

Film-Tech

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These manuals are designed to facilitate the exchange of information related to cinema projection and film handling, with no warranties nor obligations from the authors, for qualified field service engineers.

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PROJECTOR MECHANISMS

INSTRUCTIONS

JJ-2 = JJ-3

JJ-2S = JJ-3S

CENTURY PROJECTOR CORPORATION

Aug. 1984

INSTALLATION - OPERATION - INSTRUCTIONS
CENTURY 70/35MM PROJECTORS
MODEL JJ-3 (CINE-FOCUS)
MODEL JJ-2 (REGULAR)

GENERAL

The CENTURY Model JJ-2 and JJ-3 (Cine-Focus) 70/35MM Projectors are designed to project either 70MM or 35MM width film at 24 frames per second.

The changeover from one width of film (70MM or 35MM) to another can be made in the CENTURY Projector easily and quickly. Thus a continuous show combining both 70MM and 35MM films can be done easily.

The CENTURY Model JJ-2 70/35MM Projector basically consists of A 70/35MM Projector Mechanism equipped with double rear * shutters, water-cooled apertures, a picture changeover and the required conversion parts to run 35MM films - A Magnetic Penthouse Reproducer with separate magnetic heads for 70MM films and for 35MM films - A Standard Optical Reproducer with motor, Ana-sol light pick-up, exciter lamp and provisions for bypassing when running 70MM magnetic track films -

INSTALLATION

The equipment should be promptly and carefully removed from the shipping containers on arrival and examined thoroughly for possible shipping damages. The equipment left our plant in good condition and in approved containers and our signed bill of lading from the carrier attests to this fact. Therefore, claims for the loss or damages to the shipment must originate with you and must be filed immediately with the carrier. Century Projector Corporation cannot assume responsibility for shipping damages or loss. If replacements are required for damaged equipment they will be supplied on order and invoiced as new equipment.

The usual Century Projector Corporation warranty applies to all products manufactured directly by us. This warranty covers defects in materials and/or workmanship.

PROJECTOR

Review these instructions carefully before starting the installation of the CENTURY Projector. Assembling and mounting will be faster and easier when done in proper sequence. Note: 35MM Assemblies, flywheels, drive parts, mounting screws and washers included in the shipment and unmounted are packed in individual

*Single Shutter Optional

envelopes and wrappings and clearly coded. On installation check the code numbers with description of each item as indicated on the PACKING TICKET to be sure all mounting hardware, flywheels, etc., are installed in their proper locations.

The Projector Mechanism as shipped from the factory is equipped with the required Film Gate, Film Trap, Intermittent, Sprocket Pad Assembly, etc., (marked red) to run 70MM films. The 35MM parts are packed separately with the accessories and mounting hardware.

THE 70/35MM PROJECTOR MECHANISM is designed with a Water Cooled Trap Support and should not be operated without water circulating through the support. Failure to have water circulating through the support can cause distortion of the support, resulting in focus problems and possible film damage. The Mechanism is equipped with water hose connectors (C1-T-154) for 1/4" hose. It is strongly recommended that a Water Recirculator (CENTURY MODEL C8-T-360), (10 gallon capacity) or equal be used. A mixture of 9 gallons of DISTILLED WATER with one gallon of automotive engine coolant will insure a long lasting trouble free installation. Be certain to check all connections in the cooling system for leaks.

The Intermittent Movement should be filled with oil to the center of "OIL LEVEL WINDOW" through the oil cup on the intermittent arm (operating-side) or through the "air vent hole" (in back of intermittent flywheel) on drive side. Use genuine Century Projector Oil.

To File the Aperture Plates - the plates for cooling purposes have been designed with increased thickness. Therefore after the plates have been filed to the proper requirements it is suggested that a 30 degree bevel be filed around the aperture opening with the sharp edge toward the film. This will eliminate any "Fringe" which may occur around the picture. After filing it may also be desirable to paint the bright surfaces with a dull black enamel to stop all reflections.

MAGNETIC PENTHOUSE

Install the picture changeover (J1-A-100) on the rear of the Magnetic Reproducer, drive side, inserting the changeover flexible shaft through the hole on top of the mechanism (operating side). The changeover shutter is placed in the tracks of the Heat Baffle Plate on the Mechanism and assembled to the flexible shaft and connector. The changeover spacer shim (SM-1556) is placed between the changeover and the Reproducer Frame and the complete assembly is installed on the Reproducer with the two

*Please note.
RWB*

mounting screws (SC-575) and washers (WA-70).

Install the large upper impedance flywheel (WH-205) and the small lower flywheel (WH-206) in the Magnetic Reproducer tightening the flywheel securely on their shafts with the screws provided. Be sure the impedance drum shafts and ball bearings are turning freely. Add damping fluid (FD-120) to the Dash Pot from the drive side of the Reproducer. Replace the drive side cover on the Magnetic Reproducer.

OPTICAL REPRODUCER

MOUNTING THE DRIVE MOTOR and Motor Bracket to the Optical Reproducer - Remove the drive-side cover of the Optical Reproducer by loosening the three retaining screws. The Drive Motor and Bracket (R50-260A), along with the Slow Start Kit have been assembled at the factory and the complete unit is mounted to the Optical Reproducer with the four mounting screws (SC-1648) and washers (WA-218). Tighten screws securely. Loosen the motor mounting screws (SC-825), Place the Timing Belt (BE-528) over the Timing Pulley (MR3-270A) in the mechanism and over the pulley (PY-1072) on the motor (MO-40). After the proper belt alignment has been made tighten the four motor mounting screws securely. CAUTION: The Timing Belt should not be made excessively tight. Keep belt free of oil.

INSTALL the Impedance Flywheel (WH-72) on the drum shaft of the Optical Reproducer, hub of flywheel facing in. Tighten it's fastening screw securely. Replace the Drive-side cover on the Optical Reproducer.

Damping Fluid should now be added to the Damper Assembly (R50-30) - Loosen the oil cup fastening screw (SC-526) which will allow the reservoir or cup (CU-85) to be removed at the bottom. Fill the reservoir with CENTURY DAMPING FLUID (FD-120) to grove indicated inside the cup. Re-install the reservoir in the assembly - bring it all the way up as far as it will go and then tighten the screw securely.

NOTES

Adjustments The pressure of the film trap shoes has been properly set at the factory and should be entirely satisfactory for most all conditions of films. It is therefore suggested that no changes be made in the factory adjustments unless absolutely necessary. Should more film tension be indicated, turn adjustment knob at the top of the film trap clockwise. It is desirable to operate with as little pressure as possible as is consistent with the condition of the film and for a steady, clearly focused picture. The lighter the pressure the less wear on the pads, sprockets, films, etc.

Observation of the projector will disclose that the film traps, film gates, intermittent sprocket pad assemblies and magnetic clusters have all been color coded; "RED" to refer to 70MM films and "GREEN" for 35MM films. Sprocket pad roller

assemblies have both a 70MM and 35MM roller and the knobs are marked "70-35" for fast accurate changeover.

The Magnetic Reproducer is equipped with two separate pick-up heads, one for 70MM, 6 channel reproduction, one for 35MM, 4 channel reproduction.

MAINTENANCE

Use "CENTURY PROJECTOR OIL", in the Intermittent Movement - oiling through "OIL CUP" in arm (operating side) or through "AIR VENT HOLE" in back of flywheel on drive side. Once a month or so a few drops of oil in the "OIL HOLE" for the upper and lower sprocket shafts.

For lubricating all gears, use CENTURY GEAR-LUBRICANT (a tube is supplied with the projector). Add a little Century Gear-Lubricant to all gear contacts. To lubricate the reverse double shutter gears add a little "CENTURY GEAR-LUBRICANT" with the finger tips from the bottom open side of the double shutter intermediate bracket where one of these gears is exposed. Rollers, Sprocket and Driving Shafts operate in Bushings and Grease-Sealed Ball Bearings requiring little or no lubrication. Check out water cooling system for water flow and water leaks.

Use Century damping fluid (FD-120) in the Damper Assemblies of the Magnetic and Optical Reproducers. Check damping fluid in assemblies about once a month and add fluid when necessary.

The Film Trap and Film Gate should be removed regularly and cleaned thoroughly. The Film Trap Shoes and the Film Gate pad should be kept clean, making sure all deposits of dirt and film emulsion are removed. Lateral guide rollers should turn freely and the studio guides positioned properly to take all conditions of films. It is suggested that the gate pad and trap shoes be lightly lubricated after cleaning for a smoother and quieter running of the film.

IT IS GOOD MECHANICAL PRACTICE TO PERIODICALLY CHECK YOUR EQUIPMENT TO BE SURE ALL RETAINING AND FASTENING SCREWS AND NUTS, COLLARS, PULLEYS, GEARS, COUPLINGS, ETC., ARE TIGHT AND HAVE NOT WORKED THEMSELVES LOOSE.

Threading charts for all films and other general instructions on Century Projectors are included with these instructions.

OPERATING (converting to 35MM or back to 70MM film)

The Film Traps (70mm or 35MM): To Remove the Film Trap from the Mechanism, Frame the Intermittent to its MID-POSITION, loosen the Knurled Screw (Red or Green) and slide the film trap straight out of the Mechanism.

To re-install the Film Trap - reverse the procedure, being sure that framing adjustment has the Intermittent near its MID-POSITION, sliding the Film Trap all the way in on its water cell and tightening the knurled retaining screw.

The Film Gates (70MM - 35MM)

To remove the Film Gate from the Mechanism - Rotate the Pad Roller Arm Assembly (above the gate) so the 35MM marking on the "BAR-KNOB" is at 11:00 o'clock. The Film Gate should be in its open position, swing bottom of the Film Gate outward and upward slightly, being carefull of pad rollers above gate, releasing the lower and upper gate plate studs from their supports on the lens mount tube.

To re-install the film gate in the Mechanism - rotate pad roller assembly (above gate) so 35MM marking on "BAR KNOB" is at 11:00 o'clock. Holding the film gate in a straight vertical position and being carefull of pad rollers above, First re-engage the upper stud in its support allowing the stud to seat all the way down in the support and swinging the gate downward re-engage the lower stud in it's support (all the way in). Close the film gate making sure the gate pad is seated properly, between the studio guides and that the lateral guide rollers are turning freely.

THE INTERMITTENT SPROCKET PAD ARM ASSEMBLY (70MM - 35MM)

To Remove the Intermittent Sprocket Pad Assembly from the Intermittent Movement. Frame the Intermittent Movement to its Mid-Position - The lower sprocket pad roller arm should be in its open position - The Intermittent Sprocket Pad Arm Assembly should be in its open position - Pull the Pad Assembly straight out, being careful not to hit or damage Intermittent Sprocket Teeth.

To re-install the Intermittent Sprocket Pad Arm Assembly - Hold the assembly with the slot in the stud in a vertical position and the Pad in its open position - Insert the Assembly all the way in its bearing. It may be necessary to turn the assembly back and forth a little until the spring and plunger unit locks the assembly properly. (CAUTION AND NOTE: Do not loosen or tighten the retaining screws for this spring when re-installing pad assembly). Close the assembly to make sure it is in proper alignment with the Intermittent Sprocket Teeth.

THE LENS MOUNT ECCENTRIC (70MM - 35MM)

To set the Lens Mount Eccentric for the proper Film (70MM - 35MM) Loosen the clamping nut of the 70-35 setting (selection) Knob at the top of the Lens Mount. The Knob is set in position for running the required film by turning the knob either clockwise or counter-clockwise until the proper designation (70 or 35) is shown. (The Knob has detent stops when in position). The Knob locking nut is then tightened securely.

UPPER SPROCKET PAD ROLLER ARM in the Projector is equipped with

two 70MM Pad Rollers (RO-209); either one of these rollers may be used when running 70MM films. The 35MM Pad Roller (RO-210) for the upper Pad Roller Arm in Projector is shipped from the factory - unmounted, packed separately.

TO REPLACE THE PAD ROLLERS

The upper pad rollers in projector (or the pad rollers in magnetic penthouse) are removed by loosening the two Allen set screws (SC-882) in the 70-35 "BAR-KNOB" and pulling the knob off. This will allow the pad rollers to be taken off their studs. Always remove and replace the 70MM and 35MM rollers together. The knob has two 6 x 32 Allen screws (1/16" Allen wrench)

When changing to 35MM change the upper pad rollers in projector as follows, remove the (70-35) "BAR-KNOB" (KN-58), from the pad roller studs. Now remove one of the 70MM Pad Rollers and replace it with the 35MM Pad Roller. NOTE: In order to mount 35MM Pad Roller on the upper arm it is necessary to slip off the remaining 70MM Pad Roller and remount both 70MM and 35MM Pad Rollers together on the studs. Remount the bar-knob securely on the Pad Roller Studs with its markings (70-35) in proper position to its roller. CAUTION: Place the unmounted (extra) 70MM Pad Roller with the Assemblies to have all available when change over to 70MM Films.

Note: The rotating Pad Roller Arm Assembly in the Magnetic Reproducer employs one 70MM Pad Roller and one 35MM Pad Roller. To change from one film to the other, rotate the required roller into position.

LOWER PAD ROLLER ARM

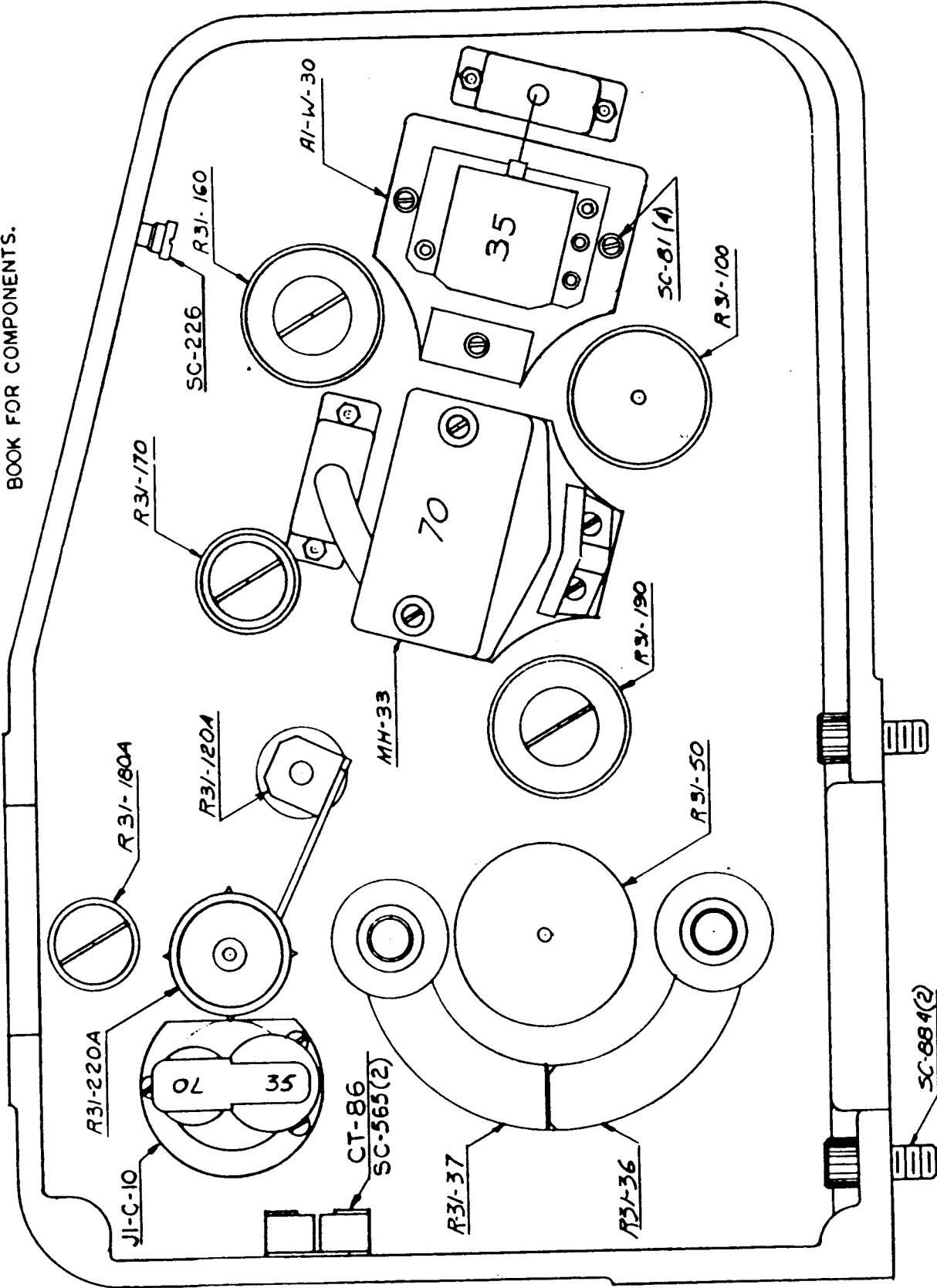
Lower Pad Roller is opened by pushing the bar-knob (70-35) (KN-77) upward. The proper pad roller is set in position for the selected film by turning the knob until correct designation is right side up. Bring knob downward placing pad roller against sprocket. The bar knob will be in a Horizontal plane with the proper designation closest to the film sprocket.

PILOT LAMPS

The Projector Mechanism is equipped with two pilot lamps (LT-91). The framing lamp (at the film trap) and the Mechanism threading lamp (above the lens mount) are individually controlled by two separate switches mounted on the front of the Mechanism.

NOTE:

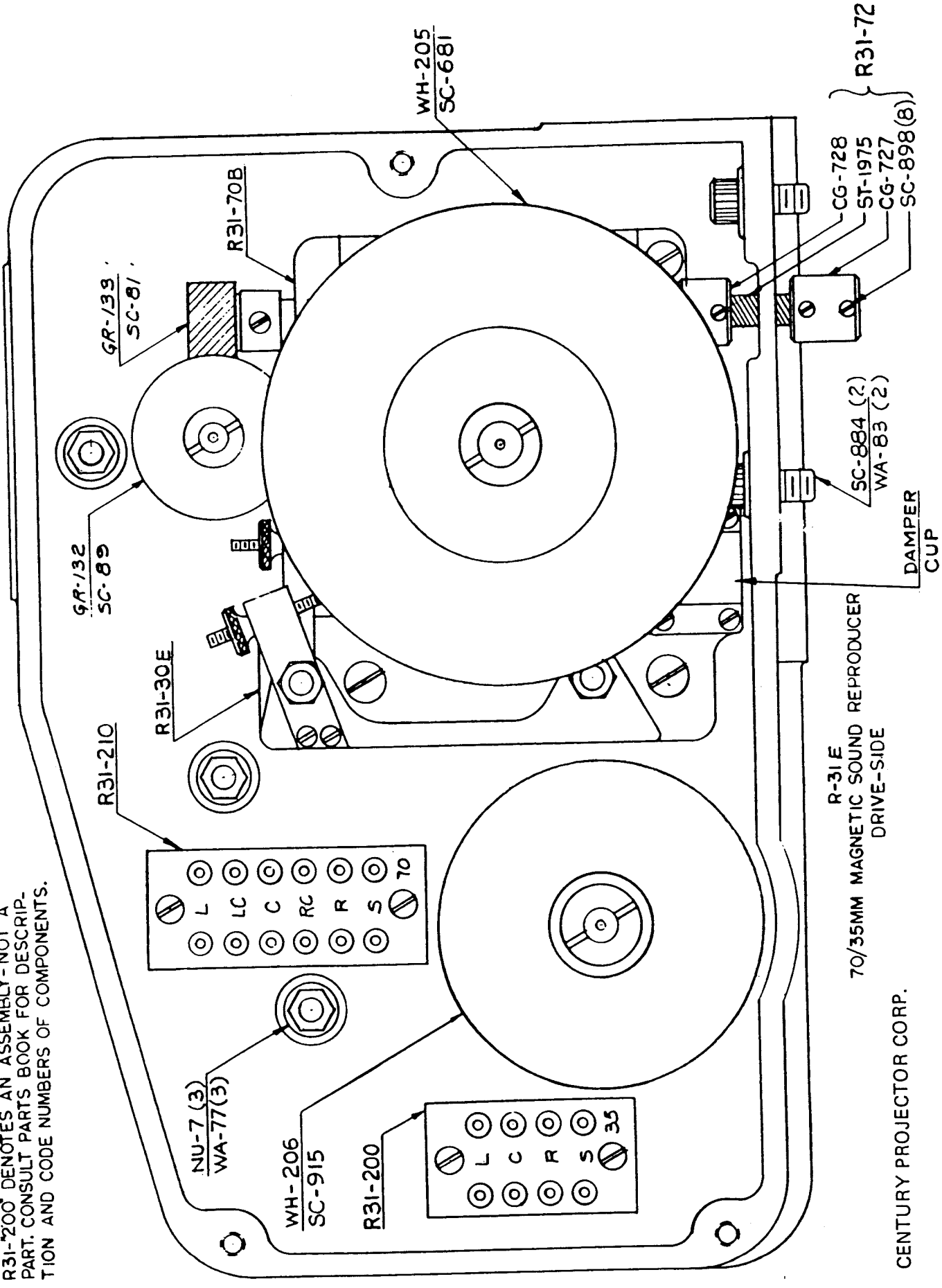
CODE NUMBERS WITH PREFIX R30-R31 DENOTES AN ASSEMBLY NOT A PART. CONSULT PARTS BOOK FOR COMPONENTS.



R-31E
70/35MM MAGNETIC SOUND REPRODUCER
OPERATING-SIDE

CENTURY PROJECTOR CORP.

NOTE:
R31-200 DENOTES AN ASSEMBLY - NOT A PART. CONSULT PARTS BOOK FOR DESCRIPTION AND CODE NUMBERS OF COMPONENTS.

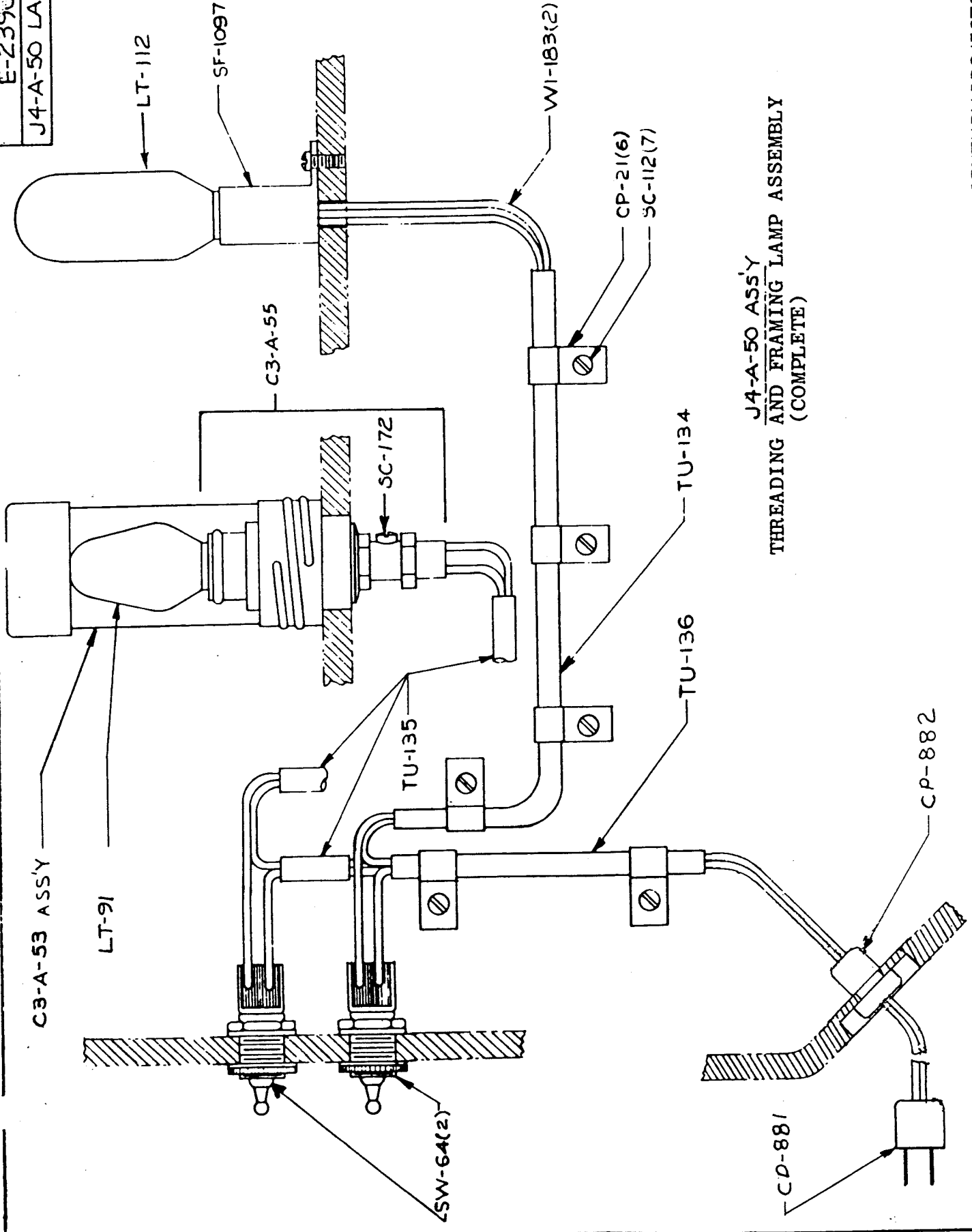


R-31E
70/35MM MAGNETIC SOUND REPRODUCER
DRIVE-SIDE

CENTURY PROJECTOR CORP.

E-2390

J4-A-50 LAMP ASSY



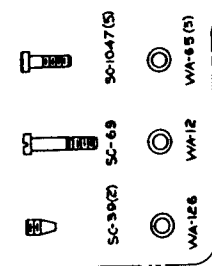
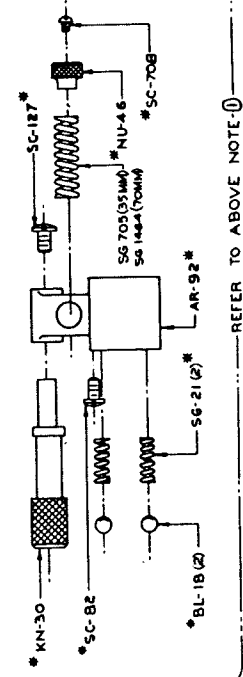
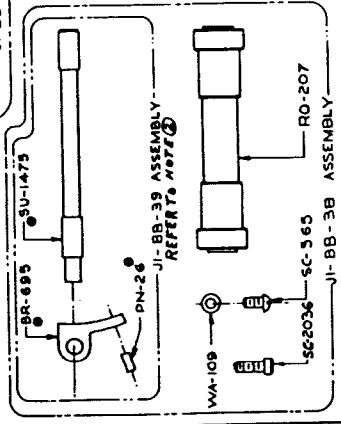
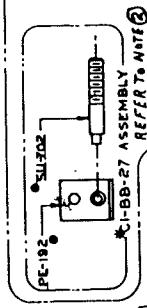
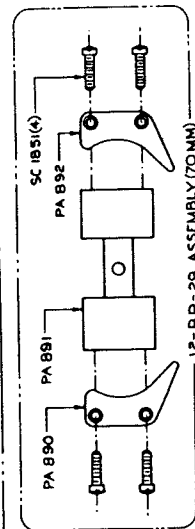
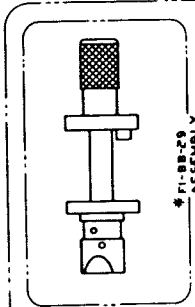
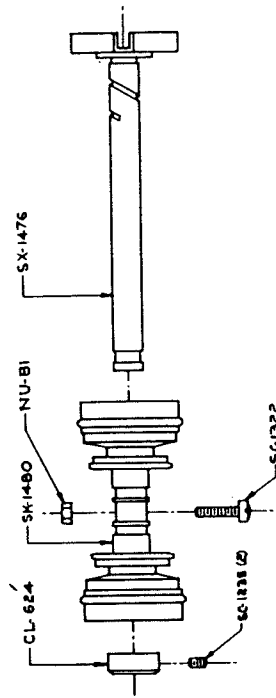
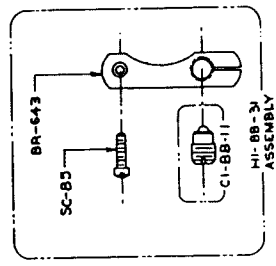
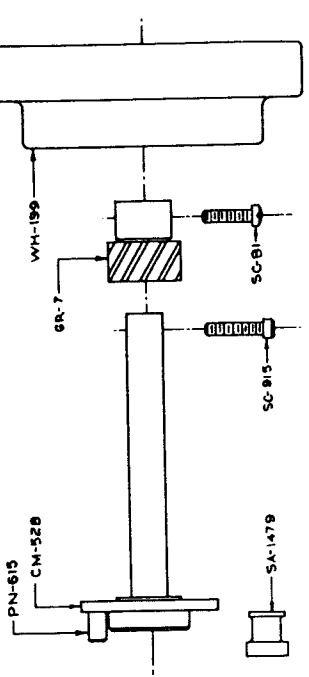
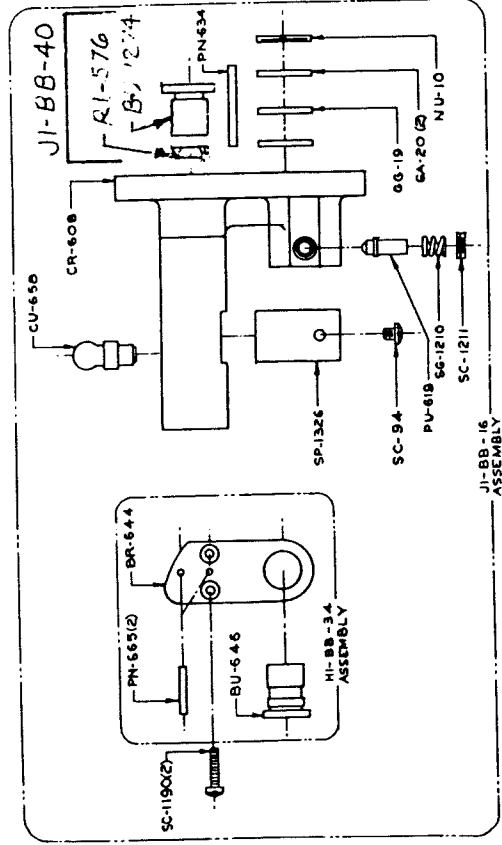
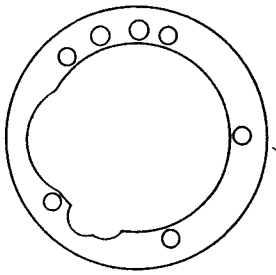
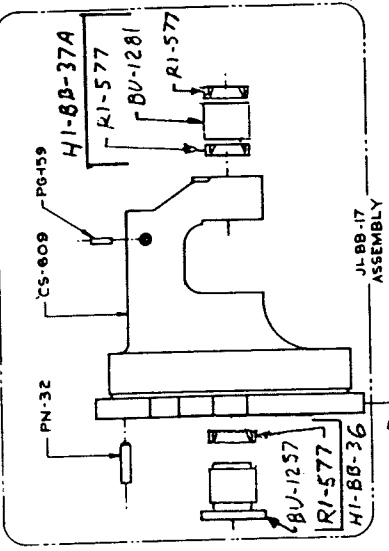
J4-A-50 ASSY
THREADING AND FRAMING LAMP ASSEMBLY
(COMPLETE)

E-2391 (JI-BB-30 ASSY)

INTERMITTENT MOVEMENT
35/70 M/M PROJECTOR
MODEL JI-BB-30

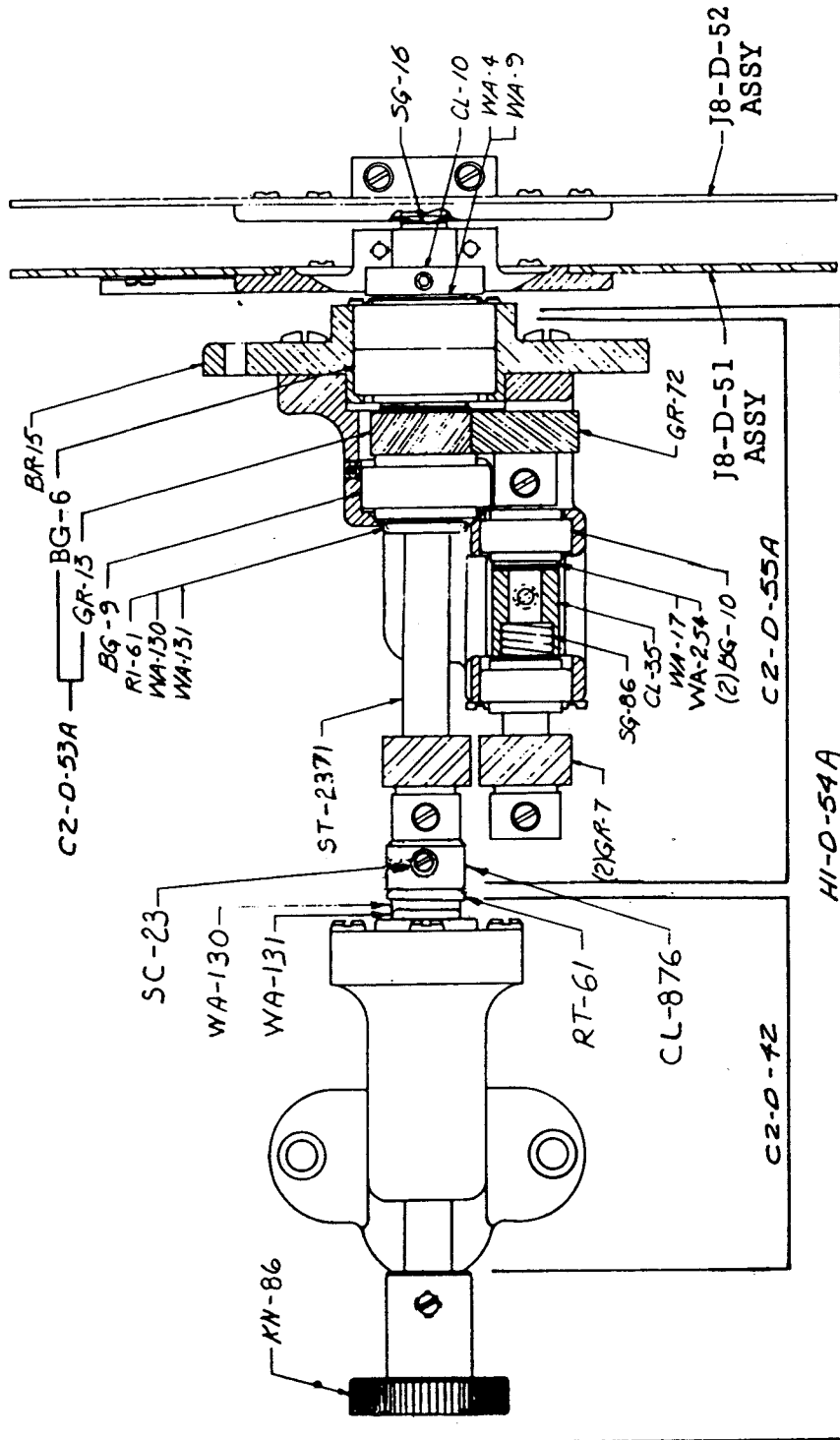
NOTES:

- ① PARTS WITH * ARE USED IN BOTH FI-BB-26 (35MM) AND JI-BB-26 (70MM) ASSEMBLIES
- ② PARTS WITH ○ ARE SOLD AS COMPLETE ASSEMBLIES
- PE-192/SU-702 SOLD AS CI-BB-37
- BR-655/PN-26/SU-1475 SOLD AS JI-BB-39



REFER TO ABOVE NOTE ①

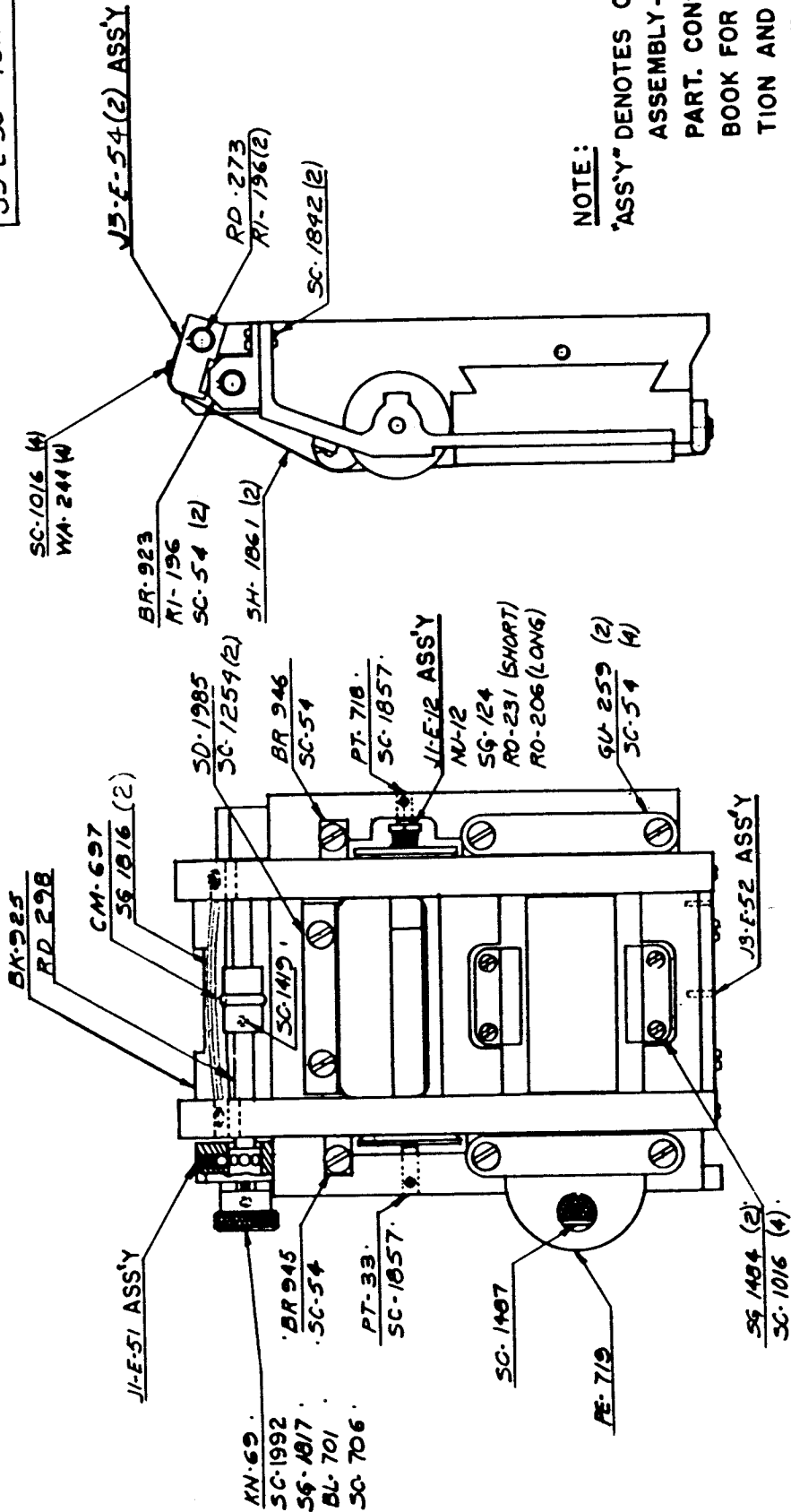
NOTE "ASSY" DENOTES COMPLETE ASSEMBLY NOT A PART. CONSULT PARTS BOOK FOR DESCRIPTION AND CODE NUMBER OF COMPONENTS.



J4-D-50 ASSY
DOUBLE SHUTTER SHAFT, BRACKETS, GEARS,
BALL BEARINGS AND BLADE ASSEMBLY.
(COMPLETE)

E-2393

J3-E-50 70MM FILM TRAP ASSY



NOTE:

"ASSY" DENOTES COMPLETE ASSEMBLY - NOT A PART. CONSULT PARTS BOOK FOR DESCRIPTION AND CODE NUMBERS OF COMPONENTS.

SIDE VIEW

FRONT VIEW

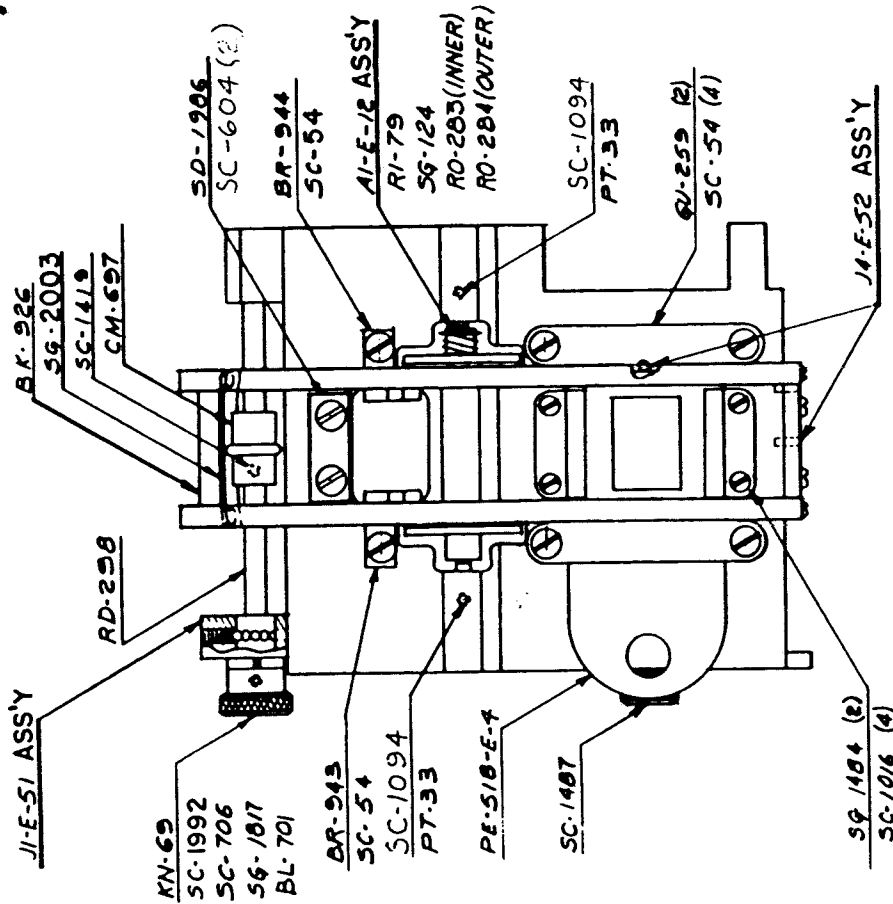
CENTURY PROJECTOR CORP.

J3-E-50

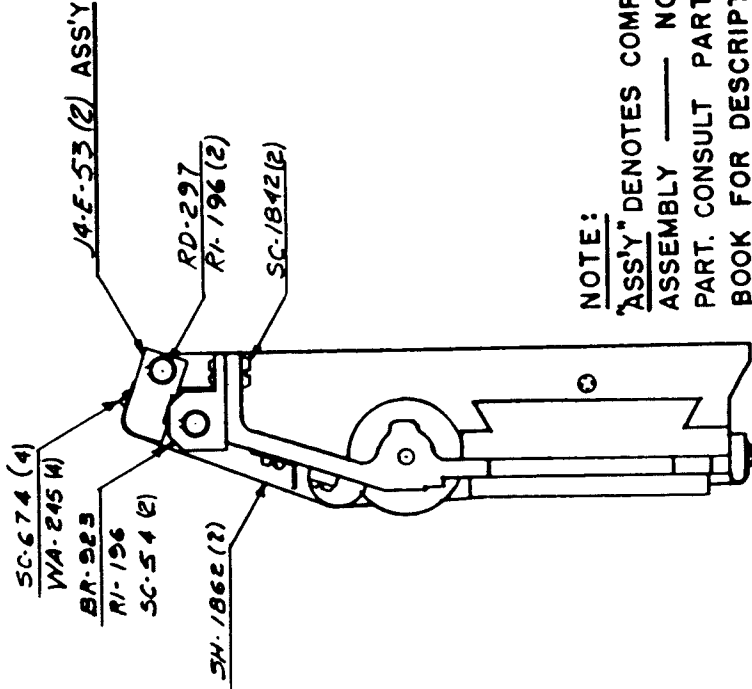
70MM FILM TRAP ASSEMBLY

E-2394

J4-E-50 35MM FILM TRAP ASS'Y



FRONT VIEW



SIDE VIEW

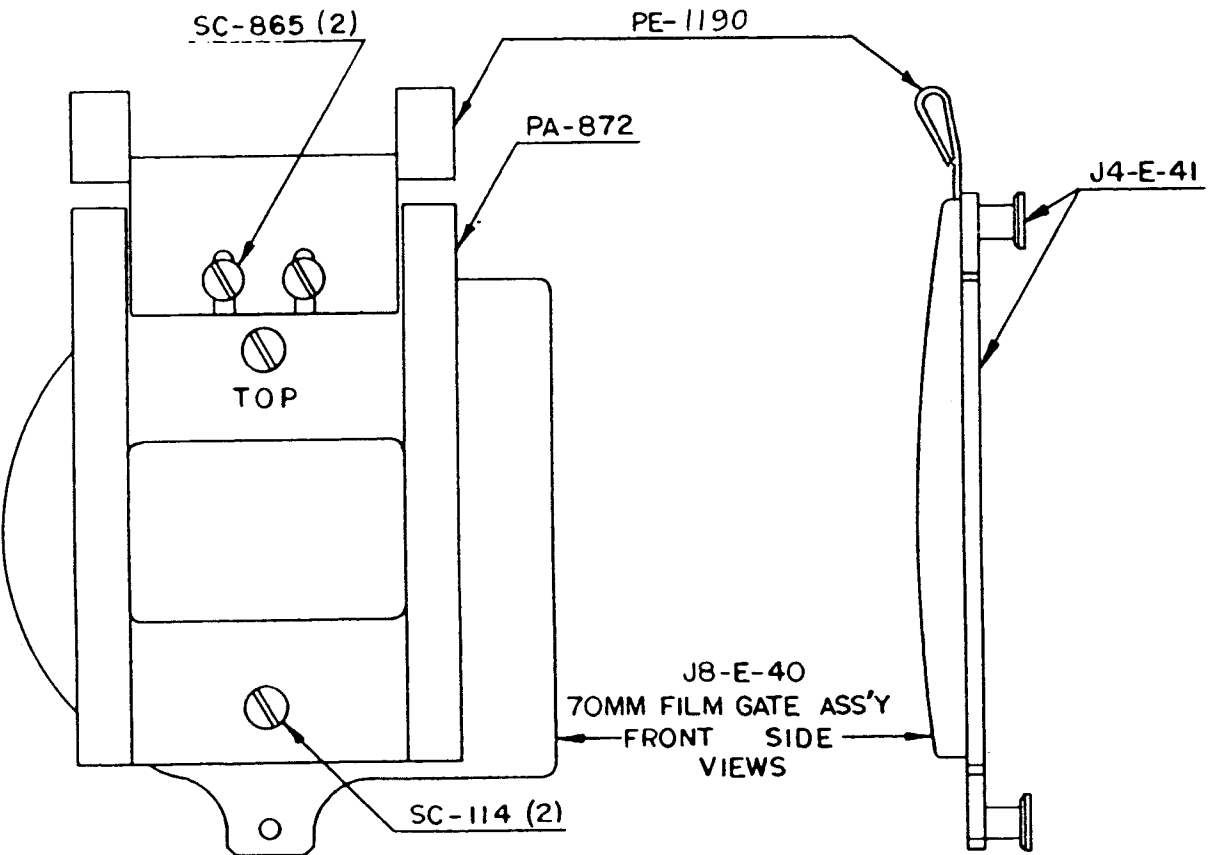
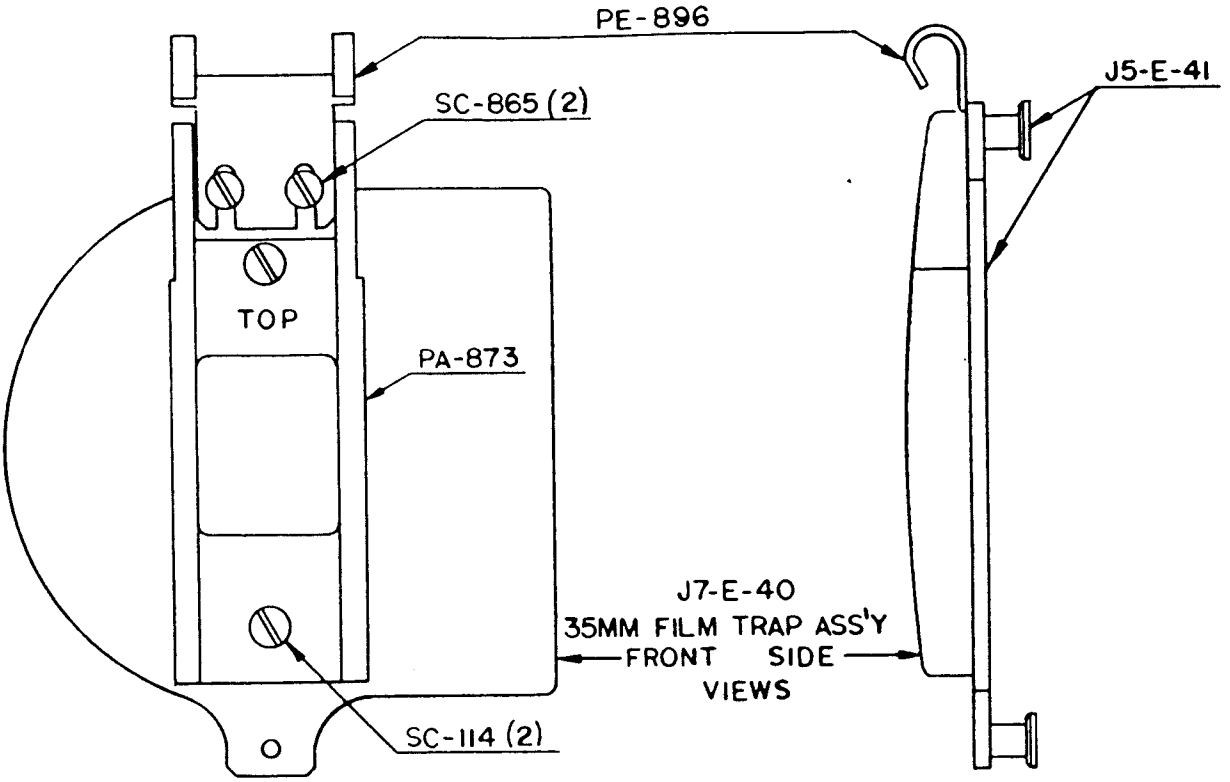
NOTE:
 "ASS'Y" DENOTES COMPLETE ASSEMBLY — NOT A PART. CONSULT PARTS BOOK FOR DESCRIPTION AND CODE NUMBERS OF COMPONENTS.

J4-E-50
 35MM FILM TRAP ASSEMBLY

CENTURY PROJECTOR CORP.

E-2395

35MM & 70MM FILM GATE ASS'YS

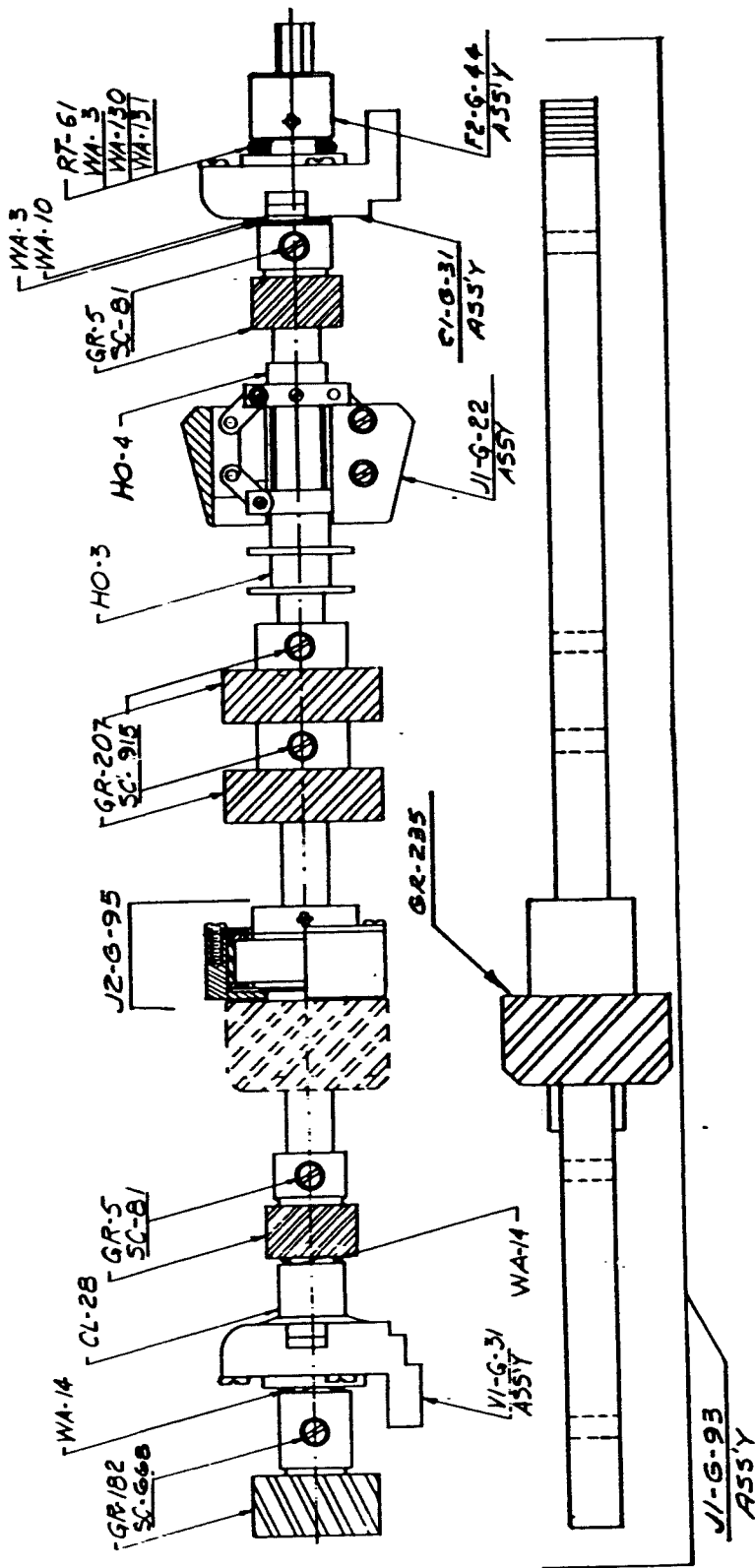


E-2396 J2-G-90A

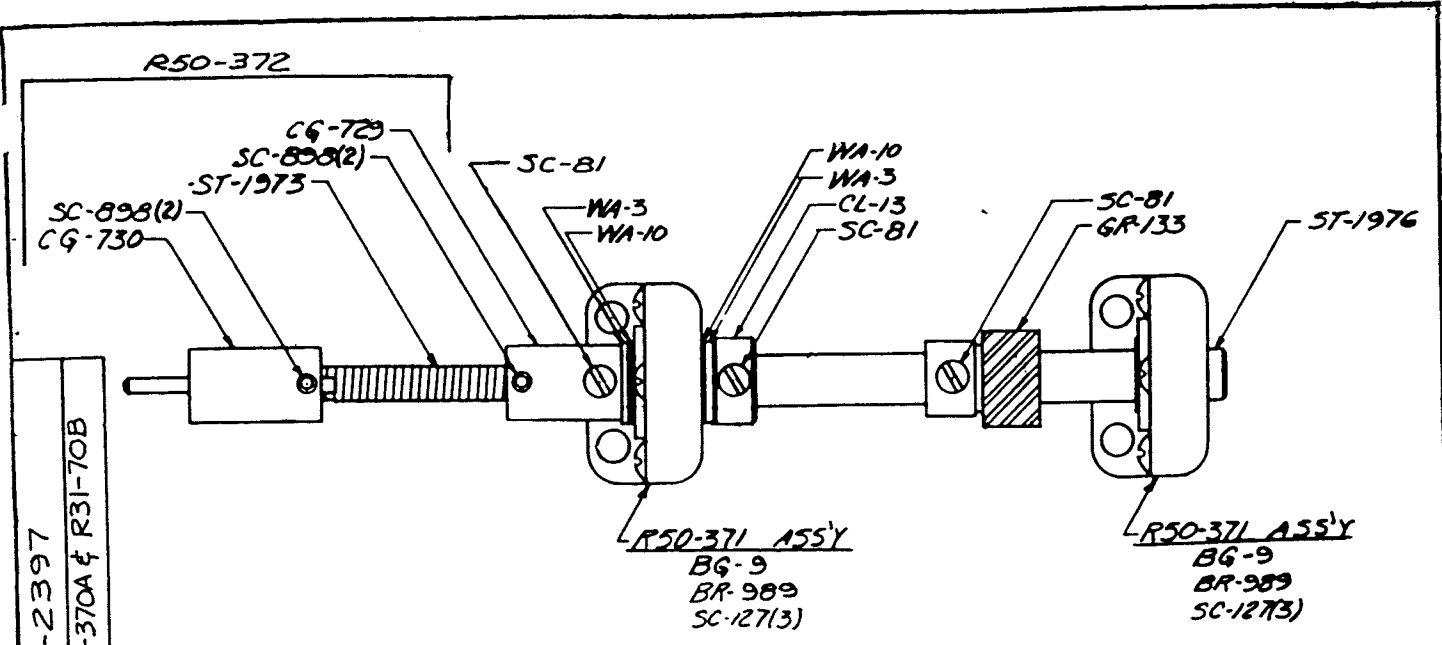
VERTICAL SHAFT ASSEMBLY

NOTE "ASSY" DENOTES A COMPLETE ASSEMBLY NOT A PART. CONSULT PARTS BOOK FOR DESCRIPTION AND CODE NUMBERS OF COMPONENTS.

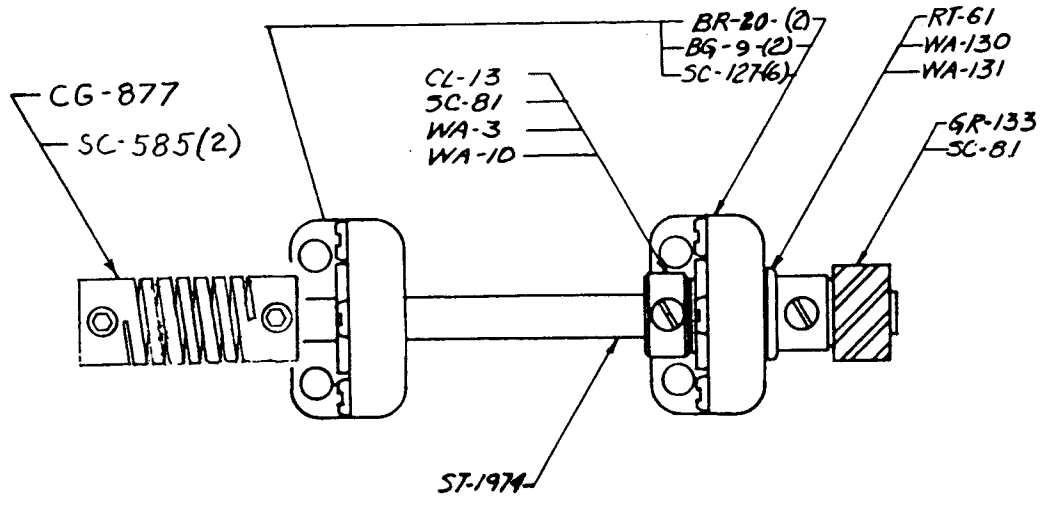
J2-G-90A ASSY
VERTICAL SHAFT & GOVERNOR ASSY
(COMPLETE)



CENTURY PROJECTOR CORP.



R50-370A ASSY.
OPTICAL SOUND REPRODUCER
VERTICAL DRIVE SHAFT ASSEMBLY (COMPLETE)
(DIRECT - DRIVE) (FLEXIBLE SHAFT TYPE)
70/35MM - 35MM



R31-70B ASSY.
MAGNETIC SOUND REPRODUCER
VERTICAL SHAFT - FILM SPROCKET
DRIVE ASSEMBLY (COMPLETE)
(70/35MM) (FLEXIBLE SHAFT TYPE)