

Using the JumpStart System, continued

HOURS OF LIGHT AND PLANTS

Plants have an internal mechanism that tracks time. This response is called photoperiodism. Plants respond to the length of light and darkness they receive. Different plants may respond in different ways, such as rosette growth of lettuce versus bolting, bulb formation of onions versus leaf and stem formation, flowering of chrysanthemum, and so forth. The right mix of light and dark causes flower, fruit and seed production.

Plants are classified in regard to photoperiodism as long day plants, short day plants, and day neutral plants. It is actually the length of darkness that initiates the response by the plant. Many texts will relate photoperiod as short night and long night plants. To avoid confusion we will use length of day as the criteria.

Long day plants are those that require a minimal dark period in order to flower. Plants that normally flower in late spring or summer are generally considered to be long day plants. Long day plants generally require at least 16 hours of light to trigger flowering. Plants in this category remain vegetative when days are short. The general recommendation for lighting of long day plants is to increase lights from approximately 12-14 up to 16-18 hours per day over the normal life cycle of the plant.

Short day plants normally flower in the short days of autumn or winter, and usually require at least 12 hours of darkness to flower. Plants on this schedule usually require 16-18 hours of light for the vegetative cycle and approximately 12 hours of light to initiate bloom cycle.

Day neutral plants do not respond to the length of light or dark periods. Most vegetables are day neutral. These plants may respond to other factors such as temperature or days to maturity. Generally plants in this category can be grown with 12-16 hours of light.

Plants with precise photoperiod requirements have what is referred to as a photocritical point. Disrupting the dark cycle with light, by turning on a lamp or allowing street light through a window, can cause plants to remain in the vegetative stage. Exact photoperiod has not been established for all plants.

Consult your local nursery or garden book if you are unsure of the photoperiod response for the plants you wish to grow.

ADDITIONAL HELPFUL HINTS

Lighting

Cuttings prefer light that is not too strong. Hot, direct sunlight is not recommended. Full spectrum T5 or Agrosun fluorescents are excellent for cuttings because they provide quality light without detrimental intensities. Keep the tubes about 2"-4" away from plant tops.

Using high pressure sodium or metal halide lighting is okay for starting seedlings or cuttings so long as it is kept at least a couple of feet away from plants.

If you are attempting to establish new plants from cuttings, give them 16-18 hours of light a day.

When seedlings/cuttings are moved to their next lighted environment after a transplant is complete, be sure not to sunburn them. Unless using fluorescent light systems maintain a distance of about 2-4 feet away until positive response is evident through growth. At this point the light may be moved closer to increase intensity to the canopy.

Watering

Seedlings and cuttings should be kept moist, not saturated. Do not allow excess standing water to accumulate in the tray(s).

Too much water is just as undesirable as not enough. Overly saturated conditions can lead to "damping off" or root rot.

Transplanting

You are ready for transplant when the roots start coming out of the starter cubes and new vegetative growth is evident.

ALSO AVAILABLE: The JumpStart Light Stand Extension Kit (item #JSSTEX) includes two 2-ft riser extensions – great for adding height to your system as plants grow taller.



JumpStart Grow Light Stand™ ASSEMBLY INSTRUCTIONS



ASSEMBLY INSTRUCTIONS FOR
JSV2 – 2 ft JumpStart T5 Grow Light System
JSV4 – 4 ft JumpStart T5 Grow Light System
JS10065 – 2 ft JumpStart Stand
JS10059 – 4 ft JumpStart Stand



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JumpStart Grow Light Stand™

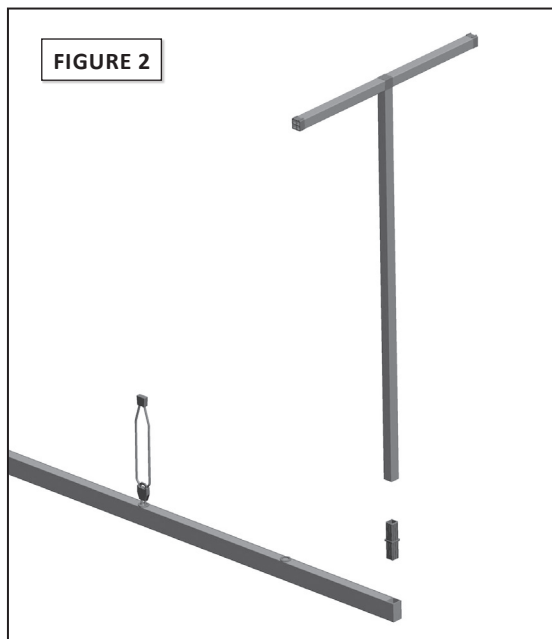
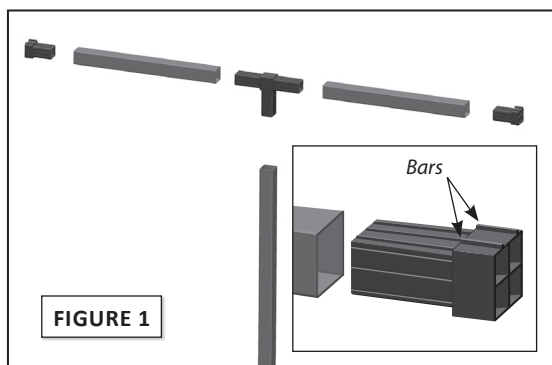
PARTS LIST

Light Stand	Bulb*	Light Fixture*
2 – Upright legs	1 – T5 HO Hydrofarm fluorescent tube	1 – 4 ft. or 2 ft. T5 fluorescent fixture
4 – Foot pieces		
1 – Channel crossbar	* Bulb and fixture are included only with JumpStart Grow Light Systems #JSV2 and JSV4.	

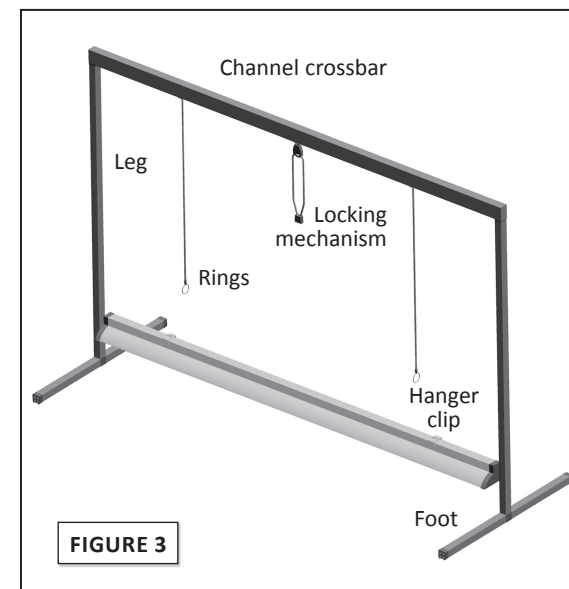
RECOMMENDED TOOLS
Rubber mallet
(not included)

INSTALLATION INSTRUCTIONS

- For easiest assembly, first install the leg extensions to the leg uprights using the three-way Quick Connectors as shown in Fig. 1. Ensure that the bars on the end inserts are facing the bottom of the stand, and that the Quick Connectors are completely seated into the legs and extensions.
- Set the top crossbar onto a workbench or the floor with the holes up. Slide the two-way Quick Connectors into the other end of the legs, and line up with holes in crossbar, as shown in Fig. 2. Seat the connectors into the holes on the crossbar. Lightly tapping the bottom of the leg assemblies with a rubber mallet will help if you can't seat them by hand. Use caution so you don't damage the frame.
- Stand your JumpStart up. We recommend positioning it over a chair or other elevated surface in preparation for hanging your light fixture.



- Set the fixture* under the channel crossbar as shown in Fig. 3 and pull down the hanger cables. Attach the hanger clips on the T5 fixture to the rings on the suspension cables. Plug the power cord of the fixture into a 120V electrical outlet. We recommend a grounded timer (item # TM01015) to automate your light cycles.
- You can regulate the height of your light fixture by using the pull cord and locking mechanism (see Fig. 3).



INSTALLING THE BULB*

- Remove the cardboard and inspect each socket end on the lighting fixture to ensure it is ready to receive the pins on the ends of the fluorescent tube.
- Gently align the pins vertically upon inserting them into each socket and once it is all the way down, gently rotate the bulb to seat the pins into horizontal orientation. You should feel a click upon proper installation.

* Bulb and fixture are included with JumpStart Grow Light Systems #JSV2 and JSV4, and sold separately for use with JS10065 and JS10059.

IMPORTANT! Fixture Safety Precautions

Take care to install the bulb properly into the sockets before plugging in the unit.
Do not use with dimmers. Avoid direct contact with water.

USING THE JUMPSTART GROW LIGHT SYSTEM™

SEED STARTING

We recommend 16–18 hours of light per day for germination and establishing healthy seedlings. A grounded timer will help make this cycle automatic. Always try to keep the fluorescent light 2"–4" above the top of the seedlings for maximum light. When using a humidity dome keep the light as close to the dome as possible, but avoid contact between the bulb and plastic. This will help the seedlings develop in a healthy manner and stimulate foliage and root production. If you have the light too far away the seedlings may grow spindly, trying to reach for the distant light.

We also recommend a Seedling Heat Mat (item # MT10006) to support seed germination and growth through more desirable temperatures.

FOR GENERAL LIGHTING

To stimulate vegetative growth, 14–18 hours of light is recommended.

For supplementing sunlight, 4–8 hours of light per day from your system is recommended.

To stimulate flowering production (short day plants), 10–12 hours of light is recommended.

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