

Installation and Operation Guide for Partial Sun Attenuator



The partial sun attenuator is an accessory pre-installed on all Oriel Class 3A and SOL-UV solar simulators, assisting in manual control of the irradiance output level.

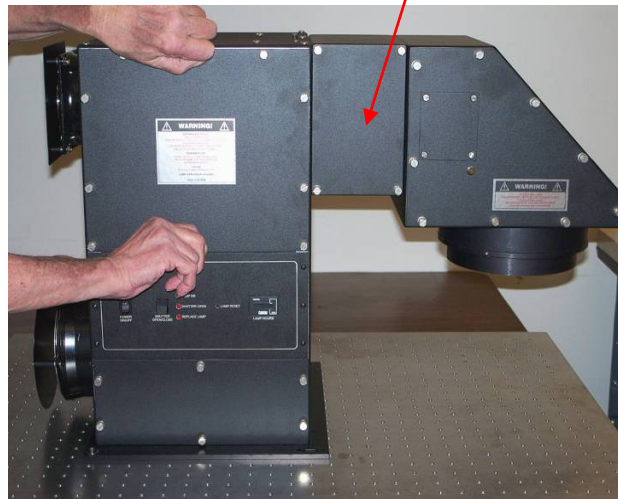
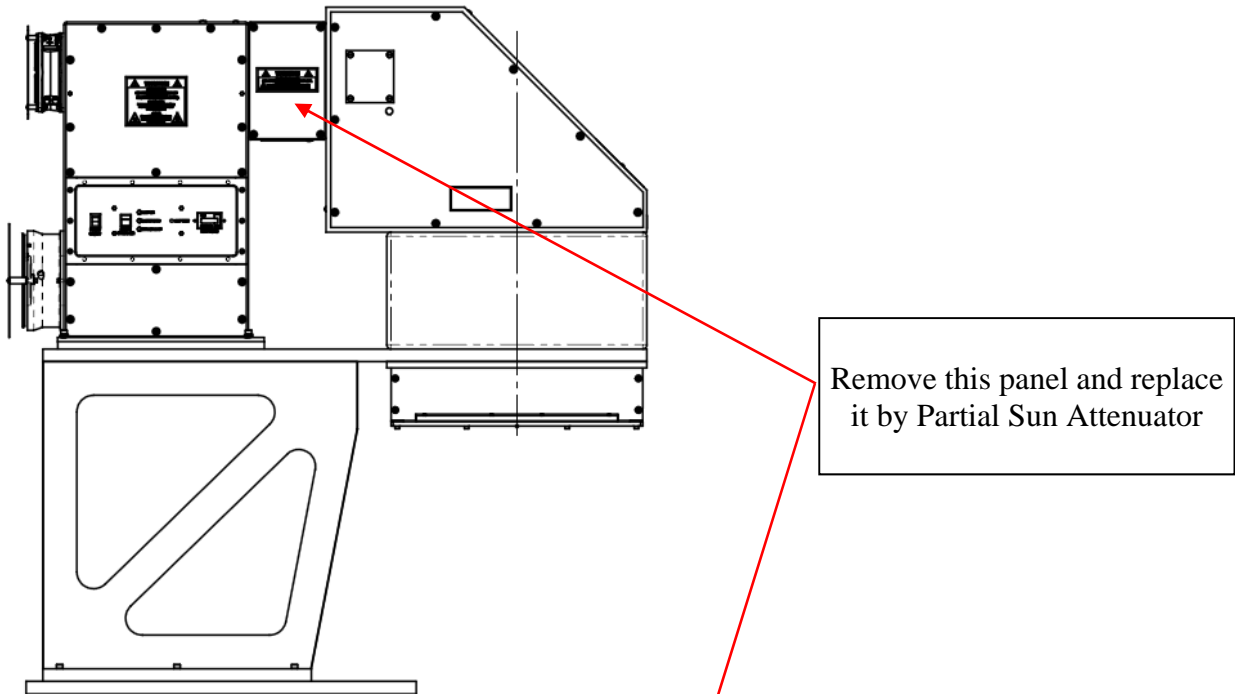


As shown above in the red circle, the partial sun attenuator fits in the middle section of the lamp housing for the applicable solar simulator models. The partial sun module comes with four Phillips pan head screws - black (6-32 x 3/8).

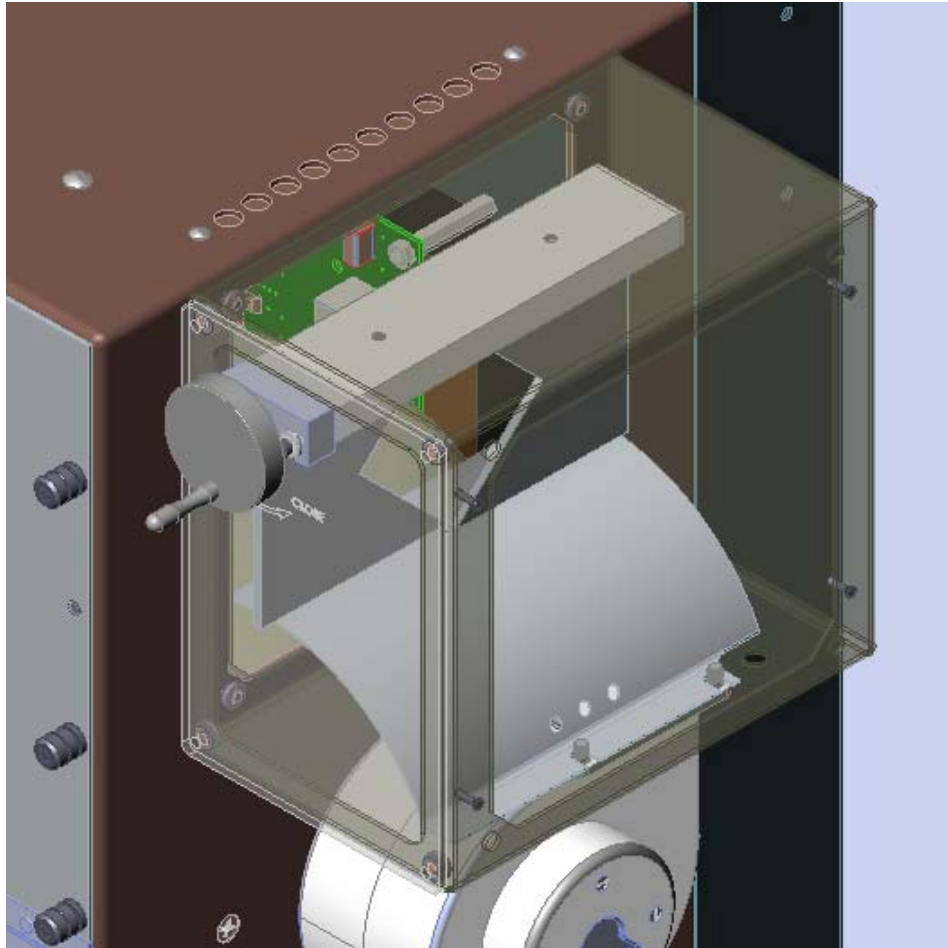
Follow the steps below to install the Partial Sun Attenuator:

1. Remove the middle section side panel as shown below.

(Pictures and diagrams below are for demonstration purpose only, actual size and shape of solar simulator varies by beam size and model number)



2. Use the 4 Phillips pan head screws (packaged with the partial sun attenuator) to tighten and secure the panel as shown below.



3. To ensure proper installation, rotate the knob fully in either direction.
4. The label under the knob indicates that if the knob is turned in the clock-wise direction, output irradiance increases, and if turned anti-clock-wise, output irradiance decreases.



5. Turn on the power-supply and solar simulator. Adjust the knob in either direction to attain the desired output irradiance level. *(Note: In order to attain the desired output, a reference cell or other irradiance measuring device should be used. Relying on the number of turns or knob orientation for any particular level of irradiance will not guarantee repetitive results. User will have to adjust the knob by measuring output irradiance, if a change in output irradiance is required.)*

Sample data of change in % non-uniformity measured on a 94123A (12 inch x12 inch) solar simulator

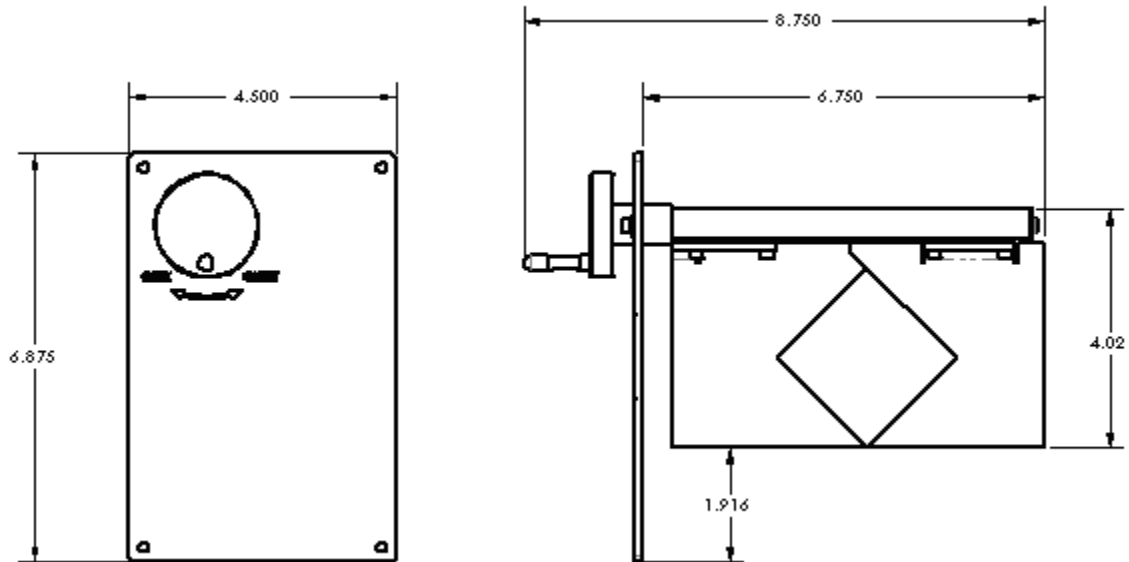
Condition	% Non-uniformity
Normal 1 SUN – no partial sun module installed	1.33
Fully/Max open 1 SUN- with partial sun module installed	1.25
0.75 SUN - with partial sun module installed	1.80
0.50 SUN - with partial sun module installed	2.40
0.25 SUN - with partial sun module installed	3.97
Fully/Min closed 0.11 SUN - with partial sun module installed	5.35

Note: As the irradiance level is decreased using the partial sun attenuator, % non-uniformity tends to deteriorate. Data shown in table above is a sample set of data acquired on a 12x12 solar simulator to approximate the change in % non-uniformity. Actual non-uniformity due to the partial sun attenuator may slightly vary among different solar simulators and with solar simulators of different beam sizes.

Dimensional drawing of the partial sun attenuator:

Weight: 1.2 lbs.

Shipping weight: Approximately 3 lbs.



Warranty and Returns

Newport warrants that all goods described in this manual (except consumables such as lamps, bulbs, filters, ellipses, etc.) shall be free from defects in material and workmanship. Such defects become apparent within the following period:

1. All products described here, except spare parts: one (1) year or 3000 hours of operation, whichever comes first, after delivery of the goods to the buyer.
2. Spare parts: ninety (90) days after delivery of goods to the buyer.

Newport's liability under this warranty is limited to the adjustment, repair and/or replacement of the defective part(s). During the above listed warranty period, Newport shall provide all materials to accomplish the repaired adjustment, repair or replacement. Newport shall provide the labor required during the above listed warranty period to adjust, repair and/or replace the defective goods at no cost to the buyer ONLY IF the defective goods are returned, freight prepaid, to a Newport designated facility. If goods are not returned to Newport, and the user chooses to have repairs made at their premises, Newport shall provide labor for field adjustment, repair and/or replacement at prevailing rates for field service, on a portal-to-portal basis.

Newport shall be relieved of all obligations and liability under this warranty of:

1. The user operates the device with any accessory, equipment or part not specifically approved or manufactured or specified by Newport unless buyer furnishes reasonable evidence that such installations were not the cause of the defect. This provision shall not apply to any accessory, equipment or part which does not affect the safe operation of the device.
2. The goods are not operated or maintained in accordance with Newport's instructions and specifications.
3. The goods have been repaired, altered or modified by other than authorized Newport personnel.
4. Buyer does not return the defective goods, freight prepaid, to a Newport facility within the applicable warranty period.

IT IS EXPRESSLY AGREED THAT THIS WARRANTY SHALL REPLACE ALL WARRANTIES OF FITNESS AND MERCHANTABILITY. BUYER HEREBY WAIVES ALL OTHER WARRANTIES, GUARANTEES, CONDITIONS OR LIABILITIES, EXPRESSED OR IMPLIED, ARISING BY LAW OR OTHERWISE, WHETHER OR NOT OCCASIONED BY NEWPORT'S NEGLIGENCE.

This warranty shall not be extended, altered or varied except by a written document signed by both parties. If any portion of this agreement is invalidated, the remainder of the agreement shall remain in full force and effect.

CONSEQUENTIAL DAMAGES

Newport shall not be responsible for consequential damages resulting from malfunctions of the goods described in this manual. Newport's total responsibility is limited to repairing or replacing the malfunctioning goods under the terms and conditions of the above described warranty.

INSURANCE

Persons receiving goods for demonstrations, demo loan, temporary use or in any manner in which title is not transferred from Newport, shall assume full responsibility for any and all damage while in their care, custody and control. If damage occurs, unrelated to the proper and warranted use and performance of the goods, recipient of the goods accepts full responsibility for restoring the goods to their condition upon original delivery, and for assuming all costs and charges.

RETURNS

Before returning equipment to Newport for repair, please call the Customer Service Department at (203) 377-8282. Have your purchase order number available before calling Newport. The Customer Service Representative will give you a Return Material Authorization number (RMA). Having an RMA will shorten the time required for repair, because it ensures that your equipment will be properly processed. Write the RMA on the returned equipment's box. Equipment returned without a RMA may be rejected by the Newport Receiving Department. Equipment returned under warranty will be returned with no charge for the repair or shipping. Newport will notify you of any repairs not covered by the warranty, with the cost of the repair, before starting the work.

Please return equipment in the original (or equivalent) packaging. You will be responsible for damage incurred from inadequate packaging, if the original packaging is not used.

Include the cables, connector caps and antistatic materials sent and/or used with the equipment, so that Newport can verify correct operation of these accessories.