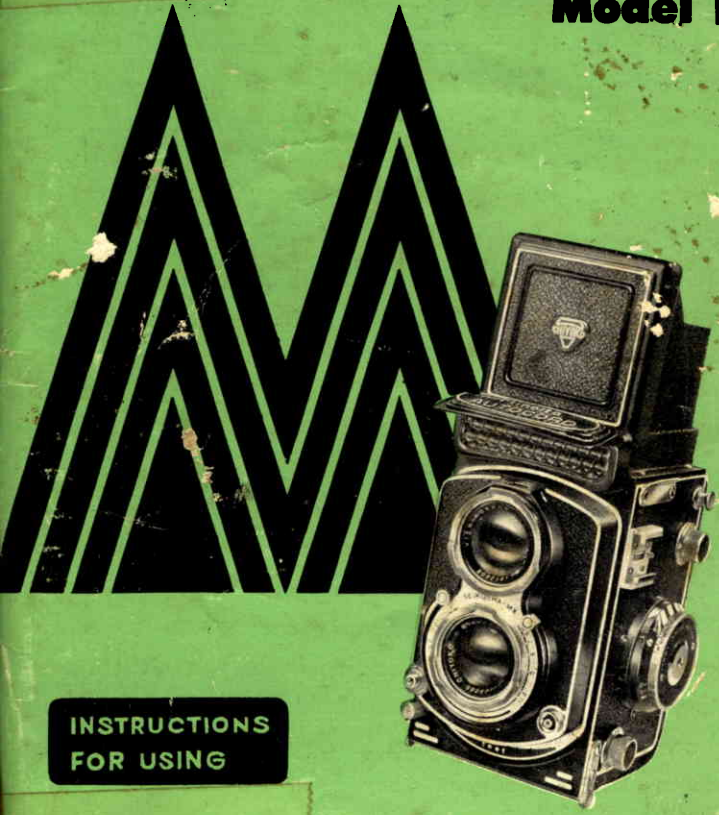
Minolta AUTOCORD Model L



INSTRUCTIONS FOR USING

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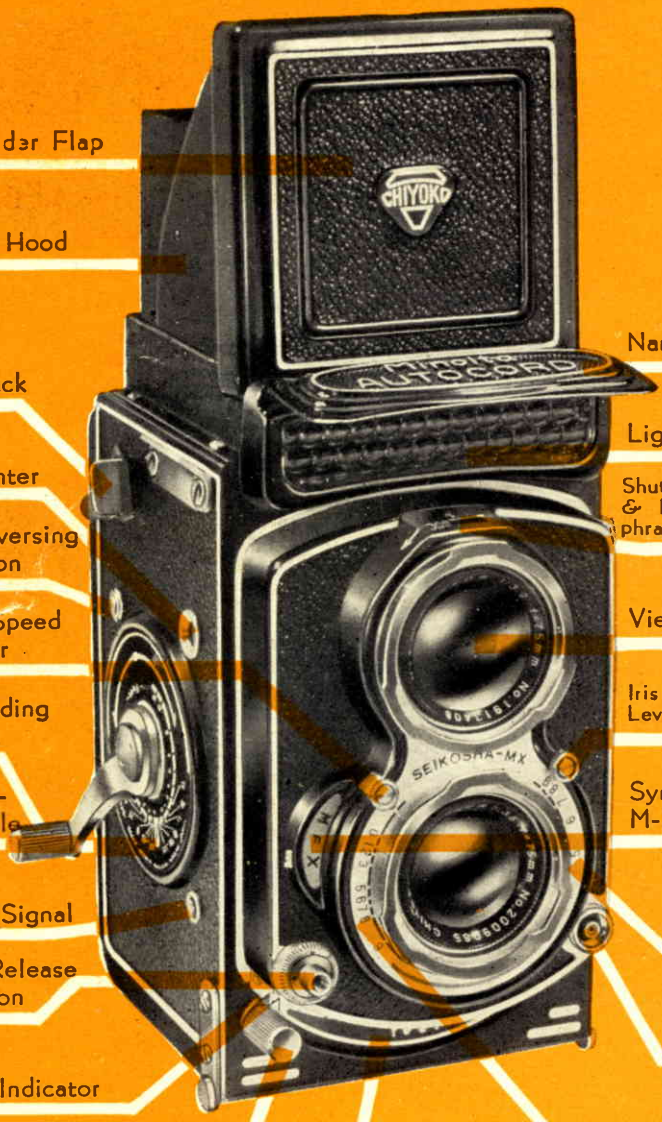

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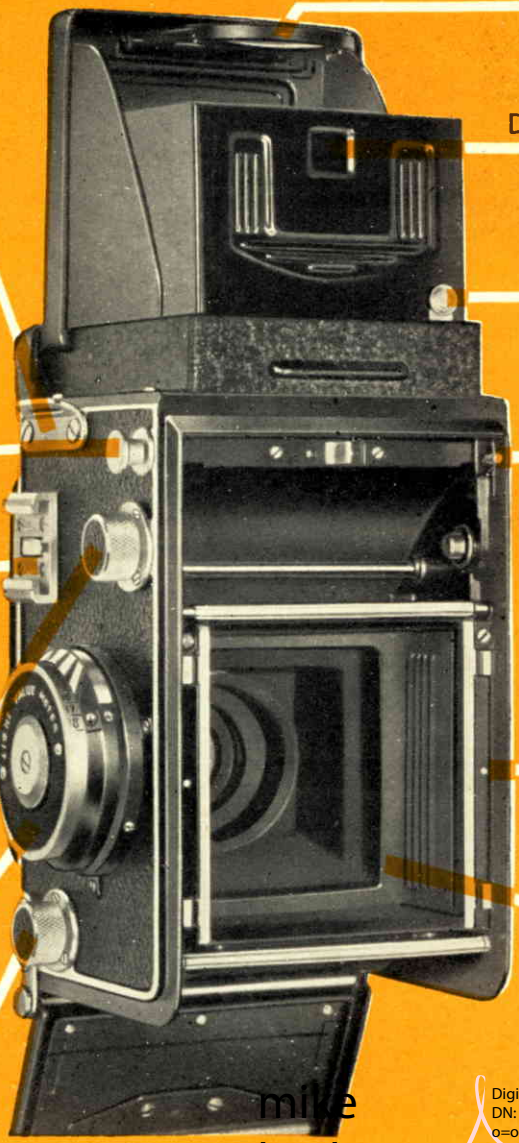

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mike butkus

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THE Minolta Autocord

The new Minolta Autocord Model "L" is a superautomatic camera that does everything for the photographer - but think. The Model "L" incorporates all of the exclusive features that have zoomed the Minolta Autocord to popularity in the U. S. in a few short years. However, the company that manufactures these cameras is one of the oldest camera and optical plants in Japan, the Chiyoda Kogaku Seiko K. K..

In addition to the many unique automatic features of the Minolta Autocord, Model "L" has a built-in "Light Value Meter" that takes the guess work out of exposure time without adding a single bit of equipment or changing the shape, size or bulk of the twin-lens reflex camera.

Model "L" has a sturdy die cast aluminum body for maximum precision and durability. The exclusive Helicoid focusing lever is at the bottom of the camera directly under the lens, enabling the photographer to focus a picture at a distance of 3.3 feet to infinity with **one finger**.

This one finger, lever focusing in contrast to the two fingers required to turn a focusing knob is a distinct advantage. The photographer can hold the camera, focus it and press the trigger with **one hand** - leaving the other hand free to hold a flashgun away from the camera. The modelling that is possible with off - the - camera lighting

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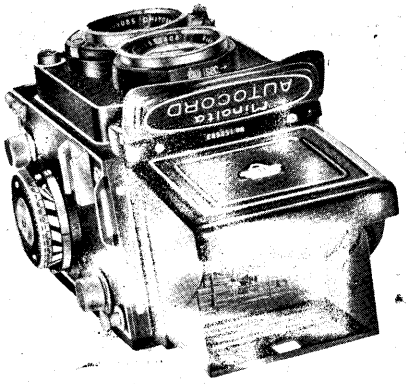
Model L

eliminates the criticism of "flat lighting" that is often levied against flashlighted photographs.

The taking lens at the bottom of the camera is a Rokkor F 3.5 - 75 mm. 4 - element, fully coated lens. It is critically sharp and possesses great resolving power. The viewing lens, on top, is an F 3.2 Rokkor. It is also fully coated and it provides a brilliant image on the ground glass with "Fresnel Lens" for easy focusing and composing. The taking lens renders color as perfectly as it does black and white. Model "L" uses the Seikosha-MX precision shutter for trouble-free, accurate operation, and advances the film automatically with a single back and forth motion of the handle.



HOW TO USE

The Minolta Autocord Model L

Remove the Lens Cap

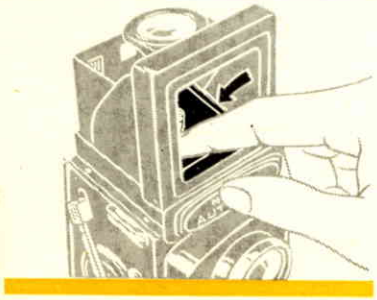
by flipping up the lower section then turning the upper part in a counter-clockwise direction. Always keep the lens cap on when the camera is not in use to protect the lenses against scratches or fingerprints. Never touch the lenses and use a soft camel's hair brush to dust them lightly, or a lens tissue. (Do not use lint cloth, facial cleansing tissues or fingers.)

To raise the Hood

lift the rear edge by its border. The hood will spring up revealing the ground glass focusing and viewing screen.

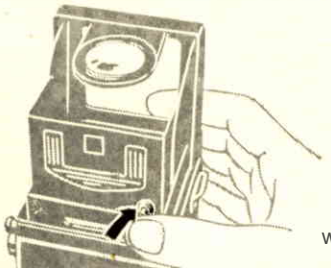
To focus more accurately

use the magnifier (29). To bring it into position, press the front of the focusing hood where the name "Chiyoko" appears.
To remove the magnifier tip it down gently from the back.



To use the Sports Finder

continue pushing the front flap until it snaps into a horizontal position. Then look through the small window (30) in the rear of the hood for a direct view of the accurately framed picture just as it will appear on the film.



To close the Hood

press the button (31) on the rear of the hood to release the center flap if the sports finder is open, then press the magnifier down. The hood will fold automatically when you press back and downward on the front.

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The Shutter Speeds

appear in a window (16) on top of the viewing lens, and are selected by moving the lever (6) on the right side of the taking lens rim. The markings are B, 1, 2, 5, 10, and up to 500. B means Bulb, and the shutter will stay open at this setting as long as the shutter release button (10) remains depressed. The numbers stand for 1 second, 1/2, 1/5 and so on through 1/500 th second. A cable release or a self-timer can be screwed into the socket of the shutter release button.

Diaphragm Settings

appear in a window (16) on top of the viewing lens. They are commonly referred to as "f" stops and are set by moving the lever (18) on the left side of the taking lens rim. The "f" stop determines the amount of light passing through the lens as well as the area of sharp focus in your picture. Refer to page 11 for an explanation of how these factors are affected by the "f" stop setting of the lens.

Helicoid (focusing) Lever

When the Helicoid lever (12) moves from right to left, the front of the camera moves out and in. This focuses the lens on the subject you are photographing. If you prefer to focus by measuring or estimating the distance between the camera and subject instead of sharpening the image on the ground glass, move the lever until the silver arrow points to the correct distance in feet, in other words, you preset the focus.

If focusing lever is adjusted to red 15 and iris diaphragm lever to red 7, all objects from about 10 to 30 ft. will be in focus for snap shots.

Note—to preset the focus when you are using infrared film, point the red arrow instead of the silver at the desired distance.

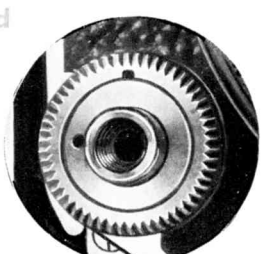
Advancing the Film

Flip the film advance handle out of its holder with a slight outward pressure of the thumb at the top. (Note! Only the handle rises. DO NOT PULL OUTWARD ON THE FILM ADVANCE ARM.) After each picture is taken advance the film to the next frame (film) by winding the crank as far as it will go then returning it to its position with the handle snapped into its holder (3). Never let the crank turn backward while advancing the film. This causes the film to shift and may spoil one or more pictures.

Synchronizer

The synchronizer panel is at the right of the taking lens. It is marked M F X. In order to synchronize the flash to the shutter with Class M bulbs (# 5, Press # 25 or larger sizes) set the lever (19) at M. For Class F bulbs (SM and SF) set it at F. If you are using electronic flash, the correct setting is at X.

The Shutter Release Guard



prevents accidental pressure on the trigger. To lock the release turn the outer ring until the dot on it coincides with the one on the inner ring. In this position the shutter can not be released even if the button is pushed unintentionally.

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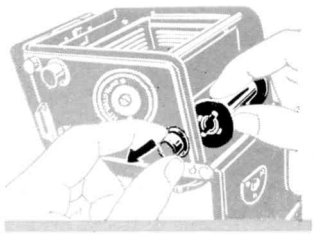
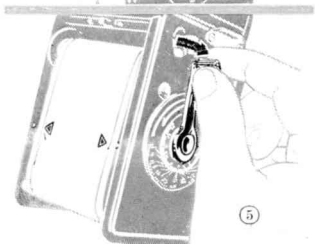
Loading Film

Note: 620 Film Spools will not fit this camera. Use No. 120 Film only.

1. Pull the top button (24) on the left side to open the camera.
2. Remove the empty film spool from the upper film slot and put it in the lower. To do this pull and twist the knob (26) right below the opening button. This will cause the knob to stay out so you can easily remove the spool. Put the empty spool in the lower film slot, fitting it into position at the right hand side with the left hand knob (28) to hold it. The left hand knob will stay out if it is pulled and twisted.
3. Put the roll of film in the upper slot, fitting it into the right hand button and holding it in place with the left hand knob (26), which returns to place when twisted.
4. Pull out the film leader and insert it in the longer groove of the empty spool. With the camera back open, wind the film advance crank (7) until the arrows on the film-backing line up exactly with the red dots (33) on both sides of the film rail of the camera. Then close the back of the camera until you hear a click.
5. When the camera back is closed, a mark ▽ appears in the exposure counter (4). Wind the film advance crank until the number ① appears. At this point the arm will move no farther.

Note: When the camera is not loaded the mark ▽ will appear in the exposure counter. If it has not appeared, turn the crank one half turn anti-clockwise and return handle to holder.





Taking Pictures

1. Turn the film advance crank until it stops (about 2½ turns), and the number ① appears in the exposure counter window (4). The number ① may appear before the handle stops turning but continue winding until it stops. Then turn the handle back and snap it into the crank rack (3). The shutter is now cocked (ready to snap open and shut) and the film is wound to the first frame, at this time the warning signal (9) turns to red. (Note: The shutter cannot be released until the film advance crank is returned to the handle holder position.)

2. Set the desired shutter and diaphragm opening. These are set by moving the levers on either side of the taking lens rim, and their values appear in separate windows on top of the viewing lens.

3. While viewing the picture on the square focusing glass in the hood, move the helicoid lever at the bottom of the camera back and forth until the image is clear. Use the magnifier to sharpen the focus.

4. Compose the picture you want on the viewer, then release the shutter by pressing gently on the shutter release button on the lower right side of the front of the camera.

5. Turn the film advance crank until it stops, then turn it back in the opposite direction to the handle holder position. No. ② will appear in the exposure counter and you are ready to make your second picture. Repeat 3, 4, and 5 etc. for subsequent pictures.

   (Note: If you are taking rapid sequence shots it is not necessary to snap the handle into the crank rack after each exposure but it is a good idea, otherwise, as it prevents the handle from being turned by accident)

6. After taking 12 pictures, turn the film advance crank until all the film is wound on the bottom spool, (about 4 full turns.) Then turn the crank back in the opposite direction to the handle holder position and open the back of the camera to remove the spool.

7. If you do not expect to use your loaded camera for some time, keep the lens cap on, turn your diaphragm setting to F 22 and, release the shutter. To use the camera again, turn the crank in the reverse direction just once, (see Intentional Double Exposure P 7.) This will cock the shutter without wasting a frame of film.

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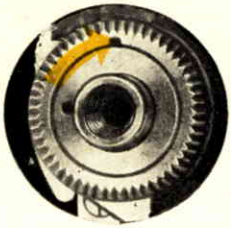
Time Exposure



To make a time exposure (keep the shutter open without continuous pressure on the release button) move the shutter lever until it points to B (bulb) ; press the button and hold it down while you lock it by making the dot on the outer ring of the release button coincide with the dot on the inner ring. To close the shutter again, separate the dots from one another and the shutter will close. **Never wind the film advance crank while the shutter release button is locked as it will cause trouble.**

Double Exposure Prevention

After taking a picture the shutter can not be released again until the film is advanced to the next picture position.

Intentional Double or Multi-Exposure

If you want to make a double or triple exposure on the same frame of film, slide the crank reversing button (5) to the left, turn the crank backwards (counter clockwise) one full revolution and it will stop at the crank rack. The original frame is now in position for a double exposure. To triple expose, simply repeat the operation. You can make as many exposures as you want on one piece of film.

When the shutter cocked, conversion of the speed to $\frac{1}{500}$ sec. from the others may be difficult. In such a case, after releasing the shutter with the lens cap on set the speed to $\frac{1}{500}$ sec. then cock the shutter again by one full backward turn of the crank.

Composition Lines

There are clear lines drawn on the ground glass on all four sides. These lines help to compose the picture in either a horizontal or vertical shape although the film itself is square. The lines are so arranged that a picture composed within them in either direction will fit the measurements of standard printing papers, that is, $\frac{4}{5}$, $\frac{8}{10}$, etc.

HOW TO USE
The Light Value Meter

The Minolta Model "L" built-in Light Value meter is the simplest of all electric cell exposure meters to operate; and it is both dependable and accurate.

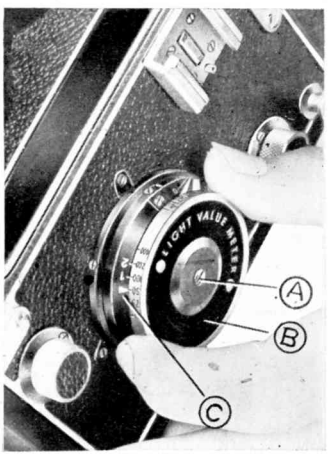


Fig. 1

1. There is a wheel (B) on the left of the camera. Turn the knob until the part of the wheel marked ASA is toward the bottom. Continue turning until the number opposite the silver triangle (C) is the same as the guide number given in the instruction sheet for the film that you are using. (see Fig. 1)

Filter Exposures

To obtain a reading with the light value meter when using a filter over the lens, simply turn the part of the wheel beginning with ASA until the guide number of the film is opposite -1 if the filter factor is 2. If the filter factor is 4, match the guide number of the film to -2. (see Fig. 1)

2. Flip up the nameplate (D) on the front of the camera to expose the light cell (E). When the light hits the cell it causes a red needle (F) to appear beside a number on top of the knob. (see Fig.

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2 and 3). Divide this number in any way you choose between the numbers (Speed Index and Opening Index) you will find on the outer silver rim of the taking lens. For instance, if the red needle points to 13, you may divide it into 8 on one side and 5 on the other or, 7 and 6, 5 and 8, etc. according to your subject and condition. Set the shutter and diaphragm levers on these numbers. (see Fig. 3 and 4) Then, to learn at what speed and f stop you are going to shoot, you may consult the windows on top of the viewing lens.

If the shutter speed lever points to a number marked in red, the speed is less than 1/25th second and the camera requires support or firm handling.

Flip up the name-plate

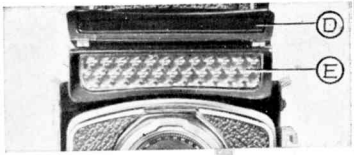


Fig. 2

Read the number

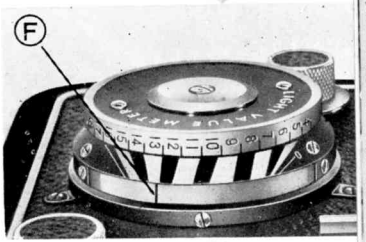


Fig. 3

Divide the number

Fig. 4

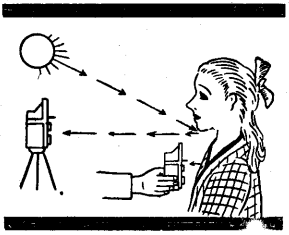
Relation Between Numbers in Windows and Lever Settings:

Iris Diaphragm Side	Opening Index	9	8	7	6	5	4	3.6	
	Diaphragm (f)	22	16	11	8	5.6	4	3.5	
Shutter Side	Speed Index	0	1	2	3	5	6	7	8	9
	Speed in seconds	1	½	¼	1/8	1/30	1/60	1/125	1/250	1/500

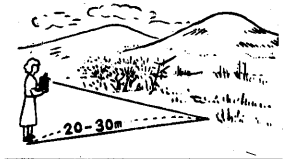
Note: If you set the diaphragm lever to 3.6, set the shutter speed lever to proportional position between two numbers such as 6.4, 7.4, 8.4 etc. inorder that their total is just the number of the meter.

How to Calculate an Exposure with the Built-in Light Value Meter

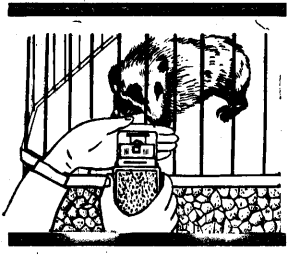
1. **Portraits :** When taking a portrait in the sunlight, bring the light cell up close to the subject's face, (6~12 inches), and measure both the light and shadow sides of the face. An average between the two numbers suggested by the meter will give an accurate reading. Be sure that the shadow of the camera does not fall on the subject while you are gauging the light.



2. **Landscapes :** To "read" a landscape tilt the camera downward until the light cell is facing midway between your feet and the horizon line. If you should happen to include the sky in your measurement, the reading will be far too high.



3. **Inaccessible Subjects :** If you are unable to bring the meter close to a subject (when photographing a game from an arena, caged animals or celebrities protected by police), measure the light reflected from the palm of your hand. Hold your palm the normal distance from the light cell (6~12 inches) and make your exposure according to this reading. An attachment is available to measure the light projected to an object with extreme color contrast.



NOTES ON HANDLING THE METER

1. The Light Value meter should not be subjected to any unnecessary shocks.
2. Try to avoid humidity.
3. Keep your wrist watch away as the meter is magnetic and may damage it.
4. The adjusting screw of the meter (A) should be moved as little as possible. If the needle should slip from its 0 position, move it carefully and slowly in either direction to return it to 0.

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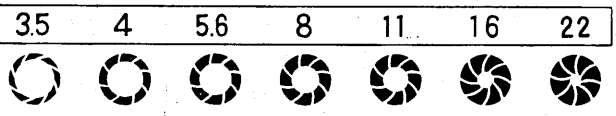
Relative Diaphragm Openings to Shutter Speeds

The Diaphragm Opening of a Lens controls the Volume of Light that reaches the film in a given period of exposure. The Dial Markings indicate this Volume of Light in the following ratio.



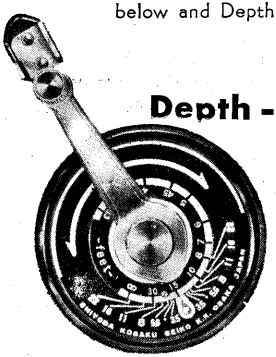
Each Stop opening indicated on the dial by the numbers 4 to 22 reduces the amount of light passing through the lens by ½, or conversely, opening the lens from one mark to the next from the number 22 to 4 doubles the amount of light passing through the lens, (f 3.5, is 1 ⅓ times f 4). The numbers are called "f" stops and the speed of a lens is designated by the largest "f" stop on its diaphragm, such as f 3.5.

The shutter controls the amount of light reaching the film by the length of time it remains open, i.e., 1 second, ½ second, 1/5 second, etc. Now, suppose you have determined by an exposure meter reading or other means that the correct exposure for your film under certain light conditions is 1/50 second at f 8, and you want to use a faster shutter speed because your subject is in motion.

A shutter speed of 1/100 second cuts the light in half, so you must open the lens one stop to f 5.6, which will allow twice as much light to pass through as before and the amount of exposure remains the same as before. Conversely, if you need to stop down the lens for greater depth-of-field (see explanation of Depth-of-Field next) and you select 16 as the correct stop opening you have reduced the amount of light to ¼. Then you must give the film an exposure 4 times as long or 1/12 second, in this case you select the nearest shutter speed which is 1/10 second.

Depth - Of - Field

The depth-of-field of a lens is the range of distance within which all objects are in relatively sharp focus when the lens is set for a given distance. This range varies with the diaphragm opening, being greatest when the lens is stopped down and least when it is open full. The range also varies with the distance for which the lens is set being least at close distances and greatest at farther distances up to a point where it takes in everything beyond an intermediate distance to infinity, which is indicated by ∞ on the distance scale. (See explanation of Depth - of - Field Scale below and Depth-of-Field Table on page 21.)



Depth - Of - Field Scale

The depth-of-field at any distance can be worked out by this scale. The inner side figures denote the distance and the outer ones on both sides of the arrow mark denote the diaphragm openings. After focusing, turn the inner table right or left until the arrow mark indicates the object distance shown on the distance scale. Then the pairs of diaphragm figures indicate the near and far limits of sharp focus corresponding with the diaphragm opening chosen.

For instance, focused at 15 feet with the diaphragm opening of f 8, the depth of field is from about 12 to 21 feet.

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ACCESSORIES for
The Minolta Autocord Model L

The following exclusive accessories are available for the Minolta Autocord Model "L" and are recommended in order to obtain the best results with it.

1. Minolta Lens Shade
2. Minolta Filters
3. Minolta Junior B. C. Flash
4. Self-timer
5. Close-up Lenses and Parallax Correction Kit
6. Minolta Parajuster

Minolta Lens Shade

The Minolta Lens Shade is square. This shape is better because a round shade sometimes cuts off the outer corners of the negative if it's large enough to cut out stray light effectively. A lens shade is necessary to prevent stray light from hitting the lens and causing light-flare spots or streaks on the photograph. A lens shade is particularly necessary when using flash.

Minolta Filters

Filters help you to take better pictures and to secure unusual effects.

A filter is usually employed to create special effects or to correct the color rendition of certain films. For instance, to accentuate the brightness of a color, you select a filter in the same color range; while to darken a color you use a filter of an opposite color.

OPPOSITES:

Color of Object	Suggested Filter
Blue - green	Red (R family)
Blue	Yellow - red (O family)
Purple - blue	Yellow (Y family)
Purple	Yellow - purple (G family)
Red - purple	Green (G family)

List of Filters and Their Uses

Minolta Filter		Use
UV	Ultra Violet	To cut through haze and correct color film.
Y 44	Very light yellow	For outdoor subjects and distant views generally.
Y 45	Light yellow	To darken light skies so that clouds are accentuated. Also for seascapes, snowscapes and other bright subjects.
Y 46		
Y 47	Medium yellow	
Y 48		
Y 49	Dark yellow	Deepens contrast between sky and clouds more than smaller numbered filters.
Y 50		
O 53	Light yellowish red	For special effects. Red and yellow appear abnormally bright while water looks dull. Called contrast filter.
O 54	Medium yellowish red	
O 55	Dark yellowish red	
R 59	Red	Intensify blue so that distant mountains appear clear. Used for infrared photographs in combination with infrared film. Turns sun into moonlight effect.
R 60	Dark red	
G 0	Yellowish green	Color corrects panchromatic film so that green becomes lighter and brighter. For foliage, grass etc.

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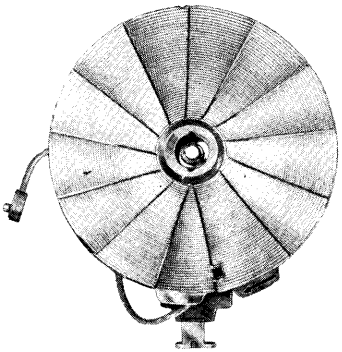
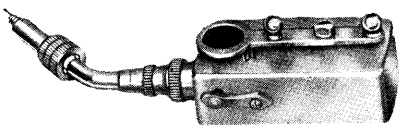
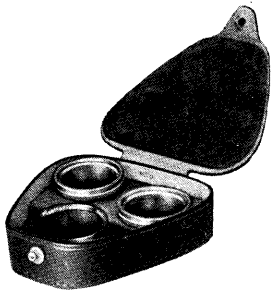


A small pocket - sized unit which operates on the B. C. principle. A 22.5 V dry battery and a condenser (capacitor) can discharge more than 300 flashbulbs without changing the battery. The folding shade consists of 13 fan-shaped blades. The body of the flash gun is plastic and the folded reflector in its vinyl case fits any pocket or purse.

The Self-timer can be set for any time delay from 10 up to 17 second to allow the operator to get into the picture. It is specially designed lest it should cut off a part of negative when attached to the camera.





The Minolta Autocord Model "L" can focus only on objects at distances greater than 3.3 feet. For taking close-up pictures, special close-up lenses are necessary. When a twin-lens reflex camera is used at short distances, parallax causes the image seen through the viewing lens to be slightly different from that seen by the taking lens. This is due to the separation between the two lenses and the fact that their axes are parallel. Parallax is quite apparent when the camera is used at close distances, therefore, a special pair of close-up lenses plus a parallax correction lens is needed to correct this effect. Two sets of close-up lenses are available, and each contains 2 convex lenses plus a prismatic lens.

Set No. 1 enables you to take close-ups at distances between 16 and 26 inches. Set No. 2 permits close-ups to be taken at distances between 14 and 18 inches.

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Minolta Parajuster

The Minolta Parajuster eliminates the effects of Parallax under all conditions in close-up photography. It also obviates the need for special prisma ic close - up lenses. The Parajuster produces the exact image on the ground glass that will be taken by the taking lens, because the mechanism shifts the taking lens into the position occupied by the viewing lens while framing and focusing the picture. Close-ups can be taken with a single close-up (proxar) lens by using it on the viewing lens when focusing, then removing it and placing it over the taking lens while making the exposure. Or two identical proxar lenses may be used, one over the viewing and the other over the taking lens.

The Advantages of the Parajuster are:

1. The picture that is taken is the picture that was seen on the ground glass.
2. Objects are relatively in the same positions as they appeared in the ground glass.
3. The picture won't show unexpected reflections that weren't in the ground glass because of the slightly different level of the lenses.
4. None of the highlights that you saw will disappear.
5. The composition of the picture will be exactly as it was on the ground glass.
6. Pictures are free from the distortion that is sometimes produced by prismatic correction of focus (through an additional lens).
7. No slip - ups can occur because of maladjustment of the prisms with close - up lenses.
8. Two or more close-up lenses can be used together to permit even closer work than is possible with a single close - up (proxar) lens.

THE STORY OF MINOLTA CAMERAS

Since the establishment of Chiyoda Kogaku Seiko K. K. in 1927, more than 30 different models of cameras have been put on the market. They have been so successful in meeting the demands of the public that today the Minolta is the favorite with camera fans the world over.

You may recognize your favorite camera among the following names of cameras produced in the quarter century since our founding: Nifcarette, Nifcaklapp, Nifcadox, Nifcasport, Happy, Minolta Baby, Minolta Vest, Minolta Six, Minolta Semi, Minolta Press, Auto Press Minolta, Auto Semi Minolta, Minoltaflex, Automat, etc. Since 1945 an improved model of the Minolta Semi, Type - P has made its debut while the production of the Minolta Memo has been suspended. The improved model Minolta-35 Model II, available with F 2 or F 2.8 lens is the latest design of its kind. Similarly the previous Minoltaflex II B has been superseded by the new Minolta-flex III, and at the same time the production of its sister model the "Minolta-cord", and the "Minolta-Autocord" was begun. This line now culminates in the Minolta Autocord Model "L". A 16mm. sub-miniature camera, the Minolta 16, and a 35mm. camera, the Minolta 'A' are currently in production.

A distinctive feature of Minolta Cameras is the fact that the production of the entire camera from formulation of the optical glass, its melting, crystalizing, grinding, polishing and final assembly of the lenses, production of the shutters and camera bodies and assembly and testing of the completed product, are all carried out within our own respective factories. At the same time, however, in view of providing for further expansion of our own as well as the general camera industry throughout Japan, we have adopted the use of the noted Seikosha-MX Shutter in our new Minolta Autocord and Minolta Autocord Model "L".

Osaka Head Office:
3-chome, Kitakyuhoji-machi, Higashi-ku, OSAKA.

Tokyo Branch Office:
3-chome, Ginza, Chuo-ku, TOKYO.

Head Office Factory:
Minolta Autocord, Minolta Autocord Model "L" and Minolta 16 are made in this factory.

Itami Factory:
Optical Glass Production.

Sakai Factory:
Polishing and Finishing of Lenses to be used in various Minolta Cameras is done here. In addition Lenses and Prisms for various overseas customers are being made in this factory. Also the entire Minolta-35 camera is produced here.

Toyokawa Factory:
The home of the Minoltacord, and the Minolta 'A'.

Nishinomiya Research Laboratories:
Research in optical glass formulation and the devising and testing of new lenses is done here.

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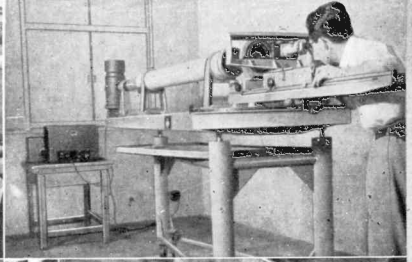

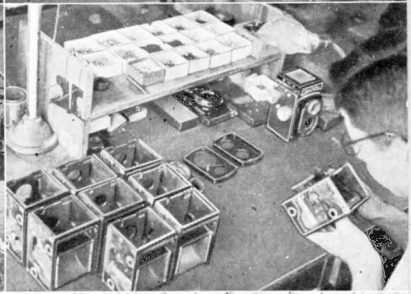

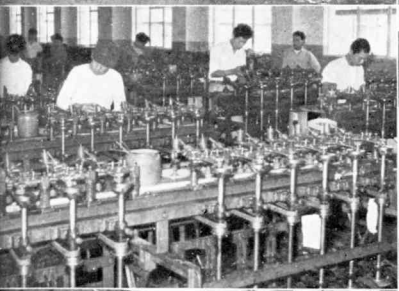

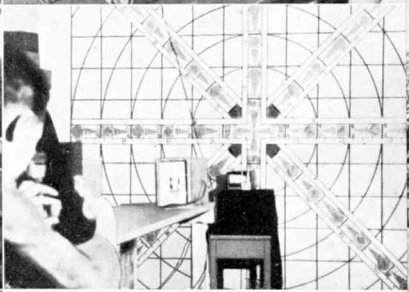

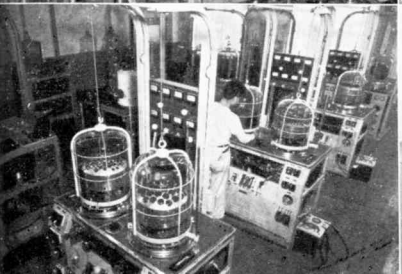

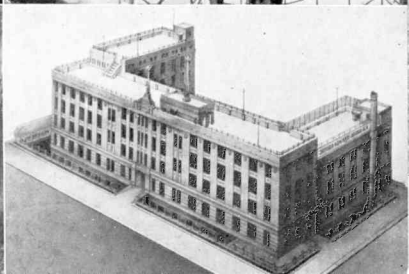

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EMULSION SPEED VALUES

ASA	Weston	Din	Ratio
5	4	9	1/10
6	5	10	1/8
8	6	11	1/6.25
10	8	12	1/5
12	10	13	1/4
16	12	14	1/3
20	16	15	1/2.5
25	20	16	1/2
32	24	17	2/3
40	32	18	4/5
50	40	19	1
64	50	20	1 1/3
80	64	21	1 2/3
100	80	22	2
125	100	23	2 1/2
160	125	24	3
200	160	25	4
250	200	26	5

DEPTH OF FIELD TABLE

Feet / f. No.	3	4	5	7	10	15	30	∞
3.5	2.93 3.08	3.87 4.14	4.79 5.23	6.60 7.47	9.18 10.98	13.2 17.3	23.6 41.2	109 ∞
4	2.92 3.08	3.86 4.15	4.77 5.25	6.57 7.51	9.12 11.07	13.1 17.6	23.2 42.5	101 ∞
5.6	2.89 3.12	3.80 4.22	4.69 5.35	6.41 7.74	8.81 11.58	12.5 18.9	21.2 51.4	71.8 ∞
8	2.85 3.18	3.72 4.32	4.57 5.53	6.18 8.11	8.38 12.42	11.6 21.3	18.9 73.7	50.4 ∞
11	2.79 3.25	3.63 4.46	4.43 5.76	5.92 8.62	7.90 13.68	10.7 25.3	16.6 165	36.8 ∞
16	2.71 3.37	3.48 4.71	4.21 6.18	5.54 9.63	7.22 16.45	9.48 36.9	13.8 ∞	25.3 ∞
22	2.61 3.54	3.33 5.05	3.98 6.79	5.14 11.22	6.55 21.8	8.34 82.8	11.5 ∞	18.5 ∞

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