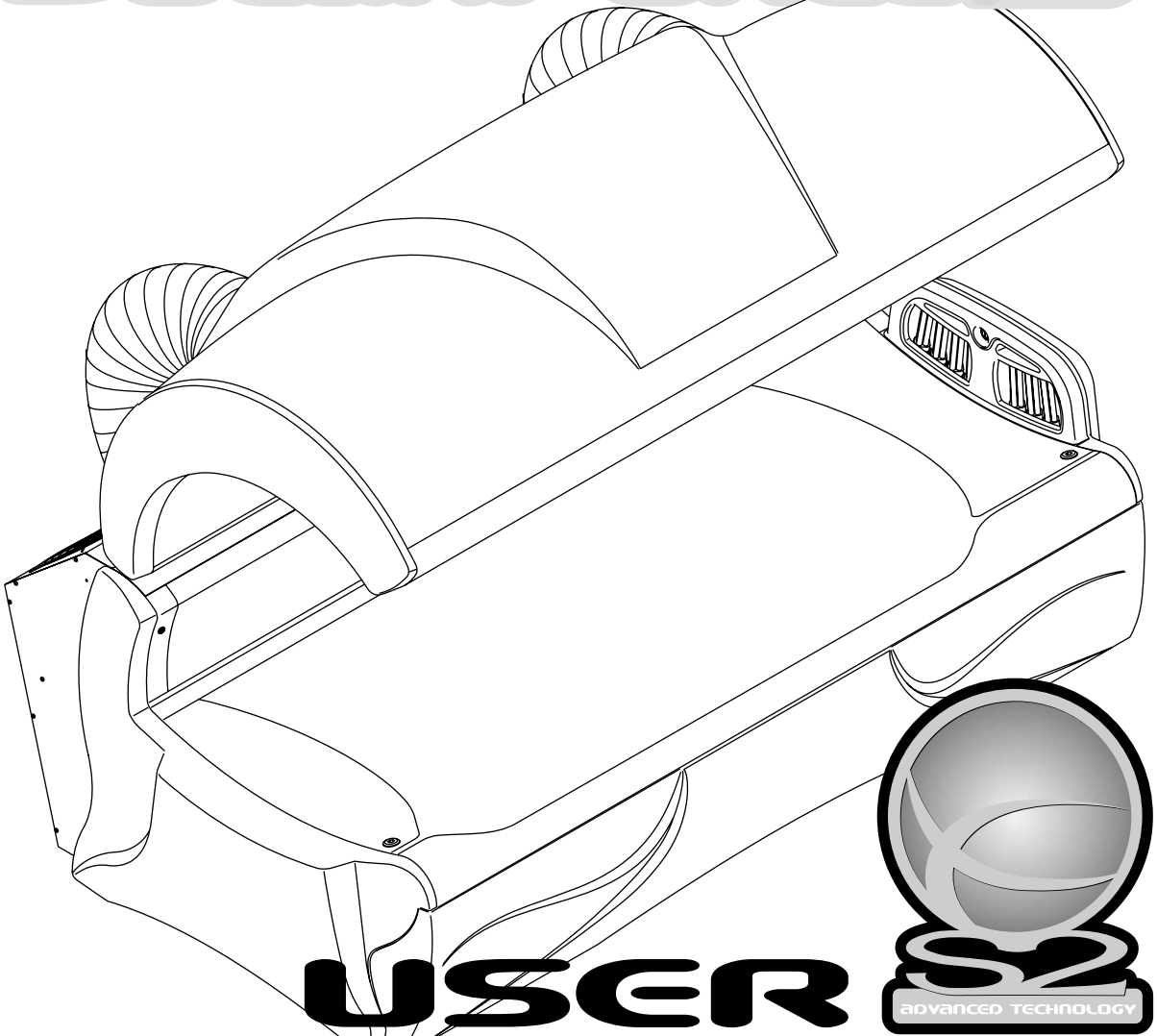


# SolarForce® 648



## USER Manual

26791-01A

## **STANDARD 48 MONTH WARRANTY**

Your ETS Distributor (including ETS, Inc. if purchased directly), through a manufacturer's warranty, warrants your tanning unit to be free of structural defects in material and workmanship, under normal use, for its lifetime. Your ETS Distributor will, at its discretion, repair any structural defect which materially affects the performance of the tanning unit, or replace the tanning unit.

For forty-eight (48) months following the shipping date of your tanning unit, your ETS Distributor will provide replacements for parts that prove to be defective in material or workmanship. Fluorescent lamps, and lamp starters are warranted against manufacturer's defects for a period of ninety (90) days following the shipping date of your tanning unit. Acrylics will be warranted against manufacturer's defects for a period of 1 year (prorated).

Labor costs associated with repair or replacement work covered by this warranty will be reimbursed for repair or replacement work required to be performed for a period of one (1) year following the shipping date of your tanning unit. Normal wear and tear, damage from misuse or abuse, damage incurred in transit or damages resulting from unauthorized repairs or modifications are not covered by this warranty. Warranty coverage does not include cosmetic abnormalities such as scratches, nicks, dents, or other cosmetic changes that do not materially interfere with the function of the tanning unit.

THIS STANDARD 48 MONTH WARRANTY IS EXPRESSLY MADE IN LIEU OF ANY OTHER WARRANTIES, EXPRESS OR IMPLIED, INCLUDING ANY IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE, WHICH ARE HEREBY DISCLAIMED. No one has the authority to change or modify this Standard 48 Month Warranty in any respect. To obtain service under this Standard 48 Month Warranty, contact your authorized ETS Distributor (or ETS, Inc. if purchased directly). Proof of purchase, including serial number, is required.

IN NO EVENT SHALL YOUR DISTRIBUTOR OR THE MANUFACTURER BE LIABLE AT LAW OR IN EQUITY FOR ANY LOSS, LIABILITY, DAMAGE OR EXPENSE IN AN AMOUNT IN EXCESS OF THE PURCHASE PRICE RECEIVED, OR FOR LOSS OF USE OR PROFITS, LOSS OF TIME, INCONVENIENCE, RENTAL OR SUBSTITUTE PRODUCTS, LOSS OF BUSINESS, LOSS OF INCOME, OR ANY OTHER INCIDENTAL, INDIRECT, SPECIAL OR CONSEQUENTIAL DAMAGES. Some states do not allow the exclusion or limitation of incidental or consequential damages, and the above limitation or exclusion will not apply to residents of some states. This Standard 48 Month Warranty gives you specific, legal rights and you may have other rights which may vary from state to state.

All warranty service must be performed by an authorized service person. All labor charges must be authorized by your ETS Distributor prior to the start of repairs and must not exceed the established rates and time allotment policies established by your ETS Distributor. If your tanning unit must be returned for service, all freight charges shall be at your expense. Contact your ETS Distributor for the authorized Service Center nearest you. This warranty is serial number specific and only applies to tanning units purchased through an authorized ETS Distributor. This warranty is extended to the individual or legal entity whose name appears on the original sales document and may not be transferred to any other individual or legal entity. This warranty is void if the tanning unit is modified in any manner from its original design.

**To obtain warranty service, contact your place of purchase. Proof of purchase, including serial number, is required for verification. Contact ETS, Inc. only if you purchased your equipment directly.**

**ETS, Inc. 7445 Company Drive, Indianapolis, IN 46237-9296  
1-800-449-3605    In Canada call 1-800-661-6292 or 519-421-1212**



Congratulations on your purchase of this technologically advanced sun tanning unit. It has been designed to provide years of dependable service for you.

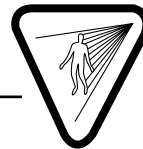
Please read all the instructions in this booklet before installing and using the unit. Always be sure to observe all safety precautions.



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# safety Information



**LABELING NOTICE:** Labels are affixed on all systems to inform the user of possible dangers. Regulations are stated in 21 CFR, Section 1040.20, and require that all products manufactured after September 8, 1986 which use sunlamps must display the following:

**DANGER** Ultraviolet radiation. Follow instructions. Avoid overexposure. As with natural sunlight, overexposure can cause eye and skin injury and allergic reactions. Repeated exposure may cause premature aging of the skin and skin cancer. **WEAR PROTECTIVE EYEWEAR; FAILURE TO MAY RESULT IN SEVERE BURNS OR LONGTERM INJURY TO THE EYES.** Medications or cosmetics may increase your sensitivity to the ultraviolet radiation. Consult physician before using sunlamp if you are using medications or have a history of skin problems or believe yourself especially sensitive to sunlight. If you do not tan in the sun, you are unlikely to tan from the use of this product. Children, the elderly, or fair skinned people who always burn easily and either never tan or tan minimally should not use this equipment.

To use, lie down under canopy and pull down as far as adjustment will allow maintaining at least 3.5 inches (8.9 centimeters) between your body and canopy clear plastic panel and side tanner clear plastic panel, otherwise overexposure may occur. Minimum use distance elsewhere is touching the clear plastic panels. Do not use without clear plastic panels in place. Untanned persons should not tan on consecutive days during their first week of tanning. Never tan more than once a day. Tanning normally appears after the first few sessions and maximizes after approximately four weeks. Tan once or twice per week thereafter to maintain appearance. Persons already having a base tan may begin at advanced levels corresponding to the extent of their base tan.

RECOMMENDED EXPOSURE TIMES IN MINUTES			MAXIMUM EXPOSURE TIME IS 12 MINUTES			
Skin Type:		Level 1/Week 1 1st-3rd Sessions	Level 2	Level 3	Level 4	Subsequent Maximum
I <b>Sensitive Skin</b>	(Burns easily and severely and does not tan.)	NOT RECOMMENDED FOR TANNING				
II <b>Light</b>	(Burns easily and severely and tans minimally.)	2	4	7	10	12
III <b>Normal</b>	(Burns moderately and tans average.)	3	6	9	12	12
IV <b>Dark</b>	(Burns minimally, tans easily and above average.)	4	7	10	12	12

New lamps emit approximately 10% more ultraviolet radiation during the first 50 hours of operation. Recommended tanning times should therefore be reduced by approximately 10% during that period.

**WARNING:** • Read the instructions booklet before using this sunlamp product. • All persons in the room should wear protective eyewear when lamps are on. Recommended eyewear: provided eyeshields or equivalent eyewear as defined under 21 CFR 1040.20. Other types of eyewear may not provide adequate protection. Failure to use protective eyewear may result in severe burns or other eye injury. If discomfort develops, discontinue use and consult a physician.

ONLY THE FOLLOWING LAMPS HAVE BEEN CERTIFIED FOR USE IN THE SOLARFORCE 648:

Velocity® VS-R™ Wolff® Model VEL71-T12/160W PREHEAT - BIPIN

Heraeus E400 HPT, Philips Model HPA 400/30s or CosmoTech Model 23045 (facial unit)

MARQUIS, Wolff System® Model CF26W (shoulder unit)

**DISCONNECT POWER BEFORE ATTEMPTING TO CLEAN, RELAMP, OR ENGAGE IN THE MAINTENANCE OF THIS PRODUCT.**

THIS EQUIPMENT MUST BE EARTH GROUNDED.

This product is in conformity with performance standards for sun lamp products under 21 CFR PART 1040.20 and ANSI/UL Standard 482. Certified to CAN/CSA Standard C22.2 NO. 224.





**DANGER** Rayonnement ultraviolet. Veuillez suivre les instructions. Évitez une exposition excessive. Tout comme pour les rayons du soleil, une exposition excessive peut causer des blessures aux yeux et à la peau et provoquer des réactions allergiques. Une exposition répétée peut causer le vieillissement prématuré de la peau et provoquer le cancer de la peau. **PORTEZ DES LUNETTES PROTECTRICES: LE NON-RESPECT DE CETTE CONSIGNE DE SÉCURITÉ PEUT ENTRAÎNER DE GRAVES BRÛLURES OU DES LÉSIONS OCULAIRES À LONG TERME.** Les médicaments ou les produits cosmétiques peuvent augmenter votre sensibilité au rayonnement ultraviolet. Consultez un médecin avant d'utiliser la lampe solaire si vous prenez des médicaments, si vous souffrez d'une maladie cutanée ou si vous croyez être particulièrement sensible aux rayons du soleil. Si vous ne bronzes pas au soleil, il est peu probable que vous bronzerez sous une lampe solaire. Les enfants, les personnes âgées et les personnes qui ont une peau claire qui brûle facilement, ne bronze jamais ou alors très peu, ne devraient pas utiliser cette lampe.

Étendez-vous sous la partie supérieure, puis abaissez celle-ci aussi bas que possible, en veillant cependant à conserver un espace d'au moins 3,5 pouces (8,9 centimètres) entre le corps et le panneau de plastique transparent de la partie supérieure et le panneau de plastique transparent de l'appareil de bronzage latérales, afin d'éviter une exposition excessive. Les autres parties du corps peuvent toucher les panneaux de plastique transparents. N'utilisez pas la lampe sans les panneaux de plastique transparents. La première semaine de bronzage, les personnes qui n'ont pas un hâle initial ne doivent pas se faire bronzer tous les jours. Ne vous faites jamais bronzer plus d'une fois par jour. Le bronzage commence normalement à apparaître après les premières séances : il atteint son apogée au bout d'environ quatre semaines. Les personnes qui ont déjà un teint hâlé peuvent commencer à des niveaux plus élevés, selon l'importance de leur hâle initial.

TEMPS D'EXPOSITION RECOMMANDÉ EN MINUTES		LE TEMPS D'EXPOSITION MAXIMAL EST DE 12 MINUTES				
Type de peau:		Élevé 1/Semaine 1 1 <sup>ère</sup> -3 <sup>e</sup>	Élevé 2	Élevé 3	Élevé 4	Sem. suivantes Temps maximal
I <b>Peau sensible</b> (brûle facilement et ne bronze pas)	<b>NON RECOMMANDÉ</b>					
II <b>Peau claire</b> (brûle facilement et bronze très peu)		2	4	7	10	12
III <b>Peau normale</b> (brûle et bronze de façon modérée)		3	6	9	12	12
IV <b>Peau foncée</b> (brûle très peu, bronze plus facilement que la moyenne)		4	7	10	12	12

Les lampes neuves émettent approximativement 10 % de plus de rayons ultraviolets au cours des 50 premières heures de fonctionnement. Le temps de bronzage doit donc être réduit d'environ 10 % pendant cette période.

**AVERTISSEMENT :** • Lisez le livret d'instructions avant d'utiliser cette lampe solaire. • Les autres personnes présentes dans la pièce doivent aussi porter des lunettes protectrices lorsque les lampes sont allumées. Coquilles de protection pour les yeux recommandées: Les coquilles de protection fournies ou l'équivalent, tel que le stipule le document 21 CFR 1040.20. Les autres types de lunettes protectrices peuvent ne pas assurer une protection adéquate. Utilisé sans lunettes protectrices, ce produit peut causer des brûlures ou lésions oculaires graves. Si vous souffrez d'un malaise, arrêtez l'utilisation et consultez un médecin.

#### SEULES LES LAMPES INDIQUÉES CI-DESSOUS ONT ÉTÉ HOMOLOGUÉES POUR CET ÉQUIPEMENT:

Velocity® VS-R™ Wolff® Modèle VEL71-T12/160W PREHEAT - BIPIN

Heraeus E400 HPT, Philips Modèle HPA 400/30s ou CosmoTech Modèle 23045 (unité faciale)

MARQUIS, Wolff System® Modèle CF26W (unité en bandoulière)



Cet équipement doit être mis à la terre.

Ce produit est conforme aux normes de rendement pour les lampes solaires dans le documents 21 CFR, partie 1040.20 , ANSI/UL 482 , CAN/CSA C22.2 N° 224.

**Débrancher l'alimentation électrique avant de nettoyer l'appareil ,  
d'en faire l'entretien ou de changer les lampes.**



## Pre-Installation Planning

Before you begin to assemble your sunbed, you should observe the following considerations.

	<b>⚠ WARNING</b> <b>Shock hazard.</b> <b>Disconnect power before servicing.</b>
--	---

<b>⚠ CAUTION</b> <b>Use of a voltage source above 230V AC may prevent proper operation of the sunbed and could cause damage and void the warranty.</b>
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- The **SolarForce® 648** operates from a 220V AC power source. The unit should be wired to a dedicated circuit capable of providing **70 Amp** service. This unit must be hardwired directly to a junction box. We recommend connection by a professional electrician.
- **IMPORTANT!** Voltage must be below 230V AC or may require a Buck Booster.

<b>⚠ CAUTION</b> <b>Air from the room is used to cool the sunbed. Maximum ambient room temperature should be 80°F. Place your sunbed no closer than 6" from any wall. Make sure nothing obstructs the airflow into or out of the fan openings. A poorly ventilated room may cause the unit to become hot and cause discomfort to the user.</b>
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<b>⚠ CAUTION</b> <b>Proper assembly of your sunbed requires three people. Plan to have a couple of helpers assist you.</b>
---



## Unpacking and Inspection

Your sunbed comes in two cardboard cartons, one for the canopy and one for the bench and ballast tray. Open the cartons and remove the sunbed parts as follows.

The canopy is wrapped in plastic. Pull back the plastic and, with a helper, grasp the canopy and pull it from the carton bottom, leaving the plastic wrap and the carton packaging. **Do not attempt to lift the canopy with the plastic still on as it may slip. Do not lift the canopy by its plastic endcaps.** Leave the bench in its box until instructed to remove it in *Assembly Procedures*.

Note! The cartons are reusable. You may wish to save them for future use.

After unpacking the unit, check to make sure you have received the following:

- Canopy unit
- Bench unit
- Ballast drawer
- Front access panel
- Two large endcaps, one with small lamps
- Shoulder tanner cover
- Two 10" diameter flexible ducts
- Bag containing necessary assembly hardware, safety goggles, and pillow.

Inspect these items, including the canopy and bench, to make sure they are free from any visible damage. Report the extent of any damage to the transportation company.

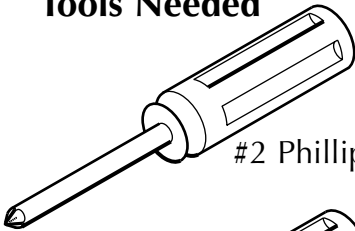
Record the serial numbers of the canopy and bench, and the ballast tray ID number in the area provided at the back of this manual. This information will be required whenever you call customer service.



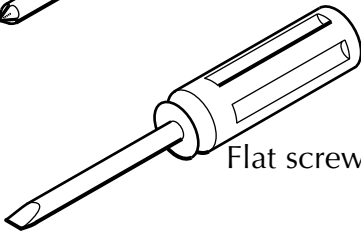
## Hardware Inventory

Open the hardware bag and remove the contents. In addition to a pillow, make sure you have the following hardware items.

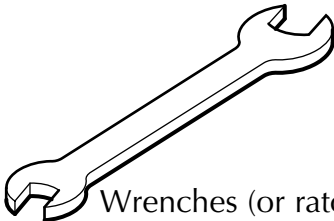
### Tools Needed



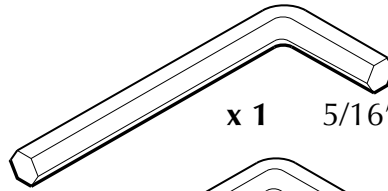
#2 Phillips screwdriver



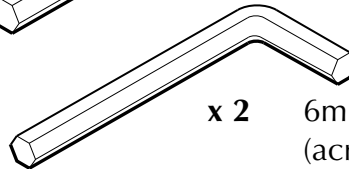
Flat screwdriver



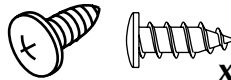
Wrenches (or ratchet wrenches) in 9/16" and 7/8" sizes



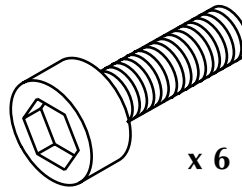
x 1 5/16" Hex wrench



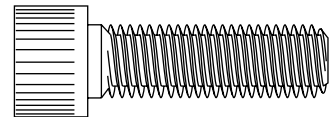
x 2 6mm Hex wrench (acrylic key)



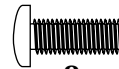
x 12 Screw, #10 x 1/2"



x 6 Bolt, 3/8-16 x 1 1/4" hex socket



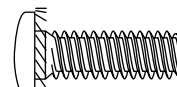
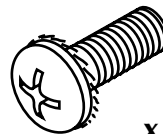
x 6 Nut, 3/8-16 "nylock"



x 8 Screw, #10-32 x 1/2"

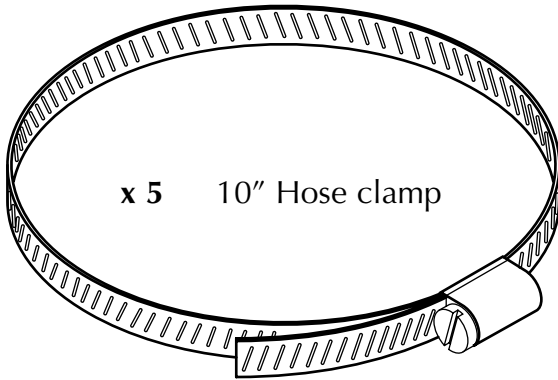


x 4 Washer, #10

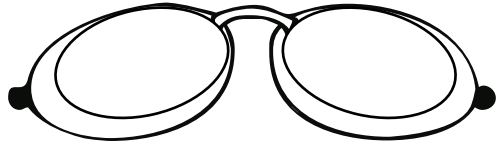


x 16 Screw, 1/4-20 x 3/4" with tooth washer





x 5 10" Hose clamp

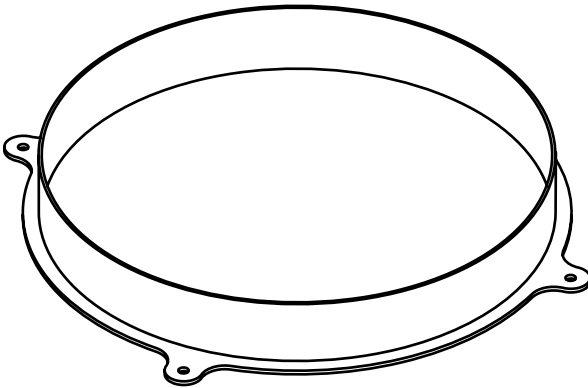


x 1 Safety goggles

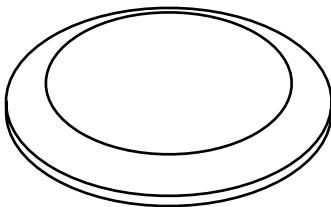


**WARNING**

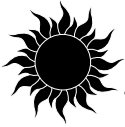
**Wear protective eyewear.  
Failure to may result in severe burns or  
longterm injury to the eyes.**



x 1 10" Hose adapter flange



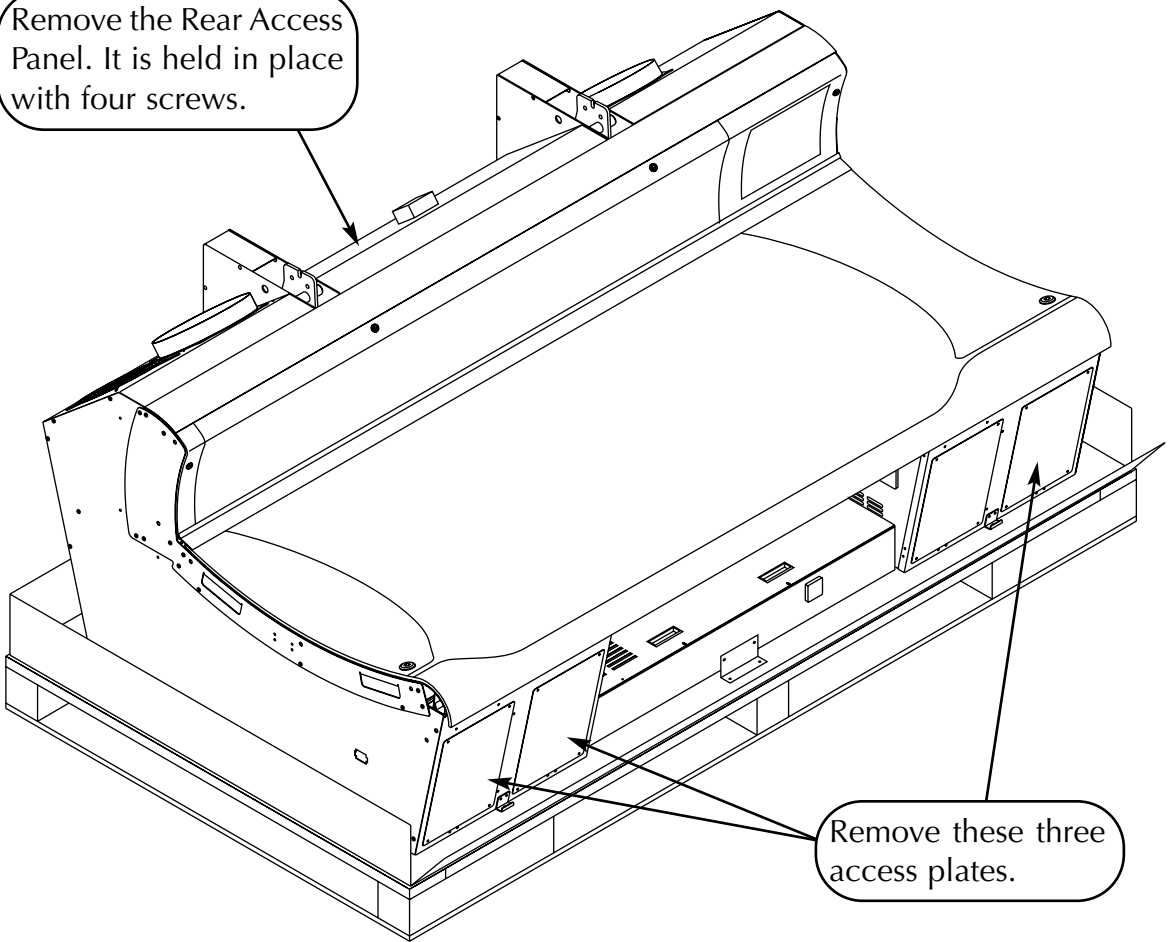
x 8 Teflon® glide



## Assembly Procedures

The bench requires some disassembly before installation. Save all screws as some will be used to reassemble the unit.

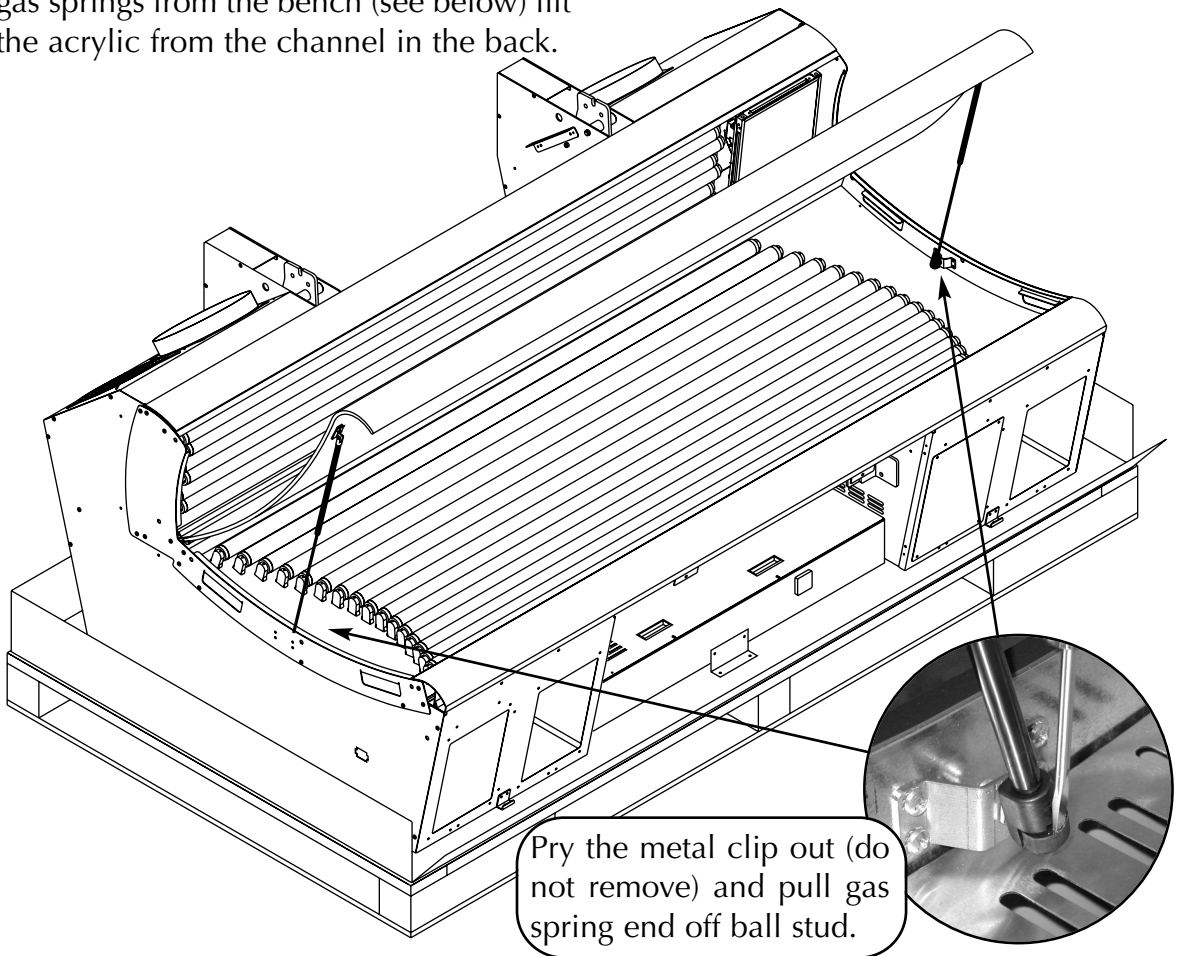
Remove the Rear Access Panel. It is held in place with four screws.



Remove these three access plates.

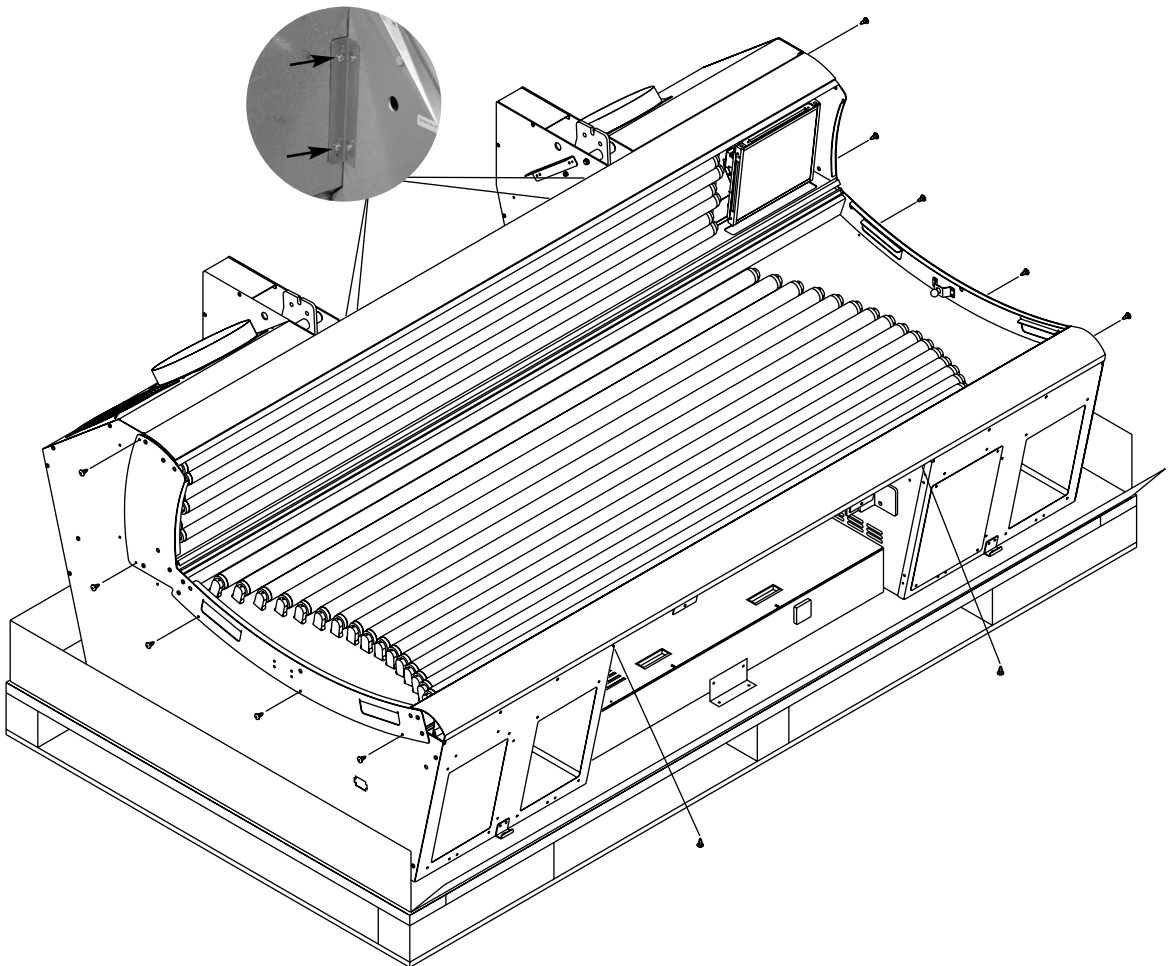


Remove the bench acrylics. They are held in place with quarter-turn latches. Using the smaller hex wrench (6mm) turn the latch 90° to unlock. The rear acrylic has four latches, and simply lifts out. The bench acrylic has two latches and is supported by gas springs. After detaching the gas springs from the bench (see below) lift the acrylic from the channel in the back.





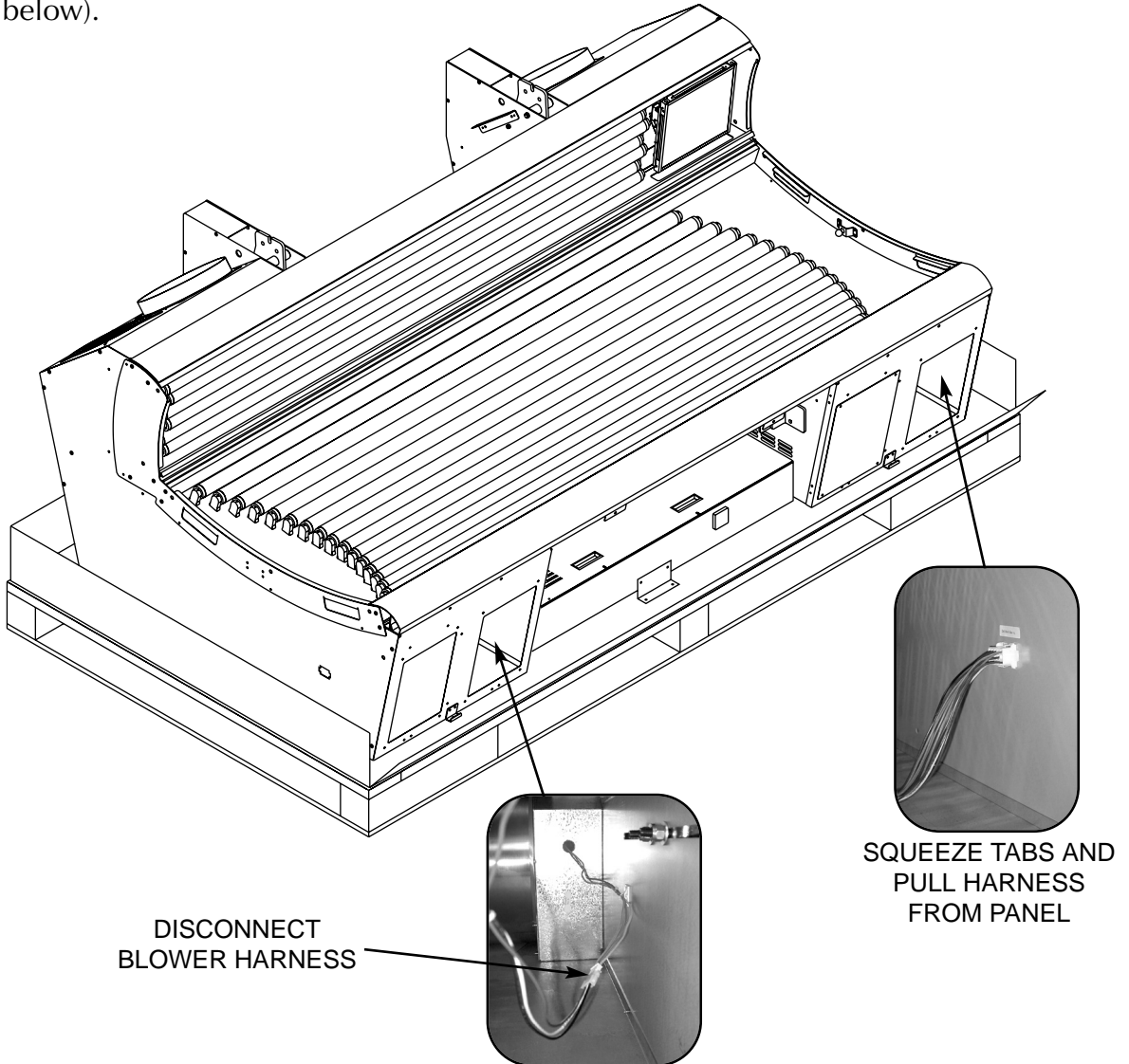
Unscrew the bench assembly from the pedestals. The bench is held in place with 16 screws (5 #10 x 1/2" screws on each side, 2 under the front lip and four #10-32 x 1/2" screws in the back). The screws are indicated by green markings.





Before lifting the bench assembly, disconnect the Shoulder Tanner harness and blower harness inside the pedestals (see below).

Carefully lift the bench assembly and place upside-down out of the way.

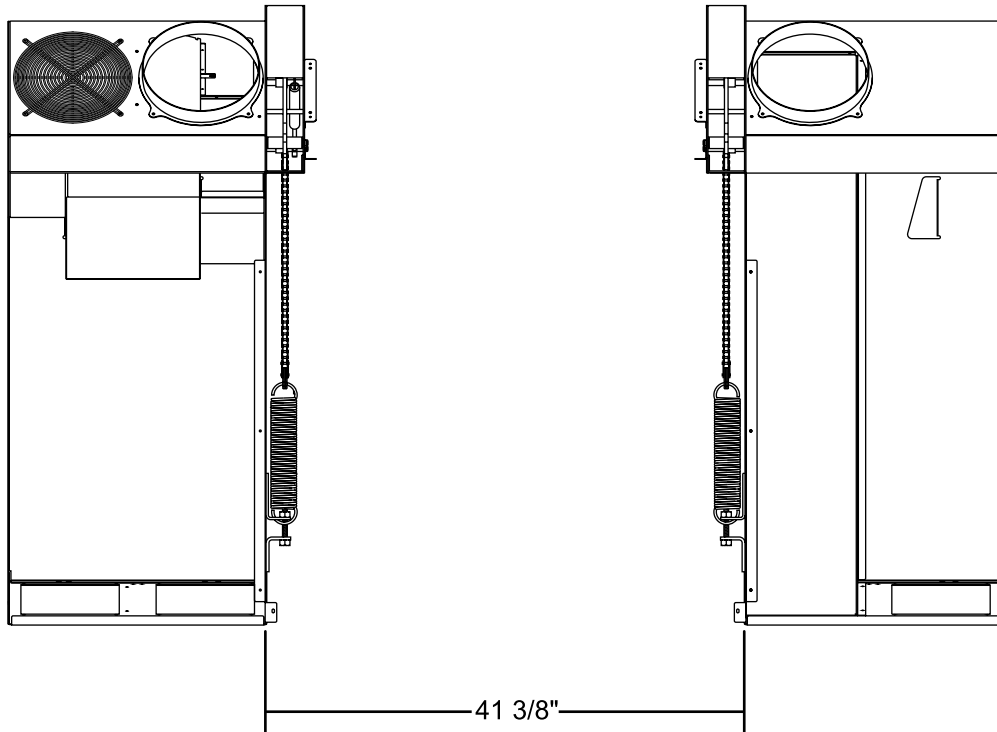




## *Installation - Assembly Procedures*

Place the pedestals in the room where the unit will reside. Leave room behind them to work. In the hardware kit are 8 Teflon® glides with adhesive backing. If desired, stick four on the bottom of each pedestal, one in each corner. This will help when moving the unit.

**IMPORTANT:** The diagram below shows how to position the pedestals. Take some time to line them up properly, as this will greatly aid assembly.

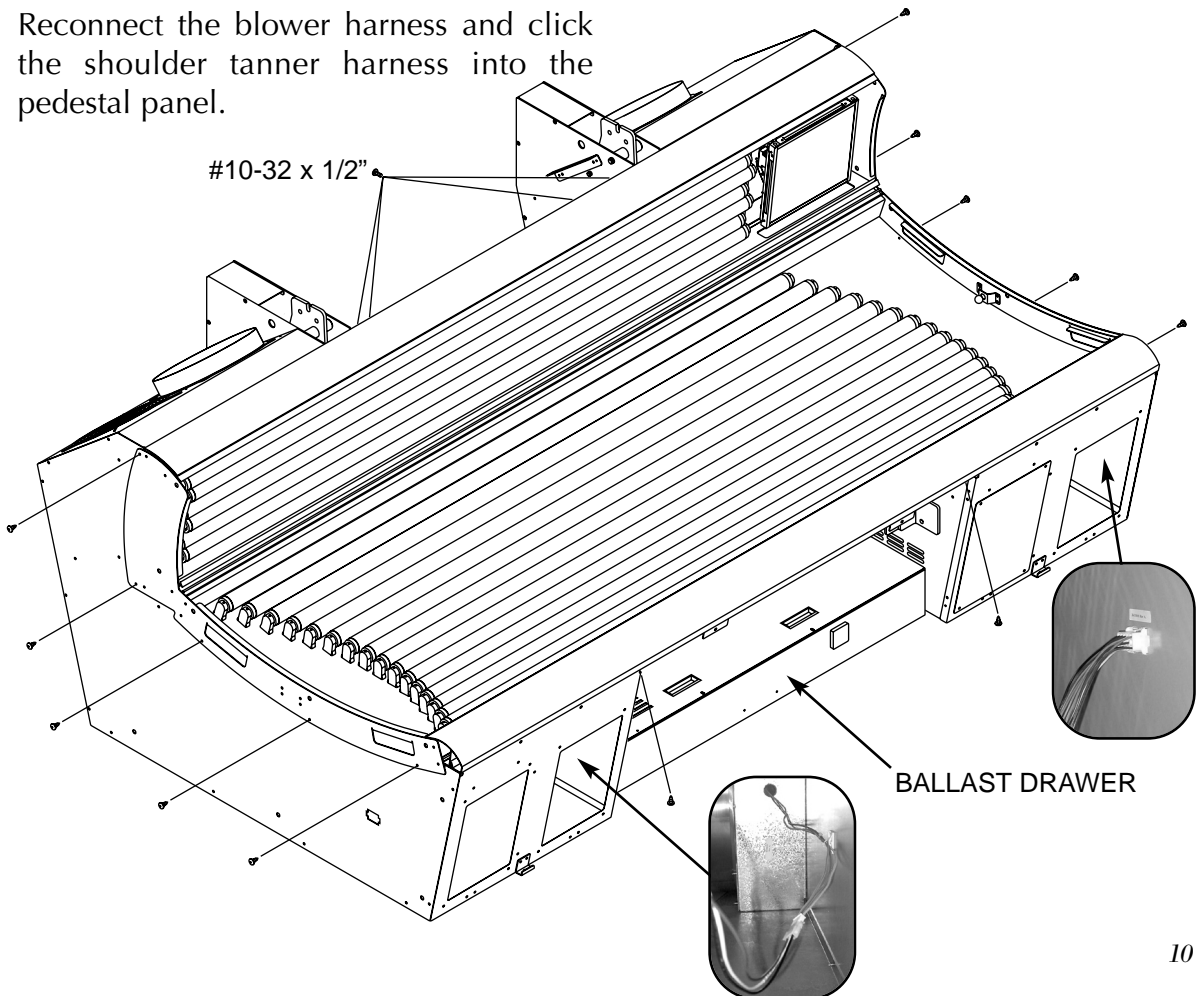




Reattach the bench assembly to the pedestals. Be careful of the wires. Use the same screws removed earlier. If needed, the hardware kit also contains these 16 screws. The four #10-32 x 1/2" screws hold the back of the bench to the pedestals.

Unscrew the two brackets from the ballast drawer and discard. Roll the ballast drawer under the bench with the cables toward the back.

Reconnect the blower harness and click the shoulder tanner harness into the pedestal panel.



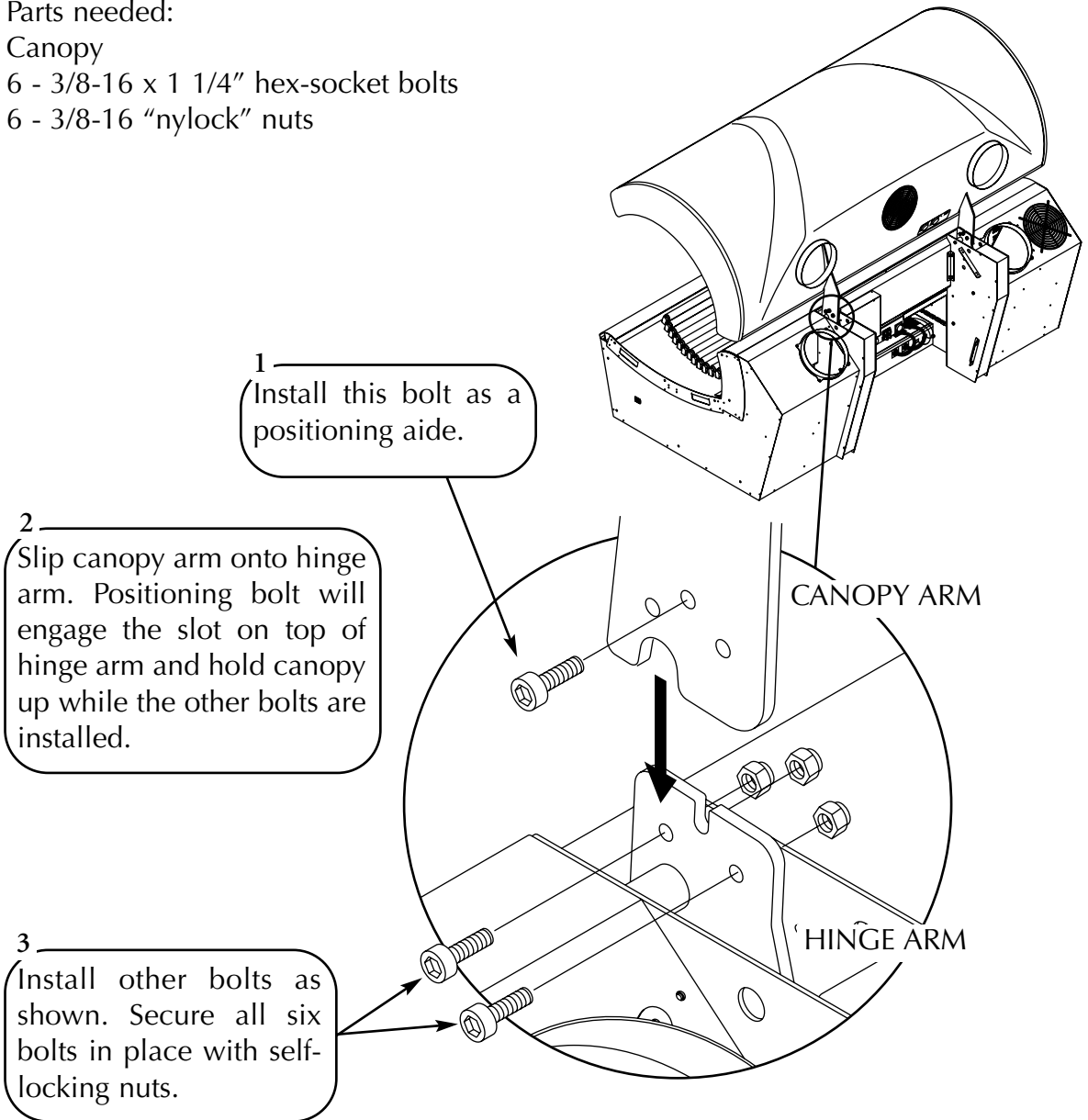


Parts needed:

Canopy

6 - 3/8-16 x 1 1/4" hex-socket bolts

6 - 3/8-16 "nylock" nuts





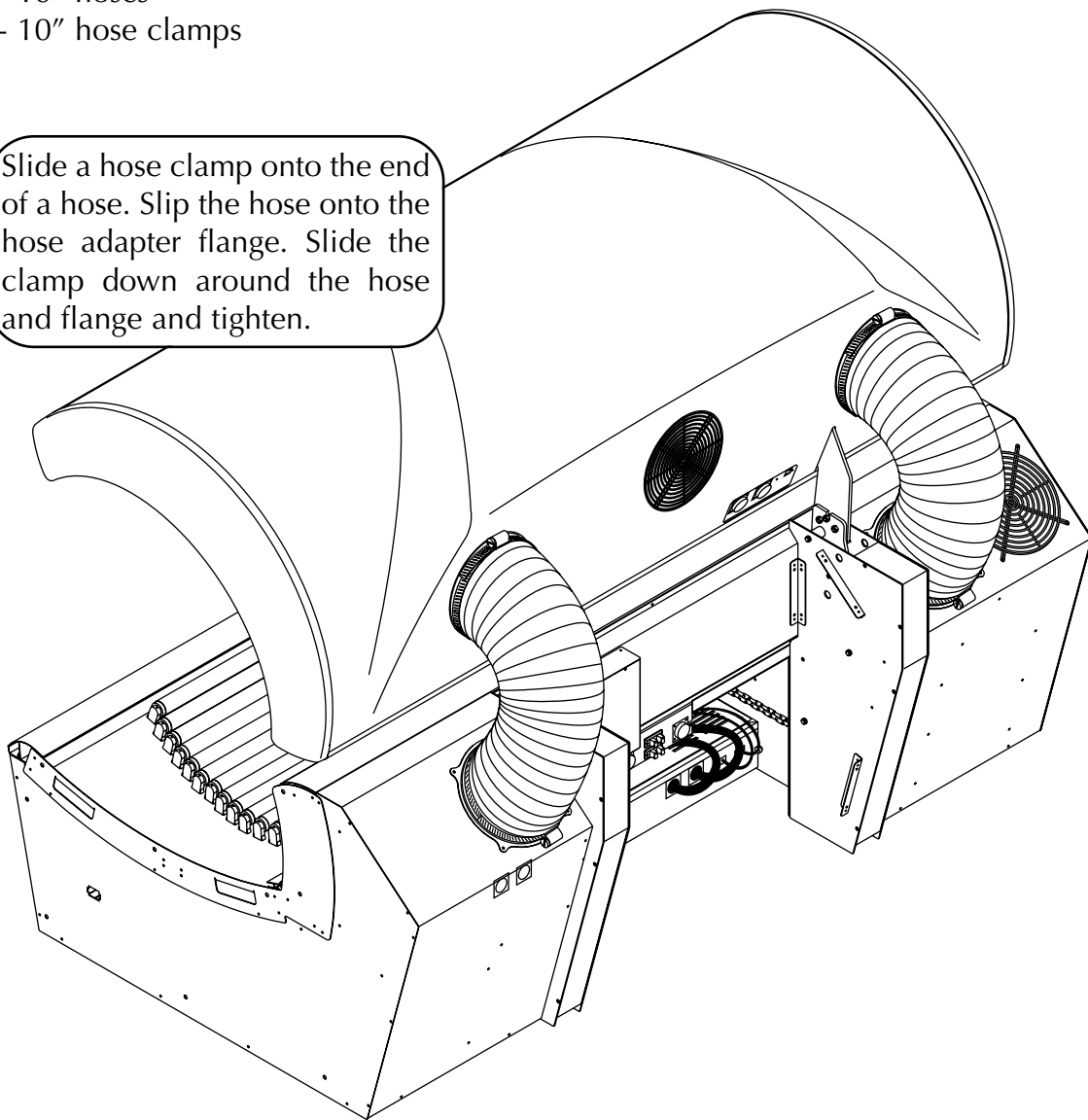


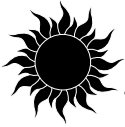
Parts needed:

2 - 10" hoses

4 - 10" hose clamps

Slide a hose clamp onto the end of a hose. Slip the hose onto the hose adapter flange. Slide the clamp down around the hose and flange and tighten.

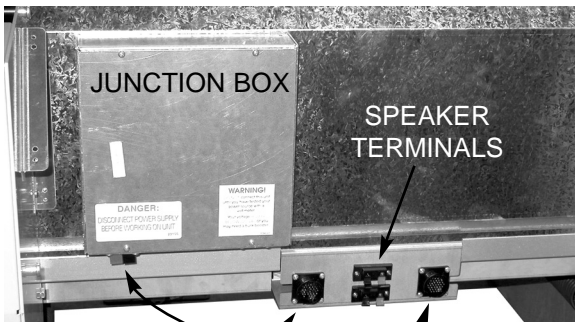




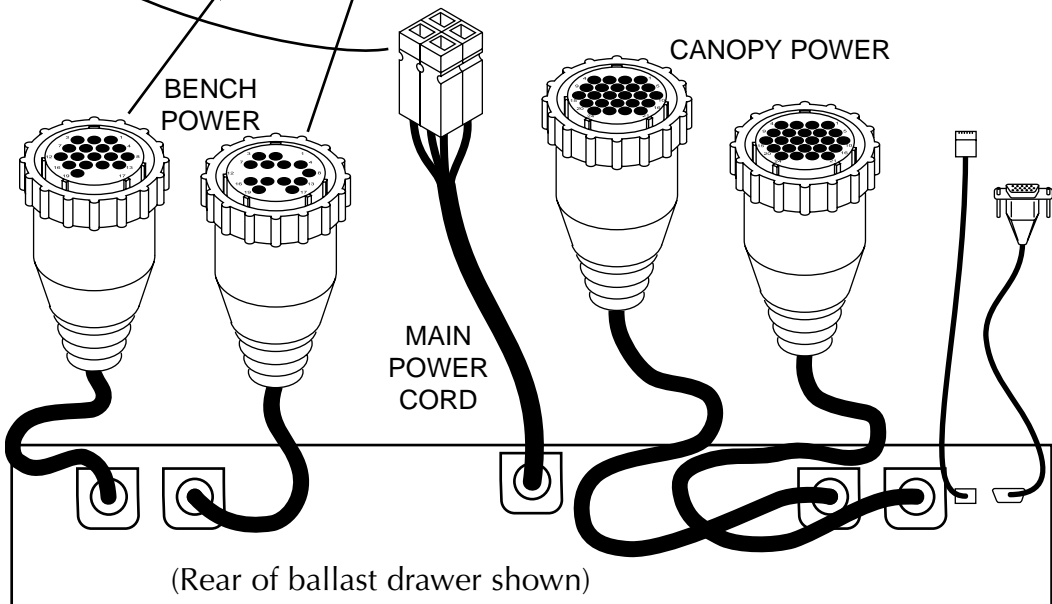
At the rear of the sunbed, connect the two bench power cords to their respective power receptacles on the bench. Simply match the plug to the receptacle, push on firmly and secure by twisting the threaded locking ring. Connect main power cord to the bottom of the junction box.

Have your electrician connect power directly into the junction box as described in *Pre-Installation Planning*. Again, a professional electrician is recommended.

In the head-end endcap are two speakers capable of handling 20W of musical power, with a maximum of 80W. Speaker terminals are located on the bench power bracket for connection to a stereo.

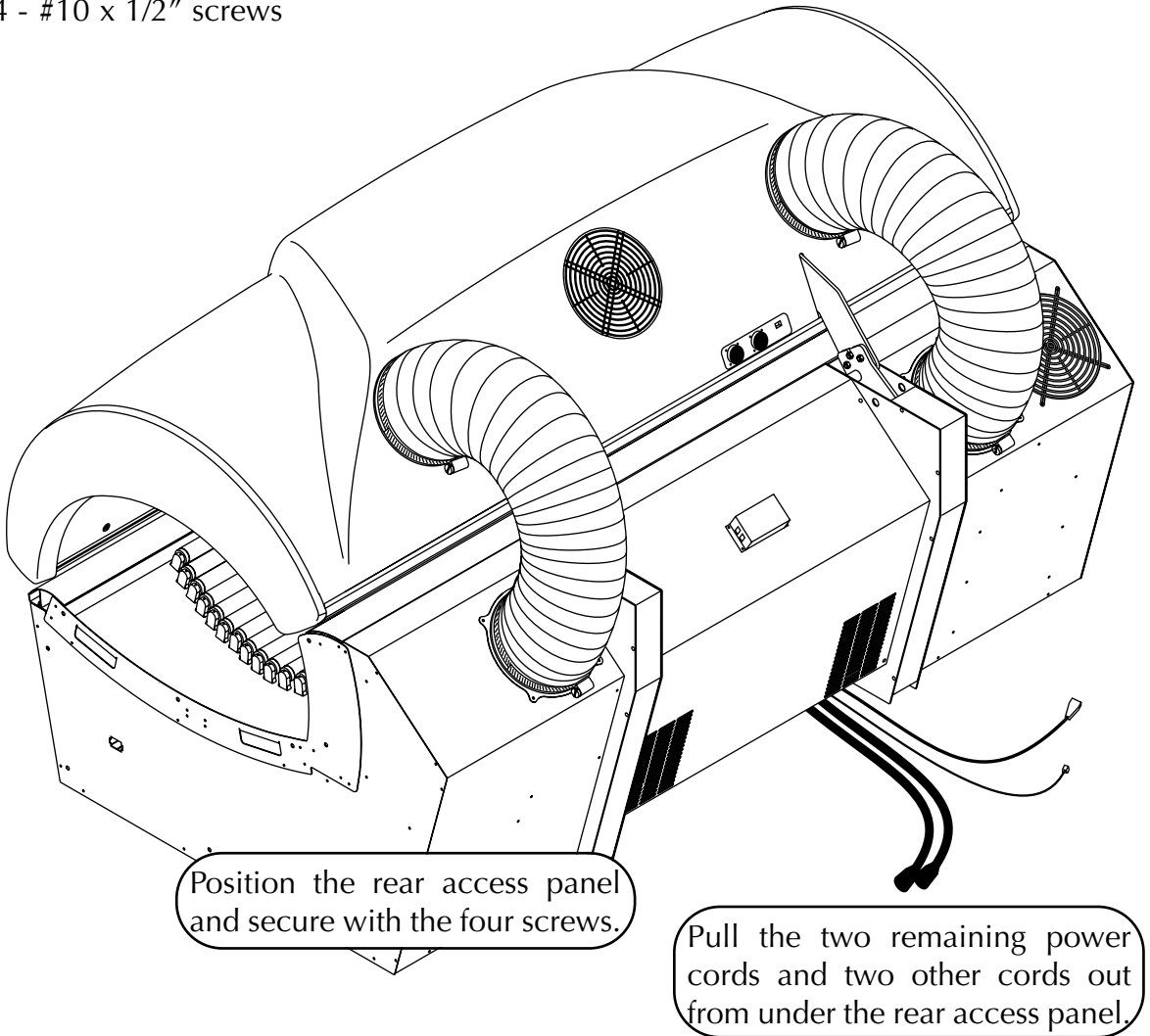


PIN CONFIGURATIONS MAY VARY FROM SHOWN



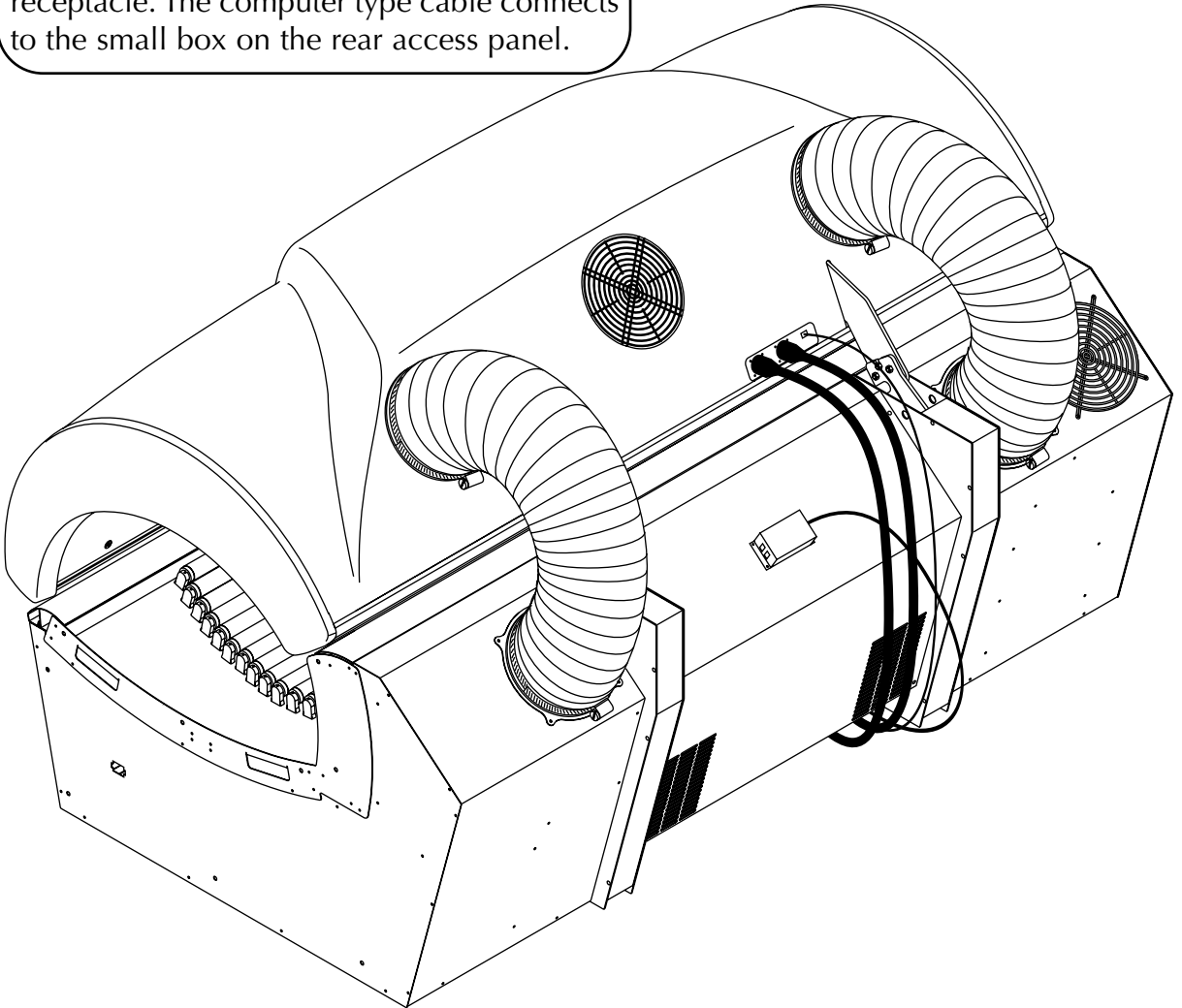


Parts needed:  
Rear access panel  
4 - #10 x 1/2" screws





Plug each cord into its respective receptacle. The two large cables must run straight up, plugging the left one into the left receptacle on the canopy and the right one into the right receptacle. The computer type cable connects to the small box on the rear access panel.





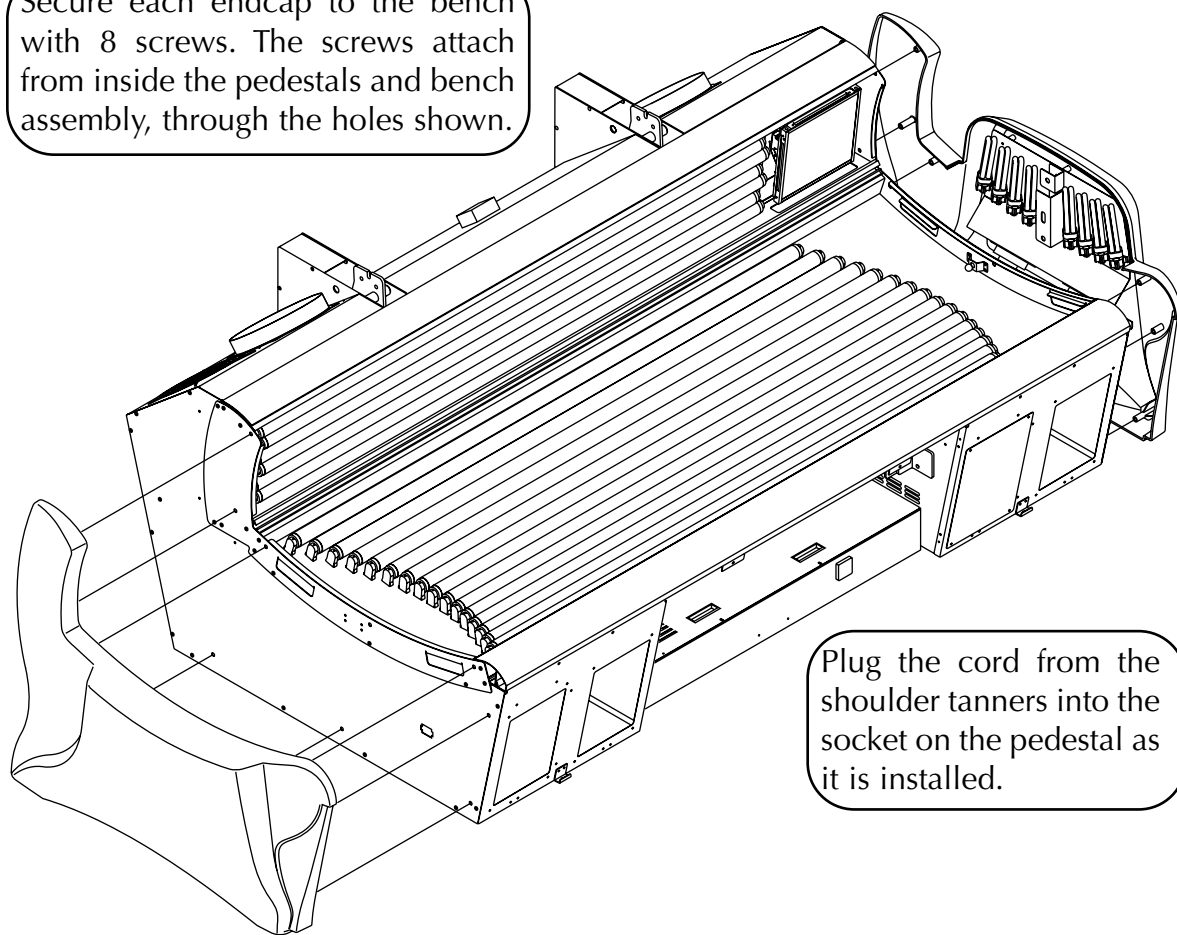
Parts needed:

Head-end bench endcap (with shoulder tanners)

Foot-end bench endcap

16 - 1/4-20 x 3/4" screws with tooth washers

Secure each endcap to the bench with 8 screws. The screws attach from inside the pedestals and bench assembly, through the holes shown.



**NOTE: Canopy removed for illustration purposes only**

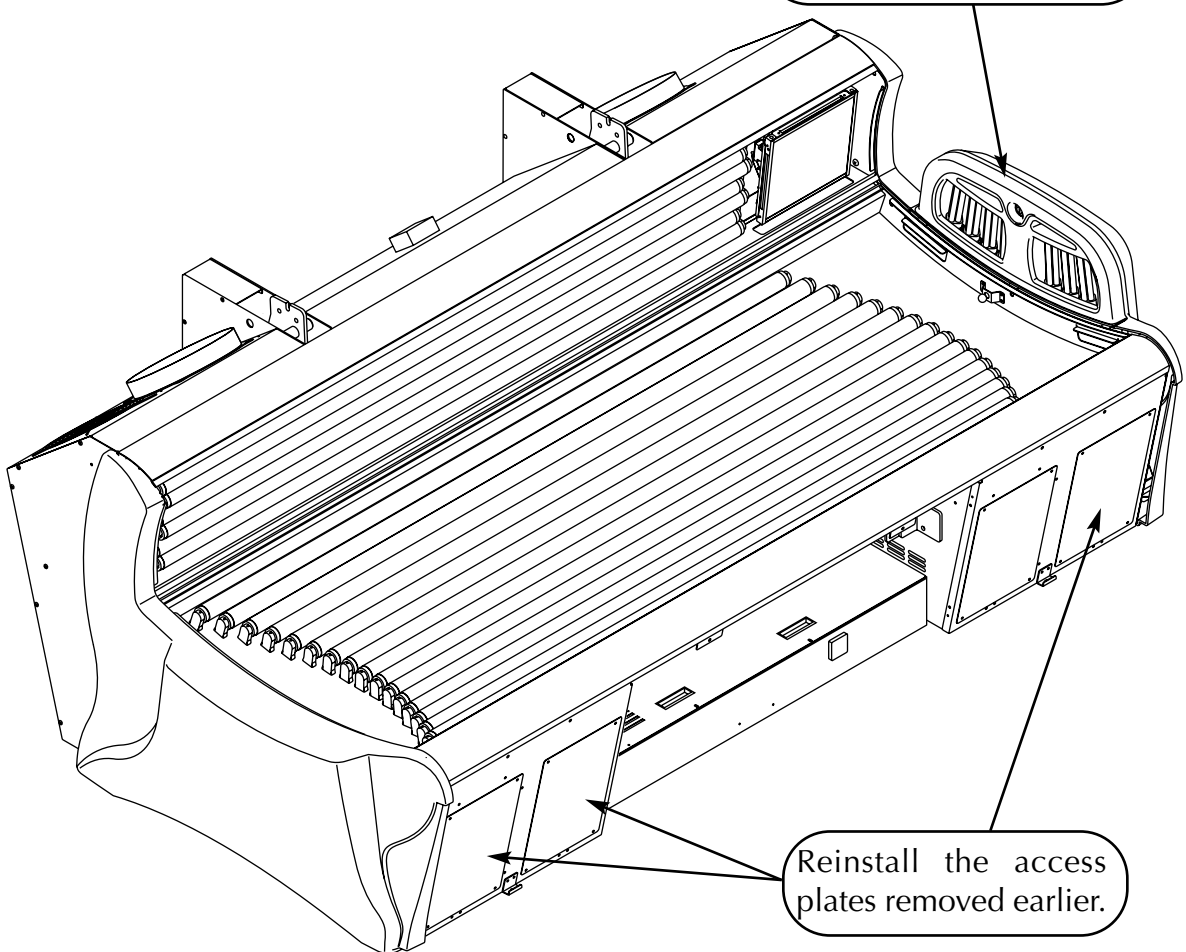


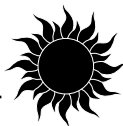
Parts needed:

Shoulder tanner cover

3 - Bench access plates

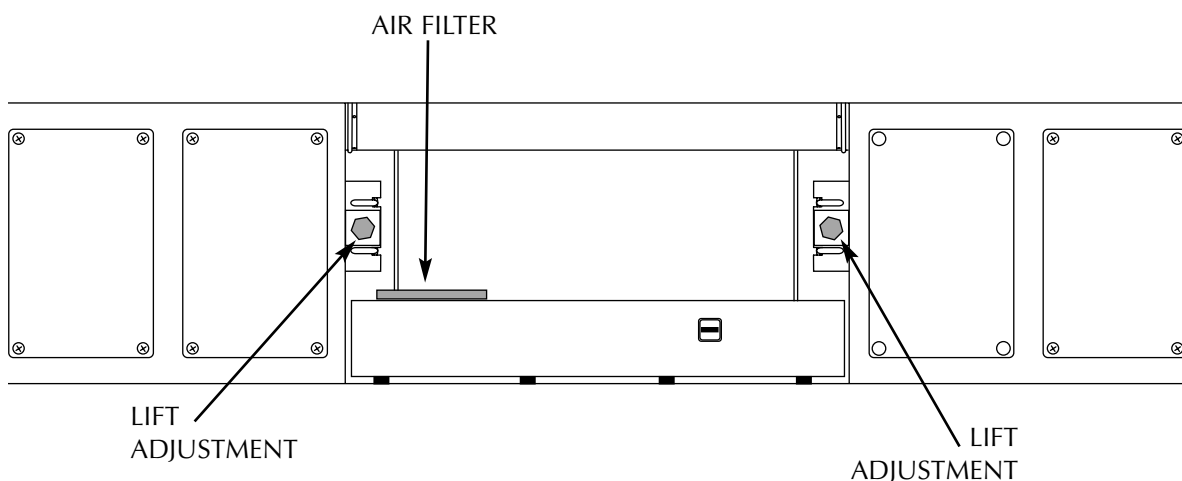
12 - #10 x 1/2" screws





Your sunbed uses a smooth gliding spring lift system to raise the canopy. This lift system may need to be adjusted slightly due to shipment. Use a 7/8" wrench to turn the hex shaped Lift Adjustment lugs (shown below), clockwise for more lift and counterclockwise for less. When adjusted properly, the canopy should raise easily as well as rest fully closed. Always adjust both lugs equally.

Make sure the air filter is in place on top of the ballast drawer. It simply sits over the vent holes. Airflow holds it in place when the unit is on. The airflow arrow on the side of this filter should point down.



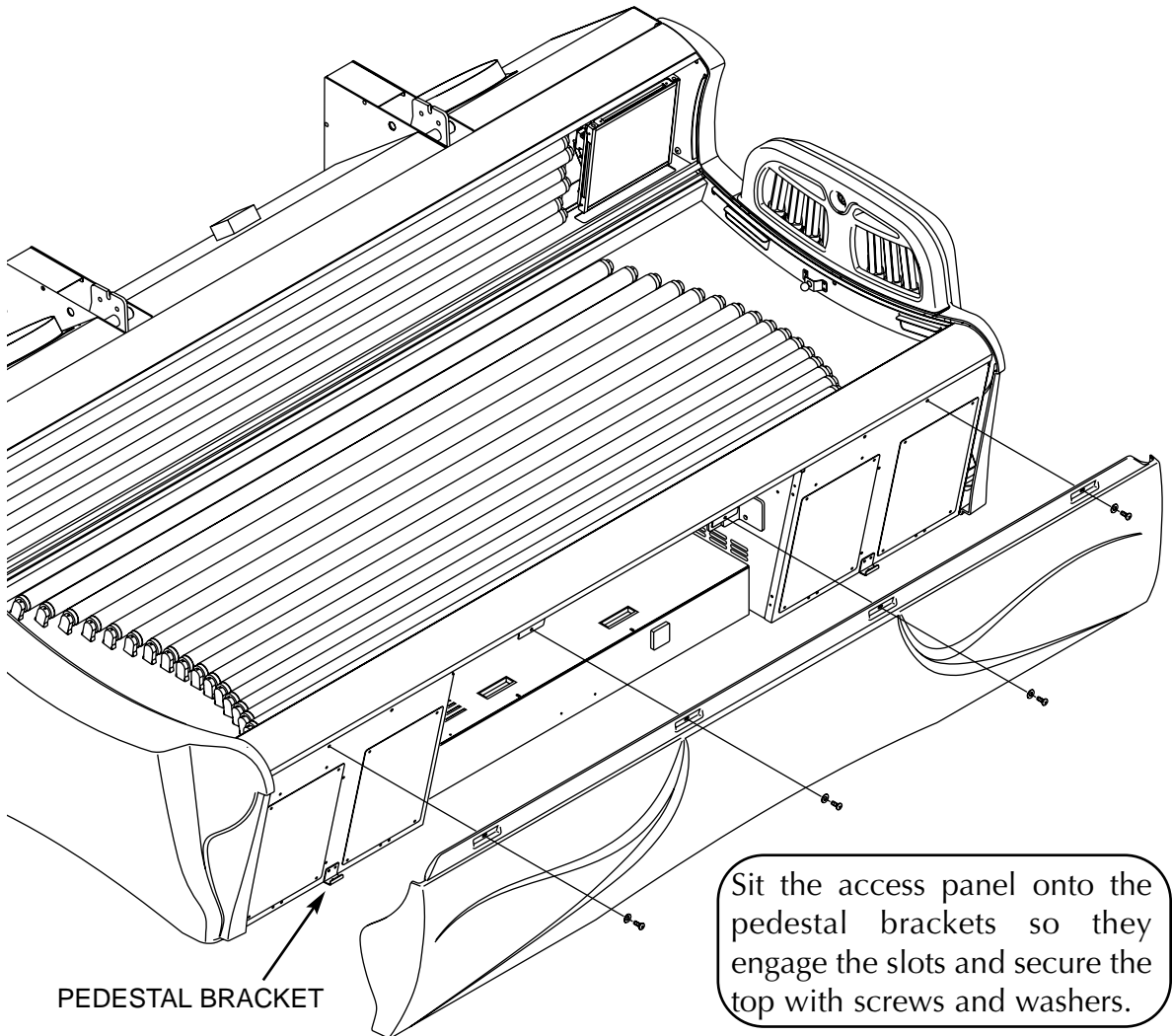


Parts needed:

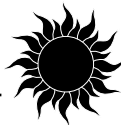
Front access panel

4 - #10-32 x 1/2" screws

4 - #10 washers

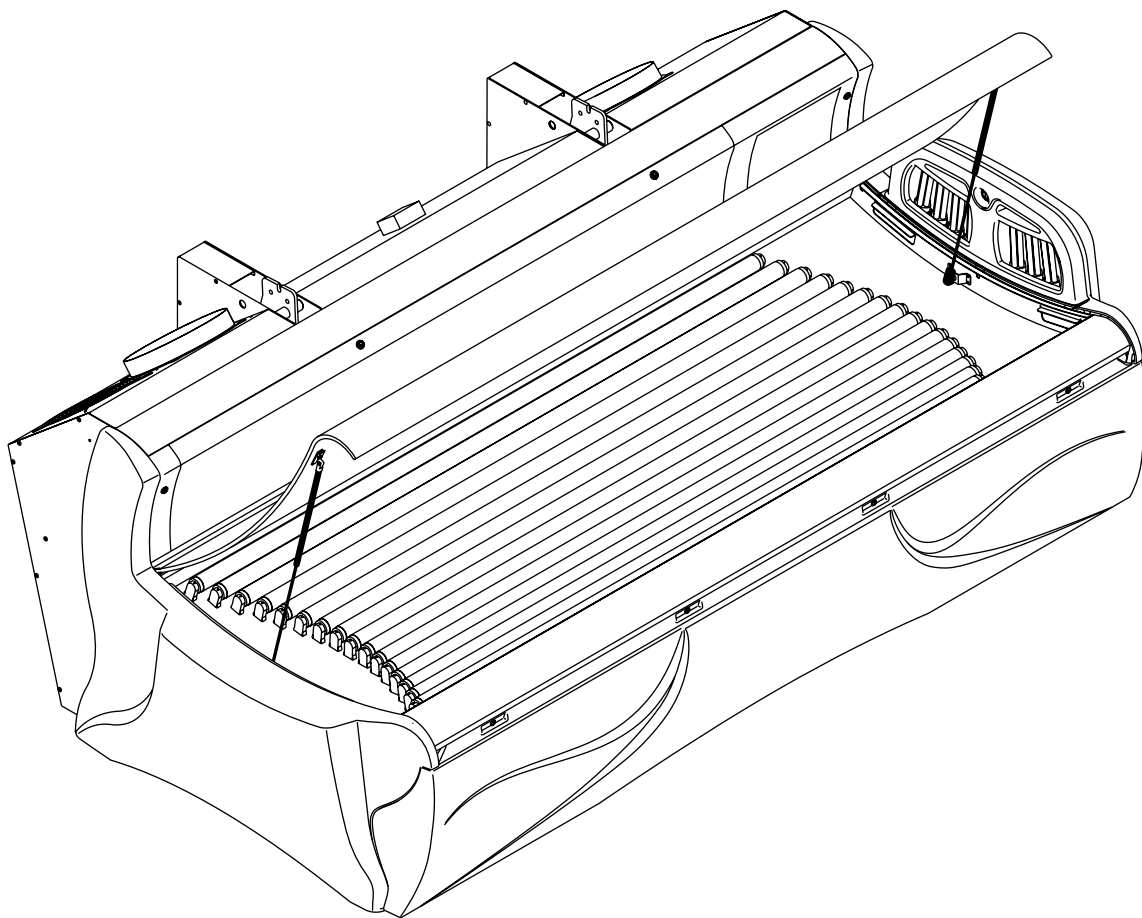




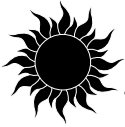


Reinstall the bench acrylics. Sit the rear acrylic into its slot and secure the latches.

Slide the bench acrylic into its channel in the back and press the gas spring ends onto the ball studs (no tools required).

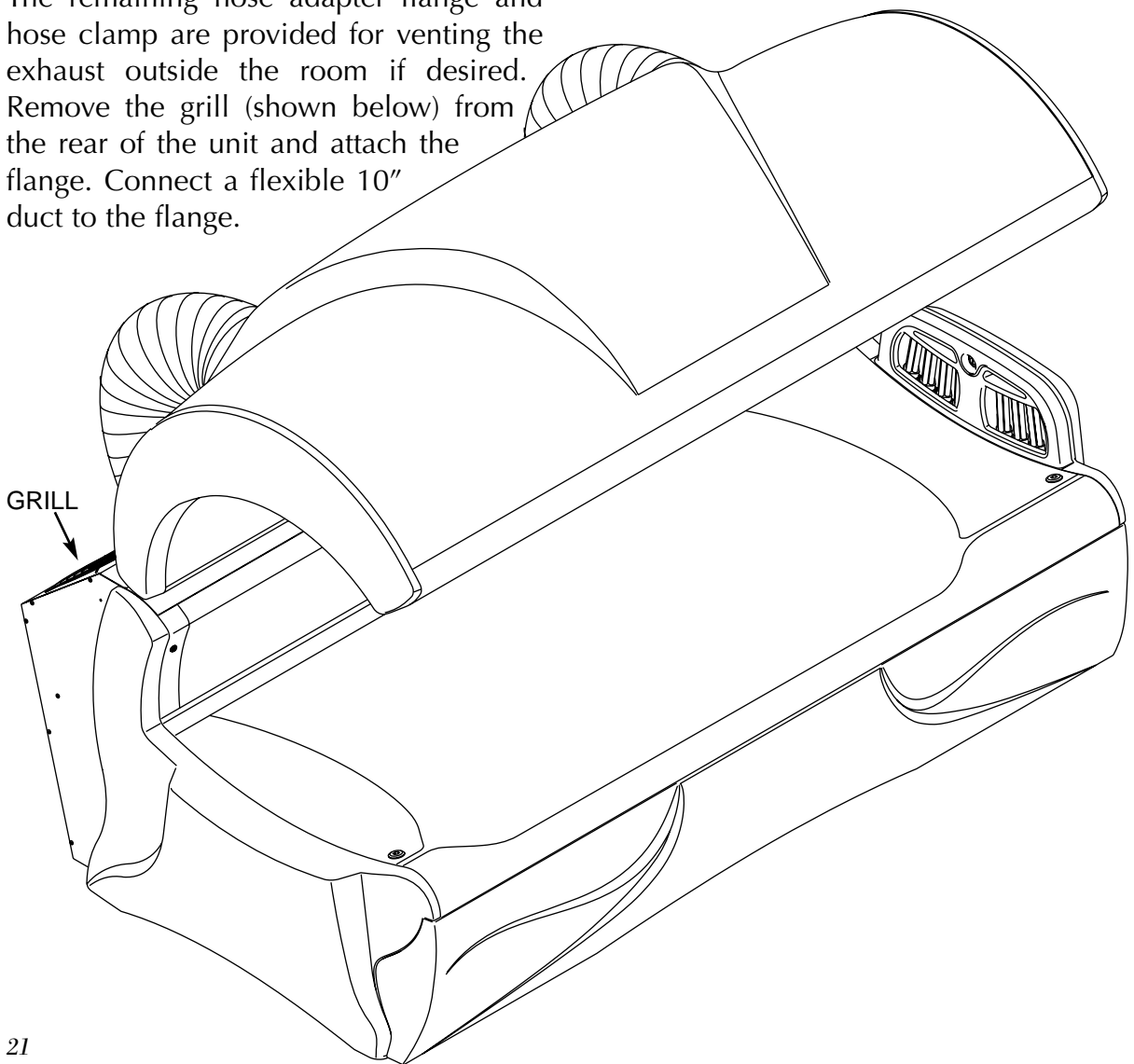


**NOTE: Canopy removed for illustration purposes only**



Lock the bench acrylic down and your **SolarForce® 648** is ready to use.

The remaining hose adapter flange and hose clamp are provided for venting the exhaust outside the room if desired. Remove the grill (shown below) from the rear of the unit and attach the flange. Connect a flexible 10" duct to the flange.



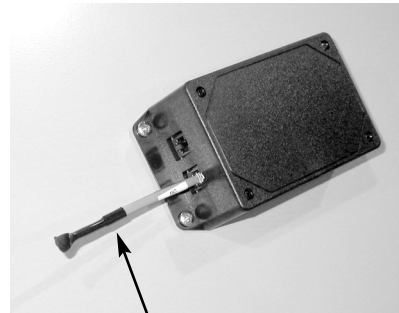


## Remote Connections

Your sunbed incorporates advanced circuitry allowing it to connect and communicate with most remote control systems. If a remote system is to be used, first determine whether the remote system is a T-Max® System or a standard remote system operating with a control relay. Follow the appropriate instructions for your system type.

Two remote ports are located in the small black box on the rear access panel (see right). Both ports work the same. A Remote Control Bypass plug is already installed in one of the remote control ports. Your sunbed will not operate without the Remote Control Bypass plug or a remote system connected.

**ATTENTION: Use only the Remote Control Bypass plug supplied with your sunbed. Similar looking T-Max® terminator plugs will not work as a bypass plug. Normally, a bypass plug is needed only when your sunbed is operated without a remote system connected.**



REMOTE CONTROL  
BYPASS PLUG



## T-Max® Products

The T-Max® remote systems offer the ultimate in sunbed control, while allowing the tanner easy straightforward operation. Your sunbed is configured to directly connect to this system. The circuitry inside your bed eliminates the need for the T-Max® 1A or 3A when connecting to the T-Max® Manager series. Your bed supports the auto addressing feature of the latest T-Max® Manager models and the following parameters: 2, 5, 6, 7, 8, 9, 10, 13, 15, 23, 38. See the chart on page 25 and your T-Max® manual for descriptions of these parameters and how they function.

### CAUTION

The remote connection is not designed to supply or accept high voltage, nor can it provide power to an external timer. The sunbed's remote interface circuitry operates on 5 volts, attempting to connect it to any higher voltages will damage the sunbed as well as void your warranty.

## T-Max® Manager Remote System

This system is ideal for multiple sunbed installations. Simply connect the RJ-22 modular cable(s), described in the T-Max® Manager manual, into the remote port(s) located on the back of your sunbed and follow the instructions that came with your remote system, noting *figure 1*. If you have an older T-Max® Manager that doesn't support auto addressing, set the address, or "id", of each sunbed manually as described in *Setting the address manually*. You can place your sunbed at any location in the series.

## T-Max® 1A and 3A Remote Systems

In single sunbed installations, the T-Max® 1A and 3A can offer the same control as the T-Max® Manager, eliminating the need for a Manager. If you're using a 1A in this manner, it must have a chip labelled "master" installed on its circuit board. The remote control bypass plug must not be used in this configuration. The 3A may be used as a "master" with no modification.

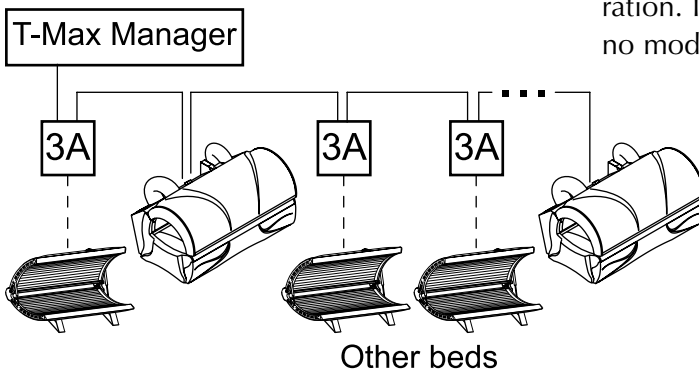


figure 1

**Go straight to the source with  
all your T-Max® brand remote  
questions:  
(417) 338-5101**

NOTE: A T-Max® 1A  
can be substituted for  
the 3A in figure 1.



After you have set the T-Max® 1A's, or 3A's, address to "0" (refer to your T-Max® user's guide) and the sunbed's address to "1" (see right), simply connect the RJ-22 modular cables, described in the T-Max® user's guide, directly into either port located on the back of the sunbed and either port on the back of the T-Max® 1A or 3A. See figure 2.

### **Auto Addressing with T-Max®**

Your T-Max® Manager manual will explain how to get into auto address mode. Once auto address has been activated, your bed display will blink "88". Wait 10 seconds for the system to communicate properly and press the START button. The display will flash "99" to signify it has accepted the address and return to "0:00".

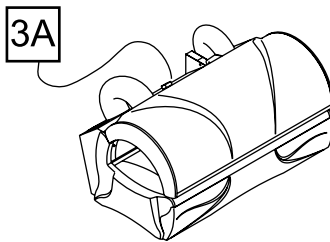


figure 2

### **Setting the address manually**

Before connecting your booth to the T-Max® Manager or T-Max® 1A or 3A, the address of your booth must first be set. Set the "id" manually as described below.

### **Setting the Address**

1. Make sure the bed display is showing "0:00".
2. Press the STOP button for three seconds. The display should indicate an address number from "1" to "255".
3. If you are using a T-Max® 1A or 3A as a "master" remote, the address of the bed must be set to "1". If you are using a T-Max® Manager each sunbed must be assigned a different address. To adjust the address, press the START button to count up until the desired number (from 1 to 128) is achieved. Addresses 252 to 255 are not normally used.
4. Press the STOP button to return to the normal display mode.

NOTE: A T-Max® 1A with a "master" chip can be substituted for a 3A in figure 2.

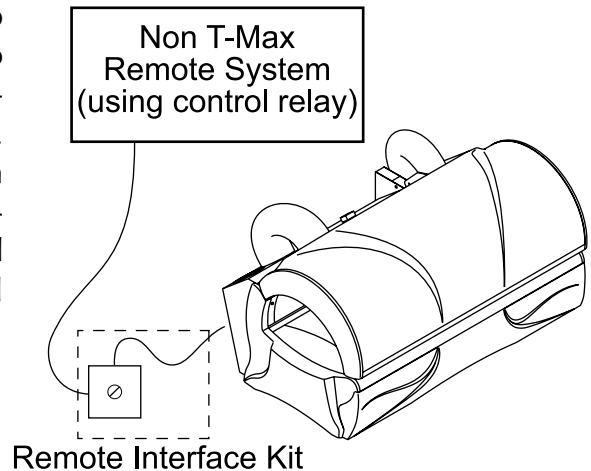


### Remote systems using a Control Relay

Most non-T-Max® remote systems control the sunbed by the use of a relay. The relay operates the sunbed by connecting and disconnecting a pair of wires leading from the sunbed. Refer to the user's manual provided with your remote system to determine if it operates in this way. To connect your sunbed to this type of system a remote interface kit is required. Contact your place of purchase to obtain the kit. *Figure 3* details a typical connection. Follow the instructions provided with the kit and from the remote's manual to make the necessary connections.

### CAUTION

The remote connection is not designed to supply or accept high voltage, nor can it provide power to an external timer. The sunbed's remote interface circuitry operates on 5 volts, attempting to connect it to any higher voltages will damage the sunbed as well as void your warranty.



*figure 3*

### T-Max® Parameter Chart

Parameter	Function
2	Flip Indicator (timer beeps halfway through session) default - off
5	Session Count (adjustable)
6	Lamp Hours (adjustable)
7	Bed Hours
8	Manual Sessions (counts sessions in "stand-alone" mode)
9	Clean Bed Indicator - 0 = off, 1 = on
10	Manual Lockout (unit only works with T-max® remote) default - off
13	Cooldown Time (length of time fans run after session) default - 5 minutes
15	Master Session Count (not adjustable)
23	Auto Resume (unit continues session after power outage) default - off
38	Face Tanner Lockout Time (seconds face tanner cools before turning on again) default - 60
255	Reset Factory Defaults



## Before You Tan

Before using your sunbed, please note the following important precautions.

- Your skin should be free of cosmetics, oils, or other body lotions prior to tanning except for those specifically made for use with tanning devices. However, do not remove natural body oils by bathing or showering immediately before tanning.
- Your hair should be free of gels, mousses, sprays, or other hair products prior to tanning. These products can cause damage to the sunbed acrylic. As an alternative, a shower cap or towel can be worn to keep treated hair away from the sunbed surfaces.
- This unit intended for individual use. Only one pair of eyewear is included.

### **DANGER**

**Some medication may increase your sensitivity to ultraviolet light. It is recommended that you consult a physician before using this sunbed if taking any medication or if you suspect that your skin might be especially sensitive to sunlight.**



### **DANGER**

**Shock hazard.  
Do not operate this device near water or while you are wet.**

## Exposure Times

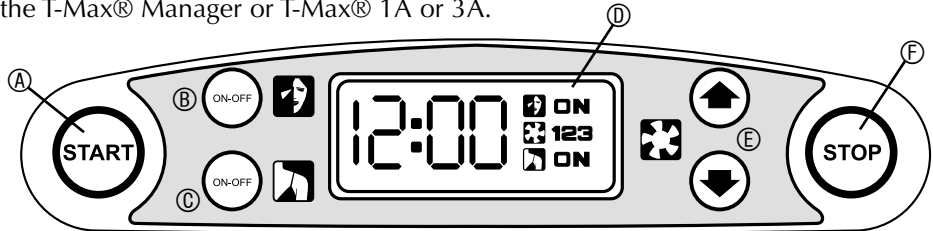
Follow the guidelines for skin type and exposure times as shown in the table below. Untanned persons should not tan on consecutive days during their first week of tanning. Never tan more than once a day. Tanning normally appears after the first few sessions and maximizes after approximately four weeks. Tan once or twice per week thereafter to maintain appearance. Persons already having a base tan may begin at advanced levels corresponding to the extent of their base tan.

RECOMMENDED EXPOSURE TIMES IN MINUTES			MAXIMUM EXPOSURE TIME IS 12 MINUTES			
Skin Type:		Level 1/Week 1 1st-3rd Sessions	Level 2	Level 3	Level 4	Subsequent Maximum
I Sensitive Skin	(Burns easily and severely and does not tan.)	NOT RECOMMENDED FOR TANNING				
II Light	(Burns easily and severely and tans minimally.)	2	4	7	10	12
III Normal	(Burns moderately and tans average.)	3	6	9	12	12
IV Dark	(Burns minimally, tans easily and above average.)	4	7	10	12	12



## Using Your Sunbed

When connected to the T-Max® Manager or T-Max® 1A or 3A.



- A START button** - Turns unit on. Timer display shows remaining time. If a lesser time is desired, press START button until desired time is displayed.
- B Face tanner button** - Turns face tanner on and off. Display shows status.
- C Shoulder tanner button** - Turns shoulder lamps on and off. Display shows status.
- D Timer display** - Displays remaining time and function status.
- E Body fan buttons** - Adjusts body cooling. Timer display shows intensity (1-2-3).
- F STOP button** - Interrupts tanning session.
1. Lift canopy, lie down on bench (face up), lower canopy toward your body. See *Safety Information* for positioning requirements.
  2. Put on your safety goggles.
  3. Assuming the remote system has been set to allow a pre-tanning delay time, the timer display (D) will count down the remaining delay time. Press the START button (A) or wait until the delay time has expired to begin the tanning session. The lamps will turn on and the timer will begin to count down.
  4. When the timer reaches 0 the lamps turn off. If you want to interrupt your session before time expires, press the STOP button (F).
  5. Raise the canopy by using the canopy handle, do not push up on the acrylic shield. The cooling fans run for a period of time after the lamps shut off to aid in cooling the sunbed. The timer will indicate ":" as a reminder to clean the sunbed. After the sunbed is cleaned press the START button and the display will return to "0:00".



### WARNING

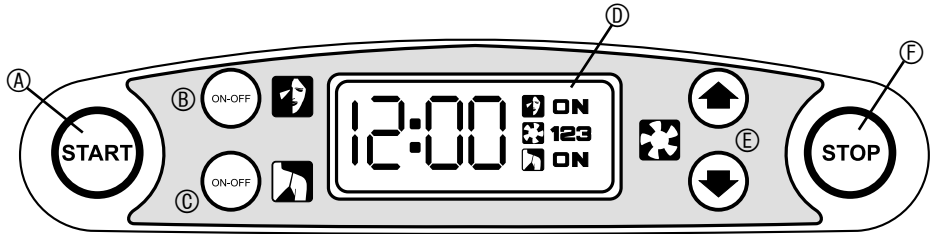
**Wear protective eyewear.**  
**Failure to may result in severe burns or longterm injury to the eyes.**





## Using Your Sunbed

When used as a stand alone unit or when connected to a remote system using a control relay.



**A START button** - Turns unit on. Timer display shows remaining time. If a lesser time is desired, press START button until desired time is displayed.

**B Face tanner button** - Turns face tanner on and off. Display shows status.

**C Shoulder tanner button** - Turns shoulder lamps on and off. Display shows status.

**D Timer display** - Displays remaining time and function status.

**E Body fan buttons** - Adjusts body cooling. Timer display shows intensity (1-2-3).

**F STOP button** - Interrupts tanning session.

1. Lift canopy, lie down on bench (face up), lower canopy toward your body. See *Safety Information* for positioning requirements.
2. Put on your safety goggles.
3. Press the START button (A) to begin the tanning session. The lamps will turn on and the timer will begin to count down.
4. If a tanning time less than the displayed time is desired, repeatedly press the START button (A) to decrease the remaining time.
5. When the timer reaches 0 the lamps turn off. If you want to interrupt your session before time expires, press the STOP button (F).
6. Raise the canopy by using the canopy handle, do not push up on the acrylic shield. The cooling fans run for a period of time after the lamps shut off to aid in cooling the sunbed.



### WARNING

**Wear protective eyewear.**

**Failure to may result in severe burns or longterm injury to the eyes.**



## are and Maintenance

### Cleaning After Use

Clean and disinfect your tanning bed's bench and canopy after each use. Use a non-abrasive disinfectant cleaner that **does not contain ammonia or ammonia derivatives**. Ammonia may damage the acrylic shield. Spray the acrylic lightly with disinfectant and wipe dry with a clean soft cloth. We recommend SunQuest® disinfectant and SunQuest® acrylic cleaner.

### Thorough Periodic Cleaning

#### Introduction

The cooling fans draw air through the bed and over time will cause a dust buildup on the lamps and reflectors. This reduces the tanning effectiveness of the bed. When a dust buildup is observed, it is necessary to thoroughly clean the inside of the unit.

	<b>⚠ WARNING</b>
	<b>Shock hazard.</b> <b>Disconnect power before removing any protective covers.</b>

#### Cleaning the Canopy and Bench

- Step 1** Remove the acrylic shields and lamps as described in *Lamp and Acrylic Replacement*.
- Step 2** With a soft cloth, wipe the entire length of each lamp.

- Step 3** Clean both sides of the acrylic shields with a non-ammonia disinfectant cleaner.
- Step 4** Wipe the reflectors with a clean damp cloth.
- Step 5** Reinstall the lamps and acrylic shields.
- Step 6** Clean or replace air filters on top of ballast drawer and in right pedestal (see *Under the Bench*).

### Mechanical Inspection

Your tanning bed has been built for years of service. To ensure trouble-free operation throughout its life, inspect the unit's mechanical integrity every 400-500 hours of use.

- Inspect the unit's fasteners verifying that all are firmly in place.
- Inspect lift springs for signs of wear. Adjust for proper lift if needed. See *Under the Bench*.
- Inspect the power cords and connections.
- Inspect the acrylics. Broken, cracked or badly scratched acrylics should be immediately replaced.
- Check damper operation. The damper limits the canopy's movement speed. The damper looks like a gas spring attached to the left hinge arm. Replace if canopy raises and lowers too quickly.



## Lamp and Acrylic Replacement

### Introduction

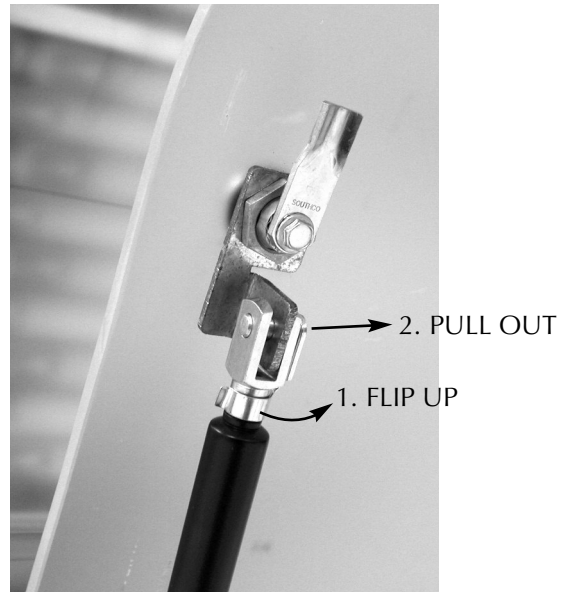
To be assured of maximum tanning effectiveness, change lamps after approximately 800-1000 hours of use. Tanning will continue after this time but at a slower rate. To ensure trouble-free operation of your sunbed, replace the lamp starters whenever the lamps are replaced.

	<b>⚠ WARNING</b>
	<b>Shock hazard. Disconnect power before removing any protective covers.</b>

### Opening/Replacing Bench Acrylic

The Bench acrylic does not need to be removed to perform normal maintenance, such as cleaning and replacing lamps. Turn the quarter-turn latches on either side of the acrylic and lift the front edge. Two gas springs hold it open.

To remove the Bench acrylic, lift the acrylic so the gas springs are fully extended. Each gas spring is held to the acrylic bracket with a locking pin. Unclip the pin and slide it out to disconnect the spring from the acrylic (see below). With the acrylic open lift it from the bench. Replace the acrylic by setting the hinge channel along its back edge in its slot at the rear of the bench and reconnecting the gas springs.





### ***Opening/Replacing Rear Acrylic***

The Rear acrylic is secured by four quarter-turn latches. Using the 6mm hex wrench, turn each latch 90° to unlock it. Lift the acrylic out of its channel. Replace it by setting it in its channel and locking the latches.

### ***Opening/Replacing Canopy Acrylic***

The canopy acrylic is secured by four quarter-turn latches along its front edge. While supporting the front of the acrylic, use the 6mm hex wrench to unlock the latches. The acrylic will swing down and rest on the bench.

Removing the acrylic requires two people, one on either end. With it open, lift the front as you gently pull forward and the acrylic hinge will pull out of the channel along the back edge. Replace it by reversing the above directions.

### ***Opening Shoulder Tanner Cover***

Turn the quarter-turn latch in the center of the shoulder tanner cover. Pry the top forward while pulling upward to remove the cover. Replace it by sliding the bottom down and pressing the top closed. Turn the latch to lock.

### ***Removing/Replacing Lamps***

After opening the acrylic shield, replace main lamps as follows.

Step 1 Grasp the lamp at one end and at the middle and turn the lamp one quarter turn. Gently remove the lamp from its holders.

Step 2 Reinstall the lamp by inserting the pins located on the ends of the lamp into the slots on top of the lamp holders and turn the lamp a quarter turn. It should click in place.

### ***Removing/Replacing Shoulder Lamps***

Remove the shoulder tanner cover. Grasp a lamp at its base, NOT by the lamp glass. Pull the lamp straight out of its holder. Install the lamp by lining up the pins on the base of the lamp with the holes in the lamp holder and press into place.



### ***Removing/Replacing Decorative Lamp***

Open the bench acrylic. The decorative lamp is located along the front edge of the bench, behind a colored cover. Remove two or three bench lamps to allow access to the screws holding the cover in place.

Unscrew the two screws holding the cover and replace the lamp as you would the main lamps. Also replace the lamp starter.

Replace with a standard 48" T8 32W lamp.

### ***Recommended Replacement Lamps***

We recommend using the lamps specified below. Use of uncertified lamps is a violation of Federal regulations and will void your warranty. These lamps have an average life of 600-800 hours of effective tanning use. Lamps used longer than that begin to lose their effectiveness even though they continue to light.

### ***Recommended Replacement Acrylics***

Acrylics vary greatly over time in their ability to effectively transmit UV light. Acrylics sold by ETS have been life tested to ensure proper transmission throughout their useful life.

**ONLY THE FOLLOWING LAMPS HAVE BEEN CERTIFIED FOR USE IN THE SOLARFORCE 648:**

**Velocity® VS-R™ Wolff® Model VEL71-T12/160W PREHEAT - BIPIN**

**Heraeus E400 HPT, Philips Model HPA 400/30s or CosmoTech Model 23045 (facial unit)**

**MARQUIS, Wolff System® Model CF26W (shoulder unit)**



### Removing/Replacing Face Tanner Lamps

After opening the canopy acrylic, replace the face tanner lamps as follows:

**Step 1** Support the face tanner assembly with your hand while unscrewing the two retaining screws. The face tanner glass casing will swing downward.

**Step 2** The lamp can now be exchanged. The lamp holders are equipped with spring contacts which enable the lamp to be removed easily. Remove the old lamp and discard. Install the new lamp, using a clean cloth or paper towel. Ensure that the lamp is firmly seated in the lamp holders.

**Note!** Never take hold of the lamp such that your fingers are in contact with the lamp glass. Finger oils will greatly reduce the lamp's operational life.

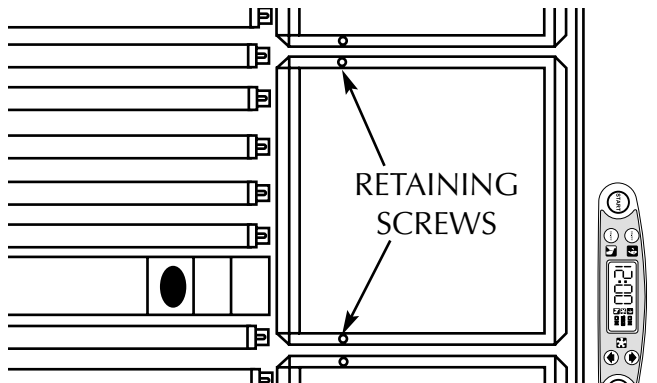
**Step 3** Gently close the face tanner glass casing and lock it closed with the screws. Ensure that the screws firmly secure the glass casing.

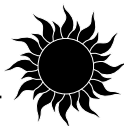
#### **DANGER**

**Unfiltered light from face tanner can cause severe burns.**

**Never turn sunbed on while face tanner is disassembled or when glass filters are removed.**

**Immediately discontinue use of this equipment if face tanner glass is broken or any unfiltered light can be seen escaping face tanner assembly.**





## Under the Bench

Lift the bench acrylic (see *Lamp and Acrylic Replacement*). The front access panel is held in place by four Phillips head screws. Remove the access panel.

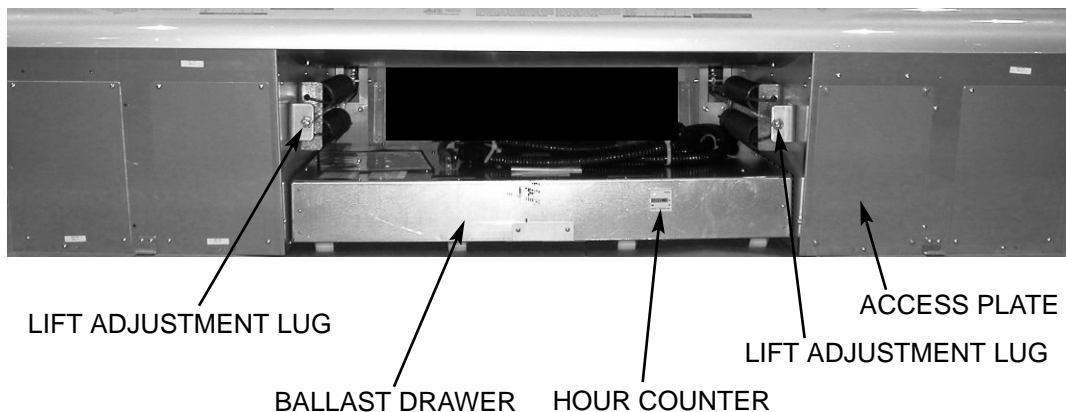
### Canopy Lift Adjustment

Your sunbed uses a smooth gliding spring lift system to raise the canopy. Periodically this lift system may need to be adjusted slightly. Use a 7/8" wrench (or ratchet wrench) to turn the hex shaped Lift Adjustment lugs (shown below), clockwise for more lift and counterclockwise for less. When adjusted properly, the canopy should raise easily as well as rest fully closed. Always adjust both lugs equally.

### Air Filter Replacement

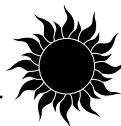
The bench contains three air filters, one on top of the ballast drawer and two inside the right pedestal. The filter on top of the ballast drawer simply sits on the drawer and is held in place by airflow when the unit is running. Replace with a standard 10" x 24" x 1" furnace filter. The airflow indicator should point down.

Thumb screws secure an access plate onto the right pedestal. Using your fingers, loosen the screws to remove this plate. Behind it are two air filters. Pull them straight out. Replace with standard 12" x 18" x 1" furnace filters. The airflow arrows should point toward the head end.

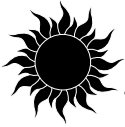


Problem	Solution
Sunbed not tanning	<ol style="list-style-type: none"> <li>1. Clean sunbed, see <i>Thorough Periodic Cleaning</i>.</li> <li>2. Ensure supply voltage is between 208 and 230V AC.</li> <li>3. Replace lamps if lamp hours are greater than 800hrs.</li> <li>4. Replace acrylic.</li> </ol>
Lamps fail to light and timer display is blank	<ol style="list-style-type: none"> <li>1. Make sure the unit is connected to a power source.</li> <li>2. Check source of AC power. Reset circuit breaker or replace fuse.</li> </ol>
One or more lamps fail to light	<ol style="list-style-type: none"> <li>1. Check that lamp is installed correctly.</li> <li>2. Switch unlit lamp with a lamp that lights, if new lamp lights and old lamp still does not, replace old lamp.</li> </ol>
The face tanners will not come on	<ol style="list-style-type: none"> <li>1. Face tanner operation is initially delayed by 5 seconds.</li> <li>2. Face tanners will not relight for 1 minute if turned off.</li> <li>3. Replace face tanner lamp, see <i>Removing/Replacing Face Tanner Lamps</i>.</li> </ol>
The canopy will not stay up / The canopy will not stay down	Your sunbed uses a smooth gliding spring lift system to raise the canopy. This lift system may need to be adjusted slightly from time to time. See <i>Under the Bench</i> for proper adjustment procedures. The canopy should raise easily as well as rest fully closed.
My canopy opens and closes too fast (slamming, not enough resistance)	Your sunbed utilizes a damper which limits the canopy's movement speed. This also serves as a safety device in case of spring lift failure as the canopy will not crash down. The damper looks like a gas spring attached to the left hinge arm. Replace if necessary.
Timer display is indicating E 91	Timer software error. Disconnect and reapply power to the unit.
Timer display is indicating E 92	Current sensor indicating unit is off when it should be on. Contact servicer.
Timer display is indicating E 93	Current sensor indicating unit is on when it should be off. Contact servicer.





<b>Problem</b>	<b>Solution</b>
Timer display is indicating E 98	Unit temperature too high. 1. Allow unit time to cool. 2. Check all fan openings and air filters for obstructions. 3. Verify ambient temperature is below 80°F. 4. If problem persists contact servicer.
I forgot what address, or "id", I set my sunbed to	By holding the STOP button for 3 seconds the timer display will briefly blink "id" and your address number.
Timer display changes to indicate a tanning time after the START button is pressed but lamps do not come on	1. Bypass plug is not installed, see <i>Remote Connections</i> . 2. A non-SunStar® bypass has been used. See <i>Remote Connections</i> . 3. If remote is being used, other than T-Max® Manager, the external timer may not be activated. 4. Remote wiring is incorrect, see the instructions provided with the remote interface kit.
My bed is connected to the T-Max® Manager remote system and when the delay time has expired the timer display starts counting down but the bed lights do not come on	The auto start feature of the remote system is disabled, see the instructions provided with your remote system.
My bed won't work with the T-Max® Manager remote system	The sunbed must first be set to a unique address, see <i>Remote Connections</i> .
Timer display continues to show 0:00 after the START button is pressed	1. T-Max® Manager remote system has not yet been set. 2. Sunbed address is not set correctly, see <i>Remote Connections</i> .
My salon suffers frequent, short power outages and clients complain about losing session time	If you have a T-Max® Manager, changing parameter 23 from "0" to "1" will allow the tanning bed to remember how much time was left when power goes out and resume its session after power is restored. Consult your T-Max® Manager manual for information on setting parameters.



Problem	Solution
My bed, connected to a T-Max® Manager, did not display “dL” but does indicate: - “0:00”  - a tanning time and the lamps have come on  - a tanning time but the lamps have not come on	<ol style="list-style-type: none"><li>1. Remote device has not been set.</li><li>2. The sunbed has not been connected to the remote system, see <i>Remote Connections</i>.</li></ol> <ol style="list-style-type: none"><li>1. Delay time of T-Max® Manager has not been set.</li><li>2. Delay time has expired and session has begun.</li></ol> <p>Auto start function of T-Max® Manager has been turned off. Press the START button to turn on lamps.</p>
When auto-addressing the first bed does not register an address	When using the auto address feature of the T-Max® Manager you must wait 10 seconds from the time you start the auto address function before addressing the first bed.

**Record this information for ease of service:**

**Date of purchase:** \_\_\_\_\_

**Bench serial number:** \_\_\_\_\_

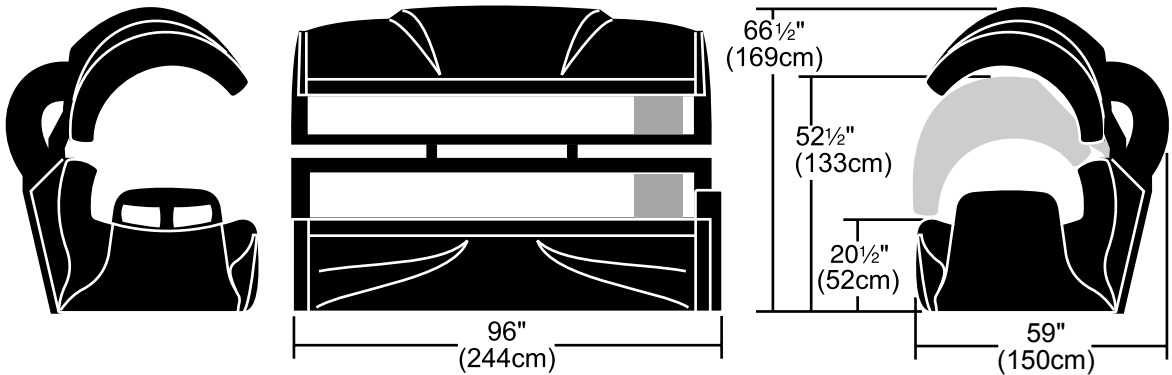
**Canopy serial number:** \_\_\_\_\_

**Ballast tray ID number:** \_\_\_\_\_



## SolarForce® 648

### Size



Weight (approx.)	1200 lbs. (546kg)
Minimum Room Size	9' x 10' (2.7m x 3m)
Electrical -	
Voltage (AC)	220
Amperage	55
Outlet	Hardwire
Main Lamps	48 x Velocity® VS-R™ 160W
Face Tanner	4 x 400W SolarMax™ IFT
Shoulder Tanner	8 x 26W
Cooling System	1100cfm full length body cooling
Timer System	Digital
Max. Exposure Time	12 minutes
Back-up Timer	Digital "Watchdog" circuitry
Remote Capability	T-Max® compatible

**U.S. Patent 6,660,025 B2**



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