

INSTALLATION INSTRUCTIONS - KIT NO. 102 - PART NO. 52347

INSTALLATION OF COBRA TONE ARM IN MODEL 1015 AND 1080 PHONOGRAPHS

NOTE: in the following instructions reference to left and right is made when facing the front of the phonograph. The 24 records and tray discs should be removed before beginning the installation.

1. Four cone shaped springs are supplied, one heavier than the other three. Remove the four lock nuts and lockwashers from the bottoms of the chassis mounting bolts. Tighten the right front bolt to hold the chassis securely; then remove the right rear bolt (near tone arm housing) and remove and discard the rubber washer (between chassis and shelf), the rubber bushing (in opening in top of shelf) and the ornamental washer. Remove the 1 inch square wooden spacer on the underside of the shelf where the chassis mounting bolt goes through.

Install the heavy steel spring into the opening in the top of the shelf with the large end of the spring at the bottom of the opening. Place the new locating washer over the small end of the spring, reinstall the chassis mounting bolt and draw up securely until the other springs are installed. (See sketch 1.)

Install the copper finish spring at the left rear corner and the two zinc finish springs at the front corners of the chassis, proceeding as above. Do not remove more than one chassis bolt at a time. Unhook the 24 record tray return springs to allow the record trays to be moved aside while installing the two left springs and leave the springs unhooked until the turntable stabilizer arm is installed.

After the four corner springs have been installed, reinstall the lockwashers and nuts at the bottoms of the chassis mounting bolts but do not tighten until the chassis clearance adjustment is made.

2. Remove the original shipping bolt. As the phonograph is delivered a nut and washer on the lower end of this bolt are removed when the phonograph is installed. Install the new longer bolt supplied and install on the bolt the brass cap, the 3/4 inch spring, the washer, the square nut and the hex nut, in the order listed, as shown in sketch 1. The brass cup at the top centers the spring to the opening in the chassis, the washer at the bottom centers the spring to the bolt. This spring and nut support the greater part of the weight of the left end of the chassis; the left corner springs serve to balance the chassis.
3. Remove the main drive motor and its mounting brackets. Install the new angle brackets in the same spot as the motor mounting brackets, using the same screws, washers and lockwashers that held the original brackets. Secure the rubber mounts to the new motor mounting brackets with the speed clips or nuts and lockwashers whichever are supplied. Install these assemblies on the angle brackets with lockwashers and nuts. The motor mounting bracket with the single rubber mount is installed at the left, through the center hole in the angle bracket, with the slanted corner of the motor mounting bracket toward the rear of the phonograph, to clear the chassis mounting spring assembly. Sketch 2 shows method of installation.

If an Ohio motor is in use in the phonograph. it will be necessary to clip off a portion of the end of the rubber mount screw to clear the motor shell. Install motor in new mounts using original clamps.

4. Remove and discard the acorn nut and the lockwasher from the top of tray stack post. Install the new stabilizer arm, using the internal lockwasher on the nut and the external lockwasher between the stabilizer arm and tray stack cover. Draw nut up snug but do not tighten until the stabilizer arm has been correctly located.
5. Remove the set screw, knurled adjusting knob, and trip wire from the ratchet trip assembly. Remove the pin, two washers, dog and roller from tone arm shaft trip arm. These parts are not used again and are to be discarded.

Install the new bracket, with micro-switch and solenoid, using the screws supplied. Install the new armature on the ratchet trip block using the existing screws, and the new spacers supplied in this kit between the armature and trip block, so that the armature will clear the shoulder screw. See sketch 3.

Loosen the locknut and remove the needle point adjusting screw and clutch trip shaft assembly. Remove the weight, screw and lockwasher from reset arm of trip support assembly. Install the new clip as shown in sketch 4 and replace the screw, lockwasher and weight. Install the new screw and insulator through the existing hole in the trip support arm, using one nut to install and second nut to lock, as shown in sketch 3. Remove spring and replace with new spring furnished with kit.

Install release switch and bracket assembly, using screw as shown to hold in place. Install the needle point adjusting screw and clutch trip assembly, tightening the needle screw to hold. Be sure to leave 1/64-inch end play in clutch trip shaft when needle screw is tightened; tighten lock nut to hold adjustment.

Route the two wire cable down the side wall of the cabinet and across the rear wall of the cabinet just above the main amplifier. The cable must be anchored with clips to avoid contact with any of the moving parts of the mechanism or with vacuum tubes or transformers. The large clips furnished will accommodate the electric trip cable and the pre-amplifier cable. Two methods of connecting the cable are provided. If a Model 219 Stepper is in use in the phonograph the cable may be connected to terminals 2 & 3 on either of the stepper terminal strips. If a stepper is not used, install the adaptor furnished with the kit, in the stepper receptacle in the junction box (or in the Model 218 Terminal Box if one is in use) and connect the cable to the terminals of the adaptor.

6. Remove the nut, stud and spring clip from the turntable lift cam. Install the new clutch trip cam assembly as shown in sketch 4. This cam assembly takes the place of the spring clip in resetting the clutch trip assembly during each cycle of the mechanism.
7. Install the muting switch and bracket assembly as shown in sketch 5. The bracket must be clamped to the frame spacing shaft with the two screws supplied so that the muting switch is at the top with its arm extending toward the front of the phonograph. In this position the bearing plate of the turntable lift arm assembly will engage the switch arm and actuate the switch when the turntable is at its highest position. The cable must be clipped at the hole in the rear frame and stack post bracket as shown. Care should be taken that the cable does not contact any of the moving parts of the

mechanism or any vacuum tubes or transformers. Remove the front 6L6G tube from the main amplifier, insert the octal adapter from the muting switch into the 6L6G receptacle and install the 6L6G tube into the top of the adapter.

8. Remove and discard the tone arm support and bracket assembly. Mount the pre-amplifier to right side wall of cabinet by fastening its brackets to the wall with wood screws. The rear edge of pre-amplifier base must be aligned with and 3 inches above the front edge of main amplifier. In the Model 1080 it will be necessary to move the bottom light bracket. Install the single pin receptacle of the tone arm extension cable by fastening its bracket with wood screws to the back edge of the shelf between the tone arm post and the cabinet wall 1/2 inch from the tone arm post. Install the single pin plug of this cable into the single pin receptacle in the pre-amplifier. Install the two pin plug on the cable from the pre-amplifier into the two pin receptacle in the volume control box. IT MAY BE NECESSARY TO REVERSE THIS PLUG TO OBTAIN PROPER OPERATION WHEN THE INSTALLATION IS TESTED. Check the prongs on the plug to be sure they make contact in the receptacle. Remove the rear 6L6G tube from the main amplifier, install the octal adapter from the pre-amplifier into the 6L6G receptacle and install the 6L6G tube into the top of the adapter. All cables must be routed and anchored when necessary to avoid coming in contact with any of the moving parts of the mechanism or with vacuum tubes or transformers. The large clips furnished with the kit will be found sufficient to anchor both the pre-amplifier cables and the electric trip cables. When anchoring cables which are routed from the mechanism to the cabinet wall, or from the pre-amplifier to the cabinet wall, care should be taken to leave sufficient slack in the cables so that no interference will result with the free movement of the mechanical chassis or the pre-amplifier chassis on their spring mountings.
9. Install Cobra Tone Arm on new tone arm bracket assembly and tighten the Allen screws to hold. Install this assembly on the top of the tone arm shaft. Route the tone arm cable through the clip at the rear of the tone arm post and install the plug into single pin receptacle at rear of shelf.
10. Install the new tray stop post. Remove the nut at the bottom of original tray stop post and install new post in the same location, using the same nut.
11. Install the latch casting assembly on the tray stop post. Place the lockwasher on the stud at the top of the stop post, install the latch casting and then install plain washer and hex head screw. Draw the screw up snug but do not tighten until adjustment of the latch is made.

ADJUSTMENTS

NOTE:

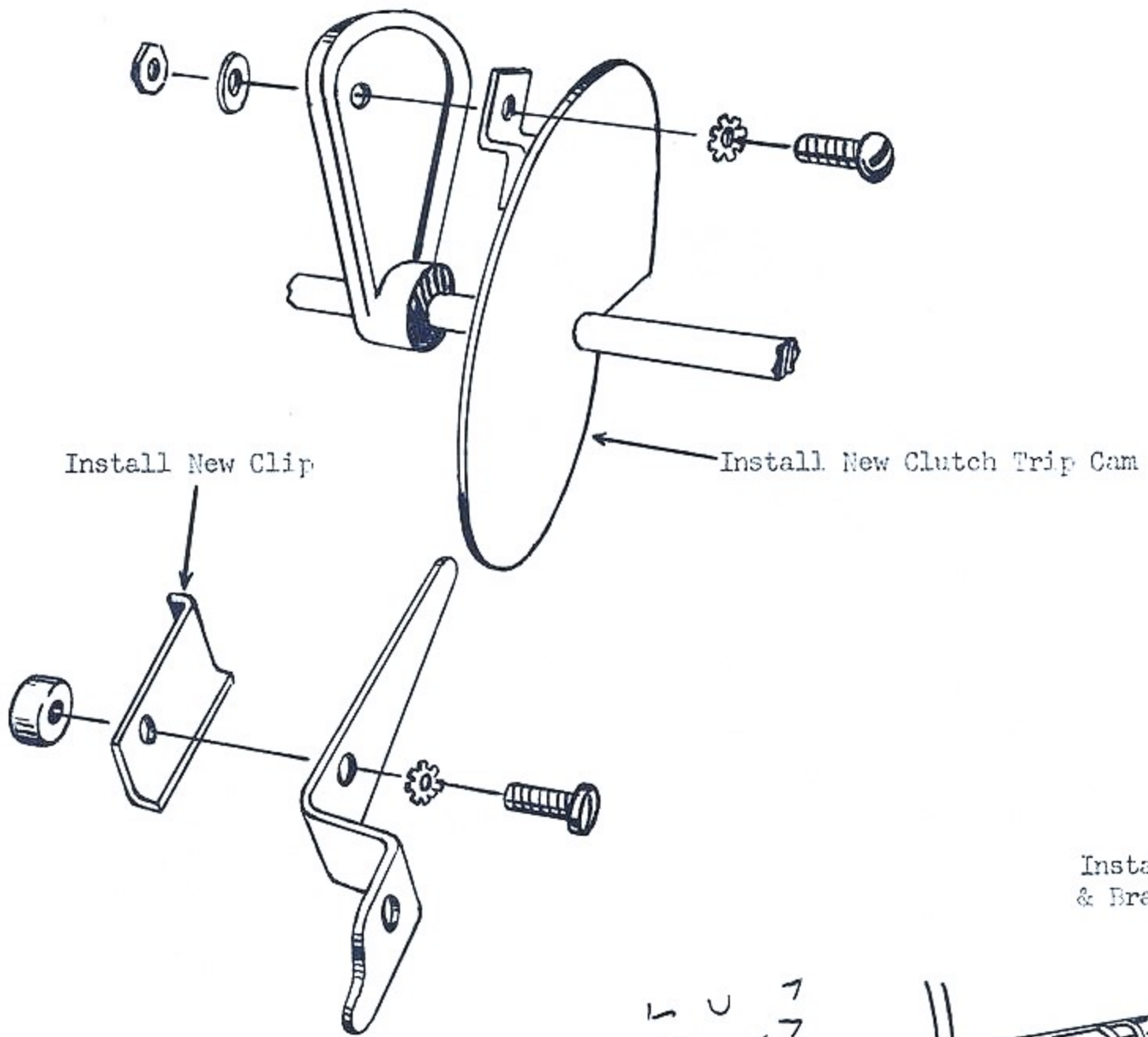
Install 24 records and discs before making the following adjustments.

1. Adjust the two right side chassis mounting bolts and the nut at the bottom of the left carriage bolt to obtain a clearance of 1/8-inch between top of chassis and bottom of shelf at the front, sides and rear. The two left side chassis mounting bolts should be adjusted as required to balance the chassis. Make sure that they are tight enough that they clear the bottom record tray by 1/8-inch throughout the movement of the tray.

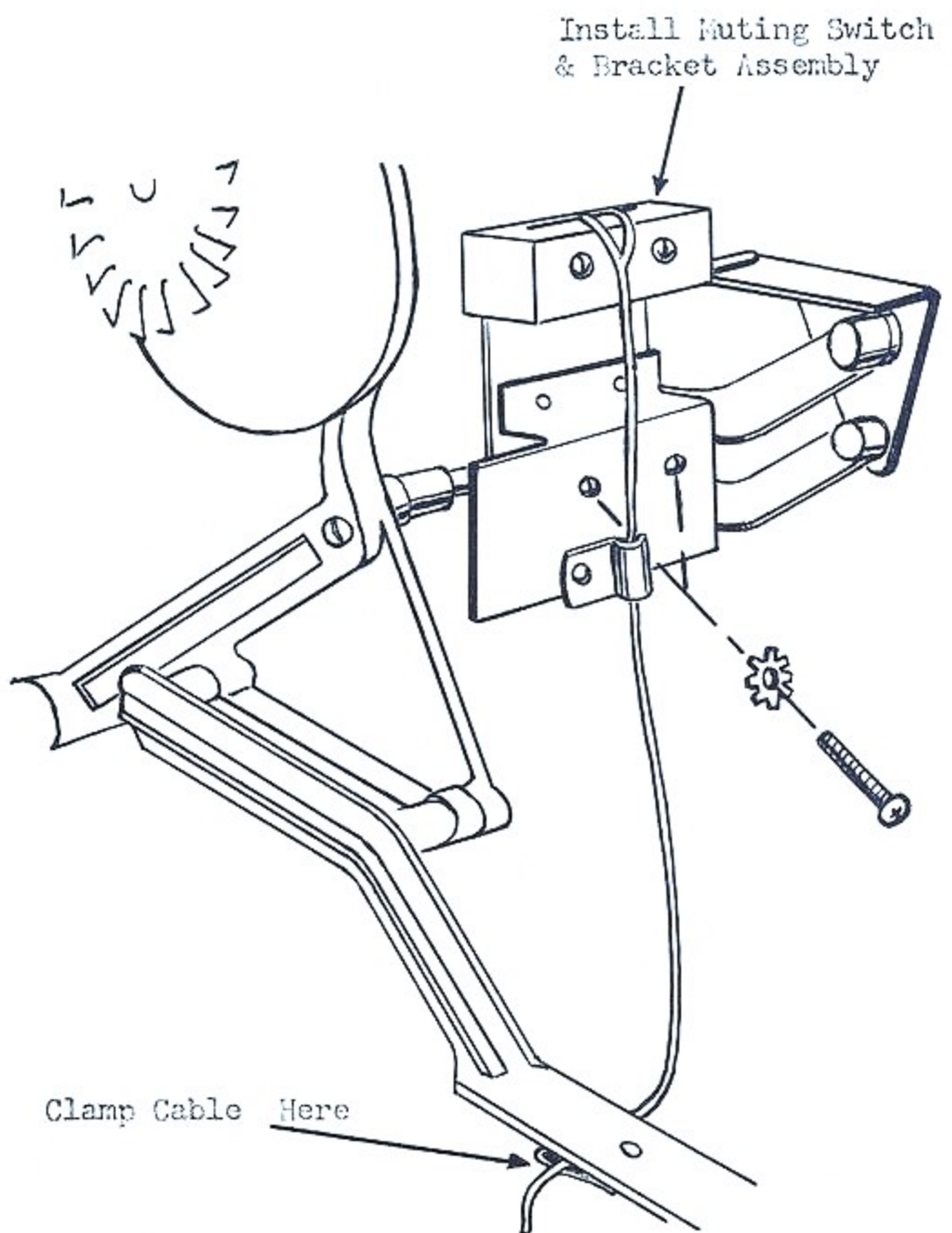
After proper adjustment the four original nuts and lockwashers should be tightened to lock the adjustment. The hex nuts on the carriage bolt should also be locked. THIS ADJUSTMENT OF CLEARANCE BETWEEN CHASSIS AND SHELF MUST BE MADE WITH THE FULL COMPLEMENT OF 24 RECORDS INSTALLED WITH TRAY DISCS OF THE TYPE (ALUMINUM OR STEEL) WHICH ARE TO BE USED WITH THE PHONOGRAPH. The record trays should be returned to their normal position in the stack when checking the clearance between chassis and shelf. Replace the 24 record tray return springs after adjustment is completed.

2. The tray stop post mounting is eccentric and the post must be rotated so that the record trays, in the playing position, will be positioned by the tray stop post so that the holes in the record tray discs will be centered over the tip of the turntable shaft when the turntable rises. Tighten the nut which holds the stop post when the post is correctly adjusted.
3. Make a selection on the phonograph and as the turntable rises, pull the motor plug from the junction box so as to stop the mechanism at the point where the tip of the turntable shaft is just about to enter the bearing in the end of the stabilizer arm. Two round head screws will be found in the top of the stabilizer arm. Loosening these screws will permit positioning the spring and bearing assembly inside the stabilizer arm for a more accurate adjustment of the position of the bearing.
4. Plug in the motor and allow the mechanism to cycle to the point where the record is in the playing position and again unplug the motor. Adjust the eccentric shoulder screw on the turntable lift arm and bearing assembly, so that there is 3/32 to 1/2-inch clearance between the top of the record and the bottom edge of the stabilizer arm when the record is in the playing position.
5. The tone arm is held in position on the bracket by two set screws. If necessary, these two screws may be loosened to allow the tone arm to be positioned with respect to its shaft to establish correct adjustment. Install Cobra cartridge in tone arm.

6. The trip micro-switch should be adjusted by loosening its two mounting screws and positioning the switch so that it will close when the stylus of the tone arm has entered the eccentric cut-off groove of the record.
7. When the trip arm actuates the trip switch, the trip coils are energized and move the armature sufficiently to raise the trip catch and allow the clutch to engage. The lowest edge of the trip catch should clear the trip support arm by 1/32-inch when the coils are actuated and the trip catch is raised. Adjust by loosening the two trip catch mounting screws, positioning the trip catch properly and tightening the screws.
8. Release of the trip support arm allows the insulator on the arm to open the release switch contacts and de-energize the trip coils, thus eliminating hum during the change cycle. When closed, the trip switch contacts must have sufficient pressure to insure good wiping action, but not sufficient pressure to over-ride the spring loading of the trip support arm and prevent the mechanism from releasing the clutch when the trip coils are actuated. When opened by the action of the trip support arm, the contacts must have a spacing of 1/32-inch.
9. The adjusting screw on the underside of the tone arm bracket should be raised or lowered as required, after loosening the locknut, so that the stylus of the tone arm cartridge will clear the top tray of the record tray stack by 1/8-inch when the tray is brought to the playing position. Tighten the locknut after making adjustment.
10. When the turntable raises the record to its playing position, the stylus should contact the record at a point 1/8-inch from the outside edge of the record. This adjustment is obtained by loosening the hex head screw at the top of the record tray stop post and positioning the arm so that the latch pin will engage the latch of the tone arm to hold the tone arm in the correct position. Tighten the screw after making adjustment.
11. The tone arm latch must be raised above the top of the latch pin when the record is in the playing position. Loosen the lock nut on the lower edge of the tray stop post arm and raise or lower the pin as required, so that the tone arm latch will clear the top of the latch pin by 1/16-inch when the tone arm is raised as the record comes to the playing position. Tighten the locknut.
12. Adjust the tone arm feed-in weight to produce minimum feed in pressure. Loosen the screw which holds the feed-in weight, move the weight to inner end of the slot (nearest to chassis frame) and tighten the screw.
13. The muting switch must be adjusted so that the switch will be actuated by the bearing plate of the turntable lift arm assembly to open the switch when the turntable is at its maximum height. Loosen the screws which mount the switch to the bracket and adjust the switch to the proper position. Tighten the screws.



SKETCH 4



SKETCH 5

Install Trip Switch
Solenoid & Bracket
Assembly As Shown

Pin. Roller, Dog &
Washer Removed

Set Screw, Adjusting Knob
& Trip Wire Removed

Install Armature On
Ratchet Trip Block

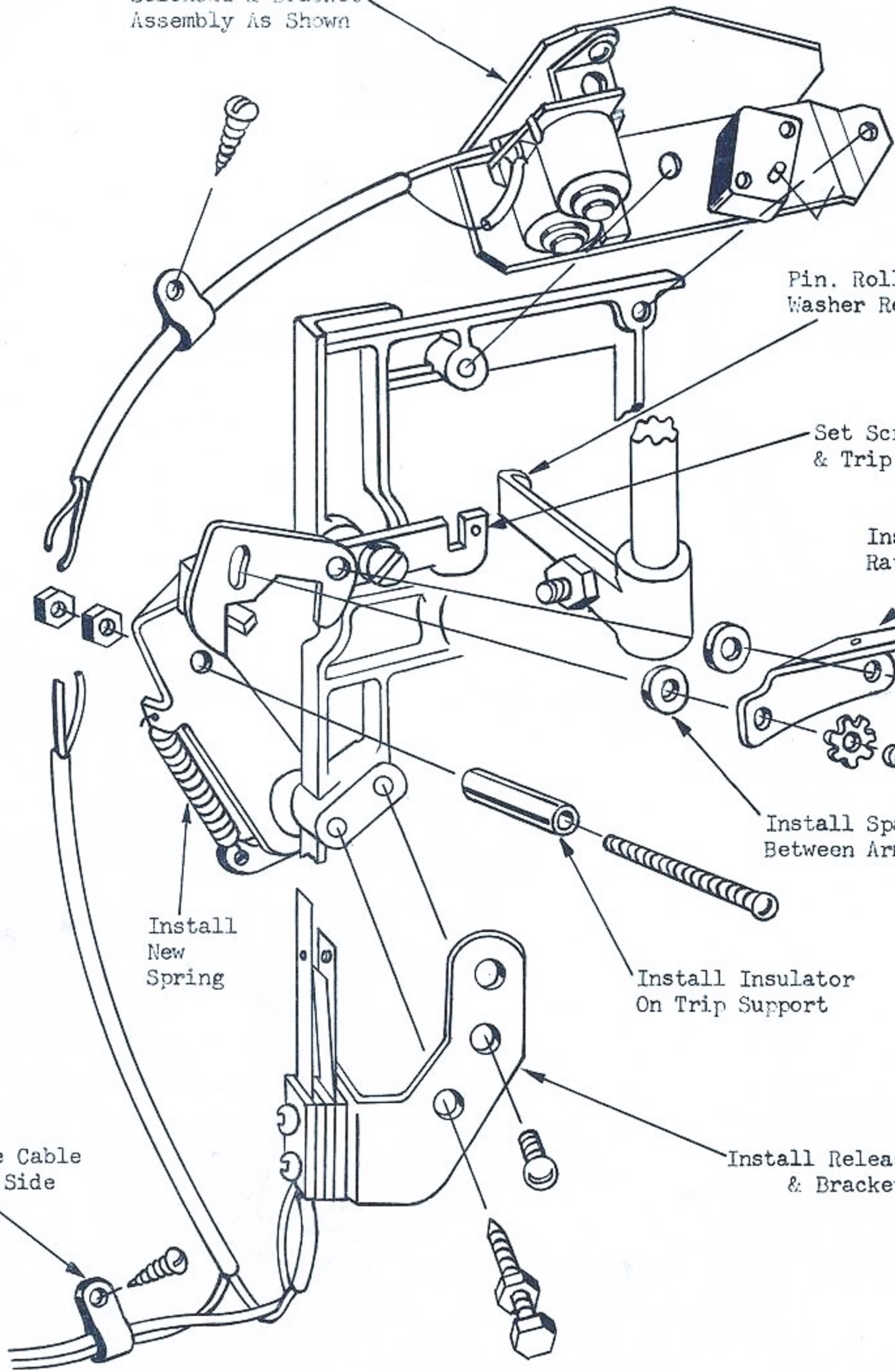
Install Spacers
Between Armature & Trip Catch

Install
New
Spring

Install Insulator
On Trip Support

Install Release Switch
& Bracket

Route Cable
Down Side
Wall



SKETCH 3