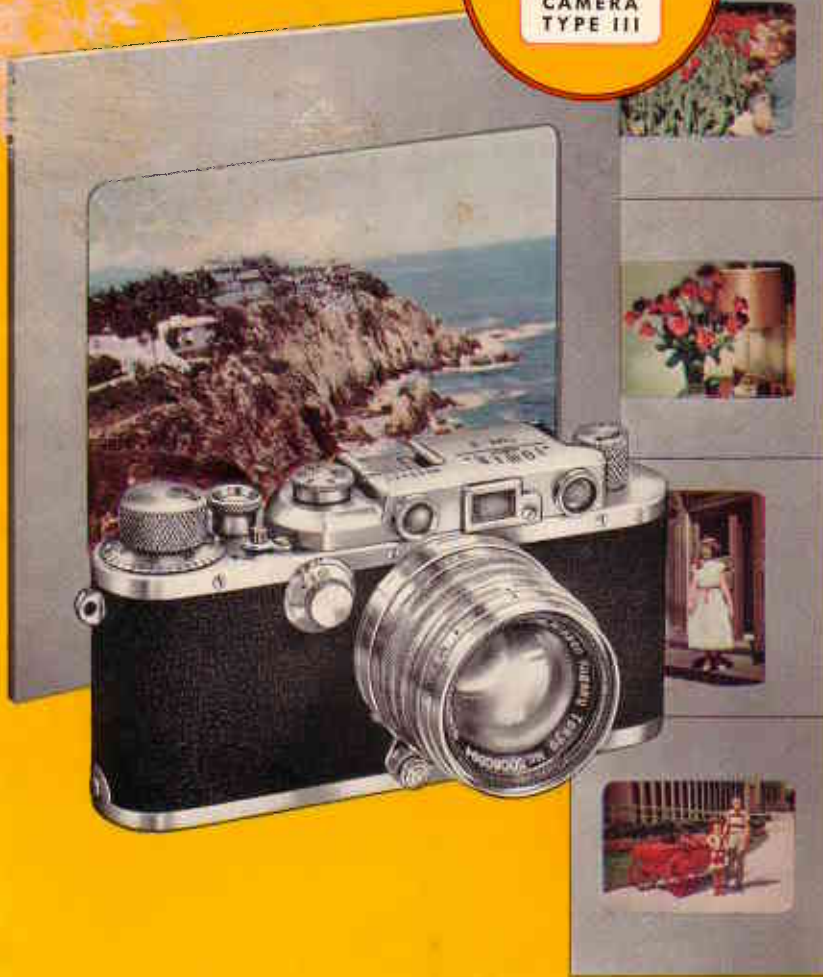


**HOW TO USE AND TAKE
CARE OF YOUR NEW**



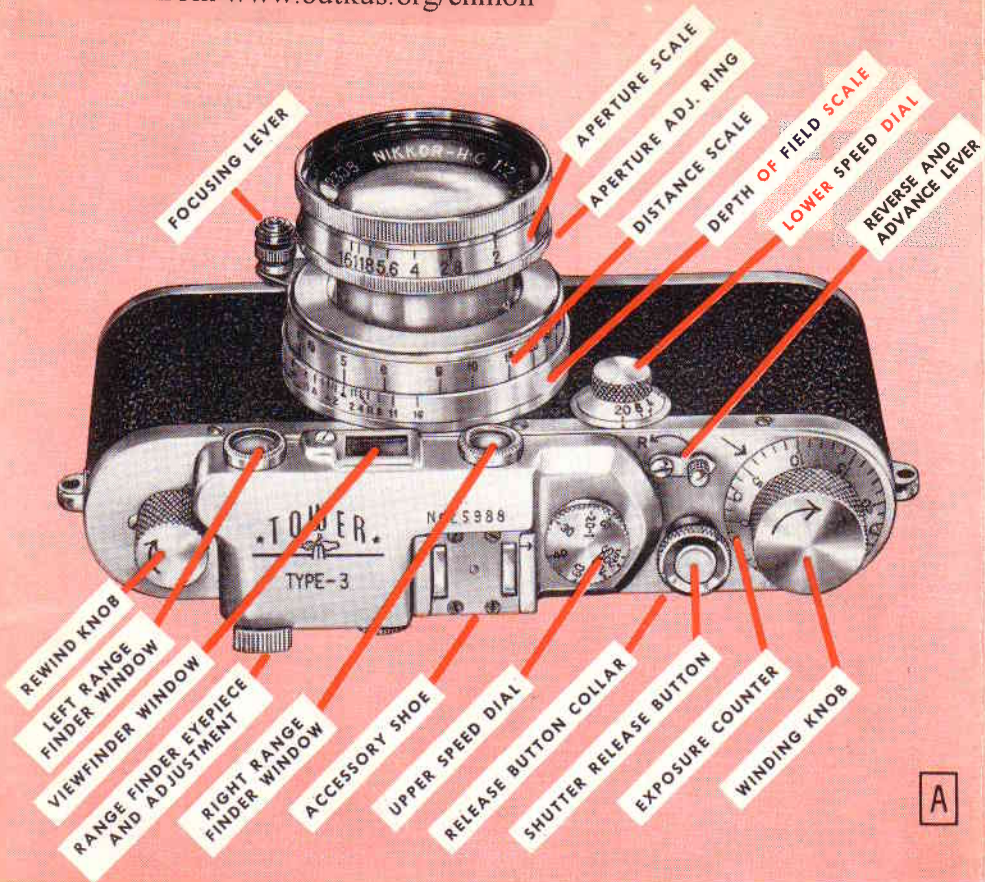
Taken from www.butkus.org/chinon

TOWER CAMERAS ARE SOLD ONLY BY SEARS, ROEBUCK AND CO.

INTRODUCTION

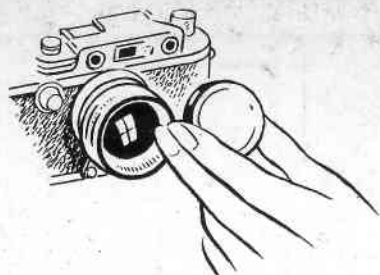
Your TOWER 35 mm Type III Camera is a precision instrument. Sears laboratory technicians and buyers have worked with the manufacturers on this camera for more than a year and a half before offering it to you. It is a camera that will last a lifetime, if treated properly.

This booklet gives detailed, but simple instructions on its use and proper care. **READ BOOKLET CAREFULLY,** and keep it handy for reference.

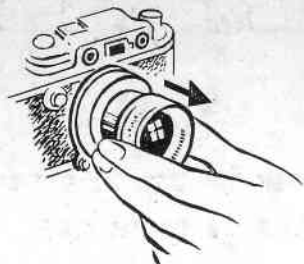


We have written this manual in more detail and more technically than is necessary for the ordinary amateur photographer. However, after the amateur has progressed a little in photography, his curiosity will lead him into more advanced stages and the following detailed information is an attempt on our part to anticipate a few of his questions. On the page to the right, we have condensed the steps to be taken when adjusting camera for picture taking. This is all the beginner needs to know. Even the advanced amateur may find it well to memorize these steps and review them occasionally.

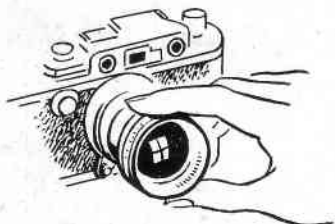
NOTE: The keyed illustration (A) above is frequently referred to throughout the following pages. For that reason, the manual is bound so that you may leave this page open for handy reference.



1. Remove lens cap from lens . . . a simple step which is often overlooked.



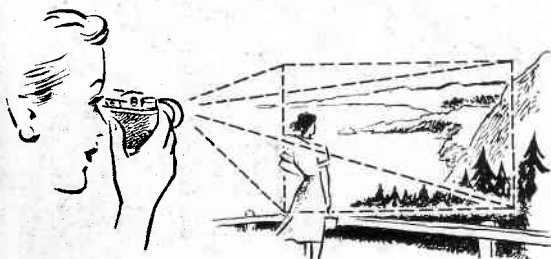
2. If lens is collapsible type, pull out and lock it in position. Make sure it is firmly locked.



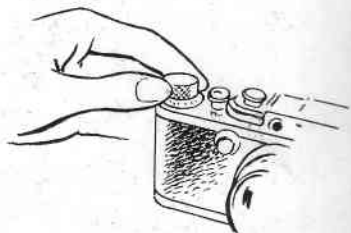
3. Set lens diaphragm to aperture indicated by exposure meter or table.



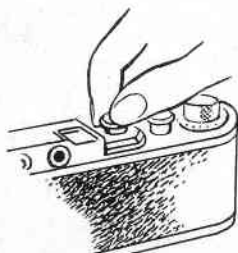
4. Focus lens with rangefinder. Both images should be superimposed so that a single image is seen.



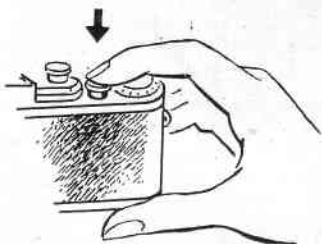
5. Compose the subject in viewfinder. Do it carefully. Good composition is important.



6. Turn winding knob in direction of arrow as far as it will go.



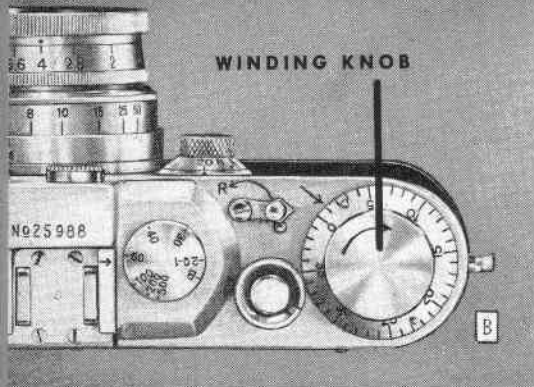
7. Set shutter speed dial according to exposure meter readings or exposure table recommendations.



8. Press shutter release button to expose film. Press button with finger only, not the entire arm.

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SPECIAL NOTE

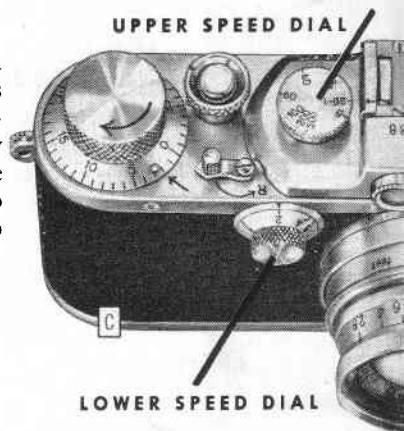
This 35 mm. camera is the first camera in the TOWER line to have shutter speeds that must be set **AFTER** the shutter has been completely wound. As you wind the shutter, the film is automatically advanced (Illust. B). There is a top,

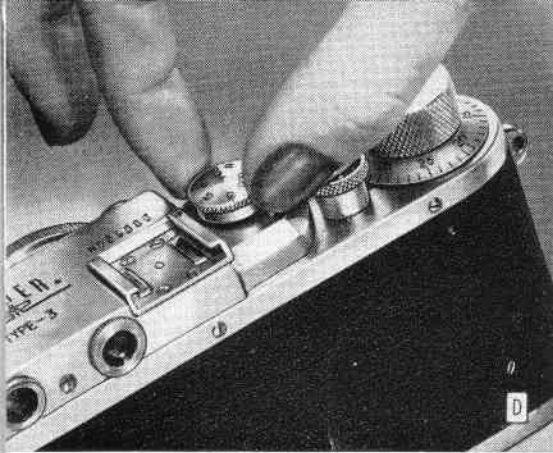
or main shutter speed dial, that shows shutter speeds or exposure figures from 1/20 to 1/500 of a second. The lower speed dial (Illust. C) has speeds from 1/20 to Time.

1. USE OF UPPER AND LOWER SPEED DIALS

When using lower speed dial on front of camera, the upper speed dial must be placed on "RED 20-1" which is neutral position, **AFTER SHUTTER HAS BEEN COMPLETELY WOUND**. When upper speed dial is on neutral position (Red 20-1) opposite arrow, then you can bring the lower speed dial into play. Numbers on speed dials indicate fractions of a second. For example, 4 means $\frac{1}{4}$ of a second, 2 means $\frac{1}{2}$ second, etc. **INTERMEDIATE SPEEDS CANNOT BE USED**. When setting the speed on Bulb (B) on upper dial (Illust. C) the shutter remains open while the release button is pressed down. When the release button is released, the shutter springs shut.

When camera is operated with slow speed dial set on Time (T), the shutter opens when the release button is pressed and remains open. To close shutter, turn slow speed dial back to position 1, and the shutter will close immediately. There's no need to press the release button again to close shutter.





IMPORTANT :

To operate shutter on 1/20 of a second, it is necessary to set both dials on RED 20 after you have wound shutter. The upper main dial is moved to various positions after shutter has been completely wound by merely lifting the dial (Illust. D) and turning it so number indicating the desired speed is opposite arrow

on accessory shoe. (Illust. B.) Be sure upper dial is lowered or seated into proper position when operating on any shutter speed.

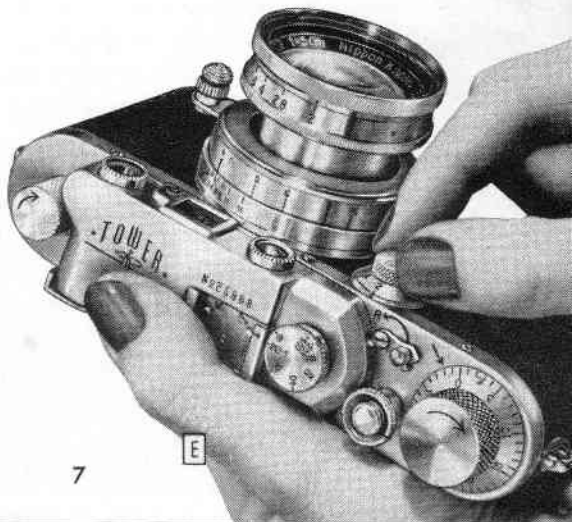
LOWER SPEED DIAL CAN BE TURNED AFTER SHUTTER HAS BEEN COMPLETELY WOUND AND UPPER SPEED DIAL HAS BEEN SET ON RED 20-1 (ILLUST. E).

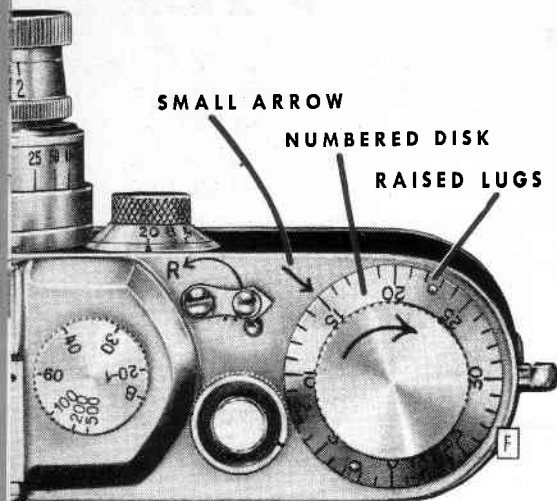
2. WINDING SHUTTER AND FILM—

To wind shutter and wind film, turn winding knob in direction indicated by arrow until it stops. By turning this knob until it reaches a stop position, the film is advanced for the next exposure, thus preventing any possibility of a double exposure. Knob serves dual purpose, as it also winds shutter spring.

CAUTION :

Always wind shutter just prior to taking picture. Never leave camera in a wound position; this may weaken shutter spring, or you might accidentally press release button and expose film.





3. EXPOSURE COUNTER MECHANISM—

The numbered disc just beneath the winding knob (Illust. F) is the exposure counter which automatically records number of exposures. The counter should be set at "0" after camera has been loaded with new film and the shutter fully wound. This

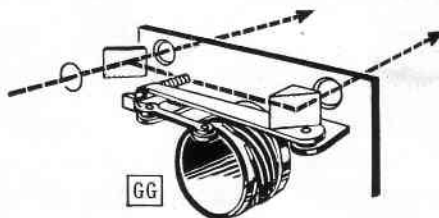
disc is turned in a clockwise direction by two raised lugs. If disc is accidentally pushed beyond "0", continue to push it on around a second time until "0" lines up with small arrow. Do not attempt to turn this disc in a counter-clockwise direction.

EXAMPLE

After film has been loaded into camera (See pages 18-20), the winding knob should be turned once around in direction of arrow until it stops. Shutter release button should then be pressed to release shutter. Once more, give the winding knob one full turn to the stopped position. This winds sufficient film off the full cartridge and on to the take-up spool so that the portion of film accidentally exposed to light during the loading process will not be re-exposed as an attempted picture. Thus, it will prevent fogged pictures at the beginning of film. The numbered disc should then be set so the "0" on disc is opposite small arrow (Illust. F). Shutter release button should again be pressed, and the next time the winding knob is turned into position it will automatically advance film and bring disc to a stop on number one on counting disc. This indicates you are ready to take your first picture.

4. COUPLED RANGEFINDER

Your TOWER 35 mm camera has a coupled rangefinder. It is coupled with a helical type focusing mount on the lens barrel. When the lens barrel is turned by depressing knob on focusing lever (Illust. A) and shifting lever in either direction, barrel automatically turns on a threaded track and moves forward or backward. Accordingly, the rangefinder is automatically put



Lens
out
of focus
a



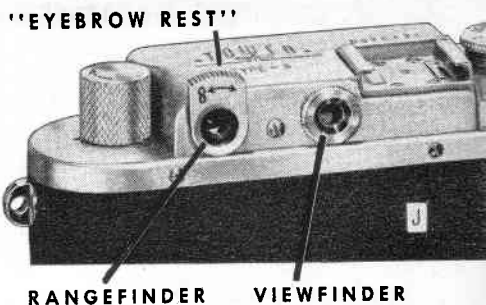
Correct
focus
b

G

into operation. The rangefinder on the TOWER 35 mm camera is the superimposed image type and absolute focus is obtained when 2 images are superimposed upon each other and become fused into a single image (Illust. G-b). The double image effect is produced by means of micrometer movement of the fine mechanism indicated in Illust. GG. The small arm in this instance is set against the inner base of the lens barrel. As the lens barrel is rotated and thereby moved backward or forward, the leveling devices adjust the mirror to such a precision degree that when the 2 images are fused, the lens is in perfect focus. Note especially that all longer focal length lenses are interchangeable with TOWER, Nicca, and most Leica cameras which have coupled built-in rangefinders.

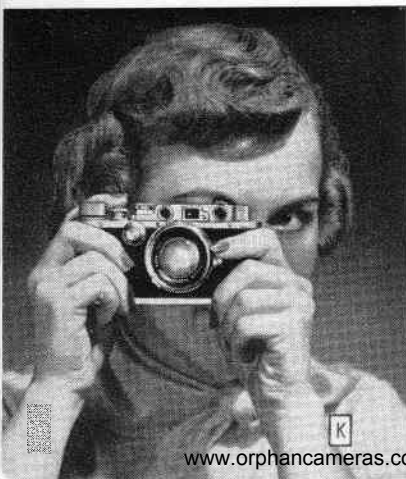
The rangefinder eye-piece is constructed with a miniature telescope having a magnification of approximately $1\frac{1}{2}$ times. This increases the accuracy and ease of focusing your TOWER 35 mm camera. The viewing

aperture of the eye-piece on the rangefinder is adjusted by turning the small rotating "eyebrow rest" (Illust. J) on eye-piece. This compensates for slight difference in the human eye and facilitates the focusing on near or distant objects to produce the greatest possible sharpness.



5. PRACTICE IN USE OF RANGEFINDER—

Place camera in position for picture taking (Illust. K) and sight through the rangefinder (left) eye-piece and, at the same time, cover the left rangefinder window (Illust. A) with the middle finger. In this case, you will observe only a small circular field of a pinkish cast in which only what you are focusing on will be visible. Be sure that your eye is actually centered behind rangefinder eye-piece so that you can get a complete circular field of the image. This position being assumed, you may now adjust the lens focusing lever to obtain the greatest possible sharpness. Keep object in center of field, then remove your finger from left window of rangefinder. You will then see a double image of the object in a much larger circular field (Illust. G-a). Now turn focusing lever until the two images are fused into one (Illust. G-b). At this point your lens is in correct focus. Practice this exercise until it becomes automatic and there is no need of placing finger over the left rangefinder window. **CAUTION!!** Do not confuse rangefinder window (left) with regular viewfinder window (right) (Illust. J).



6. THE NIKKOR 50 mm f/2 LENS—

The early TOWER 35 mm camera is equipped with the f/2 50 mm lens, of the collapsible type (Illust. L). The 50 mm lenses of the Leica, Nicca and TOWER cameras with coupled rangefinders are mostly interchangeable. Before taking a picture with the TOWER 35 mm camera it is quite obvious that the lens cap should be removed. Next pull out lens, grasping only front knurled ring (Illust. L). Take care that only the FRONT KNURLED RING is gripped between the fingers. Do not make a mistake and grip the second knurled ring which serves to adjust the aperture. This second ring is used to adjust the delicate aperture within the lens, and if the lens barrel were to be pulled out by second ring, and given a sharp hard turn clockwise into locking position, it might damage the delicate metal leaves in the iris diaphragm within the lens. Lock the lens into position by turning it in a clockwise direction until it stops. This brings the small flanges into the grooves inside the lens mount. To push lens back into camera body, simply take hold of outer knurled ring and turn in a COUNTER-clockwise direction. This disengages flanges from grooves in base of lens mount. Then simply shove lens back into body of camera.



When lens is not in use it should be collapsed into its mount and the lens cap placed on its front. The lens focusing lever should also be locked at the infinity position (∞) by pressing knob on end of lever, which permits shifting lever into locked position. Long focal length lenses such as the 85 mm and 135 mm (so-called "telephoto" lenses), are focused by means of the knurled ring and are non-collapsible. There is no lens focusing lever on these lenses. (See pages 29-30.)



NOTE ESPECIALLY: Present model TOWER cameras are equipped with the non-collapsible type lens (Illust. M). In this case there is nothing to pull out. Simply take the lens cap off before taking picture.

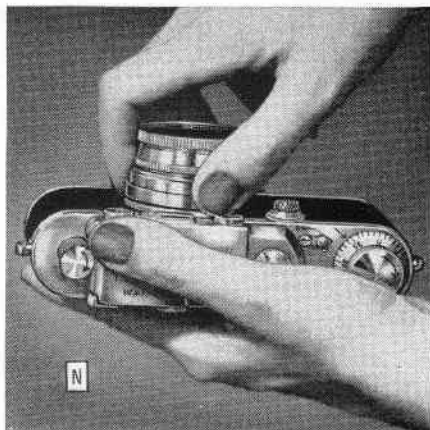
The non-collapsible lenses focus as close as $1\frac{1}{2}$ feet. The rangefinder, however, does not operate for distances less than $3\frac{1}{2}$ feet, so any pictures taken at less than $3\frac{1}{2}$ feet will have to be measured with a tape from camera to subject, and the corresponding distance set on distance scale with focusing lever.

When measuring such short distances, always measure from subject to *camera back*, not to front of lens. Accurate measurement is extremely important on close-up work, because the depth of field is so small.

NOTE: All NIKKOR lenses are of the highest quality optical glass and the very best workmanship has been expended to produce a precision ground, highly polished lens. However, in the manufacturing and assembling of the lens occasionally a small speck or bubble will appear on the inner surfaces of the glass. These markings are sometimes mistaken as blemishes, but they are simply the characteristics of high grade lenses and will not adversely affect picture quality. The slightly blue coating of the lens is not always uniformly deposited over the glass surface. Again, this is not a defect, but a characteristic of fluoride lens coating.

7. CHANGING LENS—The flange on the TOWER 35 mm camera facilitates rapid interchange of lenses of various focal lengths, and insures absolute accuracy. A lens is simply screwed firmly into po-

sition by turning the entire mount in a clockwise direction. When inserting lens or removing it, be sure lens is gripped at the base of the lens mount adjacent to camera body (Illust. N). When removing lens, it is well to turn focusing lever in a counter-clockwise direction until it stops. This gives you a firm grip on the lens mount and permits ease in removal of lens. On



the other hand, when inserting lens, the rangefinder lever should be turned in a clockwise direction until it stops. This again will give you a firm grip at the base of the lens so that the lens can be turned into position. The helical focusing type mount will automatically couple with the rangefinder mechanism when lens is seated in proper position. Hold camera by left hand when changing lenses. Grip the lens as described above with the right hand, and loosen it in the flange by a slight quick jerk in a COUNTER-clockwise direction. Then simply unscrew lens. Do likewise when screwing lens into body of camera. Focusing lever must be in the infinity position before lens is screwed into the flange.

NOTE ESPECIALLY: When changing lenses, the opening into the camera body with the lens removed should not be exposed to a strong light. It is advisable to hold the camera in subdued light or against the body during time lens is out of the camera, if the camera is loaded.

8. VIEWFINDER—

The built-in viewfinder is an optically ground, direct-vision type of finder and shows the approximate field covered by the lens of the ordinary 50 mm standard focal length lens. Be sure to hold it level with the eye. If one were to look on a bias through the viewfinder window, it might not show the entire picture desired. Therefore, you must be sure that you bring your eye as close to the viewfinder as possible. (Lenses of longer or shorter focal lengths available for the TOWER 35 mm camera require the use of the Universal Viewfinder, which fits into the accessory shoe on top of camera (See page 31).

9. EXPLANATION OF APERTURE DIAPHRAGM

A camera lens is very similar to the human eye. When the eye is used in a dark room the pupil becomes enlarged to admit more light. When in a lighter area, the pupil becomes small. It varies according to the intensity of light reaching the eye. The camera lens has no such automatic muscular system, and, as a result, it must be mechanically adjusted according to the intensity of light on the object to be photographed. This opening or closing of the so-called "pupil" or "iris diaphragm" of the lens is adjusted by the use of a knurled ring (Illust. A—Aperture Adjustment Ring).

10. EXPLANATION OF APERTURE SCALE—

The figures between the frontal knurled ring and the second knurled ring pertain to the iris diaphragm within the lens barrel (Illust. A). They represent the relative aperture openings and regulate the amount of light to be admitted according to the intensity of the light on the subject to be photographed. In the case of the $f/2$ lens the figures are as follows— $f/2$ indicates that the lens is wide open, $f/2.8$, $f/4$, $f/5.6$, $f/8$, $f/11$ and $f/16$ represent the remaining openings. The $f/16$ is the smallest possible opening with the $f/2$ lens. You should always remember that the size of the aperture varies in indirect proportion to the size of the number. For example, $f/2$ is the smallest number, but represents the widest lens aperture on the 50 mm $f/2$ lens. Conversely, $f/16$ reduces the lens aperture to the smallest possible opening.



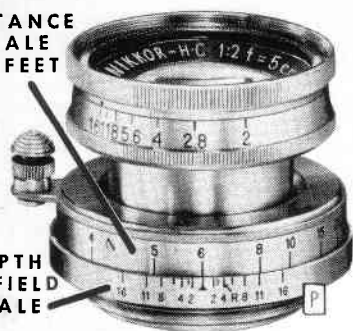
11. APERTURE DIAPHRAGM ADJUSTMENT—

The proper opening or setting of the lens aperture can be determined by use of an exposure meter. It is well to remember that the smaller the aperture, the longer the exposure. In other words, if the aperture is stopped down to the next highest figure, the time of exposure must be practically doubled. For example, if the exposure meter indicates an exposure time of $1/60$ of a second with $f/5.6$ aperture opening, the time must be doubled if the diaphragm is stopped down to $f/8$. This means that the shutter speed dial would then be set on $1/30$ of a second, which gives a longer time of exposure than $1/60$ of a second. If a moving object is to be photographed, it is quite obvious that you would select a short exposure time in order to stop the object in motion. This would mean opening the lens to admit more light during a shorter exposure period. If, on the other hand, you have a still object and there is no need for a fast shutter speed, you can then stop down your diaphragm slightly and increase the time of exposure. *As mentioned on page 6, shutter speeds other than those marked on speed dials should not be attempted.*

Note that TOWER cameras are engraved with the European system of markings for aperture and shutter speeds and, in many instances, exposure meters are not marked to be used with this system. However, the new TOWER meter is marked to be used with either the American or European system. According to the exposure meter being used, a setting of $f/2$ may be required on the iris diaphragm of the TOWER 35 mm camera. At the same time, the exposure time may be indicated as $1/480$ of a second. In this case you should set the shutter at $1/500$ of a second because there is no method by which we can set the shutter at $1/480$ of a second. In all instances, there is enough leeway in the film to accommodate these small discrepancies. If, on the other hand, your exposure meter indicates that you set the time at $1/25$ of a second, you can also set your TOWER 35 mm camera at $1/20$ of a second and be perfectly safe in securing the proper exposure. The differences are not great enough to make any appreciable difference in exposures.

DISTANCE
SCALE
IN FEET

DEPTH
OF FIELD
SCALE



12. DISTANCE SCALE ON FOCUSING RING— When the 2 images are brought together by turning the lens focusing lever to the proper position, you can then read the distance scale in feet as indicated on focusing ring on flange (Illust. P).

The letter R indicates the position at which focusing should be set when using an infra red film. In other words, if you happen to bring the lens into focus and the distance scale indicates that you are 10 feet away, you should then move the focusing lever so as to set the 10 foot mark opposite R. The lens is then in focus when using infra red film. To repeat, the lens is focused in the usual manner and the helical mount is then turned until the index R points to that position on the distance scale which was indicated in the first place by the main index.

13. DEPTH OF FIELD SCALE— The range of sharpness of any lens is called the depth of field and depends on the relative aperture setting and the distance to the subject on which the lens is focused. The depth of field actually indicates maximum sharpness obtainable in a certain plane at a distance from the subject photographed. This plane covers a certain distance in front of the subject and a certain distance behind the subject. Within these areas objects are in focus. The smaller the aperture being used, the greater the depth of field. In other words, with a small aperture things become sharp far beyond the subject on which the lens is focused, whereas the larger the aperture the smaller the depth of field and things become diffused and out of focus beyond the subject.

In order to determine just what is in sharp focus within the depth of field range at a given lens aperture and distance, a special scale is

engraved on the base of the lens mount (Illust. P). Note that the lens aperture scale in the case of the 50 mm $f/2$ lens is engraved on both sides of the main index (small black triangle). In this case, it would be calibrated from $f/2$ to $f/16$. Through the use of this scale, one can then determine the distance in front and behind the subject on which lens is actually focused to obtain sufficiently sharp focus. If the aperture is set at $f/4$ at a distance of 6 feet, the scale indicates the depth of field which ranges from approximately $5\frac{1}{2}$ feet to about $6\frac{1}{3}$ feet. This indicates there is a very short depth of field when the lens is open at $f/4$ and you are relatively close to the subject on which you are focusing. On the other hand, when the lens is stopped down to $f/11$ and focused on a subject 15 feet away, all objects within the range of approximately 9 feet from the camera to about 45 feet are within focus. If we were to focus the lens on a subject 15 feet away with the smallest aperture possible of $f/16$, then the objects within the range of approximately 8 feet to almost infinity would be in focus.

When taking landscapes or distance shots, merely set the camera on infinity and stop the lens down to as fine an aperture as possible, light permitting, and you will find that practically everything from 8 feet to infinity will be in focus. This latter setting is most universally used when as large a foreground as possible is to be included in a landscape.

Bear in mind, especially, that the maximum sharpness obtainable lies in a plane at the distance to which the focused lens has been set. Therefore, for a distance shot of a statue or house when the foreground can be neglected, the focusing scale for all practical purposes should always be set on infinity. This simplifies the use of the TOWER 35 mm camera because, for all mountain scenes, you can lock your camera at infinity and shoot all day, adjusting only the aperture and shutter speed according to the light values as registered by your exposure meter. For the beginner, we advise that he worry very little about the depth of field scale. Let it suffice to say that the aim of the first "picture taking" should be merely satisfactory results.

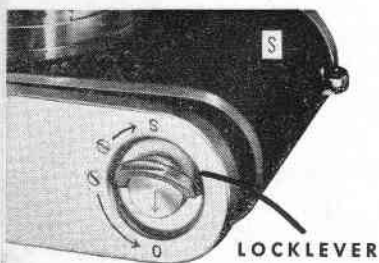
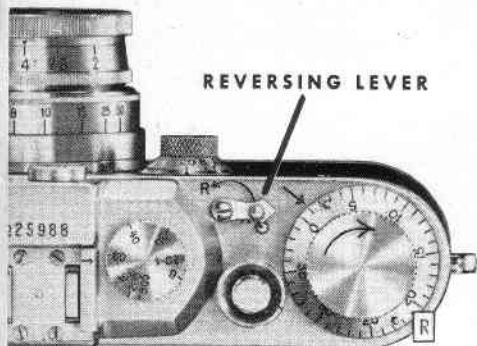
NOTE: For landscapes and similar objects the camera should be stopped down to f/5.6 or f/8 with lens at infinity. Of course, this is also to be governed again by the light values as indicated on exposure meter. For candid snapshots, stop down to f/5.6 and focus to the most important part of the subject, and for portraits try to use as large an aperture as possible and focus around the eyes of the individual being photographed.

14. LOADING THE

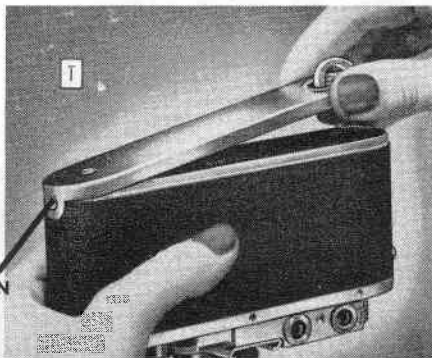
CAMERA— Always load camera in subdued light. However, with magazine or cartridge type loading,* such as is used in the TOWER 35 mm camera, one can load it in normal room light. Follow these steps:

1. Be sure to set the reversing lever on A (Advance) Illust. R. While camera is still empty, turn winding knob to stop and press shutter release.
2. Place camera on pad, newspaper, or Sears catalog to give it cushioning. Never place your camera on a hard surface when working with it. Place camera UPSIDE DOWN, with lens facing away from you.

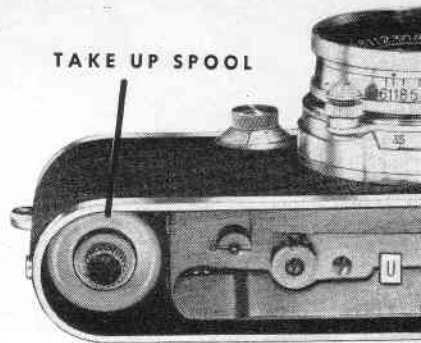
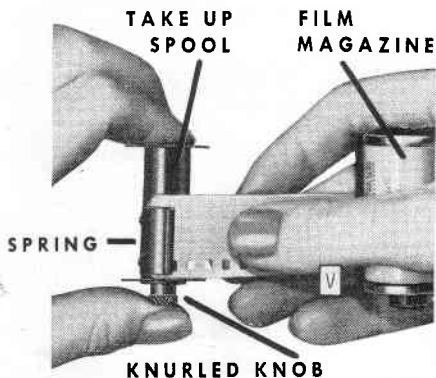
3. Open camera by picking up lock lever (Illust. S) on base plate and turning from S (shut) to O (open). Then lift the base plate off (Illust. T). In some instances, the bottom will be very tight and a stiff pull will be necessary to remove it.



***NOTE:** The 35 mm magazines that are now on the market hold a strip of film which is adequate for the taking of 36 exposures or 20 exposures, 24x36mm in size.

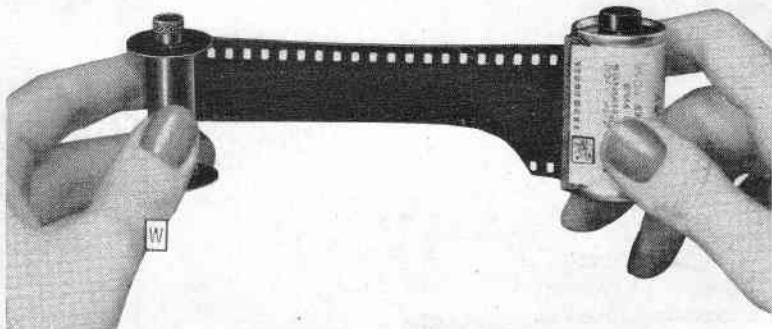


4. Withdraw take-up spool (Illust. U) from open camera. Hold this spool in left hand and loaded film magazine in right hand. Be sure knurled knob on take-up spool, and the center tube on magazine are pointed downward (Illust. V). Insert end of the film under spring on take-up spool. Push it under spring as far as possible. Perforated edge of film should lie flush with flange of spool adjacent to knurled knob. Do not attempt to wind film around core of take-up spool.

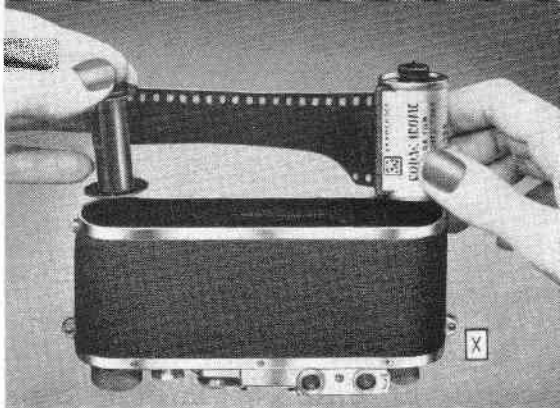


5. When film is secure under spring, draw it out of the magazine not more than 2 perforations behind the trimmed edge. Do not pull the film out of the cartridge any further than is indicated in Illust. W.

6. Hold take-up spool and magazine as in Illust. X, and lower them into camera, making sure film settles into slot along back of camera. Do not use any force. If cartridge does not seat readily, turn rewind knob (Illust. A) slightly so prongs will fit into base of cartridge.



7. While the bottom plate is still off, it is always advisable to wind film by turning winding knob before replacing bottom. Make one full turn, making sure cogs engage correctly in perforations of film (Illust. Y). Press release button to release shutter. If the small cogs mesh in the perforations, you are ready to replace plate.



8. Replace bottom of camera by hooking it over pin on end of camera adjacent to take-up spool (Illust. T) and closing it down. Turn locking mechanism to S (shut).

9. Turn winding knob one full turn after bottom has been closed. Press release button. Again turn winding knob one full stop. Then set counter to "O". Press release button; your camera is now ready for use. When the winding knob is again turned to cock shutter and advance film, you will notice that the counter disc stops on No. 1, and you are ready to take your first picture.

As you turn winding knob, note especially that the rewind knob turns in a counter-clockwise direction; this will be in an opposite direction to arrow on rewind knob. If the winding knob fails to turn, or if you hear any crunching within camera, stop immediately and turn small reverse lever (Illust. A) from A to R; then rewind film, open base plate, remove film cartridge and reload camera.

