



TARON auto-EL
INSTRUCTIONS

INTRODUCTION

Your Camera is precision engineered and embodies the latest technical developments in camera design with the CdS Meter coupled to the diaphragm and shutter. Your Camera determines optimum combinations of shutter speed and F-stop, and adjusts itself for correct exposures instantly and automatically.

This super-speed 45mm F1.8 amber-coated lens gives you almost limitless picture opportunities indoors and out, and assures you of needlesharp and well contrasted pictures in either color or black and white.

The famous Citizen-VE shutter, newly designed, is fully synchronized for flash and electronic flash. Shutter speeds are from 1 sec. to 1/500 sec. plus B with a built-in-self-timer.

The coupled range-viewfinder with luminous frame gives you perfect and speedy picture composition.

A single stroke of the thumb-lever cocks shutter, advances film, counts exposure and prevents double-exposure simultaneously.

These characteristics, plus many other outstanding features, make your Camera the ideal camera for both beginner and expert.

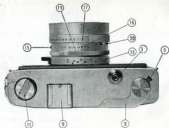
MAIN SPECIFICATIONS

Type:	35mm Lens shutter type EE Camera
Film size:	24mm x 36mm
Lens:	45mm F1.8 6-element 4-component construction
Shutter:	CITIZEN—VE B, 1, 2, 4, 8, 15, 30, 60, 125, 250, 500. Built-in Self-timer
Exposure Meter:	Highly sensitive CdS Exposure Meter. Mercury battery used as power source.
EE mechanism:	Fully coupled with Exposure Meter, shutter and lens aperture. Shutter priority type EE. Manual aperture settings available.
Operating range of meter:	EV 4—17
Film speed index:	ASA 25, 64, 100, 200, 400(500). DIN 15, 19, 21, 24, 27.
Finder:	Double-image superimposing system, coupled rangefinder, with parallax correction mark magnification ratio 0.7X. Visible aperture readings and warning signal in the viewfinder.
Flash Synchronization:	X flash synchronization—Speedlight, M class and F class of flash bulbs can be synchronized.
Film loading:	Revolutionary film loading with EL device using film in cartridge.
Film winding:	Single operation 120° winding lever type.
Film counter:	Self-resetting type.
Film rewind:	Press rewind button and rewind with crank.
Other features:	Both the lens and exposure meter are covered with one filter. There is no need for adjusting the exposure even when using filter. Comes complete with various safety devices for preventing misuse.



NAME OF PRINCIPAL PARTS

- | | | |
|----------------------------|---------------------------|-----------------------------|
| (1) Neck-strap eyelets | (7) CdS meter window | (13) Focusing ring |
| (2) Film advance lever | (8) Light window | (14) 45mm F1.8 lens |
| (3) Shutter release button | (9) Accessory shoe | (15) Synchro flash terminal |
| (4) Cable release mount | (10) View-finder window | (16) Iris diaphragm scale |
| (5) Film counter | (11) Film rewinding crank | (17) Shutter speed scale |
| (6) Range-finder window | (12) Rear cover lock | (18) ASA scale |





DEPTH-OF-FIELD AND FIXED FOCUS

The distance between the camera and the subject can be automatically measured by means of the coupled range-viewfinder. But, besides the point at which it has been focused, there is a range of sharpness which extends to the foreground as well as to the background of the subject. This is called "Depth-of-Field" and all objects within it are in acceptable sharpness. The Depth-of-Field becomes greater as the distance to the subject is increased or the lens aperture is reduced. To know the depth-of-field for any given lens aperture, please refer to the DEPTH-OF-FIELD TABLE.

Fixed focus means keeping the lens previously focused at a distance which gives maximum depth-of-field so that there is no need to adjust the focus every time. This feature is most convenient for taking pictures of fast moving objects.

DEPTH-OF-FIELD 9.4 feet 7 feet 5.6 feet 3.8 feet (1.15 meter)



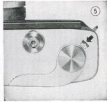


DEPTH-OF-FIELD TABLE

Feet	1.8	2.8	4	5.6	8	11	16
3.5	3.41	3.35	3.29	3.23	3.11	2.98	2.79
	3.59	3.55	3.74	3.84	4.01	4.24	4.48
4	3.89	3.80	3.73	3.63	3.49	3.34	3.18
	4.12	4.21	4.31	4.45	4.67	4.89	5.12
5	4.83	4.70	4.58	4.44	4.23	4.00	3.87
	5.20	5.34	5.50	5.72	6.10	6.66	7.31
7	6.64	6.43	6.21	6.03	5.84	5.20	4.81
	7.40	7.88	8.30	8.50	9.37	10.73	14.16
10	9.27	8.88	8.47	7.98	7.34	6.68	5.80
	10.89	11.45	12.20	13.38	15.62	19.86	26.03
15	13.40	12.81	11.86	10.87	9.73	8.59	7.19
	17.11	18.51	20.57	24.17	33.74	58.82	∞
20	24.07	21.75	19.44	17.08	14.40	12.04	9.47
	37.82	48.33	65.44	128.28	∞	∞	∞

Meters	1.8	2.8	4	5.6	8	11	16
1	0.376	0.860	0.944	0.923	0.89	0.859	0.808
	1.325	1.345	1.065	1.090	1.13	1.194	1.130
1.2	1.165	1.145	1.110	1.091	1.050	1.003	0.934
	1.323	1.268	1.291	1.341	1.398	1.491	1.677
1.5	1.445	1.412	1.377	1.333	1.273	1.205	1.106
	1.529	1.529	1.545	1.713	1.824	1.985	2.327
2	1.903	1.844	1.788	1.708	1.616	1.508	1.356
	2.070	2.180	2.268	2.391	2.621	2.967	3.802
3	2.781	2.667	2.547	2.402	2.213	2.014	1.753
	3.258	3.428	3.848	3.994	4.655	5.869	10.383
5	4.412	4.141	3.857	3.534	3.139	2.755	2.288
	5.769	6.308	7.195	8.544	13.271	27.007	∞
10	7.875	7.068	6.279	5.450	4.576	3.802	2.967
	13.099	17.088	24.545	58.685	∞	∞	∞



Photo 5. Close the rear cover and "S" mark appears automatically on the film counter. After taking two blank shots, advance the film once more. The film counter now indicates "1". The ASA scale, which is the foremost ring on the lens barrel, should be set at the ASA speed of the film. This adjustment is the basis of perfect coupling with the light meter. Adjust the scale according to the speed of the film used.





PERFECT COUPLING SYSTEM

Your Camera is a 35mm lens shutter type camera equipped with a coupled CdS light meter system. It is the result of original and ingenious skill which automatically solves all exposure problems.

Condition	Range of the film in use	ASA 100	ASA 50
Clear		$\frac{1}{250}$	$\frac{1}{125}$
Clouds		$\frac{1}{125}$	$\frac{1}{60}$
Indoors		$\frac{1}{30}$	$\frac{1}{15}$



For EE operation, set the film speed on the ASA ring, align the red mark ▲ on the aperture ring with the fixed index AUTO, select the shutter speed using the illustration at the left as a guide, cock the shutter by winding the lever, face the camera toward the object, and then the camera will automatically determine the F-stop (lens-opening number) according to the light conditions.:

Note: Unless you advance the film lever, the exposure meter will not work.

Just release the shutter button and you will correctly expose every picture.

If and when the window within the viewfinder shows yellow, it is a warning signal indicating over or under exposure. Then, you should adjust by reducing the shutter speed or if it still indicates insufficient light, you should use flash.

For manual operation, the aperture ring has to be turned to release the red mark ▲ from the fixed index AUTO. As described on another page, the self-timer is to be used also at AUTO setting.

F-stop visible in the viewfinder





CADMIUM SULPHIDE LIGHT METER

The built-in light meter in your Camera works by means of Cadmium Sulphide Cells, which are considered to have excellent characteristics. The conventional selenium exposure meter generates electricity itself according to the strength of light passed through the window. The CdS light meter, however, is operated by variation of electric resistance using another source of electricity.

The CdS light meter of your Camera has a 1.3 volt mercury battery as its power source. Therefore, it is very sensitive and can even measure the light of a single match.

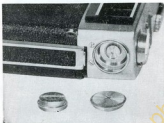
Furthermore, the CdS light meter of your camera light window with an angle of 40 degrees, which is almost the same angle of acceptance as that of this F1.8 lens.

With your Camera you can measure from LV 4 (F18:1/4 sec) to LV 17 (F16:1/500 sec.)





MERCURY BATTERY



Install the battery with the plus (+) side out or facing you.

The mercury battery, and electric power source of the CdS light meter, is fit for very long use though it is very small. The voltage remains almost unchanged during its life span. Therefore, its operation is quite stable.

Your Camera has a mercury battery compartment on the side of the camera, and is designed to switch on automatically when you take up the film and charge the shutter.

Note: The mercury battery used in the CdS meter will not become exhausted if it does not receive any light. However, if it is left with the shutter set, the battery will be used up. When not in use keep it covered with the lens cap.



HOW TO HOLD THE CAMERA

One of the mistakes made most often by those handling a camera for the first time is unsteady holding of the camera. An unsteady camera means blurred pictures. Even if you use a shutter speed faster than 1/250 sec. your pictures may still be blurred if your camera is unsteady.

There are two ways of holding a camera — horizontally and vertically. In either case, hold the camera firmly with two hands, press the camera against your face and keep both elbows against the body.

Press the shutter button slowly while holding your breath. The worst thing you can do is to press the shutter button with a quick movement.

Even when taking snapshots that require fast shooting, it is wise to release the shutter easily.





HOW TO USE THE RANGE-VIEWFINDER

The range-viewfinder on your Camera which shows the picture area clearly outlined by a bright frame, is very convenient for composing pictures. The illuminating bright frame is of special design and is one of the chief features of this camera. If the subject is properly included within this frame, there is absolutely no fear of cropped images in the final picture.

When taking pictures of people at close distance, keep them within the inner frame. This inner frame is called the parallax correction mark and prevents the subject from being cropped at close range.

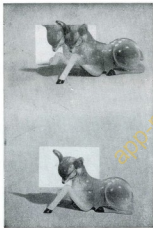
When looking into the range-viewfinder, aim it straight at the subject, and then bring the pupil of the eye to the center of the eyepiece. If the eye is not close to the eyepiece, a correct field of view cannot be obtained.

Be careful that the camera is level with the subject and that it is not viewed off center. Always keep in mind the instructions mentioned previously under "How to Hold the Camera".





HOW TO FOCUS



The adjusting of focus is performed by moving the focus adjusting ring. The rangefinder is in common use with the viewfinder.

It is of the single-lens coupled rangefinder type in which the composition of the picture is possible simultaneously with the bringing into focus of the subject.

Usually, when the subject is seen through the rangefinder, it will appear double in the yellow-tinted square in the center. This means that it is not in focus.

In such case, move the focusing lever to left or right until the two images are superimposed into one image. The subject is now in sharp focus. When the correct focus is obtained the distance scale will indicate the distance to the subject.



USING FILTERS

When using a filter on the lens, as the filter is put on the CdS meter cell simultaneously, there is no need to make any exposure compensation.

Filter	Type of color	Filter factor	Effects
UV	clear	1.0	Absorbs ultra-violet radiation without increase of exposure, eliminating a foggy appearance. Thus, clear pictures can be gained. Being transparent, its constant use is recommended as a lens protector.
Y1 Y2	yellow	1.5 2.0	Renders a good tonal interpretation and gives correct contrast between blue sky with clouds and ground. Used for distant and marine scenes, flowers and shrubs, snow scenes. Y2 is the most useful filter for all daylight exposures.
YA2 YA3	orange	3.0 4.0	Renders a strong contrast between red and yellow colors. Adds detail to distant landscapes.
R1	red	8.0	With infra-red film gives infra-red effects for outdoor scenes which render foliage as white tone.
P00	green	2.5	Lightens foliage in sunlight. Effective for gardens with multi-colored flowers, portraiture in soft sunlight.



SELF-TIMER AND CABLE RELEASE



Wind the film, charging the shutter, and then set the self-timer by moving the self-timer lever. The shutter will operate automatically approximately 10 seconds after it is released. The self-timer lever can be set at 2 seconds or 5 seconds also. Therefore, it can be used for various purposes. When shooting pictures with shutter speeds slower than 1/30 sec. it is best to use a tripod and a cable release to prevent blurring of pictures.

The cable release is of the screw-in type and is screwed into the shutter button hole. When you do not have a cable release, another effective way of preventing blurred pictures is by releasing the shutter after setting the self-timer at 2 or 3 seconds.

When the self-timer is in use, the EE will give correct exposure and manual operation is also available.



FLASH PHOTOGRAPHY

For flash photography, attach the flash-gun to the accessory shoe. A large-sized flash unit can be fixed onto the tripod mount by means of a bracket.

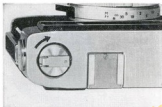
When shooting with flash, ignore the light meter within the viewfinder and set the shutter speed and lens aperture according to the directions accompanying the flash bulb. This is because the amount of light entering through the light meter window differs in volume from that caused by the instantaneous flash of the bulb.

M Bulb	Under 1/30 sec.
F Bulb	Under 1/60 sec.
Strobe	All speeds





UNLOADING OF FILM



The exposed film must be rewound from the take-up spool back into its original cartridge.

First, pull up the rewind knob and unfold the crank handle. Then press the sprocket release button at the bottom of the camera and rewind the film back into the cartridge in the direction indicated.

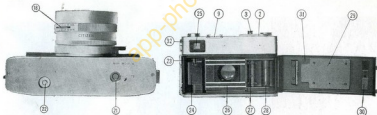
Towards the end of the rewind, the crank will become a little heavy, but when the lead film leaves the clip the crank handle suddenly released.

This means that the rewind has been completed. Therefore, open the back cover and take out the cartridge. Return the crank handle to its original position.

CAUTION:

When the entire roll of film has been exposed, it may happen that you will not be able to turn the film advance lever a full stroke. In such a case, do not force it, as you may cut the film. Press the rewind button and wind the lever completely, return the lever and then rewind the film while pressing the rewind button. If the film is cut midway, it becomes impossible to rewind and must be rewound in a darkroom.

- | | | |
|---|------------------------------------|-----------------------------------|
| (19) Exposure coupling ring
(auto manual switchover) | (23) Film rewinding shaft | (29) Film pressure plate |
| (20) Self-timer lever | (24) Cartridge chamber | (30) Cartridge positioning spring |
| (21) Tripod mount | (25) Eyepiece for range-viewfinder | (31) Rear cover |
| (22) Sprocket release button | (26) Film guide rail | (32) CdS battery housing |
| | (27) Film sprocket | |
| | (28) Film take-up spool | |





HOW TO LOAD FILM

Photo 1. Open the rear cover of the camera by pulling up the lock.

Photo 2. Place the film cartridge in the film chamber.

Photo 3. Draw the film leader from the cartridge and insert it into the film slot of the easy loading spool.

Photo 4. Move the film advance lever slowly so that the sprocket teeth catch the film perforations and take up the slack.

It is advisable to load film in a dark place avoiding the direct sunlight.

When there is no shade make a shade with your body.



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CARE OF YOUR CAMERA

1. Avoid wiping the lens with a cloth or fingertip. Dust it with a soft lens brush or wipe it carefully with silicone cloth.
2. Do not leave your camera with the shutter cocked for a long time as the CdS light meter is charged when the shutter is cocked. To avoid waste, do not leave the camera shutter cocked when your camera is not in use.
3. When loading film, keep the camera away from dust and moisture. Before loading, dust the film pressure plate with a lens brush to avoid injuring the film surface.
4. Remember to take special care of camera immediately after using it at the seaside or on rainy days.
5. If you should drop the camera into the water, wash it with alcohol or some other volatile liquid and have it inspected or repaired as soon as possible.
6. When your camera will not be in use for a considerable length of time, the battery should be taken out of its compartment.

MEMO:

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TARON auto-EL

NO. 126142
TARONAR 1:1.8 45mm
TAMON CO. LTD.

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UTILISATION : Ouvrir le cap de l'appareil en tirant le verrou (15)
RECHARGE : Insérer la cartouche de film dans le logement (20)
RECHARGE : Introduire l'axe de film dans le trou (25)
RECHARGE : Insérer la bobine (24) qui libère le rouleau (26) et donner l'armement (21) dans ce position jusqu'à ce que la griffe (9) soit dans la première piste à gauche

UTILISATION : Tourner la bague de mise au point (13) jusqu'à ce que l'indicateur de rectangle lumineux ou une seule image. Pour les vues rapprochées entre 1 et 2 m, utiliser les 2 petites repères décrites dans le cadran.

UTILISATION DE L'APPAREIL : La mise au point automatique dépend obligatoirement de cette opération. Il faut donc régler le déclencheur de mise au point (12) sur l'appareil et en la position en face de chiffre de la sensibilité de film.

UTILISATION : Elle est automatique en semi-arrêt. Alimentée par une pile type battery 3333 dans le logement (28) pile + connecté en haut. Cette pile sera remplacée à mesure que les hautes températures inférieures à -10°C pour régler la cellule, tourner la bague (18) de chiffre de vitesse choisie au face de l'œil noir de la bague (18). La distance de 1/300 de sec. utilise un pied. Pour régler le semi-automatisme, tourner la bague (18) de triangle rouge au face de diaphragme défini par la cellule. Il se trouve (19) dans les diaphragmes. La luminosité est perdue par la prise de vue, elle se sera changer de vitesse jusqu'à ce que une correcte et déclencher.

UTILISATION DE L'APPAREIL : Après avoir réglé correctement l'exposition et avoir l'armement (21) et tout le levier (20) après avoir déclenché. Le décal avant observation est de 10 secondes. Une fois avec le déclencheur se peut revenir en position initial qu'après avoir déclenché.

UTILISATION DE L'APPAREIL : Insérer le flash dans la griffe (9) et pointer le flash à la (14) (17). Ne pas tenir compte de la cellule. Avec les lampes M10 ou M11 se peut déclencher le 1/300. En déclenchant on peut ouvrir jusqu'à 1/300. Pour le détail de diaphragme tourner le nombre guide par la distance en mètres (exemple 1.5.2.3.4.5.6. = diaphragme 5)

RECHARGE : En fin de film le levier (2) se bloque par le bouton) appuyer sur le démarrage (23) et tourner la manivelle de réenroulage. Ouvrir le cap et enlever le film ou laisser enroulé.