

# Lunt White Light Solar Wedge Manual

Congratulations and thank you for purchasing a Lunt Solar Systems White Light Solar Wedge! Before you begin setting up your telescope with this Lunt Wedge, and observing the Sun for the first time, please review the safety statements below. If you have any questions about the safe use of any Lunt Solar Systems product, please contact our Customer Service Department before operating the equipment.

## SAFETY STATEMENTS

Never look at the Sun with your naked eye or with a telescope that is not specifically designed to do so. Permanent and irreversible eye damage may result.

Check that all filters are installed correctly and are free of any surface contamination that may compromise performance and/or potentially damage the surfaces of the optics when exposed to the Sun, i.e. fingerprints. Perform a routine safety check before each viewing session!

Never leave the solar telescope unsupervised while pointed at the Sun. People who are not familiar with the correct operating procedures of the system may inadvertently replace the diagonal or remove the filter itself, because they are not aware of the integrated safety features of each.

Always be aware that you are viewing in direct sunlight. Take necessary precautions to protect yourself from sunburn and heat exposure.

Never attempt to disassemble the system. Doing so will void your warranty and compromise its safety. Do not use your system if it is compromised in any way due to mishandling or damage.

Only use the Lunt White Light Solar Wedge on Refracting Telescopes. Do not attempt to use this product on mirror-based telescope systems! Mirror-based telescopes (SCTs, etc.) can be seriously damaged by the concentrated heat loading due to the Sun! Do not attempt to modify the Lunt White Light Solar Wedge in any way, as serious damage may occur to the equipment and/ or the user.

The Lunt White Light Solar Wedge (Herschel Wedge) incorporates an integral heat trap. The rear end of the wedge assembly will get warm or even hot. DO NOT touch the rear heat sink! DO NOT place anything over the heat sink which might restrict normal air flow around the fins. DO NOT remove this heat sink. DO NOT place the wedge assembly back into its case, until the heat sink has cooled. DO NOT attempt to remove the eyepiece holder from the Wedge, as this will damage the ND-3 filter inside the housing.

Protect your instrument from shock due to drops. The Lunt Herschel Wedge can withstand normal use, however a major shock may cause damage, which will require a trip to the factory for a non-warranty repair. Store the instrument in its original carton or case when not in use. With proper handling & care your Lunt Solar equipment should last a lifetime.

## UNPACK YOUR NEW PURCHASE!

*In the shipping box you will find:*

- Lunt White Light Solar Wedge Diagonal Assembly
- Barrels with 1.25" or 2" diameter, based on the model ordered
- Pre-installed ND-3 Filter
- Metal transport and storage case with die cut foam inserts
- Warranty Card
- Instruction Manual

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## SETTING UP FOR THE FIRST TIME

1. You will be using this Lunt White Light Solar Wedge Diagonal Assembly with your own telescope. Do not point your telescope at the Sun until your Wedge (filter) is completely mounted and secured on your telescope! If you have any questions about installing or using your Solar Wedge, please contact our customer service.
2. The Lunt White Light Solar Wedge (Herschel Wedge) is designed to replace the standard diagonal at the rear of your Refractor Telescope. It transmits a safe level of full-spectrum light to the eyepiece, providing true white light views of the Sun. It will provide sharp, high contrast images of sunspots and solar granulation.
3. If you intend to do visual observing, Lunt Solar Systems recommends that you further dim the image for your eye with an additional polarizing filter. Simply install one polarizing filter into the bottom of your eyepiece and rotate the eyepiece until you achieve an image brightness which you find to be comfortable for viewing.
4. Slide the White Light Solar Wedge into your focuser and lock it in place. Insert a low power eyepiece (sold separately) into the diagonal. A 25 mm eyepiece is a good choice for a large field of view. The diameter of the eyepiece will depend on the specific model of Solar Wedge you purchased. The LS1.25HW model accepts standard 1.25" eyepieces and fits into a 1.25" focuser draw tube. The LS2HW model accepts standard 2" eyepieces and fits into a 2" focuser draw tube. If you can achieve correct focus with a standard star diagonal on your telescope, you will also be able to achieve focus with the Lunt White Light Solar Wedge.
5. Attach a Tele Vue Optics Sol-Searcher finder to your telescope. The Sol-Searcher label will be facing outward, towards the Sun. See the instruction sheet that came with the Sol-Searcher for complete installation & alignment instructions. If you do not have a Sol-Searcher, you can use the shadow of the front telescope lens cell cast by the Sun onto the mounting rings of your telescope. Center the shadow and you should be pretty close. Never attempt to use a conventional finder scope to locate the Sun! Look through the eyepiece to improve your alignment of the telescope.
6. Now it's time to focus. Your goal is to get the edge of the Sun as sharp as possible. Course focus is achieved by moving the diagonal draw tube in and out. Fine focus is achieved by means of your normal telescope focuser mechanism. When you get close to focus, make only small adjustments to find the best focus!
7. Look through the eyepiece. You should see a white light image of the Sun. If not, make sure you have removed the dust cap from the front and check your alignment to the Sun. If the Sun is still not in the field of view of your eyepiece, move the telescope around a little while you are looking through it. Be patient, you will find it! Once you do, center the Sun and, if you have one, adjust the Sol-Searcher until it is correctly aligned with the scope.
8. Once you are comfortable observing with the lower power eyepiece, replace it with a higher power ocular to see more details. Remember that the amount of details or resolution you can see with your telescope and this White Light Solar Wedge Filter assembly will depend on your seeing conditions. You may see more details on a day when the seeing conditions are good. On a day when seeing is not as good, try using a lower power eyepiece to view the Sun.

## TO LEARN MORE...

Join the solar community at <http://www.solarastronomy.org>. You'll find a very active forum, as well as articles on many aspects of solar observing and imaging.

Visit the Lunt Solar Systems blog at <http://luntsolarsystems.com/blog/>. Search the archives for posts on your favorite topics.