON/OFF Switch and connected wires into chosen location. Two side clips on switch should hold it in place.

4. INSTALLATION OF DOOR SWITCH.

A. The Door Switch (SPDT) should be installed on the hinge side of door frame above the fenderwell to protect it from weather.

B. Cut a hole at the chosen location in the door frame using the provided template as a guide.

6



C. Remove Super Step wire harness connections from rear of Door Switch and feed Wire Harness from Super Step through hole in door frame, cut in Step 4B.

D. Reattach Harness Wires to Door Switch as follows. Fig. 6.

1. Red Wire to Common
2. Orange Wire to Normally Open
3. White Wire to Normally Closed

CAUTION: Tighten Door Switch Terminal Screws securely. A loose connection could cause an electrical short or intermittent operation.

E. Place four layers of Electrical Tape over Terminal Screws to serve as insulation.

F. Insert Door Switch into hole in provided Mounting Plate. Switch button should extend through Mounting Plate with just enough thread to tighten nut.

G. Place Door Switch and Mounting Plate into hole in door frame.

H. Using Mounting Plate as a guide, drill two 7/64" holes for Mounting Screws. Secure Mounting Plate to Door Frame using two #6-32 Self Tapping Screws.

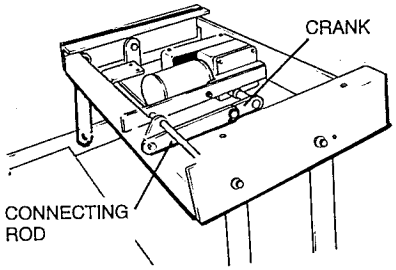
5. INSTALLATION OF CIRCUIT BREAKER.

A. A 20 amp self resetting Automotive Circuit Breaker should be installed on 10 gauge wire running from +12 Volt DC source to bottom right terminal of ON/OFF Panel Switch.

6. ADJUSTMENTS OF SUPER STEP.

NOTE: Minor adjustments might be required on rare occasions. If so please use the following procedures.

7



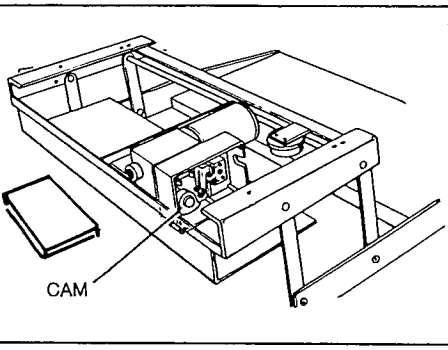
Battery voltage at Super Step I should measure between 11 and 13 Volts DC. Before proceeding to Step 1 for calibration, cycle step by opening and closing door. The step in "the out position" should be such that the connecting rod and crank on drive motor is in a straight line as shown in Fig. 7.

IF NOT, "THE FOLLOWING PROCEDURES MUST BE FOLLOWED FOR CALIBRATION."

A. Remove the cover of the control box.

WARNING: Power is on! Turn dash switch and ignition switch OFF when adjusting.

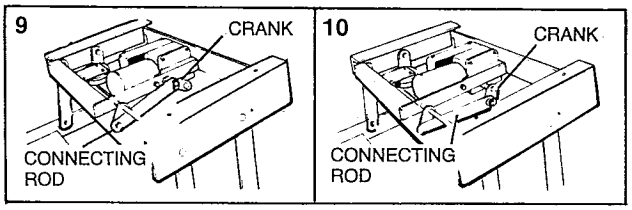
8



B. Using a ⅛ inch Allen wrench and loosen Allen screw (located on top of cam) Fig. 8.

If the step has stopped where the connecting rod and crank are in an "up position" Fig. 9.

Turn the cam counter-clockwise 1/16" or less at a time and cycle the step. Repeat Step B until connecting rod and crank stop in a position that looks like Figure 7 (in a straight line).



If the step has stopped where connecting rod and crank are in a "down position" Fig. 10. Turn the cam clockwise 1/16 inch or less at a time and cycle the step. Repeat Step B until connecting rod and crank stop in a position that looks like Figure 7 (in a straight line).

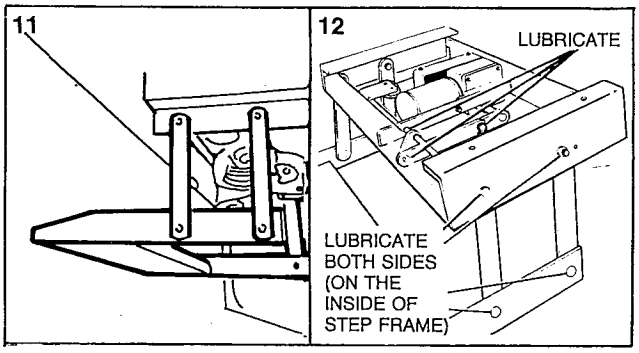
C. Tighten Allen screw on the cam.

NOTE: Be sure the (2) Microswitches® are centered on cam before tightening the Allen screw.

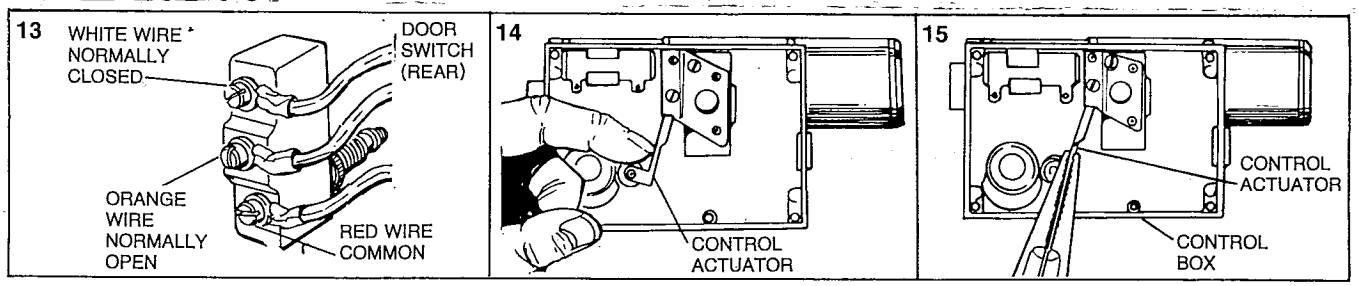
D. If Super Step will not adjust to allow crank and connecting rod to be perfectly straight, it is caused by inconsistent cycle. Check resistor in control box. If it stays cold when cycling, replace resistor and recalibrate Super Step.

E. Replace the control box cover.

7. LUBRICATION.



Lubricate all moving parts of the Super Step periodically (with every vehicle oil change). Use SAE 30 weight oil to lubricate all eleven points of movement as indicated in Fig. 12.



8. SUPER STEP I TROUBLESHOOTING.

WARNING: Ignition should be off while all troubleshooting takes place.

PROBLEM	CAUSE	CORRECTIVE ACTION
1. Super Step I cycles but will not stop.	1. Defective Door Switch.	1. **A.** Turn dash on/off switch on and off until step stops in a "down position." Disconnect power from step by turning off dash switch. **B.** Remove ORANGE wire from door switch as referenced in Figure 13. **C.** Take a 12 VDC power lead and touch the ORANGE wire. If step cycles to an up position and stops, replace defective door switch. If step continues to cycle proceed to step 2A.
	2. Motor Contact/ Switch actuating arm out of adjustment.	2. **A.** Reattach ORANGE wire to back of door switch in door frame. **NOTE: Be sure the screws on rear of door switch are secured tightly and covered with electrical tape to prevent shorting on metal.** **B.** Remove lid from control box, WITH POWER TO STEP AND IGNITION OFF, move motor control actuator, Fig. 14, back and forth. You should hear the switch click when actuator is pushed away from the cam. You should also hear the switch click again as actuator approaches within .060th of an inch or about the thickness of a dime, from the cam. If this does not occur, adjust switch actuating arm, Fig. 15. If Step still cycles move to 3.
	3. Motor Control Switch.	3. Replace.
2. Super Step jams or sticks.	1. Needs lubrication or blocked by mud or ice.	1. **A.** Cycle step to down position and turn off power on dash on/off switch. **B.** Hose off step to remove mud etc. **C.** Oil step at all points of movement. Cycle step several times to give oil a chance to penetrate.
	2. Binding.	2. **A.** If step still binds, disconnect connecting rod from the motor by removing cotter pin and washer using a large screwdriver as a pry bar. **B.** Cycle step by hand and check for binding point. **NOTE: Step should cycle back and forth by hand freely. If step binds observe point of friction and bend or straighten to alleviate.**
	3. Motor bad.	3. Remove motor drive assembly and return to A&E for service. **NOTE: Contact A&E for Return Authorization**