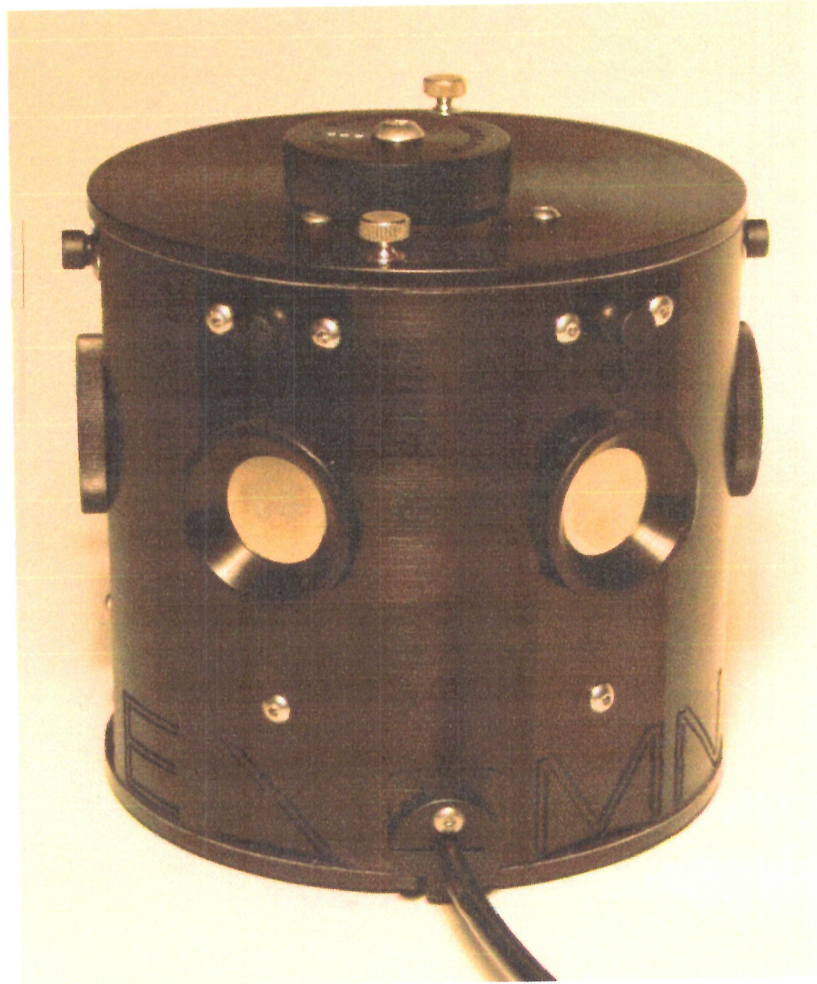


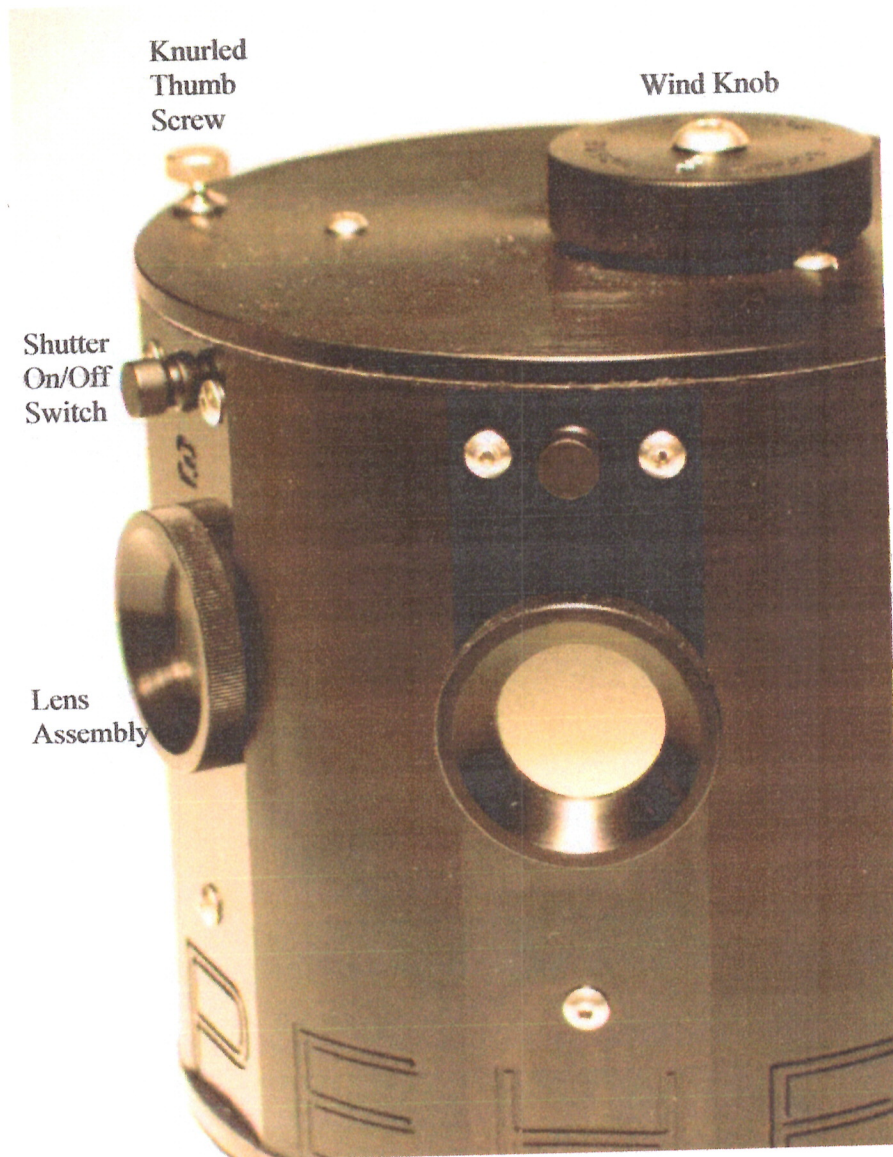
**Instructions for use of the  
Abelson Scope Works**

**Hexomniscope**



The Hexomniscope is a six pinhole camera the produces four (4) 6x17 centimeter images on 120 film. Nominal f-stop of the camera is f180, one stop over f128 using a pinhole diameter of 0.0055 inches.

## Hexomniscope- from the outside



Tripod Mount is located on the bottom of the camera.

### Opening the Hexomniscope

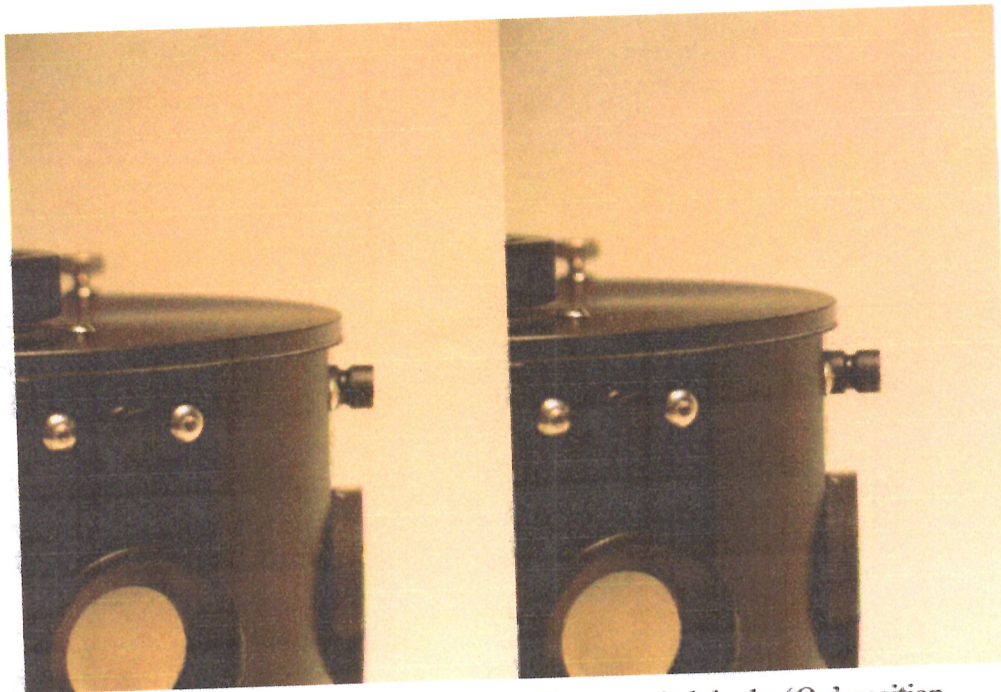
To open the Hexomniscope it is necessary to unscrew the two knurled thumb screws on the top surface of the camera. This allows for the removal of the film transport mechanism. This is lifted straight out of the top. The two knurled screws are capture screws and do not need to be unscrewed fully to remove the top.

Note the orientation of the film transport mechanism. The entry into the center chamber lines up with the cable release entry into the body of the camera as shown below. This allows one to place the seam of the image in your composition.



### Shutter Operation

The Hexomniscope has six shutters. These can be turned on or off independently via the button above the lens assembly. Pushing the button in turns the shutter off, pulling the button out turns the shutter on. To release the shutters that have been turned on the cable release bar is pressed firmly downward. To close the shutters the cable release bar is pulled upward.



Shutter switch in the 'Off' position

Shutter switch in the 'On' position.

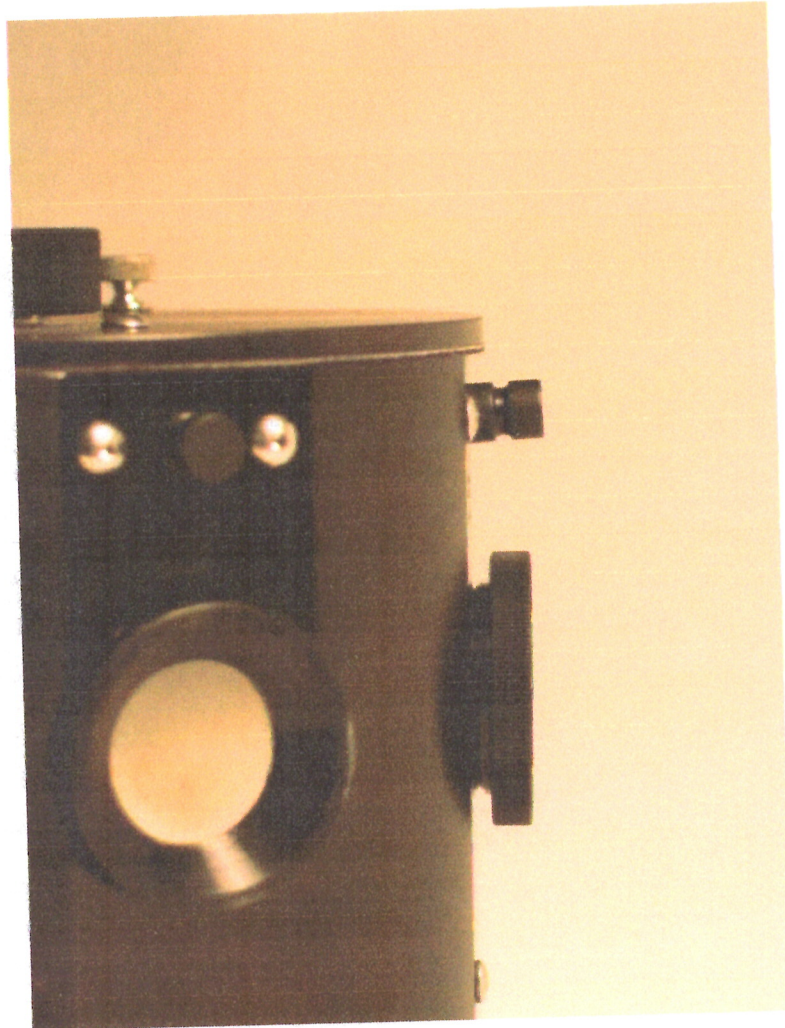
**PLEASE NOTE: DO NOT CHANGE THE STATE OF THE SHUTTER ON/OFF BUTTON WHEN THE CABLE RELEASE BAR HAS BEEN PUSHED DOWN.**

Before loading the camera with the first roll of film it is recommended that the user experiment with the cable release while watching the action of the shutters on the inside of the camera. It will quickly become apparent what speed/ motion of the cable release provides optimal shutter performance.

When transporting the camera it is recommended that the shutters all be turn off.

The shutters are numbered one (1) through six (6). The number one (1) position is the first part of the image to get wound onto the take-up spool. For example: if one wanted to take a 180 degree view one would take the view using shutters one (1) through three (3). This would allow the image to be rolled onto the take up spool with the smallest amount of space between images.

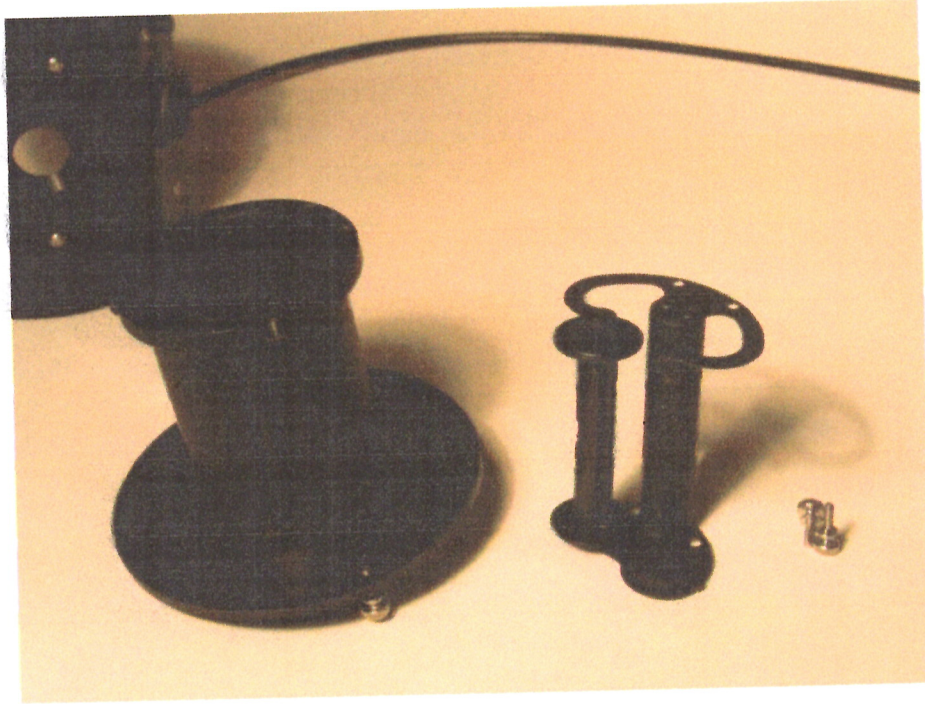
Lens focal length can be adjusted to some degree as shown in the image below (lens is screwed out increasing focal length). The shutters are robust enough that the lens assembly can be removed from the camera with film loaded. Telephoto lens assemblies can be machined on request.



**PLEASE NOTE: BE VERY CAREFUL WHEN SCREWING THE LENSES BACK IN. THEY SHOULD THREAD INTO THE SHUTTERS VERY EASILY. DO NOT FORCE THEM. SHOULD YOU CROSS THREAD THE SHUTTER AND/OR LENS THIS WOULD BE EXCEEDINGLY DIFFICULT TO FIX. IF THE LENS DOES NOT SEEM TO BE THREADING EASILY INTO THE SHUTTER REMOVE IT AND TRY AGAIN. DO NOT FORCE IT.**

### **Loading the Hexomniscopes**

To load the Hexomniscopes it is necessary to remove the film cartridge from the film transport assembly. This is done by removing the two screws as shown below:



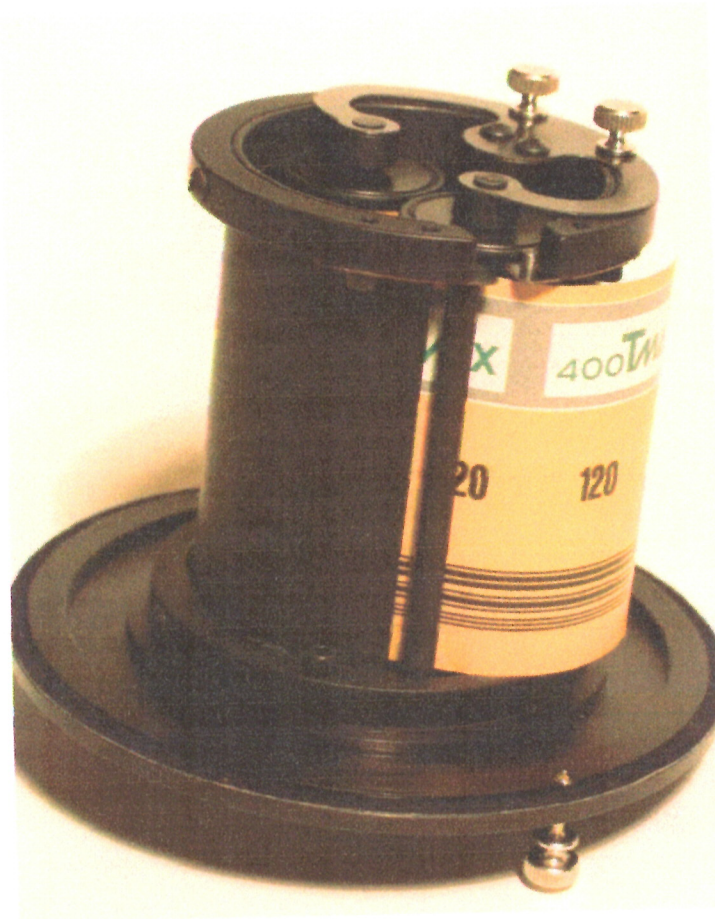
Once the film cartridge has been removed the new roll of film and an empty spool are inserted as shown below, note the direction the new roll of film is inserted.



Extend the leader of the  
or four (4) inches and

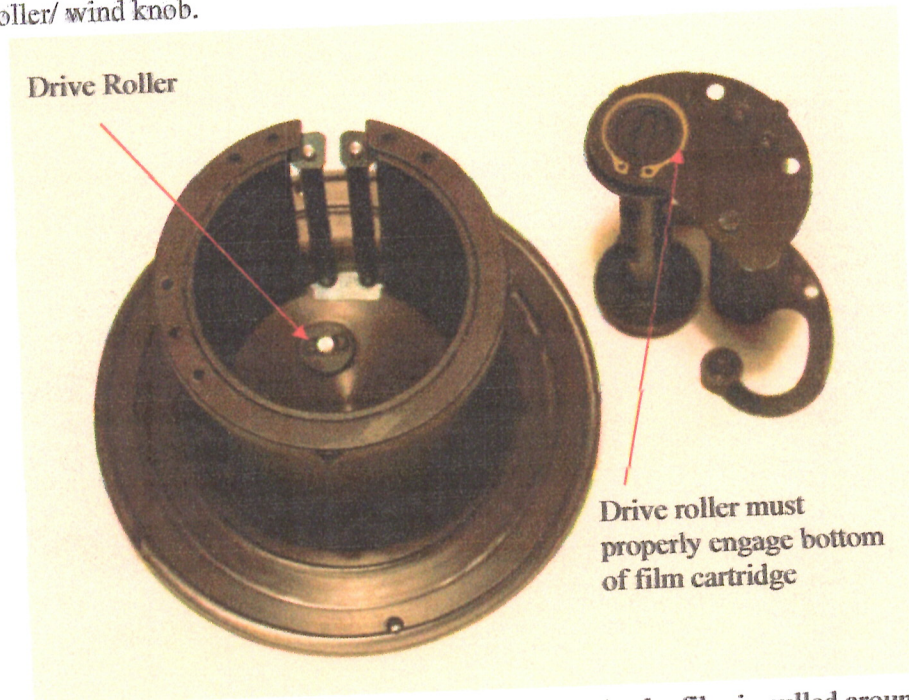
film about three (3)  
insert it as shown

below with the leader extending out the slot of the film plane tube.

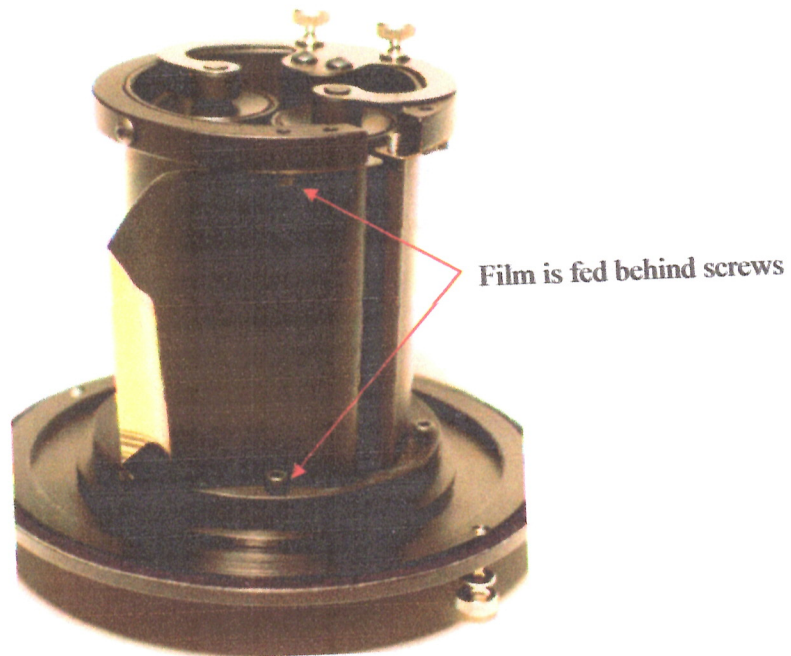


Make sure that the film cartridge has properly engaged with the drive roller. Turn the wind knob- the take up spool should spin. Once it is properly engaged re-insert the two

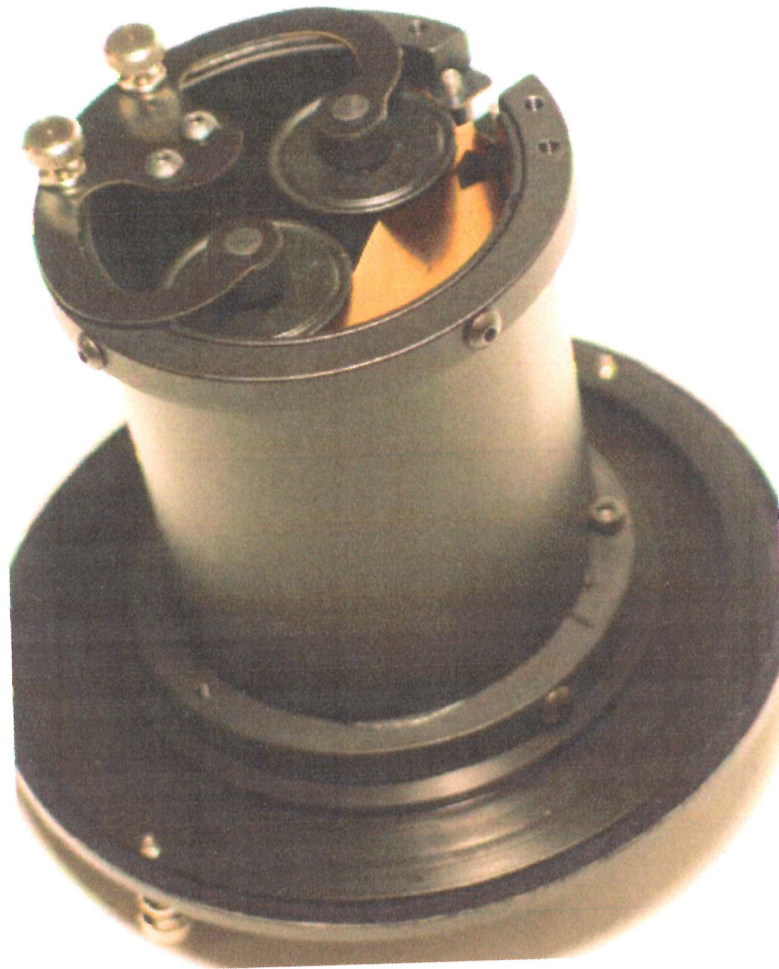
thumb screws. Before loading your first roll of film it is recommended to take out and insert the film cartridge a few times so that you get the feel of how it engages with the drive roller/wind knob.



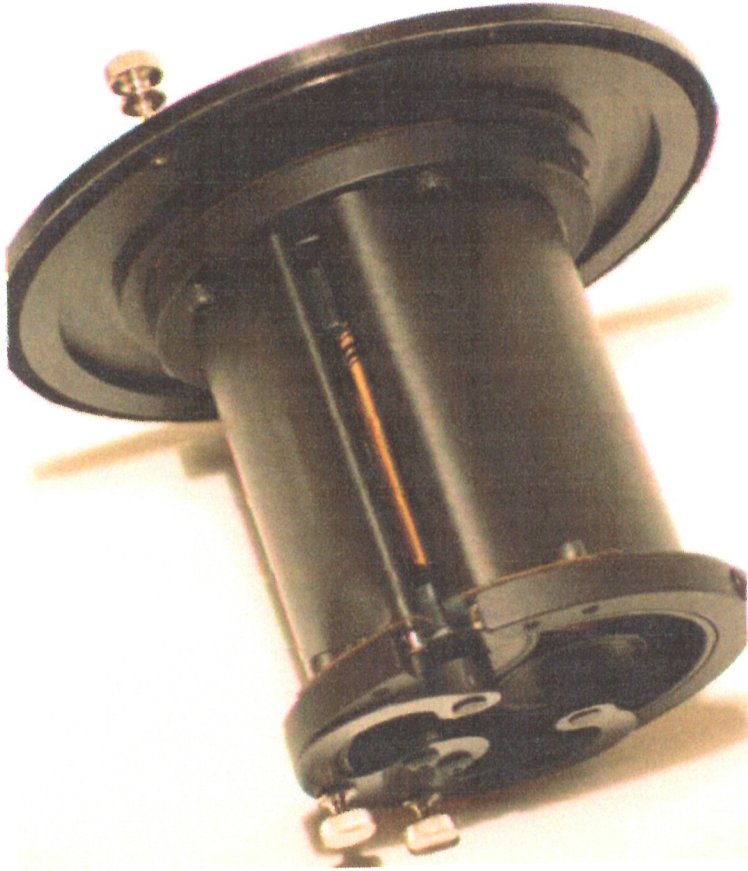
The film is then pulled around the film plane cylinder. As the film is pulled around the cylinder make sure that the leader is fed behind the screws as shown below.



When the film has been pulled around the cylinder it is necessary to thread it into the take-up spool. Make sure the slot in the take up spool is aligned with the slot in the film plane cylinder. If it is not turn the wind knob until it becomes aligned. Feed the end of film leader through the slot in the film plane cylinder and into the slot in the take-up spool. Turn the wind knob until the arrows on the back of the film leader are aligned as in the image below.



When the film is properly loaded it should look as below.



### **Winding the Hexomniscope**

Once the film transport mechanism has been loaded with film re-assemble it to the camera body. The film can now be advanced so that the first picture can be taken. To do this the film winding knob should be turned clockwise 9.5 revolutions.

The film winding knob should be turned clockwise four (4) revolutions after the first picture and 3.75 revolutions after each subsequent picture.

After the last picture is taken the film wind knob should be turned 9 or 10 revolutions to completely roll up the film leader.

The camera produces four (4) 360 degree images on 120 film. It is possible to shoot images that are 60, 120, 180, 240 or 300 degrees as well. Winding the film becomes more difficult. Remember that the image from shutter number one (1) is the first to get wound onto the take-up spool.

### **Film Exposure**

F-stop of the camera (with the lenses screwed all the way in) is f180. This is one stop over f128. Pinhole diameter is 0.0055". Focal length (with the lenses screwed all the way in) is one (1) inch. When the lenses are screwed out as far as they will go and still engage the threads in the camera (~0.1-0.125") the f-stop is ~f205.

When the lenses are screwed all the way in the angle of view of two adjacent lenses overlap approximately five (5) feet from the camera. If the lenses are screwed out 0.1" the angle of view does not overlap.

### **Questions or Comments**

If you have any questions or comments about your Hexomniscope please contact Abelson Scope Works:

[abelsonscopeworks@yahoo.com](mailto:abelsonscopeworks@yahoo.com)

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Using one of our products? We want to display your work on our website:

[www.abelsonscopeworks.com](http://www.abelsonscopeworks.com)

Abelson Scope Works will gladly quote custom pinhole cameras and machining.

NOTE: Please do not attempt to disassemble the camera, if you are having any problems please contact me.