

## CONSTRUCTION OF CYCLE-OF-OPERATIONS FOR THE INSTAMATIC 100

Constructing a cycle-of-operations for the Instamatic camera requires a slightly different approach than the one used for the multiple-blade shutters covered in your text. In the Instamatic cycle we must also consider the operation of the transport mechanism and how it relates to the control and movement of the simple disc shutter. As in any cycle, the action will begin with the finger and then on to the part or parts operated or controlled by the movement of the finger.

The external parts moved by the finger in the Instamatic 100 are the back latch, the wind lever and the release lever. Since the back latch and the wind lever are already shown on the partial cycle, we need only be aware that they are operated by the finger and that they may be connected to other parts not yet included in the cycle! Now, since it is not shown in the partial cycle, add the release lever. This is one of the three missing parts mentioned in your procedure sheet! After adding a part, examine the part just included to determine if it has any spring connections. In the case of the release lever, you'll notice that behind the mechanism plate there's a long torsion spring which acts on the release lever. Show this in the cycle. By operating the camera, it can be seen that the release lever controls, that is, it releases the main lever. Draw an arrow from the release lever to the main lever to show this action. Also include the mainspring and note that it acts against the housing. Note, by observation that the wind lever pushes the main lever to the cocked position. Indicate this in the cycle. As the main lever moves to the cocked position, another part acting on the release lever also moves. The main lever in moving to the cocked position, allows the locking lever to move back into the housing. Indicate on your cycle how the main lever allows the locking lever to move back. Be sure to check for springs that might be involved in this action.

Now include the action of the ratchet lever. When the main lever is in the released position, the ratchet lever engages the upper ratchet. If as the customer winds the camera he releases the wind lever, the ratchet lever engages the upper ratchet, preventing the mechanism from backing up. Once the camera is fully wound, the main lever is held by the release lever and the main lever holds the ratchet lever away from the upper ratchet. This allows the wind lever to return. Operate your practice mechanism, carefully watching the motions of the parts until you see these actions occurring.

Now determine which part the locking lever acts on. A brief examination shows that the locking lever is in the path of the release lever, except when the camera is cocked and the perforation lever has been tripped. Include the blocking action of the locking lever on the release lever in your cycle. Note also that after the perforation lever has been tripped that the locking lever acts on the lower ratchet to lock the wind lever. Make sure that your cycle shows both of these actions.

Looking at another action of the main lever, when the main lever is released, it will rotate with the force provided by the mainspring and strike a tab on the shutter blade pushing the blade open until the tab on the shutter blade can slip underneath the main lever. Include the action of the main lever on the shutter blade at this point. Be sure to check for springs.

Now observe how the flash synchronization operates. A long battery contact goes across the face of the camera (see Pg. 11, Illustration 29, in the lesson supplement covering the Instamatic 100). Careful examination will reveal that the sync contact, while it is fastened to the release lever, acts as a separate part and is electrically insulated from the release lever. In order to show that the sync contact is hooked to the release lever but acts independently, draw a dashed line between the release lever and the sync contact. As the release lever is depressed, it carries the sync contact with it. At a point in its travel, the sync contact is connected to the battery contact and can carry current to the flash bulb. Complete your cycle by showing this action with a connecting line and arrow from the sync contact to the battery contact.