



ADVANCING
ALTERNATIVES

83-AUTO-LD

Installation Manual

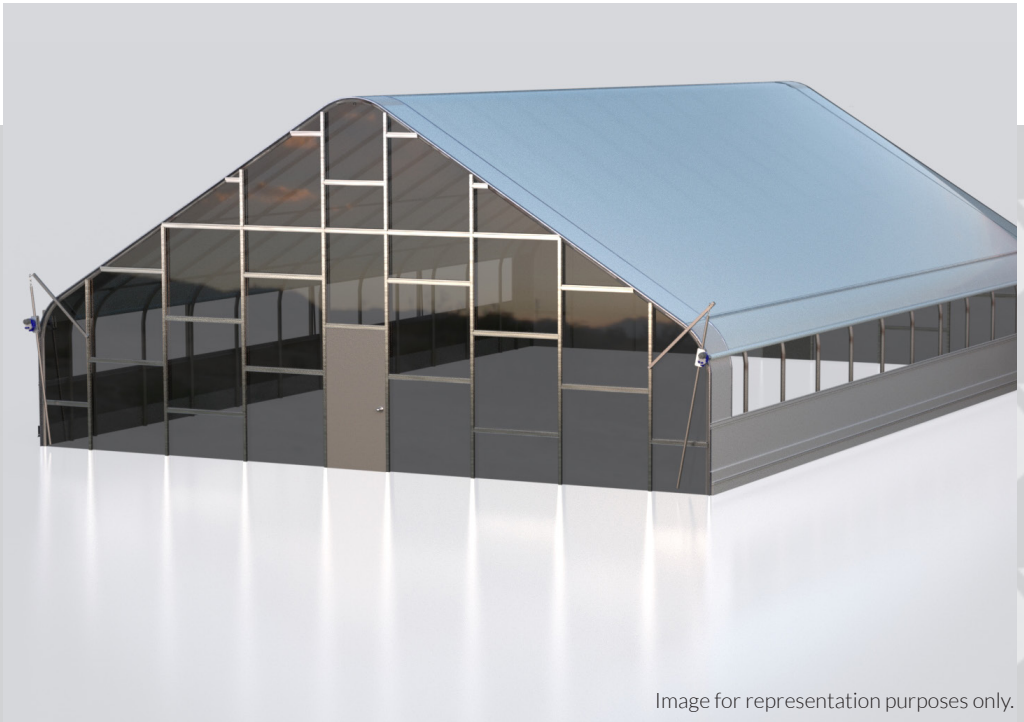


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83-Auto-LD

IMPORTANT SAFETY INFORMATION

For Safety and Warranty Purposes You Must Read This Document Before You Begin Assembly.

Thank you for purchasing this Advancing Alternatives light deprivation kit. When properly assembled and maintained, this product will provide years of reliable service. These instructions include helpful tips and valuable information needed to safely assemble and properly maintain your light deprivation kit. Please read these instructions thoroughly before you begin construction.

If you have any questions during the assembly, contact Technical Support at 1-877-546-2257 for assistance.

Important Safety Precautions

- Wear eye, hand and head protection at all times during the assembly.
- Use a portable GFCE (Ground Fault Circuit Interrupter) when working with power tools and cords.
- Do not occupy the greenhouse or attempt to install the light deprivation kit during high winds, tornadoes, or hurricanes.
- Provide proper ingress and egress to prevent entrapment.
- No part of this structure or system is engineered to function as an anchorage point for a fall arrest system.
- Stability during construction, from winds imposed during erection, is the sole responsibility of the installer. Wind can be sufficient enough to knock workers off scaffolding or a ladder, resulting in a potentially deadly fall.
- Observe safety codes required by your jurisdiction, and relevant safety practices for working at heights.
- Avoid the risk of electrical shock from overhead lines or electrical storms.
- Where required, all electrical connections must be in accordance with all state and local codes and preformed by a licensed qualified electrician.



WARNING

Failing to install system properly will void the manufacturer's warranty and may cause serious injury and damage.

IMPORTANT LOCATION AND SITE INFORMATION

Location Selection and Site Preparation

When choosing a location potential hazards should be identified. Proper preparation of the site is essential. The following site characteristics will help ensure the integrity of the structure.

- Always check local building codes prior to any site work or assembly construction.
- Never erect the telescoping arms under power lines.
- Identify whether underground cables and pipes are present before digging the holes where the telescoping arms will be installed
- Do not position the telescoping arms where large loads such as snow and ice, large tree branches, or other overhead obstacles could fall.
- If your greenhouse is installed on a slope, install the telescoping arms at the highest endwall on your structure. This ensures that water does not run down your light dep fabric and into your telescoping arms.



WARNING

The individuals assembling this system are responsible for designing and furnishing all temporary bracing, shoring and support needed during the assembly process. For safety reasons, those who are not familiar with recognized construction methods and techniques must seek the help of a qualified contractor.

SCOPE OF WORK

Process Overview

Following the instructions as presented will help ensure the proper assembly of your light deprivation kit. Failing to follow these steps may result in an improperly assembled light deprivation kit and will void all warranty and protection the owner is entitled. The steps outlined are designed to give a basic overview of the construction procedure. Each step is covered in greater detail in the corresponding section within this manual.

Process Outline

- Verify that all parts are included in the shipment.
- Read these instructions and corresponding materials included with your shipment thoroughly before beginning.
- Take all supplies, tools, equipment and personnel needed to the construction site prior to the build.
- Re-evaluate the location and site based on the information and precautions presented in the documentation.
- Do all location and site preparation work. Make any additional changes that may be necessary.
- Install light deprivation kit complete with operators, limit switches and electrical wiring.
- Install limit switches where applicable.
- Locate placement of and build a secure attachment point for light dep control unit.
- Install light dep control unit and all external override sensors.
- A qualified electrician must make all connections from the power supply to the light dep control unit. Electrician continues connecting all sensors and operators to the control unit.
- Set the parameters on the light dep control unit.
- Construction phase complete after clean up.

COMMONLY USED TERMS

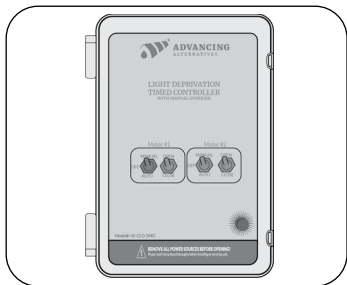
Words and Phrases

Before you begin, it is important to become familiar with the words and phrases used within this instruction manual.

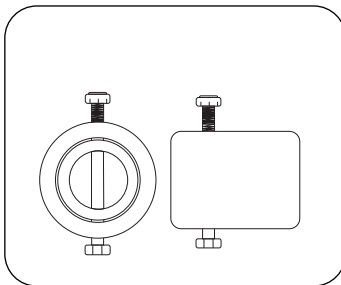
These words and phrases are common throughout the industry and help identify the different parts of the 83-Auto-LD system. To help identify the parts received in your shipment, read throughout the following definitions before beginning assembly.

1. Ground Posts: The two 2"x2" square posts that will be concreted into the ground
2. Telescoping Arm: The aluminum pipe with a 1" steel pipe that slides inside the aluminum pipe and attaches to your motor.
3. Timed Controller: The box with a transformer and timer that controls the Low Voltage Motors.
4. Low Voltage Motor: 24 VDC motor that connects to your existing roll bar
5. Adapters: The plastic spacers that insert into your existing roll bar and slide over the shaft of the Low Voltage Motor.
6. SJEOOW Wire is a 300V oil and water-resistant wire.

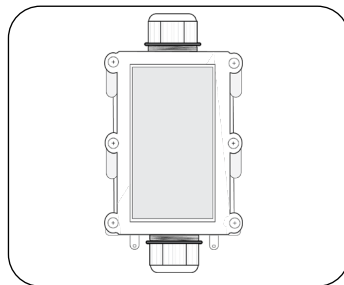
The following graphics will help you identify the different parts. (Some parts may not be shown.)



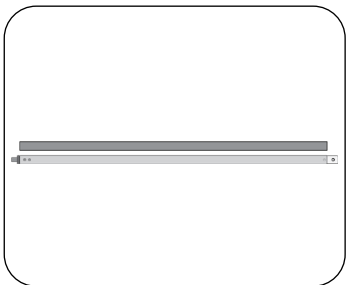
42-CLD-2MO



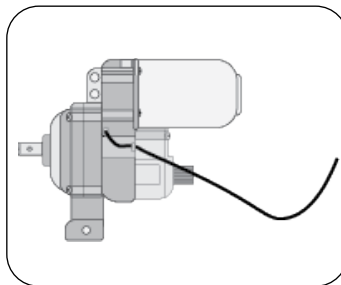
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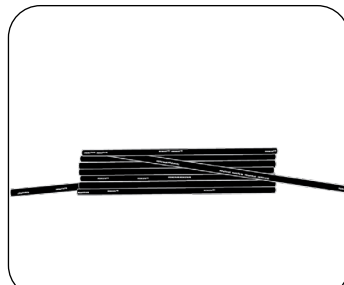
Junction Box



Telescoping Arms &
Ground Posts



61-LVM100



SJEOOW

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SECTION 1: Assembling 83-Auto-LD

Process Overview

It is assumed you have followed the previous instructions and know where you will install the ground posts and the telescoping arms. Assembling and installing the Light Deprivation Kit will require more than one person to complete. It is important to ensure that your structure is installed properly. Failure to do so could result in damage to the Light Deprivation Kit and your fabric or cause serious bodily injury or death.

Tools and Materials Required

1. 24 volt drill
2. String line or string chalk
3. 25' Tape measure
4. 6" quick Grip Clamps (2)
5. String and Plumb bob
6. Impact driver with 5/16" & 3/8" bits
7. Rubber mallet or Hammer
8. Sackrete or concrete
9. Dirt Shovel or post hole digger

Assembly Sequence

1. Ground Posts
2. Swing Arm Brackets
3. Telescopic Arms
4. LVM100s
5. Adapters
6. Junction Box
7. CLD
8. WIRING

ASSEMBLING THE 83-AUTO-LD

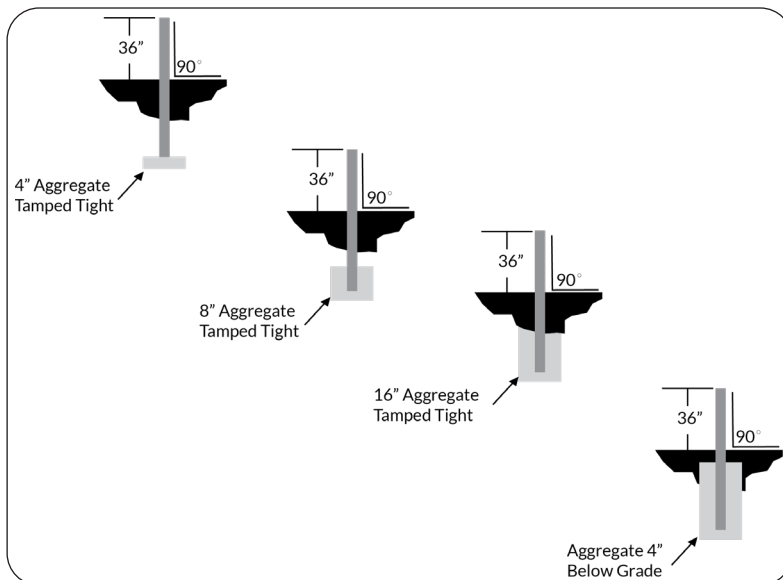
Setting Ground Posts

Procedure:

Each structure has a different profile, you will need to determine where to place the ground posts based on the width and curvature of your greenhouse. Existing doors, light traps, and exhaust fans may require you to position accordingly. A good starting point is 12" from your sidewalls and 8" off the end wall of your greenhouse.

Using an auger or post hole digger create a hole 6" in diameter and 40" below ground surface. Fill the hole with 4" of cement. The aggregate can be dry as the ground moisture will set the material up over time. Tamp the material flat in the bottom of the hole using a tamper or 4"x4" post. Set the base post into the hole and fill approximately 8" with aggregate material.

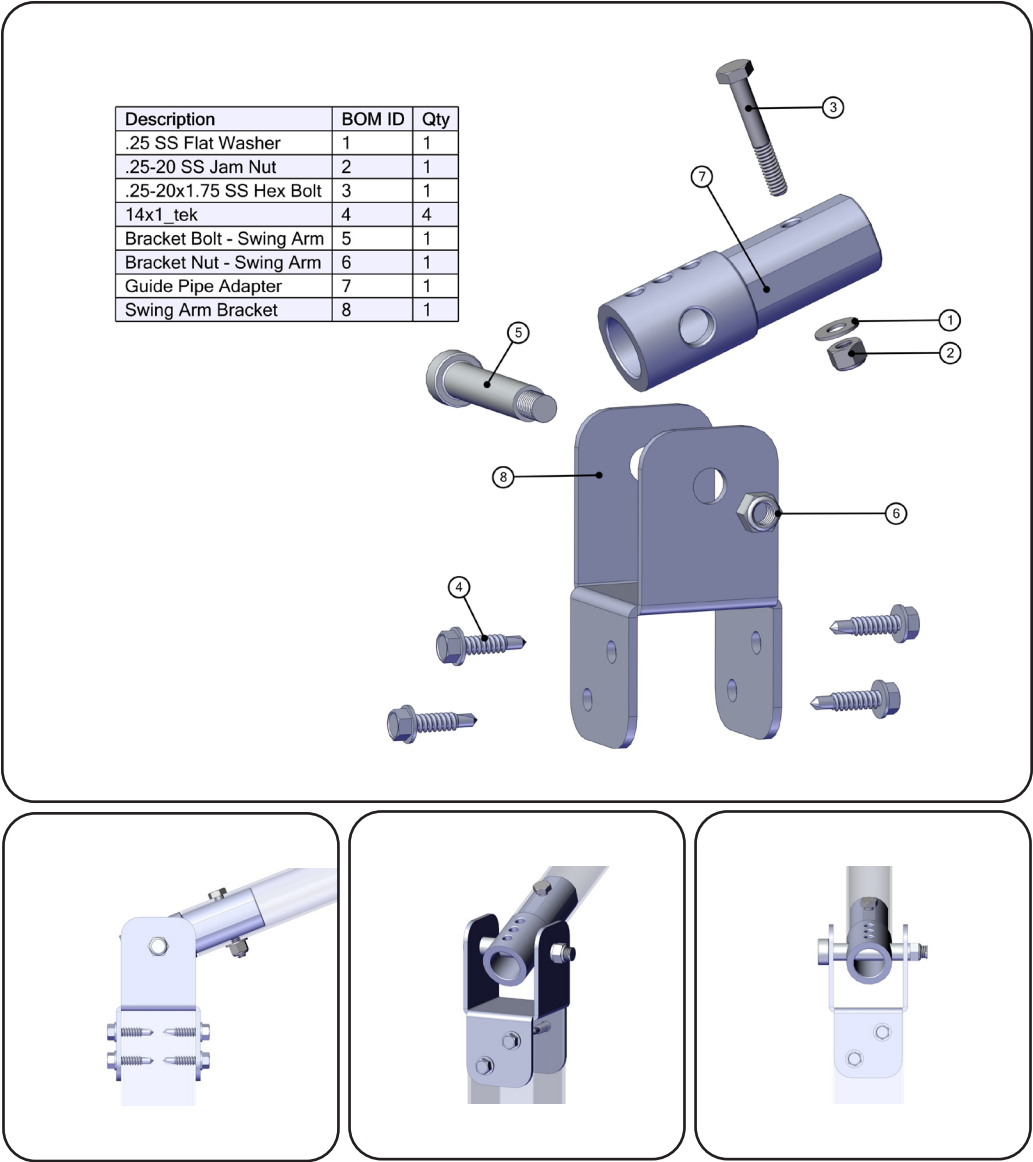
Using a transit, or other elevation measuring device make sure the top of the post is 12"-48" above ground level. With a level ensure the post is plumb. Hold the post steady as another tamps the 8" of aggregate and tamp tight. Check again that the elevation is plumb level. Continue to fill 8" at a time until the hole is filled with aggregate 3"-4" below ground level. Make certain the finished post sets 36" above ground level and is plumb level. The post should not move at this point given a reasonable amount of force.



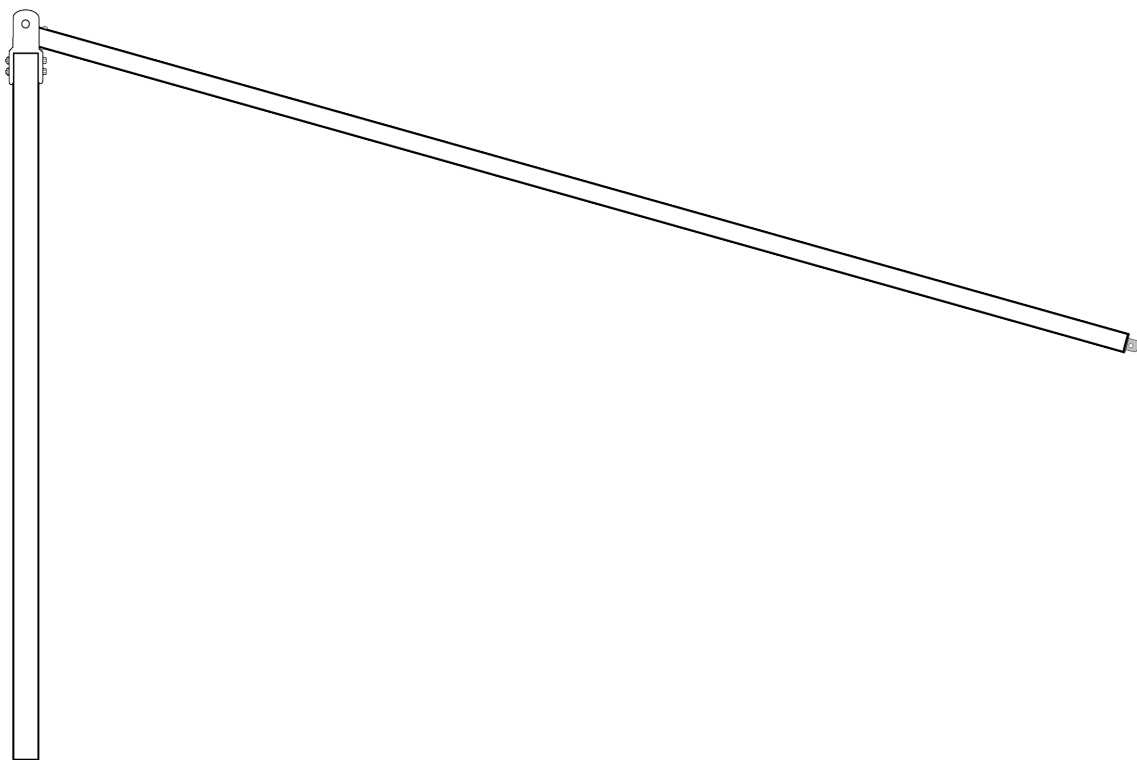
INSTALLING GUIDE PIPE SWIVEL BRACKET

Assemble and Install GPSBA

Procedure: See illustration

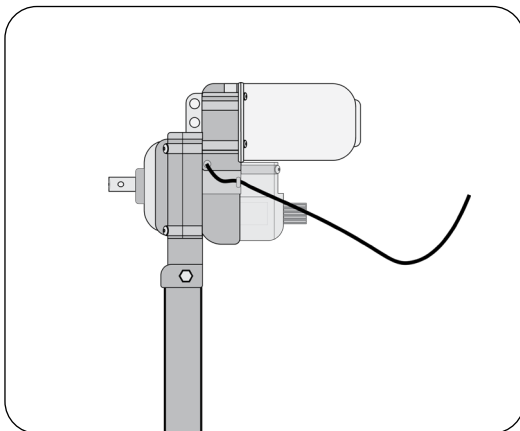
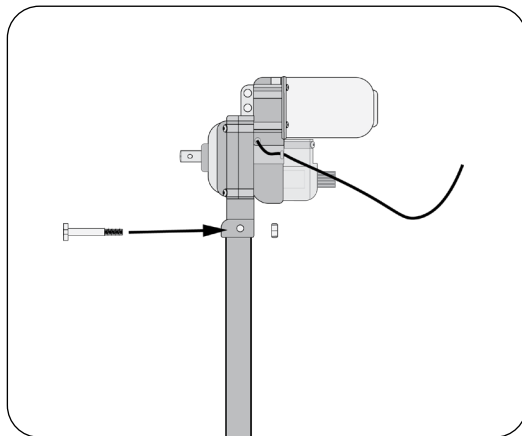
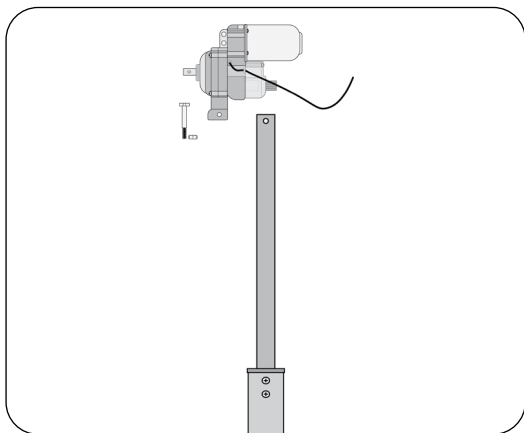


Telescopic arms



INSTALLING THE 83-AUTO-LD

Attaching LVM100's



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Setting up the LVM-100's

Tips:

- 24 VDC motors require a specialized power supply that transforms 110 volt (or 220 volt) power to 24 volt power. The voltage must also be converted from AC to DC
- Please Be Aware: APPLYING 110 VAC OR 220 VAC TO A LOW VOLTAGE MOTOR WILL IMMEDIATELY AND PERMANENTLY DAMAGE THE MOTOR AND VOID ANY WARRANTY

Procedure:

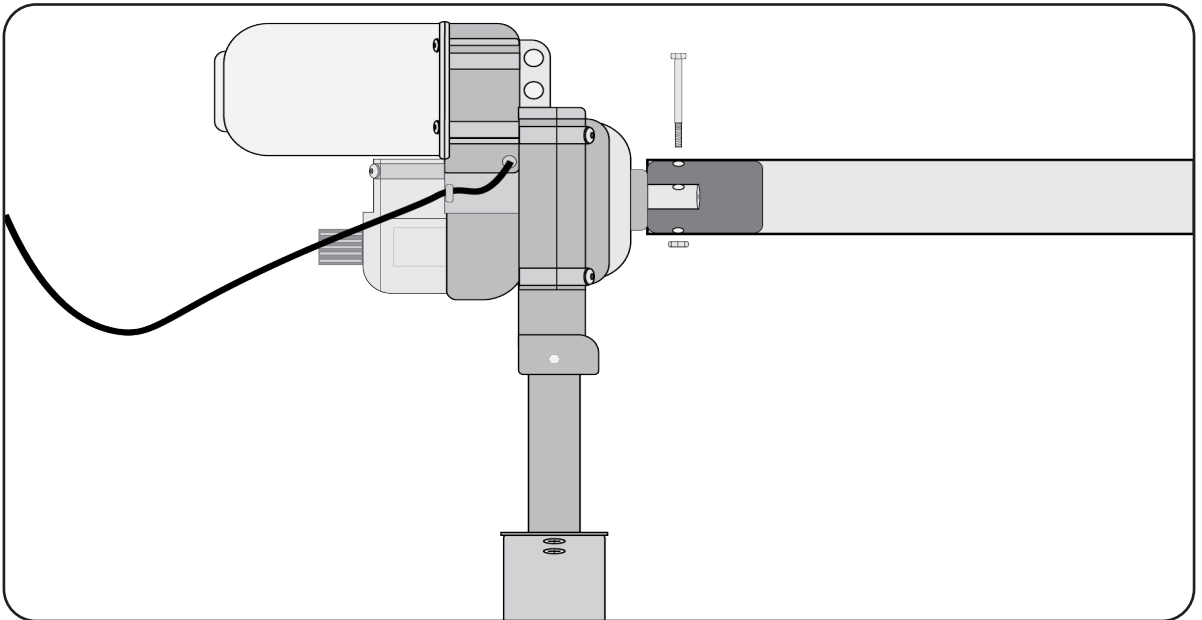
1. Adjustment knobs on the limit switch housing allows for setting each rotation extent. The moving of cams slightly away from their respective switches will result in short rotation "runs"
2. Use minor adjustments to become familiar with the motor directions, and the resulting movement of each adjustment. When powering the motor in one direction it will stop when the cam reaches and contacts the switch. (Reversing the motor wires within a junction box, at the controller or at the drill battery terminals, will change rotational direction.)
3. Reverse the direction, again, with minor adjustments. Make careful note of which knob will adjust each direction. Remember that moving the cam away from its switch will increase the number of rotations and therefore, the movement of your deprivation tarp.
4. As you approach the open or close extent of the ventilation asset, observe the component's travel and be sure to avoid collisions with the structure or other components. The motors are powerful and can cause damage, or even injury, if care is not taken.
5. Assure that the lock screws on both dials are tightened once all limit switch adjustments have been made.

INSTALLING THE 83-AUTO-LD

Attaching your Motors to your drive pipe

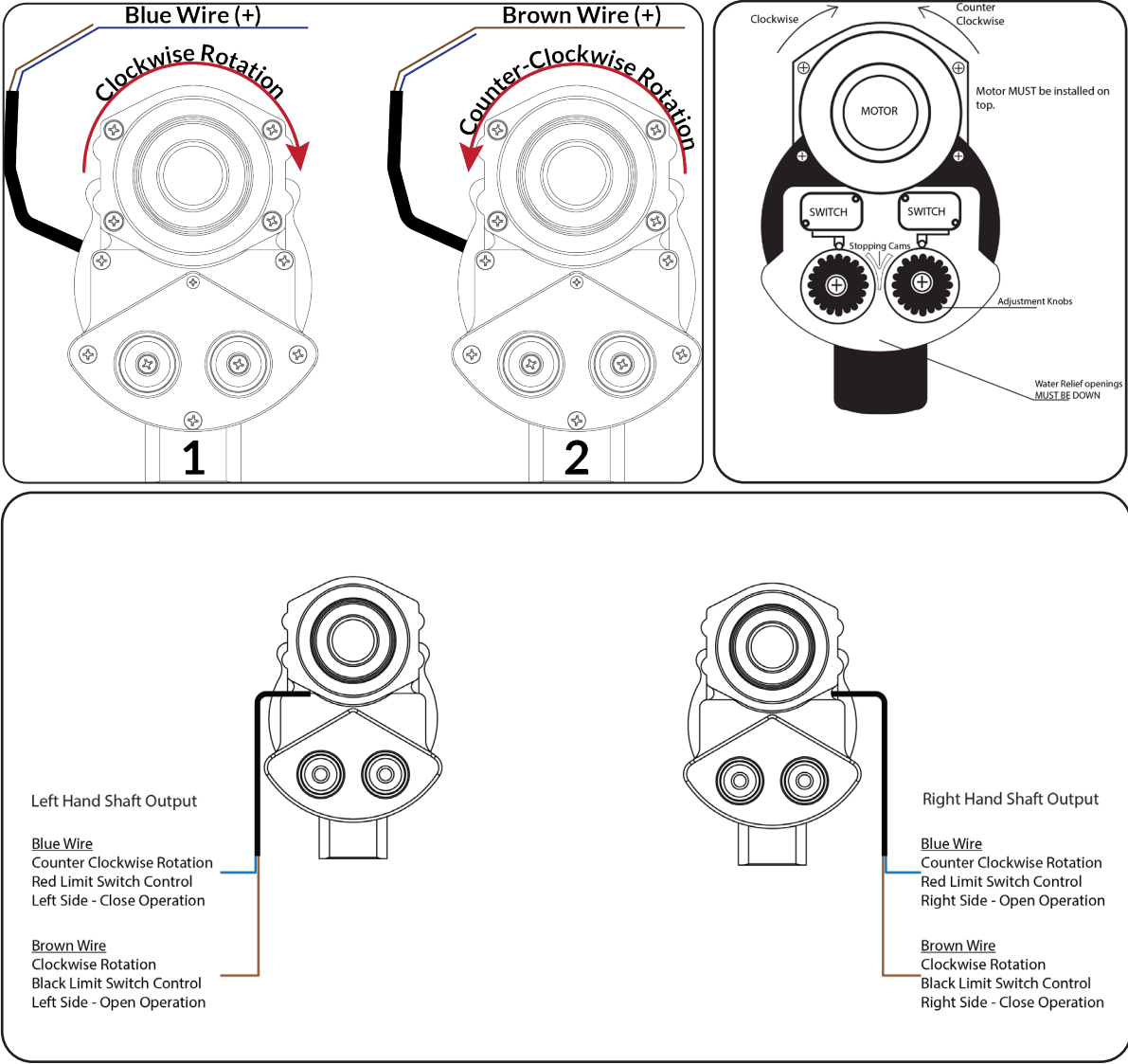
Procedure: Installing the Adapters

1. Included in your kit are two adapters, one that will fit into a 1.09 ID (inside diameter) and one that will fit inside a 1.48" ID (inside diameter). The 1.09 diameter is a standard 1.315" OD purlin pipe, and the 1.48" ID is a standard 1.66" purlin pipe and are the most commonly used roll bars in the industry. Advancing Alternatives also carries other adapters if these do not fit your light deprivation roll bar.
2. First slide the adapter into your pipe to confirm that it will fit, then drill a 5/16" hole through your pipe, through the hole in the adapter and out the other side of your pipe.
3. Next take the adapter back out and make sure all burrs are removed and confirm that the 5/16" bolt easily slides through your pipe and the adapter.
4. Now slide the adapter back into the pipe, insert the 5/16" bolt into your pipe and into the adapter enough to keep the adapter from sliding into your pipe.
5. Next slide the motor shaft into the adapter, lining it up with the hole you previously drilled.
6. And finally thread the 5/16" nut onto the bolt after you have slid it through the pipe, adapter, shaft and back out the other side.



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Setting up the LVM-100's

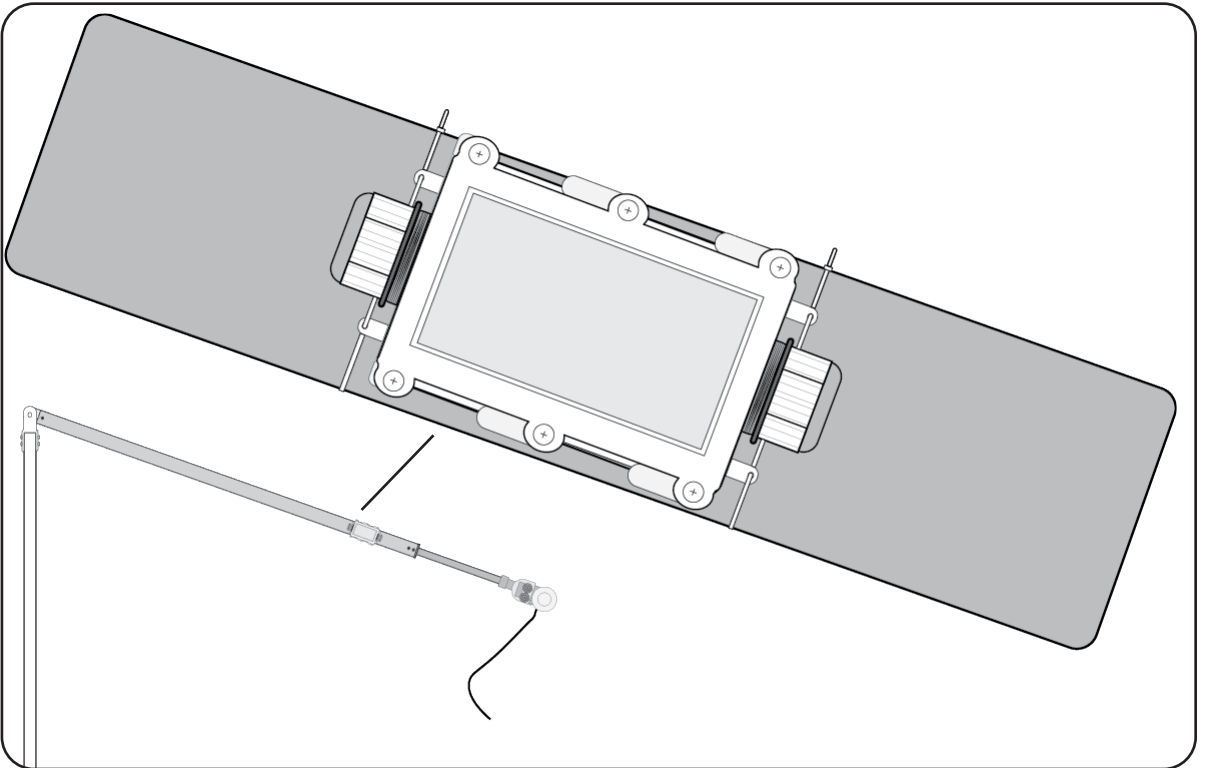


INSTALLING THE 83-AUTO-LD

Junction box

Procedure:

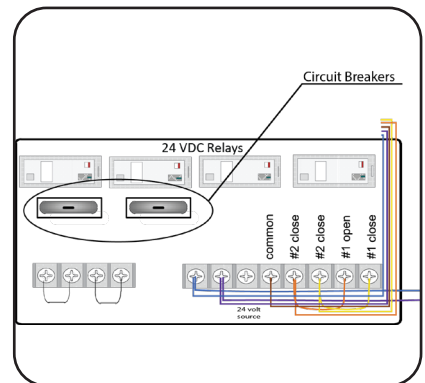
1. Zip tie the junction box to the aluminum tube on the telescoping arm with the 14" zip ties provided in your kit.
2. Position the Junction box 6-8 inches from the end opposite the swivel bracket.
3. Bring your wire from the motor and the wire from the timed light dep controller into the junction box and connect the wires at this point. Wire nuts or butt connectors are not included.
4. Once connected tighten the strain reliefs on each of the junction box to ensure it is watertight and close the lid of the junction box.

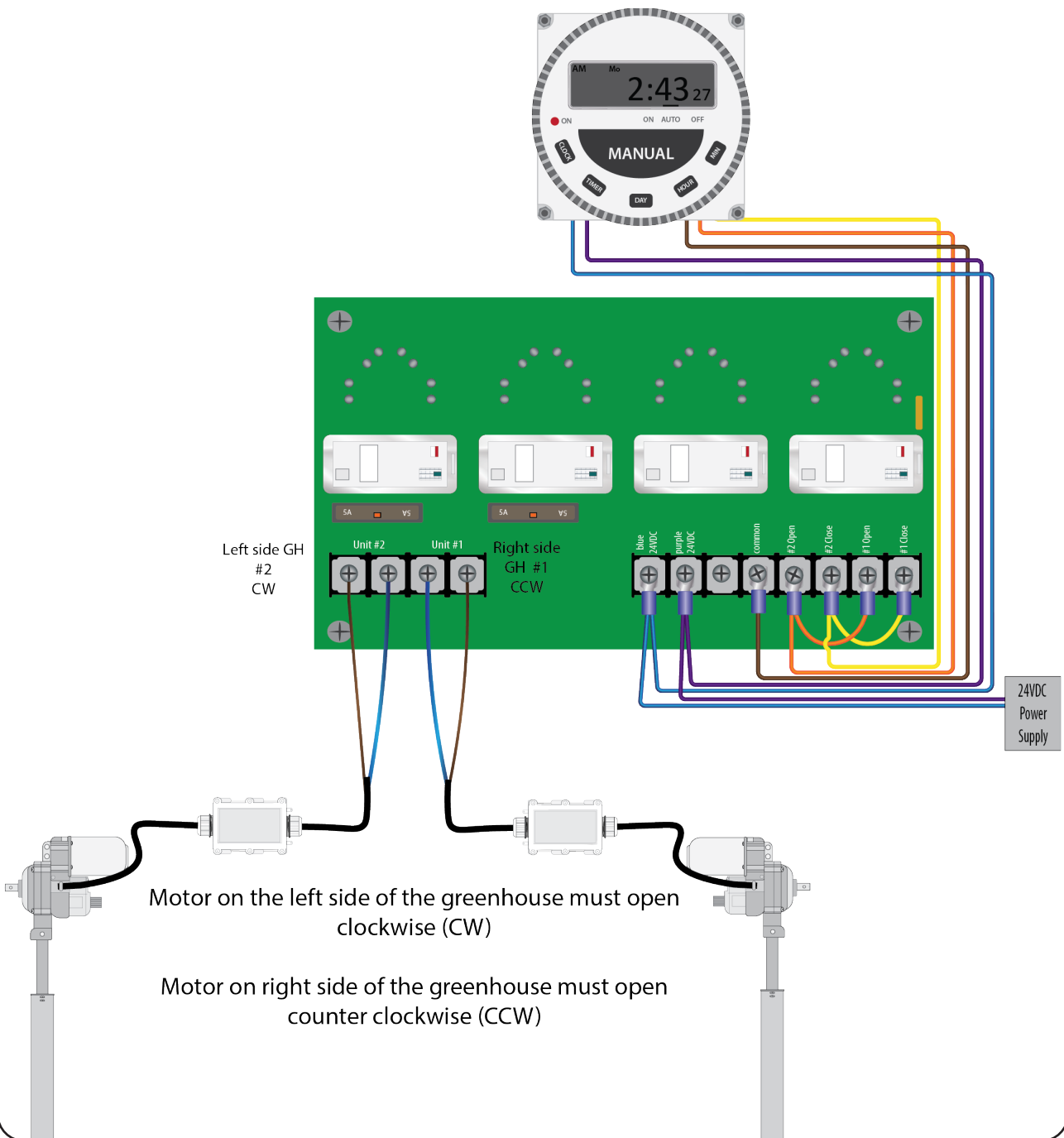


INSTALLING THE 83-AUTO-LD

CLD

- This box powers and controls 24VDC curtain motors. You are able to manually operate the curtain with the switches on the lid, or operate the motor by setting the timer controller.
- This unit is designed to run only 2 curtains at a time. The transformer is rated for 600 watts at 35% cycle duty. **NEVER CONNECT MORE THAN TWO MOTORS TO THE 42-CLD2MO**
- When you are connecting the motors to this box, use 12 AWG wire and keep the motor wire shorter than 200 feet. 60' of wire is included in the kit, 30' for each motor.
- There are 4 circuit breakers in this box. They are designed to give protection from overloads. When a breaker trips a tab pops out of the breaker; check curtains for any mechanical or electrical issues or obstructions. Then press the tab back into the breaker to reset. Two of these breakers are on the circuit board. Each protects one motor. If one breaker trips, the other unit will function. Two circuit breakers on the bottom of the box protect the transformer, if either one trips, there will be no power to any units.





INSTALLING THE 83-AUTO-LD



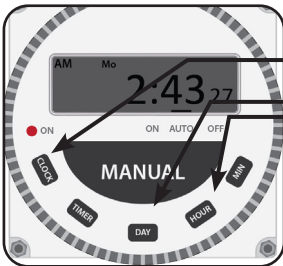
This timer controls the opening and closing of your curtain.

You set the desired times that you want to automatically operate the curtain.

You can set up to 8 periods for each day. The timer also has a manual override.



When pressed the manual override button cycles between the On, Auto, and Off functions of the timer. In order for the timer to open and close your curtain during the preset time periods it must remain in Auto.



To set the day or time press and hold the "Clock" button. Then select the Day, Hour or Minute button to make the necessary changes.

You have 8 periods in a day to set your curtain operation. This will allow you to run 8 complete cycles each day.

To set periods to open and close the same time each day press the Timer button and then press the day button. All days of the week will be highlighted at the top of the screen. To set individual times for each day simply hit the Day button again and cycle to the specific day of the week you want to change.

Press the Timer button to select period 1, On time. Set the desired time by pressing the hour and minute buttons. Once time is set press the Timer key again to set the Off time. Once again press the hour and minute button, when time is set hit the timer button again. Repeat the steps above to set Periods 2 - 8. If you do not want to set other times during the day hit the clock button and the timer will return to clock mode.

SAFETY WARNING

Always wear appropriate protective equipment in accordance with OSHA regulations and follow common sense practices at all times.

Preventing Serious Injury or Death

- Please follow all operating instructions for tools and installation equipment.
- Always wear eye protection when working with aluminum.
- Always wear safety gloves when working with sharp items.
- Always use safety harnesses when installing the 83-Auto-LD

Preventing Injury or Equipment Damage

- Light Deprivation Systems are heavy when installed, never turn the drive shaft prior to completion. Doing so could torque the system and cause bodily injury or damage to the system.
- Motors and gears must always be properly fastened, our instructions may not always depict your exact structure so you may need to improvise on while installing the components.

Technical support

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