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PICTURE TAKING

WITH

No. 1-A FOLDING
HAWK-EYE
MODEL No. 1



PUBLISHED BY

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Successor to

BLAIR CAMERA CO.

Rochester, N. Y.

Butt 45-45

Eastman Kodak Co.

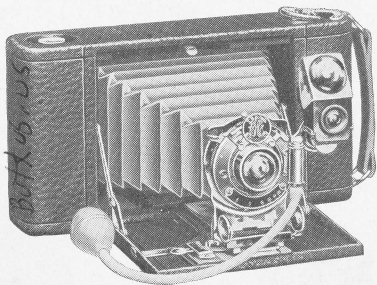
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Rochester, N. Y.

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No. 1-A Folding Hawk-Eye
Model No. 1

No. 1-A Folding Hawk-Eye

Model No. 1

For Pictures $2\frac{1}{2} \times 4\frac{1}{4}$

Before loading or attempting to take any pictures with the Hawk-Eye read the following directions carefully and become thoroughly familiar with the instrument, taking special care to learn the construction of the shutter; work it for both time and instantaneous exposures, before threading up the film.

A most important thing to be remembered is that no white light (including gas or lamp light) should reach the film for a fractional part of a second until it has been developed and fixed. Therefore extreme care must be used to keep the black paper wound tightly on the spool so as to protect the film while loading and unloading the Hawk-Eye. It is best to select some place where the light is not too bright to insure safety.

To Load

Before loading, try the shutter and see that it works properly.

The film for the No. 1-A Folding Hawk-Eye, Model No. 1, is known as No. 1-A F. P. K. cartridge, size $2\frac{1}{2} \times 4\frac{1}{4}$, and is put up in light-proof cartridges so the camera can be loaded and unloaded in daylight. It is best that the operation be performed in subdued light, not in bright sunlight. After the seal is broken, it

must be borne in mind that care must be taken to keep the black paper tight so no light can reach the film.

To insure against all dangers, it is advisable to select a place where the light is not strong, as this work should never be performed in the glare of bright sunlight.

Hold the camera in both hands as illustrated in Fig. 1; first press with the forefinger of the left hand on the little knob D and at the same time with the forefinger of the right hand push the little knob E toward the winding key which releases the back cover.

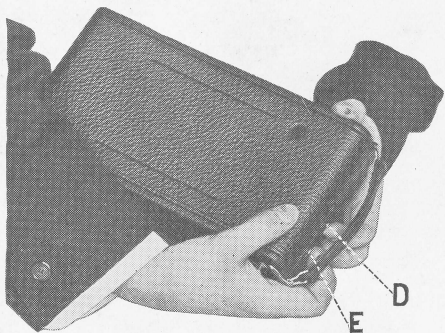


FIG. 1

Pull out the spool centers at each end of the empty chamber about $\frac{3}{16}$ inch until the inside ends are flush with inside of spool chamber; then place the film cartridge into position (the word "Top" on a Kodak spool should be at the bottom of the camera), using care that the centers when pushed back engage in the holes in the ends of the spool.

The film cartridge should be placed in the camera so

that the paper unwinds from the outside or off the top, as it were. Break the seal and pass the black paper over the rolls at back of camera and thread into the slot in the winding reel. Turn the key to secure.

Be careful that it is started straight, for should one edge bear against the flange harder than the other, it will not wind evenly and will cause trouble. See that it is perfectly centered. After the film is secured, replace the back cover by hooking it to the end of the camera opposite the handle (see Fig. 2), using care that the end A is correctly engaged at the point B before the cover is pressed down to engage the catch C, but the cover will not lock until the knob D, illustrated in Fig. 1, is pressed down, at the same time pressing on the back cover to bring it into place and make the lock engage.

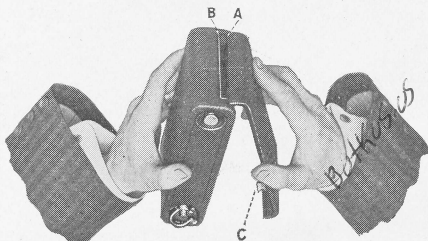


FIG. 2

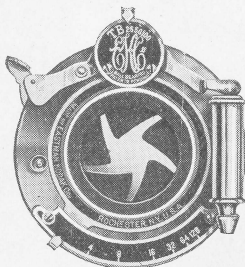
Throughout the foregoing from the time the seal is broken until the camera is closed, see that the black paper is wound tightly on the spool. If the paper is allowed to loosen the film will be fogged.

Turn the winding key slowly until the figure 1 appears opposite the red window, which signifies that the film is in position for the first exposure.

Shutter Used on Model No. 1

The disc at the bottom of the shutter indicates the opening of the iris diaphragm, according to the uniform system. The graduated disc at the top of the shutter indicates different methods of making exposures as desired.

Opposite "T" time exposure of any duration is obtained by pressing the bulb to open the shutter, and pressing it again to close it.



Bulb exposures are obtained by placing the pointer opposite "B," pressing the bulb, when the shutter remains open as long as pressure is applied to the bulb.

Instantaneous exposures are made by placing the pointer upon $\frac{1}{25}$, $\frac{1}{30}$ or $\frac{1}{100}$ as desired.

This shutter works automatically and is always set and ready for making an exposure.

Stops or Diaphragms

The stop or diaphragm is the opening which regulates the amount of light passing through the lens.

The opening for the lens aperture can be reduced or enlarged in accordance with the strength of light when making an exposure.

Under ordinary conditions the 8 opening should be

used. If the light be very strong, 16. 32 and 64 are for use in making time exposures.

NOTE.—If camera is fitted with single lens 16 should be used under ordinary conditions; if the light be strong, 32.

To open the bed press the hidden button on top of Hawk-Eye, as illustrated in Fig. 3. Pull the bed down until the side brace springs lock it so it is firm. Draw out the standard, grasping it by the finger clamps.

FITTED WITH SINGLE ACHROMATIC LENS.
The standard should be drawn out until the pointer reaches the line on the scale. Objects will then be in focus at a distance of eight feet or more.

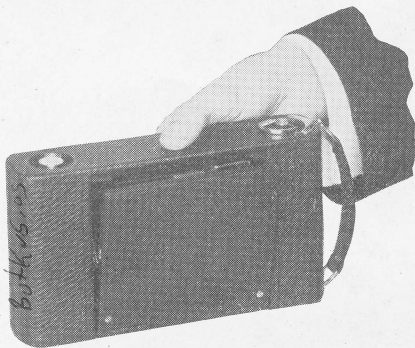


FIG. 3

FITTED WITH R. R. LENS ($4\frac{5}{8}$ -inch focus) and AUTOMATIC FOCUS LOCKING DEVICE. To set the focus press down on the lever attached to the bed and set the catch in the slot marked for the distance desired, 6, 10, 25 or 100 feet, then draw out the standard, grasping it by the clamp levers, to limit of motion, and the lens will be in focus for the distance at which you have set the stop.

Instantaneous Exposures or Snap Shots

Never use diaphragm smaller than 16. Usually No. 8 is preferable, especially for short range pictures.

Instantaneous exposures, better known as "snap shots," are usually made with the camera held in the hand. The light therefore should be bright sunshine and exposures made from about three hours after sunrise to three hours before sunset. Earlier or later than these hours time exposures should be made. See "Time Exposures in Open Air," page 9.

Always photograph from the sun, never toward it; that is, the sun should come from behind the operator or over the shoulder, shining directly on the object to be photographed. If it shines into the lens the picture will be blurred.

Do not try to photograph moving objects at less distance than twenty-five feet, and endeavor to catch them at an angle or coming toward the camera. In photographing a tall building at close range and pointing the camera upward, the lines in the photo will be found very irregular on account of the top being a greater distance from the camera. When possible, you should obtain a position as near as you can to the horizontal line of the center.

The same rule applies to small objects, such as a dog, when the camera should be lowered to center of object to be taken.

When ready for making the exposure hold the camera firmly and as nearly level as possible so the picture will be true. Locate the object in the finder by looking squarely down into it, and release the shutter, using care not to jerk the camera. This will uncover the lens a fractional part of a second, thereby making the impression upon the sensitive surface of the film.

After making the exposure, turn the winding key to the right until the next number appears to view through the red window in the back of the camera.

It is advisable to get into the habit of winding the film as soon as an exposure is made, which will avoid the possibility of making two exposures on the same surface.

Time Exposures

In making time exposures some judgment must be used as to the length of time the lens should remain uncovered. This is governed by the amount of light upon the object to be photographed and varies at different times.

The following rule should be observed: Place the camera upon a tripod, table or some firm support where there will be no danger of moving it during the time the exposure is made; center the object in the finder, set the shutter on time as described on page 6, then one pressure to open and when sufficient time has elapsed one to close,—using care, of course, not to jar the camera either in opening or closing the shutter.

Time Exposures in Open Air

In making time exposures out of doors the shutter can hardly be worked too quickly.

WITH SUNSHINE—Smallest diaphragm, open and close as quickly as possible.

WITH LIGHT CLOUDS—Smallest diaphragm, one-half second to one second.

WITH HEAVY CLOUDS—Smallest diaphragm, two to five seconds.

The foregoing is calculated for open air exposures; for objects in shadows or under porches no accurate directions can be given, only experience can teach the proper exposure.

Never try to make a time exposure while holding the camera in the hand, as it is impossible.

Time Needed for Interior Exposures

The following table is for 8 opening or diaphragm. When using 16 opening, twice as much time should be given; with 32 opening four times, and with 64 opening eight times the time of the table.

White walls and more than one window:

Bright sun outside, two seconds.

Hazy sun, five seconds.

Cloudy bright, ten seconds.

Cloudy dull, twenty seconds.

White walls and only one window:

Bright sun outside, three seconds.

Hazy sun, eight seconds.

Cloudy bright, fifteen seconds.

Cloudy dull, thirty seconds.

Medium colored walls and hangings and more than one window:

Bright sun outside, four seconds.

Hazy sun, ten seconds.

Cloudy bright, twenty seconds.

Cloudy dull, forty seconds.

Medium colored walls and hangings and only one window:

Bright sun outside, six seconds.

Hazy sun, fifteen seconds.

Cloudy bright, thirty seconds.

Cloudy dull, sixty seconds.

Dark colored walls and hangings and more than one window:

Bright sun outside, ten seconds.

Hazy sun, twenty seconds.

Cloudy bright, forty seconds.

Cloudy dull, one minute, twenty seconds.

Dark colored walls and hangings and only one window:

Bright sun outside, twenty seconds.

Hazy sun, forty seconds.

Cloudy bright, eighty seconds.

Cloudy dull, two minutes, forty seconds.

The foregoing is calculated for rooms whose windows get the direct light from the sky and for hours from three hours after sunrise until three hours before sunset.

Flash Light Exposures

In making flash light exposures with the Hawk-Eye it is not necessary to procure a flash lamp, or any appar-

atus, as the Eastman flash sheets are all that is required and they are supplied for 25 cents per package containing material for six exposures.

Many interiors can be photographed by this process that would be very difficult to photograph during the day owing to lack of light, or windows so located that it is impossible to darken them sufficiently.

The camera should be placed on a tripod, table or some other secure support. Pin the flash sheet by one corner to a piece of white cardboard, which will act as a reflector, and which has previously been fixed in a perpendicular position. Place this about two feet behind, and two to three feet to one side of the camera, with an extra piece of cardboard under the flash sheet to prevent sparks from falling and doing damage.

When everything is in readiness locate the object in the finder and open the shutter the same as when making time exposures, using the largest diaphragm. Ignite the lower corner of the flash sheet, which will burn brightly, and make the exposure; then close the shutter and wind the film to the next number which appears to view through the red window

One sheet is sufficient for exposure with subject ten feet away, in an ordinary room with light walls; two sheets when the subject is fifteen feet away; three sheets when subject is fifteen feet away, with dark walls and hangings.

When one or more sheets are used they should be pinned to the cardboard, one over-lapping the other slightly at the corner.

Removing the Film

The danger of light reaching the sensitive surface of the film when unloading is the same as at the loading, and to insure against any possibility of fogging the edges, it had best be done in a subdued light.

When No. 12 has been exposed, continue to turn the winding key until the black paper leaves the supply spool and is all wound onto the winding spool. This you can

tell as the key will turn very much easier after the paper has left the supply spool.

Next, open the camera, the same as when loading, and take hold of the end of the black paper with thumb and finger of the left hand, turning the winding key to the right so as to draw the paper evenly down around the spool. Use the sticker furnished with each spool for fastening the end of this paper. After this is done, the spool may be removed by withdrawing the spool center and drawing out the winding key, turning the camera at the same time, so the spool will drop out.

The empty spool should then be adjusted in position for winding the next film by placing the slot end of the spool toward the winding key. After the winding key is properly engaged, push the spool center into original position.

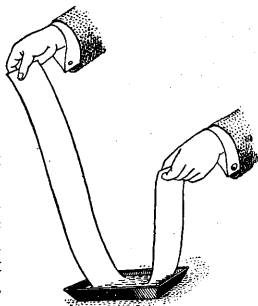
After all the exposures have been made and the film removed, the negatives must next be made and the pictures finished.

We recommend that the amateur do the work complete as it will be found very interesting and the process is very simple.

BUTKUS, J.S.

Developing the Film

Provide a Developing and Printing Outfit, also a pair of shears, pitcher of cold water (preferably ice water), a pail for slops, dark-room having a shelf or table. By "dark-room" is meant a room or closet in which no white light can enter. It is imperative that not the least ray should enter, for should the sensitive surface of the film be lighted for a fraction of a second it would be completely ruined. A light from the ruby lamp



turnished with the Developing and Printing Outfit, will not affect the film if it is not held closer than 18 inches.

Arrange three trays—one of them filled with water, the second filled with sufficient amount of Developer to flow over the film, and placing in the third Fixing Bath made from Kodak Acid Fixing Powder.

Unroll the film carefully, not allowing the fingers to come in contact with the emulsion side, which is the dull side, and detach the entire strip from the black paper. Pass the film through the tray of clean cold water, holding one end in each hand, as shown in the cut. Pass it through the water several times so there will be no bubbles remaining on the surface of the film. When it is thoroughly wet development may be commenced.

Now pass the film through the Developer in the same manner as described for wetting it, keeping it constantly in motion. Dark spots will soon appear, which are termed "highlights" and soon the objects will be discernible.

The process of development can be ascertained by removing the film occasionally and holding it in range with the ruby light. If the negatives are all of the same exposure development can be completed without cutting the negatives apart. If, however, one or more of the negatives flash up more quickly than others, they should be cut out of the strip with a pair of shears and transferred back to the tray of clear cold water where they may remain until the balance of the strip has been developed, and then they can be developed one at a time. It takes usually from 5 to 10 minutes for development, according to the amount of exposure.

When sufficient density has been obtained, wash the negatives thoroughly and place them in the Acid Fixing Bath made from Kodak Acid Fixing Powder, until the white appearance has disappeared. This usually requires from 5 to 10 minutes. Then remove and wash them thoroughly in clear cold running water from 20 to 30 minutes. It is very important that all traces of hypo be removed or stains will appear after drying and ruin the negatives.

If the film is regular it will be necessary to place same for about 5 minutes in a soaking solution composed of $\frac{1}{2}$ oz. glycerine and 20 oz. water; then remove and pin to a flat surface by the four corners, with emulsion or dull side out, with no further washing to dry.

If the film is Non-Curling, which you will note by the cartons or by the coating, namely, coated on both sides,—it should be pinned up to dry after having been thoroughly washed, without being put into the soaking solution, and should be suspended by the two corners. It must not be placed against a flat surface as it will stick.

Use all cold solutions and employ ice in extremely hot weather. The temperature of the developer should be from 65° to 68°.

Developing in Daylight

We recommend the Kodak Film Tank, as the entire process can be accomplished in daylight and the work of developing is much more simplified.

The general results obtained by the Film Tank are far better than the work done in dark-room.

All films are put up with instructions how to prepare them for development in the Film Tank.

The Common Causes of Failure

UNDER-EXPOSURES are caused by making instantaneous shots in the shade, indoors, early or late in the day, or when the light is not sufficiently strong to fully impress the object or view upon the sensitive surface of the film.

An under-exposure is easily detected in development by the image appearing very slowly; while it is impossible to obtain great detail, the negative can be improved by adding a quantity of fresh developer.

OVER-EXPOSURES are caused by too much light. An over-timed exposure is easily detected by the film darkening evenly as soon as placed in the developer, with no contrast or deep shadows. The negative can be improved by weakening the developer with water or

by adding a small quantity of a ten per cent. solution of Bromide of Potassium; but should the Bromide be used the developer is ruined for other negatives, unless they are known to be over-exposed.

UNDER-DEVELOPMENT. — An under-developed negative is very thin and full of detail; the difference can readily be seen from one under-exposed.

An under-developed negative can be improved to quite an extent by intensifying as follows: Place in a solution of

- $\frac{1}{2}$ oz. Bichloride of Mercury,
- $\frac{1}{2}$ oz. Bromide of Potassium,
- 16 ozs. Water.

Let the negative remain until it evenly whitens, then wash and apply a solution of 1 oz. Sulphite Soda to 1 oz. Water. The negative will then darken, when it should be thoroughly washed and placed to dry.

OVER-DEVELOPMENT is caused by allowing the negative to remain in the developer longer than it should.

An over-developed negative will appear very strong and intense, and requires a long time to print.

For reducing use the following formula:

No. 1 $\frac{1}{2}$ oz. Red Prussiate of Potash,
10 ozs. Water.

No. 2 $\frac{1}{2}$ oz. Hyposulphite of Soda,
10 ozs. Water.

Mix Nos. 1 and 2, and allow the negative to remain in the above solution until sufficiently reduced. Wash and place to dry.

FOGGED NEGATIVES are caused by leakage of the dark-room, or by holding the negative too long in the ruby light. This causes the film to darken soon after placing in the developer.

AIR BUBBLES beneath the film while developing or fixing cause spots, and streaks are produced by allowing a part of the material to remain uncovered in some of the solutions.

When sending film to us for finishing pack securely and mark as follows:

BLAIR CAMERA DIVISION, EASTMAN KODAK Co.,
Rochester, N. Y.

Do not neglect to put your own name and address upon the wrapper; also write us under separate cover stating what you are sending, advising if you wish the film developed, or developed and printed. For price list of this work, see last page.

Should you decide to do the finishing, we provide an outfit containing all the articles needed and the chemicals already compounded, ready for use.

Butkus. us

The outfit consists of

1 Candle Lamp.....	\$.25
1 4 x 5 Printing Frame.....	.25
1 4 x 5 Glass, for Frame.....	.05
1 4-oz. Graduate.....	.10
1 Stirring Rod.....	.05
4 4½ x 5½ Developing Trays.....	.40
5 Tubes Special Developer.....	.25
½ lb. Kodak Acid Fixing Powder.....	.15
½ oz. Bromide Potassium.....	.10
2 doz. 4 x 5 Velox Paper.....	.50
2 ozs. Nepera Solution for developing Velox....	.15
Directions10
	<hr/>
	\$2.35

Price complete, neatly packed, \$1.50.

Printing on Solio Paper

Solio paper gives prints having beautiful warm, brown tones, and which are usually mounted on cardboard and highly burnished.

Method of Printing

Open the printing frame of the outfit and lay the negative back down upon the glass (the back is the shiny side). Place upon this a piece of Solio paper, face down. Replace the back of the frame and secure the springs. The back is hinged to permit of uncovering part of the print at a time to inspect it without destroying its register with the negative. The operation

of putting in the sensitive paper must be performed in a subdued light, that is to say, in an ordinary room, as far as possible from any window. The paper not used must be kept covered in its envelope.

The printing frame, when filled as directed, is to be laid glass side up, in the strongest light possible (sunlight preferred) until the light, passing through the negative into the sensitive paper, has impressed the image sufficiently upon it. The progress of the printing can be examined from time to time by removing the frame from the strong light and opening one-half of the hinged back, keeping the other half fastened to hold the paper from shifting. The printing should be continued until the print is a little darker tint than the finished print should be. Place prints without previous washing in the following combined toning and fixing bath:

2 ozs. Solio Toning Solution.

4 ozs. COLD Water.

Pour the toning solution into one of the trays and immerse the prints, one after the other, in the toning bath. Five or six prints can be toned together if they are kept in motion and not allowed to lie in contact. Turn the prints all face down and then face up, and repeat this all the time they are toning. The prints will begin to change color almost immediately from reddish brown to reddish yellow, then brown to purple. The change will be gradual from one shade to another, and the toning should be stopped when the print reaches the shade desired.

Six ounces of the diluted toning solution will tone two dozen prints; after that a new solution should be made the same as before.

When the proper shade has been attained in toning bath, the prints should be transferred for five minutes to the following salt solution to stop the toning:

Salt, 1 oz.; water, 32 ozs.

Then transfer the prints to the washing tray and wash one hour in running water, or in sixteen changes of water.

The prints are then ready for mounting, or they can be laid out and dried between blotting papers.

Printing on Developing-Out Paper

Velox and Azo

These papers may be safely handled for the purpose of placing in printing frame and developing, eight to ten feet away from an ordinary full flame of artificial light, or three or four feet away if the light is turned low. With Welsbach light or daylight it is necessary to reduce the light somewhat by shading the light or window with one thickness of orange post-office paper.

Place the paper in an ordinary printing frame, in the same manner as when using printing-out paper, having the emulsion side of the paper toward the dull side of the negative. After the paper is placed in the frame in perfect contact with negative, expose by holding the frame close to gas, lamp or incandescent light, or subdued daylight. Artificial light is recommended in preference to daylight because of its uniformity and being in consequence easier to judge the proper length of time to expose.

The amount of exposure varies according to the strength of the light. It takes about the same time with an ordinary gas burner as an incandescent light. The Welsbach requires about only one-half as much time as the ordinary gas burner and kerosene light of ordinary size about three times as much as an ordinary gas burner. If daylight is used the window should be covered with post-office paper in which a sub-window about one foot square for making the exposure may be made. Cover this sub-window or opening with two or three sheets of tissue paper so as to diffuse the light, then have a piece of black cloth or post-office paper to put over the opening when the white light is not wanted for making exposure. The printing frame should be kept from one to two feet away from the opening covered with tissue paper when making an exposure.

The time necessary for exposing is regulated by the density of negative and strength of light. The further the negative is from the source of light at the time of

exposure the weaker the light, hence, to secure uniformity in exposure it is desirable always to make the exposure at a given distance from the light used. With a negative of medium density exposed one foot from an ordinary gas burner about two minutes exposure is required.

The temperature of the developer should be from 65° to 70° Fahrenheit, and the proper developer to use is the one put up by the company who manufactures the paper, as the best results will always be obtained when using their developers, as substitutes very often are not proportioned correctly and naturally the prints do not turn out as they should. Always follow closely the directions as given with the developer.

To Develop

Immerse the paper in the developer, using care that it flows evenly over the surface and leaves no air bells. The image should appear in about eight or ten seconds and when the print is developed sufficiently remove quickly from the developer and rinse in clear water before placing in the acid fixing bath.

The fixing bath should be in accordance with formula given with the paper and should be kept fresh, and prints should be kept in motion or not allowed to lie on top of one another while in this bath. After becoming thoroughly fixed, which takes about ten minutes, they should be removed and washed for about one hour in running water, or ten or twelve changes of clear water.

The prints should then be removed from the water and placed on a glass, face down, and the water squeezed out of them by placing a blotter on the back and running a roller over the blotter, and then they may be placed between blotting paper to dry, after which they can be trimmed and mounted.

More explicit directions are given with each kind of paper.

Price List

No. 1-A Folding Hawk-Eye, Model No. 1, double R. R. Lens and Automatic Focus Locking Device, not loaded.....	\$15.00
No. 1-A Folding Hawk-Eye, Model No. 1, single lens, not loaded.....	13.50
Blair N. C. Cartridge Film, 6 exp., 2½ x 4¼..	.25
Blair N. C. Cartridge Film, 12 exp., 2½ x 4¼..	.50
Black Sole Leather Carrying Case, with strap..	1.25
Sliding Tripod.....	.90
Hawk-Eye Folding Tripod.....	1.60
No. 1 Kodak Metal Tripod.....	2.50
No. 2 Kodak Metal Tripod.....	3.25
Hawk-Eye Portrait Attachment.....	.50
Developing and Printing Outfit.....	1.50
Developing only, each.....	.06
Printing only, each.....	.08
Developing and Printing, each.....	1.12½

Blair Camera Division
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