

Wick Shop

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Installing wicks in Heavy Oil Student Lamps

	<<<<<< Student lamp with rack raiser system. >>>>>> Student lamp with spiral groove wick raiser system. This one has spiral burner system. This is commonly known the a Parker and Phillips system after its inventors." Solar lamps used the same spiral wick raiser system. Photos and text kindly provided by Peter Brickell of Toronto, Canada.	
	Wick Raiser removable parts of the burner.	
	The wick carrier ready for wick insertion. This one has fixed claws that are gently bent out to make room for the wick. Others have actual hinges at their base to allow them to open up without bending. These claws are delicate and should be adjusted very gently.	
	Wick inserted over core of the wick carrier and underneath the claws. This is about the right amount to pull over since the claws must have room at their bases to bend gradually outwards without snapping off. Note the pin on the exterior of the base of the wick carrier - note that there IS an external pin on the base of wick carrier that is hard to see in the photograph.	
	Wick carrier and wick being inserted into the guide. The carrier pin fits into the guide's slot. A fussy part is shown here where the wick has a significant seam. This must be carefully worked into the guide without skewing the wick. It should be arranged so it does not go into the guide's slot or it will cause problems.	

	Wick and carrier part way down the length of the guide. The carrier pin is clearly visible in the guide slot
	Wick and carrier bottomed in the guide. This is the fully retracted position. Note that this wick is much too long and will need to be trimmed approximately level with the end of the guide after installation is complete.
	View from the bottom of the guide and carrier assembly showing the inside of the wick carrier - notice that it has a dimple or "key" on the inside.
	The carrier's key fits into the spiral channel on the inner wick tube.
	The guide, carrier, and wick being fitted to the top of the burner. The assembly is rotated clockwise to cause the key to engage the channel. As it continues to be rotated the assembly will lower into the burner until the key gets to the bottom of the spiral channel. At this point the wick is at it's lowest position and any excess above the top of the wick tubes should be cut off, by raising the wick a bit first (turning counter-clockwise) if necessary.
	The gallery is now slipped onto the top of the guide making sure that the pin on the top of the guide fits into the notch cut in the inner gallery ring.
	The gallery seated properly on the end of the guide.
	The gallery must now be pushed down firmly into the top of the burner until its ridge seats on the burner tube. This is the operating position and sometimes it must be held down to prevent the gallery lifting along with the wick when it is being raised. This happens if the wick is a tight fit in the burner tubes or if the seam of the wick is in the guide slot. The wick can be burned down level with the draft tubes by putting a little fuel on the top of the wick, lighting it, then replacing the chimney.
The wick is raised by holding the gallery firmly down and turning it counter-clockwise when viewed from above and lowered by turning clockwise. A note on heavy oil wicks and Argand burners - a normal full flame position is about 1/2" of wick above the wick tubes. If the wick is less than 1/4" above the wick tubes it is almost impossible to even light it.	