

OPERATION MANUAL

NAC Film Reader AZ-100

READ BEFORE USE

SAFETY PRECAUTIONS

Be sure about the following safety precautions when using the system. They are indicated as symbols or warnings where maximum care must be taken in handling the system. When such symbols and warning are found, read messages before attempting to subsequent operations.

DANGER:

Indicates as imminently hazardous situation which, if not avoided, will result in death or serious injury.

WARNING:

Indicates a potentially hazardous situation which, if not avoided, could result in death or serious injury.

CAUTION:

Indicates a potentially hazardous situation which, if not avoided, may result in minor or moderate injury.

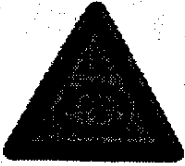
This sign is also placed where the equipment connected to this system would be likely to be damaged.



Safety alert symbol

This symbol invites attention to the matter or operation harmful to the user.

Be sure about the directions following the symbol when using the system.



Rotating object alert symbol

This symbol is placed where rotating object is present.



High voltage warning symbol

This symbol is placed where no touching is permitted because of the presence of a dangerous voltage.

Do not operate the system with its case open. Do not touch any part of the system with a wet hands. Line voltage is used in some parts.



Grounding terminal symbol

This symbol indicates grounding terminals for protection.

Be sure that these terminals are grounded, or it will be dangerous around this system especially its metallic portions.

This grounding is also effective in reducing the noise occurring to the signal lines.



Hot surface caution symbol

This symbol indicate hot surface.

This symbol is placed where hot surface is present.

Film Reader Model AZ-100 Operation Guide

1. Equipment Description

1.1 Film Threading Path Components (Fig. 1-1)

- ① Pressure Plate : This spring-loaded Pressure Plate properly presses the film against the Aperture Plate, when it is in the closed position. Opening and closing of the Pressure Plate is controlled by the Knob above the Plate.
- ② Pressure Plate Knob : Rotate this Knob to raise (opening) or lowering (closing) the Pressure Plate. The Knob can be rotated in either direction. Set the indicator on the Knob to upper (open) or lower (close) position. Do not set it at an intermediate position.
- ③ Lamp Cover : The projection lamp, the cold mirror, optical filters and the blower are located inside the Cover. The Cover can be removed by loosing the two screws on the cover, which facilitates cleaning and lamp replacement.
- ④ Right Tension Roller : The Arm of this Roller is used for the rewind mode. Set the Arm to the REWIND position by swinging counterclockwise.

Note : When the Arm is in the REWIND position , it engages an Integral Clutch in the Right Reel Shaft and the motor power is directly connected to the Right Reel to rewind the film quickly.

Keep the REWIND Arm in the NORMAL position whenever film read operation.

- ⑤ Rewind LED Indicator : This indicator lights when the Arm of the Right Tension Roller is in the REWIND position.
- ⑥ Rewind Rollers : These Rollers are for Rewinding Film.

1.2 Front Panel (Fig. 1-2)

- ① Power Switch : Rocker type switch with lamp. This Switch controls ON / OFF power. Switch lamp lights when ON (I) position.
- ② Illumination Dial : This Dial controls the illumination. Clockwise direction is increase the volume.

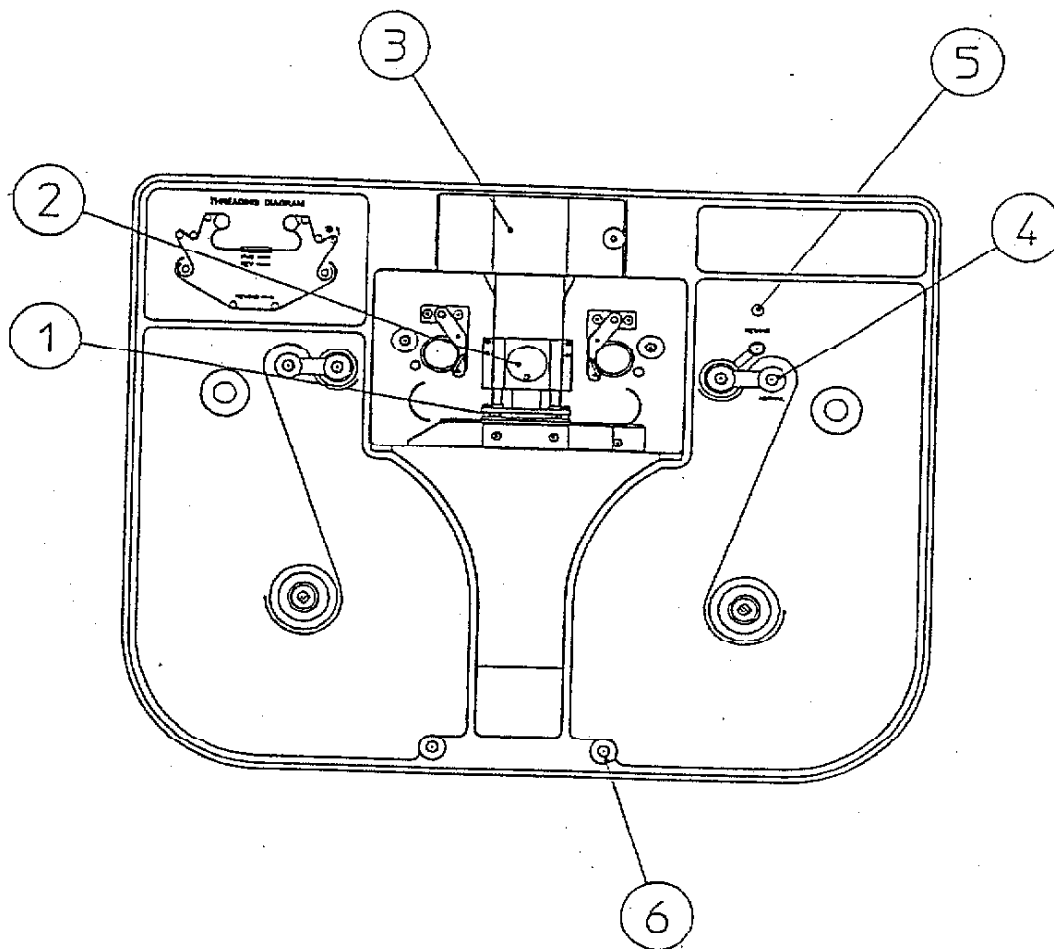


Fig. 1-1 Film Threading Path Components

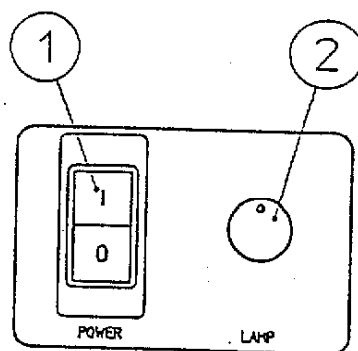


Fig. 1-2 Front Panel

1.3 Rear Panel (Fig. 1-3)

- ① AC IN receptacle : Connect the Power Cable to this receptacle. Input voltage is AC 100 V.
- ② Contact Breaker : This holder houses a 3A non-fuse breaker.
- ③ Film Control receptacle : Connect the Cable of the Operation Unit.
- ④ VIDEO OUT (1000) : Output connector for High definition camera (option).
- ⑤ RGB VIDEO OUT : Output connector for Video Signal of each channel. Sync. on Green is available by internal setting. (factory setting is not)
- ⑥ HD/SYNC & VD OUT : Output connector for Synchronous Signals. Selection of HD or SYNC is available by internal setting. (factory setting is HD)
- ⑦ Y/C OUT : Output connector for S-Video Signal.
- ⑧ VBS OUT : Output connector for NTSC Video Signal.
- ⑨ RS-232C receptacle : Bus receptacle for RS-232 remote control.
- ⑩ Switch Cover : DIP switches for RS-232C setup is located inside the Cover.

1.4 Operation Unit (Fig. 1-4)

- ① FWD/REV button : Alternate push-button type switch for selecting the film feed direction. Film is fed from the Right Reel to the Left Reel in FWD and is fed in the reverse direction in REV.
- ② RUN/STILL button : Alternate push-button type switch to start/stop film advances. The film advances in RUN and stops in STILL. Switching can be made at any speed during film run.
- ③ FILM FEEDING : Sliding the knob to vary the film feed speed in the RUN mode. SLOW position is recommended for initial film feeding check.
- ④ FRAME COUNTER : 5-digit LED indicator for displaying the frame count. Counting increases in FWD and decreases in REV. Use the RESET button next to the Counter to reset the Counter to zero. A minus (-) sign is displayed when counting in reverse from zero.
- ⑤ AUTO STEP : 2-digit LED indicator for displaying the numbers preset using the SET button.
- ⑥ SET button : Push-button switch for presetting the number of frames to be fed at one time in the AUTO STEP mode. The number increases as the button is pressed up to 10 and is displayed in the AUTO STEP display.

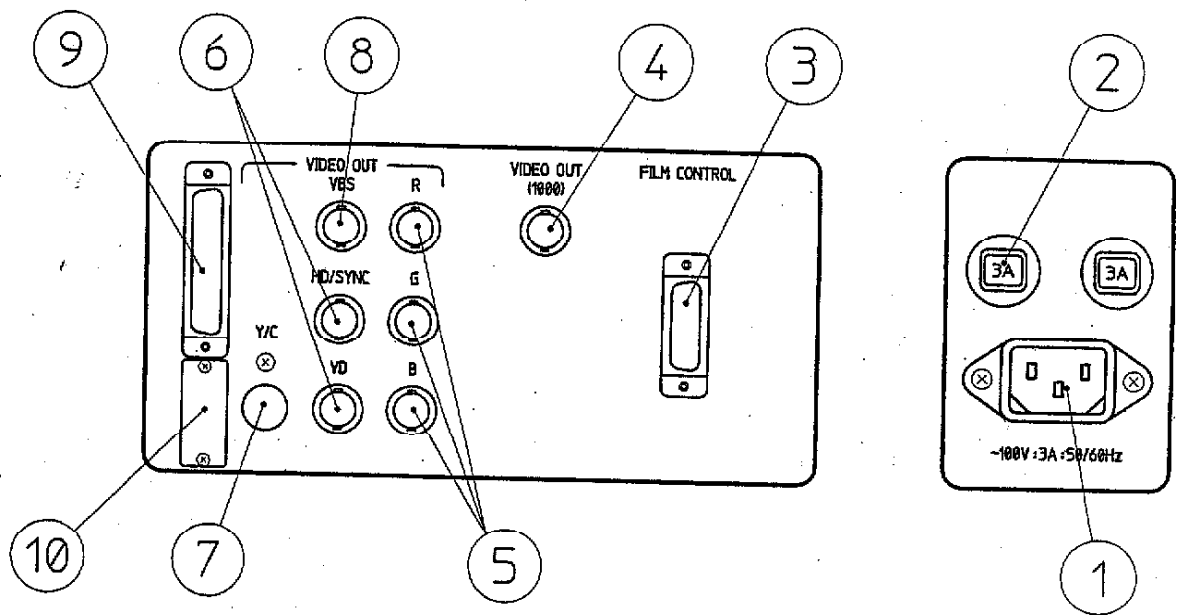


Fig. 1-3 Rear Panel

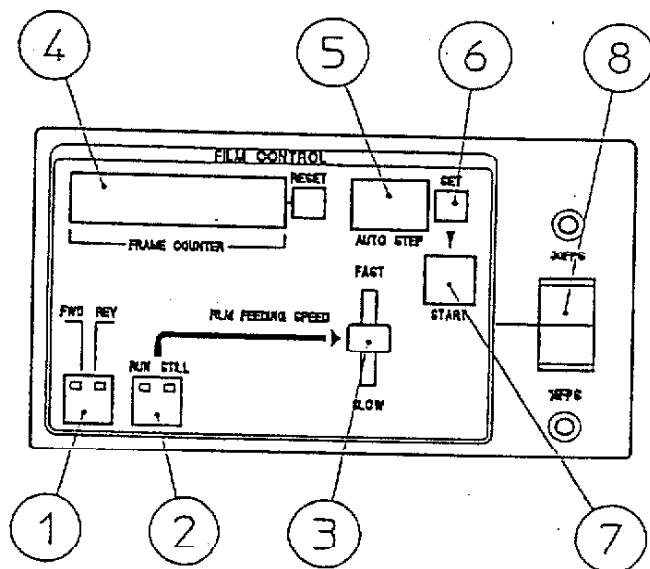


Fig. 1-4 Operation Unit

- ⑦ START button : Push-button switch for starting the AUTO STEP mode. The preset frames are fed as this button is pressed.
- ⑧ Film Feeding Modes Selector : Rocker type switch for selection of film feeding modes .
In upper position (30fps LED right up), the film feed speed is 30 frames/sec. continuously. In lower position (15fps LED right up), the film feed speed is 15 frames/sec. continuously. In neutral position, the film feed speed is variable by FILM FEEDING SPEED Knob.

2. Film Threading (Fig. 2-1)

Film threading path is indicated on the THREADING DIAGRAM affixed to left upper corner.

1. Set Film Holding Plates at each Reel Shaft.
2. Place the Reel with the film on the Right Reel Shaft and then swing the Clamp to secure the Reel to the Reel Shaft. At this time, set it so that the film may be fed from the same direction as the guide line printed under the Reel Shaft. If the film is perforated on one side, set the perforated side toward you.
3. Place an empty Reel on the Left Reel Shaft and swing the Clamp.
4. Turn the Pressure Plate Knob until the mark on the Knob faces upward. The Pressure Plate is raised and the Aperture Plate appears. Film is threaded between them later.
5. Open the Film Guides located at the sides of Right and Left Sprockets. Slide the small tabs located on the lower side the Film Guides laterally away from the Sprockets. Film is threaded between them later.
6. Pull out the film about 1.5 m then thread it between the Pressure Plate and let it hang down the left side.
7. Thread the end of the film through the opening on the empty Reel and wind the film 4 or 5 turns. Tape the end of the film or insert it into the groove and then wind around the Reels. Never twist the film. Wind it in the same direction as the guide line.
Here, the film is slack and is in the same path as rewind. It should be as shown Fig. 2-2.
8. Engage the perforation of the film with the Registration Pin and push the film against the Aperture Plate with your fingers. At this time, place the center of the loose film portion onto the Aperture Plate. The Registration Pin is located near the right end of the Side Pressure Plate and projects from the Aperture Plate. Never let the film rest on the Side Pressure Plate. (Fig. 2-3)
9. Turn the Pressure Plate Knob until the mark on the Knob aligns with the mark on the housing. The spring-loaded Pressure Plate lowers to press the film against the Aperture Plate uniformly.

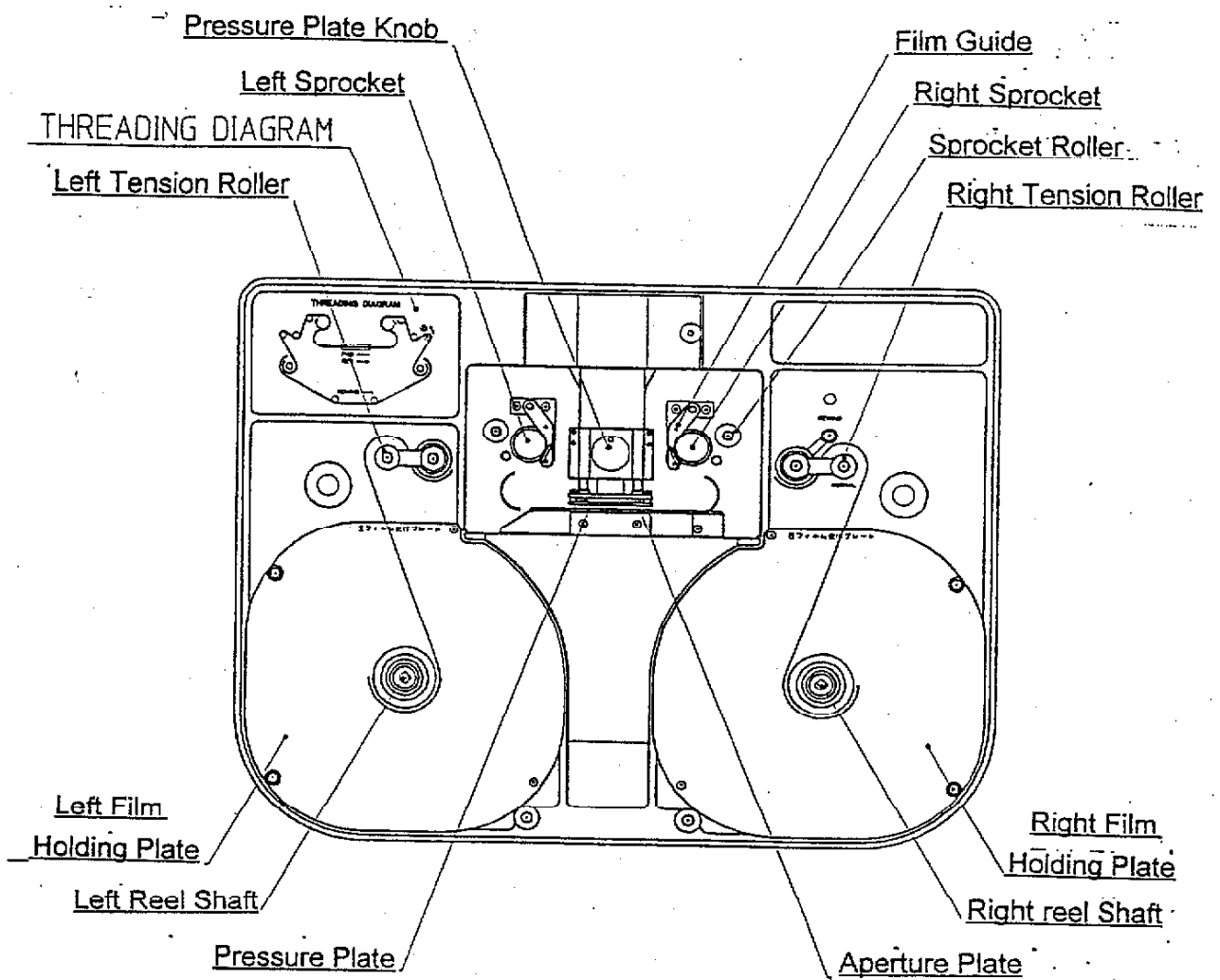


Fig. 2-1 Threading Path Components

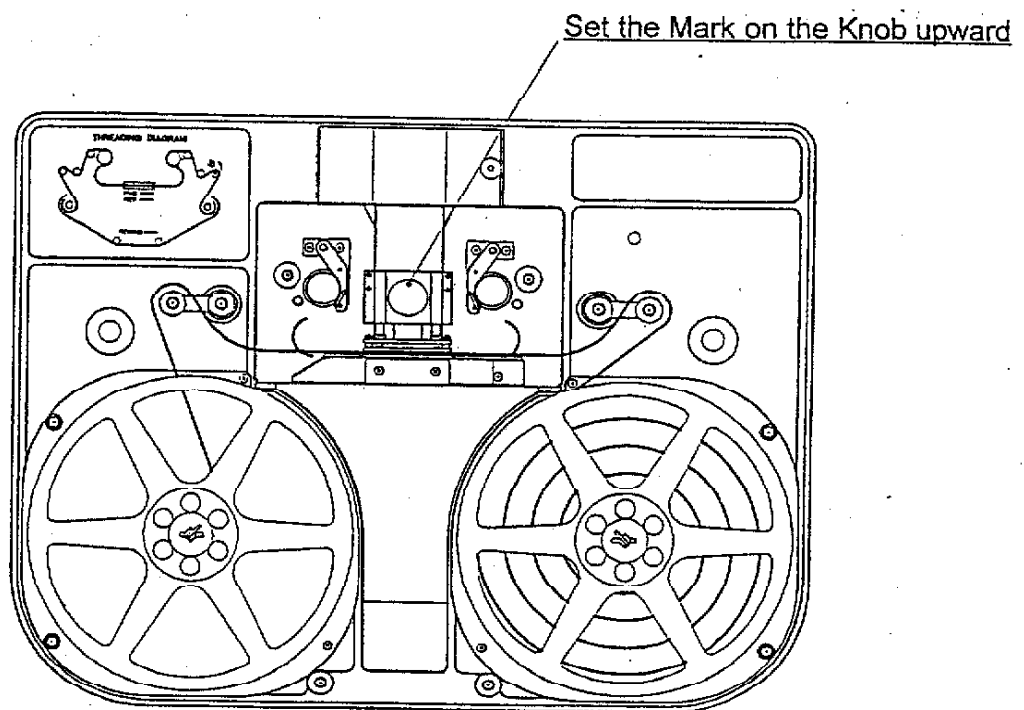


Fig. 2-2 Initial Threading Path

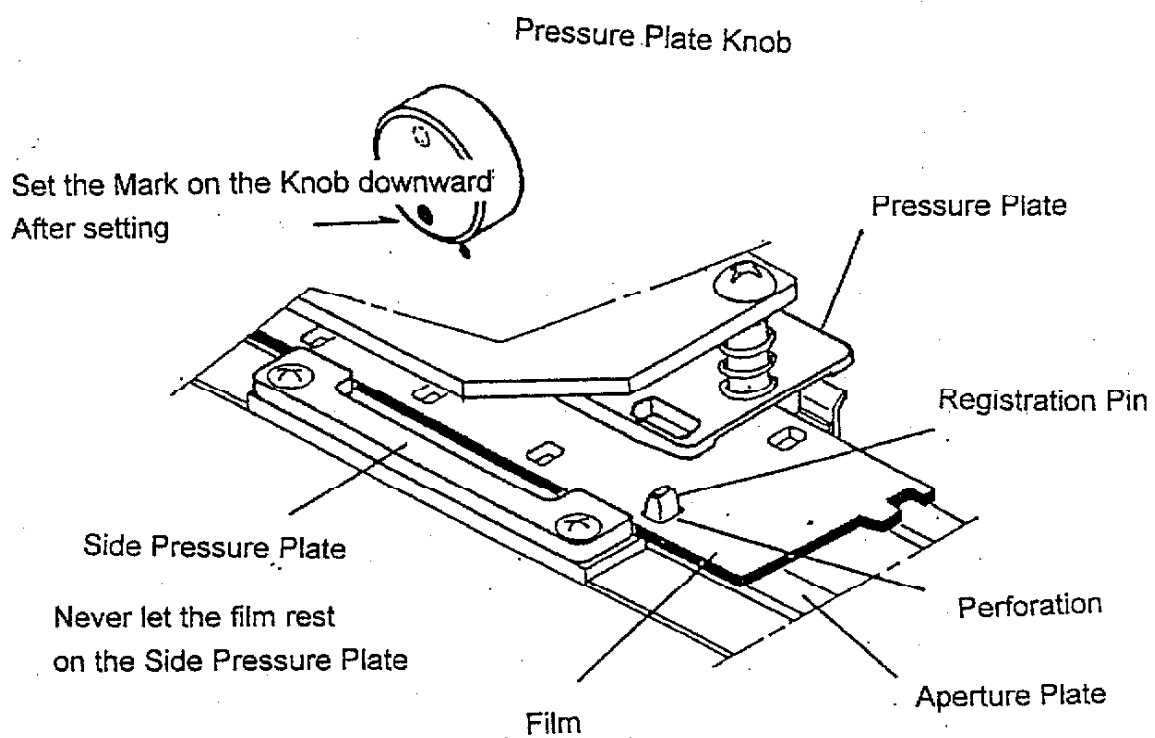


Fig. 2-3 Film on Aperture Plate

10. Thread the left film between the Left Sprocket and the Film Guide and over the Sprocket Roller.
11. Allow the film to loop (slacken) adequately along the loop guide line under the Left Sprocket and engage the perforations with the sprocket teeth, then close the Guide.
12. Thread the film coming from the Left Sprocket between the two Left Tension Rollers and under the Movable Roller, then to the empty Reel. (Fig. 2-4)
13. Thread the film on the right side in the same manner as the left. Make a loop along the loop guide line under the Right Sprocket and thread the film between the Sprocket and the Film Guide and engage the perforations of the film with the sprocket teeth. The film leaving the upper side of the Sprocket Roller threads between the Right Tension Rollers and under the Movable Roller, then to the Right Reel.
14. Rotate the Right and Left Reels to remove the slack in the film.
15. Check threading route with the THREADING DIAGRAM attached on the left upper corner to make sure that it is correct. Make sure that the Arm of the Right Tension Roller is in the NORMAL position. Then, check the film feed.

3. Film Feeding Check

Turn ON the Filmreader power switch and check as follows.

1. Make sure the film image is displayed on the monitor screen.
2. Make sure the FWD lamp of the FWD / REV button light up. Immediately after the power is turned on, the FWD lamp light up. Every time this button is pressed, the FWD and REV lamps light alternately and film feed direction changes. The film is fed from the Right Reel to Left Reel in FWD and is fed in the reverse direction in REV.

Note : Make sure that the REWIND Arm is in the NORMAL position and that the REWIND LED does not light up.

3. Set FILM FEEDING SPEED Knob to SLOW and press the RUN / STILL button.
The RUN button light up and the film is fed from right to left at a low speed.

If the film feed operation runs normally, press the RUN / STILL button to complete the check.

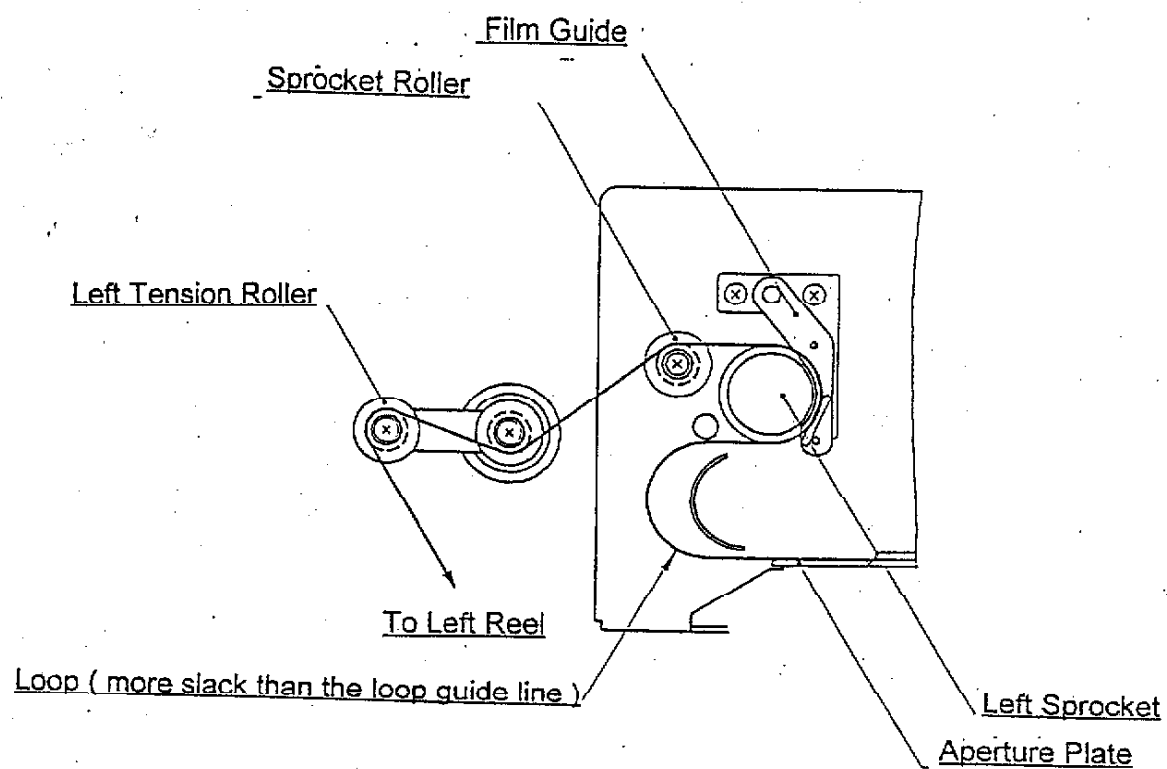


Fig. 2-4 Threading Path around Sprocket

4. Selection of Film Feeding Modes

There are two film feed modes for the Filmreader basically. One is the continuous feed mode for continuously projecting the film, similar to movie projection. The other is the auto-step feed mode which is used in analyzing film. In both cases, the feed direction can be selected freely. Continuous feed and auto-step feed cannot be made simultaneously. Either film feed mode must be finished before the rest mode can be started.

4.1 Continuous Feed (RUN mode)

In upper or lower position of the Film Feeding Modes Selector, when the RUN / STILL button is pressed to light the RUN lamp, the film is projected continuously.

Note : The Filmreader takes 5-10 seconds until the film feeding speed is stable.

The film feeding speed is 30 fps or 15 fps dependent on the Selector position which is indicated by light of LED.

By pressing the RUN / STILL button a second time, the STILL lamp lights and the film feed stop.

4.2 Continuous Feed (STEP mode)

In neutral position of the Film Feeding Modes Selector, when the RUN / STILL button is pressed to light the RUN lamp, the film is projected continuously. To change the film feeding speed, operate the FILM FEEDING SPEED knob. Setting it to FAST increases the speed and setting it to SLOW decreases the speed. During this time, the speed is continuously variable. Maximum speed of FAST position is 15fps. By pressing the RUN / STILL button a second time, the STILL lamp lights and the film feed stop.

Stopping the film, i.e. changing from RUN to STILL can always be made regardless of the feed speed except when changing from STILL to RUN, in which case the FILM FEEDING SPEED Knob must have been set to SLOW.

4.3 Auto-Step Feed (AUTO STEP mode)

The AUTO STEP mode advances film sequentially at preselected frame intervals of 1 to 10 frames.

1. make sure the Film Feeding Modes Selector is in neutral position.
2. Press the SET button located at the right side of AUTO STEP display and set the number of frames to be fed at a time. Every time the SET button is pressed, the number increases by one and is displayed on AUTO STEP display.
3. Press START button. The film is fed at frame intervals preset on AUTO STEP display and then stops. Every time the START button is pressed, this is repeated.

5. Film Rewinding (REWIND)

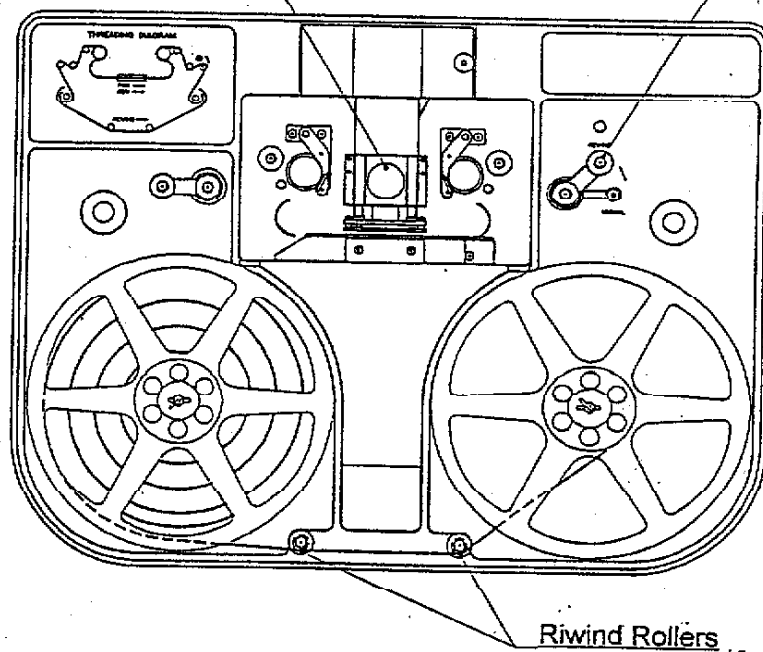
Winding from the Left Reel to the Right Reel is referred to as rewinding (REWIND). Rewinding is made at a faster speed than normal film feed speed by changing the film threading path. This film threading path is also indicated on the THREADING DIAGRAM.

1. Make sure the STILL lamp of the RUN / STILL button light up.
2. Open the right and left Film Guides.
3. Rotate the Pressure Plate Knob until the mark on the Knob faces upward.
4. Lift the film from the Aperture Plate and disengage the perforation from the registration pin.
5. Remove the film the right and left Sprockets. Film perforation are in mesh with the sprocket tooth, therefore, lift the film from Sprockets before removing it.
6. Thread the film from the Left Reel, through two Rewind Rollers to the Right Reel. (Fig. 5-1)
7. Rotate the Right and Left Reels to eliminate film slack. The film only in contacts with the Rewind Rollers.
8. Set The Right Tension Roller marked R to REWIND position. The Rewind LED lights and gradually the film is fed faster to the Right Reel.
note : Rewinding start immediately after the Right Tension Roller is set. Make sure there is no obstacle around the film and the Reels.
9. After the entire film is rewound, the Rewinding is stopped automatically. Return the Right Tension Roller to the NORMAL position. The REWIND LED goes off.

The rewind operation is completed. It is recommended that you clean film routes for the next operating.

Set the Mark on the Knob upward

Set The Right Tension Roller
to REWIND position



Riwind Rollers

Fig. 5-1 Rewind Threading Path