

The SunTwist 359

New delrin clutch

SunTwist Components:

-
- [1] Sun Twist body (labeled “Sun Twist”)
-
- [4] Arm sections: [2] curved arm sections, [2] straight arm sections
-
- [4] Arm hooks (for mounting lamp reflectors to arm sections)
-
- [4] 1-5/8” multipurpose Phillips-head screws
-
- [2] Bolts and matching wing nuts (to join arm sections together)
-
- [2] Wire harnesses (1 for each ballast)
-
- [4] Nylon ties (“nyties”) (to hold wires together)
-
- [4] Light hooks
-
- [2] Small screws for harnesses
-

NOTE: This components list is for the basic 2-lamp Sun Twist package only. Optional packages you may have purchased to go with it contain their own components lists.

Before Installing Your Sun Twist

1. Check the components list to identify all components.
2. Read ALL instructions COMPLETELY, before you begin.
3. Gather tools and materials you will need, as described below.

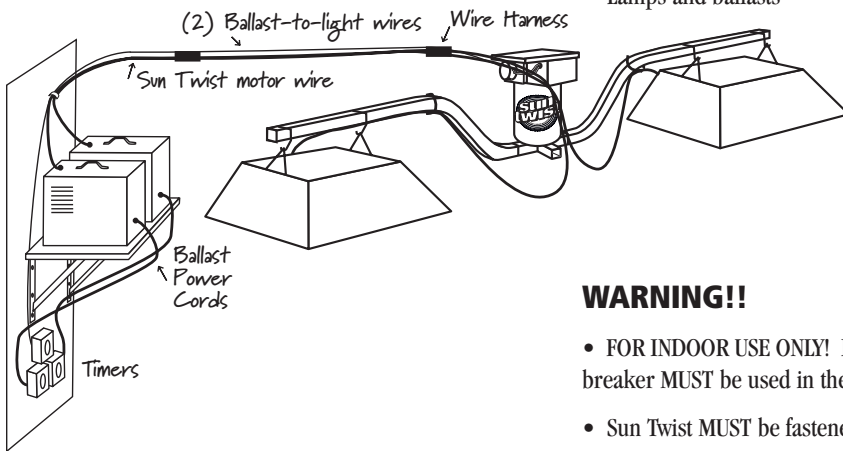
Tools:

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- Phillips-head screwdriver (or a drill with a Phillips-head bit)
-
- Tape measure
-
- Electrical tape or duct tape
-
- Tools to build and install a ballast shelf (for high-mounted ballasts) such as a drill, hammer, etc.
-

Materials You Supply:

- A piece of 3/4” plywood, cut in a 2’x2’ square (for mounting Sun Twist to the ceiling)
- Nails, screws, or other suitable fasteners to attach plywood to ceiling joists securely

Figure A



- Materials (shelf material, brackets, wall anchors, etc.) to build a ballast shelf, securely attached to framing members of your structure (for high-mounted ballasts – see Figure A).
- Enough chain, nylon rope, or other suitable material to suspend the lamps from the arms at the height you want.
- Lamps and ballasts

WARNING!!

- FOR INDOOR USE ONLY! In damp or wet locations, an RCD, ground, or other residual earth breaker MUST be used in the electrical supply circuit!
- Sun Twist MUST be fastened to FRAMING MEMBERS of your structure!
- DO NOT EXCEED 75lbs (40kg) total weight suspended from one Sun Twist!
- Multiple lamps must be BALANCED! Unbalanced lamps can create damaging torque.

Figure B

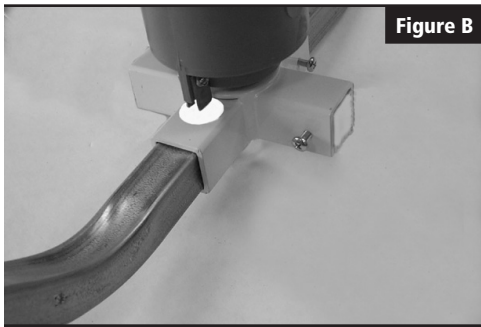


Figure C

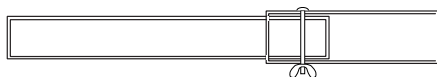
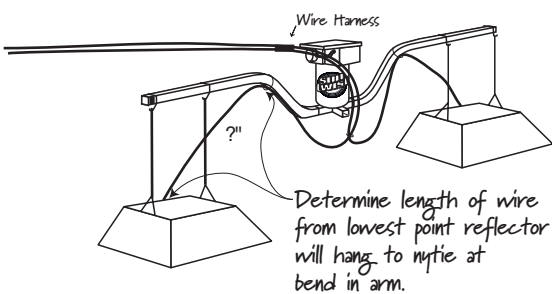


Figure D



Installation Instructions

Preparation

1. Remove the Sun Twist from packaging and inspect everything for shipping damage. Confirm all parts are present.
2. Test the motor BRIEFLY (5 seconds) by plugging it in and quickly unplugging it.

NOTE: On the Sun Twist body, white dot on tee must be under the metal arm stop (factory position) for correct installation. (See Figure B.) Run the motor only long enough to confirm it works. If the white dot becomes unaligned, run the motor until the white dot is under the metal arm stop again.

Installation

1. Decide where on the ceiling to locate the Sun Twist, then decide if ballasts will be high on a wall (recommended) or on the floor. Keep in mind the 15' length of ballast wire when choosing these locations. (See Figure A and Figure E.)
2. Locate ceiling joists (with a stud finder or other method) and securely attach the piece of 2'x2' plywood to the ceiling joist.
3. With the screws provided, mount the Sun Twist to the piece of plywood in the location you want.
4. Run ballast wires as shown in Figure 1 and 1a. Wires must run EXACTLY as shown, and must allow for the full 359° of arm travel with wires slack.
5. Based on the location of the power source and the distance to the Sun Twist, choose the location for the ballast. Use the tape measure AND hold up the wires to check distances. Remember: 15' wires must reach from lamps to ballasts AND allow for full 359° rotation with wires slack.

•High location (recommended): install a sturdy ballast shelf high on a wall, attaching it securely to structural members. Use sturdy materials and fasteners – ballasts are heavy. Choose a location where ballasts will receive good air circulation, which is important to maintain correct ballast operating temperature.

•Low location (floor-easiest): choose a location that will protect the ballasts from wetness or dampness while still allowing full airflow around them. Air circulation is important to maintain correct ballast operating temperature.

6. Insert curved arm sections into the square arm mounts on the Sun Twist. Install curve going up. Secure with screws provided.

7. Insert straight arm sections into curved arm sections. Install curve going up. Secure the sections with bolts and wing nuts provided. (See Figure C.)

8. If you want greater distance between the lamps and the arms than allowed by the arm hooks, prepare the chain, nylon rope, etc., you will use to suspend the lamps from the arms.

Remember: 15' wires must reach from lamps to ballasts AND allow for full 359° rotation with wires slack. The distance between the ballasts and the Sun Twist determines how far below the arms the lamps can be placed. (see Figure D.)

9. Hang the lamps on the arms:

FOR TWO LAMPS (see Figures A and D): With an assistant, hang **BOTH** lamps from the arms **AT THE SAME TIME** to avoid damaging the Sun Twist case and internal components. If you have no assistant, put a sturdy box or other brace between the opposite arm and the ceiling to hold the opposite arm in place while you hang the first lamp.

FOR FOUR LAMPS: With an assistant, hang **OPPOSITE** pairs of lamps **AT THE SAME TIME** to avoid damaging the Sun Twist case and internal components (see **FOR TWO LAMPS**, above). If you have no assistant, put a sturdy box or other brace between the opposite arm and the ceiling to hold the opposite arm in place while you hang the first lamp of a pair.

10. Run the ballast wires: Secure the wiring harness to the plywood (or the ceiling) on opposite sides of the Sun Twist, 4-1/2" from the middle of the Sun Twist body (see Figure 1). Run ballast wires along the ceiling to the wiring harness and snap them into the harness.

FOR TWO LAMPS: For the first lamp, measure 37" of slack from the wiring harness to the bottom of the bend in the arm closest to the ceiling. Secure the wire from one ballast at that point with a nytie. For the second lamp, measure 37" of slack from the wiring harness again, this time on the opposite arm, and use a nytie to secure the wire of the second ballast at the middle of the bend of the arm closest to the ceiling. Be sure to leave enough slack to lower lights to desired height.

FOR FOUR LAMPS: Install ballast wires as for two lamps, then repeat the process for the additional pair of lamps. Follow the diagrams **EXACTLY** (see Figure 1 and Figure 1a). Be sure to secure the ballast wires with nyties at the additional appropriate points, as shown.

The installation is now ready to test.

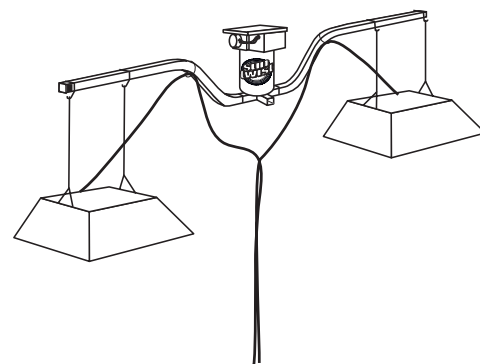
11. **TEST THE INSTALLATION:** Plug the motor power cord into a suitable outlet (120V in US or 240V in UK/AU/NZ) or timer. Use a suitable extension cord if needed. Plug in the Sun Twist and observe the rotation through two or three full cycles (rotation and return).

Look carefully for undesirable tightening in the ballast wires – wires must have at least some slack at all times and must not bind against the Sun Twist body or interfere with free travel of the arms. Check lamp placement on the arms so both are balanced.

Correct any problems you observe.

12. **FINISH THE INSTALLATION:** Fasten the wires to the ceiling between the Sun Twist and the ballast shelf (or to the ceiling and wall, if ballasts are on the floor). Tighten the nyties on ballast wires, keeping the same slack in the wires as during testing (above). Wrap electrical tape or duct tape around the ends of the arms to prevent the arm hooks from slipping off.

Figure E



You're finished! Your Sun Twist is now ready to help you grow!

Tips and Reminders

- Always use a grounded (residual earth breaker) outlet for the Sun Twist motor.
- If the Sun Twist motor stops working, DON'T OPEN IT!! There are no customer-serviceable parts inside, and opening the Sun Twist body voids your warranty. Contact your distributor for what to do instead. Let us help you.
- Choose your lamps wisely – a single 1000-watt lamp uses 8.3 amps at 120V. Two 1000-watt lamps use 75% of the capacity of a typical 20-amp household circuit breaker. Consider the total draw on the circuit to avoid overloading it.
- The Sun Twist is extremely versatile – use your imagination!
- Optimum growth typically occurs in a circle 8'-10' in diameter (depending on your plants) but the Sun Twist lights a circle up to 12' in diameter. Experiment with plant and lamp placement to see what works best for you.
- To use a single lamp, simply counterweight the opposite arm to provide balance.
- Try raising or lowering the lamp heights, and combining different types of lamps. Your plants will let you know when they are happy!
- Try a mylar reflective surface at the edge of your growing area – this optimizes the amount of light landing on your plants.

Have a Question? Problem? Suggestion? Please let us know!

We constantly refine and enhance our products to reflect what our customers need and want. How do we know what to do? You tell us! Our most important source of ideas and suggestions is you – the people who use Sun Twists.

If you have questions, ideas, suggestions, or yes, problems, with installing or operating your Sun Twist, we want to know about it. Call our toll free number (800-458-6543), fax us (707-822-5777, attn. Customer Service), or send us an e-mail at info@amhydro.com.

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