PENTAFLEX AK16

OPERATION MANUAL

Translated from German

Good results are guaranteed to you if you read the first recordings before the start of your first recording and have a test piece of film in the hand of the device

The ak16

(Image 1) a recording camera for 16mm one or two-sided perforated film, brings through 1hr system many advantages and expansion possibilities, which are for the filmbericht, the scientist and the amateur.

Bild 1 Kamera komplett

(2) with which a film exchange can be made within a few seconds by the change of the cassette. The cassette (picture 3) carries the entire transport mechanisms - with the exception of the gripper - A sensing-lever-counting device, which always shows the remaining film quantity in meters and / or. It can be supplied with cassettes with a film capture capacity of 30m, 60m or 120m.

Bild 2 Einsetzen der Kassette

The ak16
(Ref. 4) shows 1m standstill and in the run a right-sided, parallar-free and 10-fold magnified matt screen image, which allows very light and clear dis-evaluation of the image cut-out and the image sharpness. The viewfinder is in the receiving direction.

The sector diaphragm of the AK16 can be continuously adjusted (0-closed) in the range of 0 degrees to 180 degrees. It is used mainly for landing and take-offs, as well as in conjunction with a sine rewinding crankshaft.

Furthermore, different exposure times can be achieved by changes in the sector opening at the same recording frequency. for example:
16 speed - sector opening 180 degree = 1/32 seconds
16 speed - sector opening 90 degree = 1/64 seconds

The table as of the Camera rear gives an impression of the table

Bild 4 Kamera mit Schnitt durch das Suchersystem

AK16
Lenses (image 7), the following types are available:

Original Jena wide angle lens 2.8 / 12.5mm
Original Jena standard lenses 1.4 / 25mm
Original Jena telephoto lenses 1.4 / 50mm
Original Jena telephoto lens 2.8 / 80mm
Original Jena telephoto lens 4.0 / 135mm

The first 3 lenses are called standard objective ones. All lenses have a depth-of-field scale and are equipped with anti-reflective coating.

Bild 7 5 Objektive

The Ak16
The drive is fitted with a battery-driven battery motor (Fig. 8) that can be attached to the side or from below with a bayonet mount. The speeds are 12,16,20,24 and 32 images / sec. The running accuracy is plus or minus 5% despite the voltage fluctuations between 10.8 and 13 volts. The operating switch is designed as a pressure switch, which can be locked in the working position by sliding in the direction of the camera as a continuous-action switch.

When the engine is switched off, the gearbox and thus also the mirror diaphragm is automatically set so that the image can be viewed in the search beam path. The switch-off process is thus reduced to max. 2 images limited.

A tipping-resistant lead-over for 12 volt 10amp. Used with a battery charge at 24 frames / sec. About 2400m film.

Bild 8 Motor

The AK16
Offers expansion options for a wide variety of special areas, such as hardly any other camera.
Accessories for:

Image frequencies from 3 to 96 F/per sec.
Spring drive
Rewinding cartridges
Hand crank
Single Image Switch
Three-phase synchronous motor for 25 B / sec.
Time marker
Intermediate rings For the use of screwed lenses, including the macro accessory
Clear glass panes For micro recording etc.
Can be readily applied.

Synchronous coupling with other belt loops (eg with a magnetic sound device) is also possible. When the second drive point of the camera is coupled to the tape device by a flexible shaft or by a toothed drive.

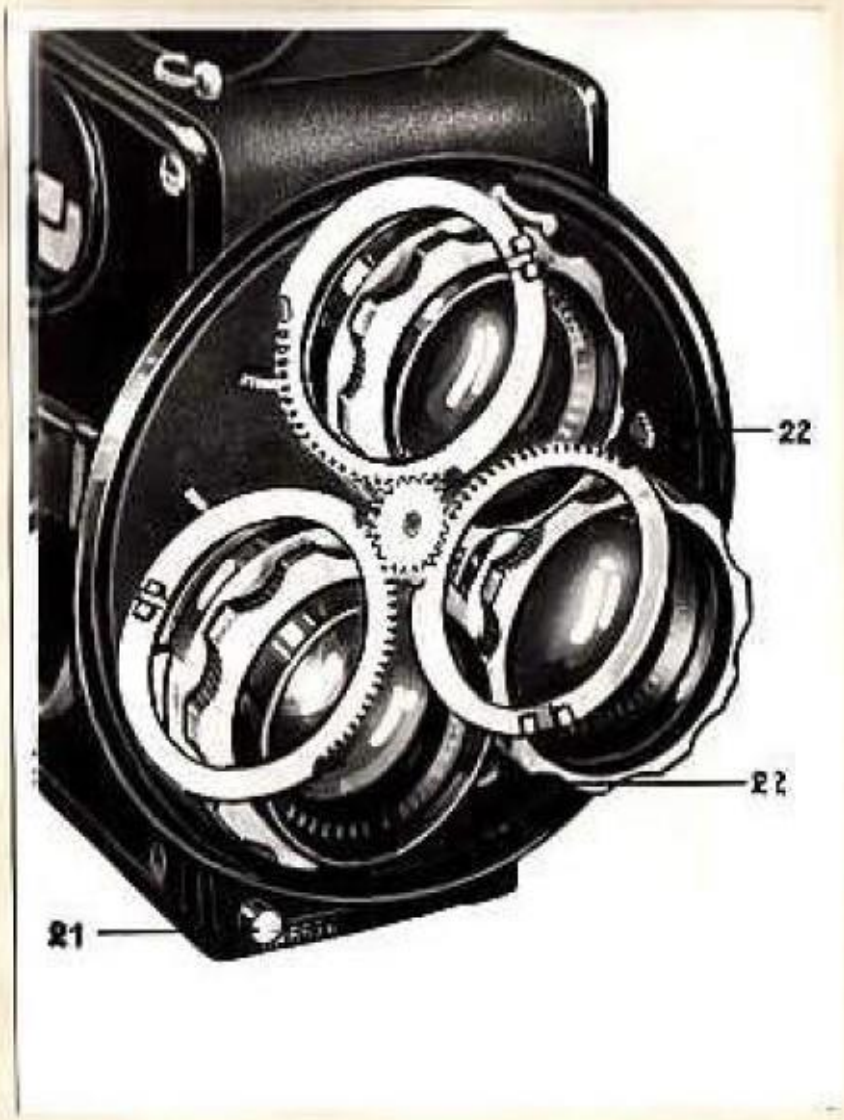


Bild 6 Kupplung der Blendenringe

Filming in
In the 30meter cassette (picture 3 and 9) do not take place in a bright sun.
After turning the locking lever (1) upwards and forwards, the cover (2) is lifted off.

The empty coil (4) lying in the cassette (3) is pulled out. From the full spool (5) about 60cm of film are unrolled. The counter clock button (6) is pulled to the right and thus the space for the insertion of the full coil is released. Unroll the unrolled end to the bottom right. When the free end is finished, the embossed layer scheme is used.

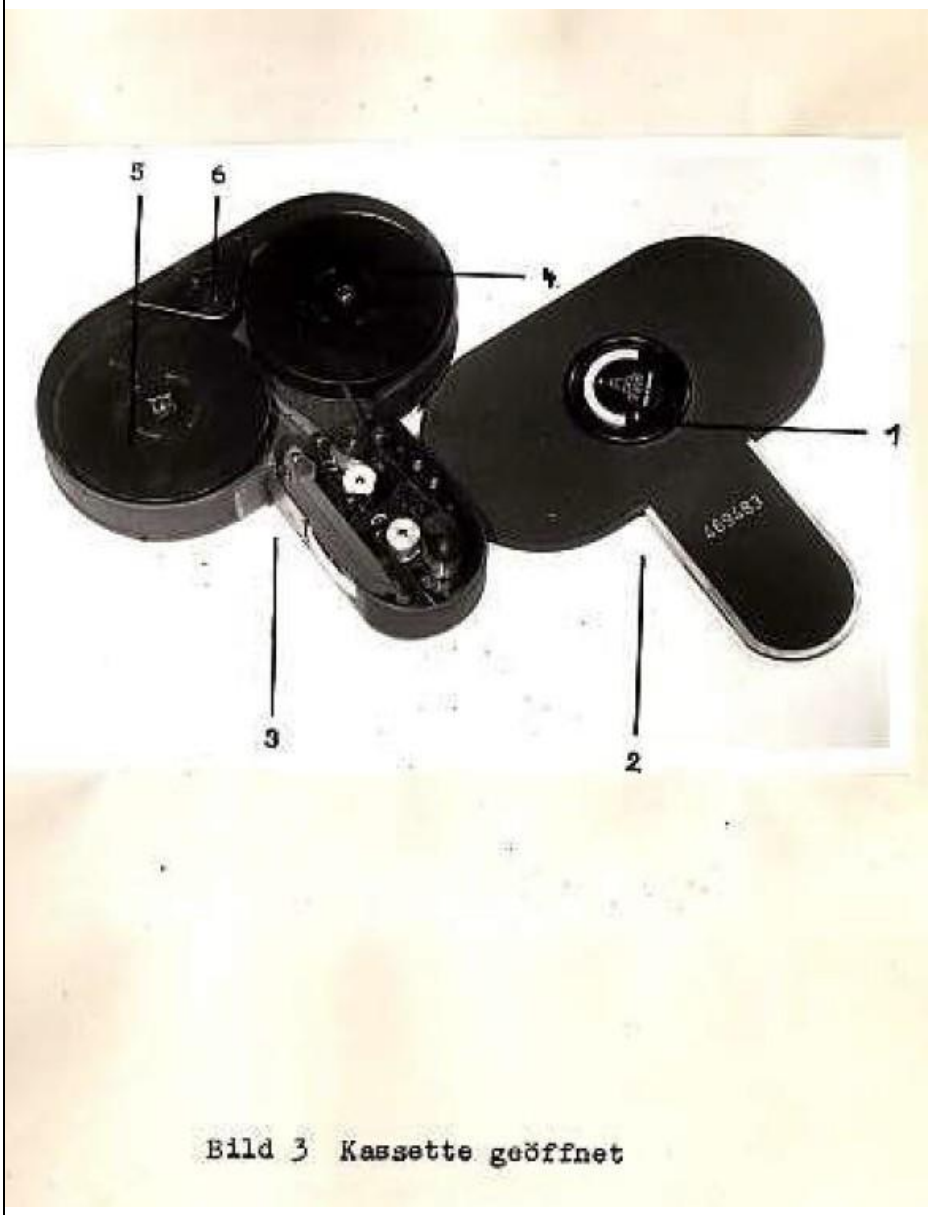


Bild 3 Kassette geöffnet

For this purpose, the two pressure pads (7) are pressed against one another by light pressure until they engage. As a result, the two tooth drums (8) are released for inserting the film. At the same time, the toothed disc (9) of the counter-platform (10) is moved to the right with simultaneous pivoting inwards until it engages. When inserting the film, the perforation must be pushed into the teeth. By pushing the two knobs (11), the runners (7) rest against the tooth drums and guarantee a firm fit of the film perforation in the teeth. The counter platform (10) is pivoted outwards into the working position with one finger. With slight fingertip pressure on the detent button (13), at the same time, (14), the correct loop size (picture 10) is set, whereby it must be noted that the stop pin penetrates through the perforation and becomes visible in the hole (15).

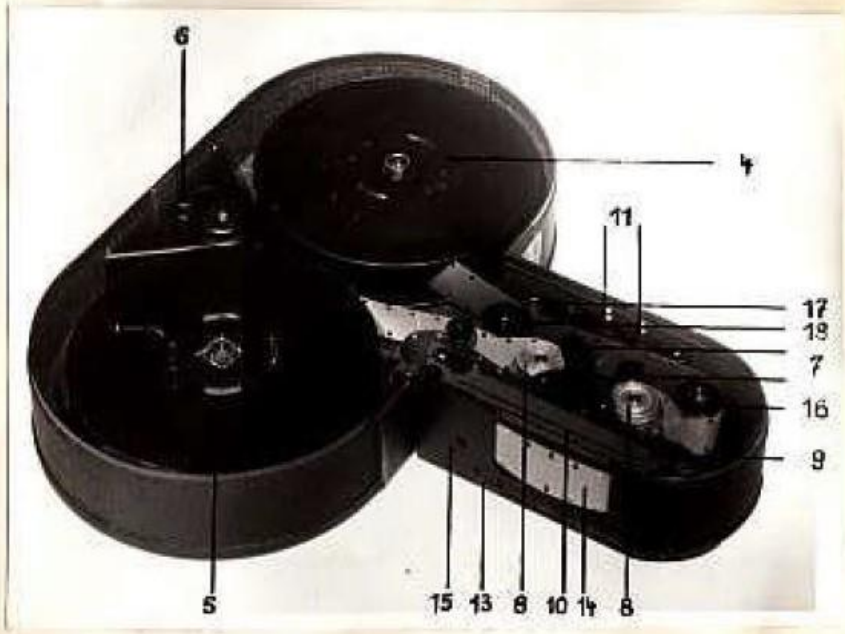
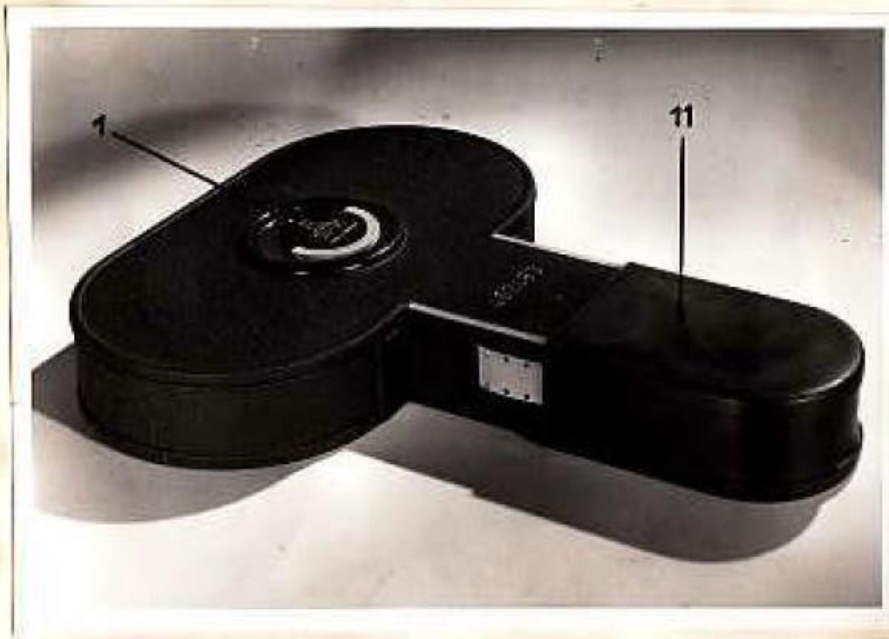


Bild 9 Kassette mit Film

The resulting film creep below the full reel may be somewhat smaller but in no case larger than in the diagram. The free end of the film is placed around the lower deflection roller (16), guided through the guide rollers (17) and (18) and fixed on the core of the empty coil (4). This small coil is rotated clockwise until the exposed film is under tension. After the cover is put on and locked, the cassette is ready for recording. In order to avoid damage to the film, as well as protection from dust and light, it is recommended to slide the protective cap (pict. 11) over the cassette neck to prevent the film from being placed in the storage space of the cassette.

This film insertion rule is valid for both cassettes. However, it is to be noted that daylight coils can only be used in the 30 m cassette. For the 60m cassette, the film storage space is designed in such a way that only unconsolidated film can be used as a darkroom filling on the artificial core known under DIN 15631.

Bild 10 Rückwickelkassette

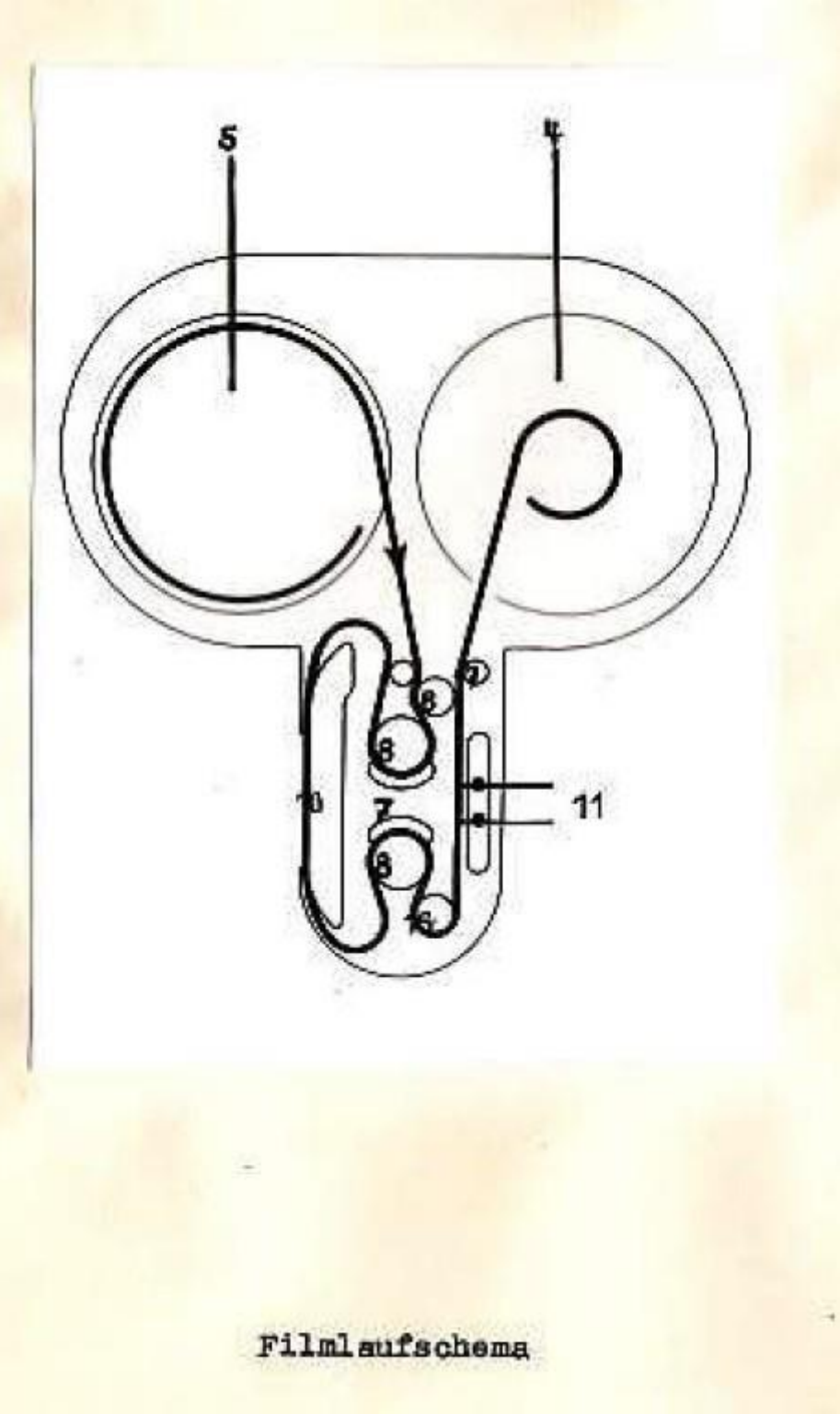


20 Bild 11 Kassette mit Kassettenschutz

scope of application
The 30m rewinding cassette
Fade-over and fade-out, with a 30m rewinding cassette in combination with the Ak 16 is possible.

This rewinding operation can be performed by hand. I. With the aid of a manual crank which can be screwed to the motor coupling position, as well as by means of an intermediate transmission. When a hand crank is used, a crank rotation in the direction of the arrow corresponds to the back rotation of an image

When the camera is rewound, there is a slight imagery shift. If an exposure of the film is not desired during rewinding, the lens must be covered before the start.
To insert the F1. Mes in the 30m and 60m rewind cassettes are subject to the same instructions. The cassettes are marked with an R on the back.



Filmlaufschema

Unlike the 30m cassette, the opposite stage (10) is not swiveled inwards, but remains in a fixed position. The film is inserted into the film channel between the opposite stage and the cassette edge (figure 10)

Maintenance and Care
The filling channel of the cassette must be cleaned from the time of film dust deposits. For this purpose, the counter-platform (Fig. 10, No. 10) can be withdrawn at the lock (Fig. 10 No. 10a) after unlocking. Above all, the plush strips used for light sealing are to be cleaned and brushed.

Operational readiness of the camera
To insert the cartridge (fig. 12), the handle (19) is turned to "A" with its white marking. This means that the gripper moves out of the movie theater, the transmission is locked and the cassette locking lever moves into the "open" position. The protective cap (fig. 11) is pulled from the cassette neck, the cassette neck is inserted into the shaft until the cassette with the horizontal sliding surfaces sits on the frame (20), pressed slightly downwards by the hand - and by turning the handle (19). The locking device must be actuated quickly and the

Push the cassette about 5mm forward without removing it from the chess frame.
After the end of this rotation, the handle (19) is turned towards the "Z" by its white marking.
Of the three lenses used in the turret head, the upper one is in the working position. If another lens is to be shifted into the beam path. The snap button (Fig. 6 no. 21) must be pressed briefly and at the same time the turret head must be swung until it clicks into place. Of the lens assembly, the 2 locking levers belonging to the lens (Fig. 6 No.22) must be pressed simultaneously to the center of the lens.

Bild 12 Verriegeln der Kassette

This releases the lens and can be removed (Fig. 5). When inserting, it is important to note that the lens nose and the glare drive are plugged into the corresponding receptacles. The easiest way to do this is when the aperture of the lens and the lens mount are rotated to Ansohlag. With the 12.5mm lens a vignetting occurs when the 135mm lens sits at the same time on the revolver head. The viewfinder eyepiece (fig. 13 no. 23) must be adjusted in such a way that the matt disc grain can be seen with the greatest sharpness. Using the plus or minus dioptric adjustable eyepieces, the spectacle wearer can adjust this setting to suit the eye and fix it with the help of the conter ring. The sharpness of the film image is fundamentally controlled by the mirror reflex detector, only second lens should be used. In the case of distance mea- surement, the film must be of the same size (Fig. 5 No. 24).
The drive motor (Fig. 13) is removed as a tripod camera, or from below, after removing the protective cap on the motor connection at the side of the housing

Bild 13 Ansetzen des Motors

Used as a handle of the hand-held camera. Condition is that the red point on the camera is opposite to that of the motor, and that the motor is pressed into the bayonet and turned to the right until it snaps into place. The clutch motor axle camera axis is automatically found. (When

removing the motor, pull the motor knob (fig. 13 no. 25) away from the camera and turn it to the left at the same time, after inserting the filled cassette (Fig. 8 nr.26). The AK 16 (30) cassettes (31) are fitted with a gear box (35), the high-performance motor with gearbox (27), the spring mechanism (28), the single image switch (29) , 3 filters (32), the drive cable (33) and 2 additional lenses (34). The suitcase is covered with black artificial leather and has a red effect on the inside Maintenance and care suggestions The camera, engine and cassette oiling is required by the manufacturer or the authorized repair shops after 50 operating hours. The camera drive is provided with non-resinous, low-viscosity, cold-resistant oil. For this, a few drops are sufficient. The optics of the search beam, the mirror and the lenses in the turret must be checked for cleanliness before each shot. When cleaning the dust, gently clean the glasses with a soft hairbrush.	
The film channel in the cassette must be cleaned of the film dust deposits after each shot. Likewise, the image slider in the camera must be cleaned with a soft cloth or brush after each run. Due to its construction, further maintenance of the camera is not necessary. Accumulator (battery) Is particularly important to disconnect the plug from the mains before starting up and recharge the battery with pure battery acid-specific weight 1.28 = 32degree Beaums to approx. 0.5cm over the mark Saurestand max. In this condition, leave the battery to stand for about 3 hours, then replenish the plates after the suction cup (if the water level drops). Then connect the battery to the DC source, connect the positive pole of the line to the positive pole of the	

battery and the negative pole to the negative pole. The charging current should be 1 amp. Not exceed. Ladedaur about 15 hours charge is terminated when the battery has reached a voltage of approx. 15-16 volt under current. This is about 2.5 to 2.6 volts per cell. After the current has been switched off, the superfluous acid has to be peeled off to the mark. Screw on the battery, siphon the battery of acid residues and lightly polish the pole rests. Charging: The weider charging is like the start-up. Liquid lost by evaporation (electolytics) must be replenished by refilling of distilled water. After the end of the charge, remove excess acid as indicated above. The acid level must not fall below the mark. All the 2-volts are to be tested for equal stress, likewise the density of the acid with the acid compound added is uniform (Figure 15). If cells are under the voltage individually, these rechargeable batteries or rechargeable batteries must be adjusted. The acid density of the charged battery has 1.28 spec. Weight = 32 degrees beaume. At discharge, the voltage has dropped to 1.8 volt. When not used, it should be noted that charging must take place every 6 weeks. The plates must be constantly under acid.	
