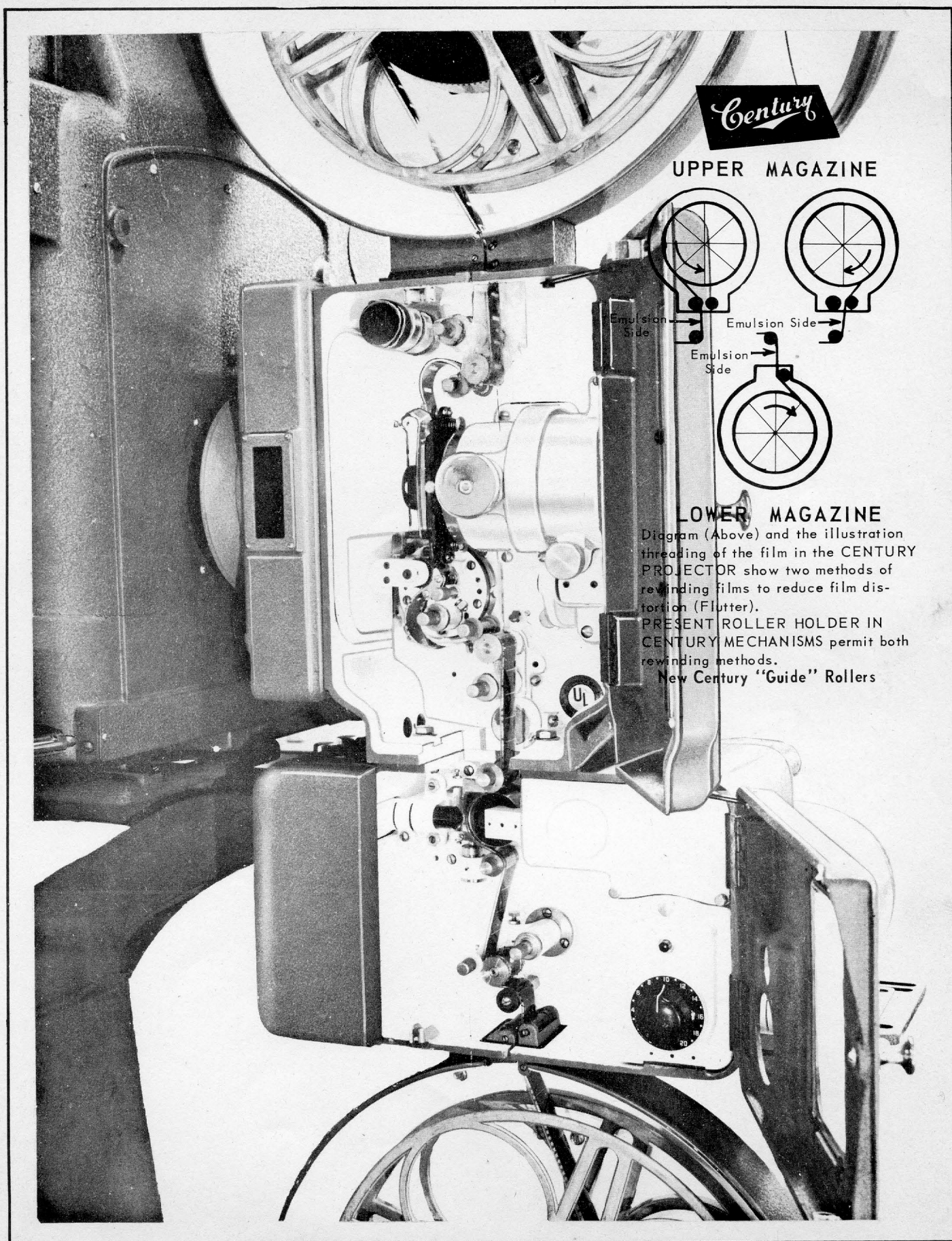
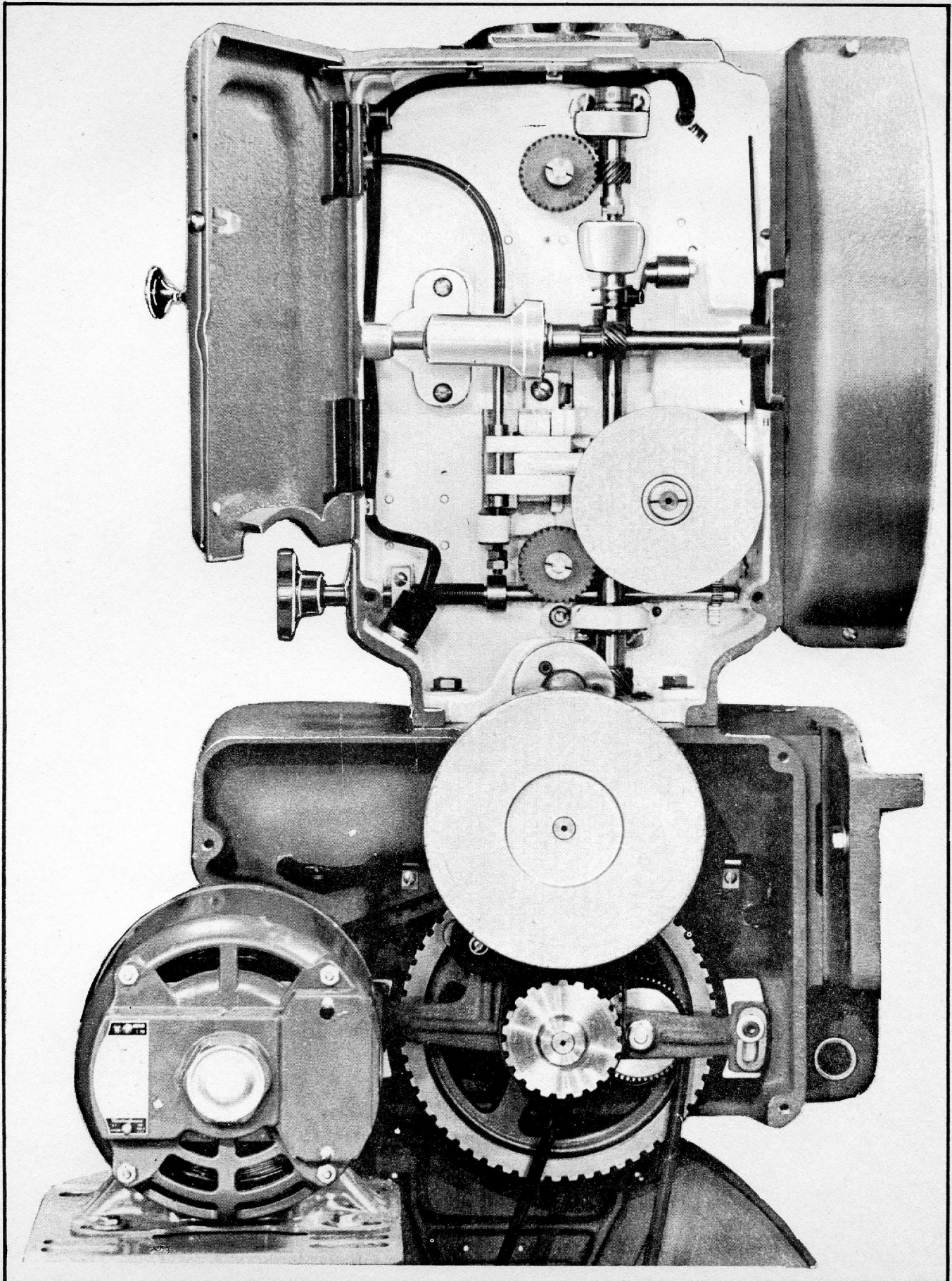




CENTURY PROJECTOR MECHANISM AND CENTURY SOUND REPRODUCER  
THREADING OF THE FILM



CENTURY PROJECTOR MECHANISM AND CENTURY SOUND REPRODUCER  
SINGLE SHUTTER-DRIVE SIDE



35MM SOUND REPRODUCERS  
REVERSE SCANNING - STANDARD DRIVES  
MODELS TR4B - R4  
INSTALLATION - ADJUSTMENTS

GENERAL

The Century Standard Model Sound Reproducer has been designed to give maximum quality at minimum cost through simplicity of construction. The design has made it possible to eliminate both the hold back sprocket and the free loop between the Projector Mechanism and the Sound Reproducer, yet obtain a flutter content less than half of the industry standard.

The film filtering mechanism of the sound reproducer consists of a solid flywheel (which supplies the inertia element) mounted on a scanner shaft and a hydro-flutter suppressor which operates to smooth out irregularities in tension which would produce flutter and "wows." The hydro-flutter suppressor consists of two filter arms and rollers connected by a spring. The lower filter arm is controlled by a dashpot containing specially selected damping fluid of carefully governed characteristics. The filter system permits elimination of the free loop between projector mechanism and sound reproducer.

The stabilizer shaft carrying the scanner drum and flywheel is mounted in the main frame. Due to the unique characteristics of the hydro-flutter suppressor, all variations in speed of the main drive shaft and sprocket are removed, resulting in more perfect sound reproduction. The sprocket shaft is driven directly from the motor by a poly V belt. (For direct drive operation - refer to separate section, "Model M Series, Direct Drive").

With Century JTS-0-1900 sound systems and TR4B sound reproducers exciter lamp changeover is used. A solid-state flip-flop circuit allows employing a standard push-button switch which is mounted on the right front cover of the Century sound reproducer.

This design provides simple and easy coupling to most all automation systems without the necessity of installing additional relays.

INSTALLING THE SOUND REPRODUCER

Read the instructions carefully before starting installation of the sound reproducer. Assembling of the equipment will be faster and easier if done in proper sequence. Refer to Installation Drawing for Sound Reproducer (Drawing 3716)

Place a washer (WA-105) on each of two short sound reproducer mounting screws (SC-599). Start the screws in the upper holes in the rear of the sound reproducer. Place the sound reproducer in position, the screws (SC-599) fitting into the slots at the top of the sound reproducer support on the pedestal. Two mounting screws and washers are inserted into the lower mounting holes of the sound reproducer support on the pedestal; the long screws (SC-600) are used for the Century "C", and for other types of pedestals. Level the reproducer and tighten all four screws securely. Mount the Century lower (take-up) magazine, using the four mounting screws (SC-589).

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## MOUNTING THE DRIVE MOTOR & BRACKET TO THE SOUND REPRODUCER

NOTE: The motor and bracket assembly has been mounted on the sound reproducer and the complete sound reproducer tested before leaving the factory. The motor and bracket assembly is removed for packing and identified with the serial number of the sound reproducer. It is suggested that the motor and bracket assembly be mounted on its respective sound reproducer on installation in the theatre, thereby duplicating exactly the factory operation. The motor and bracket assembly (R21-360C) is mounted to the optical reproducer with the four mounting screws (SC-532). Tighten the four screws securely. Loosen the four motor mounting screws (SC-825). Place the motor poly "V" drive belt (BE-899) over its two pulleys. After the proper alignment has been made, tighten the motor mounting screws securely.

CAUTION: The poly V belt should be reasonably taut with no slack, making sure the six belt ribs are engaged and mated properly with the six grooves in the pulleys (use hand pressure only when tightening belt). DO NOT OIL BELT. Reasonable attention to pulley alignment and belt tension will pay off in longer belt life and improved operation.

## MOUNTING THE PROJECTOR MECHANISM

Fasten the projector mechanism on the sound reproducer with screws (SC-564). Century projector mechanisms are fastened by inserting four screws downward (from mechanism to sound reproducer) threading into the reproducer. Other types of projector mechanisms use two screws (SC-564) inserting upward (from sound reproducer into projector mechanism). BE SURE THAT THE PROJECTOR MECHANISM IS MOUNTED SQUARE WITH THE SOUND REPRODUCER.

## INSTALLING PROJECTOR MECHANISM TIMING BELT DRIVE

When installing a CENTURY sound reproducer with a CENTURY model SA/DA series mechanism, mount the projector timing belt pulley assembly (R21-270) directly to the main drive shaft hub with the three screws (SC-1045) (8:32 x 1" Allen cap screw wrench) making sure that the two flanges (guides - FL-38) are installed, one on each side of the pulley. When installing the Century sound reproducer with other makes and models of projector mechanisms, special drive units are available. Information and prices on request.

To complete the projector timing belt drive - place the projector timing belt (BE-529) over the upper (R21-270) and lower (PY-573) pulleys. To properly take up the slack in the timing belt, adjust the lower idler roller (RO-103) and secure by tightening the nut (NU-306). The timing belt idler roller should be placed on the outside of the belt. DO NOT OIL PROJECTOR TIMING BELT. Timing belts do not require excessive tension on installation. The belt should engage the pulleys snugly but not too tight. Excessive slackness, of course, should be avoided. If the belt is loose it may JUMP TEETH on starting. In such cases, tension should be gradually increased until satisfactory operation is achieved. Do not pry or force a timing belt over the flange of a pulley. If reduction of center distance or idler tension does not permit the belt to be slid on easily, remove one or both pulleys. Attention to pulley alignment and belt tensions will pay off in longer belt life and in improved operation.

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The logo for Century Projector Corporation, featuring the word "Century" in a stylized, cursive script font.

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## CENTURY SOUND REPRODUCER INSTALLATION INSTRUCTIONS (Cont.)

### INSTALLING THE LOWER TAKE-UP & IMPEDANCE FLYWHEEL

Loosen the two screws (SC-1689) in the adjusting arm assembly (R3-90) and rotate the arm as far as possible in clockwise direction. Secure the arm in this position by tightening the two screws (SC-1689). Install take-up "V" belt (BE-836 belt used with Century 18" magazines, the BE-734 belt used with Century 26" magazines). To tighten the belt tension, loosen the two screws (SC-1689) and rotate the adjusting arm assembly (R3-90) in a counter clockwise direction; to loosen tension, rotate clockwise. After belt has been properly adjusted, tighten the two screws securely. **CAUTION:** Always loosen the screws in both ends of the adjusting arm to change belt tensions. Do not attempt to re-adjust the belt tension by loosening one end only. This will cause the main drive shaft in the sound reproducer to spring and in time will result in damaging or breaking the shaft.

Mount the Impedance Flywheel (WH-72) on the impedance drum shaft, hub of flywheel facing in. Tighten screw (SC-575) securely.

### DAMPING - ASSEMBLY - ADJUSTMENT

Remove the damping fluid reservoir (CU-85) from the damper assembly (R3-30) by loosening the screw (SC-526). Fill reservoir cup (CU-85) to the groove on the inside of the cup with the special damping fluid (FD-120). This is a special compound (not an oil) chosen for its characteristics for use in this design of hydro-flutter suppressor. Use of any other type of fluid may seriously affect the flutter content of reproduction. (In an emergency, projector oil may be substituted, but should be replaced with Century damping fluid as soon as possible.) Reinstall the reservoir cup in the assembly, bringing it all the way up as far as it will go and tighten screw (SC-526) securely.

### EXCITER LAMP ASSEMBLY ADJUSTMENTS (R4-40)

To install exciter lamp in socket, press lamp into socket, twisting clockwise to lock the lamp base on the socket pins. Use only LP-84 lamp.

Replace exciter lamps every year or when they blacken to the extent of reducing the sound output by 3 DB, as determined by comparison with a new lamp. The exciter lamp unit (R4-40) in a new reproducer has been properly adjusted in the factory and should not require readjusting in the field. If for any reason readjustment is indicated, it can be done by loosening the two mounting screws slightly. Be sure to tighten these screws after adjustment is made.

### OPERATIONS AND ADJUSTMENTS

Check sound reproducer motor to make sure it is rotating in counter clockwise direction, viewing it from the film sprocket end (operating side).

The guide roller (R3-37) has been adjusted at the factory to properly position the film. It may be readjusted for laterally positioning the film on the scanner

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## CENTURY SOUND REPRODUCER INSTALLATION INSTRUCTIONS (Cont.)

drum by turning the knurled knob (KN-23). This roller is set so that it will keep the film sound track in the correct position. Make changes only with reference to standard buzz track test film.

### THREADING OF THE FILM

The film is threaded in the reproducer as follows: Lift upper damper guide roller arm and pass film around impedance drum and over the lower damper roller. Pull film around film sprocket until the red lines on the upper guide arm and indicator plate are in approximate registry. Close sprocket pad roller arm and thread film over the lower take-up roller (RO-535), through the roller holder (C1-W-60) and down to the lower magazine reel. With the film correctly threaded, if the red lines are not in exact registry, a correction may be made by loosening the two screws (SC-502) in lower timing belt pulley (PY-573), and turning the motor handwheel (WH-251) until the red lines are in registry. Tighten the two screws (SC-502) securely. When machine is running, the red lines will remain in approximate registry.

### MAINTENANCE AND LUBRICATION

The sound reproducer operates in grease-sealed ball bearings which require no lubrication.

The motor is lubricated before leaving the factory and therefore requires no lubrication when placed in service. Ball bearing motors may require re-lubrication with clean ball bearing grease about every two years of normal service. DO NOT OVERLUBRICATE - motor ball bearing grease available.

DO NOT OIL BELTS NOR PULLEYS - The timing belt pulleys - the poly "V" pulleys - timing belt - poly "V" belt - take-up "V" belt require no lubrication. Keep clean - free of dust and dirt.

Keep damper assembly oil reservoir filled to proper level (to groove on the inside of cup) with CENTURY damping fluid (available in 1/2 oz. bottles - coded FD-120). This level need not be checked more often than every 3 to 6 months.

For lubricating the sound reproducer and projector mechanism, use CENTURY CERTIFIED PROJECTOR OIL - Sold in gallon tins.

### ADJUSTMENT AND REPLACEMENT OF PARTS

MAIN DRIVE SHAFT ASSEMBLY (R22-70A) - To remove main drive shaft assembly from optical reproducer - Remove the projector lower timing belt pulley (PY-573) by loosening the two Allen set screws (SC-502). Slip off projector drive timing belt (BE-529) from its upper projector timing belt pulley (R21-270). Take out the two screws (SC-1689) and the spacer-washer (SA-1724) holding the adjusting arm (R3-90) and slide the arm carefully off the main drive shaft. The adjusting arm assembly (R3-90) includes the idler roller (R3-92) and take-up V-belt pulley - gear (R3-91). Remove the take-up pulley formica drive gear (GR-68) by loosening the Allen set screw (SC-585). Slip off the motor

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## CENTURY SOUND REPRODUCER INSTALLATION INSTRUCTIONS (Cont.)

belt from the large motor driven poly V belt pulley (PY-840). Loosen the two Allen set screws (SC-502) in the large pulley and remove pulley. From the operating side remove film sprocket (SK-967) by taking out its screw (SC-89). Remove the ball bearing TRUARC retaining ring (R1-92) using a TRUARC pliers #2. The ball bearings (BG-204 outer and BG-133 inner) may be removed by tapping them carefully out of the main frame housing.

To install the main drive shaft assembly in the optical reproducer - The two ball bearings should be in position in the frame.

Re-install the main drive shaft (ST-1696) through the ball bearings from the drive side. Replace the TRUARC retaining ring by seating it properly in the shaft groove on the operating side. Replace the film sprocket on the shaft, securing it with its fastening screw.

From the drive side - slide the spacer (SA-1697) over the main drive shaft all the way to the ball bearing. Install the motor driven poly V belt pulley with its hub inward. Pull on the main drive shaft and push the pulley against the spacer, taking out all end-play. Tighten the two set screws in the pulley securely, making sure the screws are seated on the two flats provided on the shaft.

Place the motor drive belt (BE-899) over the large pulley. Now re-install the take-up drive pulley formica gear in position with hub outward and approximately 11/32 of an inch away from the hub of the large pulley. Tighten its fastening screw securely, making sure the screw is seated properly on the flat of the shaft. Remount the take-up adjusting arm on the main drive shaft with the take-up V belt in position on its pulley - gear and engaged with the lower film magazine pulley. Slide the adjusting arm carefully, meshing the take-up pulley-gear with the formica gear. Install the two screws and spacer-washer (not tight) on the frame to retain the adjusting arm.

To tighten tension on the take-up belt, rotate arm counter-clockwise. To loosen belt tension, rotate arm clockwise. CAUTION: always loosen both ends of the arm when resetting belt tensions. After the proper tension has been obtained, tighten both screws securely. CAUTION: in tightening these screws, do not spring the shaft. Install the projector timing belt drive pulley on the shaft, hub outward. Tighten the two Allen set screws securely. Remount the drive belt on its upper and lower pulleys and adjust the idler roller properly against the outside of the belt. Timing belts do not require excessive tension on installation. The projector belt should engage the pulleys snugly but should not be taut. Excessive slackness of course should be avoided. Pulley alignment should be checked with a straight edge and shafts (motor and reproducer) checked for parallelism so that equalized tension will be maintained in the belt. Reasonable attention to pulley alignment and belt tension will pay off in longer belt life and improved operation. CAUTION: DO NOT oil belts. Do not pry or force a belt over the flange of a pulley. If reduction of center distance or idler tension does not permit the belt to be slid on easily, remove one or both pulleys.

It may be necessary on making replacements and repairs in the field to fit and dress down the main drive shaft in order to mount the pulleys, ball bearings, etc.

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