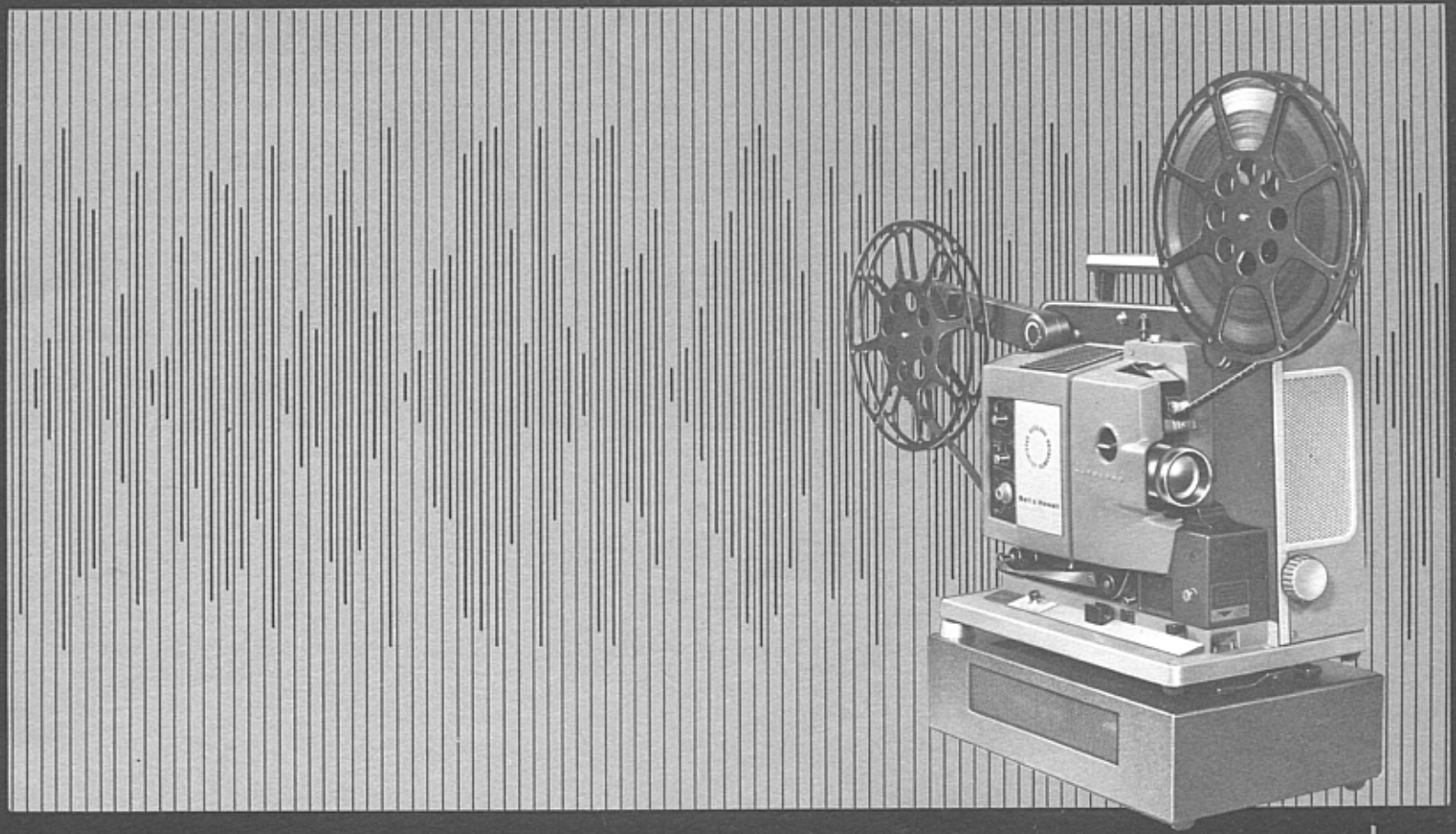
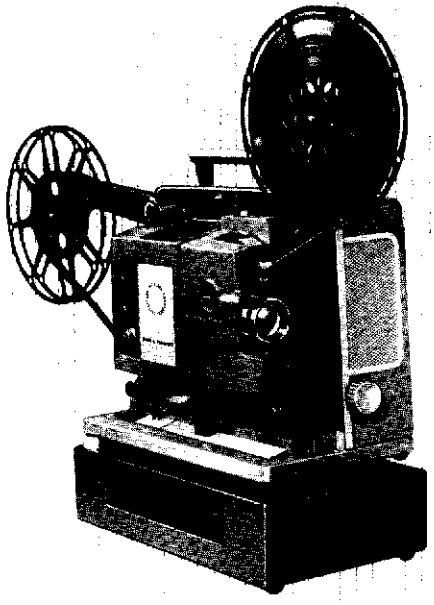


kwaliteitsapparatuur **Bell & Howell** SPECIALIST® AUTOLOAD® FILMOSOUND® | 566



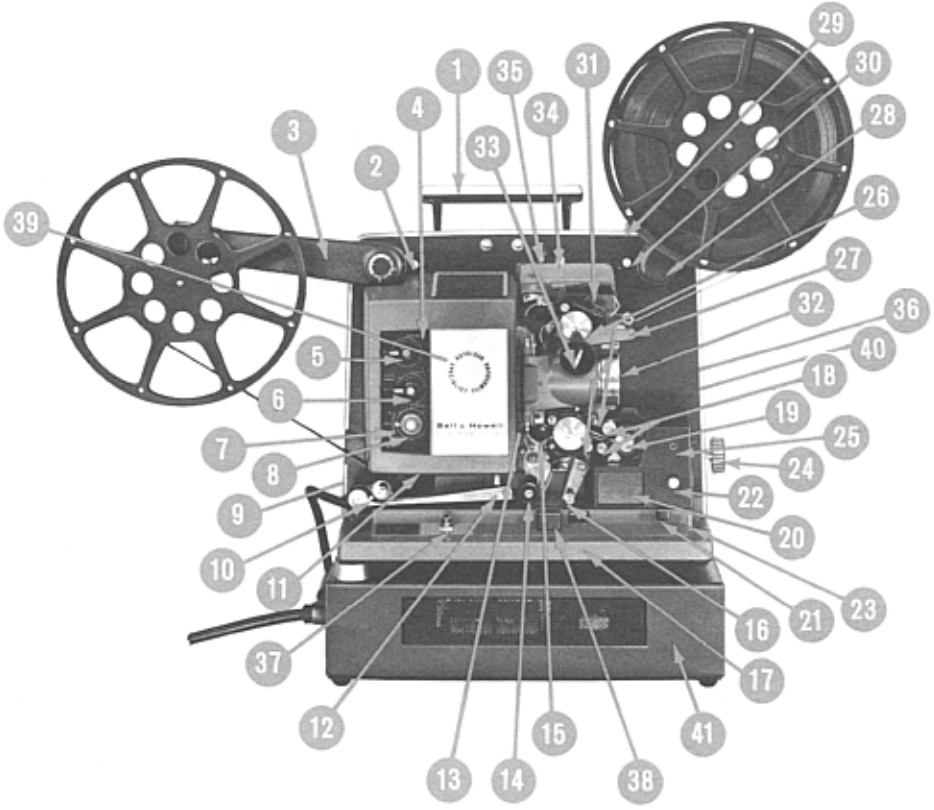
We personally extend our congratulations to you on your ownership of the new Bell & Howell Specialist Autoload Filmosound 16mm Projector Model 566.

The Model 566 is an ideal reflection of the exacting standards we insist on during the design, production and assembly of every product. The Model 566 combines a revolutionary new light source, and the latest principles of precision projection, to give you an easy to operate, dependable projector that will provide endless utilization for years and years.

We are proud of the achievements that each and every Model 566 represents—in performance—design—engineering—quality—durability—but we take even more pride in the knowledge that you have selected the Bell & Howell Model 566, and that all our effort now becomes your pleasure.

Bell & Howell Company

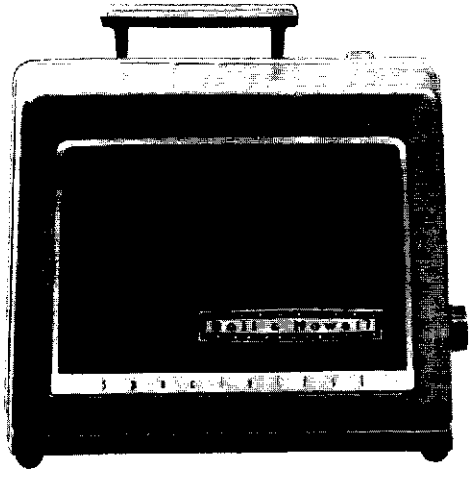
important parts of your projector you should know...



Handle
Rear Reel Arm Release Button
Retractable Rear Reel Arm
Finger Span Control Panel
Fan-Lamp Switch
Thread Forward-Reverse Control
Three Position Tone Control
Amplifier On-Off and Volume Control
External Speaker Jack
(not shown—located on rear of projector)
Rear Snubber Rollers
Lamp House Door
Lamp House Door Knob
Threading Mechanism Door *(not pictured)*
Threading System Release Roller
Automatic Lower Loop Restorer
Automatic Threading Lever
Reel Storage Slot
Stabilizing Rollers
Sound Drum
Exciter Lamp Cover
Film Cutter Lever

Exciter Lamp Cover Screw
Film Cutter
Tilt Knob
Exciter Lamp Indicator Light
Sprocket Guards
Film Insert Channel
Retractable Front Reel Arm
Cover Latch Button
Front Reel Arm Release Button
System Restorer
Lens
Focusing Knob
High Speed Rewind Button
Framing Knob
Amplifier Overload Reset Button
(not shown—located on rear of projector)
Changeover Switch
Projector Cord Clip
Marc #300-16 Lamp *(not shown)*
Changeover Receptacles
(not shown—located on rear of projector)
Lamp Power Supply Unit

special components of the Bell & Howell 566



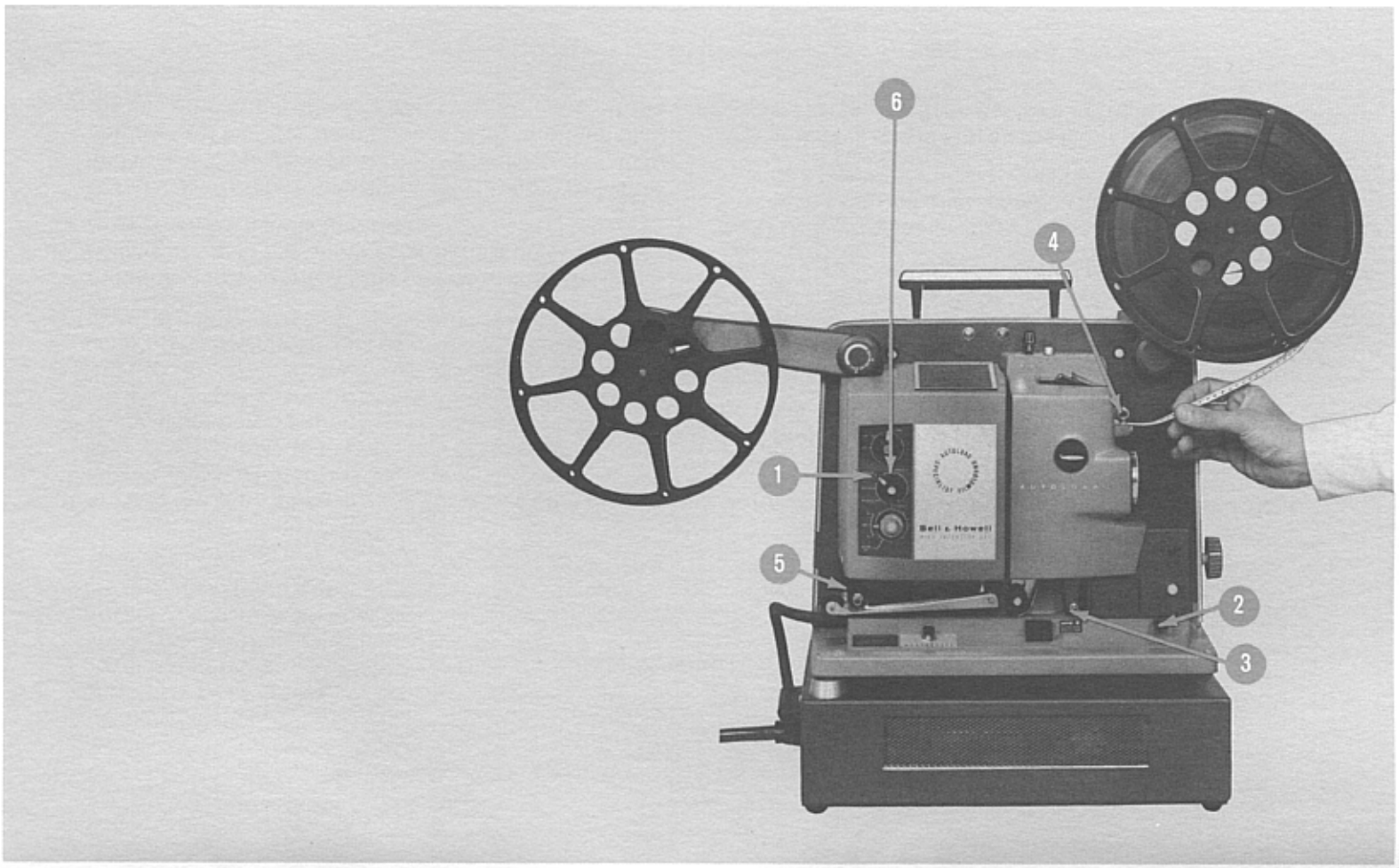
566 AUTOLOAD FILMOSOUND PROJECTOR

LINE CORD

2.

SEPARATE, SELF-CONTAINED LAMP POWER SUPPLY

3.

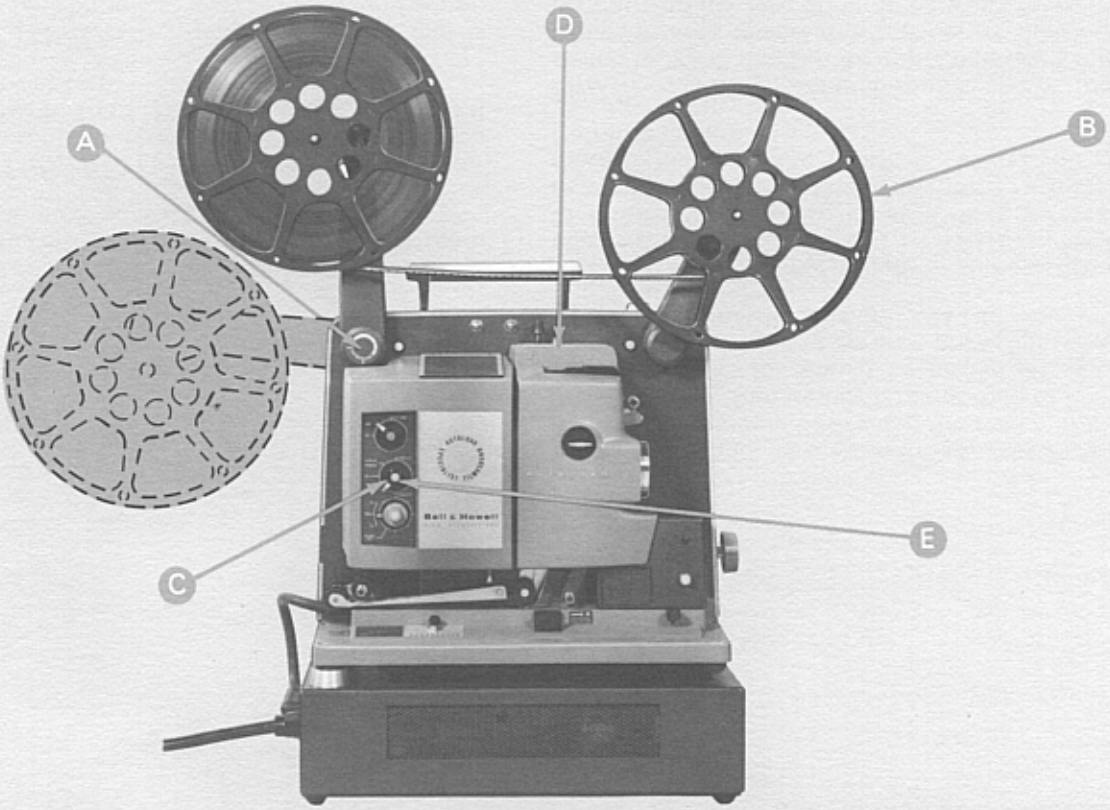


six easy steps to automatic threading

just follow the numbers...

1. Turn Center Switch to "Thread Forward." [1]
2. Inspect first three feet of Leader Film. It must be undamaged and free of tape or obstructions. If end of film leader is damaged or torn, insert 2½ inches in film cutter and press film cutter lever [2] to trim end.
3. Set THREADING LEVER [3] to Autoload Position.
4. Insert film in FILM CHANNEL [4] and push film in until it engages sprocket.
5. Pull film exiting at roller [5] until threading mechanism clicks open. Turn off projector when 2½ feet have passed this point, place film around SNUBBER ROLLER [5] and attach to rear reel. NOTE: if using a 400′ or smaller take-up reel, it is not necessary to thread around snubber roller.
6. Turn Center Switch to "Thread Forward" and then to "Project" position.

IMPORTANT: If projector does not thread properly, stop projector immediately. Unthread manually and compare film to conditions on Page 22.



rewinding . . . five simple steps and the film is ready to show again

After you have completed your show and all the film is on the rear reel, turn Center Switch to "Off" position.

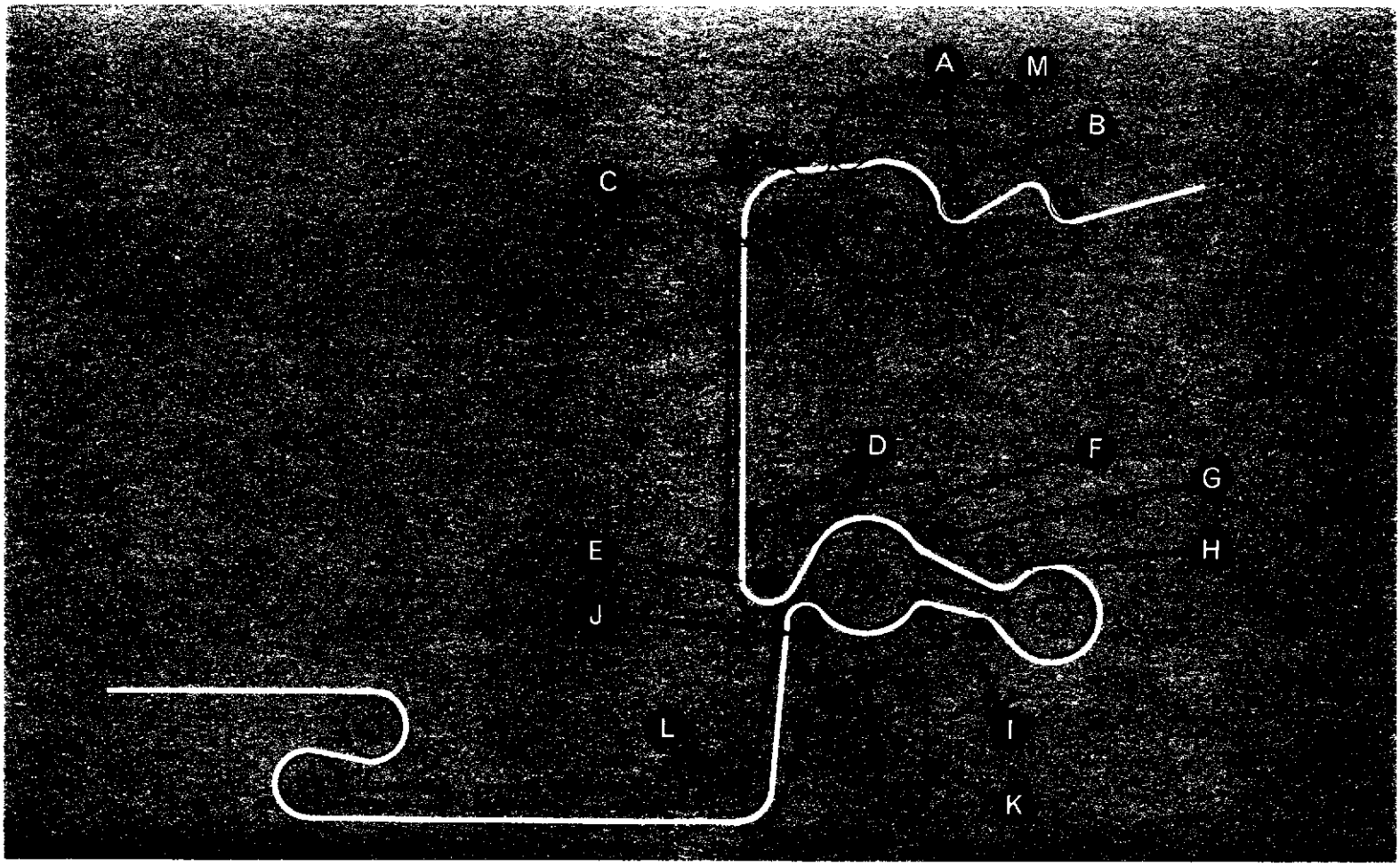
a. Support full reel with left hand and lift up slightly. Press REAR REEL ARM RELEASE BUTTON and swing reel arm to vertical REWIND position.

b. Lead film from back reel and attach it on *underside* of FRONT REEL as shown. Rotate reel counterclockwise for two turns to secure film end.

c. Rotate Center Switch to "Reverse" and film will begin to take up slack.

d. Press and hold down REWIND BUTTON momentarily on top of projector for fast rewind.

e. Turn the Center Switch to "Off" as soon as film is fully rewound.



Your Autoload Filmosound projector features automatic threading, but can conveniently be threaded manually when starting your show in the middle of a reel. Just follow the Threading Diagram above; it shows the exact threading path that the film should follow. Read the following instructions carefully and use the diagram to check your threading.

- First remove THREADING MECHANISM DOOR by pulling out on the front, unlatching and lifting up slightly.
- Open the hinged LENS CARRIAGE by pulling the lens barrel toward you.
- Push the Threading Mechanism Release Roller [L] to the rear of the projector until the Threading Mechanism clicks open.
- Open all three Sprocket Guards [B], [F] and [K]. Open by pushing up on [B] and [F] and down on [K].
- Pull about three feet of film off the front reel.

To thread the projector, slip the film into the threading path from the side starting at the top blue roller marked [4] on the projector.

- Place film under blue roller [4].
- Place film under roller [A] and engage film sprocket holes on sprocket teeth. Close sprocket guard [B] by pushing down.
- Position film centrally between film guides [C] and seat film against aperture plate between the gold side guides. Be sure film is against aperture plate behind guide [D].

Place film under roller [E], engage film sprocket holes on sprocket teeth, and place film under roller [G]. Close Sprocket Guard [F] and close lens carriage.

Place film between the next two film guides as illustrated and **under** tension roller [H].

Continue threading film around sound drum and over roller [I]. Place film between sprocket and sprocket guard [K] and over roller [J]. Close sprocket guard [K] by pushing up.

- Place film under Threading Mechanism release roller [L] and under film guide to snubber rollers.
- Place film around snubber roller as illustrated and attach to take-up reel.
- Check loop sizes above and below aperture as per diagram for proper size.
- Place Center Switch in "Thread Forward" position and immediately press "systems restorer" [M] down and hold down 1 sec. to restore tension on sound drum. Then follow directions on Page 7.

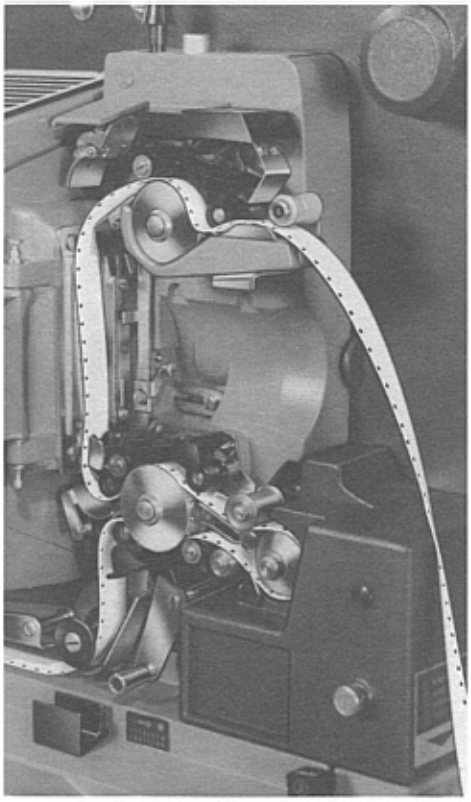


Figure I

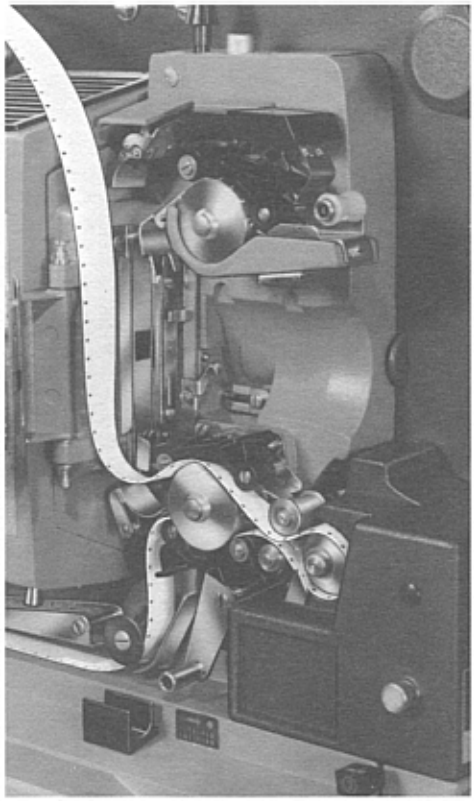


Figure II

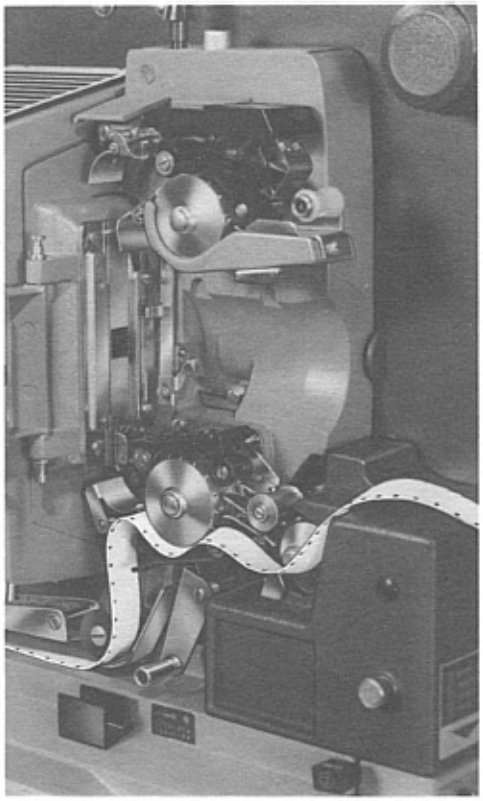
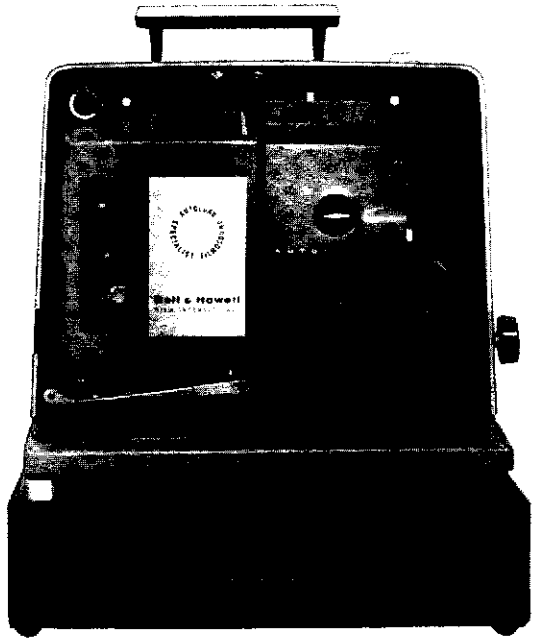


Figure III

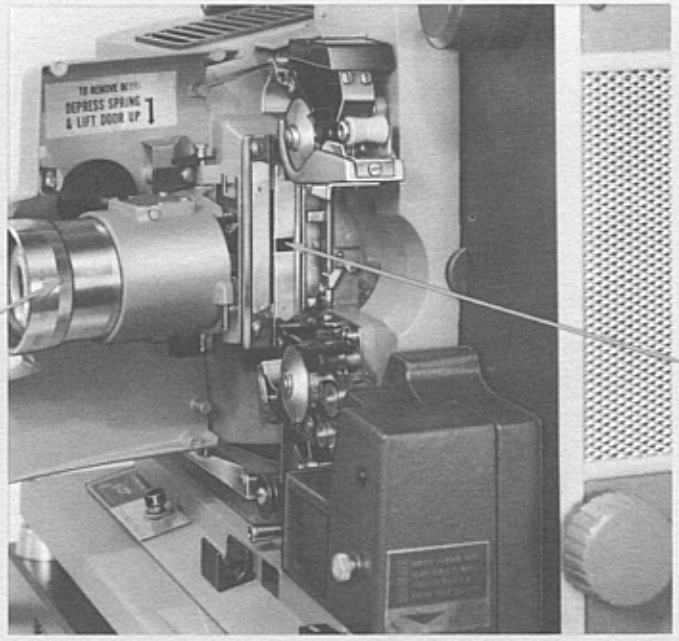
manual unthreading procedure

To remove film in the middle of a reel,

- Be certain Threading Mechanism is open.
- Open hinged Lens Carriage and all three Sprocket Guards.
- Loosen EXCITER LAMP COVER SCREW and remove EXCITER LAMP COVER. *(for easier unthreading procedure)*
- Turn feed reel clockwise to provide slack in film.
- Grasp film with right hand close to blue roller [4] and ease film out from under roller.
- Hold film snug against first sprocket guard roller with right hand. Grasp film behind sprocket with left hand and slide film off of top sprocket. Figure I.
- Grasp film under loop restorer roller with left hand and slide off of top of lower sprocket. Figure II.
- Continue to ease film from under the stabilizing roller and off the sound drum.
- Hold film with the left hand at the rear of the lower sprocket and with the right hand, ease the film off the sprocket. Figure III.
- Slide the film from the casting base and unthread the snubber roller.
- Leaving the reels on the Reel Arms, proceed with re-winding as described on Page 9.



- Make certain VOLUME CONTROL and Center Switch are off.
- Remove reels from front and back reel arms.
- Press REEL ARM RELEASE BUTTONS and swing reel arms down into place.
- Completely lower projector by means of TILT KNOB.
- Unplug line cord, and disconnect from lamp power supply.
  Disconnect power cord from lamp power supply and place into storage clip.
- Place reel into REEL STORAGE SLOT.
- Place projector cover into position and snap shut.



Your Bell & Howell Filmosound projector has been specially designed to give you maximum trouble-free service. It is factory lubricated and requires no oiling by you. In addition, all bearings have a permanent lubricant to provide extended service and longer life. Many wear parts are adjustable, eliminating the need for frequent replacement.

Your lamp power supply unit contains no user serviceable components which require adjustment or periodic replacement.

care and maintenance

Instructions on simple cleaning and lamp replacement are given in this book. In addition, many owners follow our suggestion that their projectors be cleaned and adjusted periodically even though they seem to be in first-class condition. The cost of this service by your Bell & Howell Approved Service Station is nominal and is worth much in terms of worry free, dependable operation.

CLEANING FILM PATH

To prevent damage to the film, all surfaces that contact the film must be cleaned frequently. After you swing open the THREADING MECHANISM DOOR, it can be lifted and slipped off the hinge pins.

Wipe **all** threading guides with a soft cloth or brush moistened with any naphtha base agent such as lighter fluid. Remove the Exciter Lamp Cover as described on page 18 to clean the sound drum, and the film guide that is part of the Exciter Lamp Cover. Gently clean both sound drum stabilizing rollers. Remove any loose particles that may become lodged in the film path.

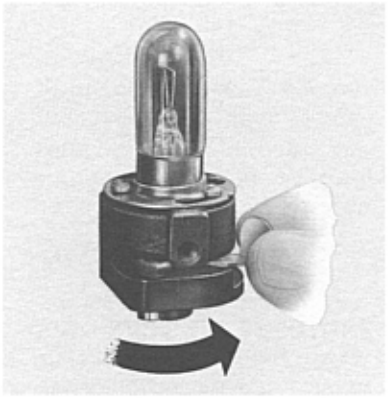
TO CLEAN APERTURE AND PRESSURE PLATES

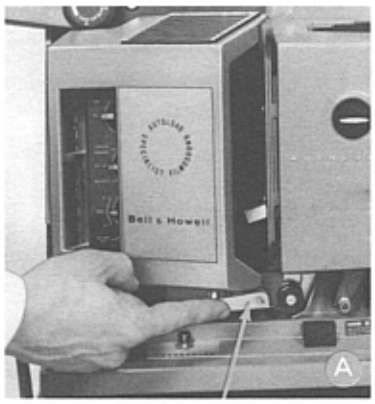
Swing LENS CARRIAGE open by pulling on LENS BARREL. Gently wipe APERTURE & PRESSURE PLATE with cloth moistened with solvent to remove dirt or emulsion that may accumulate. Also clean aperture SIDE TENSION RAILS and APERTURE opening. Be sure to press in on the side TENSION RAIL and clean this area of APERTURE PLATE. Gently swing lens carriage back into position and snap it closed. Be sure pressure plate seats properly.

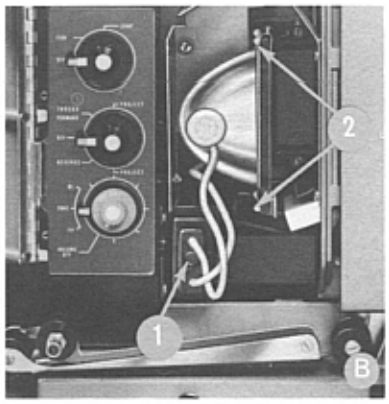
TO CLEAN THE LENS

Turn FOCUSING KNOB counterclockwise until lens is threaded out as far as it will go. Grasp lens barrel and remove it from carriage. Use a lens tissue or soft cloth moistened with lens cleaner to wipe dust and fingerprints off front and rear lens elements. Insert lens into carriage and turn FOCUSING KNOB clockwise to engage lens.

Position THREADING MECHANISM DOOR back on hinge pins so it swings freely, then latch it back into position over lens and threading mechanism.





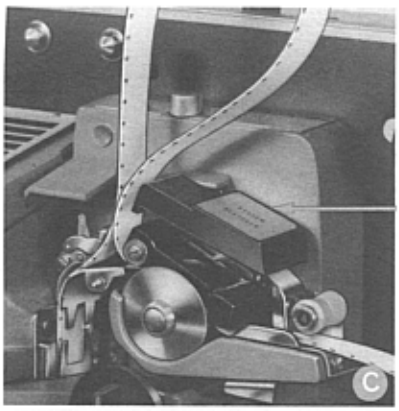


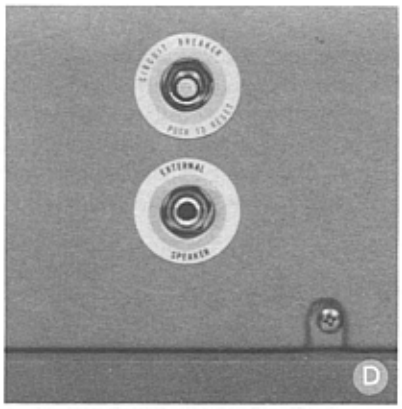
REPLACING EXCITER LAMP

1. VOLUME CONTROL should be in OFF position. 2. Loosen THUMB SCREW holding Exciter Lamp Cover in place. 3. Pull cover straight out without tilting. Note registration pins that align cover. 4. Swing lamp lock lever counterclockwise to release lamp. Rotate lamp until it can be lifted off guide pins. 5. Place new lamp over guide pins and rotate lamp clockwise. Rotate lock lever clockwise to lock lamp into position. 6. Replace EXCITER LAMP COVER over film cutter lever. Match the two registration pins to holes. Be certain cover is firmly seated then hold against machine and tighten THUMB SCREW.

PROJECTION LAMP REPLACEMENT

• If lamp is hot, place upper switch in fan position to cool down. • Turn projector off and disconnect line cord from wall outlet. • Swing open LAMP HOUSE DOOR by pulling on LAMP HOUSE DOOR KNOB. (Fig. A) • Unplug lamp socket from connector. (Fig. B-1) • Pull lamp retaining clips forward to end of travel. (Fig. B-2) • Remove lamp by hand. (Use glove or cloth if lamp is still hot.) • Set new lamp into holder (It will fit only one way.) Be certain lamp is seated properly. Handle lamp only by outer reflector shell. • Push retaining clips (Bottom clip first) in to secure lamp to holder. • Plug lamp socket into connector. • Replace LAMP HOUSE COVER. • See inside LAMP HOUSE COVER for appropriate lamp replacement.





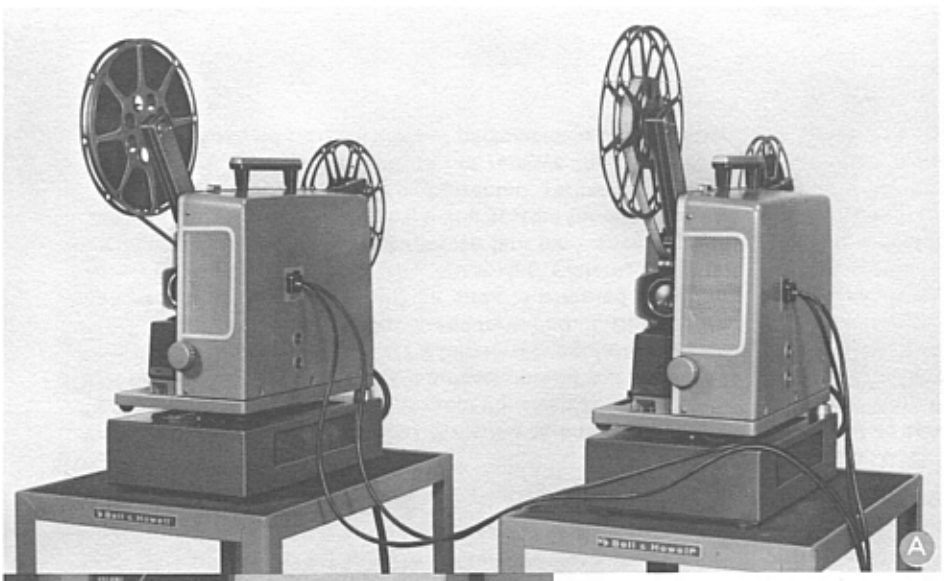
film protection

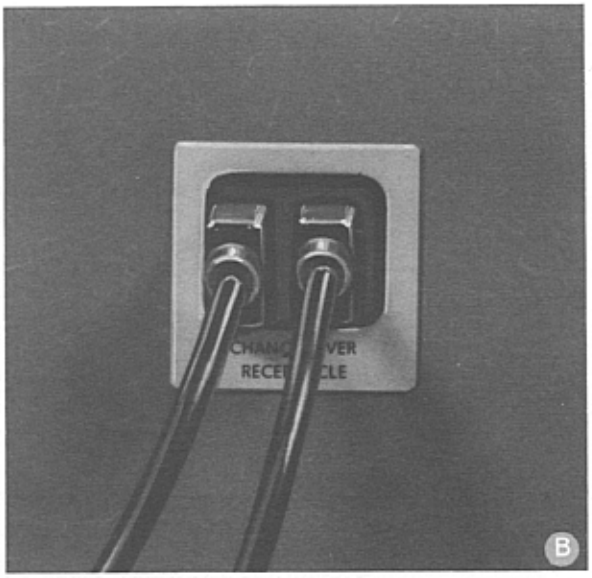
Your new Specialist Filmosound Projector is equipped with a "special" feature designed to protect your valuable film. With this protective advantage, film is forced up and out of projector's threading system (Fig. C) if the following irregularities occur: [A] Film splice breaks. [B] Film is mis-threaded. [C] Obstruction hampers threading system. [D] Film end not trimmed in cutter. As soon as film is ejected from threading system, turn the projector off immediately and remove film for inspection and possible repair. Also inspect threading system for any obstruction. When everything has been corrected, rethread the film.

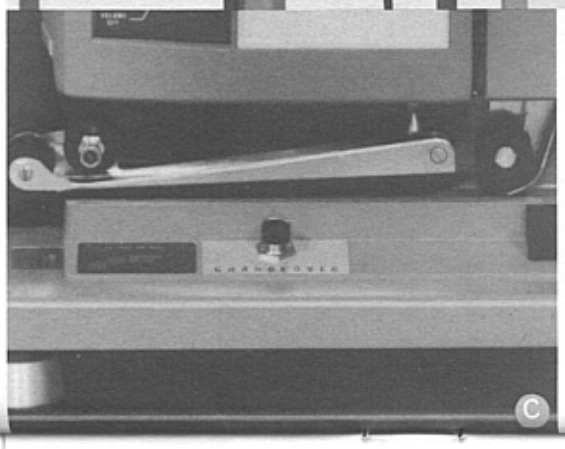
It is recommended that you do not remove the back cover on the Autoload projector. Tubes or parts used in the projector should be serviced by a Bell & Howell Approved Service Station.

Your Amplifier is protected by a Circuit Breaker (Fig. D) in case of internal electrical component failure. If the panel light or Exciter Lamp does not operate or there is no hiss from the Amplifier when the Volume Control is at maximum, the Circuit Breaker is most likely open. (If projector has been running, turn off and allow lamp to cool.) To reset, push Red Reset Button located on rear of projector.

If your Circuit Breaker continues to open after being reset, this indicates an electrical component malfunction. It's recommended to take your Projector to your Bell & Howell Audio Visual Dealer for Servicing.







automatic changeover

The changeover feature is provided on your projector to permit a continuous professional showing, by operating two projectors in unison. Changing projection and sound is accomplished automatically by pressing the black changeover switch located on the front of the projector. When the switch is pushed, projection and sound will be only from that projector on which the switch is pushed.

set up

Special consideration should be given to setting up when you are planning to use two projectors for a continuous professional showing.

Before threading film it is important that the two projectors be lined up on the screen as close as possible to reduce any shift in the picture when changing from one projector to the other. To do this, use the following set-up procedure.

1. Interconnect the two projectors, plug the changeover cables into the receptacle located on the rear of projectors (A and B).
2. Plug power cords into the lamp power supply units.
3. Plug line cords into 105-129 volt 60 cycle AC wall outlet. Use the adaptor supplied with projector if necessary, being sure to fasten green lead to a ground connection. Note: Fused electric service to the wall outlet must be adequate to provide 12 amps current to each projector. Since two projectors will operate together, 25 amp current must be available.
4. Turn Top Switch to "Lamp" position, allowing the lamp time to warm up.
5. Turn Center Control Switch to "Forward Project" position. Note: No picture will appear on the screen until the changeover switch is pushed down.
6. Push down the changeover switch on one projector (C). This will put the light on the screen. Center the light on the screen using the tilt foot if necessary. Then **very slowly** push down the changeover switch on the second projector. Approximately half way down the automatic douser will open on the second projector **without** closing off the first projector. Now line up the light from the second projector on top of the light from the first projector as accurately as possible. Push down on either of the changeover switches and the light from the other projector will automatically be cut off by the douser.
7. Proceed with threading film as outlined on page 5. Always remember, picture and sound will only come from the projector on which the changeover switch has been pushed down.

operation procedure

General operating procedure is the same as for a single projector.

For changeover, the volume control on the two projectors should be on and set at approximately the same setting. As the first projector nears the end of the reel, turn the Lamp Control Switch to the "Lamp" position on the second projector (it requires approximately ½ minute for the lamp to come up to maximum brilliance, so allow enough time). As the film comes to the very end of the reel, watch for a changeover cue mark which appears for an instant in the upper right-hand corner of the screen. When it appears, turn the Center Switch on the second projector to the "Forward Project" position. A second cue mark will appear on the screen approximately 6 seconds after the first one. on the screen approximately 6 seconds after the first one. When the second cue mark appears, press down the changeover button on the second projector. Pressing down the changeover button opens the douser and transfers the sound to the projector on which the changeover switch has been pushed. If additional film is to be shown, rethread the first projector while the second projector is running and follow the same procedure on the cue marks. To conserve lamp life, always turn off the lamp on the projector that is not being used for projection.

AUTOLOAD PROJECTOR

Your Autoload Projector has been designed to accept 16mm film in virtually every conceivable condition. There are, however, certain film conditions that the projector may not handle properly, or which may cause threading difficulties.

using new film leader

The first three feet of your film (leader) is the most important portion of film when used on the Autoload projector. If your film matches any of the following conditions, or if there is any doubt about the condition of your film, splicing on a new leader will assure threading success. Run new leader between fingers a few times to lubricate.

film conditions

OLD FILM .....May shrink up to ⅛" per ft. Use new leader.

DRY FILM .....Becomes brittle and has a tendency to crack. Use new leader.

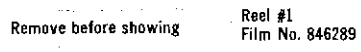
TORN PERFORATIONS .....Remove this type of damage, use new leader.

BUCKLED OR WARPED FILM .....

over 1/32" Replace with new leader.

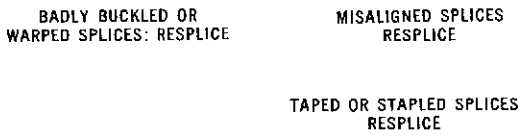
FILM CURL Check film hanging from reel. If the curl is tighter than pictured, use new leader.

MARKED LEADER Any identification on the leader (grease pencil, tape, staples, lacquer) that would hinder threading should be removed or the leader replaced.



BROKEN SPLICE If a splice should break in the middle of a showing, stop the projector, trim film end and rethread projector according to instructions on page 5. Then, resplice film immediately, or patch for later repairs.

Shown at right are examples of improperly spliced film that will cause projection interruptions. Film in this condition must be respliced before projection.

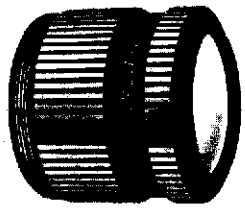


TRIMMING FILM END Film used for the first time in the Autoload projector must be trimmed. Any ragged edge or bend should be cut off to allow proper threading.

projectionist's trouble shooting list

trouble	check list
1. Filmosound will not operate.	• Is line cord properly connected to wall outlet? • Test current outlet with ordinary lamp or other device known to be in working order, to see if current is reaching outlet. • Is power cord properly connected to the lamp power supply unit?
2. Film does not thread.	• Is Automatic Threading Lever [3] pushed forward to Threading Position and Motor-Lamp Switch set to Forward [1] ? • Is Film Leader in Good Condition? • Has end of leader been trimmed in Film Cutter [2] ? • Is lens carriage closed, exciter lamp cover firmly in place, and film path clear of film chips and obstructions?
3. Exciter lamp does not light, and no sound is heard from speaker.	• Is volume switch in the ON position? • Is projector in forward or reverse project position with top switch in lamp position? • Is exciter lamp burned out? If so, replace lamp. Exciter Lamp indicator light will glow if amplifier is warmed up and sound system working properly. • Is circuit breaker open?
4. Exciter lamp lights, but no sound comes from speaker.	• Does advancing volume control help? • Is film threaded properly?
	Has film got an adequate soundtrack? To check this, proceed as follows: Remove film and turn on amplifier. Turn volume control to maximum position. Pass a card swiftly back and forth between sound lens and sound drum. If thumping noise is heard from speaker, the Filmosound is operating properly—the sound is missing from the film itself.
5. Sound volume is not adequate.	• Have you advanced volume control to maximum position? • Is line voltage between 105-129 volts 60 cycle A.C.? • Is film clean? Dirty or imperfect film will not produce full sound volume. • Is exciter lamp defective? If so, replace.
6. Sound quality is unsatisfactory.	• Is film tight around sound drum? • Have you tried the remedies previously suggested for inadequate sound volume?
7. No picture appears on screen.	• Is Center Switch in "Forward Project" position? • Is Top Switch in "Lamp" Position? • Is projection lamp burned out? If so, replace with another of correct voltage, and wattage.
8. Picture brilliance seems inadequate.	• Is line voltage adequate? • Can room be darkened further, so as to make picture seem brighter? • Is projection lens clean? • Effective lamp life sometimes may end before lamp actually burns out. Replace lamp if necessary.

FILMOSOUND plus FILMOVARA® accessory attachment equals convenience



A wide range of projected image sizes can be obtained with your Filmovara attachment. The Filmovara can be used on the 2" f/1.4, 2" f/1.6, 2.5" f/1.6 and the 3" f/1.6 lenses. See the projection table for the span of focal lengths you can achieve with this special device. This attachment lets you change the size of your picture without moving the projector or screen.

how to use your FILMOVARA® attachment

- Place the Filmovara attachment on the front of the lens. It screws on clockwise.
- Revolve the rear black knurled collar of the lens until your picture fills the width of your screen. Revolve the lens collar counterclockwise to increase picture size. Revolve it clockwise to decrease it.
- If your picture is out of focus, use the FOCUSING KNOB on the projector to sharpen the image.

projection lenses

Bell & Howell projection lenses offer you the last word in sharp brilliant movies. It is best to have a lens of the proper focal length in order to project the right picture size on your screen. This focal length will vary according to the distance from projector to screen and size of screen. It is always best to have the projector as far in the rear of the room as possible, to avoid obstructing the view of anybody in your audience. The projected picture size table shows the various lenses available for your Filmosound projector, and the picture sizes they will produce at certain distances.

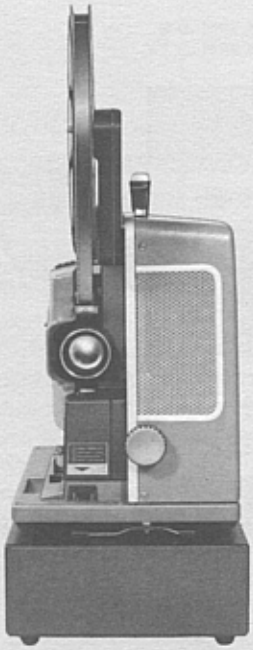
accessory lenses

• 2" f/1.4 • 2" f/1.6 • 2.5" f/1.6 • 3" f/1.6 • 4" f/1.6

	*Lens focal length**			*DISTANCE IN FEET FROM SCREEN TO FILM*				
		30′	35′	40′	45′	50′	60′	75′	100′
	upper dimension is width of picture					*lower dimension is height of picture*			
2.0" Lens with filmovara attachment	1.75″	6′6″ 5′0″	7′7″ 5′8″	8′8″ 6′6″	9′10″ 7′3″	10′9″ 8′1″	12′5″ 9′2″	15′5″ 11′5″	
	2.0″	**5′7″ 4′2″**	**6′6″ 4′10″**	**7′5″ 5′7″**	**8′5″ 6′3″**	**9′4″ 6′11″**	**11′3″ 8′4″**	**14′0″ 10′5″**	**18′9″ 13′11″**
	2.25″	5′0″ 3′9″	5′10″ 4′4″	6′8″ 5′0″	7′7″ 5′8″	8′4″ 6′3″	10′1″ 7′7″	13′7″ 10′2″	16′11″ 12′8″
3.0" Lens with filmovara attachment	2.6″	4′3″ 3′3″	5′0″ 3′9″	5′9″ 4′3″	6′5″ 4′8″	7′2″ 5′5″	8′9″ 6′6″	10′8″ 8′1″	14′6″ 10′9″
	3.0″	**3′8″ 2′9″**	**4′4″ 3′3″**	**4′11″ 3′8″**	**5′7″ 4′2″**	**6′2″ 4′7″**	**7′5″ 5′7″**	**9′4″ 6′11″**	**12′6″ 9′3″**
	3.4″	3′1″ 2′3″	3′6″ 2′8″	4′1″ 3′1″	4′7″ 3′6″	5′2″ 3′9″	6′3″ 4′7″	7′7″ 5′9″	10′4″ 7′8″
	4.0″	**2′9″ 2′1″**	**3′3″ 2′5″**	**3′8″ 2′9″**	**4′2″ 3′1″**	**4′8″ 3′5″**	**5′7″ 4′2″**	**7′0″ 5′2″**	**9′4″ 6′11″**

*2.0″ lens with Filmovara=1.75″ to 2.25″ focal length range.
3.0″ lens with Filmovara=2.6″ to 3.4″ focal length range.

Blue band=standard focal length lenses.
Brackets indicate focal length range with Filmovara attachment.



standard speaker

The Filmosound has an acoustically-mounted oval speaker built into the projector case. This speaker faces the audience and is located in the front of the projector. It is designed to give excellent service in classrooms and small auditoriums.

accessory speakers

ORCHESTRICON II

This is a speaker built to ultra-quality specifications, capable of producing the ultimate in sound. It contains a baffle sealed to the case on three sides with an opening at the top to allow "just enough" air for the speaker to function freely. It's styled and finished to match the projector and comes complete with a 50 ft. speaker cord and cord reel. As an added bonus the cord may be rewound onto the cord reel automatically or manually. Either way, you never touch the cord!

12" power speaker

This speaker has its own built-in 25-watt amplifier to provide greater coverage for larger audiences. You can use the amplifier for the greater power or just simply use it as a 12" speaker.

protective covers

Form-fitting covers will keep your projector free from dust and damage while in storage or transit. Also available for the 12" Power Speaker.

storage cans

Your 16mm film can be protected with Bell & Howell storage cans. Available in 400, 800, 1200, 1600 and 2000 feet sizes.

16mm reels

The 400-foot reels are rust proof, spring steel and have the exclusive "touch-threading" feature. Other size reels come in 800, 1200, 1600 and 2000 feet.

accessory carrying case for lamp power supply

This compartmentalized, versatile case stores the lamp power supply, line cord, accessory changeover cables, reels (up to 1600') spare lenses and lamps. Ideal for easy portability and protection of the lamp power supply and various accessories.

accessory changeover cable

10' changeover cable for use when using 2 Model 566 Projectors in dual operation. Each cable has receptacle and plug for easy connection between projectors. Two cables required when using 2 Model 566 projectors in dual operation.