On-line camera manual library
This is the full text and images from the manual. This may take 3 full minutes for the PDF file to download.

If you find this manual useful, how about a donation of $3 to: M. Butkus, 29 Lake Ave., High Bridge, NJ 08829-1701 and send your e-mail address so I can thank you. Most other places would charge you $7.50 for a electronic copy or $18.00 for a hard to read Xerox copy.

This will allow me to continue to buy new manuals and pay their shipping costs.
It'll make you feel better, won't it?
If you use Pay Pal or wish to use your credit card,
click on the secure site on my main page.

BUSCH

4 x 5 PRESSMAN

How to Use Your

BUSCH

4 x 5 PRESSMAN

BUSCH PRECISION CAMERA CORPORATION • CHICAGO 7

Table of Contents

The letter-tagged illustration of the Busch 4x5 Pressman at right, together with the corresponding explanatory data below, will enable you to follow the material in this booklet and to become more quickly familiar with your own camera. Refer to this page often while reading this booklet, and for the first few days you use the camera.

Ⓐ *The VUE-FOCUS*—A separate booklet covering the construction and use of this focusing device is enclosed with your camera.

Ⓑ *Metal Arm* that connects VUE-FOCUS with focusing track.

Ⓒ *Set Screw* that controls instant interchangeable lens board.

Ⓓ *Knobs* that draw lens and bellows out onto focusing track.

Ⓔ *Knobs* that control forward and backward tilt of lens.

Ⓕ *The Focusing Track.*

Ⓖ Right hand *Focusing Knob* with lock knob.

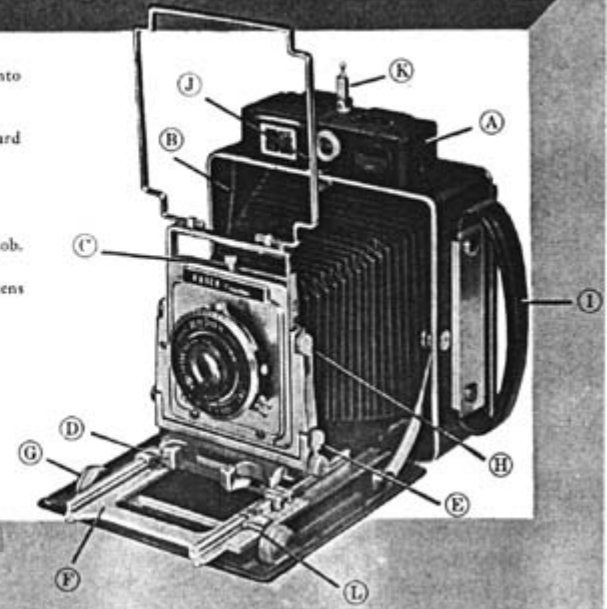
Ⓗ Set Screw that controls rise and fall of lens mount.

Ⓘ Adjustable Hand Strap.

Ⓙ Sports Finder.

Ⓚ Peep Sight.

Ⓛ Focusing Scale.



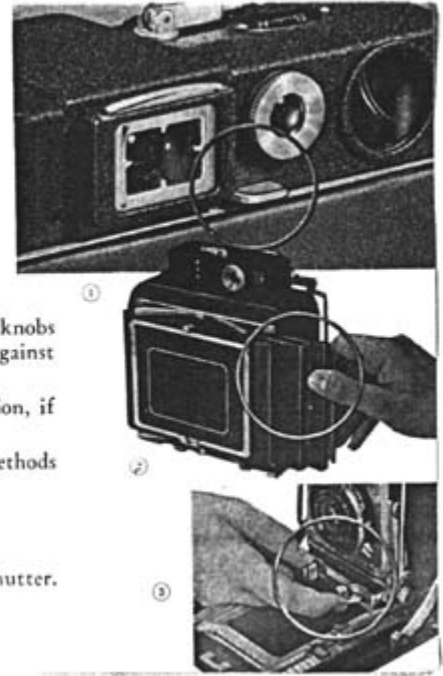
Foreword . . . .

Your 4x5 Model D Busch Pressman is the finest, most advanced, press-type camera on the market. It is compact — fully 1-inch smaller in all dimensions than any other American made 4x5 camera — yet nothing is sacrificed in rugged construction and desirable features. The Busch 4x5 Pressman combines improvements of existing features PLUS many new developments — all working together to make picture-taking easier, faster and BETTER than ever before in this film size. Your Busch 4x5 Pressman will give you years of service with ordinary usage and sensible handling. It is guaranteed for a period of one year against defects of manufacture and material. Congratulations on an excellent choice! As the years go by your investment will pay for itself time and again in enjoyment, interest and pride of ownership.

BUSCH PRECISION CAMERA CORPORATION

Sequence of Operation

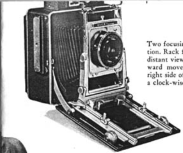
1. If your camera is equipped with the Vue-Focus, open the camera by pressing down on the lever located below center window (see ill.). Otherwise, open camera by pressing button on top of camera body. Bed can be drawn down to 90 degree position.
2. Turn focusing rack to rearmost position. Grasp two knobs (see ill. #3) and draw standard forward firmly against infinity stops.
3. Pull sports finder and rear sight into operating position, if you plan to use this method.
4. Compose scene in finder. Focus, using any of the methods described on pages 6, 7, 8 and 9.
   Insert holder or adapter (see ill. #2).
5. Set shutter speed and lens stop.
   Withdraw slide from film carrier. Cock and trip shutter.
6. Replace slide.



Sports Finder

The sports finder can be put in proper position by lifting forward and upward. The rear sight is positioned in a similar manner. The long dimension of the front frame runs in both directions and can be used with both the vertical and horizontal positions of the revolving back (see page 11). In use, the eye is placed directly behind the rear sight. From this position the front frame includes the actual picture area.

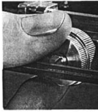
The rear sight can be corrected for parallax by loosening the set screw at front, and drawing upward. Lowest position is used at infinity. Center notch is used at 16 feet. Top position is used for all closer distances down to 6 feet. Do not use sports finder for close cropping of subject.



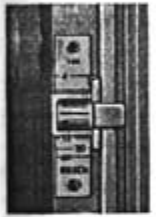
Focusing

Two focusing knobs permit right or left hand operation. Rack forward for closer objects, back for more distant views. Rack is at infinity position when rearward movement stops. The locking knob on the right side of the bed can be tightened by turning in a clock-wise direction.

Focusing is one of the most important steps in the technique of good photography. You have four methods at your fingertips with a fully equipped Model D. (1) the focusing scale (2) the ground glass screen (3) the rangefinder and (4) the focusing light.



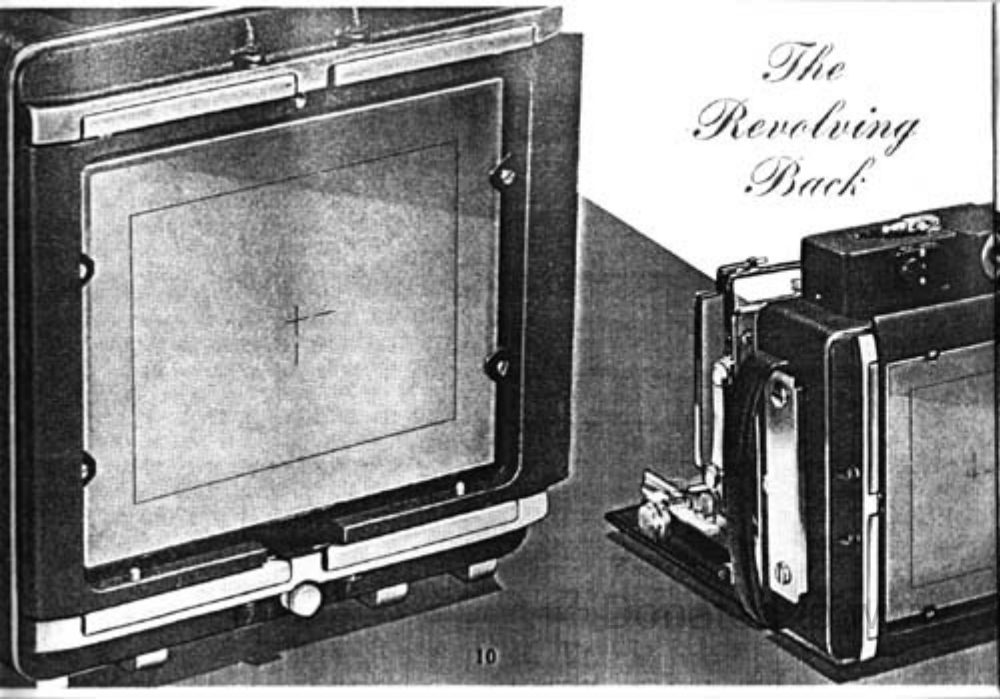
Focusing Scale



The scale is equipped with a "cursor" similar to that of a slide rule. That is actually a small magnifier with an etched indicating line. To operate, simply superimpose this line over the line next to the desired footage. Use the focusing knob for this purpose. View the scale from directly overhead for greatest accuracy. This method of focusing is generally used when the camera is not equipped with a range finder. It is necessary to estimate the distance from the camera to the object and set the scale accordingly. Do not depend on judgment when subject is within tape-measuring distance.

Ground Glass Screen

Open the shutter and expose the ground glass to view by pressing catch at bottom sideways. The four sided hood shields the glass from reflections. Turn the focusing knobs forward or backward to locate the plane of maximum sharpness. The lens inverts the image on the screen. The camera should be on a tripod for this type of work. The screen is scribed for use with 3¼x4¼ film packs if an insert is used in the normal adapter. Be sure that shutter is closed before pulling slide on holder to take picture. By loosening set screw at top, the hood can be removed from the camera for cleaning screen, etc.



The Revolving Back

The revolving back permits you to change from vertical to horizontal format without removing the camera from the tripod. Used in conjunction with the sports finder, it is possible to take hand held pictures with the back in vertical position. To revolve back, grasp set screw at bottom (see ill.) and draw it back. Now turn entire back in desired direction. It is not necessary to retain hold on screw once back is out of normal position. Back will click automatically into 90, 180, 270 and 360 degree positions. To return back to normal position, merely draw back on screw at bottom and turn back into position. It will click back into place automatically.

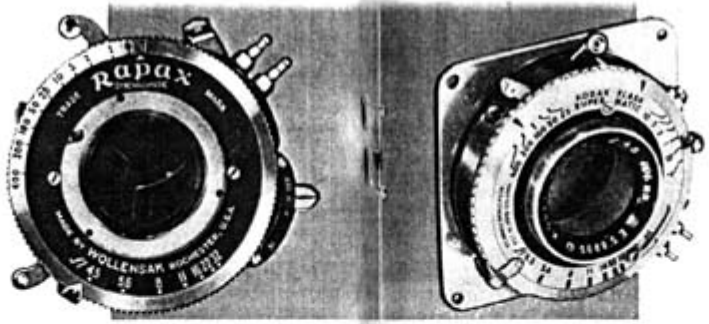
Range Finders

The Vue-Focus, Kalart and Hugo Meyer range finders are available for installation at the factory. They are synchronized to each individual lens. The range finder must be re-set if the lens is to be changed, even though focal lengths may be identical. See the range finder manual which accompanies your camera for specific information on yours.

Holders and Adapters

Only standard American press-type holders and adapters should be used with your Model D. If possible use film carriers of Busch manufacture. Ask your dealer about them. When using film carriers, be sure they are firmly seated in camera back before pulling slide. It is advisable to remove the slides from holders if they are not to be used for some length of time. This permits the light trap springs to recover tension.

Shutters



The Raptar lens is furnished with both Rapax and Rapax Synchromatic shutters calibrated with speeds from one second to 1/400th of a second; also time and bulb. When setting to high shutter speeds (200 to 400) slight resistance will be encountered. This is caused by increased spring tension. Do not be afraid to exert greater pressure for these settings. The Rapax Synchromatic shutter has a built-in flash synchronizer. The "M" setting is used for most types of flash bulbs. The "F" position on the Synchromatic shutter is used with "SM" and "SF" midget bulbs. The "X" setting is used with high-speed "strobe" units, all of which are sold with specific instructions for operation. The Ektar lens is furnished with the Kodak Supermatic shutter. This shutter operates in standard fashion for everyday use. However, for flash gun use, the flash lever (large knurled knob located near the cocking lever) must be pulled down after cocking the shutter. "F" and "M" positions are as described above. When using the Kodak Supermatic shutter with "strobe" units, the flashing lever is not pulled down. When using "synchro" shutters of all types, connect cord to outlet of battery case marked "remote control" or "focal plane." Actuate flash by tripping shutter release. Do not press button on battery case.

Lenses

Lenses regularly furnished with the camera at present writing are: The Wollensak Raptar, 135mm. and the Eastman Kodak Ektar, 127mm. Both lenses are optically coated and have maximum openings of f/4.7.

In each of these lenses the iris diaphragm is calibrated for the following stops; f/4.7-5.6-8-11-16-22- and 32. Each of these full stops gives double the exposure of the next smallest stop. (Note: f/5.6 to f/4.7 is only a half stop, giving 1.5 times increase in exposure. Thus, f/8 gives double the exposure of f/11, or four times the exposure of f/16.)

Lenses of longer or shorter focal length may be available from time to time for use in wide angle or telephoto work and are readily adaptable to the Model D. Since the camera is equipped with a removable lens board one can make full use of another lens in a matter of seconds.

Wide angle lenses should be focused on the ground glass screen since focusing scales would be too short for practical work. When using telephoto lenses with camera hand-held, employ fast shutter speeds (1/100 or higher). Slight camera movement during exposure is exaggerated by long focal lengths.

Holding the Camera

a. Avoid using shutter speed slower than 1/50th of a second. While it is possible to get needle-sharp negatives at even 1/10 of a second, it is only due to good luck or extremely steady hands. For consistent sharpness, use 1/50th of a second or faster.
b. Cradle camera in both hands. Do not grip camera tightly. Press the fore-arms against sides of the body for added rigidity. Keep elbows in.
c. Brace back of camera against the face with the eye close to the rear section of the view-finder.
d. Squeeze, do not jab at the shutter release.

Adjustable Hand Strap

The leather handle, as installed at the factory, may be too large or too small for your hand. The handle length may be changed at either or both ends by loosening the locking screws with an ordinary coin. Additional holes are perforated in the strap. Line up the correct hole with the perforation in the handle plate and tighten screw.

Depth of Field

Photographic lenses have a characteristic which includes more or less area in acceptable sharpness of focus, over and above that distance actually focused upon. The shorter the focal length of the lens, the greater the depth of field. By the same token, the smaller the lens diaphragm the greater the depth of field. Depth can be gained by closing the lens diaphragm down. Thus, f/16 provides a greater area of sharpness than does f/5.6. Emphasis can be placed on one particular portion of the picture by permitting the area before and behind the subject to fall out of focus. See tables on following page for area of sharpness covered by the 127mm and 135mm lenses for a given f/ stop and distance. Emphasis can be placed on one particular portion of the picture by permitting the area before and behind the subject to fall out of focus. The tables on the next page will guide you in determining the area of sharpness for any given picture you may want to take.

DEPTH OF FIELD TABLE FOR 5" FOCUS LENSES (127.0 mm.)

4 x 5 CAMERAS. 1/300 INCH CIRCLE OF CONFUSION.

Distance	F 4.5	F 5.6	F 8.0	F 11.0	F 16.0	F 22.0
Inf.	154'-Inf.	124'-Inf.	87'-Inf.	62'-Inf.	43'-Inf.	31'-Inf.
50'	38'-73.7'	36'-83'	32'-117'	28'-250'	23'-Inf.	19'-Inf.
15'	14'-17'	13'-17'	12.5'-18'	12'-20'	11'-22'	10'-28'
10'	9.4'-10.7'	9'-10.8'	9.0'-11'	8.7'-11.8'	8'-12.8'	7.6'-14.5'
6'	5.8'-6'	5.7'-6.2'	5.6'-6.5'	5.5'-6.6'	5.3'-6.9'	5'-7'
4'	3.9'-4.1'	3.9'-4.1'	3.8'-4.2'	3.8'-4.2'	3.7'-4.4'	3.6'-4.5'

DEPTH OF FIELD TABLE FOR 5-5 16" FOCUS LENSES (135.0 mm.)

4 x 5 CAMERAS. 1/300 INCH CIRCLE OF CONFUSION

Distance	F 4.7	F 5.6	F 8.0	F 11.0	F 16.0	F 22.0
Inf.	162'-Inf.	136'-Inf.	95'-Inf.	69'-Inf.	47'-Inf.	34'-Inf.
50'	38'-72'	36'-78'	32'-104'	29'-176'	24'-Inf.	20'-Inf.
15'	14'-16.5'	13.5'-17'	13'-18'	12'-19'	11'-21'	10'-26'
10'	9.5'-10'	9'-10.5'	9'-11'	9'-11.6'	8'-12'	8'-14'
6'	5.8'-6.2'	5.8'-6.3'	5.7'-6.4'	5.6'-6.5'	5.4'-6.8'	5.2'-7'
4'	3.9'-4.1'	3.9'-4.1'	3.9'-4.2'	3.8'-4.2'	3.7'-4.3'	3.6'-4.5'

DISTANCE IN FEET

Flash Equipment

The photographer cannot function in the wide range of modern photography without the aid of a flash synchronizer to produce adequate light independent of all other sources. The synchronizer makes the photographer completely independent, indoors and out, and it enables him to secure many pictures that would otherwise be lost. This subject is too large to be covered fully here. You are referred to various data available at most camera dealers. The Busch Precision Pressman is easy to adapt to most synchronizers. Both solenoid and cable release types. All you need do is select a reliable, versatile make and have it mounted accurately on the camera and adjusted with the shutter. This work can be done most satisfactorily at the factory. Some solenoid-type flash guns are linked to the shutter release lever by an "S" hook. When time and bulb openings of the shutter are to be used, it may be necessary to disengage the hook from the solenoid. The Busch Precision Pressman is also adaptable to most portable high speed repeating flash units on the market.

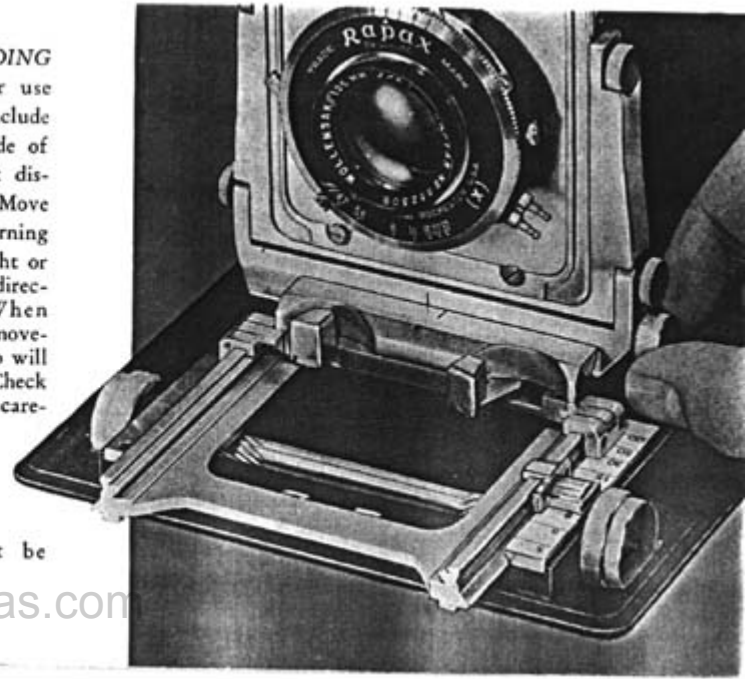
Lens Movements

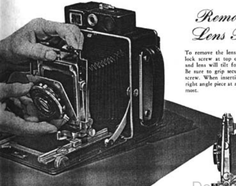
REARWARD TILT and DROP BED — for use with wide angle lenses. To drop bed, draw lens standard out to normal position, then depress side arms with thumbs until last notch on arms click into place. To tilt lens, loosen set screws on either side of lens standard. Tilt lens to desired position and tighten screws.

IMPORTANT — with all movements, be sure to return lens standard to normal position before closing camera.

THE RISING FRONT — for use when photographing tall buildings, straight-down views and other vertical shots where distortion may be a problem. To raise the lens mount, loosen lock screws at sides and draw lens mount upward. Check for desired effect in ground glass. Lock in position by tightening screws.

LATERAL or SLIDING MOVEMENT — for use when you want to include objects on either side of composition without disturbing set of tripod. Move lens laterally by turning knob (see ill.) to right or left depending upon direction you desire. When maximum lateral movement is reached, knob will turn without result. Check ground glass screen carefully before shooting. When returning lens to normal position, scribed lines under lens and shutter must be aligned.



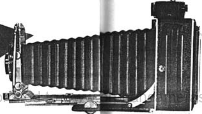


Removable Lens Board

To remove the lens board simply loosen lock screw at top of lens mount. Board and lens will tilt forward out of mount. Be sure to grip securely before loosening screw. When inserting lens, be sure that right angle piece at rear of board is uppermost.

Flip-Back Infinity Stops

Infinity stops on either side of focusing track can be flipped back instantly when you want to by-pass them with the lens. Infinity stops on your camera are synchronized with your lens. Additional infinity stops can be added to the track to accommodate a different focal-length lens which you may want to use.



Close-up Photography

The extra-long bellows extension of the Busch 4x5 Pressman makes photographing small objects at close range a relatively simple matter. The lens can be placed more than 12 inches from the focal plane. Focusing must be confined to the ground glass when you're working with close-up subjects. The scale and range finder do not operate at close quarters.

Care of the Camera

The Busch Precision Pressman is constructed and engineered to withstand considerable hard usage, but it should be accorded the treatment you would give any expensive optical instrument. Keep it free of dust and, if possible, do not expose it to extremes of temperature and humidity. When cleaning the lens, use lens tissue or soft brushes intended for that purpose. When using the camera, avoid situations which would subject it to violent jolts or falls. If for some reason repairs are required, return it to the factory via railway express, insured. If you cannot get the camera to the factory, be sure to put it in the hands of a *skilled* repairman. It is suggested that the camera be kept in a sturdy carrying case when not in use. This will preserve both finish and mechanical alignment. Several fine 4x5 carrying cases are available from your dealer. Consult him.

In Conclusion

While the Busch Pressman Model D has been designed and built with the requirements of the most skillful professional in mind, the beginner will find no difficulty in learning how to get the utmost in performance from his camera if he bears in mind the various points discussed in this manual.

Reading the various books and magazines of the photographic world will lead to increasing understanding of the many possibilities contained in the design and construction of the Busch Pressman. Should unusual problems arise which involve the operation of the camera we will be happy to advise you. When sending such correspondence be sure to mention the following facts . . .

Complete serial number and model of camera. Type of lens, shutter and range finder plus any serial numbers on these articles. Also, where and when purchased. This particularly applies to correspondence on adjustments and repairs.

Kinds of holders and adapters used as well as samples of negatives and prints for reference are also helpful.

Remember, additional accessories, lenses, flash equipment, etc., must be ordered through your local dealer. When ordering lens board, specify size and type of shutter.

Glance through this booklet whenever the thought occurs to you. Certain things may be overlooked in the first reading. Others may be forgotten. You will find The Busch Pressman, Model D, to be the finest camera you have ever owned; if you operate it correctly.

BUSCH PRECISION CAMERA CORPORATION